

2026 Regional Transportation Plan & Sustainable Communities Strategy

Draft Programmatic Environmental Impact Report

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prepared by

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Executive Summary

This document is an Environmental Impact Report (EIR) analyzing the environmental effects of the proposed San Joaquin Council of Governments (SJCOG) 2026 Regional Transportation Plan & Sustainable Communities Strategy (proposed project). This section summarizes the characteristics of the proposed project, alternatives to the proposed project, and the environmental impacts and mitigation measures associated with the proposed project.

Project Synopsis

This EIR has been prepared to examine the potential environmental effects of the SJCOG 2026 Regional Transportation Plan & Sustainable Communities Strategy (2026 RTP/SCS). The following is a summary of the full project description, which can be found in Section 2, *Project Description*.

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Project Location

The 2026 RTP/SCS covers the entire area of San Joaquin County and includes the cities of Stockton, Tracy, Lodi, Manteca, Lathrop, Mountain House, Ripon, and Escalon, as well as unincorporated communities in the county. Capital improvement transportation projects, identified in the 2026 RTP/SCS, are located on State highways, County roads, and locally owned streets, as well as on transit district property and public utility lands.

Project Description

The 2026 RTP/SCS is a technical update to the 2022 RTP/SCS, which was adopted in 2022. The 2026 RTP/SCS reflects changes in planning assumptions, project lists, legislative requirements, local land use policies, and resource constraints.

The RTP/SCS plans how the San Joaquin County region will meet its transportation needs for the 25-year period from 2024 to 2049, considering existing and projected future land use patterns as well as forecast population and job growth. The RTP/SCS plans for and programs the approximately $14.9 billion in revenues expected to be available to the region from all transportation funding sources over the course of the planning period. It identifies and prioritizes expenditures of this anticipated funding for transportation projects of all transportation modes: highways, streets and

roads, transit, rail, bicycle and pedestrian, as well as transportation demand management measures and intelligent transportation systems.

The RTP/SCS is based on a preferred regional land use and transportation scenario which lays out a pattern of future growth and transportation system investment. The preferred scenario, which serves as the foundation to the plan, takes a hybrid approach in that it combines elements from multiple growth strategies to support more compact development, improve regional connections, and reflect local land use priorities. Accordingly, more population and employment growth is allocated within existing urban areas near public transit along centers and corridors. This reduces impacts on rural areas, which contain the majority of agricultural land throughout the county. The transportation network includes additional highway, local street, active transportation, and transit investments to serve a more concentrated urban growth pattern. The plan also shifts investment towards bicycle and pedestrian improvements that complement public transit and other non-vehicle alternatives.

SJCOG, in developing scenario strategies, identified emerging trends that SJCOG, as a regional planning agency, could influence. The trends are transportation technology, impacts from extreme weather events due to changes in climate, and the increase in teleworking and internet shopping (the e-economy). Three futures with assumptions about land use and transportation in the year 2049 were then prepared with each future dominated by one of the three emerging trends. These futures were used to prepare the alternative scenarios or packages of assumptions for testing.

The 2026 RTP/SCS identifies transportation system needs consistent with the preferred scenario and includes comprehensive lists of programmed and planned transportation investments that are intended to meet performance goals for mobility, safety, congestion relief, system preservation, and environmental protection. In addition to its other components, the plan also includes an enhanced transit strategy that creates a framework for future transit service expansion at such time as new revenue sources become available. Recognizing the uncertain nature of future new revenue sources, it takes a targeted, balanced and flexible approach to expanding transit services as needed in the future. The Hybrid Preferred strategy commits to transit service expansion as new revenue sources become available, (1) identifying when transit enhancements are actually needed through quantitative triggers, and (2) protecting existing funding for competing local demands, such as street and road maintenance. The enhanced transit strategy is a strategy for the future. It does not change the list of fiscally constrained, programmed and planned transportation projects.

2026 RTP/SCS Organization.

The plan is organized into ten chapters plus an Executive Summary:

0. Executive Summary
1. Introduction
2. Civic Engagement
3. The Building Blocks: Pillars, Policies, and Supportive Strategies
4. Financing the Transportation System
5. Performance of the SCS
6. Economic Vitality
7. Innovations in Technology
8. Regional Resiliency

9. Housing
10 Framework for Moving Forward

Of these ten chapters of the 2026 RTP/SCS, The Building Blocks: Pillars, Policies, and Supportive Strategies (Ch. 3), Performance of the SCS (Ch. 5), and the Framework for Moving Forward (Ch. 10) are the three hat include provisions with the potential to create physical changes to the environment and are the primary focus for analysis in this EIR. Th t ese elements are described in more detail below and hard copies of the 2026 RTP/SCS can be found at the offices of SJCOG or an electronic copy at this link: https://www.sjcog.org/710/2026-Draft-RTPSCS-Update.

1. **Policy Element.** The Policy Element provides guidance to decision-makers on the implications, impacts, opportunities, and foreclosed options that will result from implementation of the RTP. Government Code Section 65080(b)(1) states that each RTP shall include a Policy Element that: describes the transportation issues in the region, identifies and qualifies regional needs expressed within both short and long-range planning horizons, and maintains internal consistency with the Financial Element and fund estimates.
2. **Sustainable Communities Strategy.** Demonstrates the ability of SJCOG to meet the GHG targets that CARB has set for the SJCOG region for emissions from on-road light-duty trucks and passenger vehicles. The proposed 2026 RTP/SCS updates the current RTP/SCS, adopted by SJCOG in August 2022, and incorporates new strategies to address the rapidly changing regional, national, and global context.
3. **Action Element.** Consists of short-term and long-term activities that address regional transportation issues and needs for all transportation modes. The Action Element establishes assumptions based upon adopted goals, policies and objectives, which define acceptable conditions and are incorporated into projection methodologies used to estimate future outcomes of the RTP and SCS. Further, the Action Element is separated into two parts: a discussion of regional issues, mandated transportation services, air quality, forecasting, regionally significant roads, alternatives, social impacts and RTP analysis; and a concluding section discussing each mode of transportation.
4. **Financial Element.** Identifies the current and anticipated revenue sources and financing techniques available to fund the planned transportation investments described in the Action Element. The intent of the Financial Element is to define realistic transportation financial constraints and opportunities with currently available data. Discussion centers on three main topics: current funding revenues, transportation expenditures, and potential funding sources for the future.

Of these four elements of the proposed 2026 RTP/SCS, the Sustainable Communities Strategy, Policy Element, and the Action Element are the three that include provisions with the potential to create physical changes to the environment and are the primary focus for analysis in this EIR.

Project Objectives

SJCOG's general objectives for the proposed 2026 RTP/SCS are to ensure that the SCS and the transportation system planned for the SJCOG region accomplish the following:

- Maximize mobility, accessibility, and efficiency in the transportation system.
- Promote interagency coordination and public participation for transportation decision-making and planning efforts.

- Support a safe, efficient, and secure transportation network for the movement of people and goods.
- Invest in a sustainable workforce development system.
- Maximize economic prosperity.
- Promote advanced tools and resources to improve quality of life.
- Support the development of diverse and affordable housing types and growth strategies.
- Enhance the quality of life for existing and future generations.
- Promote energy conservation and efficiency in transportation, infrastructure, and land use to reduce consumption and emissions.
- Integrate public health considerations into planning and development.

Alternatives

CEQA Guidelines Section 15126.6 requires all EIRs include a comparative evaluation of the proposed project with alternatives to the project that can attain most of the project's basic objectives but would avoid or substantially lessen any of the significant effects of the project. CEQA requires an evaluation of a "range of reasonable" alternatives, including the "no project" alternative. The following provides brief descriptions of the alternatives evaluated in this EIR. See Section 6, *Alternatives*, for full details. Based on the alternatives analysis, Alternative 2 (Accelerated Infill) was determined to be the environmentally superior alternative.

- Alternative 1: No Project (Stay the Course)
- Alternative 2: Accelerate Infill
- Alternative 3: Regional Connections

Alternative 1 (No Project/Stay the Course)

In this scenario, the region does not change course and makes investments based on the last regional plan. Growth occurs primarily in new growth areas identified in the region's General or Specific Plans. The land use strategies include the following:

- Projects that make more efficient use of existing road network
- Expanding the roadway network
- Improve access to safe and convenient walking and biking options
- Promote a broader range of housing types
- Develop a regional trust fund dedicated to addressing housing issues
- "Complete street" projects throughout the region

Transportation investments are focused on managed lanes, ACE Rail, and enhanced bus rapid transit. Only transportation projects included in the 2022 RTP would be constructed.

Alternative 2 (Accelerate Infill)

In this scenario, traditional employment centers and aging commercial corridors are remade into residentially focused, walkable neighborhoods. Growth is directed to downtowns, urban corridors, existing neighborhoods, and job centers, maximizing the use of existing infrastructure while

enabling more people to live close to jobs, transit, and daily needs. The prioritized land use strategies and policies include the following:

- Encourage and support infill development, including investment in infrastructure readiness
- Support small and local businesses in revitalizing corridors and centers
- Advance anti-displacement and housing preservation strategies
- Establish a vehicle miles traveled (VMT) mitigation bank

Investments focus on transit, active transportation, and corridor improvements to support infill development along existing arterials and within established communities. Improvements focus on enhancing access and mobility while supporting new development patterns. The transportation strategies include the following:

- "Complete streets" projects throughout the region
- Expand and enhance the transit network
- Increase projects that improve and expand access to public transit

Alternative 3 (Regional Connections)

In this scenario, new development is concentrated around high-quality transit access, including rail stations, bus rapid transit corridors, and frequent bus lines. Growth is focused in transit-rich areas to support compact, mixed-use, and walkable communities where some daily trips can be made without relying on a car. This approach emphasizes strengthening the connection between land use and transportation to reduce vehicle dependence and improve regional mobility. The prioritized land use strategies and policies include the following:

- Encourage transit-oriented development (TOD) near major transit stops and corridors
- Reform local zoning to allow for diverse housing options and increased residential densities in transit-accessible areas
- Support small and local businesses within transit-oriented communities
- Promote mixed-use development patterns that integrate housing, jobs, and services

Investments prioritize major transit infrastructure and supportive mobility systems to improve access, connectivity, and ridership. Improvements focus on expanding high-capacity transit options and enhancing first- and last-mile connections to make transit a convenient and viable alternative to driving. The prioritized transportation strategies include the following:

- Expand and enhance passenger rail service
- Supplement federal transportation funding to advance major transit projects
- Develop mobility hubs to improve multimodal connections and first/last-mile access
- Improve transit service along key corridors, including bus rapid transit and frequent bus networks

Each alternative is described and analyzed below to determine whether environmental impacts would be similar to, less than, or greater than those of the preferred scenario in the proposed 2026 RTP/SCS. As required by CEQA, this section also includes a discussion of the "environmentally superior alternative" among those studied.

Areas of Known Controversy

The EIR scoping process did not identify any areas of known controversy for the proposed project. Responses to the Notice of Preparation of a Draft EIR and input received at the EIR scoping meeting held by the City are summarized in Section 1, *Introduction*.

Issues to be Resolved

Issues to be resolved include the choice among alternatives, and the nature of mitigation measures to be adopted.

Issues Not Studied in Detail in the EIR

Effects considered less than significant and not studied in detail were Mineral Resources, Noise related to airports, Population and Housing related to induced unplanned growth and displacement of people or housing, Public Services, Recreation, and Utilities and Service Systems.

Summary of Impacts and Mitigation Measures

Table ES-1 summarizes the environmental impacts of the proposed project, proposed mitigation measures, and residual impacts (the impact after application of mitigation, if required). Impacts are categorized as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved pursuant to CEQA Guidelines Section 15093.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under CEQA Guidelines Section 15091.
- **Less than Significant.** An impact that may be adverse but does not exceed the identified impact threshold levels and does not require mitigation measures.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Cumulative impacts of the proposed 2026 RTP/SCS are not summarized in Table ES-1. They are evaluated in each resource section of the EIR in Chapter 4.

Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure(s)	Residual Impact
Visual Resources		
Impact AES-1: The proposed transportation improvements and land use projects envisioned by the 2026 RTP/SCS would have a substantial adverse effect on scenic vistas and substantially damage scenic resources within a state scenic highway. Impacts would be significant and unavoidable	**AES-1(a) Tree Protection and Replacement.** Implementing agencies shall, or can and should, ensure new roadways, extensions and widenings of existing roadways, bridge replacement and enhancements, trails and facility improvement projects shall avoid the removal of existing mature trees to the extent possible consistent with adopted local City and County policies as applicable. The implementing agency of a particular 2026 RTP/SCS project shall replace any trees lost at a minimum 2:1 basis and incorporate them into the landscaping design for the roadway when feasible, or as required by local or County requirements. The implementing agency also shall ensure the continued vitality of replaced trees through periodic maintenance. **AES-1(b) Discouragement of Architectural Features that Block Scenic Views.** Implementing agencies shall, or can and should, design projects to minimize contrasts in scale and massing between the project and surrounding natural forms and development. Setbacks and acoustical design of adjacent structures shall be preferentially used as mitigation for potential noise impacts arising from increased traffic volumes associated with adjacent land development. The use of sound walls, or any other architectural features that could block views from the scenic highways or other view corridors, shall be discouraged to the extent possible. Where use of sound walls is found to be necessary, walls shall incorporate offsets, accents and landscaping to prevent monotony. In addition, sound walls shall be complementary in color and texture to surrounding natural features.	Significant and unavoidable
Impact AES-2: The proposed transportation improvements and land use projects envisioned by the 2026 RTP/SCS would in non-urbanized areas, substantially degrade the existing visual character or quality of public view or the site or its surroundings; in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality. Impacts would be significant and unavoidable.	**AES-2 Design Measures for Visual Compatibility.** The implementing agency shall, or can and should, require measures that minimize contrasts in scale and massing between the project and surrounding natural forms and developments. Strategies to achieve this include: ▪ Sitting or designing projects to minimize their intrusion into important viewsheds; ▪ Avoiding large cuts and fills when the visual environment (natural or urban) would be substantially disrupted; ▪ Ensuring that re-contouring provides a smooth and gradual transition between modified landforms and existing grade; ▪ Developing transportation systems to be compatible with the surrounding environments (e.g., colors and materials of construction material; scale of improvements); ▪ Designing and installing landscaping to add natural elements and visual interest to soften hard edges, as well as to restore natural features along corridors where possible after widening, interchange modifications, re-alignment, or construction of ancillary facilities; and ▪ Designing new structures to be compatible in scale, mass, character, and architecture with existing structures.	Significant and unavoidable
Impact AES-3: The proposed transportation improvements and land use projects envisioned by the 2026 RTP/SCS would result in new sources of substantial light or glare that would adversely affect daytime or nighttime view in the area. Impacts are significant and unavoidable.	**AES-3(a) Roadway Lighting.** Implementing agencies shall, or can and should, minimize roadway lighting to the extent possible, consistent with safety and security objectives, and shall not exceed the minimum height requirements of the local jurisdiction in which the project is proposed. This may be accomplished through the use of back shields, hoods, low intensity lighting, and using as few lights as necessary to achieve the goals of the project. **AES-3(b) Lighting Design Measures.** As part of planning, design, and engineering for projects, project sponsors shall, or can and should, ensure that projects proposed near light-sensitive uses avoid substantial spillover lighting. Potential design measures include, but are not limited to, the following: ▪ Lighting shall consist of cutoff-type fixtures that cast low-angle illumination to minimize incidental spillover of light into adjacent properties and undeveloped open space. Fixtures that project light upward or horizontally shall not be used. ▪ Lighting shall be directed away from habitat and open space areas adjacent to the project site. ▪ Light mountings shall be downcast, and the height of the poles minimized to reduce potential for backscatter into the nighttime sky and incidental spillover of light onto adjacent private properties and undeveloped open space. Light poles will be 20 feet high or shorter. Luminary mountings shall have non-glare finishes. ▪ Exterior lighting features shall be directed downward and shielded in order to confine light to the boundaries of the subject project. Where more intense lighting is necessary for safety purposes, the design shall include landscaping to block light from sensitive land uses, such as residences. **AES-3(c) Glare Reduction Measures.** Implementing agencies shall, or can and should, minimize and control glare from transportation and land use projects near glare-sensitive uses through the adoption of project design features such as: ▪ Planting trees along transportation corridors to reduce glare from the sun; ▪ Creating tree wells in existing sidewalks; ▪ Adding trees in new curb extensions and traffic circles; ▪ Adding trees to public parks and greenways; ▪ Landscaping off-street parking areas, loading areas, and service areas; ▪ Limiting the use of reflective materials, such as metal; ▪ Using non-reflective material, such as paint, vegetative screening, matte finish coatings, and masonry; ▪ Screening parking areas by using vegetation or trees; ▪ Using low-reflective glass; and ▪ Complying with applicable general plan policies, municipal code regulations, city or local controls related to glare ▪ Tree species planted to comply with this measure shall provide substantial shade cover when mature. Utilities shall be installed underground along these routes wherever feasible to allow trees to grow and provide shade without need for severe pruning.	Significant and unavoidable

Impact	Mitigation Measure(s)	Residual Impact
Air Quality		
Impact AQ-1: The proposed 2026 RTP/SCS would not conflict with or obstruct implementation of the applicable air quality plan. Impacts would be less than significant.	No mitigation required	Less than significant
Impact AQ-2: Construction activities associated with transportation improvements and land use projects envisioned by the proposed 2026 RTP/SCS would result in a cumulatively considerable net increase in criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard. This impact would be significant and unavoidable.	**AQ-2(a) Application of SJVAPCD Feasible Mitigation Measures.** For all projects, the implementing agency shall incorporate the most recent SJVAPCD feasible construction mitigation measures and/or technologies for reducing inhalable particles based on analysis of individual sites and project circumstances. Additional and/or modified measures may be adopted by SJVAPCD prior to implementation of individual projects under the proposed 2026 RTP/SCS; therefore, the most current list of feasible mitigation measures at the time of project implementation shall be used. The current SJVAPCD feasible mitigation measures include the following (SJVAPCD 2015): ▪ All disturbed areas, including storage piles, which are not being actively utilized for construction purposes shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover. ▪ All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. ▪ When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained. ▪ Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. ▪ An owner/operator of any site with 150 or more vehicle trips per day, or 20 or more vehicle trips per day by vehicles with three or more axles shall implement measures to prevent carryout and trackout. ▪ Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use. **AQ-2(b) Diesel Equipment Emissions Standards.** The implementing agency shall ensure, to the maximum extent technologically, logistically, and economically feasible, that diesel construction equipment meeting the most stringent CARB emissions standards for off-road heavy-duty diesel engines is used (e.g., as of 2026, this would be Tier 4 emission standards). Where the use of the most stringent CARB emissions standards for off-road heavy-duty diesel engines is not feasible, the next lower tier shall be used; where the use of the next lower tier is not feasible, the next lowest tier shall be used. **AQ-2(c) Electric Construction Equipment.** The implementing agency shall ensure that to the extent technologically, logistically, and economically feasible, construction equipment utilizes electricity from power poles rather than temporary diesel power generators and/or gasoline power generators.	Significant and unavoidable
Impact AQ-3: Operation of the proposed transportation improvements and land use projects envisioned by the proposed 2026 RTP/SCS would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Impacts would be significant and unavoidable.	**AQ-3(a) PM10 Emissions Reduction**. To help reduce regional PM10 emissions, TCAG, in partnership with SJVAPCD and implementing agencies, shall: a. Support the use of existing air quality and transportation funds and seek additional funds to continue the implementation of the CARB Carl Moyer Program, which is intended to retrofit and replace trucks and locomotives to reduce particulate matter. b. Incentivize the reduction of mobile PM emissions from mobile exhaust and entrained PM sources such as tire wear, brake wear, and roadway dust through funding. c. Hold forums and workshops to encourage land use projects to incorporate transportation demand management (TDM) strategies as part of the project design to reduce the number of vehicular trips across the transportation network. Potential strategies could include ridesharing, carpooling, subsidized public transit, flexible work hours, and parking management measures. **AQ-3(b) Long-term Regional Operational Emissions**. Implementing agencies can and should implement long-term operational emissions reduction measures. Such reduction measures include the following: ▪ Require that all interior and exterior architectural coatings for all developments utilize coatings following SJVAPCD Rule 4601, *Architectural Coatings*. ▪ Increase building envelope energy efficiency standards in excess of applicable building standards and encourage new development to achieve zero net energy use. ▪ Install energy-efficient appliances, interior lighting, and building mechanical systems. Encourage installation of solar panels for new residential and commercial development. ▪ Locate sensitive receptors more than 500 feet of a freeway, 500 feet of urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. ▪ Locate sensitive receptors more than 1,000 feet of a major diesel rail service or railyards. Where adequate buffer cannot be implemented, implement the following: ▫ Install indoor air filtration (as part of mechanical ventilation systems or stand-alone air cleaners) to reduce indoor pollution exposure for residents and other sensitive populations in buildings that are close to transportation network improvement projects. ▫ Use air filtration devices rated MERV-13 or higher. ▪ Plant trees and/or vegetation suited to trapping roadway air pollution and/or sound walls between sensitive receptors and the pollution source. The vegetation buffer should be thick, with full coverage from the ground to the top of the canopy Install higher efficacy public street and exterior lighting. ▪ Use daylight as an integral part of lighting systems in buildings. ▪ Use passive solar designs to take advantage of solar heating and natural cooling. ▪ Install light colored “cool” roofs, cool pavements.	Significant and unavoidable

Impact	Mitigation Measure(s)	Residual Impact
	▪ Install solar and tankless hot water heaters. ▪ Exclude wood-burning fireplaces and stoves. ▪ Incorporate design measures and infrastructure that promotes safe and efficient use of alternative modes of transportation (e.g., neighborhood electric vehicles and bicycles) pedestrian access, and public transportation use. Such measures may include incorporation of electric vehicle charging stations, bicycle lanes, bicycle-friendly intersections, and bicycle parking and storage facilities. ▪ Incorporate design measures that promote ride sharing programs (e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides). ▪ Incorporate other mitigation measures recommended by SJVAPCD.	
Impact AQ-4: The proposed transportation improvements and land use projects implementing the proposed 2026 RTP/SCS would expose sensitive receptors to substantial particulate matter pollutant concentrations. Because the proposed 2026 RTP/SCS would increase exposure to entrained dust, impacts would be significant and unavoidable.	**AQ-3(a)** and **AQ-3(b)**	Significant and unavoidable
Impact AQ-5: The transportation improvements and land use projects envisioned by the proposed 2026 RTP/SCS would expose sensitive receptors to substantial TAC concentrations. Impacts would be significant and unavoidable.	**AQ-5 Health Risk Reduction Measures.** Transportation project sponsor agencies shall implement the following measures for projects that could facilitate an increase in vehicle trips: ▪ During project-specific design and CEQA review, the potential localized particulate matter (PM_{10} and $PM_{2.5}$) impacts and their health risks shall be evaluated for individual projects. Localized particulate matter concentrations shall be estimated using procedures and guidelines consistent with the USEPA's 2015 *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas*. If required based on the project-level hotspot analysis, project-specific mitigation shall be added to the project design concept or scope to ensure that local particulate (PM_{10} and $PM_{2.5}$) emissions would not reach a concentration at any location that would cause estimated cancer risk to exceed the SJVAPCD threshold of 20 in one million. Per the USEPA guidance (2015), potential mitigation measures to be considered may include but shall not be limited to: providing a retrofit program for older higher emitting vehicles, anti-idling requirements or policies, controlling fugitive dust, routing traffic away from populated zones and replacing older buses with cleaner buses. These measures can and should be implemented to reduce localized particulate matter emissions. ▪ For projects that do not meet SJVAPCD screening criteria, retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with CARB and OEHHA requirements to determine the exposure of nearby residents to TAC concentrations. ▪ If impacts result in increased risks to sensitive receptors above significance thresholds, plant trees and/or vegetation suited to trapping TACs and/or sound walls between sensitive receptors and the pollution source. In addition, consistent with the general guidance contained in CARB's *Air Quality and Land Use Handbook* (2005) and Technical Advisory *on Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways* (2017), cities and the County shall incorporate appropriate and feasible measures into project design for land use projects, including residential, school, and other sensitive uses located within 500 feet (or other appropriate distance as determined by the lead agency) of freeways, heavily travelled arterials, railways and other sources of diesel particulate matter, including roadways experiencing significant vehicle delays. The appropriate measures shall include one or more of the following methods, as applicable and as determined by a qualified professional. The implementing agency shall incorporate health risk reduction measures based on an analysis of individual sites and project circumstances. These measures may include: ▪ Avoid siting new sensitive land uses within 500 feet of a freeway or railway. ▪ Require development projects for new sensitive land uses to be designed to minimize exposure to roadway-related pollutants to the maximum extent logistically and economically feasible through inclusion of design components including air filtration and physical barriers. ▪ Do not locate sensitive receptors near the entry and exit points of a distribution center. ▪ Locate structures and outdoor living areas for sensitive uses as far as possible from the source of emissions. As feasible, locate doors, outdoor living areas and air intake vents primarily on the side of the building away from nearby high-volume roadways or other pollution source. As feasible, incorporate dense, tiered vegetation that regains foliage year-round and has a long life span between the pollution source and the project. ▪ Maintain a 50-foot buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year). ▪ Install, operate, and maintain in good working order a central heating and ventilation (HV) system or other air intake system in the building, or in each individual residential unit, which meets the efficiency standard of the MERV 13. The HV system should include the following features: ▫ Installation of a high efficiency filter and/or carbon filter to filter particulates and other chemical matter from entering the building. ▫ Use of either HEPA filters or ASHRAE 85 percent supply filters. ▫ Completion of ongoing maintenance. ▪ Retain a qualified HV consultant or Home Energy Rating Systems rater during the design phase of the project to locate the HV system based on exposure modeling from the mobile and/or stationary pollutant sources. ▪ Maintain positive pressure within the building. ▪ Achieve a performance standard of at least one air exchange per hour of fresh outside filtered air.	Significant and unavoidable

Impact	Mitigation Measure(s)	Residual Impact
	▪ Achieve a performance standard of at least four air exchanges per hour of recirculation. Achieve a performance standard of 0.25 air exchanges per hour of unfiltered infiltration if the building is not positively pressurized. ▪ Require project owners to provide a disclosure statement to occupants and buyers summarizing technical studies that reflect health concerns about exposure to highway/freeway exhaust emissions. ▪ Implement feasible attenuation measures needed to reduce potential air quality impacts to sensitive receptors such as air filtration systems.	
Impact AQ-6: Construction of the transportation improvements and land use projects envisioned by the proposed 2026 RTP/SCS would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Impacts would be less than significant.	No mitigation required	Less than significant
Biological Resources		
Impact BIO-1: Implementation of transportation improvements and the land use scenario envisioned by 2026 RTP/SCS may result in impacts to special-status plant and animal species, either directly or through habitat modifications. This impact would be significant but mitigable. For agencies utilizing the SJMSCP, this impact would be less than significant.	**BIO-1(a) Biological Resources Screening and Assessment.** On a project-by-project basis, a preliminary biological resource screening shall be performed as part of the environmental review process to determine whether the project has any potential to impact biological resources. If it is determined that the project has no potential to impact biological resources, no further action is required. If the project would have the potential to impact biological resources, prior to construction, a qualified biologist shall conduct a biological resources assessment (BRA) to document the existing biological resources within the project footprint plus a buffer and to determine the potential impacts to those resources. The biological resources assessment shall evaluate the potential for impacts to all biological resources including, but not limited to: special-status species, nesting birds, wildlife movement, sensitive plant communities, critical habitat, Essential Fish Habitat, and other resources judged to be sensitive by local, state, and/or federal agencies. In addition, the assessment shall document potential modifications to existing infrastructure suitable for wildlife movement (e.g., culvert, underpass, etc.). Pending the results of the BRA, design alterations, further technical studies (e.g., protocol surveys) and/or consultations with the USFWS, CDFW and/or other local, state, and federal agencies may be required. If the project cannot be designed with complete avoidance, the sponsor agency shall coordinate with the appropriate regulatory agency (i.e., USFWS, NMFS, CDFW, USACE) to obtain regulatory permits and implement project-specific mitigation prior to any construction activities, as applicable. The following mitigation measures [BIO-1(b) through BIO-1(j)] shall be incorporated only as applicable into the BRA for projects where specific resources are present or may be present and impacted by the project. Note that specific surveys described in the mitigation measures below may be completed as part of the biological resources assessment where suitable habitat is present. The results of the biological resources screening and assessment shall be provided to the implementing agency for review and approval. **BIO1(b) Special-Status Plant Species Surveys.** If completion of the project-specific biological resources assessment determines that special-status plant species have potential to occur on-site, surveys for special-status plants shall be completed prior to any vegetation removal, grubbing, or other construction activity of each project (including staging and mobilization). The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the project-specific BRA. All plant surveys shall be conducted by a qualified biologist approved by the implementing agency no more than two years prior to project implementation. All special-status plant species identified on-site shall be mapped onto a site-specific aerial photograph or topographic map. Surveys shall be conducted in accordance with the most current protocols established by the CNPS, CDFW and/or USFWS. A report of the survey results shall be submitted to the implementing agency for review. If special-status plant species are identified, mitigation measure BIO-1(c) shall apply. **BIO-1(c) Special-Status Plant Species Avoidance, Minimization, and Mitigation.** If state or federally listed and/or CRPR 1 and 2 species are found during special-status plant surveys [pursuant to mitigation measure BIO-1(b)], then the project shall be re-designed to avoid impacting these plant species to the maximum extent feasible. Occurrences of these species that are not within the immediate disturbance footprint but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a qualified biologist, to protect them from harm. If CRPR 3 and 4 species are found, the biologist shall evaluate to determine if they meet criteria to be considered special-status, and if so, the same process as identified for CRPR 1 and 2 species shall apply. If special-status plants species cannot be avoided and would be impacted by a project implemented under the 2026 RTP/SCS, all impacts shall be mitigated at a minimum ratio of 1:1 (number of acres or individuals restored to number of acres or individuals impacted) for each species as a component of habitat restoration. A restoration plan shall be prepared and submitted to SJCOG, and/or the local jurisdiction overseeing the project for approval. The restoration plan shall include, at a minimum, the following components: ▪ Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type); ▪ Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved]; ▪ Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values); ▪ Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan); ▪ Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule); ▪ Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports); ▪ Success criteria based on the goals and measurable objectives; said criteria to include numeric criteria to be selected based on the scale of the restoration effort and the restoration technique used: ▫ At least 80 percent survival of container plants, and/or	Significant and unavoidable

Impact	Mitigation Measure(s)	Residual Impact

- Successful establishment the required number of individuals planted from seed to meet required replacement ratios; and/or
- Sampling-based recruitment/survival criteria to achieve vegetative cover or total number of surviving individuals equal to at least 70 percent of the equivalent metric in reference sites for the same habitat type; sampling-based criteria must use a scientifically valid vegetation sampling method;

- An adaptive management program and remedial measures to address any shortcomings in meeting success criteria;
- Notification of completion of compensatory mitigation and agency confirmation; and
- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).

BIO-1(d) Endangered/Threatened Animal Species Habitat Assessment and Protocol Surveys. Specific habitat assessment and survey protocol surveys are established for several federally and/or State endangered or threatened species. If the results of the biological resources assessment determine that suitable habitat may be present for any such species, protocol habitat assessments/surveys shall be completed in accordance with CDFW and/or USFWS/NMFS protocols prior to issuance of any construction permits/project approvals.

Alternatively, in lieu of conducting protocol surveys, the implementing agency may choose to assume presence within the project footprint and proceed with development of appropriate avoidance measures, consultation, and permitting, as applicable.

If the target species is detected during protocol surveys, or protocol surveys are not conducted and presence assumed based on suitable habitat, mitigation measure BIO-1(e) shall apply.

BIO-1(e) Endangered/Threatened Species Avoidance and Compensatory Mitigation. If habitat is occupied or presumed occupied by federal and/or state listed species and would be impacted by the project, the implementing agency shall design the project in coordination with a qualified biologist to avoid impacting occupied/presumed occupied habitat to the maximum extent feasible. Disturbance limits shall have bright orange protective fencing installed at least 50 feet beyond their extent, or other distance as approved by a qualified biologist, to protect the habitat. If occupied or presumed occupied habitat cannot be avoided, the implementing agency shall provide the total acreages for habitat that would be impacted prior to the issuance of construction permits/approvals. The implementing agency shall purchase credits at a USFWS, and/or CDFW approved conservation bank and/or establish conservation easements or funds for acquisition of conservation easements as compensatory mitigation to offset impacts to federal and/or state listed species habitat.

Compensatory mitigation shall be provided at the following ratios for permanent impacts in accordance with the *San Joaquin County Multi-Species Habitat Conservation and Open Space Plan* (SJMSCP 2000) of not less than 1:1 (area mitigated: area impacted) for agricultural habitat lands and 3:1 for natural lands (non-wetland). Compensatory mitigation may be combined/nested with special-status plant species and sensitive community restoration, where applicable. Temporary impact areas shall be restored to pre-project conditions.

If the implementing agency establishes conservation easement(s) (on- and/or off-site) to serve as compensatory mitigation for federal and/or state listed species habitat impacts, compensatory mitigation areas shall have a restrictive covenant prohibiting future development/disturbance and shall be managed in perpetuity to encourage persistence and enhancement of the preserved target species. Compensatory mitigation lands cannot be located on land that is currently held publicly for resource protection. The compensatory mitigation areas shall be managed by a conservation lands management entity or other qualified easement holder. In addition, the implementing agency shall retain a qualified biologist to prepare a Habitat Mitigation and Monitoring Plan (HMMP) to ensure the success of compensatory mitigation sites that are to be conserved for compensation of permanent impacts to federal and/or state listed species. The HMMP shall identify long term site management needs, routine monitoring techniques, and success criteria, and shall determine if the conservation site requires restoration to function as a suitable mitigation site. If restoration is required on the conservation site, the HMMP shall contain the restoration components outlined under the Restoration Plan listed in measure BIO-1(c). The HMMP shall be submitted to the implementing agency for approval.

BIO-1(f) Endangered/Threatened Species Avoidance and Minimization. Implementing agencies shall select from these measures as appropriate depending on site conditions, the species with potential for occurrence and the results of the biological resources screening and assessment (measure BIO-1[a]).

- Preconstruction surveys for federal and/or state listed or candidate species with potential to occur shall be conducted by a qualified biologist where suitable habitat is present, as determined by the qualified biologist. The surveys shall occur not more than 48 hours prior to the start of construction activities. The survey area shall include the proposed disturbance area and all proposed ingress/egress routes, plus a 100-foot buffer. If any life stage of federal and/or state listed or candidate species is found within the survey area, the qualified biologist shall recommend an appropriate course of action, which may include consultation with USFWS, NMFS and/or CDFW. The results of the pre-construction surveys shall be submitted by the qualified biologist to the implementing agency for review and approval prior to start of construction.
- Ground disturbance shall be limited to the minimum necessary to complete the project. The project limits of disturbance shall be flagged. Areas of special biological concern shall have highly visible orange construction fencing.
- All projects occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed between April 1 and October 31, to avoid impacts to sensitive aquatic species.
- All projects occurring within or adjacent to sensitive habitats that may support federally and/or state endangered/threatened species shall have a qualified biologist present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, said biologist shall conduct daily pre-activity clearance surveys for endangered/threatened species. Alternatively, and upon approval of the CDFW and/or USFWS/NMFS or

Impact	Mitigation Measure(s)	Residual Impact

as outlined in project permits, said biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are begin fully implemented.

- No endangered/threatened species shall be captured and relocated without authorization from the CDFW and/or USFWS.
- If pumps are used for dewatering activities, all intakes shall be completely screened with wire mesh not larger than five millimeters to prevent animals from entering the pump system.
- If at any time during construction of the project an endangered/threatened species enters the construction site or otherwise may be impacted by the project, all project activities shall cease. At that point, a qualified biologist shall recommend an appropriate course of action, which may include consultation with USFWS, NMFS and/or CDFW.
- All vehicle maintenance/fueling/staging shall occur at a minimum 100 feet from any riparian habitat or water body. Suitable containment procedures shall be implemented to prevent spills.
- No equipment shall be permitted to enter wetted portions of any affected drainage channel.
- All equipment operating within streambeds (restricted to conditions in which water is not present) shall be in good conditions and free of leaks. Spill containment shall be installed under all equipment staged within stream areas and extra spill containment and clean up materials shall be located in close proximity for easy access.
- At the end of each workday, excavations shall be secured with cover or a ramp shall be provided to prevent wildlife entrapment.
- All trenches, pipes, culverts, or similar structures shall be inspected for animals prior to burying, capping, moving, or filling.

BIO-1(g) Non-Listed Special-status Animal Species Avoidance and Minimization. Depending on the species identified in the BRA, the implementing agency shall select from among the following to reduce the potential for impacts to non-listed and non-candidate special-status animal species:

- Preconstruction clearance surveys shall be conducted within 14 days prior to the start of construction (including staging and mobilization). The surveys shall cover the entire disturbance footprint plus a minimum 100-foot buffer and shall identify all special-status animal species that may occur on-site. All non-listed special-status species shall be relocated from the site either through direct capture or through passive exclusion. A report of the preconstruction survey shall be submitted to the County by the implementing agency for their review and approval prior to the start of construction.
- A qualified biologist shall be present during all initial ground disturbing activities, including vegetation removal, to recover special-status animal species unearthed by construction activities.
- Upon completion of the project, a qualified biologist shall prepare a final compliance report documenting all compliance activities implemented for the project, including the preconstruction survey results.
- If special-status bat species may be present and impacted by the project, within 30 days of the start of construction a qualified biologist shall conduct presence/absence surveys for special-status bats, in consultation with the CDFW, where suitable roosting habitat is present. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. If active bat roosts or colonies are present, the biologist shall evaluate the type of roost to determine the next step.
  - If a maternity colony is present, all construction activities shall be postponed within a 250-foot buffer around the maternity colony until it is determined by a qualified biologist that the young have dispersed or as recommended by CDFW through consultation. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately.
  - If a roost is determined by a qualified biologist to be used by a large number of bats (large hibernaculum), alternative roosts, such as bat boxes if appropriate for the species, shall be designed and installed near the project site. The number and size of alternative roosts installed will depend on the size of the hibernaculum and shall be determined through consultations with the CDFW.
  - If other active roosts are located, exclusion devices such as valves, sheeting or flap-style one-way devices that allow bats to exit but not re-enter roosts discourage bats from occupying the site.

BIO-1(h) Preconstruction Surveys for Nesting Birds. For construction activities occurring during the nesting season (generally February 1 to September 15), surveys for nesting birds covered by the CFGC, the MBTA, and Bald and Golden Eagle Protection Act shall be conducted by a qualified biologist no more than 14 days prior to vegetation removal activities.

A qualified biologist shall conduct preconstruction surveys for raptors. The survey for bald and golden eagles shall cover all areas within the disturbance footprint plus a one-mile buffer, where access can be secured. The survey area for all other nesting bird and raptor species shall include the disturbance footprint plus a 300-foot and 500-foot buffer, respectively.

If active nests (nests with eggs or chicks) are located, the qualified biologist shall establish an appropriate avoidance buffer ranging from 50 to 300 feet based on the species biology and the current and anticipated disturbance levels occurring in vicinity of the nest. The objective of the buffer shall be to reduce disturbance of nesting birds. All buffers shall be marked using high-visibility flagging or fencing, and, unless approved by the qualified biologist, no construction activities shall be allowed within the buffers until the young have fledged from the nest or the nest fails.

For bald or golden eagle nests identified during the preconstruction surveys, an avoidance buffer of up to one mile shall be established on a case-by-case basis in consultation with the USFWS and CDFW. The size of the buffer may be influenced by the existing conditions and disturbance regime, relevant landscape characteristics, and the nature, timing, and duration of the expected disturbance. The buffer shall be established between February 1 and September 15; however, buffers may be relaxed earlier than September 15 if a qualified ornithologist determines that a given nest has failed or that all surviving chicks have fledged, and the nest is no longer in use.

Impact	Mitigation Measure(s)	Residual Impact
	A report of these preconstruction nesting bird surveys and nest monitoring (if applicable) shall be submitted to the implementing agency for review and approval prior to the start of construction. **BIO-1(i) Fence and Signpost Restriction.** Any fencing posts or signs installed temporarily or permanently throughout the course of the project shall have the top three post holes covered or filled with screws or bolts to prevent the entrapment of wildlife, specifically the talons of birds of prey. Also, fencing shall incorporate wildlife friendly design elements, such as smooth wires and having a 6-inch or greater gap above grade. Fencing shall be designed to be wildlife friendly (e.g., smooth top wire, smooth bottom wire at 16 inches above grade, etc.). **BIO-1(j) Worker Environmental Awareness Program.** Prior to initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend Worker Environmental Awareness Program training, conducted by a qualified biologist retained by the implementing agency, to aid workers in recognizing special-status resources and review of the limits of construction and mitigation measures required. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form documenting that they have attended the training and understand the information presented to them.	
Impact BIO-2: implementation of transportation improvements and the land use scenario envisioned by 2026 RTP/SCS may result in impacts to sensitive habitats, including state or federally protected wetlands. This impact would be significant but mitigable.	**BIO-2(a) Aquatic Resources Jurisdictional Delineation and Impact Avoidance.** If the results of Mitigation Measure BIO-1(a) indicate that projects implemented under the 2026 RTP/SCS occur within or adjacent to wetland, drainages, riparian habitats, or other areas that may fall under the jurisdiction of the CDFW, USACE, and RWQCB, a qualified biologist shall complete an aquatic resources delineation in accordance with the requirement set forth by each agency. The result shall be submitted to the implementing agency, USACE, RWQCB, and/or CDFW as appropriate, for review and approval, and the project shall be designed to minimize impacts to jurisdictional areas to the extent feasible. The delineation shall serve as the basis to identify potentially jurisdictional areas to be protected during construction, through implementation of the avoidance and minimization identified in measure BIO-2(f). If waters of the State are expected to be impacted, then the RWQCB may require Waste Discharge Requirements (WDR) and/or Section 401 Water Quality Certification (depending upon whether the feature falls under federal jurisdiction). If CDFW asserts its jurisdictional authority, then a Streambed Alteration Agreement pursuant to Section 1600 et seq. of the CFGC may be required prior to construction within the areas of CDFW jurisdiction. If the USACE asserts its authority, then a permit pursuant to Section 404 of the Clean Water Act may be required. **BIO-2(b) Wetland, Drainages, and Riparian Habitat Restoration**. Impacts to jurisdictional drainages, wetlands and riparian habitat shall be mitigated in accordance with the SJMSCP at a minimum ratio of 2:1 preservation plus 1:1 creation for vernal pools within the Vernal Pool Zone, as mapped by the SJMSCP Zone Map, and at least 1:1 creation plus 2:1 preservation for wetlands other than vernal pools (acres of habitat restored to acres impacted) and shall occur on-site or as close to the impacted habitat as possible. A Mitigation and Monitoring Plan shall be developed by a qualified biologist in accordance with the restoration plan component requirements in mitigation measure BIO-1(c) above and shall be implemented for no less than five years after construction of the segment, or until the implementing agency and/or the permitting authority (e.g., CDFW, RWQCB, and/or USACE) has determined that restoration has been successful. Alternatively, mitigation shall be accomplished through purchase of credits from an approved wetlands mitigation bank. **BIO-2(c) Landscaping Plan.** If landscaping is proposed for a specific project, a qualified biologist/landscape architect shall prepare a landscape plan for that project. This plan shall indicate the locations and species of plants to be installed. Drought tolerant, locally native plant species shall be used. Noxious, invasive, and/or non-native plant species that are recognized on the Federal Noxious Weed List, California Noxious Weeds List, and/or California Invasive Plant Council Inventory as moderate to highly invasive species shall not be permitted. Species selected for planting shall be regionally appropriate native species that are known to occur in the adjacent native habitat types. **BIO-2(d) Sensitive Vegetation Community Avoidance and Mitigation.** If the results of measure BIO-1(a) indicate projects implemented under the 2026 RTP/SCS would impact sensitive vegetation communities, impacts to sensitive communities shall be avoided through project design modifications. Bright orange construction fencing shall be placed a minimum of 30 feet outside the edge of areas of sensitive communities that will be retained prior to any initiation of ground disturbance activities and shall remain in place until construction is complete. No vehicles, person, materials, or equipment shall be allowed in protected areas. If the implementing agency determines that sensitive communities cannot be avoided, impacts shall be mitigated on-site or offsite at a ratio of 1:1 for permanently impacted sensitive communities (habitat restored for habitat lost). Temporarily impacted areas shall be restored to pre-project conditions. A Restoration Plan shall be developed by a qualified biologist. The Restoration Plan shall be implemented for a period of not less than five years. Off-site habitat acquisition and off-site restoration and/or enhancement may be considered if onsite restoration is determined as unachievable, as long as the off-site proposals result in equal compensatory value. Replacement ratios for off-site mitigation may be different than those required for onsite mitigation. The plan shall include, at a minimum, the same components in accordance with the restoration plan component requirements in mitigation measure BIO-1(c) above. **BIO-2(e) Invasive Weed Prevention and Management Program.** Prior to start of construction for each project that occurs within or adjacent to native habitats, an Invasive Weed Prevention and Management Program shall be developed by a qualified biologist retained by the implementing agency to prevent invasion of native habitat by non-native plant species. The plan shall be submitted by the qualified biologist to the implementing agency for review and approval. A list of target species shall be included, along with measures for early detection and eradication. The plan, which shall be implemented by the implementing agency, shall also include, but not be limited to, the following measures to prevent the introduction of invasive weed species:	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
	▪ During construction, limit the use of imported soils for fill. If the use of imported fill material is necessary, the imported material must be obtained from a source that is known to be free of invasive plant species. ▪ To minimize colonization of disturbed areas and the spread of invasive species, the contractor shall stockpile topsoil and redeposit the stockpiled soil after construction or transport the topsoil to a permitted landfill or acceptable location for disposal. ▪ All erosion control materials, including straw bales, straw wattles, or mulch used on-site must be free of invasive species seed. ▪ Exotic and invasive plant species shall be excluded from any erosion control seed mixes and/or landscaping plant palettes associated with the proposed project ▪ All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding shall occur where no construction activities have occurred within six (6) weeks since ground disturbing activities ceased. If exotic species invade these areas prior to hydroseeding, weed removal shall occur in consultation with a qualified biologist and in accordance with the restoration plan. **BIO-2(f) Wetlands, Drainages, and Riparian Habitat Best Management Practices During Construction.** The following best management practices shall be required by the implementing agency for development within or adjacent to wetlands, drainages, or riparian habitat: ▪ Access routes, staging and construction areas shall be limited to the minimum area necessary to achieve the project goal and minimize impacts to other waters including locating access routes and ancillary construction areas outside of jurisdictional areas. ▪ To control sedimentation during and after project implementation, appropriate erosion control materials shall be deployed to minimize adverse effects on jurisdictional areas in the vicinity of the project. ▪ Project activities within the jurisdictional areas should occur during the dry season (typically between June 1 and November 1) in any given year, or as otherwise directed by the regulatory agencies. ▪ During construction, no litter or construction debris shall be placed within jurisdictional areas. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site. ▪ Raw cement, concrete, or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic species resulting from project related activities, shall be prevented from contaminating the soil and/or entering wetlands, drainages, or riparian habitat. ▪ All refueling, maintenance and staging of equipment and vehicles shall occur at least 100 feet from bodies of water and in a location where a potential spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water source). Prior to the onset of work activities, a plan must be in place for prompt and effective response to any accidental spills.	
Impact BIO-3: implementation of transportation improvements and the land use scenario envisioned by 2026 RTP/SCS may substantially interfere with wildlife movement, including fish migration, and/or impede the use of native wildlife nursery sites. This impact would be significant and unavoidable.	**BIO-3(a) Project Design for Wildlife Connectivity.** All projects including long segments of fencing and lighting shall be designed to minimize impacts to wildlife. Fencing or other project components shall not block wildlife movement through riparian or other natural habitat. Where fencing or other project components that may disrupt wildlife movement are required for public safety, they shall be designed to permit wildlife movement by incorporating design features such as: ▪ A minimum 16 inches between the ground and the bottom of the fence to provide clearance for small animals; ▪ A minimum 12 inches between the top two wires, or top the fence with a wooden rail, mesh, or chain link instead of wire to prevent animals from becoming entangled; ▪ If privacy fencing is required near open space areas, openings at the bottom of the fence shall measure at least 16 inches in diameter and be installed at reasonable intervals as defined by a qualified biologist to allow wildlife movement, or the fence may be installed with the bottom at least 16 inches above the ground level; ▪ If fencing or other project components must be designed in such a manner that wildlife passage would not be permitted, wildlife crossing structures shall be incorporated into the project design as appropriate; and ▪ Lighting installed as part of any project shall be designed to be minimally disruptive to wildlife (see mitigation measure AES-3(a) Roadway Lighting for lighting requirements). **BIO-3(b) Maintain Connectivity in Drainages.** No permanent structures shall be placed within any drainage or river that would impede wildlife movement (i.e., no hardened caps or other structures in the stream channel perpendicular to stream flow be left exposed or at depth with moderate to high risk for exposure as a result of natural bed scour during high flow events and thereby potentially create impediments to passage). In addition, upon completion of construction within any drainage, areas of stream channel and banks that are temporarily impacted shall be returned to pre-construction contours and in a condition that allows for unimpeded passage through the area once the work has been complete. If water is to be diverted around work sites, a diversion plan shall be submitted to SJCOG and/or local jurisdiction for review and approval prior to issuance of project construction permits/approvals. The diversion shall be designed in a way as to not impede fish and wildlife movement while the diversion is in place. **BIO-3 (c) Construction Best Management Practices to Minimize Disruption to Wildlife.** The following construction best management practices shall be incorporated by the implementing agency into all grading and construction plans to minimize temporary disruption of wildlife, which could hinder wildlife movement: ▪ Designation of a 20 mile per hour speed limit in all construction areas. ▪ Daily construction work schedules shall be limited to daylight hours only. ▪ Mufflers shall be used on all construction equipment and vehicles shall be in good operating condition. ▪ All trash shall be placed in sealed containers and shall be removed from the project site a minimum of once per week. ▪ No pets are permitted on project site during construction.	Significant and unavoidable

Impact	Mitigation Measure(s)	Residual Impact
Impact BIO-4: Implementation of transportation improvements and the land use scenario envisioned by 2026 RTP/SCS would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy. This impact would be less than significant.	No mitigation required	Less than significant
Impact BIO-5: Implementation of the transportation improvements and the land use scenario envisioned by the 2026 RTP/SCS would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Impacts would be significant but mitigable.	**BIO-1(a)** through **BIO-3(c)**	Less than significant
Cultural Resources		
Impact CUL-1: Implementation of proposed transportation improvements and the land use scenario envisioned by the proposed 2026 RTP/SCS would cause a substantial adverse change in built environment cultural resources that are historical resources as defined in state CEQA Guidelines Section 15064.5. Impacts would be significant and unavoidable.	**CUL-1 Historical Resources Impact Minimization.** Prior to individual project permit issuance, the implementing agency of a 2026 RTP/SCS project involving earth disturbance or construction of permanent above ground structures or roadways shall, or can and should, prepare a map defining the Area of Potential Effects (APE). This map shall indicate the areas of primary and secondary disturbance associated with construction and operation of the facility and will determine whether known historical resources are located within the impact zone. If a structure greater than 45 years in age is within the identified APE, a survey and evaluation of the structure(s) to determine their eligibility for recognition under State, federal, or local historic preservation criteria shall be conducted. The evaluation shall be prepared by an architectural historian meeting the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, Professional Qualification Standards*. The evaluation shall comply with CEQA Guidelines section 15064.5(a). The study must also analyze impacts in accordance with CEQA Guidelines section 15064.5(b). Based on the findings of the study, recommendations shall be implemented, which may include, but are not limited to, the following: ▪ Realign or redesign projects to avoid impacts on known historic resources where possible ▪ If avoidance of a significant architectural/built environment resource is not feasible, additional mitigation options include, but are not limited to, specific design plans for historic districts, or plans for alteration or adaptive re-use of a historical resource that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitation, Restoring, and Reconstructing Historic Buildings ▪ Comply with existing local regulations and policies that exceed or reasonably replace any of the above measures that protect historic resources	Significant and unavoidable
Impact CUL-2: Implementation of proposed transportation improvements and the land use scenario envisioned by the proposed 2026 RTP/SCS would cause a substantial adverse change in the significance of archaeological resources as defined in State CEQA Guidelines Section 15064.5. Impacts would be significant and unavoidable.	**CUL-2(a) Archaeological Resources Impact Minimization.** Before construction activities, implementing agencies shall, or can and should, retain a qualified archaeologist to conduct a record search at the Central California Information Center to determine whether the project area has been previously surveyed and whether resources were identified. When recommended by the Information Center, and prior to construction, implementing agencies shall, or can and should, retain a qualified archaeologist to conduct a cultural resources study that includes an archaeological survey, Native American Heritage Commission Sacred Lands File Search, background research, and recommendations for resource management strategies. Implementing agencies shall, or can and should, follow recommendations identified in the cultural resources study, which may include, but would not be limited to subsurface testing, data recovery, designing and implementing a Worker Environmental Awareness Program (WEAP), construction monitoring by a qualified archaeologist, or avoidance of sites and preservation in place. Recommended mitigation measures will be consistent with CEQA Guidelines Section 15126.4(b)(3) and may include but not be limited to preservation in place and/or data recovery. All cultural resources work shall follow accepted professional standards in recording any find including submittal of standard DPR Primary Record forms (Form DPR 523) and location information to the appropriate California Historical Resources Information System office for the project area. **CUL-2(b) Unanticipated Discoveries During Construction.** If evidence of any prehistoric or historic-era subsurface archaeological features or deposits are discovered during construction-related earthmoving activities (e.g., ceramic shard, trash scatters, lithic scatters), implementing agencies shall, or can and should, halt all ground-disturbing activity proximate to the discovery until a qualified archaeologist (36 CFR Section 61) can assess the significance of the find. If the find is a prehistoric archaeological site, the culturally affiliated California Native American tribe shall be notified. If the archaeologist determines that the find does not meet the CRHR standards of significance for cultural resources, construction may proceed. If the archaeologist determines that further information is needed to evaluate significance, a testing plan shall be prepared and implemented. If the find is determined to be significant by the qualified archaeologist (i.e., because the find is determined to constitute either an historical resource or a unique archaeological resource), the archaeologist shall work with the implementing agency to avoid disturbance to the resources, and if complete avoidance is not feasible in light of project design, economics, logistics and other factors, shall recommend additional measures such as the preparation and implementation of a data recovery plan. Recommended mitigation measures will be consistent with State CEQA Guidelines Section 15126.4(b)(3) recommendations and may include but not be limited to preservation in place and/or data recovery. All cultural resources work shall follow accepted professional standards in recording any find including submittal of standard DPR Primary Record forms (Form DPR 523) and location information to the appropriate California Historical Resources Information System office for the project area. If the find is a prehistoric archaeological site, the culturally affiliated California Native American tribe shall be notified and afforded the opportunity to monitor mitigative treatment. During evaluation or mitigative treatment, ground disturbance and construction work may continue in other parts of the project area that are distant enough from the find not to impact it, as determined by the qualified archaeologist.	Significant and unavoidable
Impact CUL-3: Implementation of proposed transportation improvements and the land use scenario envisioned by the 2026 RTP/SCS could disturb human remains. Impacts would be less than significant.	No mitigation required.	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
Energy		
Impact E-1: Future transportation improvement projects and implementation of the land use scenario envisioned by the proposed 2026 RTP/SCS would not result in significant environmental impact due to the wasteful, inefficient, or unnecessary consumption of energy resources. Impacts would be less than significant.	No mitigation required	Less than significant
Impact E-2: The proposed 2026 RTP/SCS would not increase reliance on fossil fuels or decrease reliance on renewable energy sources. This impact would be less than significant.	No mitigation required	Less than significant
Impact E-3: The 2026 RTP/SCS would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This impact would be less than significant.	No mitigation Required	Less than significant
Agriculture and Forestry Resources		
Impact AG-1: Proposed transportation improvements and land use patterns envisioned by the 2026 RTP/SCS could result in the conversion of important farmland to nonagricultural use, and/or conflict with existing zoning for agriculture. This would be a significant and unavoidable impact.	**AG-1 Impact Avoidance and Minimization.** Project sponsors shall implement measures, where feasible and necessary based on project-and site-specific considerations that include but are not limited to those identified below. ▪ Require project relocation or corridor realignment, where feasible, to avoid Important Farmland; ▪ Manage project construction to minimize the introduction of invasive species or weeds that may affect agricultural production on agricultural land adjacent to project sites. Managing project construction may include washing construction equipment before bringing equipment on-site, using certified weed-free straw bales for construction Best Management Practices (BMPs), and other similar measures. ▪ Provide buffers, berms, setbacks, fencing, or other project design measures to protect surrounding agriculture, and to reduce conflict with farming that could result from implementation of transportation improvements and/or development included as a part of the RTP/SCS; ▪ Achieve compensatory mitigation in advance of impacts through purchase or creation of mitigation credits, as deemed appropriate by permitting agencies; and/or ▪ Require acquisition of conservation easements on land in the same jurisdiction, if feasible, and at least equal in quality and size to converted Important Farmland, to offset the loss of Important Farmland. ▪ Institute new protection of farmland in the project area or elsewhere through the use of long-term restrictions on use, such as 20-year Farmland Security Zone contracts (Government Code Section 51296 et seq.) or 10-year Williamson Act contracts (Government Code Section 51200 et seq.).	Significant and unavoidable
Impact AG-2: The proposed transportation improvements and land use patterns envisioned by the 2026 RTP/SCS would not conflict with existing zoning for forest land, timberland, or timberland production, nor convert forest land to non-forest uses. Impacts would be less than significant.	No mitigation required	Less than significant
Environmental Justice		
Impact EJ-1: The proposed Transportation Improvements and Land Use Projects Envisioned by the Proposed 2026 RTP/SCS would not result in adverse impacts to EJ Households. This Impact Would be Less than Significant.	No mitigation required	Less than significant
Impact EJ-2: The Proposed Transportation improvements Envisioned by the Proposed 2026 RTP/SCS would not result in a Disproportionately lower distribution of benefits to EJ Communities. This Impact would be less than Significant.	No mitigation required	Less than significant
Impact EJ-3: Implementation of the land use Scenario envisioned by the proposed 2026 RTP/SCS would increase the availability of Affordable Housing Stock. This Impact would be Less than Significant.	No mitigation required	Less than significant
Geology, Soils, and Mineral Resources		
Impact GEO-1: The proposed transportation improvements and land use projects envisioned by the proposed 2026 RTP/SCS would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. Impacts would be less than significant.	No mitigation required	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
Impact GEO-2: The proposed transportation improvements and land use projects envisioned by the proposed 2026 RTP/SCS would not result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant.	No mitigation required	Less than significant
Impact GEO-3 Implementation of transportation improvements and future projects included in the land use scenario envisioned in the proposed 2026 RTP/SCS could be located on potentially unstable soils, in areas of lateral spreading, subsidence, or high liquefaction potential, or areas of expansive soil. Impacts would be Less than significant.	No mitigation required	Less than significant
Impact GEO-4: The proposed transportation improvements and land use projects envisioned by the proposed 2026 RTP/SCS in rural areas may have soils incapable of adequately supporting septic tanks or alternative wastewater disposal systems. Compliance with existing regulations would minimize or reduce impacts. Impacts would be less than significant.	No mitigation required	Less than significant
Impact GEO-5: Implementation of the proposed transportation improvements and the land use scenario envisioned by 2026 RTP/SCS could cause a substantial adverse change in or disturb known and unknown paleontological resources as defined in CEQA guidelines section 15064.5. Impacts to paleontological resources would be significant and unavoidable.	**GEO-5 Paleontological Resources Impact Mitigation.** The implementing agency of a proposed 2026 RTP/SCS project involving ground disturbing activities (including grading, trenching, foundation work and other excavations) shall, or can and should, retain a qualified paleontologist, defined as a paleontologist who meets the Society of Vertebrate Paleontology (SVP) standards for Qualified Professional Paleontologist (SVP 2010), to conduct a Paleontological Resources Assessment (PRA). The PRA shall determine the age and paleontological sensitivity of geologic formations underlying the proposed disturbance area consistent with SVP Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (SVP 2010) guidelines for categorizing paleontological sensitivity of geologic units within a project area. If underlying formations are found to have a high potential (sensitivity) for paleontological resources and/or could be considered a unique geologic feature, the following measures shall apply: ▪ Projects shall avoid routes and project designs that would permanently alter unique paleontological and geological features. If avoidance practices cannot be implemented, the following measures shall apply. ▪ Retention of a Qualified Paleontologist. A Qualified Paleontologist who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for at least two years (SVP 2010) shall be retained to create a Paleontological Resources Monitoring and Mitigation Program (PRMMP) to direct all mitigation measures related to paleontological resources. . ▪ Paleontological Worker Environmental Awareness Program (WEAP). Prior to the start of ground disturbance activity, construction personnel shall be informed on the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. ▪ Paleontological Monitoring. Ground disturbing activity with the potential to disturb geologic units with high paleontological sensitivity, as determined by initial paleontological surveying or records search as deemed appropriate, shall be monitored on a full-time basis by a qualified paleontological monitor. Should no fossils be observed during the first 50 percent of such excavations, paleontological monitoring could be reduced, under the discretion of the qualified paleontologist, to weekly spot-checking. Monitoring shall be conducted by a qualified paleontological monitor, defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor If it is determined that the fossil(s) is (are) scientifically significant, the Qualified Paleontologist shall complete the following conditions to mitigate impacts to significant fossil resources: ▫ Fossil Salvage. If fossils are discovered, the implementing agency shall be notified immediately, and the qualified paleontologist (or paleontological monitor) shall recover them. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case, the paleontologist should have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. ▫ Preparation and Curation of Recovered Fossils. Once salvaged, fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps. ▫ Final Paleontological Mitigation and Monitoring Report. Upon completion of ground disturbing activity (and curation of fossils, if necessary) the Qualified Paleontologist shall prepare a final mitigation and monitoring report outlining the results of the PRMMP. The report shall include discussion of the location, duration and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated. The report shall be submitted to the sponsor agency. If the monitoring efforts recovered fossils, then a copy of the report shall also be submitted to the designated museum repository.	Significant and unavoidable
Impact GEO-6: Implementation of transportation improvements and future projects included in the land use scenario envisioned in the proposed 2026 RTP/SCS would not result in the loss of availability of known mineral resources of value or locally important resource recovery sites. This impact would be less than significant.	No mitigation required	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
Greenhouse Gas Emissions and Climate Change		
Impact GHG-1: Construction of the transportation improvements and land use projects envisioned by the proposed 2026 RTP/SCS would generate GHG emissions that may have a significant impact on the environment. Impacts would be significant and unavoidable.	**GHG-1 Construction GHG Reduction Measures.** The implementing agency shall incorporate the most recent GHG reduction measures and/or technologies for reducing GHG emissions measures for off-road construction vehicles during construction. The measures shall be noted on all construction plans and the project sponsor shall perform periodic site inspections. Current GHG-reducing measures include the following: ▪ Off road diesel construction equipment meeting the most stringent CARB emissions standards for off-road heavy-duty diesel engines must be used (e.g., as of 2026, this would be Tier 4 emission standards). Where the use of the most stringent CARB emissions standards for off-road heavy-duty diesel engines is not feasible, the next lower tier shall be used; where the use of the next lower tier is not feasible, the next lowest tier shall be used. ▪ Use of on-road heavy-duty trucks that meet CARB's most stringent or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation; ▪ All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the five-minute idling limit; ▪ Substitute gasoline-powered in place of diesel-powered equipment, where feasible; ▪ Use of alternatively fueled construction equipment, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, in place of diesel-powered equipment for 15 percent of the fleet, to the extent electric powered equipment is not feasible; ▪ Use of materials sourced from local suppliers; ▪ Recycling of at least 75 percent of construction waste materials; and ▪ Implementing agencies shall incentivize that construction workers carpool, and/or use electric vehicles to commute to and from the project site.	Significant and unavoidable
Impact GHG-2: Proposed transportation improvements and land use projects envisioned by the proposed 2026 RTP/SCS would result in a net increase in GHG emissions by 2049 compared to the existing baseline conditions and would therefore have a significant impact on the environment. Impacts would be significant and unavoidable.	**GHG-2 Land Use Project Energy Consumption and Water Use Reduction Measures.** The cities and the County, when processing discretionary land use projects, shall implement the following measures as applicable and feasible to the project. The cities and the County may also incorporate these measures into their local planning regulations. Measures to reduce GHG emissions for land use projects include, but are not limited to: ▪ Require new residential and commercial construction to install solar energy systems or be solar-ready ▪ Require new residential and commercial development to install low flow water fixtures ▪ Require new residential and commercial development to install water-efficient drought-tolerant landscaping, including the use of compost and mulch ▪ Require new development to exceed the applicable Title 24 energy-efficiency requirements ▪ Require new development to be fully electric ▪ Require new residential and commercial development to offer information on recycling, composting, and disposal of household hazardous waste and e-waste ▪ Require new development to implement circulation design elements in parking lots for no-residential uses to reduce vehicle queuing and improve the pedestrian environment	Significant and unavoidable
Impact GHG-3: The transportation improvements and land use projects envisioned by the proposed 2026 RTP/SCS would not conflict with regional SB 375 per capita passenger vehicle CO_2 emission reduction targets of 16 percent by 2035 from 2005 levels. Impacts would be less than significant.	No mitigation required	Less than significant
Impact GHG-4: Implementation of the proposed 2026 RTP/SCS would conflict with the State's ability to achieve SB 32 and AB 1279, and applicable local GHG reduction plan targets and goals. Impacts would be significant and unavoidable.	**GHG-4(a) Transportation-Related GHG Reduction Measures**. The implementing agency shall incorporate the most recent GHG reduction measures and/or technologies for reducing VMT and associated transportation related GHG emissions. GHG-reducing mitigation measures include the following: ▪ Installation of electric vehicle charging stations beyond those required by State and local codes ▪ Utilization of electric vehicles and/or alternatively fueled vehicles in company fleet ▪ Provision of dedicated parking for carpools, vanpool, and clean air vehicles ▪ Provision of new or improved transit amenities (e.g., covered turnouts, bicycle racks, covered benches, signage, lighting, sidewalk connectivity, and accessible crosswalks) if project site is located along an existing transit route ▪ Optimize transit route networks and service levels to boost ridership ▪ Provision of employee lockers and showers ▪ Provision of on-site services that reduce the need for off-site travel (e.g., childcare facilities, automatic teller machines, postal machines, food services) ▪ Provision of alternative work schedule options, such as telework or reduced schedule (e.g., 9/80 or 10/40 schedules) for employees ▪ Implementation of transportation demand management programs to educate and incentivize residents and/or employees to use transit, smart commute, and alternative transportation options **GHG-4(b) Land Use Project Energy Consumption and Water Use Reduction Measures.** For land use projects under their jurisdiction, the cities and counties in the SJCOG region can and should implement measures to reduce energy consumption, water use, solid waste generation, and VMT, all of which contribute to GHG emissions. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site specific conditions. ▪ Require new commercial construction to install solar energy systems or be solar-ready	Significant and unavoidable

Impact	Mitigation Measure(s)	Residual Impact
	▪ Require new residential and commercial development to install low flow water fixtures ▪ Require new residential and commercial development to install water-efficient drought-tolerant landscaping, including the use of compost and mulch ▪ Require new development to exceed the applicable Title 24 energy-efficiency requirements ▪ Encourage new development to be fully electric	
Hazards and Hazardous Materials		
Impact HAZ-1: Transportation improvement projects and land use patterns included in the 2026 RTP/SCS may facilitate the routine transport, use, or disposal of hazardous material, and may result in reasonably foreseeable upset and accident conditions. Mandatory compliance with existing regulations and programs would minimize the risk associated with these activities or accident conditions. Impacts would be less than significant.	No mitigation required	Less than significant
Impact HAZ-2: Transportation improvement projects and land use patterns included in the 2026 RTP/SCS would facilitate hazardous emissions or handling of acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school. Existing regulations and programs would reduce the risk to schools. This impact would be less than significant.	No mitigation required	Less than significant
Impact HAZ-3: The 2026 RTP/SCS includes land use patterns and transportation projects that could occur on previously unknown hazardous material sites or sites on the list compiled by Government Code Section 65962.5, and therefore create a significant hazard to the public or environment. This impact would be significant but mitigable.	**HAZ-1 Site Remediation.** If an individual project included in the 2026 RTP/SCS is located on or near a hazardous materials and/or waste site pursuant to Government Code Section 65962.5, the implementing agency shall prepare a Phase I ESA in accordance with the American Society for Testing and Materials' E-1527- 05 standard. For work requiring any demolition or renovation, the Phase I ESA shall make recommendations for any hazardous building materials survey work that shall be done. All recommendations included in a Phase I ESA prepared for a site shall be implemented. If a Phase I ESA indicates the presence or likely presence of contamination, the implementing agency shall require a Phase II ESA, and recommendations of the Phase II ESA shall be fully implemented. Examples of typical recommendations provided in Phase I/II ESAs include removal of contaminated soil in accordance with a soil management plan approved by the local environmental health department; covering stockpiles of contaminated soil to prevent fugitive dust emissions; capturing groundwater encountered during construction in a holding tank for additional testing and characterization and disposal based on its characterization; and development of a health and safety plan for construction workers.	Less than significant
Impact HAZ-4: Transportation improvement projects and land use scenario envisioned by the 2026 RTP/SCS may be located at or near a public use airport or private airstrip. Existing regulations and regulatory oversight would reduce the inherent hazard of development near airports to safe levels, and this impact would be less than significant.	No mitigation required	Less than significant
Impact HAZ-5: Transportation improvement projects and the land use scenario envisioned by the 2026 RTP/SCS could interfere with existing emergency response and evacuation. However, required regular updates to emergency response and evacuation plans would account for development and projects and standard notification of emergency response agencies during construction activities would ensure evacuation and response routes are modified appropriately. Impacts related to interference or impairment of an adopted emergency response plan or emergency evacuation plan would be less than significant	No mitigation required	Less than significant
Hydrology and Water Quality		
Impact HYD-1: Implementation of proposed transportation projects and future projects included in the land use scenario envisioned in the 2026 RTP/SCS would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality. Impacts would be less than significant.	No mitigation required	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
Impact HYD-2: Implementation of proposed transportation and land use projects envisioned in the proposed 2026 RTP/SCS would substantially decrease groundwater supplies. and interfere with groundwater recharge such that it may impede sustainable groundwater management of the basins. Impacts would be significant and unavoidable.	**HYD-2(a) Construction Dust Suppression Water Supply.** For all proposed 2026 RTP/SCS projects, where feasible, reclaimed and/or recycled water shall be used for dust suppression during construction activities. This includes use of such reclaimed water in water trucks utilized for project construction occurring outside developed areas and away from water infrastructure which would otherwise provide such reclaimed water. It should be noted that use of reclaimed water in water trucks is generally no different than use of potable water, and therefore use of reclaimed water in projects that will require the use of water trucks should be given extra consideration as a measure which can enable use of reclaimed water in areas where it would otherwise be impossible due to lack of infrastructure. This measure shall be noted on construction plans and shall be spot checked by the local jurisdiction. **HYD-2(b) Landscape Watering**. In jurisdictions that do not already have an appropriate local regulatory program related to landscape watering, or for proposed 2026 RTP/SCS projects that are not required to comply with AB 1881, projects that include landscaping shall be designed with drought tolerant plants and drip irrigation. When feasible, native plant species shall be used. In addition, landscaping associated with proposed improvements shall be maintained using reclaimed water when feasible. If reclaimed water would feasibly be utilized for project landscape watering due to proximity of reclaimed water sources but is unavailable due to lack of connecting infrastructure, local agencies or transportation sponsors shall conduct an analysis of the upgrades needed to provide such infrastructure, which will include the potential for new connections to existing reclaimed water systems to provide reclaimed water to other nearby sources besides the proposed project in the analysis, and shall perform such steps as necessary to utilize available reclaimed water if feasible.	Significant and unavoidable
Impact HYD-3: Transportation and future land use projects implementing the proposed 2026 RTP/SCS would not substantially alter the existing drainage pattern of a site or area through alteration of the course of a stream or river or through the addition of impervious surfaces in a manner where drainage changes would result in flooding on- or off-site, redirect or impede flood flows, exceed the capacity of stormwater systems, or provide additional polluted runoff. Impacts would be less than significant.	No mitigation required	Less than significant
Impact HYD-4: Transportation s and land use projects implementing the proposed 2026 RTP/SCS would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. Impacts would be less than significant.	No mitigation required	Less than significant
Impact HYD-5: Transportation and land use projects envisioned in the 2026 RTP/SCS would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plans. Impacts would be less than significant.	No mitigation required	Less than significant
Land Use and Planning		
Impact LU-1: Implementation of proposed transportation improvements and the land use scenario envisioned by the 2026 RTP/SCS would not physically divide an established community. This impact would be less than significant.	No mitigation required	Less than significant
Impact LU-2: The 2026 RTP/SCS would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation and result in a physical change to the environment not already addressed in other resource chapters. Therefore, this impact would be less than significant after implementation of mitigation discussed throughout this EIR.	Mitigation measures are provided for applicable resources throughout their respective environmental issue area sections of the EIR to reduce impacts. No additional mitigation is required for this impact.	Less than significant
Noise		
Impact NOI-1: Construction activity associated with proposed transportation improvement projects and other land use development envisioned by the Proposed 2026 RTP/SCS would generate a substantial temporary increase in ambient noise levels in excess of standards established in local general plans or noise ordinances and would generate a substantial absolute noise increase over existing noise levels. This impact would be significant and unavoidable.	**N-1 Construction Noise Reduction.** To reduce construction noise levels to achieve applicable standards and prevent a substantial increase in ambient noise levels, implementing agencies for transportation and land use projects shall implement the measures identified below where feasible and necessary. a) **Compliance with local Construction Noise Regulations.** Implementing agencies shall ensure that, where residences or other noise sensitive uses are located within 800 feet of construction sites without pile driving, appropriate measures shall be implemented to ensure consistency with local noise ordinance requirements related to construction noise. Specific techniques may include, but are not limited to, restrictions on construction timing, use of sound blankets on construction equipment, and the use of temporary walls and noise barriers to block and deflect noise. b) **Noise Complaint and Enforcement Manager.** Designate an on-site construction complaint and enforcement manager for projects within 800 feet of sensitive receivers. Implementing agencies shall post phone numbers for the on-site enforcement manager at construction sites along with complaint procedures and who to notify in the event of a problem. c) **Pile Driving**. For any project within 3,200 feet of sensitive receptors that requires pilings, the implementing agency shall require caisson drilling or sonic pile driving as opposed to pile driving, where feasible. This shall be accomplished through the placement of conditions on the project during its individual environmental review.	Significant and unavoidable

Impact	Mitigation Measure(s)	Residual Impact
	d) **Construction Equipment Noise Control**. Implementing agencies shall ensure that equipment and trucks used for project construction utilize the best available noise control techniques including mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds. e) **Impact Equipment Noise Control.** Implementing agencies shall ensure that impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for project construction be hydraulically or electrically powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, use of an exhaust muffler on the compressed air exhaust can lower noise levels from the exhaust by up to about 10 dBA. When feasible, external jackets on the impact equipment can achieve a reduction of 5 dBA. Whenever feasible, use quieter procedures, such as drilling rather than impact equipment operation. f) **Construction Activity Timing Restrictions.** The following timing restrictions shall apply to 2026 RTP/SCS activates creating noise levels at or above 65 dBA at a nearby dwelling unit, except where timing restrictions are already established in local codes or policies. Construction activities shall be limited to: ▪ Monday through Friday: 7 a.m. to 6 p.m. ▪ Saturday: 9 a.m. to 5 p.m. ▪ Sundays and Holidays: Not permitted g) **Placement of Stationary Noise Sources.** Locate stationary construction noise sources, e.g., generators, as far from noise-sensitive receptors as possible. Stationary construction noise sources that must be located near existing receptors will be equipped with the best available mufflers.	
Impact NOI-2: Proposed transportation improvements and land use projects envisioned by the Proposed 2026 RTP/SCS would generate a substantial permanent increase in ambient noise levels in excess of standards or over existing noise levels and generate a substantial absolute noise increase over existing noise levels. This impact would be significant and unavoidable.	**N-2 Noise Assessment and Control for Mobile and Point Source Reduction.** Implementing agencies shall complete detailed noise assessments using applicable guidelines (e.g., Caltrans Traffic Noise Analysis Protocol) for roadway and rail projects that may impact noise sensitive receptors. The implementing agency shall ensure that a noise survey is conducted that, at a minimum: ▪ Determines existing and projected noise levels ▪ Determines the amount of attenuation needed to reduce potential noise impacts to applicable State and local standards ▪ Identifies potential alternate alignments that allow greater distance from, or greater buffering of, noise-sensitive areas ▪ If warranted, recommends methods for mitigating noise impacts, including: ▫ Appropriate setbacks ▫ Sound attenuating building design, including retrofit of existing structures with sound attenuating building materials ▫ Use of sound barriers (earthen berms, sound walls, or some combination of the two) Where new or expanded roadways or transit are found to expose receptors to noise exceeding normally acceptable levels, the individual project lead agency shall implement techniques as recommended in the project-specific noise assessments. The preferred methods for mitigating noise impacts will be the use of appropriate setbacks and sound attenuating building design, including retrofit of existing structures with sound attenuating building materials where feasible. In instances where use of these techniques is not feasible, the use of sound barriers (earthen berms, sound walls, or some combination of the two) will be considered. Long expanses of walls or fences should be interrupted with offsets and provided with accents to prevent monotony. Landscape pockets and pedestrian access through walls should be provided. Whenever possible, a combination of elements shall be used, including open grade paving, solid fences, walls, and landscaped berms. Other techniques such as rubberized asphalt or "quiet pavement" can be used where feasible to reduce road noise for new roadway segments or modifications requiring repaving. The effectiveness of noise reduction measures shall be monitored by taking noise measurements and installing adaptive mitigation measures to achieve applicable standards.	Significant and unavoidable
Impact NOI-3: Construction activities associated with transportation projects and land use projects implementing the Proposed 2026 RTP/SCS would generate excessive groundborne vibration levels. New truck and bus traffic resulting from the Proposed 2026 RTP/SCS would generate excessive operational vibration levels. These impacts would be significant and unavoidable.	**N-3(a) Vibration Mitigation for Construction of Transportation Projects.** Where local vibration and groundborne noise standards do not apply, implementing agencies of 2026 RTP/SCS projects utilizing heavy construction equipment shall estimate vibration levels generated by construction activities and use the Caltrans vibration damage potential threshold criteria to screen for and screen out projects as to their potential to damage buildings on site or near a project. If construction equipment would generate vibration levels exceeding acceptable levels as established by Caltrans, implementing agencies of the proposed 2026 RTP/SCS shall, or can and should, complete the following tasks: ▪ Prior to construction, survey the project site for vulnerable buildings, and complete geotechnical testing (preconstruction assessment of the existing subsurface conditions and structural integrity), for any older or historic buildings within 50 feet of pile driving. The testing shall be completed by a qualified geotechnical engineer and qualified historic preservation professional and/or structural engineer. ▪ Prepare and submit a report to the lead agency that contains the results of the geological testing. If recommended by the preconstruction report, implementing agencies shall require ground vibration monitoring of nearby historic structures. Methods and technologies shall be based on the specific conditions at the construction site. The preconstruction assessment shall include a monitoring program to detect ground settlement or lateral movement of structures in the vicinity of pile-driving activities and identify corrective measures to be taken should monitored vibration levels indicate the potential for building damage. In the event of unacceptable ground movement with the potential to cause structural damage, all impact work shall cease, and corrective measures shall be implemented to minimize the risk to the subject, or adjacent, historic structure. ▪ To minimize disturbance withing 550 feet of pile-driving activities, implement "quiet" pile-driving technology, such as predrilling of piles and the use of more than one pile driver to shorten the duration of pile driving), where feasible, in consideration of geotechnical and structural requirements and conditions as defined as part of the geotechnical testing, if testing was feasible. ▪ Use cushion blocks to dampen noise from pile driving. ▪ Phase operations of construction equipment to avoid simultaneous vibration sources	Significant and unavoidable

Impact	Mitigation Measure(s)	Residual Impact
	N-3(b) Vibration Mitigation for Operation of Transportation Projects. Implementing agencies of 2026 RTP/SCS projects shall comply with all applicable local vibration and groundborne noise standards, or in the absence of such local standards, comply with guidance provided by the FTA in Transit Noise and Vibration Impact Assessment (FTA 2018) to assess impacts to buildings and sensitive receptors and reduce vibration and groundborne noise. FTA recommended thresholds shall be used except in areas where local standards for groundborne noise and vibration have been established. Methods that can be implemented to reduce vibration and groundborne noise impacts include, but are not limited to: ▪ Rail Traffic ▫ Maximizing the distance between tracks and sensitive uses ▫ Conducting rail grinding on a regular basis to keep tracks smooth ▫ Conducting wheel truing to re-contour wheels to provide a smooth running surface and removing wheel flats ▫ Providing special track support systems such as flating slabs, resiliently supported ties, high-resilience fasteners and ballast mats ▫ Implementing operational changes such as limiting train speed and reducing nighttime operations ▪ Bus and Truck Traffic ▫ Construct noise barriers ▫ Use noise reducing tires and wheel construction on bus wheels ▫ Use vehicle skirts (i.e., a partial enclosure around each wheel with absorptive treatment) on freight vehicle wheels	
Impact NOI-4: Land use projects envisioned by the Proposed 2026 RTP/SCS may place sensitive receptors in areas with noise levels in excess of standards established in the local general plan or noise ordinance. This impact would be significant and unavoidable.	**N-4 Noise Mitigation for Land Uses.** If a land use project is located in an area with exterior ambient noise levels that may exceed local noise standards, the implementing agency shall ensure that a noise study is conducted to determine the existing and projected exterior noise levels in the vicinity of the project. If the project residents would be exposed to noise levels exceeding local standards or to a substantial increase in ambient noise levels lo, feasible attenuation measures shall be used to reduce operational noise to meet acceptable standards. In addition, noise insulation techniques shall be utilized to reduce indoor noise levels to thresholds set in applicable State and/or local standards. Such measures may include but are not limited to: dual-paned windows, solid core exterior doors with perimeter weather stripping, air conditioning system so that windows and doors may remain closed, and situating exterior doors away from roads. The noise study and determination of appropriate mitigation measures shall be completed during the project's individual environmental review.	Significant and unavoidable
Transportation		
Impact TRA-1: Transportation projects and land use projects implementing the proposed 2026 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.	No mitigation required	Less than significant
Impact TRA-2: The proposed 2026 RTP/SCS would result in an overall increase in regional VMT above baseline (2025) conditions, but would result in an increase in VMT per capita above baseline (2025) conditions. Regional VMT and VMT per capita impacts from implementation of the proposed 2026 RTP/SCS would be significant and unavoidable. The induced travel impact at the regional level would be less than significant.	**TRA-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, such as dibs ▪ 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 and Commute with Enterprise ▪ Encourage telecommute programs ▪ Purchase AB 130 VMT mitigation credits ▪ 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 ▪ Orient the project toward transit, bicycle, and pedestrian facilities ▪ Provide traffic calming ▪ Provide bicycle parking	Significant and unavoidable

Impact	Mitigation Measure(s)	Residual Impact
	▪ 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	
Impact TRA-3: Transportation and land use projects implemented under the proposed 2026 RTP/SCS would not substantially increase hazards due to geometric design features or incompatible uses. This impact would be less than significant.	No mitigation required	Less than significant
Impact TRA-4: Transportation and land use projects implemented under the proposed 2022 RTP/SCS would not result in inadequate emergency vehicle access. This impact would be less than significant.	No mitigation required	Less than significant
Tribal Cultural Resources		
Impact TCR-1: Implementation of proposed transportation improvements and future projects included in the land use scenario envisioned in the 2026 RTP/SCS has the potential to impact tribal cultural resources. Impacts would be less than significant with mitigation incorporated.	**TCR-1 Tribal Cultural Resources Impact Minimization.** Implementing agencies shall, or can and should, comply with AB 52, which requires formal tribal consultation. If the implementing agency determines that a project may cause a substantial adverse change to a tribal cultural resource, they shall, or can and should, implement mitigation measures identified in the consultation process required under PRC Section 21080.3.2, or shall, or can and should, implement the following measures where feasible to avoid or minimize the project specific significant adverse impacts: ▪ Avoidance and preservation of the resources in place, including, but not limited to planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria. ▪ Treating the resource with culturally appropriate dignity considering the tribal cultural values and meaning of the resource, including, but not limited to, the following: ▫ Protecting the cultural character and integrity of the resource ▫ Protecting the traditional use of the resource ▫ Protecting the confidentiality of the resource ▫ Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places ▪ Native American monitoring by the appropriate tribe for all projects in areas identified as sensitive for potential tribal cultural resources and/or in the vicinity (within 100 feet) of known tribal cultural resources ▪ If potential tribal cultural resources are encountered during ground-disturbing activities; work in the immediate area must halt and the appropriate tribal representative(s), the implementing agency, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find and determine the proper course of action	Less than significant
Wildfire		
Impact WF-1: Proposed transportation improvements and land use projects envisioned by the 2026 RTP/SCS would be located in or near an SRA, and exposure of people or structures to a significant risks of loss, injury, or death from wildfires could occur. Impacts would be less than significant with mitigation incorporated.	**WF-1(a) Wildfire Risk Reduction.** If an individual transportation or land use project included in 2026 RTP/SCS is located within or less than two miles from an SRA or very high fire hazard severity zone, the implementing agency shall require appropriate mitigation to reduce the risk. Examples of mitigation to reduce risk of loss, injury or death from wildlife include, but are not limited to: Require the use of fire-resistant vegetation native to San Joaquin County and/or the local microclimate of the project site and discourage the use of fire-prone species especially nonnative, invasive species. Enforce defensible space regulations to keep overgrown and unmanaged vegetation, accumulations of trash and other flammable material away from structures. Provide public education about wildfire risk, fire prevention measures, and safety procedures and practices to allow for safe evacuation and/or options to shelter-in-place. Require adherence to the local hazard mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildfires through land use compatibility, training, sustainable development, brush management, public outreach, and service standards for fire departments. Ensure sufficient emergency water supply. Encourage the use of fire-resistant vegetation native to San Joaquin County and/or the local microclimate of the project site and discourage the use of fire-prone species especially non-native, invasive species. Require a fire safety plan be submitted to and approved by the local fire protection agency. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. The local fire protection agency may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase of the project.	Less than significant

Impact	Mitigation Measure(s)	Residual Impact
	Prohibit certain project construction activities with potential to ignite wildfires during red-flag warnings issued by the National Weather Service for the project site location. Example activities that should be prohibited during red-flag warnings include welding and grinding outside of enclosed buildings. Require fire extinguishers to be onsite during construction of projects. Fire extinguishers shall be maintained to function according to manufacturer specifications. Construction personnel shall receive training on the proper methods of using a fire extinguisher. Smoking and open fires shall be prohibited at individual transportation or land use projects sites included in 2026 RTP/SCS during construction and operations. A copy of the notification to all contractors regarding prohibiting smoking and burning shall be provided to the County. **WF-1(b) Fire Protection Plan.** Individual transportation or land use projects included in the 2026 RTP/SCS shall prepare a Fire Protection Plan that meets Fire Prevention Bureau of San Joaquin County requirements. The plan shall contain (but not be limited to) the following provisions: ▪ All construction equipment shall be equipped with appropriate spark arrestors and carry fire extinguishers. ▪ A fire watch with appropriate firefighting equipment shall be available at the project site at all times when welding activities are taking place. Welding shall not occur when sustained winds exceed that set forth by the Fire Prevention Bureau of San Joaquin County unless a Fire Prevention Bureau of San Joaquin County-approved wind shield is on site. ▪ A vegetation management plan shall be prepared to address vegetation clearance around all future transportation projects. ▪ Operational fire water tanks shall be installed prior to construction. ▪ Provisions for fire/emergency services access if roadway blockage occurs due to large loads during construction and operation ▪ Cleared, maintained parking areas shall be designated; no parking shall be allowed in non-designated areas. ▪ The need for and/or use of dedicated repeaters for emergency services. ▪ Appropriate hot work permits (such as cutting and welding permits) shall be obtained from the jurisdictional fire agency.	
Impact WF-2: Proposed transportation improvements and land use projects envisioned by the 2026 MTP/SCS would be located in or near SRAs. This would exacerbated wildfire risks that could lead to increased pollution concentrations, increase wildfire risk associated with the construction or maintenance of infrastructure such as roads, and increase the likelihood of post-fire landslides and flooding. Existing regulations and proposed mitigation measures would reduce this risk and Impacts would be less than significant with mitigation.	**WF-1(a)** and **WF-1(b)**	Less than significant

1 Introduction

1.1 Statement of Purpose

This Programmatic Environmental Impact Report (EIR) identifies and describes potential environmental impacts associated with the San Joaquin Council of Governments' (SJCOG) 2026 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) proposed by the San Joaquin Council of Governments (SJCOG). The 2026 RTP/SCS is an update of the 2022 RTP/SCS, which was adopted in 2022 following certification of a Programmatic EIR.

This EIR has been prepared in accordance with California Environmental Quality Act of 1970 (CEQA) (Pub. Res. section 21000 et seq.) This law requires that public agencies evaluate and address environmental impacts associated with discretionary planning programs or proposed development projects proposed. As such, this EIR is an informational document for use by SJCOG, other agencies, and the general public in their consideration and evaluation of the environmental consequences of implementing the proposed 2026 RTP/SCS.

This introduction section of the EIR describes the following aspects of the 2026 RTP/SCS and the EIR: project background; purpose and legal authority; implementation issues and future environmental review; EIR background; applicable agencies involved in the project; EIR scope, content, and format; and the environmental review process under CEQA.

1.2 Project Background

The proposed project, the 2026 RTP/SCS, is a long-range comprehensive plan for the region's multi-modal transportation system. It is an update to the 2022 RTP/SCS, which was adopted in August 2022. Under federal and state law as San Joaquin County's designated Metropolitan Planning Organization (MPO), SJCOG is responsible for preparing and updating the RTP. MPOs and Regional Transportation Planning Agencies in California implement these RTPs to conduct long-range planning (at least 20-years into the future) in their regions. SJCOG must adopt an updated RTP every four years, or more frequently, if the region is to receive federal and state transportation dollars for transportation improvements. The Sustainable Communities and Climate Protection Act, also known as Senate Bill 375 (SB 375), was enacted in California in 2008. The act requires MPOs to include a Sustainable Communities Strategy (SCS) element in their RTP updates, which SJCOG began including in the 2014 RTP/SCS.

The California Air Resources Board (CARB) provided greenhouse gas (GHG) reduction targets for the preparation of the 2022 RTP/SCS, setting the targets at a 16 percent per capita reduction by 2035, relative to 2005 emission levels. The 2022 RTP/SCS met those targets. On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. SJCOG was assigned a target of a 16 percent reduction in GHG emissions from per capita passenger vehicles by 2035, relative to 2005 emission levels.

The proposed 2026 RTP/SCS programs available transportation funding through 2049 and includes lists of programmed and planned transportation projects to improve the transportation system during the 2026-2049 planning period. Several projects in the 2022 RTP/SCS have since been

completed or have entered the construction phase. Transportation projects that remain incomplete have been carried forward into the 2026 RTP/SCS, along with several additional planned projects.

1.3 Purpose and Legal Authority

This EIR has been prepared in compliance with the CEQA Statutes and Guidelines. Under *CEQA Guidelines* Section 15121(a), in general, an EIR is an informational document intended to inform public agency decision-makers and the public of a project's significant environmental effects, identify possible ways to minimize those effects, and describe reasonable alternatives to the project. The decision-making body must consider the information in the EIR together with other information presented. See *CEQA Guidelines* Section 15121(a):

a. Analyze the environmental effects of the adoption and implementation of the project;
b. Inform decision-makers, responsible and trustee agencies, and members of the public as to the range of the project's environmental impacts;
c. Recommend a set of measures to mitigate significant adverse impacts; and
d. Analyze a range of reasonable alternatives to the proposed project.

As the lead agency for preparing this EIR, SJCOG will rely on the EIR analysis of environmental effects in their review and consideration of the proposed 2026 RTP/SCS prior to approval. Responsible Agencies will rely on the EIR analysis prior to approval of their respective projects under their jurisdiction.

As discussed in further detail below in Section 1.4.1, *CEQA Streamlining Opportunities*, SB 375 provides streamlining benefits for certain transit-oriented projects consistent with an adopted SCS. Pursuant to these provisions of SB 375, this EIR has also been prepared to allow qualifying projects to streamline their environmental review.

1.4 Implementation Issues and Future Environmental Review

The 2026 RTP/SCS identifies transportation projects, policies, and programs that will be implemented over time. Implementation of the 2026 RTP/SCS will follow a schedule based on the funding and demand for individual transportation projects and improvements. Implementation of the SCS component of the 2026 RTP/SCS will require the cooperation of SJCOG member agencies, municipalities, transit operators, Caltrans, and other partners in the region in the SJCOG region.

Subsequent actions to implement elements of the 2026 RTP/SCS must individually comply with CEQA and National Environmental Policy Act (NEPA) (for projects requiring federal funding or approvals) and undergo project-level environmental review under CEQA and NEPA. The lead agency for each subsequent action will determine the appropriate CEQA/NEPA pathway based on the project's specific characteristics, location, and potential effects. These projects may also be eligible for CEQA streamlining under SB 375, as explained further below.

This program EIR is a first-tier document that addresses the environmental impacts that may affect the SJCOG region from adoption and implementation of the 2026 RTP/SCS. "Tiering" generally refers to using the analysis of a broader environmental document that covers the general impacts of a program or larger-scale project so that subsequent environmental documents for a related

individual project can be narrow and focused on unique or unanalyzed issues. Under CEQA, agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including general plans, zoning changes, and development projects. Tiering reduces the time and excessive paperwork involved in the review process by eliminating repetitive analyses of issues addressed in the program EIR (*CEQA Guidelines* Section 15168).

In addition, SB 375 enables certain qualifying projects to tier off the SCS or alternative planning strategy developed to meet California's climate change goals. Tiered documents may consist of initial studies or focused EIRs that may incorporate by reference portions of the program EIR from which they are tiered. If the potential environmental effects of subsequent actions are consistent with and adequately addressed by a certified program EIR, additional environmental analysis may be unnecessary.

Lastly, *CEQA Guidelines* Section 15183.3 (SB 226) provide tiering and streamlining tools for qualifying infill projects. Use of any streamlining pathway is determined case-by-case by the subsequent lead agency based on project consistency with the 2026 RTP/SCS, applicable statutes, and the facts in the record.

1.4.1 Streamlining Under SB 375

SB 375 provides streamlining benefits for Transit Priority Projects (TPP) and certain residential or mixed-use projects. (See California Public Resources Code [PRC] Sections 21155 et seq.) For details, see the Governor's Office of Land Use and Climate Innovation flow charts on SB 375 streamlining (Governor's Office of Land Use and Climate Innovation 2011). These provisions have not changed since the 2022 cycle. A TPP is a project that meets all criteria summarized below. For the purposes of this EIR, geographic areas that meet the TPP requirements are referred to as Transit Priority Areas. One of three potential streamlining benefits may apply to a TPP pursuant to SB 375, as described below.

- Consistent with the general land use designation, density, building intensity and applicable policies specified for the project area in the SCS;
- Located within half a mile of a major transit stop or high-quality transit corridor;
- Comprised of at least 50 percent residential use based on total building square footage, or as little as 26 percent residential use if the project has a floor area ratio of not less than 0.75; and
- Built out with a minimum of 20 dwelling units per acre (PRC Section 21155).

First, TPPs that meet a detailed criteria list set forth in PRC Section 21155.1 are termed Sustainable Communities Projects and are statutorily exempt from CEQA. Due to the extensive list of criteria that must be met to achieve this exemption, the exemption may only be available in limited circumstances.

Second, a TPP that does not qualify for the statutory exemption may be eligible to comply with CEQA using a Sustainable Communities Environmental Assessment (SCEA). Projects reviewed through SCEA require an initial study, mitigation of impacts to insignificance, public review, and a hearing under a "substantial evidence" standard, or through a focused Environmental Impact Report (EIR) that addresses only the project's specific significant effects without requiring alternatives analysis. Unlike a negative declaration, approval of a TPP using an SCEA is reviewed by courts under the substantial evidence standard (PRC Section 21155.2(b)(7)).

Third, a TPP that will result in one or more significant impacts after mitigation may be reviewed using a tiered TPP EIR as established by PRC Section 21155.2(c). A tiered TPP EIR is only required to address the significant or potentially significant effects of the TPP on the environment and is not required to include a discussion of (1) growth inducing impacts, (2) any project specific or cumulative impacts from cars and light duty truck trips generated by the project on global warming or the regional transportation network, (3) cumulative effects that have been adequately addressed and mitigated in prior applicable certified EIRs, (4) off-site alternatives, or (5) a reduced density alternative to address effects of car and light truck trips generated by the TPP (PRC Sections 21155.2 (c), 21159.28(a) and (b)).

In addition to the benefits provided for TPPs, SB 375 provides streamlining benefits for residential or mixed-use residential projects, as defined in PRC Section 21159.28(d), that are consistent with the use designation, density, building intensity and applicable policies specified for the project area in the SCS but do not meet the criteria for TPPs. Projects eligible for streamlining must incorporate mitigation measures required by an applicable prior environmental document, such as this EIR after it is certified by SJCOG.

Projects that qualify to use the SB 375 CEQA streamlining benefits would still need to obtain discretionary permits or other approvals from the lead agency and the local jurisdiction, in accordance with local codes and procedures, including any agreements related to zoning, design review, use permits and other local code requirements. The streamlining only applies to the CEQA processing of a project.

1.4.2 Streamlining Under SB 226

SB 226 (2011) establishes additional streamlining benefits applicable to infill projects that are consistent with the requirements set forth in *CEQA Guidelines* Section 15183.3 (PRC Sections 21094.5 (c), 21094.5.5).

Unlike the CEQA streamlining benefits established by SB 375, the benefits created by SB 226 may apply to non-residential projects including qualifying commercial, retail, transit station, school, or public office building projects (*CEQA Guidelines*, Section 15183.3 (f)(1)).

1.4.3 Streamlining Under SB 743

SB 743 (2013) (PRC Section 21099 and 21555.4) provides residential, employment center and mixed-use development projects exemption from CEQA for certain projects that are consistent with a Specific Plan (see Public Resources Code Section 21155.4.) (A Specific Plan implements a General Plan by laying out more detailed land use, infrastructure, and development standards within a smaller geographic area, such as a downtown core or along a transit corridor; see Government Code Section 65450 et seq.). The exemption applies if a project meets all of the following criteria:

a. It is a residential, employment, or mixed-use project and is located within a transit priority area;
b. The project is consistent with a specific plan for which an environmental impact report was certified; and
c. It is consistent with an adopted SCS or alternative planning strategy.

If circumstances requiring preparation of a Subsequent or Supplemental EIR occur, for example if the project would cause new or worse significant environmental impacts compared to what was analyzed in the environmental impact report for the specific plan, the exemption cannot be applied.

SB 743 also specifies that aesthetic and parking impacts of residential, mixed use residential, or employment center uses on infill sites within a Transit Priority Area shall not be considered significant effects on the environment (see Public Resources Code Section 21099(d).)

1.4.4 Other Tiering Opportunities

Finally, for all other types of projects proposed to be carried out or approved by a lead agency within the region, the lead agency may utilize this EIR for the purposes of other allowed CEQA tiering (PRC Sections 21068.5, 21093-21094, *CEQA Guidelines* 15152, 15385). Tiering is the process by which general matters and environmental effects in an EIR prepared for a policy, plan, program or ordinance are relied upon by a narrower second-tier or site-specific EIR (PRC Section 21068.5). Moreover, by tiering from this EIR (if certified by SJCOG), a later tiered EIR would not be required to examine effects that (1) were mitigated or avoided in this EIR, (2) were examined at a sufficient level of detail in this EIR to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project (PRC Section 21094).

Recent CEQA legislation may also provide tiering opportunities for projects facilitated by the 2026 RTP/SCS. Effective June 30, 2025, AB 130 introduces substantial reforms to streamline housing development under CEQA. The bill establishes a statutory CEQA exemption for qualifying infill housing projects located in urban areas up to 20 acres, provided they meet specific criteria such as adjacency to urban uses and avoidance of historic or environmentally sensitive sites. This exemption is designed to reduce environmental review burdens for projects that align with local zoning and planning standards. Projects identified in the 2026 RTP/SCS that meet these criteria may be eligible for this exemption, offering a pathway for CEQA compliance that reflects consistency with regional planning objectives.

AB 130 also makes permanent several provisions of the Permit Streamlining Act, including timelines for application completeness and project approval, and limits the number of public hearings for qualifying housing projects. In addition, the bill codifies elements of the Housing Accountability Act and SB 330, including protections for vested rights and restrictions on growth control measures. A notable provision is the statewide freeze on residential building code updates from October 1, 2025, through June 1, 2031, which aims to reduce regulatory uncertainty and development costs. Projects identified in the 2026 RTP/SCS that meet these criteria may be eligible for this exemption, offering a pathway for CEQA compliance that reflects consistency with regional planning objectives.

SB 131, effective June 30, 2025, complements AB 130 by focusing on CEQA streamlining for infrastructure and public-serving projects. It introduces a new review pathway for “near miss” projects—those that narrowly fail to qualify for a CEQA exemption due to a single disqualifying condition. Under this provision, CEQA review is limited to the environmental effects of that specific condition, and such projects are exempt from analyzing alternatives or growth-inducing impacts. This approach may be applicable to certain transportation and infrastructure projects included in the RTP/SCS, where project-level review can be focused on specific environmental considerations while maintaining consistency with CEQA requirements.

SB 131 also creates or expands CEQA exemptions for a range of project types, including advanced manufacturing facilities on industrial-zoned land, broadband infrastructure in public rights-of-way, updates to climate adaptation plans, High-Speed Rail maintenance facilities, and local rezoning actions that implement Housing Element commitments. In addition, the bill mandates biennial updates to *CEQA Guidelines* to improve clarity and address ambiguities. These changes reflect a broader policy shift toward facilitating development while maintaining targeted environmental

protections, and they are expected to significantly impact the planning and approval processes for both housing and infrastructure projects across California. These provisions may be relevant to RTP/SCS implementation, particularly where local jurisdictions pursue projects or planning actions that align with broader state objectives related to climate adaptation, infrastructure modernization, and housing production.

1.5 Environmental Impact Report Background

In compliance with the *CEQA Guidelines* (Section 15063), SJCOG, as the lead agency responsible for the 2026 RTP/SCS, solicited preliminary public agency comments on the project through distribution of a Notice of Preparation (NOP) and receipt of public comments during a scoping meeting held in-person at the SJCOG Office located at 555 East Weber Avenue, Stockton, California, 95202 and virtually on Tuesday, May 13, 2025, from 12:00 p.m. to 1:00 p.m.

The NOP was distributed to affected agencies and the public for the required 30-day period from April 24, 2025, to May 27, 2025. Table 1-1 summarizes the issues relevant to the EIR that were identified in the NOP comments received (six agencies/individuals) and the EIR sections where the issues are addressed. The NOP and NOP comments and letters received are included in Appendix A of this EIR.

Table 1-1 NOP Comments and EIR Response

Comment/Request	How and Where it was Addressed
Native American Heritage Commission (NAHC)	
The NAHC states that the project is subject to the requirements and provisions under Assembly Bill (AB 52) and for tribal cultural resources. The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.	The EIR includes a discussion of consultation efforts with tribes in the area and potential project impacts in Section 4.15, *Tribal Cultural Resources*.
Delta Stewardship Council	
The Delta Stewardship Council requests consultation as part of the process in developing the RTP/SCS.	This comment pertains to the preparation of the RTP/SCS and does not relate to the EIR. The Delta Stewardship Council will be afforded the opportunity to comment on the EIR during public review as required under the CEQA process.
The Delta Stewardship Council requests the EIR include a consistency analysis with Delta Plan Policy DP P1 and that the EIR document how the 2026 RTP/SCS is consistent with the applicable general plan for new residential, commercial, or industrial development within the Delta.	The EIR includes a discussion of applicable land use plans, policies, and regulations in Section 4.12, *Land Use and Planning.*
The Delta Stewardship Council requests that the EIR describe the planned land uses identified in the six priority habitat restoration areas and describe how significant adverse impacts to the opportunity to restore habitat in these locations would be avoided or mitigated.	The EIR includes a discussion of habitat areas and consistency with applicable habitat restoration plans in Section 4.3, *Biological Resources.*

Comment/Request	How and Where it was Addressed
San Joaquin Valley Air Pollution Control District (SJVAPCD)	
The SJVAPCD recommends that future development projects incorporate strategies that reduce VMTs and require the cleanest available heavy duty trucks, vehicles, and off-road equipment, including zero and near-zero technologies.	The EIR includes a discussion of emission reduction strategies such as VMT reduction in Section 4.2, *Air Quality* and Section 4.14, *Transportation.*
The SJVAPCD recommends SJCOG assess the emission reductions measures and strategies included in the Community Emission Reduction Program and address them in the RTP/SCS to align SJCOG's work with the air pollution and exposure reduction strategies and measures outlined in the Community Emission Reduction Program for the City of Stockton.	This comment pertains to the preparation of the RTP/SCS and does not relate to the EIR. The SJVAPCD will be afforded the opportunity to comment on the EIR during public review as required under the CEQA process.
The SJVAPCD District recommends that the EIR stipulate that future development projects within the RTP/SCS identify and characterize project construction and operational air emissions. Further, SJVAPCD recommends significance thresholds as identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts be used to quantify emissions of the project.	The EIR includes a discussion of consistency with air quality emission reduction strategies, policies, and regulations and proposes mitigation, as applicable in Section 4.2, *Air Quality*
The SJVAPCD requests that the EIR include a discussion of policies that when implemented at the project level would reduce air quality emissions.	The EIR includes a discussion of consistency with air quality emission reduction strategies, policies, and regulations and proposes mitigation, as applicable, in Section 4.2, *Air Quality.*
The SJVAPCD requests that the EIR evaluate the risk associated with the future development projects for sensitive receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) in the area and mitigate any potentially significant risk to help limit exposure of sensitive receptors to emissions	The EIR includes a discussion of consistency with air quality emission reduction strategies, policies, and regulations and proposes mitigation, as applicable, for development in proximity to sensitive receptors in Section 4.2, *Air Quality.*
The SJVAPCD recommends an Ambient Air Quality Analysis be performed for any future development projects that may be approved under implementation of the project with emissions that exceed 100 pounds per day of any pollutant.	The EIR includes an analysis of air quality emissions associated with the project and a discussion of consistency with air quality emission reduction strategies, policies, and regulations and proposes mitigation, as applicable, for development in proximity to sensitive receptors in Section 4.2, *Air Quality.*
The SJVAPCD requests that the EIR include a feasibility discussion on implementing a Voluntary Emission Reduction Agreement as a mitigation measure for future development projects that may be approved under implementation of the project that are determined to exceed the District's CEQA significance thresholds.	The EIR includes a discussion of consistency with air quality emission reduction strategies, policies, and regulations and proposes mitigation, as applicable, in Section 4.2, *Air Quality.*
The SJVAPCD recommends heavy duty truck routing patterns be evaluated with the aim of limiting exposure of residential communities and sensitive receptors to emissions.	This comment pertains to the preparation of the RTP/SCS and does not relate to the EIR. Emissions from heavy duty truck routes are evaluated in Section 4.2, *Air Quality.*
The SJVAPCD suggests future development project proponents consider incorporating vegetative barriers and urban greening as a measure to further reduce air pollution exposure on sensitive receptors (e.g., residences, schools, healthcare facilities).	The EIR includes a discussion of consistency with air quality emission reduction strategies, policies, and regulations and proposes mitigation, as applicable, in Section 4.2, *Air Quality.*
The SJVAPCD suggests that solar power systems as an emission reduction strategy be incorporated for future development projects that may be approved under implantation of the project.	The EIR includes a discussion of consistency with air quality emission reduction strategies, policies, and regulations and proposes mitigation, as applicable, in Section 4.2, *Air Quality.*

Comment/Request	How and Where it was Addressed
The SJVAPCD recommends that future development project proponents install electric vehicle chargers at project sites, and at strategic locations.	The EIR includes a discussion of consistency with air quality emission reduction strategies, policies, and regulations and proposes mitigation, as applicable, in Section 4.2, *Air Quality.*
The SJVAPCD recommends future development projects freight and passenger train operators to utilize newer and cleaner technology.	The EIR includes a discussion of consistency with air quality emission reduction strategies, policies, and regulations and proposes mitigation, as applicable, in Section 4.2, *Air Quality.*
The SJVAPCD provides a list of rules and regulations that may be applicable to development facilitated by the project.	The EIR includes a discussion of consistency with air quality emission reduction strategies, policies, and regulations and proposes mitigation, as applicable, in Section 4.2, *Air Quality.*
NOP Scoping Meeting Comments	
Commenter requested transportation as a comprehensive program be studied in the EIR.	Transportation impacts are evaluated throughout the EIR and an evaluation of the project on transportation is discussed in Section 4.14, *Transportation.*
Commenter requested inclusion of a transit component in the RTP. Commenter further requested implementation of zero emission vehicles and provision of equitable transportation options.	This comment pertains to the preparation of the RTP/SCS and does not relate to the EIR.

1.6 Lead, Responsible, and Trustee Agencies

The *CEQA Guidelines* require the identification of lead, responsible, and trustee agencies. A lead agency is the public agency with principal responsibility for carrying out or approving a project; the lead agency prepares the CEQA document (*CEQA Guidelines* Section 15367). SJCOG is the lead agency for the proposed project because it has the principal responsibility for approving the project.

A responsible agency is a public agency other than the lead agency that has discretionary approval authority over certain components of a project (the *CEQA Guidelines* define a public agency as a State or local agency, but specifically exclude federal agencies from the definition). A trustee agency refers to a State agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California (for example, the California Department of Fish and Wildlife). While no responsible or trustee agencies are responsible for approvals associated with the adoption of the 2026 RTP/SCS, implementation of projects identified in the 2026 RTP/SCS will require permits and approvals from lead, responsible, and trustee agencies, which may include the following:

- County of San Joaquin
- City of Escalon
- City of Lathrop
- City of Lodi
- City of Manteca
- City of Ripon
- City of Stockton
- California Transportation Commission
- California Department of Transportation
- California Department of Fish and Wildlife
- California Department of Conservation
- Regional Water Quality Control Board
- Native American Heritage Commission
- U.S. Army Corps of Engineers

- City of Tracy
- City of Mountain House
- San Joaquin Valley Air Pollution Control District
- U.S. Fish and Wildlife Service
- Delta Stewardship Council

1.7 EIR Scope, Content, and Format

This document includes discussions of environmental impacts related to several issue areas. The analysis of environmental impacts identifies impacts by category: significant and unavoidable, less than significant with mitigation incorporated, less than significant, and beneficial. It proposes mitigation measures, where feasible, for identified significant environmental impacts. Environmental topic areas that are addressed in this EIR (by the order in which they are discussed) include:

- Visual Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Agriculture and Forestry Resources
- Environmental Justice
- Geology and Soils Resources
- Greenhouse Gas Emissions and Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Transportation
- Tribal Cultural Resources
- Wildfire

This EIR has been organized into an Executive Summary and seven chapters, which include:

1. **Introduction.** Provides the statement of purpose, project background, and information about the EIR content and format.
2. **Project Description.** Identifies the project applicant, presents and discusses the project objectives, project locations and specific project characteristics.
3. **Environmental Setting.** Provides a description of the existing physical setting of the SJCOG region, an overview of the progress in implementing the 2026 RTP/SCS, a description of the regional transportation system, and discusses the EIR baseline and approach to direct and cumulative analyses.
4. **Analysis of Environmental Issues.** Describes existing conditions found in the project area and assesses potential environmental impacts that may be generated by implementing the proposed project and cumulative development in San Joaquin County. These potential project impacts are compared to “thresholds of significance” to determine the nature and severity of the direct and indirect impacts. Mitigation measures (intended to reduce adverse, significant impacts below threshold levels) are proposed where feasible. Impacts that cannot be eliminated or mitigated to less-than-significant levels are also identified.
5. **Other CEQA-Required Discussions.** Identifies the spatial, economic, or population growth impacts that may result from implementation of the proposed project, as well as long-term effects of the project and significant irreversible environmental changes.

6. **Alternatives.** Presents and assesses the potential environmental impacts of three alternatives (including one no project) analyzed in addition to implementation of the 2026 RTP/SCS.
7. **References.** Lists all published materials, federal, State, and local agencies, and other organizations and individuals consulted during the preparation of this EIR. It also lists the EIR preparers.

1.8 Environmental Review Process

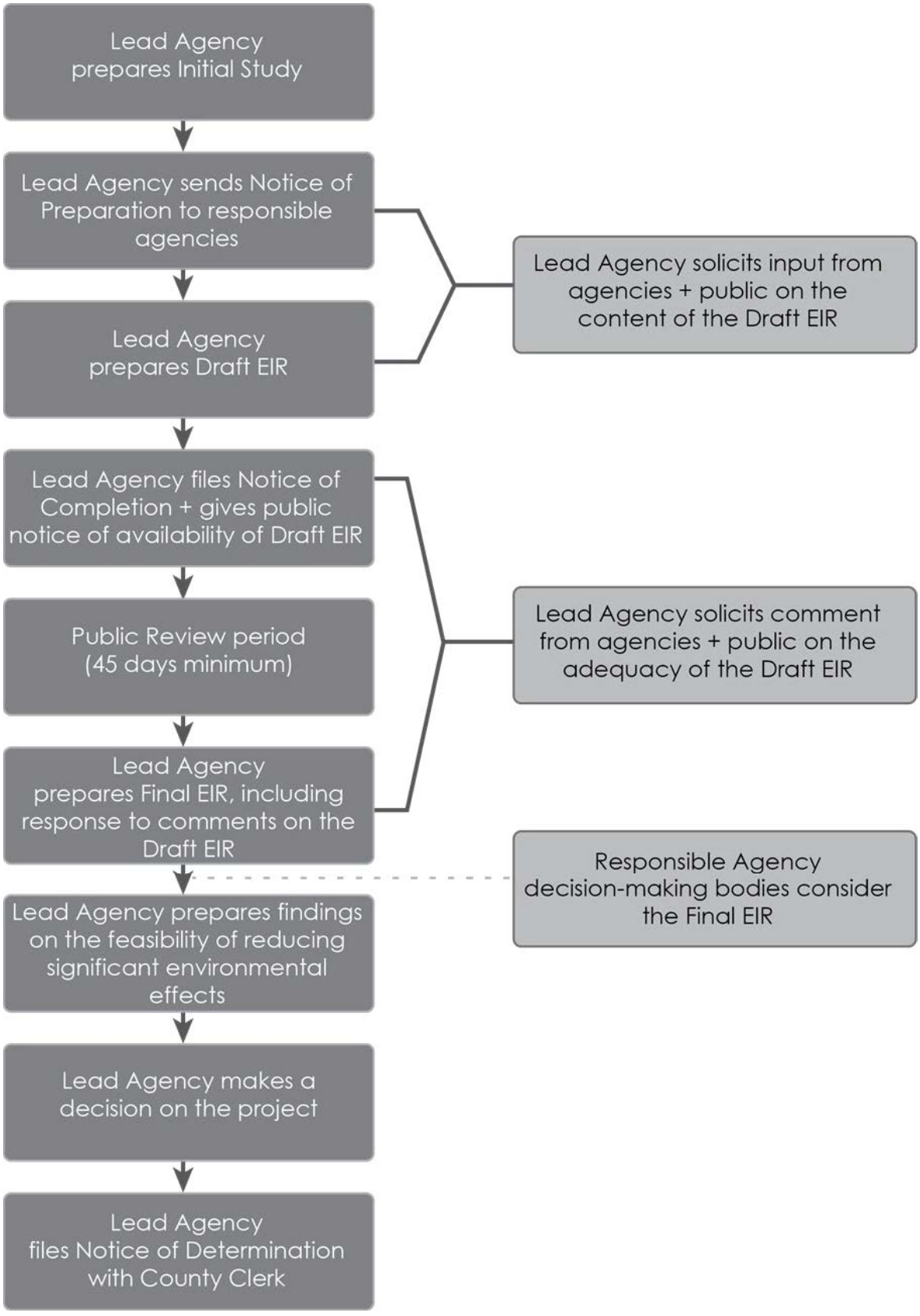
The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP)**. After deciding that an EIR is required, the lead agency (SJCOG) must file a NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. SJCOG filed the NOP with the County Clerk's office for 30 days beginning April 24, 2025.
2. **Draft EIR Prepared.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion (NOC)/Notice of Availability (NOA).** The lead agency must file an NOC with the State Clearinghouse when it completes a Draft EIR and prepare and provide a NOA of a Draft EIR. The lead agency must place the NOA in the County Clerk's office for 30 days (Public Resources Code Section 21092), post on their website along with the DEIR, and send a copy of the notice to anyone requesting it (*CEQA Guidelines* Section 15087). Additionally, public notice of Draft EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public and respond in writing to all comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (Public Resources Code 21091).
4. **Final EIR.** A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of Final EIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision making body reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* Section 15090).
6. **Findings/Statement of Overriding Considerations**. For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency

approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.

7. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
8. **Lead Agency Project Decision.** The lead agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).
9. **Notice of Determination (NOD).** The lead agency must file a NOD after deciding to approve a project for which an EIR is prepared (*CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk and with the Department of Land Use and Climate Innovation. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167[c]).

Figure 1-1 Environmental Review Process



2 Project Description

This section describes the proposed 2026 Regional Transportation Plan/Sustainable Communities Strategy (2026 RTP/SCS), including the project applicant, project objectives, the project location, major project characteristics, and discretionary actions needed for approval.

2.1 Lead Agency

San Joaquin County of Governments
555 East Weber Avenue
Stockton, California 95202
Contact: Edith Verdin, Senior Regional Planner

2.2 Project Objectives

The San Joaquin Council of Governments (SJCOG) 2026 RTP/SCS has been prepared to comply with the current California Transportation Commission (CTC) Regional Transportation Plan Guidelines, pursuant to Government Code Section 14522, to prepare a regional transportation plan, a long-range transportation planning document which will provide policy guidelines regarding the planning and programming of transportation projects within San Joaquin County through 2049. Furthermore, Government Code Sections 65050, 65400, 65584.01-04, 65587, 65588 and Public Resources Code Section 21155 were amended in January 2009 when Senate Bill (SB) 375 became law, requiring coordinated planning between regional land use and transportation plans to increase efficiency and reduce greenhouse gas (GHG) emissions. The following sections describe the legislative requirements and project objectives associated with the proposed 2026 RTP/SCS.

General Legislative Requirements

SJCOG, as both the federally-designated metropolitan planning organization (MPO) and the state-designated regional transportation planning agency (RTPA) for San Joaquin County, is required by both federal and state law to prepare a long-range (at least 20-year) transportation planning document (RTP). The RTP is an action-oriented document used to achieve a coordinated and balanced regional transportation system.

SJCOG also has the responsibility to prepare a Sustainable Communities Strategy (SCS) as part of the RTP, pursuant to the requirements of the Sustainable Communities and Climate Protection Act (SB 375) as adopted in 2008 (discussed further below). The SCS sets forth a forecasted development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, is intended to reduce GHG emissions from passenger vehicles and light trucks to achieve the regional GHG reduction targets set by the California Air Resources Board (CARB).

The *2024 California Regional Transportation Plan Guidelines* CTC serves as the guidance for RTP development. Under both federal and State law, an MPO must update its RTP every four years when in a federally designated air quality non-attainment area.

Sustainable Communities & Climate Protection Act Requirements (SB 375) Requirements

The Sustainable Communities and Climate Protection Act, also known as SB 375 (codified at California Government Code §§ 14522.1, 14522.2, 65080.01, 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588; Public Resources Code §§2161.3, 21155, 21159.28), is a law passed in 2008 by the California legislature that requires each MPO to demonstrate, through the development of an SCS, how its region will integrate transportation, housing, and land use planning to meet the GHG reduction targets set by the State. In addition to creating requirements for MPOs, it also creates requirements for CTC and CARB. Some of the requirements include the following:

- CTC must maintain guidelines for the travel demand models that MPOs develop for use in the preparation of their RTPs;
- CARB must develop regional GHG emission reduction targets for automobiles and light trucks for 2020 and 2035 by September 30, 2010. These targets were approved on September 23, 2010. CARB is tasked to update the regional targets every eight years, with the option of revising them every four years. The latest targets went into effect October 1, 2018;
- Each MPO must prepare an SCS as part of its RTP to demonstrate how it will meet the regional GHG targets. If an SCS cannot achieve the regional GHG target, the MPO must prepare an Alternative Planning Strategy (APS) showing how it would achieve the targets with alternative development patterns, infrastructure, or transportation measures and policies;
- Each MPO must adopt a public participation plan for development of the SCS that includes informational meetings, workshops, public hearings, consultation, and other outreach efforts;
- Each MPO must prepare and circulate a draft SCS at least 55 days before it adopts a final RTP;
- After adoption, each MPO must submit its SCS to CARB for review; and
- CARB must review each SCS to determine whether, if implemented, it would meet the GHG targets. CARB must complete its review within 60 days.

CARB set targets for the SJCOG region to maintain or reduce greenhouse gas emissions through 2035. These targets apply to the SJCOG region as a whole for all on-road light-duty trucks and passenger vehicles emissions, and not to individual cities or sub-regions. On March 22, 2018, CARB adopted updated regional targets for reducingGHG emissions to 2005 levels by 2020 and 2035. SJCOG was assigned a target of a 16 percent reduction in GHG emissions from per capita passenger vehicles by 2035, relative to 2005 emission levels. Emissions modeling for the RTP/SCS incorporates a base year of 2005 for SB 375 GHG emission reduction targets. The proposed 2026 RTP/SCS includes the years for which the regional targets are required (base year and 2035) and the RTP includes additional scenario years (2030 and 2046) to comply with federal law. In addition, the RTP includes estimates of CO_2 per capita for each of the scenario years. As discussed in Section 4.9, *Greenhouse Gas Emissions and Climate Change*.

SB 375 specifically states that local governments retain their autonomy to plan local general plan policies and land uses. The proposed 2026 RTP/SCS provides a regional policy foundation that local governments may build upon, if they so choose. The proposed 2026 RTP/SCS includes and accommodates the quantitative growth projections for the region. SB 375 also requires that the RTP's forecasted development pattern for the region be consistent with the eight-year regional housing needs as allocated to member jurisdictions through the Regional Housing Needs Allocation (RHNA) process under state housing law.

In addition, this 2026 RTP/SCS EIR lays the groundwork for the streamlined review of qualifying development projects. Qualifying projects that meet statutory criteria and are consistent with the proposed 2026 RTP/SCS are eligible for streamlined environmental review pursuant to CEQA under SB 375 and other laws.

Infrastructure Investment and Jobs Act

The Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58), was signed into law on November 15, 2021. The IIJA reauthorizes surface transportation programs through fiscal year 2026 and builds upon the policy framework and performance-based planning provisions established under Moving Ahead for Progress in the 21st Century Act and the Fixing America's Surface Transportation Act. The IIJA maintains the core metropolitan and statewide transportation planning requirements under 23 U.S. Code § 134 and § 135, while expanding the scope of planning to further address climate change, equity, resiliency, and infrastructure modernization. In the development of the MTP and RTPs, the IIJA continues to require MPOs to:

- Coordinate with officials responsible for other types of planning activities affected by transportation, such as land use, housing, economic development, environmental protection, freight, and emergency management.
- Engage traditionally underserved and disadvantaged communities to ensure equitable access to transportation planning and project benefits.
- Incorporate consideration of climate change, environmental justice, and resilience, particularly regarding the impact of extreme weather and natural disasters on transportation infrastructure.
- Improve infrastructure condition, safety, and system efficiency, while supporting economic vitality, freight mobility, and multimodal connectivity.

The IIJA adds emphasis on:

- Reducing greenhouse gas emissions through transportation planning and investments.
- Increasing resilience to natural hazards and climate-related events.
- Investing in complete streets, bicycle/pedestrian infrastructure, and multimodal transportation.
- Strengthening public involvement and interagency coordination, including with housing and health agencies.
- Supporting equitable access to transportation options for disadvantaged communities.

The proposed 2026 RTP/SCS prepared by SJCOG has been developed to comply with the planning requirements of the IIJA and its associated regulations under 23 CFR Part 450.

Environmental Justice

SJCOG is required to address social equity and environmental justice in the RTP. The legal basis for environmental justice stems from the Civil Rights Act of 1964. SJCOG must evaluate how the proposed 2026 RTP/SCS might impact minority and low-income populations and must ensure that the proposed 2026 RTP/SCS does not have a disproportionate adverse impact on such populations.

In addition, per 23 C.F.R. Section 450.316(a)(1)(vii), the participation plan that SJCOG must develop and use must describe explicit procedures, strategies, and desired outcomes for "[s]eeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services."

Regional Transportation Plans

As noted, the procedures for developing RTPs are provided in the CTC's Regional Transportation Plan Guidelines (2024). The guidelines identify the purpose of an RTP to be as follows:

- Provide an assessment of current modes of transportation and the potential of new travel options within the region;
- Project/estimate the future needs for travel and goods movement;
- Identify and document specific actions necessary to address the region's mobility and accessibility needs;
- Guide and document public policy decisions by local, regional, state and federal officials regarding transportation expenditures and financing;
- Identify needed transportation improvements in sufficient detail to serve as a foundation for:
  - Development of the Federal Transportation Improvement Program (FTIP) and the Interregional Transportation Improvement Program (ITIP);
  - Facilitation of the National Environmental Protection Act (NEPA)/404 integration process; and
  - Identification of project purpose and need.
- Employ performance measures that demonstrate the effectiveness of the transportation improvement projects in meeting the intended goals;
- Promote consistency between the California Transportation Plan, the regional transportation plan and other transportation plans developed by cities, counties, districts, Native American Tribal Governments and State and Federal agencies in responding to statewide and interregional transportation issues and needs;
- Provide a forum for 1) participation and cooperation, and 2) facilitating partnerships that reconcile transportation issues which transcend regional boundaries; and
- Involve community-based organizations as part of the public, Federal, State and local agencies, Native American Tribal Governments, as well as local elected officials, early in the transportation planning process so as to include them in discussions and decisions on the social, economic, air quality and environmental issues related to transportation.

RTPs must include long-term horizons (at least 20 years) that reflect regional needs, identify regional transportation issues/problems, and develop and evaluate solutions that incorporate all modes of travel. RTPs must also recommend a comprehensive approach that provides direction for programming decisions to meet identified regional transportation needs. RTPs must also be fully consistent with requirements of the Infrastructure Investment and Jobs Act and other federal regulations, including conformity with the 1990 Clean Air Act Amendments and consistency with the Federal Transportation Improvement Program (FTIP).

In addition, Government Code Sections 65050, 65400, 65584.01-04, 65587, 65588 and Public Resources Code Section 21155 were amended in January 2009 when SB 375 became law, requiring coordinated planning between regional land use and transportation plans to increase efficiency and reduce GHG emissions.

Local Goals and Objectives

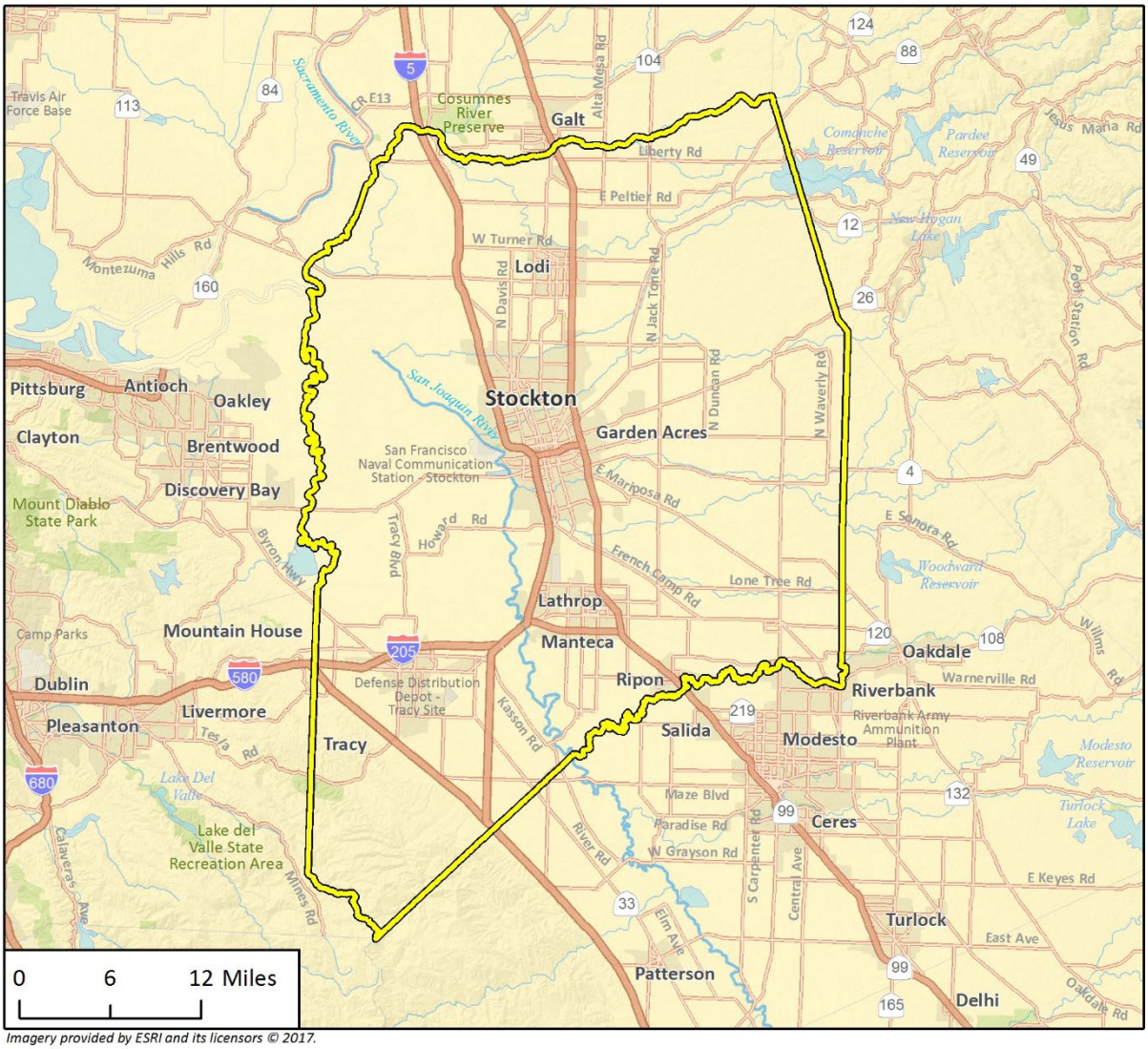
The proposed 2026 RTP/SCS includes mobility as an important component and incorporates an emphasis on sustainability and integrated planning. The Plan contains projects, policies, and strategies to achieve a wide range of positive outcomes. It identifies reasonably available sources of funding for transportation. The proposed 2026 RTP/SCS is a plan for improving the quality of life for residents of San Joaquin County by planning for wise transportation investments and informed land use choices. The plan aims to achieve variety and efficiency in travel choices, as well as a safe, secure, and efficient transportation system that would provide improved mobility and access. It includes strategies to generally improve air quality, improve health, and reduce greenhouse gas emissions consistent with SB 375 requirements. The plan achieves its overall objectives by combining transportation investment and policies with integrated land use strategies designed to reduce per capita vehicle miles traveled (VMT) and emissions. These land use strategies include:

- Focusing new growth and development in areas well served by transit,
- Promoting a better fit between jobs and housing,
- Redirecting future housing growth toward more compact unit types, and
- Promoting a mix of uses and neighborhood design that enables more walk and bike trips.

2.3 Project Location

As discussed in detail in Chapter 3, *Environmental Setting*, the proposed 2026 RTP/SCS covers the entire area of San Joaquin County and includes the cities of Stockton, Tracy, Lodi, Manteca, Lathrop, Ripon, Escalon, and the newly in cooperated city of Mountain House as well as unincorporated communities in the county (see Figure 2-1). Capital improvement transportation projects, identified in the proposed 2026 RTP/SCS, are located on State highways, County roads, and locally owned streets, as well as on transit district property and public utility lands.

Figure 2-1 SJCOG Regional Location



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San Joaquin County

N



Fig 2 Regional Location

2.4 Project Characteristics

The proposed 2026 RTP/SCS is a technical update to the 2022 RTP/SCS which was adopted in 2022. The proposed 2026 RTP/SCS reflects changes in planning assumptions, project lists, legislative requirements, local land use policies, and resource constraints.

The RTP/SCS plans how the San Joaquin County region will meet its transportation needs for the 25-year period from 2026 to 2049, considering existing and projected future land use patterns as well as forecast population and job growth. The RTP/SCS plans for and programs the approximately $14.9 billion in revenues expected to be available to the region from all transportation funding sources over the course of the planning period. It identifies and prioritizes expenditures of this anticipated funding for transportation projects of all transportation modes: highways, streets and roads, transit, rail, bicycle and pedestrian, as well as transportation demand management measures and intelligent transportation systems.

The RTP/SCS is based on a preferred regional land use and transportation scenario which lays out a pattern of future growth and transportation system investment. The preferred scenario combines a transit-oriented development and an urban infill approach for new growth area development. Accordingly, more population and employment growth is allocated within existing urban areas near public transit along centers and corridors. This reduces impacts on rural areas which contain the majority of agricultural land throughout the county. The transportation network includes additional highway, local street, active transportation, and transit investments to serve a more concentrated urban growth pattern. The preferred scenario also shifts investment towards bicycle and pedestrian improvements that complement public transit and other non-vehicle alternatives.

SJCOG, in developing scenario strategies, identified emerging trends that SJCOG as a regional planning agency could influence. The trends are transportation technology (particularly driverless vehicles), impacts from extreme weather events due to changes in climate, and the increase in teleworking and internet shopping (the e-economy). Three futures with assumptions about land use and transportation in the year 2049 were then prepared with each future dominated by one of the three emerging trends. These futures were used to prepare the alternative scenarios or packages of assumptions for testing.

The Plan identifies transportation system needs consistent with the preferred scenario and includes comprehensive lists of programmed and planned transportation investments that are intended to meet performance goals for mobility, safety, congestion relief, system preservation and environmental protection. In addition to its other components, the preferred scenario also includes an enhanced transit strategy that creates a framework for future transit service expansion at such time as new revenue sources become available. Recognizing the uncertain nature of future new revenue sources, it takes a targeted, balanced and flexible approach to expanding transit service as needed in the future. The Hybrid Preferred strategy commits to transit service expansion as new revenue sources become available, (1) identifying when transit enhancements are actually needed through quantitative triggers, and (2) protecting existing funding for competing local demands, such as street and road maintenance. The enhanced transit strategy is a strategy for the future. It does not change the list of fiscally constrained, programmed and planned transportation projects.

The plan is organized into ten chapters plus an Executive Summary:

0. Executive Summary
1. Introduction

2. Civic Engagement
3. The Building Blocks: Pillars, Policies, and Supportive Strategies
4. Financing the Transportation System
5. Performance of the SCS
6. Economic Vitality
7. Innovations in Technology
8. Regional Resiliency
9. Housing
10 Framework for Moving Forward

Of these ten chapters of the 2026 RTP/SCS, The Building Blocks: Pillars, Policies, and Supportive Strategies (Ch. 3), Performance of the SCS (Ch. 5), and the Framework for Moving Forward (Ch. 10) are the three hat include provisions with the potential to create physical changes to the environment and are the primary focus for analysis in this EIR. Th t ese elements are described in more detail below and hard copies of the 2026 RTP/SCS can be found at the offices of SJCOG or an electronic copy at this link: https://www.sjcog.org/710/2026-Draft-RTPSCS-Update.

2.4.1 Policy Element

The policy element identifies policies and strategies that meet regional needs. Policies are directional statements that guide present and future decisions on specific actions. For each policy there is a set of strategies, which are general action statements. Many of these policies and strategies address regional mobility, but there are others that address other regional issues such as lack of affordable housing, loss of farmland, and impacts from changes in climate and extreme weather events. The policies of the 2022 RTP/SCS have carried over to the 2026 plan in their existing form due to their continuing relevance to the region. However, a new criterion was used to develop additional new proposed strategies for the proposed 2026 RTP/SCS. SJCOG developed strategies that perform well in identified probable futures in terms of greenhouse gas emissions, VMT, transit ridership and housing cost. After the completion of the list of proposed strategies, SJCOG assigned strategies to “scenarios” or sets of future assumptions to explore the effect of strategies on regional goals in the future. The broad policies that were carried over from the 2022 RTP/SCS into 2026 are listed below.

- Maximize mobility, accessibility, and efficiency in the transportation system.
- Promote interagency coordination and public participation for transportation decision-making and planning efforts.
- Support a safe, efficient, and secure transportation network for the movement of people and goods.
- Invest in a sustainable workforce development system.
- Maximize economic prosperity.
- Promote advanced tools and resources to improve quality of life.
- Support the development of diverse and affordable housing types and growth strategies.
- Enhance the quality of life for existing and future generations.
- Promote energy conservation and efficiency in transportation, infrastructure, and land use to reduce consumption and emissions.
- Integrate public health considerations into planning and development.

The proposed 2026 RTP/SCS does not provide project designs or a construction schedule. Adoption of the proposed 2026 RTP/SCS would not represent an approval action for any of the individual transportation programs and projects listed in the financially constrained plan. Detailed site-specific alignment, location, design, and scheduling of the improvement projects which are included in the proposed 2026 RTP/SCS are not fixed by the proposed 2026 RTP/SCS, and these individual projects may be modified substantially from their initial description in the proposed 2026 RTP/SCS at the time they are considered for implementation.

2.4.2 Sustainable Communities Strategy

This element provides future land-use assumptions upon which the SCS is constructed. SJCOG staff met with each jurisdiction in San Joaquin County to discuss changes to current planning assumptions, or potential changes to the location of future development since the last RTP/SCS was developed. As with 2022, the scenarios presented for consideration varied in the location and intensity of future growth. These assumptions are guided in each scenario by general plans; however, general plans provide for a range of specific development characteristics based on future priorities and desires of residents, shifting demographics, incentives, and private sector responses to these variables. The land-use assumptions are matched to investment priorities and project lists for the public, stakeholders, and SJCOG committees and Board, prior to final approval of the RTP/SCS by the Board.

The SCS consists of the preferred land use and transportation scenario selected by SJCOG as most capable of meeting RTP goals. The proposed 2026 RTP/SCS simultaneously addresses the region's transportation needs and encourages infill development near transit investments designed to reduce VMT and overall GHG emissions. This strategy selectively invests in transportation systems that complement compact growth within transit corridors in existing urban areas.

The transportation projects, programs, and strategies contained in the RTP are major components of the SCS. However, the SCS also focuses on the region's general land use growth pattern, because the geographic relationships between land uses — including density and intensity — help determine travel demand. Thus, to meet requirements of SB 375, the SCS:

- Identifies existing and future land use patterns;
- Establishes a future land use pattern to meet GHG emission reduction targets;
- Identifies transportation needs and the planned transportation network;
- Considers statutory housing goals and objectives;
- Identifies areas to accommodate long-term housing needs;
- Identifies areas to accommodate eight-year housing needs; and
- Considers resource areas and farmland

These requirements, as outlined in California Government Code Section 65080(b)(2)(B), do not mean that the SCS creates a mandate for certain land use policies at the local level. In fact, SB 375 specifically states that the SCS cannot dictate local General Plan policies (see Government Code Section 65080(b)(2)(J)). Rather, the SCS is intended to provide a regional policy foundation that local governments may build upon as they choose and generally includes quantitative growth projections.

2.4.3 Action Element

The action element includes a list of transportation projects within projected estimated revenues and is consistent with the goals and policies established by the proposed 2026 RTP/SCS. SJCOG updated and refined a baseline transportation project list through meetings with each jurisdiction in San Joaquin County, as well as the Regional Transit District, Caltrans, and the Regional Rail Commission. This updating included removal of completed or substantially completed projects, the addition of any new future projects, or modifications to projects based on changes to scope or schedule. The proposed 2026 RTP/SCS is based on a preferred land use and transportation scenario which support balanced growth, which will encourage infill and redevelopment, improve transit and regional connections, support walkable, complete communities, Includes roadway improvements that also enhance safety, support economic development, and make all travel modes more efficient.

2026 RTP/SCS Projects

The general locations of all physical projects of the proposed 2026 RTP/SCS are identified in Figure 2-2 through Figure 2-9 and rail projects are shown in Figure 2-11. All projects are listed by agency in Table 2-1.

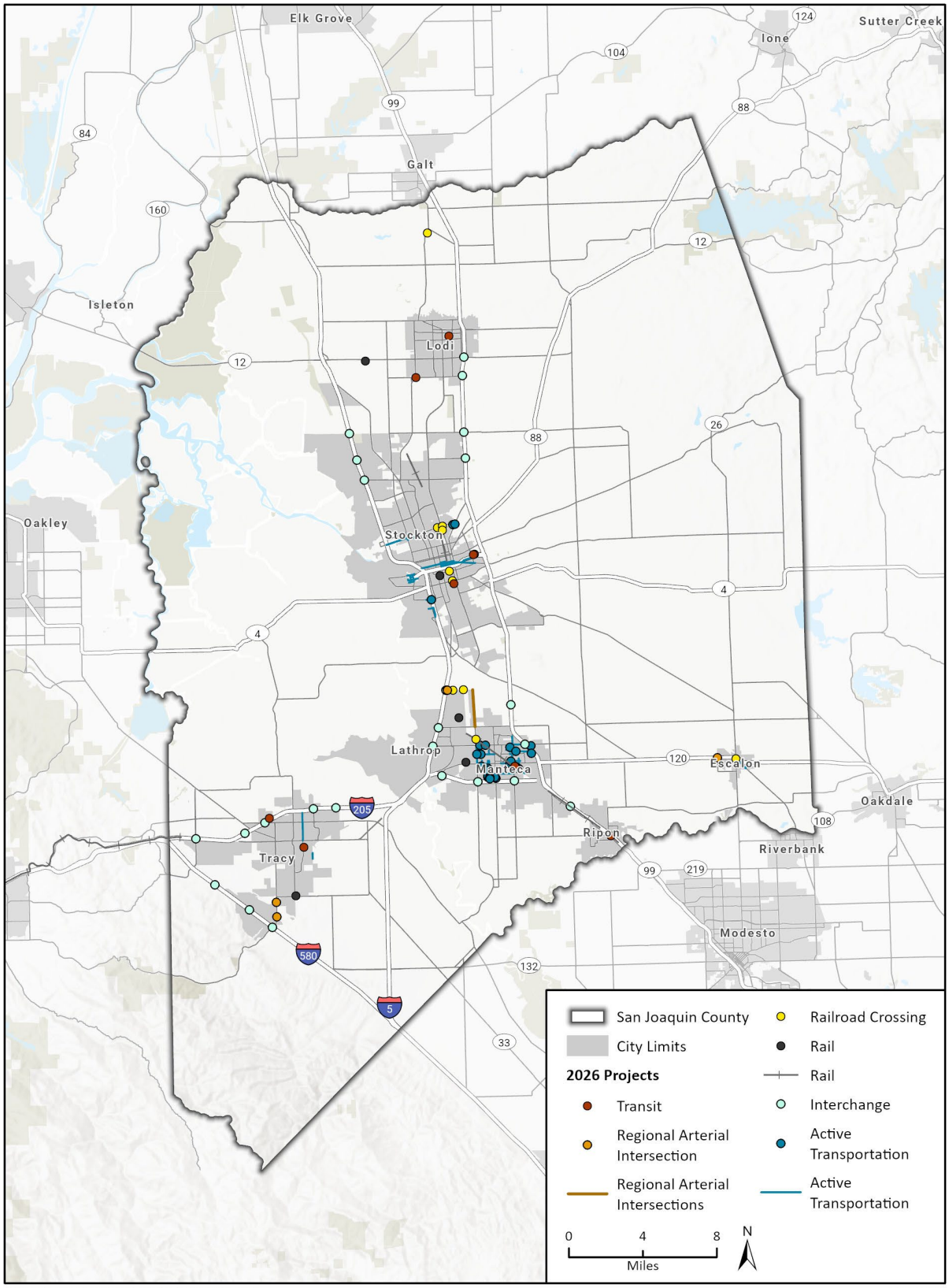
While the RTP would detail total revenue assumed and planned investments, projects and actions by the SJCOG Board and local project sponsors would be assigned specific funding to individual projects. The RTP serves as a high-level blueprint for transportation investments and is subject to amendment, as required, to support delivery of future transportation projects.

The three largest sources of State funding for the SJCOG region include the Transportation Development Act, State Transportation Improvement Program, and State Highway Operations and Protection Program. The Transportation Development Act was signed into law in 1971. It provides two major sources of funding for public transportation: the Local Transportation Fund and the State Transit Assistance fund. Funds for the Local Transportation Fund come from one-fourth percent of the general State sales tax. The 1997 passage of Senate Bill 45 created the State Transportation Improvement Program, a five-year capital improvement program of transportation projects on and off the State Highway System. Every two years, CTC adopts a fund estimate which identifies the amount of new funds available for the programming of transportation projects. The State Highway Operations and Protection Program helps fund collision reduction, bridge preservation, roadway preservation, roadside preservation, and mobility enhancement projects, and preservation of other transportation facilities related to these funds also help repair damage caused by natural disasters, civil unrest, or terrorist acts.

The largest source of regional and local funding for the SJCOG region is Measure K, which is estimated to deliver an additional $2.552 billion worth of transportation improvements to the region. Major improvements target San Joaquin County freeways, streets and roads, public transit networks, pedestrian, and bicycle friendly programs. Measure K is a one-half cent sales tax for transportation in San Joaquin County. Measure K is administered by SJCOG, the Local Transportation Authority for San Joaquin County, and will provide local sales tax revenues for transportation projects in San Joaquin County over 30 years (2006 through 2036).

SJCOG has also been successful with competitive grant programs and makes some assumptions regarding continued success. These grant programs include SB 1 programs, the Active Transportation Program, and several cap-and-trade funding programs.

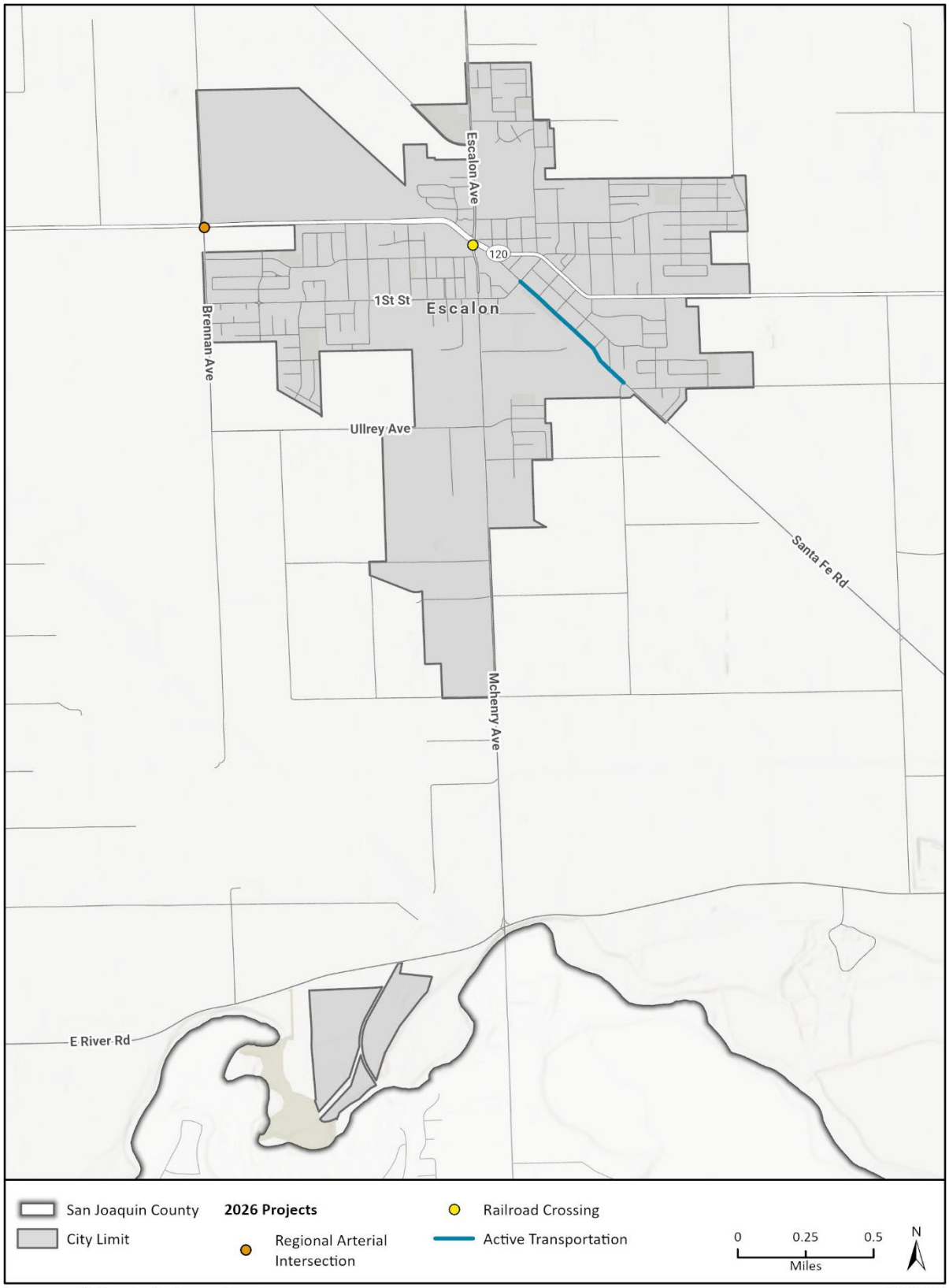
Figure 2-2 2026 RTP/SCS Projects – Countywide



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Fig X 2026 RTP-SCS Projects Countywide

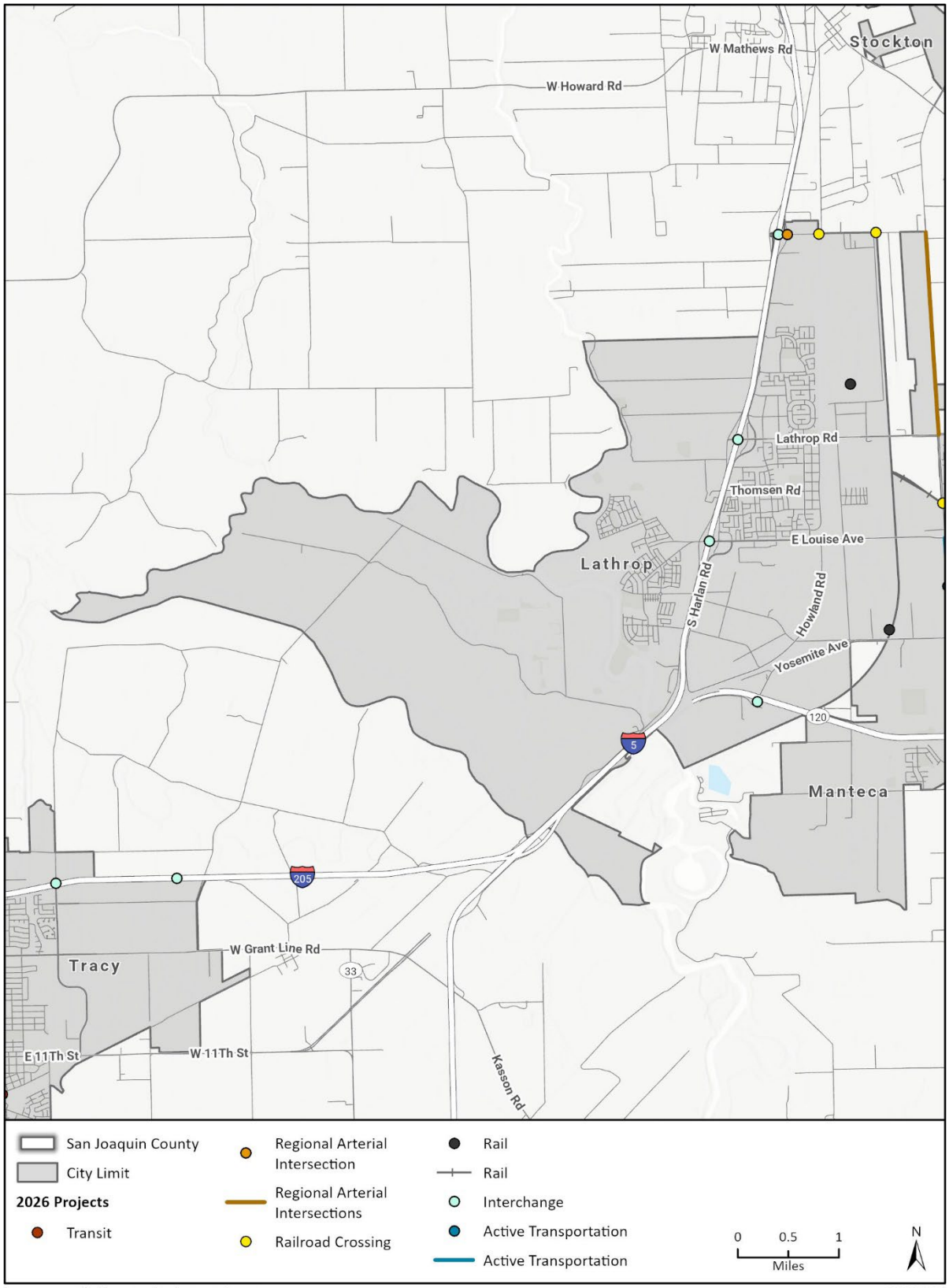
Figure 2-3 2026 RTP/SCS Projects – Escalon



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Fig X 2026 RTP-SCS Projects Escalon

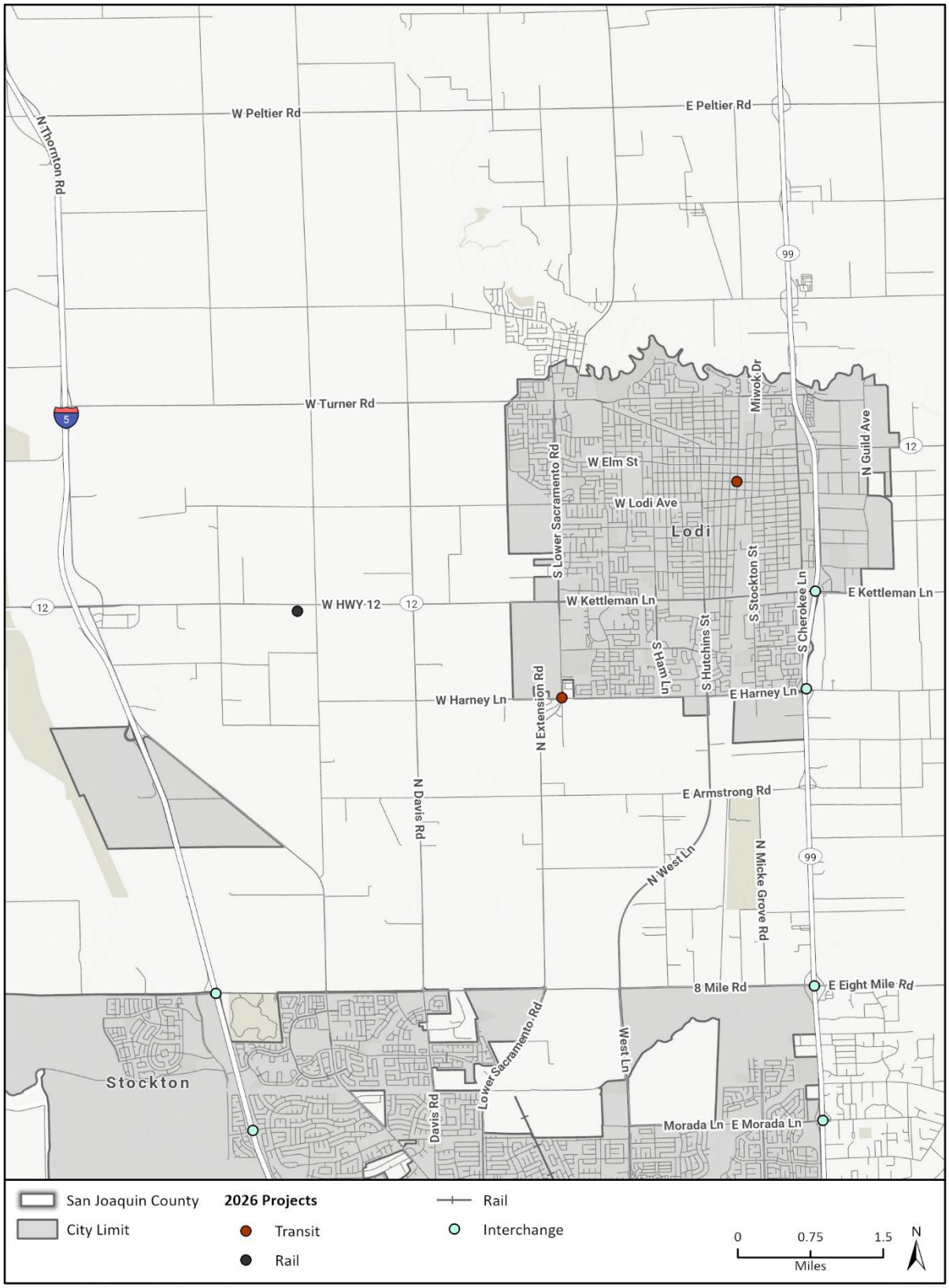
Figure 2-4 2026 RTP/SCS Projects – Lathrop



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Fig X 2026 RTP-SCS Projects Lathrop

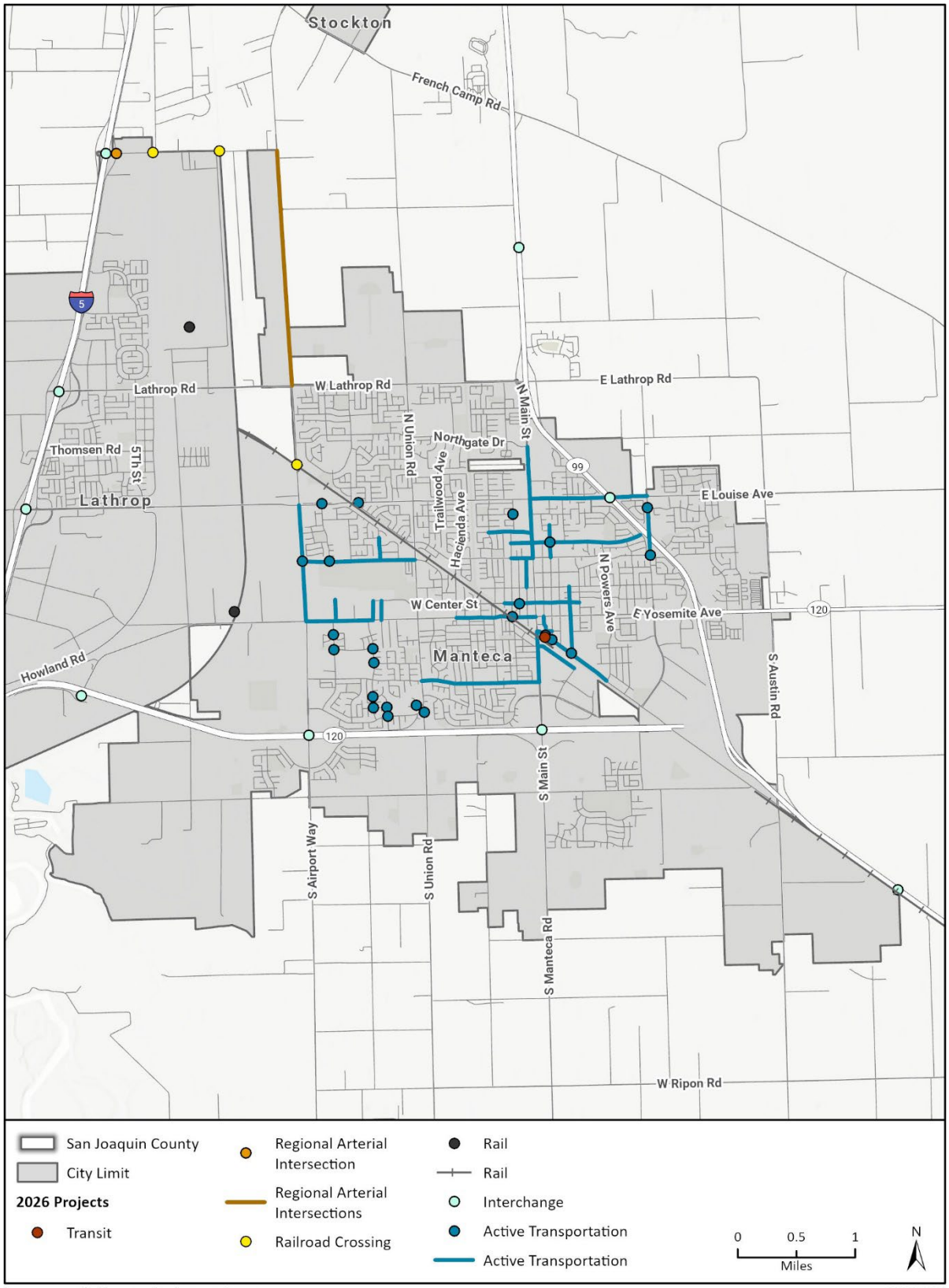
Figure 2-5 2026 RTP/SCS Projects – Lodi



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Fig X 2026 RTP-SCS Lodi

Figure 2-6 2026 RTP/SCS Projects – Manteca



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Fig X 2026 RTP-SCS Projects Manteca

Figure 2-7 2026 RTP/SCS Projects – Mountain House

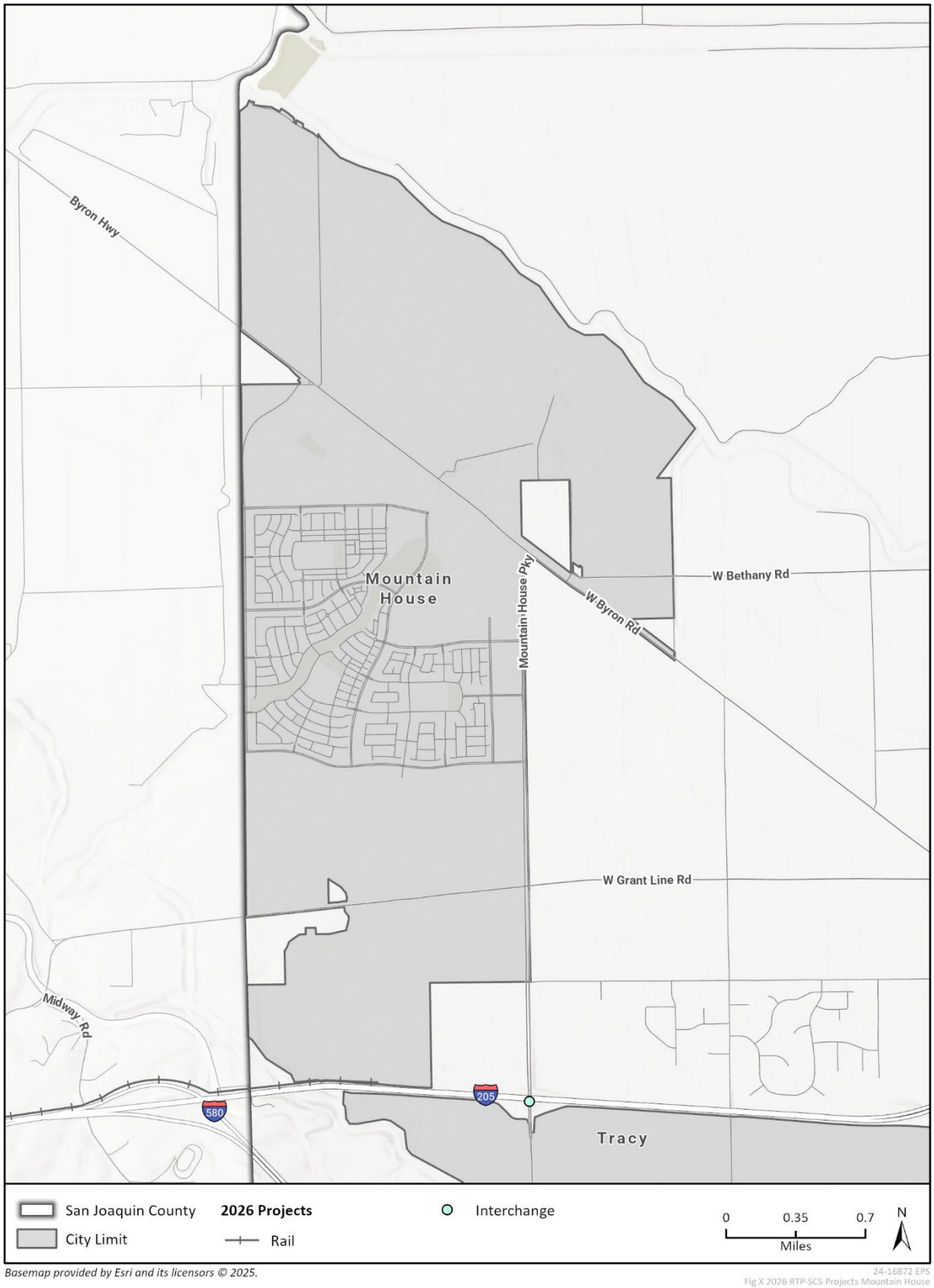


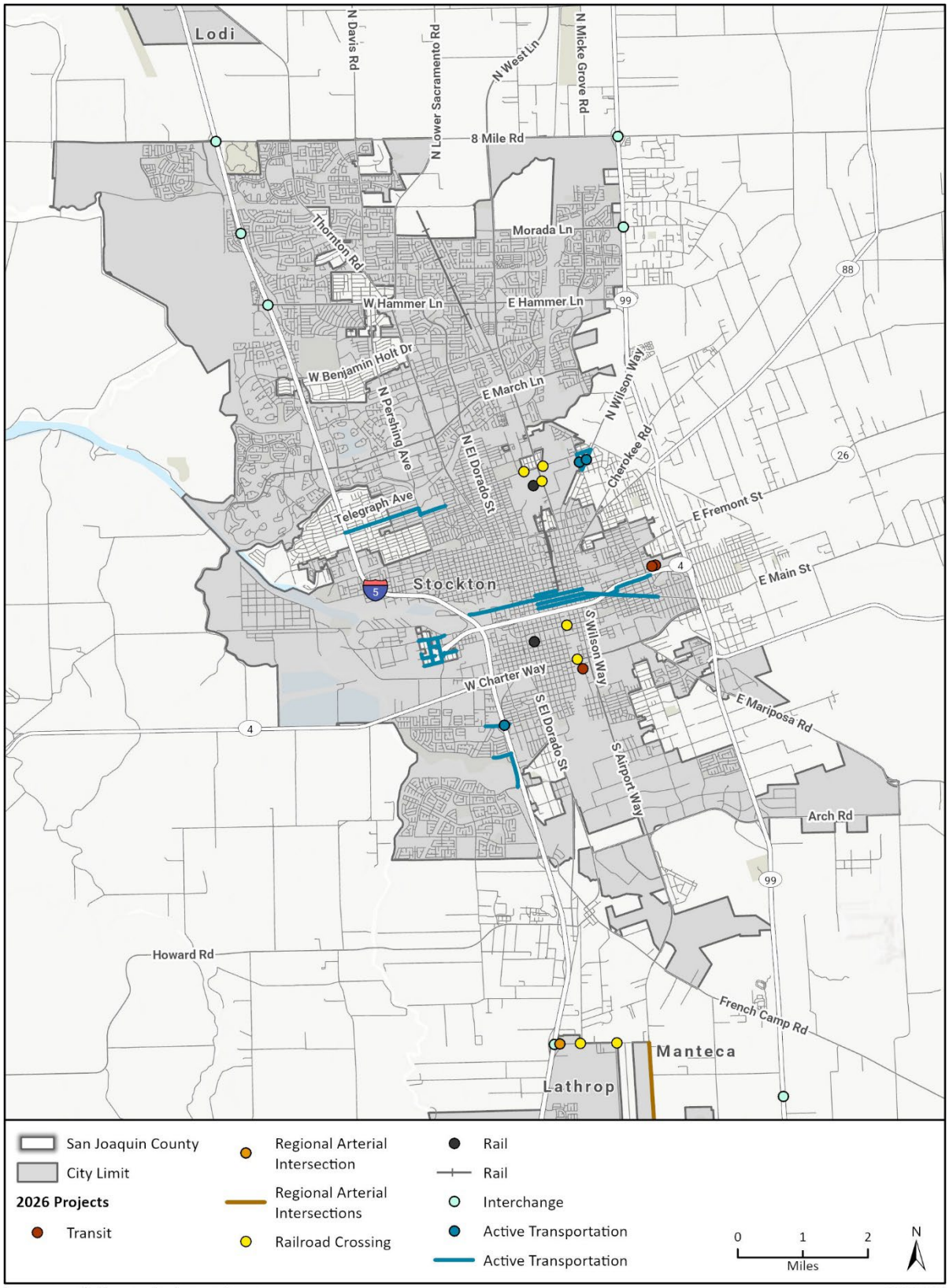
Figure 2-8 2026 RTP/SCS Projects – Ripon



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Fig X 2026 RTP-SCS Projects Ripon

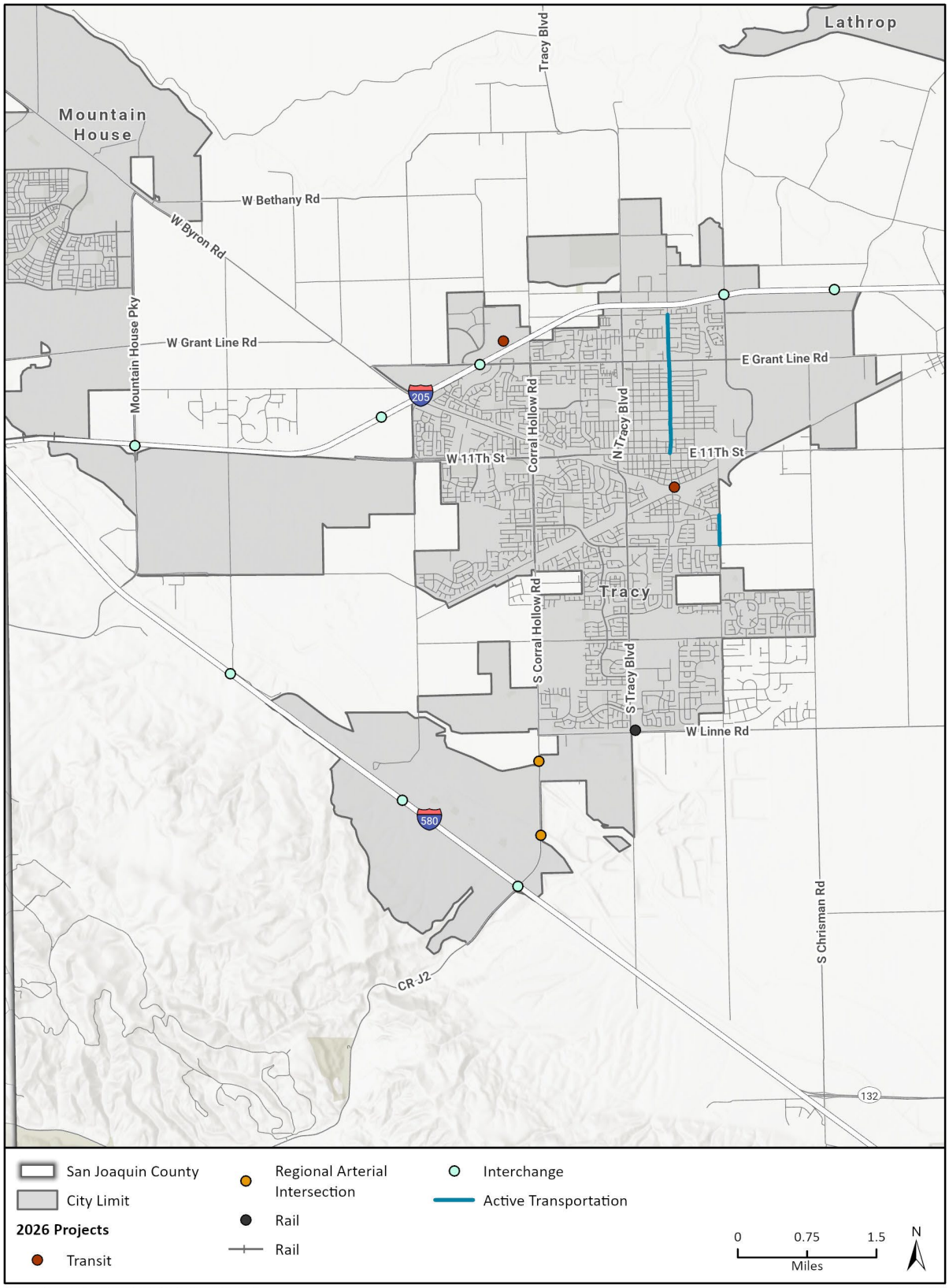
Figure 2-9 2026 RTP/SCS Projects- Stockton



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Fig X 2026 RTP-SCS Projects Stockton

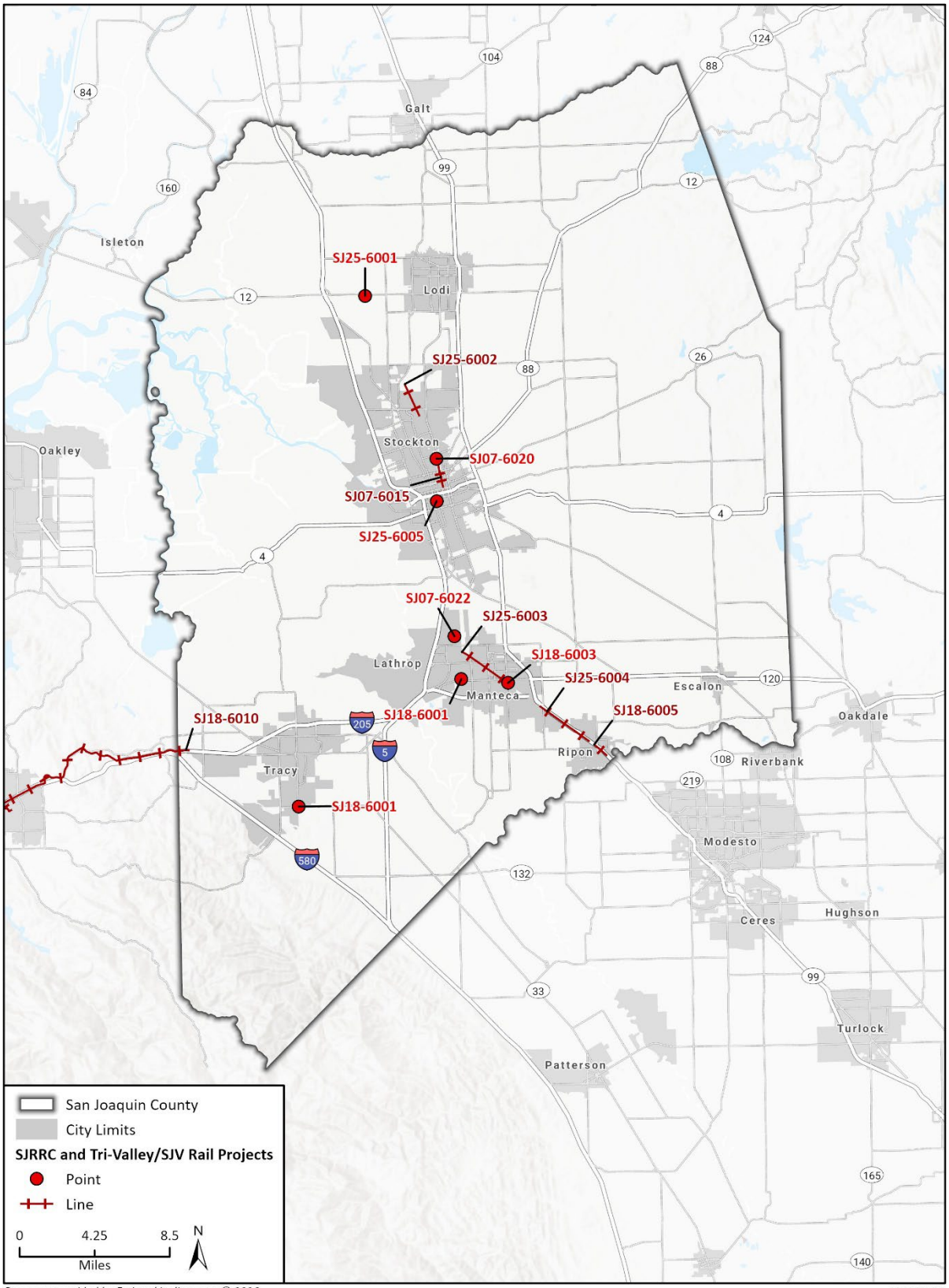
Figure 2-10 2026 RTP/SCS Projects – Tracy



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24-16872 EPS
Fig X 2026 RTP-SCS Projects Tracy

Figure 2-11 2026 RTP/SCS Projects – Rail Projects



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Additional data provided provided by SJCOG, 2025.

24-16872 EIR
Fig X Rail Projects

Table 2-1 2026 RTP/SCS Planned and Programmed Projects

Project Title	Project Type	Description
CALTRANS		
CT-1: I-5 Stockton Channel Viaduct Bridge Replacement, PPNO 3133A	HWY	In Stockton, at the Stockton Channel Viaduct Bridge No. 29-0176L, from Route 4 to Mount Diablo Ave. Also on Route 4, from 0.26 mile west of 0.15 mile east of Route 4/5 Interchange (PM R15.7/R16.2). Bridge replacement to address lightweight concrete deck deterioration, superstructure deficiencies, and load carrying capacity deficiencies. This is a Construction Manager/General Contractor (CMGC) project.
CT-2: I-5 Stockton Channel Viaduct Bridge Replacement, PPNO 3133B	HWY	In Stockton, at the Stockton Channel Viaduct Bridge No. 29-0176R, from Route 4 West to Mount Diablo Ave. Bridge replacement to address lightweight concrete deck deterioration, superstructure deficiencies and load carrying capacity deficiencies, and West Fremont Street/North Pershing Ave interchange modifications (roundabout) including Park Street Undercrossing No. 29-0202S demolition. This is a Construction Manager/General Contractor (CMGC) project.
CT-3: SR 120 Ramp Meters	HWY	Install ramp meters on SR 120 at various locations
CT-4: I-5 Ramp Meters and ITS Elements	HWY	Install ramp meters and ITS elements on I-5 at various locations from I-205 to Mathews Road
CT-5: I-5 Ramp Meters and ITS Elements	HWY	Install ramp meters and ITS elements on I-5 at various locations from Mathews Road to Dr. Martin Luther King Jr. Blvd
CT-6: I-5 Ramp Meters and ITS Elements	HWY	Install ramp meters and ITS elements on I-5 at various locations from Dr. Martin Luther King Jr. Blvd to Calaveras River
CT-7: I-5 Ramp Meters and ITS Elements	HWY	Install ramp meters and ITS elements on I-5 at various locations from Calaveras River to Eight Mile Road
CT-8: SR 99 Ramp Meters and ITS Elements	HWY	Install ramp meters and ITS elements on SR 99 at various locations from Hammer Lane to Armstong Road
CT-9: SR 99 Ramp Meters and ITS Elements	HWY	Install ramp meters and ITS elements on SR 99 at various locations from Armstrong Road to River
CT-10: SR 99 Ramp Meters and ITS Elements`	HWY	Install ramp meters and ITS elements on SR 99 at various locations from River North of Turner Road to North of Acampo Road
CT-11: SR 99 CAPM Pavement Anchor Project (EA 1T340)	HWY	Capital Preventative Maintenance (CAPM), Transportation Management Systems, Roadside safety, Drainage restoration, Signs, Complete Streets, ADA pedestrian infrastructure
CT-12: SR 4 / Jack Tone Road Intersection Improvement (EA 1R130)	HWY	Safety project: Install intersection control improvement
CT-13: SR-12 Pavement Anchor Project (EA 28150)	HWY	Capital Preventative Maintenance (CAPM), Transportation Management Systems, Roadside safety, Drainage restoration, Pump plant, Signs, Overhead sign structure, Complete Streets, ADA pedestrian infrastructure
CT-14: SR-4 CAPM (EA 1C050)	HWY	Upgrade and repair pavement, culverts, and guardrails on SR-4
CT-15: SR-12 ADA Upgrade (EA 1G580)	HWY	Upgrade curb ramps, sidewalks, driveways, accessible pedestrian signals, and push buttons to current ADA standards
CT-16: SR-4 San Joaquin River (Garwood) Bridge Rehabilitation (EA 1H200)	HWY	Bridge Rehabilitation

Project Title	Project Type	Description
CT-17: SR-120 / French Camp Rd Intersection Control (EA 1K460)	HWY	Implement intersection control improvement
CT-18: TMS Repair at Various Locations SJ 5, 99, &120 (EA 1K680)	HWY	Replace/repair old Traffic Management System (TMS) elements at various locations on Routes 5, 99 & 120
CT-19: Replace I-5 Weigh-In Motion (WIM) Station (EA 1L340)	HWY	Replace WIM station in San Joaquin County on I-5 in N/B & S/B directions near W Linne Road Overpass in Tracy
CT-20: Replace TMS, rehab drainage, and upgrade to ADA standards (EA 1L890)	HWY	Replace TMS, rehab drainage, and upgrade to ADA standards
CT-21: I-5 Levee Restoration at Smith Canal Bridges (EA 1M580)	HWY	Levee restoration
CT-22: SR-88 Pavement Anchor Project (EA 1M590)	HWY	Pavement rehabilitation, Bridge rail upgrading, ADA improvements, Guardrail upgrading, Sign panel replacement
CT-23: SR-120 / Murphy Road Intersection Control Improvement (EA 1Q010)	HWY	Implement intersection control improvement
CT-24: SR-4 Pavement Rehabilitation (EA 1F320)	HWY	Rehabilitate pavement, construct an approach slab, upgrade Transportation Management System (TMS) elements, install lighting, apply erosion control, and replace guardrail and sign panels.
CT-25: Installation of Pedestrian Crosswalks and Flashing Beacons at Various Locations (EA 1Q520)	HWY	Install new and replace existing pedestrian crosswalks and new rectangular rapid flashing beacons.
CT-26: SR-99 Roadside Rehab at Various Locations (EA 1Q640)	HWY	Roadside rehabilitation measures to upgrade the existing remote irrigation control systems communication components
CT-27: I-205 STAA Improvement (EA 1N590)	HWY	Modify concrete median to provide adequate STAA truck turning movement
CT-28: Retroreflective signal backplate installations at Various Locations (EA 1R830)	HWY	Install new traffic signal heads w- retroreflective backplates on existing traffic signal crossing arms
CT-29: I-5 Right-of-way Fence Replacement (EA 1T180)	HWY	Remove and replace right of way fence along I-5 with secure wrought iron fence
CT-30: I-580 Right-of-way Fence Replacement (EA 1T650)	HWY	Replace right of way fences along Westbound State Route (SR) 580 from PM 4.0 to 6.5
CT-31: SR-4 Stockton Mtce Region Office EV (EA 1T910)	HWY	In Stockton, at the Maintenance Region Office. Install 2 Level 3 Electric Vehicle (EV) Chargers with 2 ports each, including electrical work and permits.
CT-32: SR-26 Duncan Road Safety Project (EA 1S810)	HWY	In San Joaquin. Replace Light Emitting Diode (LED) lamp bulbs, LED blinker beacon, beacon pole, and red/yellow signpost reflector.
CT-33: Installation of Signs and Solar Flashing Beacons (EA 1H390)	HWY	Near Lathrop, at the westbound Route 120 to northbound Route 5 Connector Overhead, install signs and solar flashing beacons.
CT-34: SR-120 Installation of Flashing Beacons (EA 1H400)	HWY	In Escalon, at the intersection of Route 120 and Brennan Avenue. Install flashing beacons.
CT-35: Maintenance of TMS Elements at Various Locations (EA 1S410)	HWY	Replace existing electrical components
CT-36: SR-12 Drainage Maintenance Near Lodi (EA 1S660)	HWY	Repair/replace culvert (1 location on SR-12)

Project Title	Project Type	Description
SJCOG		
SJCOG-1: I-205 Managed Lanes Segment 1 Westbound Phase	HWY	Widen from 6 to 8 lanes (inside/outside) in the westbound direction
SJCOG-2: I-205 Managed Lanes Segment 1 Eastbound Phase	HWY	Widen from 6 to 8 lanes (inside/outside) in the eastbound direction
SJCOG-3: I-205 Managed Lanes Segment 2	HWY	Widen from 6 to 8 lanes (inside/outside)
SJCOG-4: I-205 Managed Lanes Segment 3	HWY	Widen from 6 to 8 lanes (inside/outside)
SJCOG-5: SR 99/120 Connector Project Phase 1B	HWY	Widen the NB SR 99 to WB SR 120 connector ramp from one-lane to two-lanes; Convert the existing SR 99/120 separation structure to a two-lane connector ramp to serve NB SR 99 to WB SR 120 and construct a new separation structure to serve as the EB SR 120 to NB SR 99 connector ramp; Add a lane in the existing median of WB SR 120 from Main Street to SR 99; Restore the entrance ramp from Austin Road to NB SR 99 and to WB SR 120 by adding a loop ramp that will provide separate traffic movements to SR 99 and SR 120
SJCOG-6: SR 99/120 Connector Project Phase 1C	HWY	Restore the SB exit ramp from SR 99 to Austin Road by constructing a grade separated braided ramp to eliminate the weaving with SR 120 merging traffic; Relocate the NB SR 99 exit ramp to Austin Road to accommodate the loop on ramp; Relocate the SR 99 frontage road for approximately 0.8 miles to accommodate the loop on ramp; Add a lane in the existing median of EB SR 120 from Main Street to SR 99; Add a lane in each direction on SR 99 from the SR 99/120 separation to approximately 1.7 mile south of the Austin Road overhead by shifting the median away from the UPRR ROW and relocating portions of the frontage road
City of Escalon		
E-1: McHenry Avenue Complete Street Project	ST/RDS	Reconstruct McHenry Avenue to install complete street improvements, including sidewalks, bike lane, and a center median. The project will maintain one travel lane in each direction until Narcissus and will reduce travel lanes from Narcissus to First Street
E-2: SR 120/Brennan Avenue Intersection Improvements	ST/RDS	Intersection improvements
E-3: Yosemite Ave / McHenry Ave / BNSF Grade Separation	ST/RDS	Construct a grade separation in Escalon at the BNSF Railroad – ENVIRONMENTAL ONLY
E-4: eTrans Transit Operations	Transit	Costs associated with eTrans demand responsive and fixed route transit system
E-5: eTrans Capital Improvements	Transit	Bus replacements, passenger amenities, and miscellaneous equipment
E-6: Replace two transit vehicles	Transit	Replace two transit vehicles with two EV minibuses
E-7: Main Street	Bike/Ped	Main Street Bike and Pedestrian Improvements
City of Lathrop		
La-1: I-5 at Louise Avenue	HWY	Reconstruct interchange
La-2: I-5 at Lathrop Road	HWY	Reconstruct interchange
La-3: SR 120 at Yosemite Avenue/Guthmiller Road	HWY	Reconstruct interchange

Project Title	Project Type	Description
La-4: I-5 at Roth Road	HWY	Reconstruct interchange
La-5: Golden Valley Parkway	ST/RDS	Construct new roadway parallel to I-5, 2 lanes from Brookhurst Boulevard to Stewart Road
La-6: Golden Valley Parkway	ST/RDS	Construct new roadway parallel to I-5, 4 lanes from Stewart Road to Paradise Road
La-7: Golden Valley Parkway	ST/RDS	Widen from 2 to 4 lanes, from Brookhurst Boulevard to Stewart Road
La-8: Roth Road Widening	ST/RDS	Construct improvements to widen Roth Rd from 2-lanes to 6-lanes
La-9: Harlan Road Realignment & Signalization	ST/RDS	Realign Harlan Road and construct a new signalized intersection at Harlan Road and Roth Road
La-10: Roth Road / UPRR Grade Separation (Oakland Sub.)	Transit	Construction grade separation improvements
La-11: Roth Road / UPRR Grade Separation (Fresno Sub.)	Transit	Construction grade separation improvements
La-12: Transit Operations	Transit	Operate Lathrop Transit microtransit and school tripper fixed route service (for 8 years of service)
La-13: ADA Paratransit Service	Transit	ADA paratransit operations for Lathrop Transit, when fixed route begins in year 5
La-14: Purchase Buses	Transit	Purchase expansion and replacement buses for Lathrop Transit
La-15: Preventative Maintenance	Transit	Maintain Lathrop Transit vehicles
La-16: Security	Transit	Security enhancements for Lathrop Transit
La-17: Safety	Transit	Safety compliance for Lathrop Transit
La-18: Training	Transit	Employee training for City of Lathrop Transit Staff
La-19: Construct Bus Parking Area	Transit	Construct a bus parking area for Lathrop Transit
La-20: Purchase Bus Shelters	Transit	Purchase bus shelters for RTD and Lathrop Transit fixed routes
La-21: Transit Planning	Transit	Planning support for Lathrop Transit
City of Lodi		
Lo-1: SR-99 at SR-12 West (Kettleman Lane)	HWY	Reconstruct interchange and widen to free flowing interchange
Lo-2: SR-99 at Harney Lane	HWY	Reconstruct interchange to provide 6 through lanes on SR 99, 4 lanes on Harney between Reynolds Ranch Parkway and SR 99 and modify on-ramps and off-ramps
Lo-3: SR-99 at Turner Road	HWY	Reconstruct interchange to provide operational and safety improvements on SR 99 at Turner Road
Lo-4: Harney Lane	ST/RDS	Widen from 2/3 lane collector to 4 lane divided arterial
Lo-5: Victor Road (SR-12)	ST/RDS	Widen from 2 to 4 lanes. Add center dual left turn lane, turn pockets at intersections and median separation with landscape
Lo-6: Ham Lane	ST/RDS	Widen 2/3 lanes to 4 lanes
Lo-7: Grapeline Transit Operations	Transit	Transit Operations (Fixed Route & Paratransit/Dial-a-Ride from SRTP: FYs 26-27 - 33-34)
Lo-8: Grapeline Capital	Transit	Bus stop shelters/improvements
Lo-9: Grapeline Capital	Transit	Transit facility upgrades

Project Title	Project Type	Description
Lo-10: Transit facilities safety and security system	Transit	Safety and security for Lodi Grapeline service
Lo-11: Southwest Transit Transfer Station	Transit	Construct transit transfer station in southwest Lodi
Lo-12: Bus replacements	Transit	Purchase replacement buses
Lo-13: Grapeline Capital	Transit	Lodi Transit Station Mobility Hub Improvements
Lo-14: Grapeline Capital	Transit	Radio/communication upgrade
Lo-15: Grapeline Capital	Transit	Intelligent Transportation System (ITS) upgrades
Lo-16: Grapeline Capital	Transit	CNG Fuel upgrades
Lo-17: Grapeline Capital	Transit	Zero Emission Bus (ZEB) Infrastructure (Chargers)
City of Manteca		
M-1: SR-120 at Airport Way	HWY	Reconstruct interchange
M-2: SR-120 at Main Street	HWY	Reconstruct interchange
M-3: SR-99 at Raymus Expressway	HWY	Construction of new interchange – environmental only
M-4: SR-99 at Roth Road	HWY	Construct new interchange – environmental only
M-5: SR-99 at Louise Ave Overcrossing	HWY	Reconstruct overcrossing – environmental only
M-6: Atherton Drive	ST/RDS	Construct new 4 lane roadway (gap closure)
M-7: Airport Way	ST/RDS	Widen from 2 to 4 lanes from SR-120 to Yosemite Avenue
M-8: Airport Way	ST/RDS	Widen from 2 to 4 lanes from Lathrop Road to Roth Road
M-9: Airport Way	ST/RDS	Widen from 4 to 6 lanes from SR 120 to Lathrop Road
M-10: Louise Avenue	ST/RDS	Roadway Improvement
M-11: Lathrop Road	ST/RDS	Roadway Improvement
M-12: Raymus Expressway	ST/RDS	Construct new 4 lane expressway from Main Street to SR-99
M-13: Raymus Expressway	ST/RDS	Construct new 2 lane expressway from ST-120 to Woodward Avenue
M-14: Atherton Drive	ST/RDS	Construct new 4 lane roadway from Woodward Avenue to McKinley Avenue
M-15: Raymus Expressway	ST/RDS	Construct new 2 lane expressway from Woodward Avenue to Main Street
M-16: Roth Road	ST/RDS	Extension of Roth Road to new Highway 99 Interchange
M-17: Airport Way/UPRR Five-Lane Grade Separation	ST/RDS	Construct five lane grade separation over the UPRR
M-18: Passenger Amenities	Transit	Bus shelters/pedestrian facilities, bike facilities, lighting and multifunctional landscaped area
M-19: Manteca Transit System Operations	Transit	Transit Operations (Fixed Route & Dial-a-Ride from SRTP)
M-20: Manteca Transit Rolling Stock	Transit	Purchase of replacement and new buses
M-21: ITS Project	Transit	Automated counters, AVL equip., farebox equip., advertising monitors for buses, security cameras, paratransit software/hardware, etc.
M-22: Transit Center Improvements	Transit	Improvements to the Manteca Transit Center
M-23: Bus Maintenance & Storage Facility	Transit	Construct a bus maintenance and storage facility
M-24: Administrative Vehicle	Transit	Purchase electric administrative vehicle and related charging infrastructure

Project Title	Project Type	Description
M-25: Manteca Transit Planning	Transit	Costs to support transit planning efforts to update the City of Manteca Short-Range Transit Plan every four years
M-26: Bus Enhancements	Transit	Enhancements for Manteca Transit buses
M-27: Travel Training	Transit	Training to assist customers in using transit services
M-28: Safe Route to School Priority Safety Project	Bike/Ped	Project includes: Main Street bike/pedestrian improvements (Alameda to North Gate); Moffat & Garfield crossing improvement; Wawona bike/pedestrian improvements (Union to Main); SRTS improvements surrounding Brock Elliott, Golden West, Manteca High, Shasta, Sierra High, Stella Brockman.
M-29: EV Charging at City Hall	Various	Construct EV charging stations at City Hall
City of Mountain House		
MH-1: Byron Road Widening	ST/RDS	Widen from 2 to 4 lanes
MH-2: Solar-powered EV Charging at City Hall	Various	Construct solar-powered EV charging stations at City Hall
MH-3: ADA Ramp Truncated Dome Installation	Bike/Ped	ADA ramp truncated dome installation
City of Ripon		
R-1: Jack Tone Road, Phase 1	ST/RDS	Widen from 2 to 6 lanes from Santos Road to South Clinton Avenue
R-2: Jack Tone Road Widening	ST/RDS	Widen from 2 to 6 lanes from Clinton Avenue to Smit Lane – environmental only
R-3: W. Ripon Road	ST/RDS	Widen from 2 to 6 lanes from Jack Tone Road to Olive Expressway
R-4: Canal Boulevard Extension	ST/RDS	Construct 4 lane extension of Canal Boulevard from Jack Tone Road to Olive Expressway – environmental only
R-5: Olive Expressway	ST/RDS	Construct 6 lane Olive Expressway - environmental only
R-6: Garrison Road	ST/RDS	Construct 2-lane extension of Grarrison Road from Maple Avenue to Acacia Avenue
R-7: River Road Widening	ST/RDS	Widen from 2 to 6 lanes from Hoff Road to SR 99 Frontage Road – environmental only
R-8: Ripon Blossom Express Operations	Transit	Costs associated with the delivery of a fixed route transit system and of a Dial-A-Ride service in Ripon
R-9: Ripon Bus Purchases	Transit	Purchase of replacement and expansion buses
R-10: Transit Capital Improvements	Transit	Construct benches, shelters, and transit maintenance facility
R-11: Ripon Multimodal Station	Transit	Construct Multimodal Station
R-12: CNG Solid Waste Collection Vehicle	Various	Purchase CNG solid waste collection vehicle to replace older equipment
City of Stockton		
S-1: I-5 at Hammer Lane	HWY	Interchange modification and auxiliary lanes
S-2: I-5 at Otto Drive	HWY	Construction of a new interchange and auxiliary lanes
S-3: I-5 at Eight Mile Road	HWY	Modification of interchange
S-4: SR-99 at Eight Mile Road	HWY	Reconstruct interchange
S-5: SR-99 at Morada	HWY	Reconstruct interchange
S-6: Morada Lane	ST/RDS	Widen from 3 to 6 lanes from West Lane to UPRR

Project Title	Project Type	Description
S-7: Alpine Avenue	ST/RDS	Widen from 2 to 4 lanes with a middle turn lane. Construct curb, gutter, sidewalks and driveways from UPRR (SPRR) to Wilson Way
S-8: Arch Road	ST/RDS	Widen from 2 to 6 lanes from Fite Court to Frontier Way
S-9: Arch Road	ST/RDS	Widen from 2 to 6 lanes from Frontier Way to SR-99
S-10: Maranatha Drive	ST/RDS	Construction of new 4 lane road from March Lane to Hammer Lane
S-11: Maranatha Drive	ST/RDS	Construction of new 4 lane road from Wilson Way to March Lane
S-12: Lower Sacramento Road	ST/RDS	Widen from 4 to 6 lanes from Armor Drive to Morada Lane
S-13: Lower Sacramento Road	ST/RDS	Widen from 2 to 6 lanes from Marlette Road to Pixley Slough
S-14: Lower Sacramento Road	ST/RDS	Widen from 4 to 6 lanes from Morada Lane to Hammer Lane
S-15: Airport Way	ST/RDS	Intersection and operational improvement from Harding Way to Industrial Road
S-16: Eight Mile Road	ST/RDS	Widen from 2 to 4 lanes from New Road D to New Road F
S-17: Eight Mile Road	ST/RDS	Widen from 2 to 4 lanes from New Road F to New Road E
S-18: Eight Mile Road	ST/RDS	Widen from 5 to 6 lanes from I-5 to Thornton Road
S-19: Eight Mile Road	ST/RDS	Widen from 2 to 4 lanes from Thornton Road to Lower Sacramento Road
S-20: Eight Mile Road	ST/RDS	Widen from 2 to 6 lanes from Lower Sacrament Road to West Lane
S-21: Eight Mile Road	ST/RDS	Widen from 2 to 6 lanes from West Lane to Holman Road
S-22: Eight Mile Road	ST/RDS	Widen from 2 to 6 lanes from Holman Road to SR 99
S-23: Arch Road	ST/RDS	Widen from 2 to 6 lanes from Newcastle Road to Fite Court
S-24: French Camp Road	ST/RDS	Widen from 2 to 6 lanes from Wolfe Road to Manthey Road
S-25: March Lane Extension	ST/RDS	Construction of new 8 lane road from Holman Road to SR 99
S-26: Mariposa Road	ST/RDS	Widen from 2 to 4 lanes from Stagecoach Road to Austin Road
S-27: Alpine Road/UPRR (west)	ST/RDS	Construct at-grade quiet zone improvements
S-28: Alpine Road/UPRR (east)	ST/RDS	Construct a 4 lane grade separation – environmental only
S-29: West Lane at UPRR	ST/RDS	Construct a 6 lane grade separation
S-30: Dr. Martin Luther King Boulevard	ST/RDS	Reconstruct grade separated underpass
S-31: Hazelton Avenue/UPRR	ST/RDS	Construct grade separation – environmental only
S-32: East Channel Street	Bike/Ped	Streetscape and Connectivity Project with SJRRC
S-33: Main and Market Complete Streets Phase 1	Bike/Ped	Phase 1 includes PS&E and construction on Main and Market Streets, from California Street to Sierra Nevada Street
S-34: Alpine Pershing Mendocino Bicycle-Pedestrian Connectivity	Bike/Ped	Design and construction of buffered bike lanes, a traffic signal, cycle track, crosswalk and curb ramp improvements, and realignment of two intersections to add bicycle facilities.
S-35: Downtown Stockton Weber Avenue Bike & Ped Connectivity	Bike/Ped	Install Class IV bike lane, RRFB signals, signage, ADA curb ramps, sidewalk improvements, curbs, gutters, bike storage, bike lockers, public art and trees.
S-36: Main and Market Complete Streets Phase 2	Bike/Ped	Phase 2 includes PS&E and construction on Main and Market Streets, from California Street to Sierra Nevada Street

Project Title	Project Type	Description
S-37: Citywide Stockton Bicycle-pedestrian Connectivity	Bike/Ped	Install bicycle lanes, enhance pedestrian and bicycle safety, increase lighting on routes to schools
City of Tracy		
T-1: I-205/Lammers Road/Eleventh Street	HWY	Construct interchange I-205 at Eleventh Street, realign and widen Eleventh Street to 6-lanes north of Grant Line to Byron Road. Construct auxiliary lane Hansen to Eleventh, in westbound I-205 Eleventh Street to Grant Line Road.
T-3: I-205 at Mountain House/International Parkway	HWY	Reconstruct interchange
T-4: I-205 Grant Line Road	HWY	Modification of existing interchange
T-5: I-205 at Chrisman Road	HWY	Phase I; Construct new interchange east-west ramps
T-6 : I-205/MacArthur Interchange Modification	HWY	Modification of existing interchange – environmental only
T-7: I-580 at Corral Hollow Road	HWY	Modification of existing interchange
T-8: I-580 at Lammers Road	HWY	Construction of new interchange – environmental only
T-9: I-580 at Iron Horse	HWY	Construction of new interchange – environmental only
T-10: Corral Hollow Road Widening	ST/RDS	Widen from 2 to 4 lanes from Parkside Drive to Linne Road. Widen 2 to 4 lanes including ROW and construction of two bridges from Linne Road to I-580
T-11: Schulte Road	ST/RDS	Extend 4 lane roadway from Faith Lane to Lammers Road
T-12: Grant Line Road	ST/RDS	Widen from 5 to 6 lanes from Naglee Road to Lammers Road
T-13: Grant Line Road	ST/RDS	Widen from 3 to 4 lanes from Byron Road to Lammers Road
T-14: MacArthur Drive	ST/RDS	Extend 4 lane roadway on new alignment and construct railroad grade separation from Mt. Diablo Road to Eleventh Street
T-15: Tracy Boulevard	ST/RDS	Widen from 4 lane minor arterial to 4 lane major arterial from I-205 to Eleventh Street
T-16: Lammers Road	ST/RDS	Widen 2 to 4 lanes from Kimball High south to Ellis Town Drive, including right-of-way – environmental only
T-17: TRACER Capital	Transit	Purchase replacement buses
T-18: TRACER Operations	Transit	Costs associated with the delivery of fixed route and paratransit services including salaries, contracting of service, equipment, and demand response from SRTP
T-19: TRACER Maintenance	Transit	Property acquisition for new bus maintenance facility
T-20: TRACER Maintenance	Transit	Design of new bus maintenance facility
T-21: Mall Transfer Station/Mobility Hubs	Transit	Bus stop and transfer station improvements
T-22: TRACER Relocations	Transit	Stop relocations
T-23: Bus Stop Improvements	Transit	Bus stop improvements
T-24: Real-Time Signage	Transit	Real-time signage
T-25: On Demand Software	Transit	On-Demand Software
T-26: ITS Project	Transit	ITS Project
T-27: TTS Generator	Transit	TTS Generator
T-28: Transit Asset Management	Transit	Transit Asset Management program
T-29: Tracy Municipal Airport	Transit	Relocate Taxiway D (Design/Construct)

Project Title	Project Type	Description
T-30: Tracy Municipal Airport	Transit	Medium Intensity Taxiway Edge Lights Taxiways A, B, D, E, F, and G (Design/Construct)
T-31: Tracy Municipal Airport	Transit	New Terminal Building (3,060 stf) w/ Parking Lot & Apron Connection and Utilities (Design)
T-32: Tracy Municipal Airport	Transit	Reconstruct Tee Hangar Taxilanes Hangar H1 Area (Design/Construct)
T-33: Tracy Municipal Airport	Transit	New Terminal Building (3,060 stf) w/ Parking Lot & Apron Connection and Utilities (Construct)
T-34: Tracy Municipal Airport	Transit	Construct AAM Vertiport and 2AAM Parking Spaces and Charging (30,500 sq. ft) (Design/Construct)
T-35: Tracy Municipal Airport	Transit	Construct AAM Hanger - 2 Hangars (Design/Construct)
T-36: Tracy Municipal Airport	Transit	New Wash Rack (14,420 sq. ft) (Design/Construct)
T-37: Tracy Municipal Airport	Transit	Construct 14 New Hangars (Design/Construct)
T-38: Tracy Municipal Airport	Transit	Construct eCTOL Aircraft Parking and Charging Stations (Design/Construct)
T-39: Tracy Municipal Airport	Transit	Construct AAM Terminal and Auto Parking Lot (Design/Construct)
T-40: Tracy Municipal Airport	Transit	Future Development - Land Acquisition
T-41: Tracy Municipal Airport	Transit	Helicopter Parking Apron - Phase 1 (2 parking positions, 33,200 Sq. Ft) (Design/Construct)
T-42: Tracy Municipal Airport	Transit	Fuel Island Relocation (Design/Construct)
T-43: Tracy Municipal Airport	Transit	Aviation Easement
T-44: Tracy Municipal Airport	Transit	Upgrade Runway Lighting and Signage to LED (Design/Construct)
T-45: Tracy Municipal Airport	Transit	Construct Runway 12-30 Blast Pads (Design/Construct)
T-46: Tracy Municipal Airport	Transit	Runway, Taxiway, and Apron Crack Seal and Slurry Seal; Revise Marking (Design/Construct)
T-47: Tracy Municipal Airport	Transit	Apron Expansion - Phase 1; Reconfigure Taxiway D (Design/Construct)
T-48: Tracy Municipal Airport	Transit	Relocate AWOS (Design/Construct)
T-49: Tracy Municipal Airport	Transit	Wildlife Hazard Management Plan
T-50: Tracy Municipal Airport	Transit	Helicopter Parking Apron - Phase 2 (1 parking positions, 15,110 Sq. FT) (Design/Construct)
T-51: Tracy Municipal Airport	Transit	Construct AAM Hangar - 2 Hangars (Design/Construct)
T-52: Tracy Municipal Airport	Transit	Construct 2 Additional AAM Parking Spaces and Charging (Design/Construct)
T-53: Tracy Municipal Airport	Transit	Construct 14 New Hangars (Design/Construct)
T-54: Tracy Municipal Airport	Transit	Expand SASO (Design/Construct)
T-55: Holly Drive Pedestrian and Bikeway Improvements	Bike/Ped	Pedestrian and Bikeway Improvements
T-56: East Schulte Safety and Multimodal Community Corridor (MacArthur Phase)	Bike/Ped	Along MacArthur Drive from Schulte Road to Mount Diablo Avenue: Roadway widening, a sidewalk gap closure, crossing enhancements, and Class II bike lanes.

Project Title	Project Type	Description
RTD		
RTD-1: Transit Operations	Transit	Transit Operations (Fixed Route & Demand Response from SRTP: FYs 26/27 - 33/34) - BRT, SMA, Intercity and County Hopper, Interregional Commuter, Dial-A-Ride, Van GO!
RTD-2: Bus Electrification / Power Distribution	Transit	Renewable energy solutions for facility & fleet energy consumption
RTD-3: Bus Electrification / Power Distribution	Transit	Charging infrastructure will be needed if RTD replaces commuter bus with zero-emission electric bus. Depending on the bus purchase the following is an estimated infrastructure cost: Hydrogen: $750K to 1M for on-site tank dispenser (1-5 buses) ; Hydrogen: $1.5M to 2M for Full service station (5-30 buses); Electric: $1M to 1.5M for Depot charger/Induction Charger 5 FCEB pilot at $1.5 Million per Bus.
RTD-4: Bus Electrification / Power Distribution	Transit	Hydrogen fueling station
RTD-5: Bus Rolling Stock - Buy/Replacement/Rehab/Rebuild	Transit	Replace 49 Electric Hybrid 40' Buses
RTD-7: Bus Rolling Stock - Buy/Replacement/Rehab/Rebuild	Transit	Replace 4 MCI Commuter Buses
RTD-8: Bus Rolling Stock - Buy/Replacement/Rehab/Rebuild	Transit	Replace 6 Nova Hybrid LF Articulated 60' Buses
RTD-9: Bus Rolling Stock - Buy/Replacement/Rehab/Rebuild	Transit	Replace 26 Cutaway Buses
RTD-10: Bus Rolling Stock - Buy/Replacement/Rehab/Rebuild	Transit	Replace 20 Van Go Buses
RTD-11: Bus Rolling Stock - Buy/Replacement/Rehab/Rebuild	Transit	Replace 25 Zero-Emission 40' Buses
RTD-12: Bus Rolling Stock - Buy/Replacement/Rehab/Rebuild	Transit	Purchase 10 Hydrogen Fuel Cell Buses
RTD-13: Bus Rolling Stock - Buy/Replacement/Rehab/Rebuild	Transit	Bus component rebuild and parts
RTD-14: Safety & Security	Transit	Emergency Command Center
RTD-15: Safety & Security	Transit	Vehicle rear-end accident prevention
RTD-16: Safety & Security	Transit	Entrance door access system with smart technology
RTD-17: Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit	Hardware - Boardroom Technology Refresh
RTD-18: Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit	Hardware - End-User Computer Refresh
RTD-19: Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit	Hardware - Security Info. & Event Management (SIEM)
RTD-20: Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit	Hardware - IT Specific computers (6)

Project Title	Project Type	Description
RTD-21: Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit	Hardware - Backup storage (replace QNAP)
RTD-22: Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit	Hardware - Digital signage controllers
RTD-23: Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit	Hardware - Customer Interactive Kiosk (4)
RTD-24: Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit	Hardware - GPS monitoring for non-rev fleet
RTD-25: Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit	Cybersecurity
RTD-26: Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit	Real time bus locator
RTD-27: Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment	Transit	Software - Remote Monitoring and Management (RMM)
RTD-28: Planning, Study, Training, Outreach, and Research Projects	Transit	RTD's Title VI Program update as required by FTA every 4 years
RTD-29: Facilities Improvement and Upgrade	Transit	RTC parking lot development - cell tower removal
RTD-30: Facilities Improvement and Upgrade	Transit	RTC Portable Maintenance Koni lifts (20)
RTD-31: Facilities Improvement and Upgrade	Transit	RTC Building exhaust fans (40)
RTD-32: Facilities Improvement and Upgrade	Transit	CTC Slurry Seal
RTD-33: Facilities Improvement and Upgrade	Transit	RTC Gas Heaters
RTD-34: Facilities Improvement and Upgrade	Transit	RTC HVAC Units (14)
RTD-35: Facilities Improvement and Upgrade	Transit	RTC HVAC Split Systems
RTD-36: Facilities Improvement and Upgrade	Transit	RTC Roll-Up Doors
RTD-37: Facilities Improvement and Upgrade	Transit	Proterra Overhead Charger
RTD-38: Facilities Improvement and Upgrade	Transit	RTC Bus Wash & Bio System
RTD-39: Facilities Improvement and Upgrade	Transit	RTC Free Standing Shop Equipment
RTD-40: Facilities Improvement and Upgrade	Transit	Furniture (breakrooms, RTC, DTC, CTC)

Project Title	Project Type	Description
RTD-41: Facilities Improvement and Upgrade	Transit	Refrigerators and Ice Machines (one in every breakroom)
RTD-42: Facilities Improvement and Upgrade	Transit	Fork lift
RTD-43: Facilities Improvement and Upgrade	Transit	DTC Cross-walk Restripe
RTD-44: Facilities Improvement and Upgrade	Transit	DTC Cabinets for RTD Legacy Gear
RTD-45: Facilities Improvement and Upgrade	Transit	Double Door RTC
RTD-46: Facilities Improvement and Upgrade	Transit	Recliners (RTC & CTC)
RTD-47: Facilities Improvement and Upgrade	Transit	UTS HVAC
RTD-48: Facilities Improvement and Upgrade	Transit	Cost associated with capital improvement and upgrade at RTD's admin and maintenance facilities
RTD-49: Facilities Improvement and Upgrade	Transit	Projection for the next 5 year rehabilitation/renovations at RTD's admin and maintenance facilities
RTD-50: Support Vehicles	Transit	To purchase, refurb and rehab support vehicles for RTD's admin/maintenance
RTD-51: Hydrogen Refueling Trailer and Maintenance Building Retrofit	Transit	Hydrogen Refueling Trailer and Maintenance Building Retrofit as part of an overall Hydrogen Fuel Cell Electric Bus Pilot Project
San Joaquin County		
SJC-1: Grant Line Road Realignment	ST/RDS	Realign roadway and widen from 2 to 4 lanes with operational and safety improvements, construct grade separation at UPRR ROW
SJC-2: Eleventh Street	ST/RDS	Operational and safety improvements along corridor and at intersections
SJC-3: Tracy Boulevard	ST/RDS	Passing lanes and channelization from I-205 to Howard Road
SJC-4: Roth Road	ST/RDS	Widen from 2 to 4 lanes with shoulders from UPRR to Airport Way
SJC-5: Airport Way	ST/RDS	Widen from 2 to 4 lanes from Roth Road to French Camp Road
SJC-6: Escalon Bellota Road	ST/RDS	Widen from 2 to 4 lanes with shoulders from Escalon City limits to Mariposa Road
SJC-7: Mariposa Road	ST/RDS	Widen roadway from 2 to 3 lanes and widen BNSF railroad grade separation from 2 to 4 lanes from Austin Road to Jack Tone Road
SJC-8: Howard Road	ST/RDS	Passing lanes and channelization from Tracy Boulevard to Matthews Road
SJC-9: Lower Sacramento Road/UPRR	ST/RDS	Replace grade separation of roadway and railway
SJC-10: Stockton Metro Airport	Transit	Runway 11R-29L Rehabilitation (Crack & Slurry Seal)
SJC-11: Stockton Metro Airport	Transit	Taxiway D Extension - Phase 1 Environmental, Design & Construction
SJC-12: Stockton Metro Airport	Transit	Taxiway D Extension - Phase 2 Construction
SJC-13: Stockton Metro Airport	Transit	Taxiway D Extension - Phase 3 Construction

Project Title	Project Type	Description
SJC-14: Stockton Metro Airport	Transit	Commercial Apron asphalt rehabilitation
SJC-15: Stockton Metro Airport	Transit	ARFF Vehicle Replacement
SJC-16: Stockton Metro Airport	Transit	ATCT Replacement
SJC-17: Harrison Elementary Active Transportation	Bike/Ped	Construction of new sidewalks, crossing enhancements, and a new signal to improve safety and connectivity for residents and children in the neighborhood of Harrison Elementary.
SJC-18: Boggs Tract Sustainable Transportation Improvements	Bike/Ped	Construct Pedestrian and Bicycle facilities on portions of eight roads within the Boggs Tract community
SJC-19: Countywide Sidewalk Connectivity Plan	Bike/Ped	Recommend sidewalk improvements based on community/stakeholder outreach and analysis of existing conditions on over 325 miles of roadway in unincorporated San Joaquin County.
San Joaquin Regional Rail Commission (SJRRC)		
SJRRC-1: ACE Capital	Rail	SJRRC shared costs for the overall maintenance of vehicles
SJRRC-2: ACE Capital	Rail	Maintenance Facility Expansion Debt Service
SJRRC-3: ACE Capital	Rail	Miscellaneous minor capital improvements including station and yard improvements, station and yard track, and wayside power.
SJRRC-4: ACE Operations	Rail	Valley Rail Service Operations (For first 10 years)
SJRRC-5: Cabral Station Track Extension	Rail	Allow SJRCC to operate on separate tracks from Union Pacific Railroad between maintenance yard and the station siding.
SJRRC-6: Valley Rail Passenger Rail Expansion	Rail	Lodi Station and Trackwork
SJRRC-7: Valley Rail Passenger Rail Expansion	Transit	Hammer Lane Siding Upgrade
SJRRC-8: Valley Rail Passenger Rail Expansion	Rail	Lathrop Wye and Track Extension
SJRRC-9: Valley Rail Passenger Rail Expansion	Transit	Manteca Station
SJRRC-10: Valley Rail Passenger Rail Expansion	Rail	Calla to Ripon Track Extension
SJRRC-11: Valley Rail Passenger Rail Expansion	Transit	North Lathrop Transfer Station
SJRRC-12: Valley Rail Passenger Rail Expansion	Transit	Ripon Station and Trackwork
SJRRC-13: Valley Rail Passenger Rail Expansion	Transit	San Joaquin Street Layover
SJRRC-14: Rail Information Systems	Rail	Ticket vending machines, on-train internet, changeable message signs at stations, trip planner via internet, real time system for train status for integrated Valley Rail operations and other connecting services
SJRRC-15: ACE Platform Extensions	Rail	The project involves extending the platforms at two existing ACE stations in Lathrop/Manteca and Tracy.

Project Title	Project Type	Description
Tri-Valley/San Joaquin Valley Regional Rail Authority (Tri-Valley/SJV)		
Tri-Valley/SJV-1: Valley Link Rail Service Phase 1	Rail	Once completed, the project will create a new 22-mile passenger rail transit system connecting the cities of Dublin, Pleasanton, Livermore, and the Mountain House with all-day, bi-directional service. Currently in Environmental.

Notes:
Bike/Ped = Bicycle or Pedestrian
HWY = Highway
ST/RDS = Street or Roadway
Transit = Public Transportation Infrastructure
Various = Project/funding of different types

2.5 Intended Use of EIR

2.5.1 Agencies Expected to Use EIR in Decision-making

The *CEQA Guidelines* (Section 15124(d)) require EIRs to identify the agencies that are expected to use the EIR in their decision-making and the approvals for which the EIR will be used to the extent known at the time the EIR is released. This EIR will inform SJCOG, in addition to other responsible agencies, persons, and the public, of the environmental effects of the proposed 2026 RTP/SCS and the identified alternatives. SJCOG will use the EIR for the purposes of review and approval of the proposed 2026 RTP/SCS.

The lead agencies for projects analyzed in this program EIR may use it as the basis for first-tier analyses of topics such as regional growth, regional transportation and land use alternatives and cumulative impacts. RTPAs may incorporate information provided in this EIR into future transportation plans such as congestion management programs, countywide transportation plans, or county bicycle and pedestrian plans. Other agencies expected to use the EIR include: Caltrans, regional transit operators such as the San Joaquin Regional Transit District (RTD), Altamont Corridor Express (ACE), Escalon eTrans, Lodi GrapeLine, Manteca Transit, Ripon Blossom Express, Tracy TRACER, Amtrak San Joaquins, and Greyhound; the San Joaquin Valley Air Pollution Control District; and the cities, and counties.

2.5.2 Agencies Expected to Use EIR in Decision-making

The *CEQA Guidelines* (Section 15124(d)) require EIRs to identify the agencies that are expected to use the EIR in their decision-making and the approvals for which the EIR will be used to the extent known at the time the EIR is released. This EIR will inform SJCOG, in addition to other responsible agencies, persons, and the public, of the environmental effects of the proposed 2026 RTP/SCS and the identified alternatives. SJCOG will use the EIR for the purposes of review and approval of the 2026 RTP/SCS and will use the EIR for the purposes of review and approval of the county level 2026 RTPs.

The lead agencies for projects analyzed in this program EIR may use it as the basis for first-tier analyses of topics such as regional growth, regional transportation and land use alternatives and cumulative impacts.

2.5.3 Required Approvals

Approval of the proposed 2026 RTP/SCS is at the discretion of SJCOG. It should be noted that additional environmental review will have to be conducted by the project sponsor as the lead agency for the individual projects contained in the proposed 2026 RTP/SCS, prior to project implementation. Depending on the location of the project, future approvals for individual transportation projects identified in the proposed 2026 RTP/SCS would have to be completed by one or more of the following agencies:

- San Joaquin Council of Governments
- California Department of Transportation (Caltrans)
- California Public Utilities Commission's Rail Crossings Engineering Section
- San Joaquin Regional Transit District (RTD)
- Cities of:
  - Escalon
  - Lathrop
  - Lodi
  - Manteca
  - Ripon
  - Stockton
  - Tracy
  - Mountain House
- County of San Joaquin

The relationship of this Program EIR to future environmental review of individual transportation projects is further discussed in Chapter 1, *Introduction.*

2.6 Relationship with Other Plans and Programs

The RTP provides a sound basis for the allocation of state and federal transportation funds for transportation projects within each California county over the subsequent 20 years. The RTP follows guidelines established by the State of California Transportation Commission to:

- Describe the transportation issues and needs facing the county;
- Identify goals and policies for how SJCOG will meet those needs;
- Identify the amount of money that will be available for identified projects; and
- Include a list of prioritized transportation projects to serve the county's long-term needs consistent with the funds allocated while considering environmental impacts and planning for future land use.

The proposed 2026 RTP/SCS has been evaluated for consistency with the goals, policies and objectives currently being implemented by municipal and county planning agencies within the region. A consistency discussion of the proposed 2026 RTP/SCS and other land use plans and agencies is provided in Section 4.12, *Land Use and Planning*. The proposed 2026 RTP/SCS would be

implemented with several other existing SJCOG programs designed to reduce adverse impacts to transportation resources, air quality, GHG emissions, and energy.

The proposed 2026 RTP/SCS Program EIR builds on the analysis and mitigation contained in the 2022 RTP/SCS Program EIR. The proposed 2026 RTP/SCS project list is similar to the project list for the 2022 RTP/SCS, although some of the transportation projects from the 2022 RTP are now considered committed and are included in the No Project Alternative. The proposed 2026 RTP/SCS evaluates the most recent projects and policies and provides more direct comparisons between current conditions and expected future Plan conditions. The proposed 2026 RTP/SCS Program EIR includes additional analysis of cumulative, growth-inducing, and other indirect impacts. The proposed 2026 RTP/SCS emphasizes a maintenance and operations–focused investment strategy. Compared to prior plans, many Caltrans high-occupancy vehicle and other capacity-increasing projects were removed. The 2026 RTP carries forward most previously identified capacity-increasing projects on regional arterial roadways and includes a limited number of new RA capacity projects. Several of the new projects are designated as Environmental Only and are not proposed for construction. The remaining projects are generally located within already developed areas, where infrastructure improvements would occur within existing urbanized contexts. Overall, because the plan includes fewer capacity-increasing projects than previous RTPs, and those included are largely situated in developed areas and anticipated to incorporate context-appropriate features that support alternative transportation modes and/or ridesharing, the 2026 RTP/SCS is expected to result in fewer and less severe environmental impacts compared to prior regional transportation plans.

3 Environmental Setting and Impact Analysis Approach

This section provides a general overview of the environmental setting for the proposed 2026 RTP/SCS, including a regional setting, sub-regional setting, and a description of the regional transportation system. This section also outlines the EIR baseline and approach to direct and cumulative impact analyses. More detailed descriptions of the environmental setting for each environmental issue area can be found in Chapter 4, *Environmental Impact Analysis*.

3.1 Regional Setting

San Joaquin County is located in the San Joaquin Valley at the center of California's vast agricultural operations. The County covers approximately 900,000 acres (about 1,406 square miles) and is bordered by Sacramento County to the north, Stanislaus County to the south, Amador and Calaveras Counties to the east, and Contra Costa and Alameda Counties to the west. The County is bordered to the southwest by the Diablo Range and to the east by the Sierra Nevada foothills. The county seat for San Joaquin County is the city of Stockton.

San Joaquin County is well connected by transportation infrastructure. State Route 99 (SR 99) and Interstate 5 (I-5) two of California's primary north–south freeways, cross the county, while Interstate 205 (I-205) and Interstate 580 (I-580) provide direct links to the San Francisco Bay Area. The region is also served by three transcontinental railroads (including Amtrak passenger service), the Stockton Metropolitan Airport, and the Port of Stockton, which collectively provide access to state, national, and international markets.

The county is characterized by predominantly flat, highly fertile farmland. Notable landforms include the foothills of the Diablo Range in the southwest, the Sierra Nevada foothills to the east, and the Sacramento–San Joaquin Delta in the northwest.

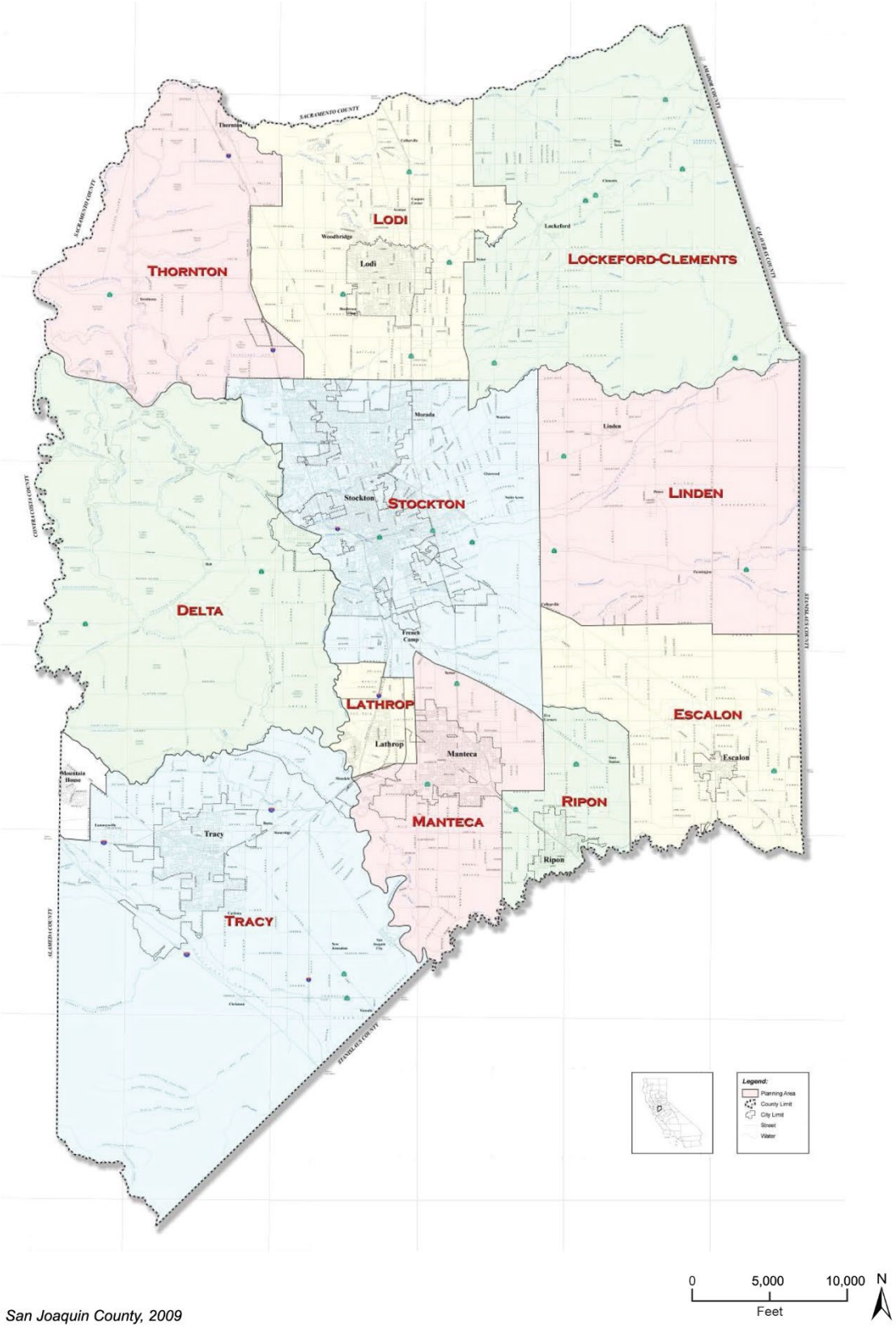
San Joaquin County's General Plan divides the County into 12 Planning Areas: the Delta, Escalon, Lathrop, Linden, Lockeford, Lodi, Manteca, Mountain House, Ripon, Stockton, Thornton, and Tracy (see Figure 3-1). The General Plan Planning Areas include all lands within the County line and any additional areas in which adopted County policies may relate, not including lands in the seven incorporated cities (Escalon, Lathrop, Lodi, Manteca, Mountain House, Ripon, Stockton, and Tracy).

3.2 Regional Growth Setting

The County covers approximately 1,406 square miles and is predominantly flat land with some gently rolling hills. The County contains a combination of metropolitan and rural areas with a long history of agricultural activities that result from having rich, fertile land.

San Joaquin County is considered one of the fastest growing regions in the Central Valley, with the population expected to reach about 878,093 people by 2049 (California Department of Transportation 2025). The County's geographical advantages and quality of life also contribute to the growth, attracting workers who commute to and from the Bay Area. This growth has led to increased urbanization, increasing pressure on infrastructure, and contributing to the challenge of meeting state and federal air quality requirements.

Figure 3-1 San Joaquin County General Plan Planning Areas



Source: ***San Joaquin County, 2009***

Downtown revitalization efforts in Stockton, Big League Dreams and Great Wolf Lodge in Manteca, and the Lodi area's success in producing world-class wines are contributing to San Joaquin County's continued growth in many segments of its economy. As e-commerce has accelerated, the region also continues to be an attractive location for new warehousing and distribution centers that serve Northern California, the Bay Area, and the west coast.

A centralized and diverse network of highway, rail, air, and seaport facilities support the continued development of San Joaquin County into a major goods movement region. As San Joaquin County is transformed, this growth puts pressure on the ability to finance, deliver, and maintain the transportation infrastructure.

The proposed 2026 RTP/SCS aims to build on the 2022 RTP/SCS to create an efficient and effective multimodal transportation system for San Joaquin County that balances the needs for maintenance and preservation with expansion and enhancements. The plan emphasizes mobility, environmental stewardship, and sustainability guiding principles.

Recent state and federal initiatives are reshaping the growth and transportation landscape: The California Air Resources Board's 2022 greenhouse gas targets require metropolitan regions to reduce vehicle miles traveled and emissions in their Sustainable Communities Strategies. State policy is prioritizing zero emission freight and clean mobility investments. Expansion of multimodal options, including transit, active transportation, and mobility hubs, is critical for balancing population growth with sustainability requirements.

Housing affordability remains a defining factor in regional growth patterns. Many residents choose to live in San Joaquin County while commuting long distances to jobs in surrounding areas. Specifically, State Routes 4 and 12 link the east and west sides of the County. Both routes also connect with Bay Area counties across the San Joaquin Delta and carry substantial commuter and interregional traffic. State Route 99 and I-5 provide north and south connections to the Sacramento region, and central valley cities like Modesto, Fresno, and Bakersfield.

3.3 Transportation System

The San Joaquin County transportation system is designed to meet the multiple needs of residents and businesses. The County's central position within the state provides key routes and linkages for the movement of goods throughout California and to the rest of the United States. The County has one of the few deep-water ports within the State at the Port of Stockton, an airport that serves international markets, key highway corridors, and the hub for a number of major railroads. Given the County's location, San Joaquin County serves as a major transportation center for warehousing and distribution activities, as well as a source of more affordable housing for employees working in the Bay Area.

Several major vehicle routes traverse the County and provide important links for employees and goods to other parts of California, such as the Bay Area and Sacramento. These major routes include Interstates I-5, 205, and 580, as well as State Routes 99, 120, 12 and 4. The I-205/I-580 corridor serves as a major gateway between the Bay Area/Silicon Valley and the County.

The County has six airports open to the public that offer a variety of aviation services to various domestic and international locations. Stockton Metropolitan Airport is owned and operated by San Joaquin County and offers general aviation services along with commercial passenger service to places such as Las Vegas and Phoenix. The second largest airport is the Tracy Municipal Airport, which is owned and operated by the City of Tracy.

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

Regional public transit is provided by San Joaquin Regional Transit District bus service. The San Joaquin Regional Transit District offers fixed-route buses, intercity buses, interregional buses, and dial-a-ride services. Transit operators provide local bus services in most of the local jurisdictions throughout the county. A variety of Class I-III bicycle routes in many areas provide additional transit alternatives.

3.4 EIR Baseline, Approach for Direct and Cumulative Analyses

3.4.1 Mitigation Approach

This EIR identifies potential environmental impacts of the proposed 2026 RTP/SCS and includes mitigation measures to reduce those impacts. It also identifies agencies for implementation of those mitigation measures. As the CEQA lead agency, SJCOG has the authority to enforce mitigation measures only for projects for which they have discretionary authority. For projects assigned to other agencies, such as Caltrans, cities, and transit agencies, SJCOG can recommend mitigation measures be implemented, but does not have the authority to require them. In those cases, other implementing agencies that are responsible agencies for this proposed 2026 RTP/SCS EIR will become the lead agency under CEQA for future transportation and land use development projects. It is the responsibility of the lead agency implementing specific proposed 2026 RTP/SCS projects to conduct environmental review consistent with CEQA and where applicable, incorporate mitigation measures provided herein and developed specifically for the project to reduce impacts. Project-specific environmental documents may adjust the mitigation measures identified in this EIR as necessary to respond to site-specific conditions.

3.4.2 Interim Timeframes

2049 is the horizon year of the proposed 2026 RTP/SCS. While the proposed 2026 RTP/SCS would be implemented gradually over the planning period, this EIR does not analyze interim time frames because the four-year update cycle of the RTP/SCS prepared by SJCOG already requires short-term adjustments to the Plan. The one exception to this approach is in Section 4.9, *Greenhouse Gas Emissions/Climate Change*, which discusses years 2020, 2035, and 2046, as well as comparative baselines of 1990 and 2005, to satisfy statutory requirements and address state goals related to GHG emissions, such as SB 375 (Health & Safety Code, § 38551(b)). A summary of the scenarios considered in the GHG analysis is provided in Section 4.7.2 in Section 4.7, *Greenhouse Gas Emissions/Climate Change.*

3.4.3 Approach for Direct Impact Analysis

The programmatic nature of the proposed 2026 RTP/SCS necessitates a general approach to the evaluation of existing conditions and impacts associated with the proposed project. As a programmatic document, this EIR presents a regionwide assessment of the impacts of the proposed 2026 RTP/SCS. These impacts are examined for both transportation network improvements and the

forecasted regional growth and land use changes. Because the EIR is a long-term document intended to guide actions over 25 years into the future, program-level and qualitative evaluation is involved. Quantitative analyses are provided where applicable with available information. During future stages in planning and implementation of specific elements of the proposed 2026 RTP/SCS, including land development resulting from regional growth and transportation improvements identified in the proposed 2026 RTP/SCS, project-specific CEQA documents will be prepared by the appropriate project implementation agency.

For analytical purposes, the baseline year examined throughout this EIR is 2025, except where specifically noted, as further described in Section 3.4.2 above. The 2023 Base Year is used as the baseline for analysis for transportation impacts within this EIR. 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 for transportation, for the reasons just described.

3.4.4 Approach for Cumulative Analysis

CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the *CEQA Guidelines* requires that an EIR evaluate environmental impacts that are individually limited but cumulatively considerable. These impacts can result from the proposed project alone, or together with other projects. The *CEQA Guidelines* state: "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present and reasonably foreseeable probable future projects" (*CEQA Guidelines*, Section 15355). A cumulative impact of concern under CEQA occurs when the net result of combined individual impacts compounds or increases other overall environmental impacts (*CEQA Guidelines*, Section 15355). In other words, cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. CEQA does not require an analysis of incremental effects that are not cumulatively considerable nor is there a requirement to discuss impacts that do not result in part from the project evaluated in the EIR.

3.4.4.1 Cumulative Impact Methodology

Chapter 4 of this EIR includes an analysis of the proposed project's specific and cumulative impacts, as required by CEQA. The *CEQA Guidelines* require the analysis of the cumulative effects of a project in combination with other probable future projects. Section 15130 of the *CEQA Guidelines* prescribes two methods for analyzing cumulative impacts: (1) use of a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts; or (2) use of a summary of projections contained in an adopted general plan or related planning document.

This document is a Program EIR that analyzes the effects of the cumulative buildout of the proposed 2026 RTP/SCS. The proposed 2026 RTP/SCS considers the probable future projects described in method 1 above and includes a range of specific land use and transportation projects designed to meet the plan goals and current and projected future needs. The Draft EIR analyzes the cumulative impacts of these projects. The proposed 2026 RTP/SCS also constitutes the cumulative scenario described in method 2. Therefore, the cumulative effects of all probable future circulation system improvements and land use projects in the region are included in the analysis of the proposed

project's impacts. These projects are listed in Table 2-1 of this document and represent all reasonably foreseeable probable future transportation projects within San Joaquin County. Land use and growth projections for the region, which are the subject of analysis throughout this EIR, are combined with the growth projections for the adjoining counties and accounted for in SJCOG's traffic modeling. Adjoining counties are listed as follows: Contra Costa, Sacramento, Amador, Calaveras, Stanislaus, and Alameda.

The area that includes the SJCOG region and the adjoining counties is referred to in this analysis as the "cumulative impact analysis area." As shown in Table 3-1, the population for the adjoining counties is projected to decrease by approximately 140,678 people by 2050.

Table 3-1 Population, Households and Employment Projections of Cumulative Impact Analysis Area, 2025-2050

	Population		Households	
Adjoining County	**2025**	**2050**	**2025**	**2050**
Contra Costa	1,160,101	1,102,243	413,900	452,800
Sacramento	1,596,570	1,692,669	590,600	737,400
Amador	40,223	38,847	16,100	18,300
Calaveras	44,558	42,850	19,300	22,800
Stanislaus	556,977	566,408	180,500	203,300
Alameda	1,646,586	1,446,102	606,300	654,400
Total	**5,045,015**	**4,889,119**	**1,826,700**	**2,089,000**

Source: Long-Term Socio Economic Forecasts by County, Department of Transportation, 2023

The 2026 RTP/SCS covers a 25-year period from 2024 to 2049 and is an update of the 2022 RTP/SCS. SJCOG does not propose any land use changes in the proposed 2026 RTP/SCS, but rather the land use patterns envisioned by the proposed 2026 RTP/SCS are based on the General Plan land use designations of the local agencies (the incorporated cities and the county). The forecasted allocations in the RTP/SCS are generally consistent with growth assumptions (e.g., location, density, and intensity of use) utilized in existing general plans or other local adopted plans; however, it does not utilize all available capacity in those plans.

Thus, the cumulative effects of all probable future circulation system improvements and land use projects in the region, as included in the SJCOG model, are included in the analysis of the proposed project's impacts. Therefore, in this chapter, when project-specific impacts are judged to be significant, they are also by definition considered "cumulatively considerable" incremental contributions to significant cumulative impacts (see *CEQA Guidelines* Section 15130(a)). Project-specific impacts assessed in this document represent the cumulative impact of all potential transportation and land use projects in the project area and surrounding regions as provided in the SJCOG model. Mitigation measures proposed for project-specific impacts also represent potentially feasible options for mitigating the proposed project's incremental contribution to significant cumulative effects (see *CEQA Guidelines* Section 15130(b)(5).).

In some cases, probable future projects outside the SJCOG region in neighboring counties would further contribute to significant cumulative impacts. These include the impacts of vehicle trips originating or terminating outside the region. Therefore, the proposed 2026 RTP/SCS's traffic impact analysis includes the cumulative impact from these out-of-region trips as they are included in the traffic model the analysis is based on. The impacts of these external trips are also reflected in the EIR air quality, GHG, and energy impact analyses.

4 Environmental Impact Analysis

This section discusses the possible environmental effects of the proposed project for the specific issue areas that were identified through the scoping process as having the potential to experience significant effects. A "significant effect" under *CEQA Guidelines* Section 15382, means:

> [A] substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment but may be considered in determining whether the physical change is significant.

The analysis of each issue area begins with a discussion of the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the "significance thresholds," which are those criteria adopted by SJCOG and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. For example, the County of San Joaquin utilizes the *San Joaquin County Environmental Thresholds and Guidelines Manual* (September 2020) for evaluating environmental impacts in the county. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

- **Significant and Unavoidable**. An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per Section 15093 of the *CEQA Guidelines*.
- **Less than Significant with Mitigation Incorporated**. An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under Section 15091 of the *CEQA Guidelines*.
- **Less than Significant**. An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. While SJCOG cannot mandate that other agencies implement the mitigation measures, ongoing interagency consultation during project specific environmental review process would ensure that mitigation contained herein is considered and implemented where applicable. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions. Many sections conclude with a screening-level discussion of specific proposed 2026 RTP/SCS transportation

projects that may result in identified impacts. The impact analysis concludes with a discussion of cumulative effects, which are defined and discussed in detail in Chapter 3, *Environmental Setting*.

Regarding Mandatory Findings of Significance under CEQA, Section 4.3, *Biological Resources*, describes the potential effects of the project on plant and animal species populations, habitats, communities, and migratory patterns. Section 4.4, *Cultural Resources*, describes potential effects from the proposed 2026 RTP/SCS on important historical and prehistorical cultural resources, and Section 4.15, *Tribal Cultural Resources*, describes potential effects from the proposed 2026 RTP/SCS on tribal cultural resources in the SJCOG region. As discussed in these sections, the proposed 2026 RTP/SCS would result in significant and unavoidable impacts on visual resources, air quality, biological resources, cultural resources, agriculture and forestry resources, geology, soils, and mineral resources, greenhouse gas emissions and climate change, hydrology and water quality, noise, and transportation. Potential adverse environmental effects to human beings are discussed in Section 4.2, *Air Quality*, Section 4.12, *Land Use and Planning*, Section 4.13, *Noise*, Section 4.14, *Transportation*, Section 4.16, *Wildfire*, and Section 4.17, *Effects Considered Less than Significant*.

The *Executive Summary* of this EIR summarizes all impacts and mitigation measures that apply to the proposed project.

4.1 Visual Resources

This section evaluates potential impacts to visual resources from development facilitated by the proposed 2026 RTP/SCS.

4.1.1 Setting

a. Visual Character of the Region

The SJCOG region is within the greater San Joaquin Valley, with the Delta and vast, flat agricultural land and concentrated urban development framed by the foothills of the Diablo Range to the west and the foothills of the Sierra Nevada mountains to the east. Agricultural uses make up approximately 83 percent of the unincorporated lands within the SJCOG region (San Joaquin County 2014). Urban development is concentrated in the seven incorporated cities within the SJCOG region, primarily within the urban centers of Stockton, Manteca, and Tracy.

Mature trees, development, utility structures, and other vertical forms are highly visible in the SJCOG region due to the flat terrain; however, where such vertical elements are absent, views are expansive. Much of the SJCOG region is developed at low densities with buildings not exceeding two stories, with the exception of urban centers within the incorporated cities. Large expanses of agricultural land are often broken up by small areas of scattered development. The aesthetic quality of the SJCOG region is altered by various forms of transportation, including highways, freeways, waterways, and transcontinental railroads.

The visual character of the SJCOG region consists of the following: the Delta, river corridors, agricultural lands and rangelands, significant oak groves, hillsides and ridges, and parklands (San Joaquin County 2014). The transportation network will be discussed further under the Primary Viewing Corridors subheading.

The Delta

The Delta, a term applied to the greater Sacramento-San Joaquin River Delta, is the convergence of the Sacramento and San Joaquin Rivers. The Delta serves as a main deliverance for California's water system, with the State pumping fresh water from the Delta south to San Joaquin Valley farms and Southern California cities. A system of levees is interwoven throughout the Delta region, and much of the Delta within the SJCOG region is used for agricultural production. The Delta is characterized by estuary habitat and marshlands that provide habitat to many birds, fish, and mammals. The Delta also serves as a source of recreation and unique scenery for boaters and fishermen throughout the SJCOG region.

River Corridors

The main waterways throughout the SJCOG region consist of the Stanislaus River, San Joaquin River, Mokelumne River, Dry Creek, and Old River. Many of these river corridors are lined with thick riparian vegetation, forming a strong visual contrast to adjoining agricultural and grazing lands. As such, these rivers provide visual resources within the SJCOG region.

Agricultural Lands and Rangelands

The SJCOG region includes large expanses of agricultural lands that are irrigated for row crops, vineyards, orchards, and field crops. These agricultural lands can take on visual characteristics such as fallow lands to vibrant fruit trees depending on the season. Rolling hills in the eastern SJCOG region are composed of dry grasses that become green after winter and spring rains. Additionally, grazing occurs on flat agricultural lands and rolling hills throughout the SJCOG region.

Oak Groves

Oak groves are found in the southwestern corner of the SJCOG region, and scattered between the cities of Stockton and Lodi, as well as a small portion of the northeastern SJCOG region surrounding the Camanche Reservoir. The oak groves form a contrast to the majority grass-covered terrain.

Hillsides and Ridges

The foothills in the southwestern portion of the SJCOG region and along the eastern boundary add contrast to predominantly level terrain associated with agricultural operations and urbanized development. Hillsides are visible from numerous locations across the SJCOG region.

Parklands

There are many state and regional parks throughout the SJCOG region with many containing visual features such as oak groves and rivers. Parklands include the Carnegie State Vehicle Recreation Area, Caswell State Park, and local parks within incorporated cities.

b. Primary Viewing Corridors

There are two officially designated State Scenic Highways in the SJCOG region, according to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System (Caltrans 2019):

- Interstate 580 (I-580) from the Interstate 5 (I-5) junction to the Alameda County Line
- I-5 from the Stanislaus County Line to I-580

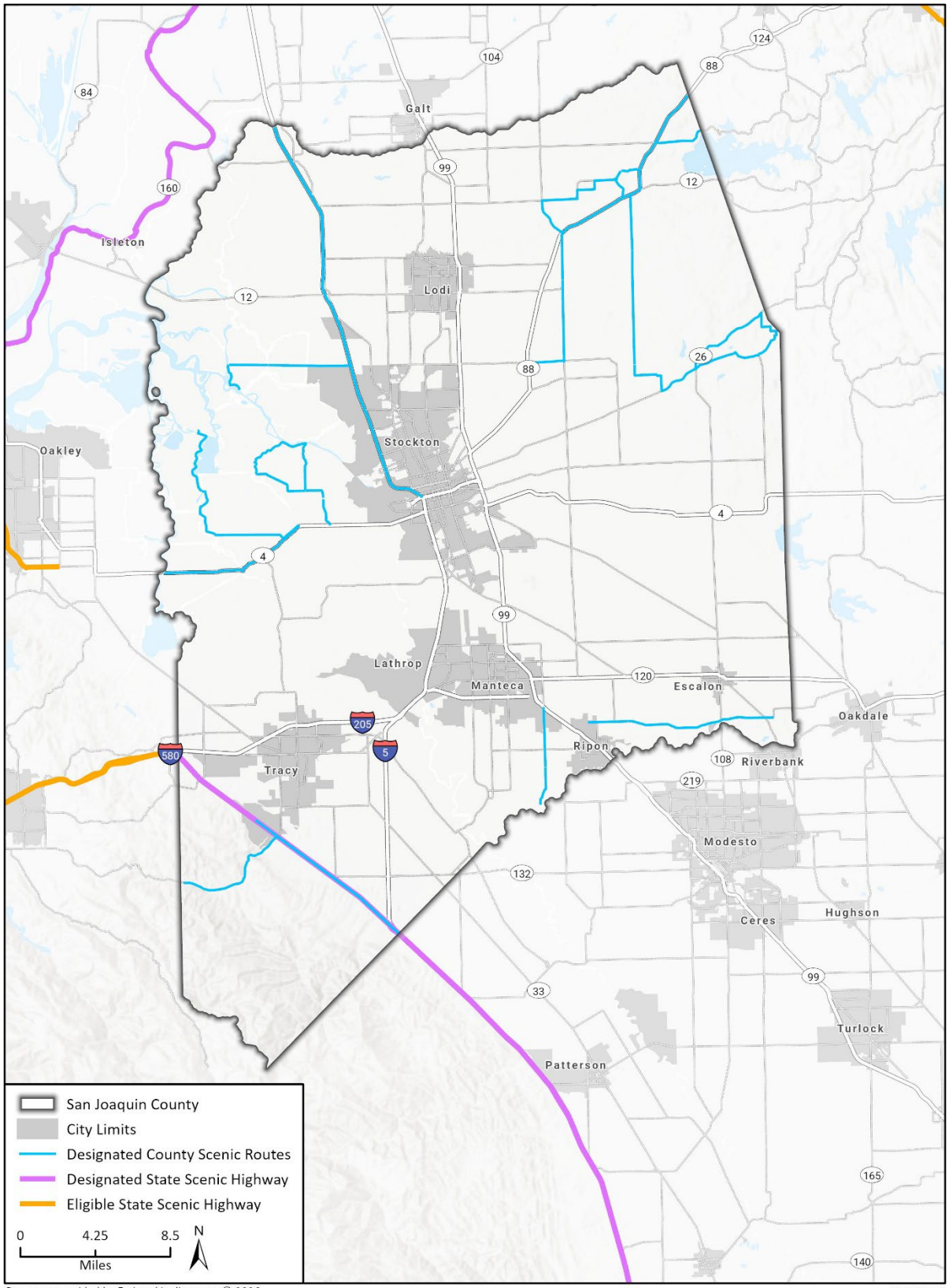
An extension of the I-580 Scenic Highway is eligible for a Scenic Highway Designation:

- I-580, from the I-5 Southwest of Vernalis/I-80 to the city of San Leandro in Alameda County

The I-580 to Alameda County Line Scenic Highway travels parallel to the foothills of the Diablo Range qualifying it as a scenic route. In addition to State designations, the San Joaquin County General Plan identifies the following 26 routes as County-designated local scenic routes (San Joaquin County 2016). Figure 4.1-1 depicts the location of these highways and routes.

- Liberty Road from State Route (SR) 88 to the Amador County Line
- Collier Road from Mackville Road to SR-88
- Mackville Road from SR-12/88 to Collier Road
- Jahan Road from Tully Road to Mackville Road
- Tully Road from Jahant Road to Peltier Road
- Peltier Road from Elliot Road to Tully Road
- Elliot Road from East Hammond Street to Peltier Road

Figure 4.1-1 Scenic Roadways in the SJCOG Region



Basemap provided by Esri and its licensors © 2026.
Additional data provided by CDFW, 2021; Caltrans, 2015.

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Fig 4.1-1 Scenic Highways

- Jack Tone Road from Comstock Road to East Hammond Street
- Comstock Road from SR-88 to Jack Tone Road
- Clements Road from Comstock Road to SR-12/88
- Comstock Road from Clements Road to Fine Road
- Fine Road from SR-26 to Clements Road
- SR-26 from Fine Road to the Calaveras County Line
- Shelton Road from SR-26 to the Calaveras County Line
- I-5 from SR-4 to the Sacramento County Line
- Eight Mile Road from Empire Tract to Thornton Road
- Empire Tract Perimeter Roads from Eight Mile Road to Eight Mile Road
- Inland Drive from SR-4 to McDonald Road
- McDonald Road from Inland Drive to Neugebauer Road
- Neugebauer Road from McDonald Road to Holt Road
- Holt Road from Neugebauer Road to McDonald Road
- SR-4 from the Contra Costa County Line to Trappers Road
- Bacon Island Road from SR-4 to Connection Slough
- Corral Hollow Road from the Alameda County Line to I-580
- Austin Road from the Stanislaus County Line to SR-99
- River Road From North Ripon Road to Santa Fe Road

4.1.2 Regulatory Setting

a. Federal Laws, Regulations, and Policies

U.S. Department of Transportation Act, Section 4(f)

Section 4(f) of the Department of Transportation Act (DOT Act) of 1966 (49 United States Code Section 303) was enacted to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) requires a comprehensive evaluation of all environmental impacts resulting from federal-aid transportation projects administered by the FHWA, Federal Transit Administration (FTA), and Federal Aviation Administration (FAA) that involve the use, or interference with use, of the following types of land:

- Public park lands;
- Recreation areas;
- Wildlife and waterfowl refuges; and
- Publicly- or privately-owned historic properties of federal, state, or local significance.

This evaluation, called the Section 4(f) statement, must be sufficiently detailed to permit the U.S. Secretary of Transportation to determine that:

- There is no feasible and prudent alternative to the use of such land;
- The program includes all possible planning to minimize harm to any park, recreation area, wildlife and waterfowl refuge, or historic site that would result from the use of such lands; or

- If there is a feasible and prudent alternative, a proposed project using Section 4(f) lands cannot be approved the by Secretary; or if there is no feasible and prudent alternative, the proposed project must include all possible planning to minimize harm to the affected lands.

Detailed inventories of the locations and likely impacts on resources that fall into the Section 4(f) category are required in project level environmental assessments.

In August 2005, Section 4(f) was amended to simplify the process for approval or projects that have only minimal impacts on lands affected by Section 4(f). Under the new provisions, the U.S. Secretary of Transportation may find such a minimal impact if consultation with the State Historic Preservation Officer (SHPO) results in a determination that a transportation project will have no adverse effect on the historic site or that there will be no historic properties affected by the proposed action. In this instance, analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete.

b. State Laws, Regulations, and Policies

California Scenic Highway Program

Recognizing the value of scenic areas and view from roads in such areas, the State Legislature established the California Scenic Highway Program in 1963 (Streets and Highways Code Sections 260 et seq). This legislation preserves and protects scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. The goal of the Scenic Highway Program is to preserve and enhance the natural beauty of California. Under this program, a number of State Routes have been designated as eligible for inclusion as scenic routes. Once the local jurisdiction through which the roadway passes have established a corridor protection program and the Departmental Transportation Advisory Committee recommends designation of the roadway, the State may officially designate roadways as scenic routes. Interstate highways, State Routes and county roads may be designated as scenic under the program. The Master Plan of State Highways Eligible for Official Scenic Highway Designation maps designates highway segments, as well as those that are eligible for designation. Changes to the map require an act of the State Legislature.

As noted, a corridor protection program must be adopted by the local governments with land use jurisdiction over the area through which the roadway passes as the first step in moving a road from “eligible” to “designated” status. Each designated corridor is monitored by the State and designation may be revoked if a local government fails to enforce the provisions of the corridor protection program. While there are no restrictions on scenic highway projects, local agencies and the California Department of Transportation (Caltrans) must together coordinate transportation and development projects and ensure the protection of the corridor’s scenic value to the greatest extent possible, including undergrounding all visible electric distribution and communication utilities within 1,000 feet of a Scenic Highway. In some cases, local governments have their own land use and site planning regulations in place to protect scenic values along a designated corridor. At a minimum, each corridor protection program must include:

- Regulation of land use and density of development,
- Detailed land and site planning,
- Control of outdoor advertising devices,
- Control of earthmoving and landscaping and
- Regulation of the design and appearance of structures and equipment.

The Master Plan of State Highways Eligible for Official Scenic Highway Designation requires that proposed realignments and route improvements be evaluated for their impact on the scenic qualities of the corridor. The SJCOG area includes designated and eligible State Scenic Highways, as seen in Figure 4.1-1.

California Building Energy Efficiency Standards

California Code of Regulations Title 24, Part 6 contains California's Energy Efficiency Standards for Residential and Non-residential Buildings. California Building Energy Efficiency Standards were established by CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and provide energy efficiency standards for residential and nonresidential buildings. The 2025 Energy Code contains standards to reduce energy consumption for outdoor lighting application in residential and non-residential developments, which can reduce light and glare from lighting in new development.

Caltrans Adopt-a-Highway Program

To improve and maintain the visual quality of California highways, Caltrans administers the Adopt-a-Highway program, which was established in 1989. The program provides an avenue for individuals, organizations, or businesses to help maintain sections of roadside within California's State Highway System. Groups have the option to participate as volunteers or to hire a maintenance service provider to perform the work on their behalf. Adoptions usually span a two-mile stretch of roadside, and permits are issued for five-year periods. Since 1989, more than 120,000 California residents have kept 15,000 shoulder miles of state roadways clean by engaging in litter removal, tree and flower planting, graffiti removal and vegetation removal.

c. Local Laws, Regulations, and Policies

San Joaquin County General Plan

The San Joaquin County General Plan, Natural and Cultural Resource Element Goal NCR-7 sets out to protect and enhance the unique scenic features of San Joaquin County. To do so, the following policies are included (San Joaquin County 2016).

- NCR-7.1: The County shall protect the visual character of designated scenic roadways
- NCR-7.2: The County shall ensure that views of waterways, hilltops, and oak groves from public land and public roadways are protected and public access is provided to them whenever possible.
- NCR-7.3: The County shall preserve scenic views from roadways by designating scenic routes based on the following criteria:
  - Leads to a recreational area;
  - Provides a representative sampling of the scenic diversity within the County;
  - Exhibits unusual natural or man-made features of interest;
  - Provides opportunities to view activities outside the normal routine of most people;
  - Provides a route for people to view the Delta waterways; and
  - Links two scenic routes or connects with scenic routes of cities or other counties.
- NCR-7.4: The County shall require new development adjacent to scenic resources to be sited and designed to visually complement those resources, except in MR-Z designated areas.

- NCR-7.5: The County shall require landscape plans for new development along State- or County-designated scenic routes.
- NCR-7.6: The County shall ensure that ridgelines and major hill tops remain undeveloped.
- NCR-7.7: The County shall encourage project designs, lighting configurations, and operational practices that reduce light pollution and preserve view of the night sky.
- NCR-7.8: The County shall require all new electric and communication distribution facilities adjacent to scenic routes to be placed underground, whenever feasible. Where overhead utility lines are unavoidable, every effort should be made to reduce the visual impacts through elements of design.

City General Plans and Regulations

City of Escalon General Plan

The City of Escalon General Plan Community Design Element addresses the conservation and enhancement of the visual quality of the Escalon environment. The Community Design Element specifically addresses the protection of natural resources, preservation and enhancement of the historical character of the community, the incorporation of new development into existing public and private development, and the maintenance of a small-town, rural atmosphere. Policies and Standards specifically related to aesthetics include preservation of the Sierra Nevada and foothill views from the City of Escalon's major roadways, and the implementation of a special design overlay for the State Highway 120 corridor (City of Escalon 2005).

City of Lathrop Comprehensive General Plan

The City of Lathrop General Plan, which was updated in 2022, includes policies to assure quality in aesthetic characteristics of new development. To achieve this, the General Plan implements policies which require cohesive design of new development to ensure the visual quality of open space, trails, and recreational areas are preserved (City of Lathrop 2022).

City of Lodi General Plan

The City of Lodi General Plan aims to maintain its small-town atmosphere and provide compact urban form, promoting infill development downtown and along key corridors. Policies within the Community Design & Livability chapter emphasize maintaining the visual character of the City of Lodi. Policy CD-P27 requires new development to exhibit architectural variety and visual interest. Policy CD-P28 implements methods to minimize the visual impacts of automobiles in residential areas including reducing garage frontage, minimizing curb cuts, and providing narrow roads. Policy P-P11 of the Parks, Recreation, and Open Space Chapter of the General Plan encourages planting of native trees, shrubs, and grassland to preserve the visual integrity of the landscape (City of Lodi 2010).

City of Manteca General Plan

The City of Manteca General Plan 2023 Community Design Element contains policies that are used to maintain the visual character of the city. This element includes policies intended to develop prominent community focal points at key locations such as intersection, interchanges, and along corridors through the use of special landscaping and signage. Additionally, this element includes policies to enhance the character and identities of Manteca's residential neighborhoods and policies that enhance the corridors, pathways, and edges of the city (City of Manteca 2023).

City of Ripon General Plan

The City of Ripon General Plan Circulation and Transportation Chapter has the goal of providing a circulation system correlated with existing and proposed land used that contributes to efficient and safe movement of persons, good, and services within and through Ripon. To fulfil this goal, Policy A4 is included which states the City of Ripon will consider visual aesthetics and safety aspects in future developments, including landscaping requirements and setback requirements (City of Ripon 2006).

City of Stockton General Plan

The City of Stockton Envision Stockton 2040 General Plan Land Use Element Policy LU-1.3 aims to improve the visual quality of the urban environment to be more welcoming and inviting at key gateway and travel corridors into the city. Actions LU-1.3A through LU-1.3C implement Policy LU-1.3 by creating a "gateway district" program for major corridor entries, collaborating with transportation agencies to improve maintenance, code enforcement, screening, and landscaping of viewsheds along rail corridors, Highway 99, Highway 4, and Interstate 5, and requiring the incorporation of scenic views into design of the built environment (City of Stockton 2018).

City of Tracy General Plan

The City of Tracy General Plan Land Use Element was last updated in 2011, and the city is currently updating the General Plan with a planning horizon of 2050. The Land Use Element contains policies specific to transportation corridors in the city. Specifically, the Land Use Element states special attention should be given to areas around the Interstate 205 off-ramps to ensure development is visually attractive. Appropriate setbacks and landscaping along Interstate 205 shall be provided to create an aesthetically pleasing visual entryway into the City of Tracy. Setbacks and landscaping shall also be required along the Eleventh Street edge of the Urban Reserve 4 boundary of the City of Tracy (City of Tracy 2011).

Mountain House General Plan

The City of Mountain House, incorporated in 2024, is currently preparing its first General Plan. Until adoption, land use planning is guided by the Mountain House Master Plan, adopted by San Joaquin County, along with associated Specific Plans.

4.1.3 Impact Analysis

a. Methodology and Significance Thresholds

Environmental assessment of a proposed project's impacts to the aesthetic and visual resources of a site begins with identification of the existing visual resources on- and off-site, including the site's physical attributes, its relative visibility, and its relative uniqueness. The assessment of aesthetic impacts involves qualitative analyses that are inherently subjective in nature. Different viewers react to viewsheds and aesthetic conditions differently. This evaluation measures the existing visual resource against the proposed action, analyzing the nature of the anticipated change.

It is important to distinguish between public and private views. Private views are those views seen from privately-owned land, including views from private residences and are typically enjoyed by individuals. Public views are experienced by the collective public. These include views of significant landscape features such as the Sierra Nevada Mountain range as seen from public viewing space, not privately-owned properties. California Environmental Quality Act (CEQA) (PRC §21000 et seq.)

case law has established that only public views, not private views, need be analyzed under CEQA. See *Association for Protection etc. Values v. City of Ukiah* (1991) 2 Cal. App. 4th 720 and *Topanga Beach Renters Assn. v. Department of General Services* (1976) 58 Cal. App. 3d 188. Therefore, for this analysis, only public views will be considered when analyzing the visual impacts of implementing the proposed 2026 RTP/SCS.

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether a project's impacts would have a significant impact related to visual resources:

1 Have a substantial adverse effect on a scenic vista.
2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3 In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site or its surroundings; if the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or
4 Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

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 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 improvements and future projects under the land use scenario envisioned by the proposed 2026 RTP/SCS could result in the impacts as described in the following section.

Threshold 1:	Would the project have a substantial adverse effect on a scenic vista?
Threshold 2:	Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Impact AES-1 THE PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD HAVE A SUBSTANTIAL ADVERSE EFFECT ON SCENIC VISTAS AND SUBSTANTIALLY DAMAGE SCENIC RESOURCES WITHIN A STATE SCENIC HIGHWAY. IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

As discussed previously, there are two officially designated state scenic highways and numerous County-designated scenic routes in the SJCOG region. Visual resource impacts from construction on or adjacent to these roadways would include: blockage of views by construction equipment and staging areas; disruption of views by temporary signage; and exposure of slopes and removal of vegetation. These effects would be temporary during the construction phase.

In the long term, implementation of the proposed 2026 RTP/SCS would generally result in modification of existing transportation facilities within existing highway, roadway, or railroad rights-of-way. Further, many of the proposed projects are at-grade with the surrounding environment. As such, most of the road and highway investments are not likely to result in massive obstructions or blockages of surrounding views nor modify or substantially alter existing scenic resources viewed from a scenic vista or state scenic highway.

Similarly, land use development envisioned by the proposed 2026 RTP/SCS would be focused primarily in urban infill areas. Scenic vistas and designated scenic highways are generally located in undeveloped, rural areas, such that most future land use development envisioned in the proposed 2026 RTP/SCS would unlikely block or substantially alter scenic vistas.

While most transportation and land use projects would not result in significant impacts to scenic vistas or scenic resources within a state scenic highway, some projects may result in substantial adverse effects. For example, interchange projects would occur on I-580, a designated scenic highway. These projects would change existing visual conditions of the area within which they are proposed through modification or removal of existing vegetation or the introduction of new structures that could block existing views from the roadway. In some areas, higher density infill development would obstruct scenic views of the Sierra Nevada Mountain range or foothills.

Both the proposed transportation and land use development near state-designated scenic highway corridors would be minimized to some extent through compliance with the Caltrans Corridor Protection Program, which requires that the local jurisdiction adopt ordinances, zoning and/or planning policies to preserve the scenic quality of the state-designated scenic highway corridor or document such regulations that already exist in various portions of local codes. Many local jurisdictions also have their own general plan policies related to the protection of scenic vistas and resources such as Action LU-1.3C in the Envision Stockton 2040 General Plan which requires incorporation of scenic views into design of the built environment (City of Stockton 2018). These policies would limit the amount or type of development in designated scenic corridors or require special design guidelines when developing in these areas. However, because scenic vistas and scenic resources are protected unevenly in the various jurisdictions, the proposed 2026 RTP/SCS could result in a substantial adverse effect on a scenic vista or substantially damage scenic resources within a state scenic highway.

Similarly, the future land use scenario envisioned by the proposed 2026 RTP/SCS is intended to encourage in-fill development and development near existing transportation corridors. This type of development would help to avoid the loss of scenic resources overall by concentrating development within existing urbanized areas when compared to a future scenario without the proposed 2026 RTP/SCS. This land use scenario would intensify the built environment within existing urban areas through planned in-fill development. In addition, this land use scenario would concentrate development near transportation corridors in urban areas, which would further increase the visibility of future in-fill and transit-oriented development from these corridors and potentially impact views of background scenic resources. However, not all projects and development included in the proposed 2026 RTP/SCS would be infill projects in urbanized areas, and some projects would inevitably be located in rural and other areas in the SJCOG region. Therefore, the proposed 2026 RTP/SCS would result in a substantial adverse effect on a scenic vista or substantially damage scenic resources within an eligible scenic highway or a locally identified scenic highway in rural areas of the SJCOG region. The following mitigation measures would reduce this impact.

Mitigation Measures

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measures where applicable for transportation projects implementing the proposed 2026 RTP/SCS that would result in impacts to scenic vistas and resources. Cities and the County can and should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project

specific environmental documents may adjust these mitigation measures as necessary to respond to site specific conditions.

AES-1(a) Tree Protection and Replacement

Implementing agencies shall, or can and should, ensure new roadways, extensions and widenings of existing roadways, bridge replacement and enhancements, trails and facility improvement projects shall avoid the removal of existing mature trees to the extent possible consistent with adopted local City and County policies as applicable. The implementing agency of a particular proposed 2026 RTP/SCS project shall replace any trees lost at a minimum 2:1 basis and incorporate them into the landscaping design for the roadway when feasible, or as required by local or County requirements. The implementing agency also shall ensure the continued vitality of replaced trees through periodic maintenance.

IMPLEMENTATION AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are cities and the County. These mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

AES-1(b) Discouragement of Architectural Features that Block Scenic Views

Implementing agencies shall, or can and should, design projects to minimize contrasts in scale and massing between the project and surrounding natural forms and development. Setbacks and acoustical design of adjacent structures shall be preferentially used as mitigation for potential noise impacts arising from increased traffic volumes associated with adjacent land development. The use of sound walls, or any other architectural features that could block views from the scenic highways or other view corridors, shall be discouraged to the extent possible. Where use of sound walls is found to be necessary, walls shall incorporate offsets, accents and landscaping to prevent monotony. In addition, sound walls shall be complementary in color and texture to surrounding natural features.

IMPLEMENTATION AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are cities and the County. These mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

Although identified mitigation would help reduce impacts related to state-designated scenic highway corridors and scenic resources, individual transportation infrastructure projects as well as land use development included in the proposed 2026 RTP/SCS could still result in obstructions to panoramic views and views of important landscape features or landforms (mountains, wetlands, rivers, or important man-made structures) as seen from public viewing areas. And because this EIR evaluates impacts at the programmatic level, all project circumstances are not foreseeable, and these mitigation measures may not be feasible or effective for some projects. Therefore, given the extent of planned land use development and the potential for site-specific visual obstructions from future land use and transportation projects, impacts related to the obstruction of scenic areas from

public viewing areas and impacts to state-designated scenic highway corridors and scenic resources would be significant and unavoidable. No additional mitigation measures to reduce this impact to less-than-significant levels are feasible.

Threshold 3:	Would the project in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site or its surroundings; in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality?

Impact AES-2 THE PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD IN NON-URBANIZED AREAS, SUBSTANTIALLY DEGRADE THE EXISTING VISUAL CHARACTER OR QUALITY OF PUBLIC VIEW OR THE SITE OR ITS SURROUNDINGS; IN AN URBANIZED AREA, CONFLICT WITH APPLICABLE ZONING AND OTHER REGULATIONS GOVERNING SCENIC QUALITY. IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

The proposed 2026 RTP/SCS includes improvements to existing facilities such as road widenings, intersection or interchange improvements, railroad crossing safety, highway maintenance and other improvements. The proposed 2026 RTP/SCS would include some new road and highway facilities such as new interchanges, new roadways and overcrossings and road extensions. Most road and highway projects would occur in areas where transportation is already a dominant feature of the landscape and therefore would not likely degrade the existing visual character of the region. In less developed areas of the region, adding new transportation infrastructure would alter the character of previously undeveloped lands, particularly those in unincorporated San Joaquin County, by introducing more paved surfaces than what already exists. Ancillary facilities constructed along new or existing roads, such as lighting, bus shelters, and signs, would further contribute to the trend toward a more suburban visual character.

The proposed 2026 RTP/SCS emphasizes infill development and development near existing transportation corridors, which are generally located in urbanized areas of cities and unincorporated communities. Infill development can be favorable in terms of visual character, as it occurs in areas already designated for and receiving growth and precludes growth in undeveloped and/or agricultural and rural uses.

However, when compared to existing conditions, the proposed 2026 RTP/SCS land use scenario would intensify the built environment within existing urban areas through the implementation of infill and transit-oriented development (TOD) projects, thereby resulting in an overall change in the character of existing urbanized areas to a denser development pattern that could conflict with applicable zoning and other regulations governing scenic quality. For example, development along Interstate 205 in the city of Tracy would result in a built environment that could conflict with the City of Tracy General Plan goals to create an aesthetically pleasing visual entryway into its city limit. In addition, land use projects that would occur in rural or agricultural areas would introduce urban development to areas that were previously undeveloped. Depending on the design and siting of these projects, the resulting change would degrade the visual character or quality of their surroundings. Some projects would inevitably be located in the more rural areas of the SJCOG region surrounding Escalon, and to the north of Tracy and southeast of Stockton.

Projects implemented under the proposed 2026 RTP/SCS would be subject to existing regulations that would help to minimize impacts to visual character. For example, in visually sensitive areas, local land use agencies would apply development standards and guidelines to maintain compatibility with surrounding natural areas, including site coverage, building height and massing, building materials and color, landscaping and site grading. Nevertheless, even with compliance with

these standards, the overall visual effect of planned roadway projects and envisioned land use projects would contribute to an incremental, but irreversible transformation in visual character from rural or semi-rural to more urban or suburban throughout the SJCOG region. Therefore, the impact of visual character resulting from implementation of the proposed 2026 RTP/SCS would be significant. The following mitigation measures would reduce this impact.

Mitigation Measures

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measures where applicable for transportation projects implementing the proposed 2026 RTP/SCS that would result in impacts to visual character. Cities and the County can and should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site specific conditions.

AES-2 Design Measures for Visual Compatibility

The implementing agency shall, or can and should, require measures that minimize contrasts in scale and massing between the project and surrounding natural forms and developments. Strategies to achieve this include:

- Siting or designing projects to minimize their intrusion into important viewsheds;
- Avoiding large cuts and fills when the visual environment (natural or urban) would be substantially disrupted;
- Ensuring that re-contouring provides a smooth and gradual transition between modified landforms and existing grade;
- Developing transportation systems to be compatible with the surrounding environments (e.g., colors and materials of construction material; scale of improvements);
- Designing and installing landscaping to add natural elements and visual interest to soften hard edges, as well as to restore natural features along corridors where possible after widening, interchange modifications, re-alignment, or construction of ancillary facilities. The implementing agency shall provide a performance security equal to the value of the landscaping/irrigation installation to ensure compliance with landscaping plans; and
- Designing new structures to be compatible in scale, mass, character, and architecture with existing structures.

IMPLEMENTATION AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are cities and the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

Implementation of mitigation measures AES-2 would reduce project specific impacts to the extent feasible. Mitigation Measure AES-1(a) and AES-1(b), discussed above for Impact AES-1, would also reduce impacts associated with visual character. Nevertheless, the incremental alteration of current rural or semi-rural character to a more suburban environment is considered a significant and

unavoidable impact because mitigation measure may not be feasible for all projects. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

Threshold 4:	Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Impact AES-3 THE PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD RESULT IN NEW SOURCES OF SUBSTANTIAL LIGHT OR GLARE THAT WOULD ADVERSELY AFFECT DAYTIME OR NIGHTTIME VIEW IN THE AREA. IMPACTS ARE SIGNIFICANT AND UNAVOIDABLE.

Existing sources of light and glare within the SJCOG region are primarily focused in cities, towns, and other urban development boundary areas. New or intensified lighting from land use development envisioned in the proposed 2026 RTP/SCS, which is focused on infill and TOD development, would be concentrated in areas with existing sources of light and glare. In these infill areas, such increases may not adversely affect nighttime views because existing sources of light, glare, and shadow are already a dominant feature of the urban landscape. However, the intensity of light and glare in these urban areas would increase as a result of infill and TOD projects under the proposed 2026 RTP/SCS, depending on site specific conditions and lighting design associated with new structures. Additionally, interchange construction and improvement projects in rural areas could increase lighting in rural areas that are characterized by dark night skies. Exterior lighting in some areas would be limited by compliance with existing lighting regulations, as discussed in Section 4.1.2, *Regulatory Setting*.

Improvements to existing roadways and highways would not significantly increase the amount of light and glare in an area, as these improvements would take place on existing facilities that have existing sources of light and glare. Increases in light and glare from new reflective signage, streetlights, intersection control devices, and other improvements would be relatively minor compared to existing conditions. However, the expansion of existing roadways or construction of new roadways would allow a greater volume of vehicles to travel through a given segment of roadway or highway throughout the day, or introduce vehicles into a new area, which would have the potential to introduce new or additional vehicle headlights as new light sources. In addition, some of the projects included in the proposed 2026 RTP/SCS would directly introduce light, including the construction and improvement of bus and transportation facilities, installation of traffic signals, and construction of lighting along bike paths. The introduction of light and glare could adversely affect daytime or nighttime views.

Overall, light and glare impacts from transportation improvements and infill and TOD development envisioned under the proposed 2026 RTP/SCS would be significant because there would be new sources of substantial light or glare. The following mitigation measures would reduce this impact.

Mitigation Measures

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measures where applicable for transportation projects implementing the proposed 2026 RTP/SCS that would result in impacts to daytime or nighttime views. Cities and the County can and should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site specific conditions.

AES-3(a) Roadway Lighting

Implementing agencies shall, or can and should, minimize roadway lighting to the extent possible, consistent with safety and security objectives, and shall not exceed the minimum height requirements of the local jurisdiction in which the project is proposed. This may be accomplished through the use of back shields, hoods, low intensity lighting, and using as few lights as necessary to achieve the goals of the project.

IMPLEMENTATION AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are cities and the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

AES-3(b) Lighting Design Measures

As part of planning, design, and engineering for projects, project sponsors shall, or can and should, ensure that projects proposed near light-sensitive uses avoid substantial spillover lighting. Potential design measures include, but are not limited to, the following:

- Lighting shall consist of cutoff-type fixtures that cast low-angle illumination to minimize incidental spillover of light into adjacent properties and undeveloped open space. Fixtures that project light upward or horizontally shall not be used.
- Lighting shall be directed away from habitat and open space areas adjacent to the project site.
- Light mountings shall be downcast, and the height of the poles minimized to reduce potential for backscatter into the nighttime sky and incidental spillover of light onto adjacent private properties and undeveloped open space. Light poles will be 20 feet high or shorter. Luminary mountings shall have non-glare finishes.
- Exterior lighting features shall be directed downward and shielded in order to confine light to the boundaries of the subject project. Where more intense lighting is necessary for safety purposes, the design shall include landscaping to block light from sensitive land uses, such as residences.

IMPLEMENTATION AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are cities and the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

AES-3(c) Glare Reduction Measures

Implementing agencies shall, or can and should, minimize and control glare from transportation and land use projects near glare-sensitive uses through the adoption of project design features such as:

- Planting trees along transportation corridors to reduce glare from the sun;
- Creating tree wells in existing sidewalks;
- Adding trees in new curb extensions and traffic circles;
- Adding trees to public parks and greenways;

- Landscaping off-street parking areas, loading areas, and service areas;
- Limiting the use of reflective materials, such as metal;
- Using non-reflective material, such as paint, vegetative screening, matte finish coatings, and masonry;
- Screening parking areas by using vegetation or trees;
- Using low-reflective glass; and
- Complying with applicable general plan policies, municipal code regulations, city or local controls related to glare
- Tree species planted to comply with this measure shall provide substantial shade cover when mature. Utilities shall be installed underground along these routes wherever feasible to allow trees to grow and provide shade without need for severe pruning.

IMPLEMENTATION AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are cities and the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

In the absence of regulations specifically addressing light and glare impacts, the aforementioned mitigation measures would limit the use of reflective building materials and the potential spillage of light both upward and onto adjacent properties from exterior lighting fixtures. However, mitigation measures maybe not be feasible for all projects. Therefore, this impact would remain significant and unavoidable.

4.1.4 Cumulative Impacts

The cumulative analysis presented below primarily relies on a projections-based approach, using regional land use and growth forecasts for the SJCOG region and adjoining counties to evaluate cumulative conditions. Information regarding these adjoining counties can be found in Chapter 3, *Environmental Setting*. The proposed 2026 RTP/SCS is assessed within the existing and foreseeable future environmental setting, and a determination is made as to whether its incremental contribution would be cumulatively considerable when considered alongside both the overall envisioned land use scenario and specific large-scale planned projects.

Some types of impacts to aesthetic resources are localized and not cumulative in nature. For example, the creation of glare or shadows at one location is not worsened by glare or shadows created at another location. Rather these effects are independent and the determination as to whether they are adverse is specific to the project and location where they are created. Projects that block a view or affect the visual quality of a site also result in localized impacts. The impact occurs specific to a site or area and remains independent from another project elsewhere that may block a view or degrade the visual environment of a specific site. However, from some vantage points, such as mountain ridges or open valley floors, the viewshed can span for miles. Because development may be seen from distances or into the distance from some locations, the cumulative impact analysis area for aesthetics includes the SJCOG region and adjoining counties.

There are two types of aesthetic impacts may be additive in nature and thus cumulative: night sky lighting and overall changes in the visual environment as the result of increasing urbanization of large areas in the SJCOG region. Development in one area, such as a relatively large city adjoining agricultural land like Stockton, could increase and possibly expand over time and meet or connect with development in an adjoining ex-urban area. This type of growth and expansion would have the potential to affect night sky lighting experienced both within and outside of the region and lighting may increase in the form of larger and/or more intense nighttime glow in the viewshed. Regarding the visual environment experienced throughout the cumulative impact analysis areas, as planned cumulative development occurs over time the overall visual environment will change, and existing visual character could be degraded. The combination of forecasted development in the SJCOG region and planned development in neighboring counties will result in a different visual environment than currently exists. Thus, cumulative impacts to night sky lighting and changes in the visual environment would be significant.

Although growth envisioned in the proposed 2026 RTP/SCS is primarily focused on infill areas, development outside of those geographies with long-distance views may result in nighttime lighting becoming more visible, covering a larger area and/or appearing in new areas because of projected development under the proposed 2026 RTP/SCS. Additionally, planned transportation improvements and the land use scenario envisioned in the proposed 2026 RTP/SCS would alter the existing visual environment from its baseline conditions. Mitigation measures described earlier in this section would reduce impacts to aesthetics; however, even with implementation of mitigation measures, cumulative impacts to visual resources would be significant, and the proposed RTP/SCS's contribution to the impact would be cumulatively considerable.

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4.2 Air Quality

This section evaluates the air quality impacts resulting from implementation of the proposed 2026 RTP/SCS. Both temporary impacts relating to construction activities and long-term impacts associated with population and employment growth and associated growth in vehicle traffic and energy consumption are discussed. In addition, the potential health risks associated with the proposed 2026 RTP/SCS land use scenario are discussed. Greenhouse gas emissions are analyzed in Section 4.9, G*reenhouse Gas Emissions and Climate Change.*

4.2.1 Setting

a. Climate and Meteorology

Air quality is affected by the rate and location of pollutant emissions and by climatic conditions that influence the movement and dispersion of pollutants. Atmospheric conditions, such as wind speed, wind direction and air temperature gradients, along with local and regional topography, mediate the relationship between air pollutant emissions and air quality.

The SJCOG region is located within the San Joaquin Valley Air Basin (SJVAB), which includes San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and western Kern counties. The SJVAB is approximately 250 miles long and 35 miles in width (on average) and is bordered by the Coast Range Mountains on the west, the Sierra Nevada mountains on the east, and the Tehachapi Mountains to the south. On the valley floor, the SJVAB is open only to the north, which heavily influences prevailing winds. Northwesterly winds are common during summer months, and air masses are often channeled towards the southeastern end of the San Joaquin Valley. Winds are often weaker in the winter, which contribute to stagnation events in which transport of pollutants is very limited (San Joaquin Valley Air Pollution Control District [SJVAPCD] 2015).

The SJVAB is generally considered to have a Mediterranean climate, characterized by sparse rainfall and hot, dry summers. With an average of over 260 sunny days per year, the SJVAB provides favorable conditions for ozone formation. While precipitation and fog during the winter block sunlight and reduce ozone concentrations, wintertime fog provides favorable conditions for the formation of particulate matter (SJVAPCD 2015).

Local climate conditions for the SJCOG region are shown in Table 4.2-1. As summarized therein, the warmest month of the year is July, and the coldest month of the year is January. The annual average maximum temperature is 75 degrees Fahrenheit (°F), while the annual average minimum temperature is 46°F (Weather Spark 2026).

Table 4.2-1 San Joaquin County Climate Conditions

Temperature Parameter or Metric	Condition
Average annual rainfall	15.4 inches
Average annual maximum temperature	75°F
Average annual minimum temperature	46°F
Warmest month	July
Coolest month	January
Average annual mean temperature	60°F

Temperature Parameter or Metric	Condition
Average wind speed	7.8 miles per hour
Predominant wind direction	west/northwest

°F = degrees Fahrenheit

Note: Averages are based on the period of record from March 1906 to June 2016.

Source: Western Regional Climate Center 2016; Iowa Environmental Mesonet 2025.

b. Sources of Air Pollution

Air pollutant emissions in the SJVAB are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.
- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

c. Air Pollutants of Primary Concern

The federal and State Clean Air Acts mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),[1] nitrogen oxides (NO_X), particulate matter with diameters of up to ten microns (PM_{10}) and up to 2.5 microns ($PM_{2.5}$), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and NO_X. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog). The characteristics, sources and effects of criteria pollutants are discussed in the following subsections. Table 4.2-2 describes the characteristics, sources, and health and atmospheric effects of air pollutants of primary concern.

[1] CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this EIR.

Table 4.2-2 Description of Selected Air Contaminants

Air Contaminants of Concern
Photochemical Oxidant (Ox)
Characteristics. The term "photochemical oxidant" can include several different pollutants but consists primarily of ozone (more than 90 percent) and a group of chemicals called organic peroxynitrates. Photochemical oxidants are created in the atmosphere rather than emitted directly into the air. Reactive organic gases and oxides of nitrogen are the emitted contaminants which participate in the reaction. Ozone is a pungent, colorless toxic gas, which is produced by the photochemical process. Photochemical oxidant is a characteristic of southern California-type smog and reaches highest concentrations during the summer and early fall. **Sources.** Ozone is caused by complex atmospheric reactions involving oxides of nitrogen and reactive organic gases with ultraviolet energy from sunlight. Motor vehicles are the major source of oxides of nitrogen and reactive organic gases in the basin. **Effects.** The common manifestations of ozone and other photochemical oxidants are damage to vegetation and cracking of untreated rubber. Ozone in high concentrations (ranging from 0.15 ppm to 0.50 ppm) can also directly affect the lungs, causing respiratory and coronary irritation and possible changes in lung functions. These health problems are particularly acute in children and elderly people exposed to these pollutants.
Carbon Monoxide (CO)
Characteristics. CO is a colorless, odorless, toxic gas produced through the incomplete combustion of fossil fuels. Concentrations are higher in winter when more fuel is burned for heating purposes and weather conditions favor the build-up of directly emitted contaminants. **Sources.** The use of gasoline-powered engines is the major source of this contaminant, with automobiles being the primary contributor. The CO emissions from gasoline-powered engines are higher during winter months due to poor engine efficiency in cold temperatures. Various industrial processes also produce CO emissions through incomplete combustion of fossil fuels. **Effects.** CO does not irritate the respiratory tract. However, it passes through the lungs directly into the blood stream and, by interfering with the transfer of oxygen, deprives sensitive tissues of oxygen.
Nitrogen Oxides (NO_X)
Characteristics. NO_X primarily consists of nitric oxide (NO) (a colorless, odorless gas formed from atmospheric nitrogen and oxygen when petroleum combustion takes place under high temperatures and/or pressure) and nitrogen dioxide (NO_2) (a reddish-brown irritating gas formed by the combination of nitric oxide with oxygen). Due to the role they play as ozone precursors, oxides of nitrogen are one of the two criteria pollutants subject to federal ozone requirements. **Sources.** High combustion temperatures cause nitrogen and oxygen to combine and form nitric oxide. Further reaction produces additional oxides of nitrogen. Combustion in motor vehicle engines, power plants, refineries, and other industrial operations are the primary sources in the region. Ships, railroads and aircraft are other significant emitters. **Effects.** Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of sunlight, to form nitrogen dioxide and ozone. Nitrogen dioxide, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 10-mile visibility. NO_2 is an important air pollutant in the region because it is a primary receptor of ultraviolet light. The latter initiates photochemical reactions, helping to form ozone and/or particulate nitrate. It will also react in the air to form nitrate particulates.
Sulfur Dioxide (SO_2)
Characteristics. SO_2 is a colorless, pungent, irritating gas formed primarily by the combustion of sulfur-containing fossil fuels. In humid atmospheres, SO_2 can form sulfur trioxide and sulfuric acid mist, with some of the latter eventually reacting to produce sulfate particulates. **Sources.** This contaminant is the natural combustion product of sulfur or sulfur-containing fuels. Fuel combustion is the major source, while chemical plants, sulfur recovery plants and metal processing are minor contributors. **Effects.** At sufficiently high concentrations, sulfur dioxide irritates the upper respiratory tract. At lower concentrations, when in conjunction with particulates, SO_2 appears able to do still greater harm by injuring lung tissues. Sulfur oxides, in combination with moisture and oxygen, can yellow the leaves of plants, dissolve marble and eat away iron and steel. Sulfur oxides can also react to form sulfates, which reduce visibility.

Air Contaminants of Concern

Particulates (Total Suspended Particles and PM_{10})

Characteristics. Atmospheric particulates are made up of finely divided solids or liquids, such as soot, dust, aerosols, fumes and mists. About 90 percent by weight of the emitted particles are larger than 10 microns in diameter, but about 10 percent by weight, or 90 percent of the total *number* of particulates, are less than 5 microns in diameter. The aerosols formed in the atmosphere, primarily sulfate and nitrate, are usually smaller than 1 micron. In areas close to major sources, particulate concentrations are generally higher in the winter, when more fuel is burned for heating and meteorological conditions favor the build-up of directly-emitted contaminants. However, in areas remote from major sources and subject to photochemical smog (ozone), particulate concentrations can be higher during summer months because the presence of ozone increases the potential for SO_2 and NO_2 to convert to sulfate and nitrate particulates.

Sources. Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion and from atmospheric photochemical reactions. Re-entrained road dust from vehicles is a significant source of particulates. Natural activities also put particulates into the atmosphere; wind-raised dust and ocean spray are two such sources of particulates.

Effects. In the respiratory tract, very small particles of certain substances may produce injury by themselves, or may contain absorbed gases that are injurious. Suspended in the air, particulates less than 5 microns in diameter can both scatter and absorb sunlight, producing haze and reducing visibility. They can also cause a wide range of damage to materials.

Diesel Particulate Matter

Characteristics. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is commonly found throughout the environment. Diesel exhaust is composed of two phases, either gas or particle, and both phases contribute to the risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic hydrocarbons. Diesel exhaust has a distinct odor, which is primarily a result of hydrocarbons and aldehydes contained in diesel fuel. The particle phase also has many different types of particles that can be classified by size or composition. The size of diesel particulates that are of greatest health concern are those that are in the categories of fine and ultra-fine particles. The composition of these fine and ultra-fine particles may be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals and other trace elements.

Sources. Diesel exhaust is emitted from a broad range of diesel engines: the on-road diesel engines of trucks, buses and cars and the off-road diesel engines that include locomotives, marine vessels and heavy-duty equipment.

Effects. Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs and some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure in experimental animal inhalation studies has shown a range of dose-dependent lung inflammation and cellular changes in the lung and there are also diesel exhaust immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.

Hydrocarbons and Other Organic Gases

Characteristics. Any of the vast family of compounds consisting of hydrogen and carbon in various combinations are known as hydrocarbons. Fossil fuels are included in this group. Many hydrocarbon compounds are major air pollutants, and those which can be classified as olefins or aromatics are highly photochemically reactive. Atmospheric hydrocarbon concentrations are generally higher in winter because the reactive hydrocarbons react more slowly in the winter and meteorological conditions are more favorable to their accumulating in the atmosphere to higher concentration before producing photochemical oxidants. Due to the role they play as ozone precursors, reactive hydrocarbons are one of the two criteria pollutants subject to federal ozone requirements.

Sources. Motor vehicles are a major source of anthropogenic hydrocarbons (AHC) in the basin. Other sources include evaporation of organic solvents, and petroleum refining and marketing operations. Trees are the principal emitters of biogenic or natural hydrocarbons (NHC).

Effects. Certain hydrocarbons can damage plants by inhibiting growth and causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions which produce photochemical oxidants.

Air Contaminants of Concern
Lead (Pb)
Characteristics. Lead is an elemental heavy metal found naturally in the environment as well as in manufactured products. Lead can be released directly into the air, as suspended particles. It is soft, malleable and melts at a relatively low temperature. When freshly cut, it has a bluish-white tint; it tarnishes to a dull gray upon exposure to air. Lead has several properties that make it useful: high density, low melting point, ductility, and relative inertness to oxidation. Combined with relative abundance and low cost, these factors resulted in the extensive worldwide use of lead. Lead is persistent in the environment and accumulates in soils and sediments through deposition from air sources, direct discharge of waste streams to water bodies, mining, and erosion.
Sources. The major sources of lead emissions historically have been mobile and industrial sources. As a result of phasing out leaded gasoline, metal processing currently is the primary source of Pb emissions. The highest level of lead in the air is generally found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers.
Effects. Humans may be exposed to lead from air pollution directly, through inhalation, or through the incidental ingestion of lead that has settled out from the air onto soil or dust. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. The lead effects most commonly encountered in current populations are neurological effects in children and cardiovascular effects (e.g., high blood pressure and heart disease) in adults. Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits and lowered IQ. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals and neurological effects in vertebrates.

Source: USEPA 2025a

Toxic Air Contaminants

A toxic air contaminant (TAC) is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health. TACs may result in long-term health effects such as cancer, birth defects, neurological damage, asthma, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation, runny nose, throat pain, and headaches. TACs are considered either carcinogenic or non-carcinogenic based on the nature of the health effects associated with exposure. For carcinogenic TACs, potential health impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

TACs include both organic and inorganic chemical substances. One of the main sources of TACs in California is diesel engines that emit exhaust containing solid material known as diesel particulate matter (DPM; CARB 2025c); however, TACs may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities.

CARB reports that diesel particulate matter represents about 70 percent of the potential cancer risk from vehicle travel on a typical urban freeway (CARB 2005). Residences and communities in proximity to TAC sources are disproportionately impacted. To protect people from TACs and reduce exposure, CARB recommends avoiding locating new sensitive land uses, such as residences, schools, daycare centers, playgrounds, or medical facilities, within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. Additional non-cancer health risk attributable to proximity to freeways was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70 percent drop-off in particulate pollution levels at 500 feet (CARB 2005).

Diesel Particulate Matter

One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as DPM. Diesel exhaust is composed of two phases, either gas or particle, and both phases contribute to health risk associated with sensitive receptor exposure. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, and polycyclic aromatic hydrocarbons. Diesel exhaust has a distinct odor, which is primarily a result of hydrocarbons and aldehydes contained in diesel fuel. The particle phase also has many different types of particles that can be classified by size or composition. The size of diesel particulates that are of greatest health concern are those that are in the categories of fine and ultra-fine particles. The composition of these fine and ultra-fine particles may be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals, and other trace elements.

More than 90 percent of DPM is less than one micron in diameter (about $1/70^{th}$ the diameter of a human hair) and thus is a subset of $PM_{2.5}$. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2025a). The particles have hundreds of chemicals adsorbed onto their surfaces, including many known or suspected mutagens and carcinogens. The California Office of Environmental Health Hazard Assessment (OEHHA) completed a comprehensive health assessment of diesel exhaust in 1998, which formed the basis for CARB to formally identify the particles in diesel exhaust as a TAC. In California, DPM has a significant impact since it is estimated that 70 percent of total known cancer risk related to air toxics is attributable to DPM. According to CARB, DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over a lifetime (CARB 2025a).

DPM can also be responsible for elevated localized exposures (“hotspots”). Risk characterization scenarios conducted by CARB have determined the potential cancer risk resulting from proximity to DPM sources, such as school buses and high-volume freeways.

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs and some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure in experimental animal inhalation studies has shown a range of dose-dependent lung inflammation and cellular changes in the lung and there are also diesel exhaust immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.

Besides DPM, several other pollutants are emitted by vehicle exhaust are a public health concern. USEPA has identified five pollutants of highest priority in addition to DPM: acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene. The latter five pollutants are found in organic gases emitted by vehicles.

d. Current Air Quality

California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. Depending on whether the federal and state standards are met or exceeded, the local air basin is classified as in “attainment” or “non-attainment.” Once a non-attainment area has achieved the air quality standards for a particular pollutant, it may be redesignated to an attainment area for that pollutant. SJVAPCD is required to

monitor air pollutant levels to assure the standards are met and, if they are not, to develop strategies to meet these standards.

Monitoring of ambient air pollutant concentrations is conducted by CARB, SJVAPCD, and the United States National Park Service. Some monitors are operated specifically for use in determining attainment status, while others are operated for other purposes, such as generating daily air quality forecasts. In total, SJVAPCD utilizes data from monitors operating at 24 sites in the SJVAB, three of which are in the SJCOG region. Figure 4.2-1 shows the locations of all monitoring stations in the SJVAB, including those in San Joaquin County that were in operation in 2025. The San Joaquin County portion of the SJVAB is classified as a non-attainment area for the federal 8-hour ozone and $PM_{2.5}$ standards and State ozone, PM_{10} and $PM_{2.5}$ standards. The SJVAB is classified as in attainment (or unclassifiable/attainment) for all other State and federal standards (SJVAPCD 2025). Table 4.2-3 presents a ten-year summary of the days that the SJVAB exceeded NAAQS and CAAQS for ozone, $PM_{2.5}$, and PM_{10}. Table 4.2-4 presents the number of days San Joaquin County exceeded NAAQS and CAAQS for ozone, NO_2, $PM_{2.5}$, and PM_{10}. The Stockton University Park Station was used as a proxy for the County as it was the only data available.

Table 4.2-3 Ten-Year SJVAB Air Quality Summary (2015-2024) for Days Over the Ozone, $PM_{2.5}$, and PM_{10} NAAQS and CAAQS

Year	Ozone 1-Hour CAAQS	Ozone 8-Hour NAAQS	Ozone 8-Hour CAAQS	$PM_{2.5}$ 24 Hour NAAQS	PM_{10} 24 Hour NAAQS	PM_{10} 24 Hour CAAQS
2015	47	97	99	53	0	121
2016	51	112	113	34	0	158
2017	48	122	126	47	8	146
2018	42	111	112	61	10	164
2019	24	96	100	28	16	130
2020	50	119	121	80	39	157
2021	41	101	104	87	16	152
2022	31	102	105	59	4	178
2023	26	73	77	33	3	146
2024	55	105	108	23	10	158

CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; PM_{10} = particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with a diameter of 2.5 microns or less

Note: No aggregated summary data available for SJVAB through CARB Top-4 Summary tool post-2024

Source: CARB 2025b

Table 4.2-4 Ambient Air Quality in Stockton, San Joaquin County[1]

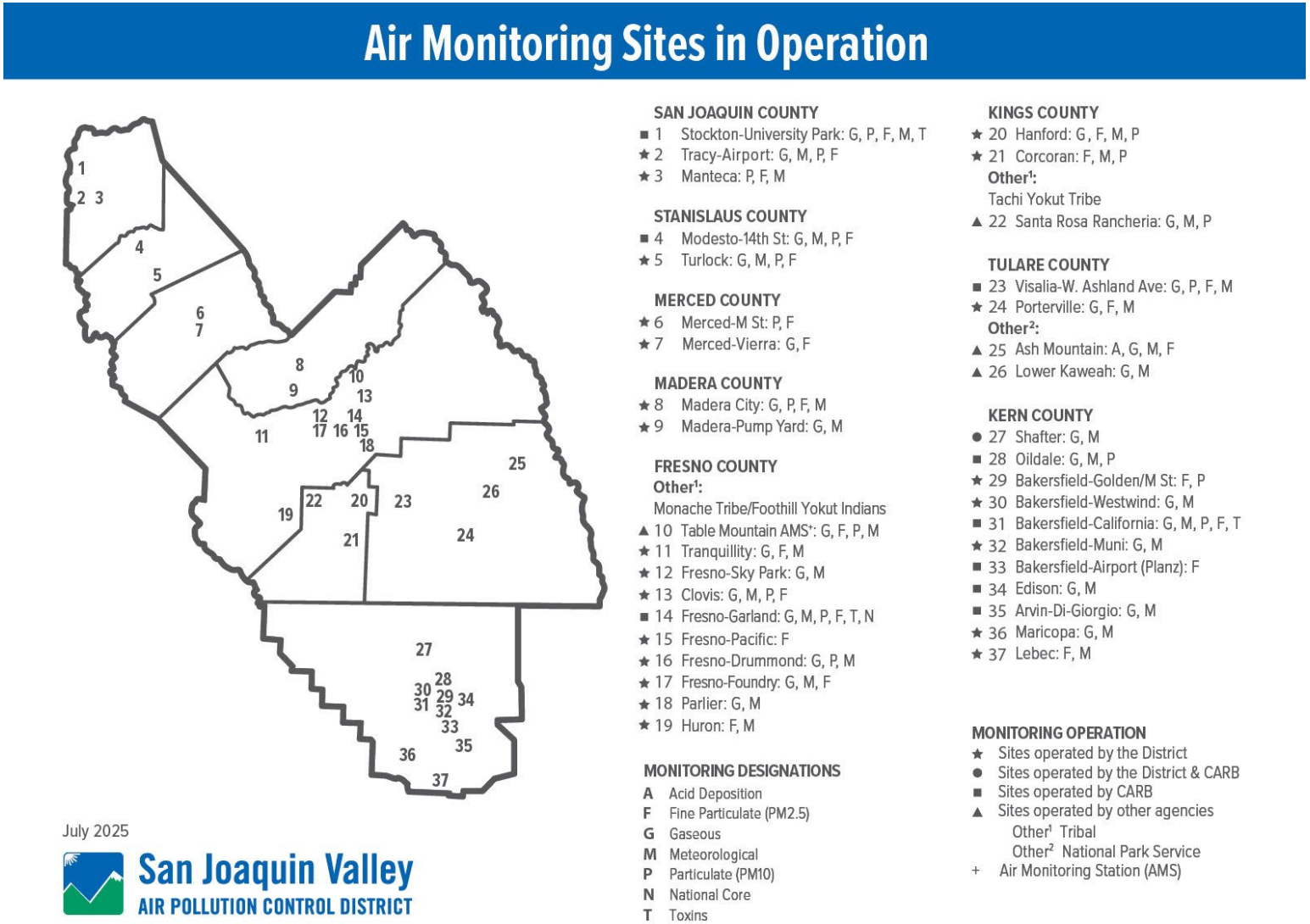
Pollutant	2022	2023	2024
Ozone (ppm), Eight-Hour Average	0.113	0.068	0.082
Number of days of state exceedances (>0.070 ppm)	1	0	4
Number of days of federal exceedances (>0.070 ppm)	1	0	4
Ozone (ppm), Worst Hour	0.141	0.086	0.111
Number of days of state exceedances (>0.09 ppm)	1	0	2
Nitrogen Dioxide (ppm), Worst Hour	0.0442	0.0450	0.0347
Number of days of state exceedances (>0.18 ppm)	0	0	0
Particulate Matter <10 microns (μg/m^3), Worst 24 Hours[1]	80.6	81.7	73.7
Number of days of state exceedances (>50 μg/m^3)	24	23	16
Number of days of federal exceedances (>150 μg/m^3)	0	0	0
Particulate Matter <2.5 microns (μg/m^3), Worst 24 Hours	51.9	40.6	46.8
Number of days of federal exceedances (>35 μg/m^3)	8	7	7

ppm = parts per million

[1] Countywide data not available for this pollutant. Data was available from the Stockton – University Park Station.

Source: CARB 2025b

Figure 4.2-1 SJVAB Air Quality Monitoring Stations (2025)



Source: SJVAPCD 2025a

4.2.2 Regulatory Setting

a. Federal Laws, Regulations, and Policies

Clean Air Act

The federal Clean Air Act (CAA) governs air quality in the United States and is administered by USEPA at the federal level. Air quality in California is also governed by regulations under the California Clean Air Act, which is administered by CARB at the state level. At the regional and local levels, local air districts such as SJVAPCD typically administer the federal and California Clean Air Acts.

USEPA is responsible for enforcing the federal CAA, which defines non-attainment areas as geographic regions designated as not meeting one or more of the national ambient air quality standards (NAAQS) that are required under the 1977 CAA and subsequent amendments. The federal CAA requires that a State Implementation Plan (SIP) be prepared for each non-attainment area and a maintenance plan be prepared for each former non-attainment area that subsequently demonstrated compliance with the standards. A SIP is a compilation of a state's air quality control plans and rules, approved by the USEPA. Section 176(c) of the CAA provides that federal agencies cannot engage, support, or provide financial assistance for licensing, permitting, or approving any project unless the project conforms to the applicable SIP. The state and the USEPA's goals are to eliminate or reduce the severity and number of violations of the NAAQS and to achieve expeditious attainment of these standards.

Table 4.2-5 summarizes the NAAQS and California Ambient Air Quality Standards (CAAQS). The CAAQS are more restrictive than the NAAQS for several pollutants, including the one-hour standard for carbon monoxide, the 24-hour standard for sulfur dioxide, and the 24-hour standard for PM_{10}. The NAAQS are more restrictive than the CAAQS for the annual standard for $PM_{2.5}$.

Table 4.2-5 Current Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standards
Ozone	1-Hour	–	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.10 ppm	0.18 ppm
Sulfur Dioxide	Annual	–	–
	24-Hour	–	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	–	20 µg/m^3
	24-Hour	150 µg/m^3	50 µg/m^3
PM_{25}	Annual	9 µg/m^3	12 µg/m^3
	24-Hour	35 µg/m^3	–
Lead	30-Day Average	–	1.5 µg/m^3
	3-Month Average	0.15 µg/m^3	–

Pollutant	Averaging Time	Federal Primary Standards	California Standards
Visibility Reducting Particles	8-hour	–	Extinction of 0.23 per kilometer*
Sulfates	24-Hour	–	25 µg/m^3
Hydrogen Sulfide	1-Hour	–	0.03 ppm (42 µg/m^3)
Vinyl Chloride	24-Hour	–	0.01 ppm 0.02 (26 µg/m^3)

ppm = parts per million; µg/m^3 = micrograms per cubic meter

* In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

* Source: CARB 2024; USEPA 2026b

1990 Amendments to the Federal Clean Air Act

The 1990 amendments to the federal Clean Air Act included a provision to address air toxics. Under Title III of the federal Clean Air Act, USEPA establishes and enforces National Emission Standards for Hazardous Air Pollutants, which are national uniform standards oriented toward controlling particular hazardous air pollutants. Section 112(b) of the federal Clean Air Act identifies 189 "Air Toxics" (hazardous air pollutants), directs USEPA to identify sources of the 189 pollutants, and establishes a 10-year time period for USEPA to issue technology-based emissions standards for each source category. Title III of the federal Clean Air Act provides for a second phase under which USEPA is to assess residual risk after the implementation of the first phase of standards and impose new standards, when appropriate, to protect public health.

Federal Fuel Economy and Emissions Standards

Corporate Average Fuel Economy Standards

The Energy Policy and Conservation Act in 1975 established the Corporate Average Fuel Economy Standards (CAFE) standards are Federal rules established by the National Highway Traffic Safety Administration (NHTSA) that set fuel economy standards for all new passenger cars and light trucks sold in the United States. In 2024, CAFE standards were finalized for model years (MYs) 2027 through 2031. The final rule establishes standards that require an industry-wide fleet average of approximately 49 miles per gallon (mpg) for passenger cars and light trucks.

On July 29, 2025, the USEPA announced a proposal to rescind the Clean Air Act Endangerment Finding for GHGs and repeal all GHG emission standards for light-duty, medium-duty, and heavy-duty vehicles and engines pursuant to CAA Section 202(a). On February 12, 2026, the USEPA finalized this action, rescinding the 2009 Endangerment Finding for GHG emissions from motor vehicles and repealing all associated federal GHG emission standards; the final rule was published February 18, 2026, and became effective April 20, 2026 (USEPA 2026c). This action removes GHG-related regulatory provisions from 40 CFR part 600 but does not affect provisions related to CAFE standards and fuel economy labeling. The rule is currently subject to ongoing litigation.

Federal Motor Vehicle GHG Emissions Standards

The federal motor vehicle GHG emissions standards were adopted by USEPA under Section 202(a) of the CAA following the 2009 Endangerment Finding, which determined that GHG emissions from motor vehicles contribute to air pollution that may endanger public health and welfare.

As mentioned above, USEPA rescinded the Endangerment Finding February 12, 2026, and published the final rule in the *Federal Register* on February 18, 2026. The EPA states that without the Endangerment Finding, it lacks statutory authority to regulate GHG emissions from motor vehicles under Clean Air Act §202(a). USEPA also finalized the repeal of all subsequent GHG emission standards from its regulations for light-, medium-, and heavy-duty on-highway vehicles and engines (USEPA 2026c). The rule is currently subject to ongoing litigation.

b. State Laws, Regulations, and Policies

California Clean Air Act

The California Clean Air Act (CCAA) was enacted in 1988 (California Health & Safety Code Section 39000 et seq.) and amended in 1992. The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles (see Table 4.2-5). Air basins or areas that exceed the CAAQS are designated non-attainment until compliance is disclosed in an attainment plan. In California, CARB is responsible for meeting the State requirements of the federal CAA, administering the California CAA, and establishing the California ambient air quality standards (CAAQS). The California CAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

Assembly Bill 32

The "California Global Warming Solutions Act of 2006," (AB 32), outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 MMT CO_2e, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Scoping Plan's approval.

CARB approved the 2013 Scoping Plan update in May 2014. The update defined CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the state's longer term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

Senate Bill 32

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006, by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for

achieving the 2030 target (CARB 2017). The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100 (discussed later). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six MT CO_2e by 2030 and two MT CO_2e by 2049. As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state.

Assembly 1279

AB 1279, the California Climate Crisis Act, was passed on September 16, 2022, and declares the State would achieve net zero GHG emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. In addition, the bill states that the State would reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045.

In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, CARB published the Final 2022 Climate Change Scoping Plan in November 2022 (CARB 2022). The 2022 Scoping Plan builds upon the framework established by the 2008 Scoping Plan and previous updates while identifying new, technologically feasible, cost-effective, and equity-focused path to achieve California's climate target. The 2022 Scoping Plan includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

The 2022 Scoping Plan assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan, addresses recent legislation and direction from Governor Gavin Newsom, extends and expands upon these earlier plans, and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work. As stated in the 2022 Scoping Plan, "The plan outlines how carbon neutrality can be achieved by taking bold steps to reduce GHGs to meet the anthropogenic emissions target and by expanding actions to capture and store carbon through the state's natural and working lands and using a variety of mechanical approaches" (CARB 2022). Specifically, the 2022 Scoping Plan:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045, and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as driving principles throughout the document.

- Incorporates the contribution of natural and working lands to the State's GHG emissions, as well as their role in achieving carbon neutrality.
- Relies on the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits of taking action.
- Identifies key implementation actions to ensure success.

Under the Scoping Plan Scenario, California's 2030 emissions are anticipated to be 48 percent below 1990 levels, representing an acceleration of the current SB 32 target. Cap-and-Trade regulation continues to play a large factor in the reduction of near-term emissions for meeting the accelerated 2030 reduction target. Every sector of the economy will need to begin to transition in this decade to meet the GHG emissions reduction goals and achieve carbon neutrality no later than 2045. The 2022 Scoping Plan approaches decarbonization from two perspectives, managing a phasedown of existing energy sources and technologies, as well as increasing, developing, and deploying alternative clean energy sources and technology.

Senate Bill 656

In 2003, the California Legislature enacted Senate Bill (SB) 656 (Chapter 738, Statutes of 2003), codified as Health and Safety Code Section 39614, to reduce public exposure to PM_{10} and $PM_{2.5.}$ SB 656 required that, by January 1, 2005, CARB, in consultation with local air pollution control and air quality management districts, must develop and adopt a list of the most readily available, feasible, and cost-effective control measures that could be employed by CARB and the air districts to reduce PM_{10} and $PM_{2.5}$ (collectively referred to as PM). The legislation established a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for $PM_{2.5}$ and provided new direction on PM reductions in those areas not subject to federal requirements for PM. Measures adopted as part of SB 656 complement and support those required for federal $PM_{2.5}$ attainment plans, as well as for State ozone plans. This ensures continuing focus on PM reduction and progress toward attaining California's more health protective standards. This list of air district control measures was adopted by CARB on November 18, 2004. SJVAPCD also complied with this legislation; staff developed a Particulate Matter Implementation Schedule that was adopted in December 2005 (SJVAPCD 2005).

Toxic Air Contaminant Identification and Control Act

The Toxic Air Contaminant Identification and Control Act (Assembly Bill 1807 of 1983) created California's program to reduce exposure to air toxics. The program involves a two-step process: risk identification and risk management. In the risk identification step, and upon CARB's request, the Office of Environmental Health Hazard Assessment evaluates the health effects of substances other than pesticides and their pesticidal uses. Substances with the potential to be emitted or that are currently being emitted into the ambient air may be identified as a TAC. In the risk management step, once a substance is identified as a TAC, and with the participation of local air districts, industry, and interested public, CARB prepares a report that outlines the need and degree to regulate the TAC through a control measure.

Air Toxics "Hot Spots" Information and Assessment Act

The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill 2588) was enacted in 1987 to require stationary sources to report the types and quantities of substances identified as having a localized health risk. This act aims to ascertain health risks, notify nearby residents of significant risks, and reduce significant risks to acceptable levels. The California Office of Environmental Health Hazard Assessment (OEHHA) is the lead agency for the assessment of health risks posed by environmental contaminants. OEHHA, which is an office within the California Environmental Protection Agency, aims to protect human health and the environment through scientific evaluation of risks posed by hazardous substances. In addition, OEHHA develops health-protective exposure levels for contaminants in air, water, and soil as guidance for regulatory agencies and the public. These include public health goals for contaminants in drinking water and both cancer potency factors and non-cancer reference exposure levels for the Air Toxics Hot Spots Program.

Executive Order N-79-20

Executive Order N-79-20, issued 2020, established a Statewide goal that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035 and a further goal of the State that 100 percent of medium- and heavy-duty vehicles in the State be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks.

CARB Air Quality and Land Use Handbook and 2017 Technical Advisory

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* recommends that local agencies avoid siting new, sensitive land uses within specific distances of potential sources of TACs, such as freeways and high-traffic roads, distribution centers, railroads, and ports (CARB 2005). Specifically, CARB recommends that local agencies avoid siting new, sensitive land uses within 500 feet of a freeway. The primary concern is the effect of diesel exhaust particulate on sensitive uses.

CARB *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways* technical advisory (2017) identifies effective strategies that planners and other land use decision-makers can implement locally and in the near-term to reduce exposure to near-roadway pollution from increased infill development while also protecting public health. These strategies complement the state's many efforts to reduce air pollution from all sources, including cars and trucks.

Diesel Risk Reduction Program

In August 1998, CARB identified particulate emissions from diesel-fueled engines (diesel PM) as TACs, based on data linking diesel PM emissions to increased risks of lung cancer and respiratory disease. Following the identification process, CARB was required to determine if there was a need for further control, which led to creation of the Diesel Advisory Committee to assist in the development of a risk management guidance document and risk reduction plan. In September 2000, CARB adopted the Diesel Risk Reduction Plan, which recommends control measures to reduce the risks associated with diesel PM and achieve a goal of 75 percent diesel PM reduction by 2010 and 85 percent by 2020.

CARB met its original Diesel Risk Reduction Plan goal of reducing Diesel PM emissions by 85 percent by 2020. Building on this success, CARB has adopted more ambitious targets focused on transitioning to zero-emission technologies across all sectors, including mandates for 100 percent zero-emission sales of new passenger vehicles by 2035 and full transition of on- and off-road fleets

to zero emissions by 2045, with the broader aim of achieving health-protective air quality standards statewide by the mid-2030s.

Airborne Toxic Control Measures

Under the California Health and Safety Code, Division 26 (Air Resources), CARB is authorized to adopt regulations to protect public health and the environment through the reduction of TACs and other air pollutants with adverse health effects. CARB has promulgated several mobile and stationary source airborne toxic control measures (ATCMs) pursuant to this authority. For instance, effective as of July 2003, CARB approved an ATCM that limits school bus idling and idling at or near schools to only when necessary for safety or operational concerns (13 CCR Chapter 10, Section 2480). This ATCM is intended to reduce diesel PM and other TACs and air pollutants from heavy-duty motor vehicle exhaust. It applies to school buses, transit buses, school activity buses, youth buses, general public paratransit vehicles, and other commercial motor vehicles. This ATCM focuses on reducing public exposure to diesel PM and other TACs, particularly for children riding in and playing near school buses and other commercial motor vehicles, who are disproportionately exposed to pollutants from these sources. In addition, effective February 2005, CARB approved an ATCM to limit the idling of diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds, regardless of the state or country in which the vehicle is registered (13 CCR Chapter 10, Section 2485).

Drayage Truck Regulation

CARB established the Drayage Truck Regulation as part of its ongoing efforts to reduce PM and NOx emissions from diesel-fueled engines and improve air quality associated with goods movement. The purpose of this regulation is to reduce emissions and public exposure to diesel PM, NOx, and other air contaminants by setting emission standards for in-use, heavy-duty diesel-fueled vehicles.

CARB adopted the Advanced Clean Fleets Regulation (CCR Title 13, Section 2015-2015.6) in 2023, which included updated requirements for drayage trucks operating at seaports and intermodal railyards. Beginning January 1, 2024, only zero-emission drayage trucks can be newly registered in CARB's Truck Regulation Upload, Compliance, and Reporting System. Existing legacy trucks must meet annual operational and useful life requirements to remain in service, with non-compliant vehicles removed from the registry starting in 2025. By 2035, all drayage trucks operating in California must be zero-emission, supporting statewide goals to reduce diesel particulate matter, NOx, and greenhouse gas emissions, particularly in communities disproportionately impacted by freight-related pollution.

In a January 13, 2025 letter to USEPA, CARB withdrew its request for a Clean Air Act waiver for the ACF Regulation. CARB is not enforcing the federal and private fleets portions of the ACF that require a Clean Air Act waiver, but is enforcing portions of the ACF Regulation that do not require a Clean Air Act waiver, such as the state and local government fleets portion, which will still be required to be fully electric by 2045.

Advanced Clean Trucks and Low-NOx Regulation

The Advanced Clean Trucks rule (CCR Title 13, Division 3, Chapter 1, Article 3.1) is a CARB regulation that requires medium and heavy-duty truck manufacturers to gradually increase the percentage of zero-emission vehicles they sell in the state. Effective in March 2021, the rule mandates that by 2035, 55 percent of Class 2b-3 truck sales, 75 percent of Class 4-8 straight truck sales, and 40 percent of truck tractor sales must be zero emission vehicles. The goal is to accelerate the transition

to zero-emission trucks. USEPA granted the waiver request under the CAA to enact the more stringent fuel economy components of the ACT regulation on April 6, 2023. However, Public Law 119-15 enacted on June 12, 2025, disapproves of this regulation under the Congressional Review Act, retroactively revoking the state's waiver issued by USEPA under the Clean Air Act to implement the Advanced Clean Trucks regulation.

The Heavy-Duty Low-NOX Omnibus Regulation was adopted by CARB in 2021 (effective December 22, 2021; amended in May 2024), and mandates steep reductions in NO_X and PM emissions from new medium- and heavy-duty diesel and Otto-cycle engines starting with model year 2024. By full rollout, the regulation is projected to eliminate approximately 17–23 tons/day of NO_X by 2031. However, Public Law 119-17, enacted on June 12, 2025, disapproves of this regulation under the Congressional Review Act, retroactively revoking the state's waiver issued by USEPA under the Clean Air Act to implement the Advanced Clean Trucks regulation.

The implications of these laws on the State's capability to enforce its ACT and Low NOx rules are uncertain at this time, as the California Attorney filed a lawsuit challenging P.L. Nos. 119-15 and 17 on June 12, 2025. Whether this action will be successful is unknown, as is the possibility that a federal judge will issue a stay to halt the implementation of the ACT and Low NOx rules during the legal process.

Proposition 1B: Goods Movement Emission Reduction Program

The $1 billion Proposition 1B Goods Movement Emission Reduction Program is a partnership between CARB and local agencies, air districts, and seaports to quickly reduce air pollution emissions and health risk from freight movement along California's trade corridors. Local agencies apply to CARB for funding. Then those agencies offer financial incentives to owners of equipment used in freight movement to upgrade to cleaner technologies. Projects funded under this program must achieve early or extra emission reductions not otherwise required by law or regulation. As of April 2025, Executive Order G-25-093 was adopted under this program, providing modifications to the Program Guidelines for Year 5 and Year 6 locomotive, cargo handling equipment, and TRU projects.

Assembly Bill 1493

Assembly Bill (AB) 1493 (Chapter 200, Statutes of 2002), known as the "Pavley bill," amended Health and Safety Code Sections 42823 and 43018.5 requiring CARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks and other vehicles used for noncommercial personal transportation in California.

Implementation of new regulations prescribed by AB 1493 required that the State of California apply for a waiver under the federal Clean Air Act. Although USEPA initially denied the waiver in 2008, USEPA approved a waiver in June 2009, and in September 2009, CARB approved amendments to its initially adopted regulations to apply the Pavley standards that reduce GHG emissions to new passenger vehicles in model years 2009 through 2016. In 2012, CARB approved the Low-Emission Vehicle III GHG regulation, which requires further reductions in passenger GHG for 2017 and subsequent vehicle model years. According to CARB, implementation of the Pavley regulations is expected to reduce fuel consumption while also reducing GHG emissions (CARB 2025).

In 2022, CARB approved the Advanced Clean Cars II rule regulating model years from 2026 to 2035. The rule establishes a year-by-year roadmap so that by 2035, 100 percent of new cars and light trucks sold in California would be zero-emission vehicles, including plug-in hybrid electric vehicles.

The regulation realizes and codifies the light-duty vehicle goals set out in Governor Newsom's Executive Order N-79-20. By 2040, CARB anticipates that the rule would reduce GHG emissions from light-duty vehicles by 50 percent for a cumulative total of 395 MMT CO*2*e from 2026 through 2040. USEPA granted CARB its California's Clean Air Act waiver request for the Advanced Clean Cars II rule on December 18, 2024. However, Public Law 119-16 enacted on June 12, 2025, disapproves of this regulation under the Congressional Review Act, retroactively revoking the state's waiver issued by USEPA under the Clean Air Act to implement the Advanced Clean Cars II rule. The implications of this law on the State's capability to enforce its ACC II rule are uncertain at this time, as the California Attorney filed a lawsuit challenging P.L. No. 119-16 on June 12, 2025. Whether this action will be successful is unknown, as is the possibility that a federal judge will issue a stay to halt the implementation of the ACC II rule during the legal process.

c. Regional Laws, Regulations, and Policies

San Joaquin Valley Air Pollution Control District

Air Quality Management Plans

The 2022 Ozone Plan for 8-hour ozone standard is the most recent ozone attainment plan, adopted on December 15, 2022, by SJVAPCD (SJVAPCD 2022). Implementation of each of the plans has contributed to the adoption of over 600 rules and amendments aimed at reducing air pollution concentrations. These measures have substantially reduced ozone precursor pollutants, which include NO_X and ROG. It should be noted that, while not formally adopted, the SJVAPCD is currently in the process of drafting the 2026 State Implementation Plan Revisions for the California Extreme Ozone Non-attainment Areas (2026 Extreme Ozone SIP Revision), which would revise the 2022 State SIP Strategy measure commitments, aggregate emissions reduction commitments, and other elements as needed for the South Coast Air Basin, Coachella Valley, and San Joaquin Valley non-attainment areas (CARB 2026d).

The District adopted the *2024 Plan for the 2012 Annual $PM_{2.5}$ Standard* on June 20, 2024, to fulfill the remaining CAA requirements, including the final modeling analysis, attainment strategy and emission reduction commitments, reasonable further progress/quantitative milestones, and contingency measures. This Plan demonstrates expeditious attainment of the 2012 $PM_{2.5}$ standard by 2030 (SJVAPCD 2024).

The 2024 Plan for the 2012 $PM_{2.5}$ Standards is the most recent attainment plan for particulate matter adopted by SJVAPCD, for the annual $PM_{2.5}$ standard. (SJVAPCD 2024). The USEPA initially designated SJVAPCD as Moderate non-attainment for the 2012 $PM_{2.5}$ standard in 2015. The District submitted the *2016 $PM_{2.5}$ Plan* to address Moderate area requirements for the 2012 $PM_{2.5}$ standard and to request to be reclassified to Serious non-attainment. USEPA approved the Moderate Plan and reclassified the District to Serious non-attainment, effective December 2021. SJVAPCD also prepared a 2018 Plan for achieving both the 24-hour and annual $PM_{2.5}$ standards (SJVAPCD 2018).

The District adopted the *Initial State Implementation Plan (SIP) Requirements for the 2012 Annual $PM_{2.5}$ Standard* on October 19, 2023, to fulfill the first portion of SIP elements required by the CAA for Serious $PM_{2.5}$ non-attainment areas, including an updated emissions inventory, precursor demonstration, and the demonstration that Best Available Control Measure (BACM) requirements continue to be satisfied in the Valley. Additionally, the District fulfilled Non-attainment New Source Review (NNSR) requirements through amendments to District Rule 2201 (New and Modified Stationary Source Review Rule) in April 2023.

Voluntary Emissions Reduction Agreements

Within the SJVAPCD, Voluntary Emissions Reduction Agreements (VERAs) are implemented through District-administered programs that allow project applicants to fund off-site emission reduction projects to offset project-related criteria pollutant emissions. These agreements are typically formalized as Emission Reduction Agreements or participation in District mitigation programs, such as the VERA program, and are designed to achieve real, surplus, quantifiable, and enforceable emission reductions within the San Joaquin Valley Air Basin (CARB 2024b).

Under CEQA, participation in SJVAPCD VERAs is not required but may be used, at the discretion of the lead agency, to reduce a project's contribution to significant or cumulatively considerable air quality impacts. Such agreements must be supported by substantial evidence demonstrating that the reductions are appropriately tied to the project's emissions and consistent with District guidance. Because VERAs are voluntary and project-specific, they are generally considered supplemental to established regulatory requirements and do not substitute for compliance with applicable District rules or CEQA significance thresholds.

Rules and Regulations

SJVAPCD has adopted numerous rules and regulations directed at improving regional air quality. The following District rules would be applicable to individual projects:

- **Rule 2201 New and Modified Stationary Source Review Rule:** Rule 2201 applies to all proposals for new or modified sources of pollution that must obtain a permit from the District. The rule requires that the proposed emissions from any such new or modified equipment be controlled with the Best Available Control Technology (BACT), and that large projects offset their increased emissions by surrendering emission reduction credits that have been generated by companies that have voluntarily reduced their emissions. Compliance with this rule must be demonstrated prior to the District issuing a permit and prior to constructing the new or modified source of pollution.
- **Rule 4102 Nuisance:** A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property.
- **Rule 8021 Earthmoving Activities:** Requires construction, demolition, excavation, extraction, and other earthmoving activities to include implementation of measures designed to limit fugitive dust emissions.
- **Rule 8041 Carryout and Trackout:** Requires owners and operators to sufficiently prevent or cleanup carryout and trackout as described in SJVAPCD Regulation VIII. The use of blower devices, or dry rotary brushes or brooms, for removal of carryout and trackout on public roads is expressly prohibited. The removal of carryout and trackout from paved public roads does not exempt an owner/operator from obtaining state or local agency permits which may be required for the cleanup of mud and dirt on paved public roads.
- **Rule 8061 Paved and Unpaved Roads:** Requires implementation of control measures and design criteria to limit fugitive dust emissions from any new or existing public or private paved or unpaved road, road construction project, or road modification project.

- **Rule 9510 Indirect Source Review (ISR):** Requires new developments expected to create a substantial amount of air pollution to incorporate on-site mitigation or emission reducing designs and practices into the project.
- **Regulation VIII Fugitive PM10 Prohibitions:** The Regulation VIII rules were adopted in November 2001, and subsequently amended in 2004 to incorporate more stringent requirements. These rules reduce fugitive dust from construction sites, earthmoving activities, parking and staging areas, open areas, agricultural operations, carryout and trackout, paved and unpaved roads, and material storage sites.
- **Rule 2010 (Permits Required):** Rule 2010 requires any person constructing, modifying, replacing, or operating equipment or processes that may emit air contaminants to obtain an Authority to Construct and a Permit to Operate from the SJVAPCD. It establishes the District's permitting framework to ensure that new or modified stationary sources comply with applicable emission standards prior to operation.
- **Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt Paving and Maintenance Operations):** Rule 4641 regulates asphalt paving and maintenance activities by limiting the use of high-VOC asphalt materials and requiring the use of lower-emission alternatives where feasible. The rule is designed to reduce reactive organic gas (ROG) emissions from paving operations, which contribute to ozone formation in the San Joaquin Valley.
- **Rule 9410 (Employer Based Trip Reduction [eTRIP]):** Rule 9410 requires certain large employers to implement trip reduction programs to reduce employee commute-related vehicle miles traveled and associated emissions. Applicable employers must prepare and implement an eTRIP plan and demonstrate ongoing compliance through surveys and reporting to the District.

d. Local Laws, Regulations, and Policies

City and county general plans within the SJCOG region contain policies to protect air quality. Listed below are the policies from the County of San Joaquin and cities in the SJCOG region applicable to air quality. Cities in the region have generally similar policies, and examples are provided in more detail below.

County of San Joaquin

The County of Joaquin has established a series of provisions in the San Joaquin County 2035 General Plan that relate to the physical development of the County. Several goals and policies contained in the General Plan relate to air quality (County of San Joaquin 2016). Applicable goals related to air quality are as follows:

- **LU-1.1 Compact Growth and Development:** The County shall discourage urban sprawl and promote compact development patterns, mixed-use development, and higher-development intensities that conserve agricultural land resources, protect habitat, support transit, reduce vehicle trips, improve air quality, make efficient use of existing infrastructure, encourage healthful, active living, conserve energy and water, and diversify San Joaquin County's housing stock.
- **TM-4.1 Pedestrian and Bicycle Network Continuity:** The County shall strive to eliminate gaps in the rural bicycle network by constructing or designating new bike facilities, where appropriate, and in accordance with the San Joaquin Bicycle Master Plan.

- **TM-5.3 Variety of Transit Types:** The County shall consider a variety of transit types including regional rail, bus rapid transit, regional and local buses, express buses, and neighborhood shuttles, to meet the needs of residents, workers, and visitors.
- **TM-5.4 Alternative to the Automobile**: The County shall promote public and private transit systems in addition to the automobile.
- **C-1.6 Promote Infill:** The County shall promote infill development within existing urban and rural communities and City fringe areas before expanding community boundaries.
- **PHS-5.2 SJVAPCD Coordination:** The County shall coordinate with the SJVAPCD during the review of new development projects which have the potential for causing adverse air quality impacts.
- **PHS-5.4 Innovative Mitigation Measures:** The County shall encourage innovative mitigation measures and project redesign to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties.
- **PHS-5.6 Toxic Air Contaminants:** The County shall require effective buffers between residential areas and other sensitive receptors and non-residential land uses, such as highways, trucking centers, gasoline dispensing facilities, and dry cleaners, that generate toxic air contaminants.
- **PHS-5.7 ATAC Exposure Reduction Measures for New Development:** The County shall require new development projects to implement all applicable best management practices that will reduce exposure of sensitive receptors (e.g., hospitals, schools, daycare facilities, elderly housing and convalescent facilities) to toxic air contaminants.
- **PHS-5.8 Minimize Motor Vehicle Emissions:** The County shall strive to minimize motor vehicle emissions through land use and transportation strategies, as well as by promotion of alternative fuels.
- **PHS-5.9 Particulate Emissions from Construction:** The County shall support SJVAPCD efforts to reduce PM_{10} and $PM_{2.5}$ emissions from construction, grading, excavation, and demolition to the maximum extent feasible and consistent with State and Federal regulations.
- **PHS-5.10 Particulate Emissions from County Roads:** The County shall require PM_{10} and $PM_{2.5}$ emission reductions on County-maintained roads to the maximum extent feasible and consistent with State and Federal regulations.

City of Stockton

The Stockton 2040 General Plan (2018) contains the following actions related to air quality:

- **Action LU-1.1A:** Require renovated and new mixed-use projects to be planned and designed to contribute to the corridor's identity through appropriate public spaces, gateways, streetscapes, pedestrian walkways, setbacks, edge treatments, and other design features.
- **Action LU-2.5A:** Improve transit, bicycle, and pedestrian connectivity between the Downtown and local colleges and universities.
- **Action TR-1.1A:** Direct truck traffic to designated truck routes that facilitate efficient goods movement and minimize risk to areas with concentrations of sensitive receptors, such as schools, for example by disallowing any new truck routes to pass directly on streets where schools are located, and vulnerable road users, like pedestrians and bicyclists.
- **Action TR-2.2D:** Support efforts to electrify buses.
- **Action SAF-4.1A:** Require the construction and operation of new development to implement best practices that reduce air pollutant emissions, including:

  - Use of low-emission and well-maintained construction equipment, with idling time limits.
  - Development and implementation of a dust control plan during construction.
  - Installation of electrical service connections at loading docks, where appropriate.
  - Installation of Energy Star-certified appliances.
  - Entering into Voluntary Emissions Reduction Agreements with the SJVAPCD.

- **Action SAF-4.1C:** Require the use of electric-powered construction and landscaping equipment as conditions of project approval when appropriate.
- **Action SAF-4.1D:** Limit heavy-duty off-road equipment idling time to meet CARB's idling regulations for on-road trucks.
- **Action SAF-4.2A:** Provide information and conduct marketing and outreach to major existing and new employers about the transportation demand management (TDM) program facilitated by SJCOG.
- **Action SAF-4.3B:** Coordinate review of development project applications with the SJVAPCD to ensure that air quality impacts are consistently identified and mitigated during CEQA review.

City of Tracy

The City of Tracy includes policies relating to air quality in the Air Quality Element of its General Plan (2011). Some of the policies include:

- **Policy AQ-1.1-P1**: The City shall promote land use patterns that reduce the number and length of motor vehicle trips.
- **Policy AQ-1.1-P2**: To the extent feasible, the City shall maintain a balance and match between jobs and housing.
- **Policy AQ-1.1-P3:** Higher density residential and mixed-use development shall be encouraged adjacent to commercial centers and transit corridors
- **Policy AQ-1.1-P4:** Employment areas should include a mix of support services to minimize the number of trips.
- **Policy AQ-1.1-P5:** Village Centers and other retail and office areas should be located within walking and biking distance of existing and proposed residential developments.
- **Policy AQ-1.2-P2**: The City shall assess air quality impacts using the latest version of the CEQA Guidelines and guidelines prepared by the SJVAPCD.
- **Policy AQ-1.2-P3**: Developers shall implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.

Other cities within the SJCOG region include Escalon, Lathrop, Lodi, Manteca, Mountain House, and Ripon. The General Plans of these cities include goals and policies pertaining to air quality that are similar to those outlined above.

4.2.3 Impact Analysis

a. Methodology and Significance Thresholds

This analysis uses the guidance and methodologies recommended in the SJVAPCD's 2015 *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI) (SJVAPCD 2015) to determine whether the proposed 2026 RTP/SCS impacts exceed the thresholds identified in CEQA Guidelines Appendix G.

Short-Term Emissions Methodology

Emissions from construction activities represent temporary impacts that are typically short in duration, depending on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. Quantifying construction-related emissions would be speculative at the RTP/SCS level because such emissions are dependent on the characteristics of individual development projects. However, because construction of projects under the proposed 2026 RTP/SCS would generate temporary criteria pollutant emissions, primarily due to the operation of construction equipment and truck trips, a qualitative analysis is provided.

Long-Term Emissions Methodology

The methodology for determining the significance of air quality impacts compares baseline conditions in 2025 to the future 2049 conditions, as required in CEQA Guidelines Section 15126.2(a). The analysis of air quality also includes a comparison between the expected future conditions under the proposed 2026 RTP/SCS and the expected future conditions if the proposed 2026 RTP/SCS was not adopted ("No Project" scenario) for informational purposes only. State and federal clean air laws require that emissions of pollutants for which NAAQS or CAAQS are violated be reduced from current levels. Therefore, for Impact AQ-3, the project's long-term mobile source impacts to air quality would be considered significant if the proposed 2026 RTP/SCS would result in mobile source emissions that exceed existing levels. In this case, the pollutants of concern are ozone precursors (NO_x and ROG) and fine particulate matter, as these are the primary pollutants associated with vehicle transportation.

Projected air emissions from mobile sources were calculated using the EMFAC2021 model with data for vehicle miles traveled (VMT) from the RTP/SCS transportation analysis completed by SJCOG. Data from EMFAC outputs and SJCOG's transportation analysis were used to calculate projected vehicle emissions. The 2025 Baseline scenario and 2049 scenarios also use CARB's *EMFAC2021 Off-Model Adjustment Factors to Remove the Impact of Advanced Clean Trucks, Zero-Emission Airport Shuttle, Heavy-Duty Omnibus and Warranty Phase I Regulations* guidance to incorporate off-model adjustments to remove emission factors of recently revoked federal waivers, as discussed in Section 4.2.3, *Regulatory* Setting. These adjustment factors for the 2025 Baseline emissions scenario were applied per CARB recommended guidance (CARB 2026)[2]. Calculations are available in Appendix B. Projected vehicle emissions for the year 2049 under the proposed 2026 RTP/SCS were compared to 2025 existing conditions and, for informational purposes, with future conditions under the 2049 No Project scenario.

Health Impacts

Short-term and long-term exposure to criteria pollutants and TACs may result in adverse health effects, based on the information presented in Section 4.2.1(c), *Air Pollutants of Primary Concern*. As discussed in that section, these effects may include: aggravated asthma, increases in respiratory symptoms like coughing and difficult or painful breathing, chronic bronchitis, decreased lung function, increased cancer risk, heart attack, and premature death.

[2] Heavy-duty (HD) and inspection/maintenance (I/M) adjustments approved by the U.S. Environmental Protection Agency (EPA) for EMFAC2021 on May 6, 2026 are not incorporated in this analysis; exclusion of these adjustments represents a conservative modeling approach.

The NAAQS and CAAQS are health-based standards. Therefore, in this impact analysis, if the proposed 2026 RTP/SCS would result in cumulatively considerable net increase of any criteria pollutant for which the SJCOG region is non-attainment under an applicable federal or State ambient air quality standard, it would also contribute to these adverse health effects.

SJVAPCD has determined thresholds of significance for TAC emissions from the operation of both permitted and non-permitted sources (SJVAPCD 2015). The significance threshold for long-term public health risk is set at 20 excess cancer cases in a million for cancer risk. For non-cancer risk (i.e., chronic or acute risk), the significance threshold is set at a hazard index of greater than 1.0. The health impacts of TACs are discussed separately under Impact AQ-4.

Significance Thresholds

Appendix G of the CEQA Guidelines identifies general criteria for determining whether a project's impacts would have a significant impact on air quality. SJCOG has modified the language of the second criterion to provide specific quantities of criteria pollutants that would contribute to a significant impact based on SJVAPCD thresholds (SJVAPCD 2015).

The significance thresholds used for this EIR, based on CEQA Guidelines Appendix G, are:

1. Conflict with or obstruct implementation of the applicable air quality plan;
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard:
    a. During construction:
        i. Emit greater than 15 tons per year of PM_{10};
        ii. Emit greater than 15 tons per year of $PM_{2.5}$;
        iii. Emit greater than 100 tons per year of CO;
        iv. Emit greater than 10 tons per year of NO_x;
        v. Emit greater than 10 tons per year of ROG; or
        vi. Emit greater than 27 tons per year of SO_x.
    b. During operations:
        i. Generate emissions of ROG that exceed 10 tons per year;
        ii. Generate emissions of NO_x that exceed 10 tons per year
        iii. Generate emissions of PM_{10} exceeding 15 tons per year;
        iv. Generate emissions of $PM_{2.5}$ exceeding 15 tons per year;
        v. Generate emissions of CO exceeding 100 tons per year; or
        vi. Generate emissions of SO_X exceeding 27 tons per year.
3. Expose sensitive receptors to substantial pollutant concentrations; or
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

b. Project Impacts and Mitigation Measures

This section discusses impacts and mitigation measures associated with transportation projects and the land use scenario contained within the 2026 RTP/SCS. Due to the programmatic nature of the 2026 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 2026 RTP/SCS could result in impacts as described in the following sections.

Threshold 1:	Conflict with or obstruct implementation of the applicable air quality plan.

Impact AQ-1 THE PROPOSED 2026 RTP/SCS WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Air quality plan conflicts would be significant if the 2026 RTP/SCS conflicted with the goals of the SJVAPCD's 2022 Ozone Plan or $PM_{2.5}$ plans for non-attainment pollutants, or obstructed implementation of these plans. The policies and land use patterns facilitated by the proposed 2026 RTP/SCS are projected to reduce emissions of ozone precursors and particulate matter below 2025 baseline levels (as well as the 2049 "No Project" alternative), as discussed in Impact AQ-3 (see Table 4.2-8), which is consistent with the goals and policies of SJVAPCD's 2022 Ozone Plan. Although VMT would increase as compared to baseline levels, emissions would decrease due to increasingly fuel-efficient vehicles, improving emissions control technology, and an increased share of electric vehicle adoption. In addition, implementation of proposed transportation improvements and land use projects envisioned by the proposed 2026 RTP/SCS, which among other strategies, would improve alternative transportation options and circulation. To accommodate future growth in the region while reducing emissions, the strategy of the proposed 2026 RTP/SCS is to develop an efficient circulation network with multi-modal transportation in addition to promoting congestion management; coordinating land use, housing, and transportation systems; and providing incentives that reduce vehicle use in comparison to a future scenario in the absence of the proposed 2026 RTP/SCS. Implementation of these strategies would result in reduced overall VMT, which would reduce regional criteria air pollutant emissions and TAC emissions from mobile sources.

The goals of the SJVAPCD 2022 Ozone Plan and the 2024 $PM_{2.5}$ Plan are to reduce precursor pollutants, which include NO_X and ROG, and particulate matter pollutants within the SJCOG region. The above RTP/SCS strategies and other actions in the proposed 2026 RTP/SCS would align with the emissions reduction goals of both SJVAPCD attainment plans. Therefore, implementation of the proposed 2026 RTP/SCS would not conflict with or obstruct implementation of the applicable air quality plans, and this impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 2:	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (construction)

Impact AQ-2 CONSTRUCTION ACTIVITIES ASSOCIATED WITH TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE IN CRITERIA POLLUTANTS FOR WHICH THE PROJECT REGION IS NON-ATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

There are three primary sources of short-term emissions that would be generated by construction of future transportation projects under the proposed 2026 RTP/SCS. These sources include:

- Operation of construction vehicles (i.e., scrapers, loaders, dump trucks);
- The creation of fugitive dust during clearing and grading; and
- The use of asphalt or other oil-based substances during the final construction phases, which also generate nuisance odors.

The significance of daily emissions, particularly ROG and NO_X emissions generated by construction equipment utilized to build RTP/SCS transportation improvements, as well as future development facilitated by the SCS land use scenario, would depend on the quantity of equipment used and the hours of operation. The significance of fugitive dust ($PM_{2.5}$ and PM_{10}) emissions would depend upon the following factors:

- The areal extent of disturbed soils;
- The length of disturbance time;
- Whether existing structures are demolished;
- Whether excavation is involved (including the potential removal of underground storage tanks); and
- Whether transport of excavated materials offsite is necessary.

Intersection improvements, such as signalization or signal coordination, are small-scale projects and are not expected to generate significant short-term emissions. However, other RTP/SCS projects as well as future development facilitated by the SCS land use scenario may involve grading and paving, or the construction of permanent facilities. For example, substantial grading and paving would be required for roadway widening and other large improvements on State Routes and regional roadways. The precise quantity of emissions would need to be determined at the time of proposed construction of a given transportation improvement or development project. When project-specific CEQA documents are prepared, these emissions would be compared to SJVAPCD's construction thresholds, as listed in Section 4.2.3(a), *Methodology and Significance Thresholds* under Threshold 2(a). Although any individual transportation improvement or development project may not generate significant short-term emissions, it is probable that several projects would be under construction simultaneously, generating cumulative construction emissions that could impact air quality.

SJVAPCD construction emissions thresholds listed in Section 4.2.3(a), *Methodology and Significance Thresholds* under Threshold 2(a) would be used to determine whether construction impacts of individual projects are significant. In addition, construction equipment would be subject to the stringent rules and regulations adopted by USEPA and CARB to reduce criteria pollutant and hazardous emissions limits from on-road vehicles and off-road equipment. In addition, USEPA and CARB both have ignition diesel engine standards for non-road portable equipment, such as diesel generators and air compressors, which require the non-road equipment engines to be rated a cleaner tier by specific years, which will result in reduced emissions (CARB 2026c, USEPA 2025).

Even though these regulations exist, it cannot be assumed that projects under the proposed 2026 RTP/SCS would be constructed using the latest and lowest emitting construction equipment for a majority of their construction fleet. Therefore, short-term impacts would be significant because construction emissions could exceed SJVAPCD significance thresholds and result in cumulatively considerable net increases in $PM_{2.5}$ and PM_{10} and/or ozone precursor emissions. The following mitigation measures would reduce this impact.

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 2026 RTP/SCS program where applicable for transportation projects that would result in fugitive dust and ozone precursor emissions. Cities and the County can and should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

AQ-2(a) Application of SJVAPCD Feasible Mitigation Measures

For all projects, the implementing agency shall incorporate the most recent SJVAPCD feasible construction mitigation measures and/or technologies for reducing inhalable particles based on analysis of individual sites and project circumstances. Additional and/or modified measures may be adopted by SJVAPCD prior to implementation of individual projects under the proposed 2026 RTP/SCS; therefore, the most current list of feasible mitigation measures at the time of project implementation shall be used. The current SJVAPCD feasible mitigation measures include the following (SJVAPCD 2015):

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, tarp cover, or other suitable cover or vegetative ground cover.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
- An owner/operator of any site with 150 or more vehicle trips per day, or 20 or more vehicle trips per day by vehicles with three or more axles shall implement measures to prevent carryout and trackout.
- Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

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 the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

AQ-2(b) Diesel Equipment Emissions Standards

The implementing agency shall ensure, to the maximum extent technologically, logistically, and economically feasible, that diesel construction equipment meeting the most stringent CARB emissions standards for off-road heavy-duty diesel engines is used (e.g., as of 2026, this would be Tier 4 emission standards). Where the use of the most stringent CARB emissions standards for off-

road heavy-duty diesel engines is not feasible, the next lower tier shall be used; where the use of the next lower tier is not feasible, the next lowest tier shall be used.

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 the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

AQ-2(c) Electric Construction Equipment

The implementing agency shall ensure that to the extent technologically, logistically, and economically feasible, construction equipment utilizes electricity from power poles rather than temporary diesel power generators and/or gasoline power generators.

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 the County. These mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

Implementation of Mitigation Measures AQ-2(a) through AQ-2(c) would reduce short-term construction emissions from individual projects and thus reduce the severity of impacts by requiring best practices for dust and exhaust emissions via readily available, lower-emitting diesel equipment, and/or equipment powered by alternative cleaner fuels (e.g., propane) or electricity, as well as on-road trucks using particulate exhaust filters. To the extent that an implementing agency requires an individual project to implement all feasible mitigation measures described above, individual project impacts may be reduced to a less than significant level. Implementation of Mitigation Measure GHG-1 would also reduce construction emissions from the proposed 2026 RTP/SCS projects. However, these mitigation measures may not be feasible or effective for all projects. Therefore, this impact would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible at the programmatic level.

Threshold 2:	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (operation)

Impact AQ-3 OPERATION OF THE PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF A CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS NON-ATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD. IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Transportation Emissions

Projected on-road vehicle emissions on the SJCOG transportation network for the year 2049 under proposed 2026 RTP/SCS conditions were compared to baseline (2025) conditions. For informational

purposes, projected on-road vehicle emissions on the SJCOG transportation network for the years 2025 and 2049 under proposed 2026 RTP/SCS conditions were also compared with those projected under the future 2049 "No Project" scenario, which accounts for future growth but in which the transportation improvements identified in the proposed 2026 RTP/SCS are not implemented.

Table 4.2-6 shows the results of the long-term emissions analysis based on Total Daily VMT for the SJCOG region.

Table 4.2-6 Regional Air Pollutant Emissions – SJCOG Region

Scenario[2]	VMT	ROG (tons/day)	NO_X (tons/day)	PM_{10} (tons/day)[1]	$PM_{2.5}$ (tons/day)[1]
2025 Baseline	18,854,706	3.242	6.304	0.600	0.240
2049 No Project	21,444,530	1.863	5.772	0.714	0.267
2049 with Proposed 2026 RTP/SCS	21,418,525	1.859	5.763	0.710	0.266
Net Change from 2025 Baseline	**2,563,819**	**(1.383)**	**(0.540)**	**0.110**	**0.025**
Net Change from 2049 No Project	**(26,004)**	**(0.004)**	**(0.01)**	**(0.003)**	**(0.001)**

( ) denotes a negative number

[1] $PM_{2.5}$ and PM_{10} includes tire wear and brake wear emissions

[2] Emission factors were adjusted to account for recent regulatory changes to state emissions reduction policies. Specifically, emissions represent those without Advanced Clean Trucks (ACT), Zero-Emission Airport Shuttle, and HD Omnibus and Warranty Phase I emissions reductions.

Notes: The on-road mobile source criteria pollutant emissions estimates for the proposed 2026 RTP/SCS were calculated using CARB's EMFAC2021 emission inventory model. VMT data was provided by SJCOG. Emission totals may not add up due to rounding. Heavy-duty (HD) and inspection/maintenance (I/M) adjustments approved by the U.S. Environmental Protection Agency (EPA) for EMFAC2021 on May 6, 2026 are not incorporated in this analysis; exclusion of these adjustments represents a conservative modeling approach.

Source: See Appendix B for EMFAC2021 modeling results

As shown in Table 4.2-6, emissions of PM_{10} and $PM_{2.5}$ would increase, while ROG and NO_X under the proposed 2026 RTP/SCS would decrease as compared to SJCOG's 2025 baseline despite a projected increase in VMT. Project-related increases in VMT would incrementally increase PM emissions from mobile sources due to increased non-exhaust particulate generation, including brake and tire wear; because these emissions scale with vehicle activity, increased travel demand would result in a corresponding increase in PM concentrations.

The decrease in emissions for ROG and NO_X is consistent with the statewide downward trend for these pollutants as a result of CARB rules designed to reduce emissions from cars and trucks. The transportation improvements and future projects under the land use scenario implementing the RTP/SCS encourage improved circulation and higher density development along transportation corridors, and increased transit and active transportation funding, which would further reduce on-road mobile emissions. Transit project would include funding for eTrans and the Roth Road/Union Pacific rail grade separation. Active transportation projects would include Safe Routes to School bike and pedestrian projects in Manteca, ADA ramps improvements in Mountain House, and numerous bike and pedestrian improvements including bicycle lanes bikeways in Stockton and Tracy. The proposed 2026 RTP/SCS is intended to increase residential and commercial land use capacity within existing transit corridors, shifting a greater share of future growth to these corridors and ultimately increasing density, improving circulation and multi-modal connections, and leading to lower per capita VMT, which would have a beneficial effect on air quality.

Conditions under the proposed 2026 RTP/SCS were compared to 2049 "No Project" conditions for informational purposes. The proposed 2026 RTP/SCS would result in a net decrease in VMT compared to the 2049 "No Project" scenario due to transportation improvements identified in the proposed 2026 RTP/SCS. As such, on-road vehicle emissions would also be reduced under proposed 2026 RTP/SCS conditions when compared to the "No Project" scenario.

As previously noted, San Joaquin County is currently in non-attainment for federal and state $PM_{2.5}$ and ozone standards and state PM_{10} standards. As shown in Table 4.2-6, emissions levels for ozone precursors are forecast to decline despite projected future growth. NO_X emissions are primarily generated by trucks and are expected to decrease over time due in part to the impact of CARB rules designed to reduce NO_X emissions from diesel trucks and buses. ROG emissions are primarily due to gasoline vehicles and are lower due to improvements in vehicle emission rates. PM emissions are also generally consistent with statewide trends.

In addition to specific transportation improvements and land use scenarios, the proposed 2026 RTP/SCS also includes several strategies that would contribute to a reduction of air pollutants. Below is a summary of the proposed 2026 RTP/SCS strategies that promote improvements to air quality:

- Strategy 1.a: Optimize the public transportation system to provide efficient and convenient access for users of all income levels.
- Strategy 1.b: Encourage infill development and development near transit, including transit-oriented development to maximize existing transit investments.
- Strategy 1.d: Enhance the connection between land use and transportation options to improve mobility and accessibility.
- Strategy 1.c: Provide transportation improvements to facilitate nonmotorized travel, including incorporation of complete streets elements as appropriate.
- Strategy 6.b: Promote electric power, alternative fuels and autonomous technologies for public transit, freight and agriculture.
- Strategy 8.b: Improve air quality by reducing transportation-related emissions.
- Strategy 9.c: Encourage clean infrastructure in projects and programs, including alternative fuel, zero-emission transit, energy-efficient lighting, and sustainable materials in transportation and housing developments.

Furthermore, the results in Table 4.2-6 do not account for some proposed VMT reduction strategies, such as a transportation demand management plan, telecommuting, and transit service enhancements, because these strategies are off-model reductions that cannot be included in EMFAC. The mobile air contaminant emissions from the proposed 2026 RTP/SCS are expected to further decrease with the inclusion of these VMT reduction strategies, such that the analysis herein represents a reasonable worst-case scenario for air contaminant emissions. Therefore, long-term operational impacts from transportation projects would be less than significant.

Other Land Use Emissions

In addition to the transportation-related GHG emissions shown in Table 4.2-6, land use projects envisioned by the land use scenario in the proposed 2026 RTP/SCS would also result in criteria air pollutant emissions due to sources such as architectural coatings, consumer products, fireplaces, landscaping equipment, and natural gas usage. Over the planning period, per capita emissions associated with consumer products, architectural coatings, fireplaces, landscaping equipment, and

natural gas consumption are anticipated to decline, primarily as a result of increasingly stringent CARB and SJVAPCD rules and regulations. In addition, the proposed 2026 RTP/SCS would reduce per capita transportation related air pollutant emissions associated with future land use development, which would contribute to an overall reduction in per capita air pollutant emissions associated with future (2049) land use development as compared to 2025 baseline conditions. Nevertheless, the proposed land use scenario would most likely increase countywide ROG, PM_{10}, and $PM_{2.5}$ emissions based on growth forecasts, which would increase the likelihood that San Joaquin County will continue to exceed the federal and state $PM_{2.5}$ and ozone standards and state PM_{10} standards for which San Joaquin County is currently in non-attainment. Also, individual land use projects could exceed the SJVAPCD operational significance thresholds as listed in Section 4.2.3(a), *Methodology and Significance Thresholds* under Threshold 2(b). Therefore, because operational emissions generated by the proposed 2026 RTP/SCS land use scenario would contribute to existing non-attainment conditions in the SJVAB, impacts would be significant. The following mitigation measure would reduce this impact.

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 2026 RTP/SCS program where applicable for transportation projects that would result in fugitive dust and ozone precursor emissions. Cities and the County can and should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

AQ-3(a) PM_{10} Emissions Reduction

To help reduce regional PM_{10} emissions, SJCOG, in partnership with SJVAPCD and implementing agencies, shall:

a. Support the use of existing air quality and transportation funds and seek additional funds to continue the implementation of the CARB Carl Moyer Program, which is intended to retrofit and replace trucks and locomotives to reduce particulate matter.
b. Incentivize the reduction of mobile PM emissions from mobile exhaust and entrained PM sources such as tire wear, brake wear, and roadway dust through funding.
c. Hold forums and workshops to encourage land use projects to incorporate transportation demand management (TDM) strategies as part of the project design to reduce the number of vehicular trips across the transportation network. Potential strategies could include ridesharing, carpooling, subsidized public transit, flexible work hours, and parking management measures.

IMPLEMENTING AGENCIES AND TIMING

SJCOG and transportation project sponsors are responsible for implementing this measure. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during operation where appropriate.

AQ-3(b) Long-term Regional Operational Emissions

Implementing agencies can and should implement long-term operational emissions reduction measures. Such reduction measures include the following:

- Require that all interior and exterior architectural coatings for all developments utilize coatings following SJVAPCD Rule 4601, *Architectural Coatings*.
- Increase building envelope energy efficiency standards in excess of applicable building standards and encourage new development to achieve zero net energy use.
- Install energy-efficient appliances, interior lighting, and building mechanical systems. Encourage installation of solar panels for new residential and commercial development.
- Locate sensitive receptors more than 500 feet of a freeway, 500 feet of urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
- Locate sensitive receptors more than 1,000 feet of a major diesel rail service or railyards. Where adequate buffer cannot be implemented, implement the following:
  - Install air filtration (as part of mechanical ventilation systems or stand-alone air cleaners) to reduce indoor pollution exposure for residents and other sensitive populations in buildings that are close to transportation network improvement projects.
  - Use air filtration devices rated MERV-13 or higher.
- Plant trees and/or vegetation suited to trapping roadway air pollution and/or install sound walls between sensitive receptors and the pollution source. The vegetation buffer should be thick, with full coverage from the ground to the top of the canopy.
- Install higher efficacy public street and exterior lighting.
- Use daylight as an integral part of lighting systems in buildings.
- Use passive solar designs to take advantage of solar heating and natural cooling.
- Install light-colored "cool" roofs, cool pavements.
- Install solar and tankless hot water heaters.
- Exclude wood-burning fireplaces and stoves.
- Incorporate design measures and infrastructure that promotes safe and efficient use of alternative modes of transportation (e.g., neighborhood electric vehicles and bicycles) pedestrian access, and public transportation use. Such measures may include incorporation of electric vehicle charging stations, bicycle lanes, bicycle-friendly intersections, and bicycle parking and storage facilities.
- Incorporate design measures that promote ride sharing programs (e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides).
- Incorporate other mitigation measures recommended by SJVAPCD.

IMPLEMENTING AGENCIES AND TIMING

Implementing agencies for land use projects are cities and the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during operation where appropriate.

Significance After Mitigation

If implementing agencies adopt and require the mitigation described above, emission impacts would be reduced because said measures reduce PM_{10} emissions, and encourage the use of cleaner vehicles and reduce vehicle trips. Implementation of Mitigation Measures GHG-4(a) and GHG-4(b),

described in Section 4.9, *Greenhouse Gas Emissions and Climate Change*, would also reduce operational emissions from the proposed 2026 RTP/SCS. However, since the implementation is not project or site specific, reductions cannot be estimated and cannot be guaranteed on a project-by-project basis. Therefore, this impact would remain significant and unavoidable. No additional feasible mitigation measures are available that would reduce daily emissions such that emissions would not contribute to existing non-attainment conditions in the SJVAB.

Threshold 3:	Expose sensitive receptors to substantial pollutant concentrations

Impact AQ-4 THE PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS IMPLEMENTING THE PROPOSED 2026 RTP/SCS WOULD EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL PARTICULATE MATTER POLLUTANT CONCENTRATIONS. BECAUSE THE PROPOSED 2026 RTP/SCS WOULD INCREASE EXPOSURE TO ENTRAINED DUST, IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Re-entrained dust refers to roadway dust that is "kicked up" by moving vehicles on paved and unpaved roadways. This type of dust would be generated by roadway activity under the proposed 2026 RTP/SCS. In addition, dust from construction activity would add to regional dust levels. The synergistic effects of road dust (typically measured as PM_{10}) with ozone and the hazardous constituents of re-entrained road dust itself (carcinogens, irritants, pathogens) may affect human health by contributing to respiratory illnesses such as asthma and allergies. Although motor vehicle emission control advances have allowed vehicle tailpipe emissions of some pollutants to decrease over the last 20 years, the number of vehicles in use and the amount of vehicle activity has continued to increase. This would suggest that re-entrained road dust has increased as well, as the amount of re-entrained dust is related to the number of vehicles on the road. Table 4.2-7 compares fugitive dust particulate emissions for the baseline conditions in 2025 and 2049 with implementation of the proposed 2026 RTP/SCS.

Table 4.2-7 Fugitive Dust Particulate Matter Comparison

Scenario	PM_{10} Emissions (tons/day)	$PM_{2.5}$ Emissions (tons/day)
2025 Baseline	0.515	0.160
2049 No Project	0.615	0.191
2049 with Proposed 2026 RTP/SCS	0.612	0.190
Net Change from 2025 Baseline	**0.097**	**0.030**
Percent Change from 2025 Baseline	**19%**	**19%**

Source: Appendix B

Note: The fugitive dust values presented here differ from those used in federal conformity analysis due to methodological differences. Fugitive dust associated with on-road vehicle activity is conservatively represented using EMFAC tire wear and brake wear emissions as a proxy.

As shown in Table 4.2-7, fugitive dust particulate emissions would be higher with implementation of the proposed 2026 RTP/SCS as compared to 2025 baseline conditions. This is due to an increase in VMT within the SJCOG region. Project-related increases in VMT would result in increased fugitive dust emissions due to greater vehicle activity, particularly on paved and unpaved roadways and in disturbed areas. Increased traffic would generate additional roadway dust re-entrainment and surface abrasion, and where applicable, travel on unpaved surfaces would further contribute to fugitive particulate generation; as these emissions are directly proportional to vehicle activity, higher VMT would result in a corresponding incremental increase in fugitive dust levels. Therefore, the proposed 2026 RTP/SCS would expose sensitive receptors to substantial pollutant

concentrations associated with re-entrained road dust above baseline levels, and impacts would be significant. Therefore, implementation of Mitigation Measures AQ-3(a*) PM_{10} Emissions Reduction* and 3(b) *Long-term Regional Operational Emissions* in Impact AQ-3 would be required to further reduce re-entrained road dust emissions by encouraging the use of dust suppressants, including watering or gravel, and diesel equipment meeting stricter CARB Tier 4 emission standards, implementation of these measures are not project or site specific, and thus, reductions cannot be estimated and cannot be guaranteed on a project-by-project basis. Therefore, the proposed 2026 RTP/SCS would expose sensitive receptors to substantial pollutant concentrations associated with re-entrained road dust, and impacts would be potentially significant.

Mitigation Measures

See Impact AQ-3 for Mitigation Measures AQ-3(a) and AQ-3(b).

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 the County. These mitigation measures shall, or can and should, be applied during permitting and environmental review and implemented during operation where appropriate.

Significance After Mitigation

If implementing agencies adopt and require the mitigation described above, emission impacts would be reduced because said measures reduce $PM_{2.5}$ and PM_{10} emissions and exposure to fugitive dust emissions. However, since the implementation is not project or site specific, reductions cannot be estimated and cannot be guaranteed on a project-by-project basis. Therefore, this impact would remain significant and unavoidable. No additional feasible mitigation measures are available that would reduce daily emissions such that emissions would not expose sensitive receptors to significant fugitive dust concentrations.

Threshold 3:	Expose sensitive receptors to substantial pollutant concentrations

Impact AQ-5 THE TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL TAC CONCENTRATIONS. IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

As described in Section 4.2.1, *Setting*, TACs are air pollutants that pose a potential hazard to human health by causing or contributing to an increase in mortality or serious illness. Common sources of TAC include high traffic freeways and roads, gas dispensing facilities, industrial facilities, and diesel engines. DPM is classified as the primary airborne carcinogen in California. CARB reports that diesel particulate matter represents about 70 percent of the potential cancer risk from vehicle travel on a typical urban freeway. To protect people from TACs and reduce exposure, CARB recommends avoiding siting new sensitive land uses, such as residences, schools, daycare centers, playgrounds, or medical facilities, within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day (CARB 2005).

According to the SJVAPCD GAMAQI, sensitive receptors are defined as people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential

dwelling unit(s). The location of sensitive receptors is needed to assess toxic impacts on public health.

Several high traffic freeways and roads are located throughout the SJCOG region, including Interstates 5, 205, and 580 and State Routes 4, 12, 26, 33, 99, 88, 120, and 132. Within the SJCOG region, sensitive receptors residing close to freeways or busy roadways may experience adverse health effects beyond those typically found in urban areas. Because exposure of TACs is primarily based on local parameters (e.g., average daily traffic on local roadway segments and wind direction in relation to source and receptor), health risks adjacent to high volume roadways and transportation facilities would remain higher than regional averages.

As discussed above, the SJVAPCD significance threshold for long-term public health risk is set at 20 excess cancer cases in a million for cancer risk. For non-cancer risk (i.e., chronic or acute risk), the significance level is set at a hazard index of greater than 1.0. If a formal health risk assessment shows that a significant impact results, mitigation measures to reduce the predicted levels of toxic air pollutants from the facility to a less-than-significant level may be imposed by the lead agency.

To assess the impact of the proposed 2026 RTP/SCS on diesel emissions on regional roadways, an analysis of on-road mobile source diesel $PM_{2.5}$ and PM_{10} emissions (primary pollutants) and diesel NO_X (as a proxy for secondary PM_{10}) is shown in Table 4.2-8. This table compares baseline (2025) conditions and future 2049 "No Project" conditions with 2049 conditions with implementation of the proposed 2026 RTP/SCS. Projected emissions for 2049 with implementation of the proposed 2026 RTP/SCS would result in reductions of diesel SO_X, diesel $PM_{2.5}$, and diesel PM_{10} emissions. Emissions for diesel NO_x and CO would increase from the baseline (2025) scenario for both the 2049 "No Project" and 2049 with proposed 2026 RTP/SCS scenario; however, on-road diesel emissions 2049 with implementation of the 2026 RTP/SCS would decrease compared to the 2049 "No Project" scenario.

Table 4.2-8 On-Road Mobile Source Diesel Toxics Comparison

Scenario	Diesel $PM_{2.5}$ (tons/day)	Diesel PM_{10} (tons/day)	Diesel NO_X (tons/day)	Diesel SO_X (tons/day)	Diesel CO (tons/day)
2025 Baseline	0.054	0.056	4.34	0.02	1.20
2049 No Project	0.046	0.048	4.86	0.02	1.31
2049 with Proposed 2026 RTP/SCS	0.046	0.048	4.86	0.02	1.31
Net Change from 2025 Baseline	**(0.007)**	**(0.008)**	**0.521**	**(0.0004)**	**0.109**
Percent Change from 2025 Baseline	**(14%)**	**(14%)**	**12%**	**(1%)**	**9%**
Net Change from 2049 No Project to 2049 with Proposed 2026 RTP/SCS	**(0.0001)**	**(0.0001)**	**(0.006)**	**(0.00003)**	**(0.002)**
Percent Change from 2049 No Project to 2049 with Proposed 2026 RTP/SCS	**(0.12%)**	**(0.12%)**	**(0.12%)**	**(0.12%)**	**(0.14%)**

( ) denotes a negative number

Source: Appendix B

Exposure for overall toxic air contaminant concentrations and associated health risks is primarily based on local parameters such as average daily traffic (ADT) on local roadway segments, or wind direction in relation to source and receptor. As such, the health risks adjacent to heavily trafficked roadways and transportation facilities (e.g., Interstates 5, 205, and 580 and State Routes 4, 12, 26,

33, 99, 88, 120, and 132) would remain higher than regional averages. See Section 4.14, *Transportation*, for a summary of ADT on heavily trafficked roadways in the SJCOG region.

As discussed in Chapter 2, *Project Description*, as a result of proposed 2026 RTP/SCS policies and the proposed land use scenario, the anticipated growth pattern would facilitate improved circulation and expanded roadway networks, which could result in more people being exposed to elevated health risks as compared to areas of the region more distant from such activities. The location and pattern of the proposed 2026 RTP/SCS growth would influence travel behavior. An efficient and well-maintained circulation network facilitates a reduction in individual vehicle trips and associated congestion (refer to Section 4.14, *Transportation).* Reduced congestion and vehicle trips are directly linked to reduced regional criteria air pollutant emissions and toxic air emissions from mobile sources.

It is important to note that a variety of other factors contribute to the decline in contaminant emissions compared to existing conditions, including vehicle technology, cleaner fuels, and fleet turnover. However, in order to achieve the greatest VMT reductions from an efficient circulation network, development also must necessarily be in relatively close proximity to public transit and major roadway corridors. Although the precise location and density of such development is not known at this time, the proposed 2026 RTP/SCS could result in new sensitive receptors sited close to existing and new TAC sources, potentially resulting in the exposure of sensitive receptors to substantial TAC concentrations. Therefore, impacts related to TAC emissions would be potentially significant. The siting of new sensitive receptors would be subject to an individual jurisdiction's land use approval processes and would be analyzed on an individual project basis and subject to mitigation measures identified below. The below mitigation measure would reduce this impact.

Mitigation Measures

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measure developed for the proposed 2026 RTP/SCS program where applicable for transportation projects that would result in fugitive dust and ozone precursor emissions. Cities and the County can and should implement this measure, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust this mitigation measure as necessary to respond to site-specific conditions.

AQ-5 Health Risk Reduction Measures

Transportation project sponsor agencies shall implement the following measures for projects that could facilitate an increase in vehicle trips:

- During project-specific design and CEQA review, the potential localized particulate (PM_{10} and $PM_{2.5}$) impacts and their health risks shall be evaluated for individual projects. Localized particulate matter concentrations shall be estimated using procedures and guidelines consistent with USEPA's 2015 *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Non-attainment and Maintenance Areas*. If required based on the project-level hotspot analysis, project-specific mitigation shall be added to the project design concept or scope to ensure that local particulate (PM_{10} and $PM_{2.5}$) emissions would not reach a concentration at any location that would cause estimated cancer risk to exceed the SJVAPCD threshold of 20 in one million. Per the USEPA guidance (2015), potential mitigation measures to be considered may include but shall not be limited to: providing a retrofit program for older higher emitting vehicles, anti-idling requirements or policies, controlling fugitive dust, routing

traffic away from populated zones and replacing older buses with cleaner buses. These measures can and should be implemented to reduce localized particulate matter emissions.

- For projects that do not meet SJVAPCD screening criteria, retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with CARB and OEHHA requirements to determine the exposure of nearby residents to TAC concentrations.
- If impacts result in increased risks to sensitive receptors above significance thresholds, plant trees and/or vegetation suited to trapping TACs and/or install sound walls between sensitive receptors and the pollution source.

In addition, consistent with the general guidance contained in CARB's *Air Quality and Land Use Handbook* (2005) and *Technical Advisory on Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways* (2017), cities and the County shall incorporate appropriate and feasible measures into project design for land use projects, including residential, school, and other sensitive uses located within 500 feet (or other appropriate distance as determined by the lead agency) of freeways, heavily travelled arterials, railways and other sources of diesel particulate matter, including roadways experiencing significant vehicle delays. The appropriate measures shall include one or more of the following methods, as applicable and as determined by a qualified professional. The implementing agency shall incorporate health risk reduction measures based on an analysis of individual sites and project circumstances. These measures may include:

- Avoid siting new sensitive land uses within 500 feet of a freeway or railway.
- Require development projects for new sensitive land uses to be designed to minimize exposure to roadway-related pollutants to the maximum extent logistically and economically feasible through inclusion of design components including air filtration and physical barriers.
- Do not locate sensitive receptors near the entry and exit points of a distribution center.
- Locate structures and outdoor living areas for sensitive uses as far as possible from the source of emissions. As feasible, locate doors, outdoor living areas and air intake vents primarily on the side of the building away from nearby high-volume roadways or other pollution source. As feasible, incorporate dense, tiered vegetation that regains foliage year-round and has a long life span between the pollution source and the project.
- Maintain a 50-foot buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year).
- Install, operate, and maintain in good working order a central heating and ventilation (HV) system or other air intake system in the building, or in each individual residential unit, which meets the efficiency standard of the MERV 13. The HV system should include the following features:
    - Installation of a high efficiency filter and/or carbon filter to filter particulates and other chemical matter from entering the building.
    - Use of either HEPA filters or ASHRAE 85 percent supply filters.
    - Completion of ongoing maintenance.
- Retain a qualified HV consultant or Home Energy Rating Systems rater during the design phase of the project to locate the HV system based on exposure modeling from the mobile and/or stationary pollutant sources.
- Maintain positive pressure within the building.

- Achieve a performance standard of at least one air exchange per hour of fresh outside filtered air.
- Achieve a performance standard of at least four air exchanges per hour of recirculation. Achieve a performance standard of 0.25 air exchanges per hour of unfiltered infiltration if the building is not positively pressurized.
- Require project owners to provide a disclosure statement to occupants and buyers summarizing technical studies that reflect health concerns about exposure to highway/freeway exhaust emissions.
- Implement feasible attenuation measures needed to reduce potential air quality impacts to sensitive receptors such as air filtration systems.

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 the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during operation where appropriate.

Significance After Mitigation

Although implementation of the above mitigation would reduce health risks associated with TAC emissions, individual receptors may still be exposed to substantial TAC concentrations that would have significant health risk effects. Therefore, this impact remains significant and unavoidable. No additional mitigation measures to reduce this impact to less-than-significant levels are feasible.

Threshold 4:	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

Impact AQ-6 CONSTRUCTION OF THE TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD NOT RESULT IN OTHER EMISSIONS (SUCH AS THOSE LEADING TO ODORS) ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

While offensive odors rarely cause physical harm, they can be unpleasant, leading to considerable distress among the public (SJVAPCD 2015). The degree to which an odor is offensive is based on an individual's sensitivity and tolerance for said odor. Some people may find an odor acceptable (e.g., odors from a coffee roaster), while others may find it off-putting. Since odors are subjective, the sensory and physical response experienced by an individual varies based on their perception of the quality and intensity of the odor. Quality refers to the nature of the smell (e.g., flowery or sour) and intensity refers to the strength of the odor. Furthermore, the distance between the odor source and receptor, the wind direction, and sensitivity of the receptor can influence how the impact is perceived. Common sources of odors include landfills, agricultural uses, wastewater treatment plants, refineries, and vehicle exhaust.

Construction

Construction activities implementing the proposed 2026 RTP/SCS would generate oil and diesel fuel odors during construction from equipment use. The odors would be limited to the construction period and would be intermittent and temporary. Furthermore, these odors would dissipate rapidly

with distance from in-use construction equipment. Accordingly, construction activities would not generate other emissions (such as those leading to odors) adversely affecting a substantial number of people. Impacts would be less than significant.

Operation

Development associated with the proposed 2026 RTP/SCS is related to transportation improvements such as roadway widening, interchange improvements, and installation of bicycle lanes. These types of projects are not typical operational sources of odors. However, all proposed 2026 RTP/SCS projects would be subject to SJVAPCD Rule 4102, *Nuisance*, which prohibits the discharge of air contaminants or other material that would cause injury, detriment, nuisance, or annoyance to any considerable number of persons. Furthermore, the projects would be required to adhere to local policies, zoning designations, and municipal codes that would limit odors. As discussed in Section 4.2.2, *Regulatory Setting*, the County of San Joaquin and cities within the SJCOG region have air quality-related policies in their General Plans that promote multi-modal transportation, electric-vehicles, and transit-oriented development. These types of policies aim to reduce travel with fossil-fueled vehicles and indirectly reduce odors from vehicle exhaust. However, if offensive odors are present and become a nuisance, complaints can be filed by email or phone call with SJVAPCD, who will then investigate the source. Because odorous emissions associated with the operation of the projects under the proposed 2026 RTP/SCS would be regulated by local governing bodies (i.e., SJVAPCD, County of San Joaquin, and local cities), implementation of the proposed 2026 RTP/SCS would not result in other emissions (such as odors) adversely affecting a substantial number of people. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

4.2.4 Cumulative Impacts

For the purposes of evaluating cumulative impacts to air quality, the geographic scope of the cumulative impacts analysis is the SJVAB, which includes the SJCOG planning region as well as Kern, Kings, Fresno, Madera, Merced, Stanislaus, and Tulare counties. As detailed in Section 4.2.1(d), *Current Air Quality*, San Joaquin County is in non-attainment for federal ozone and $PM_{2.5}$ standards and state ozone, PM_{10}, and $PM_{2.5}$ standards. Because San Joaquin County is in non-attainment for these air quality standards, a cumulative air quality impact currently exists. Any growth within San Joaquin County would contribute to existing exceedances of ambient air quality standards. SJVAPCD has prepared air quality plans for both ozone and particulate matter to address this cumulative impact, improve conditions, and meet federal and state air quality standards. As stated in the SJVAPCD GAMAQI (2015), any proposed development project that would individually have a significant air quality impact related to criteria air pollutant emissions would also be considered have a cumulatively considerable contribution to existing significant cumulative impacts related to criteria air pollutant emissions. For TACs, the SJVAPCD GAMAQI (2015) states that because impacts from TACs are localized and the thresholds of significance for TACs have been established at such a conservative level, risks over the individual thresholds of significance are also considered cumulatively significant.

Construction activities associated with transportation projects under the proposed 2026 RTP/SCS, as well as the land use projects envisioned by the proposed 2026 RTP/SCS, would create fugitive dust and ozone precursor emissions and have the potential to result in temporary adverse impacts on air

quality. As discussed under Impact AQ-2, although any individual improvement or development project may not generate significant short-term emissions, it is probable that several projects would be under construction simultaneously, generating cumulative construction emissions that could impact air quality. Short-term impacts would be significant because construction emissions could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment. Implementation of Mitigation Measures AQ-2(a) through AQ-2(c) for individual projects would reduce PM and ozone precursor emissions. However, the contribution of construction emissions facilitated by the proposed 2026 RTP/SCS would remain cumulatively considerable and unavoidable because it cannot be guaranteed that all future project-level impacts can be mitigated to a less-than-significant level.

As discussed under Impact AQ-3, regional ozone precursor emissions from on-road mobile sources would decrease by 2049 with the proposed 2026 RTP/SCS compared to baseline 2025 conditions. As a result, the long-term operational mobile source emissions under the proposed 2026 RTP/SCS would not result in a cumulatively considerable contribution to existing significant cumulative air quality impacts. However, land use operational emissions would be cumulatively considerable before and after mitigation because land use projects under the proposed 2026 RTP/SCS may contribute to an increase in ozone precursor and PM emissions. As discussed under Impact AQ-6, impacts from other emissions (such as odors) adversely affecting a substantial number of people would not be significant, and cumulative odor impacts would not be significant due to the short-term nature of construction odors and compliance with local odor prevention regulations. As discussed under Impact AQ-5, impacts from TAC emissions would be cumulatively considerable despite a decrease in TAC emissions from baseline 2025 conditions because the proposed 2026 RTP/SCS may result in the siting of sensitive receptors in close proximity to existing or new sources of TACs. Mitigation Measure AQ-4 would reduce impacts from TACs; however, it cannot be guaranteed that impacts resulting from the proposed 2026 RTP/SCS can be mitigated to a less-than-significant level. Therefore, the impact would remain cumulatively considerable.

4.3 Biological Resources

This section evaluates potential impacts to sensitive biological resources from development facilitated by the proposed 2026 RTP/SCS.

4.3.1 Setting

a. Vegetation Communities and Land Covers

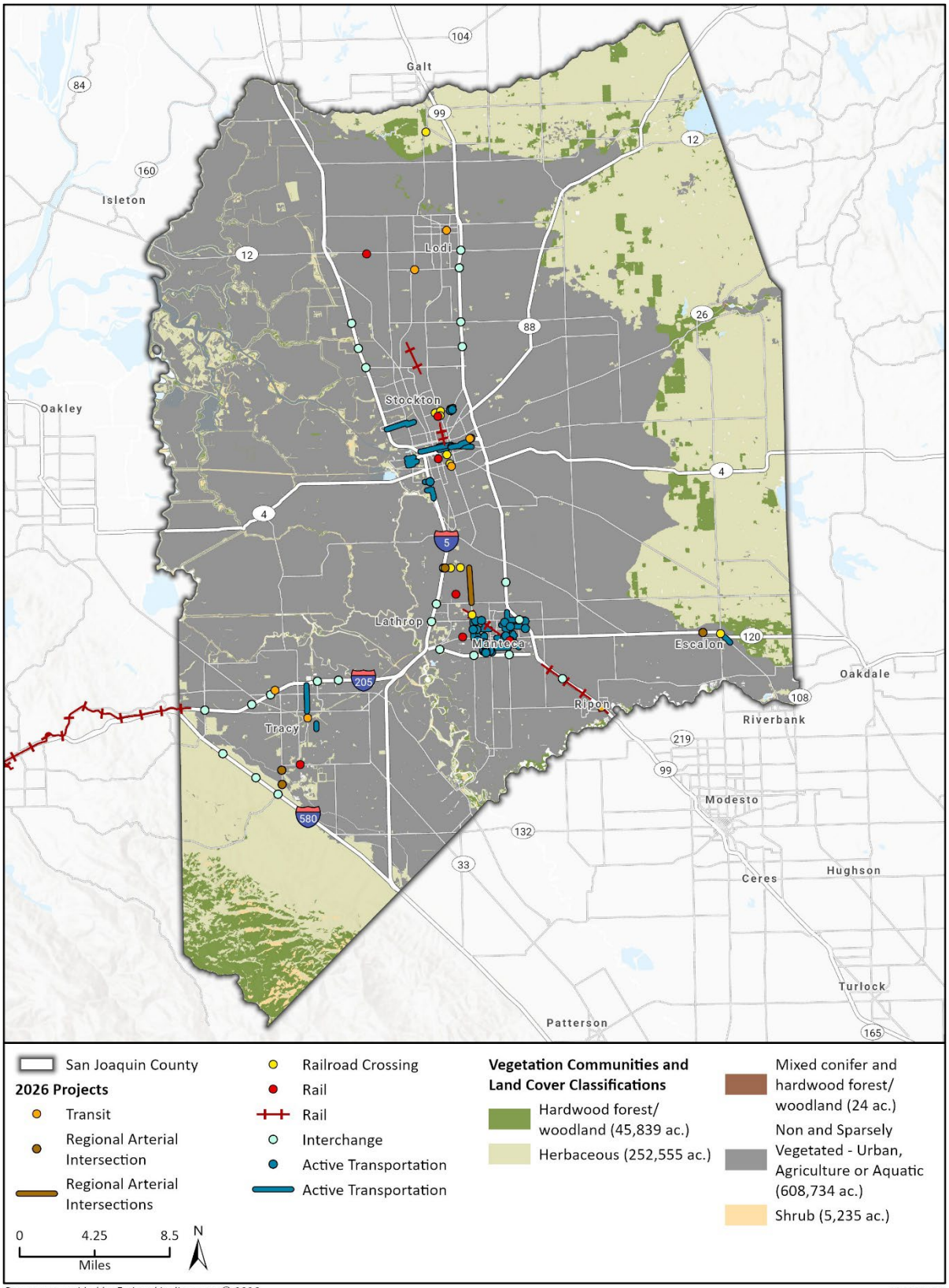
The SJCOG region contains a wide diversity of tree, scrub, aquatic, and herbaceous (grasslands, pastures, certain wetlands) vegetation communities and land covers. Thirty vegetation communities and land covers are mapped using the California Department of Fish and Wildlife (CDFW) – California Wildlife Habitat Relationships (CWHR) classification system within the SJCOG region (CDFW 2025a). Of the thirty vegetation communities and land covers, nine are tree dominated, four are shrub dominated, two are herbaceous, ten are either developed, sparsely/non-vegetated or cropland, and five are drainages or wetlands (see Figure 4.3-1). Because of the scale of vegetation data at the regional level, the vegetation communities and land covers presented in Figure 4.3-1 depict a broad illustration of the distribution of CWHR categories (i.e., tree, shrub, herbaceous, etc.) found within the SJCOG region.

A description of each of the vegetation communities and land covers adapted from *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988) is presented below. The vegetation classifications from *A Manual of California Vegetation, Online Edition* (California Native Plant Society [CNPS] 2025a) that most closely resemble those classified by the CWHR are also presented in each description where possible. It should be noted that these vegetation communities and land covers are generalized, and that site-specific variation is likely to be present. Also note that the CWHR classification system maps vegetation communities and land covers from a broad perspective and that in many areas it is expected that two or more vegetation communities and land cover types may blend with one another. Vegetation communities and land covers which occur within populated areas can also show variation because of a greater exposure to anthropogenic influences such as the introduction of exotic plant species.

Tree-Dominated Vegetation Communities

The SJCOG region contains a variety of hardwood forests, woodlands, and mixed riparian communities (see Figure 4.3-1). These tree-dominated vegetation communities support diverse wildlife by providing foraging, roosting, nesting, and movement habitat. Riparian vegetation communities occur along the major rivers in the region—including the San Joaquin, Mokelumne, Calaveras, and Stanislaus Rivers—as well as along numerous creeks, streams, and sloughs. Riparian areas form a vegetated corridor from the stream edge to the outer extent of the floodplain and are among the most wildlife-rich habitats in the county. Outside of riparian corridors, tree-dominated communities in the SJCOG region are limited to naturalized stands of nonnative ornamentals, and scattered stands of oak woodland and other hardwood assemblages occurring on older alluvial terraces and remnant upland patches, primarily along the eastern foothill transition zone with minor occurrences near the southwestern edge. The following are descriptions of types of tree-dominated vegetation communities that occur within the SJCOG region.

Figure 4.3-1 Vegetation Community Classifications in the SJCOG Region



Basemap provided by Esri and its licensors © 2026.
Additional data provided by USDA Forest Service, CALVEG, CWHR, 2015.

24-16872 EIR
Fig 4.3-1 Vegetation Community Classifications

Blue Oak Woodland

Generally, these woodlands have an overstory of scattered trees, although the canopy can be nearly closed. The canopy is dominated by broad-leaved trees 16 feet to 50 feet tall, commonly forming open savanna-like stands on dry ridges and gentle slopes. Blue oak is typically the dominant tree species. Shrubs such as poison oak (*Toxicodendron diversilobum*), California coffeeberry (*Frangula californica* 0, buckbrush (*Ceanothus cuneatus*), and redberry *(Rhamnus crocea*) are often present but rarely extensive and often occur on rock outcrops. Typical understory is composed of an extension of Annual Grassland vegetation described below. Blue oak woodland typically corresponds to the *Quercus douglasii* Woodland Alliance as described by CNPS (2025a).

Eucalyptus Forest

Eucalyptus forest ranges from single-species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous and shrubby understory. In most cases, eucalyptus groves form a dense stand with a closed canopy. Blue gum eucalyptus (*Eucalyptus globulus*) and red gum eucalyptus (*Eucalyptus camaldulensis*) are the most common eucalyptus species found in these stands. The understory of these areas tends to have extensive patches of leaf litter with limited vegetation but may include species such as poison oak and toyon. Trees within this vegetation community are typically planted in rows for use as a wind break.

Juniper

This habit is characterized as woodlands of open to dense groupings of juniper (*Juniperus spp*.) trees in the form of treelike shrubs or small trees. Denser stands are commonly associated with a grassy understory. In California, this vegetation community has both cismontane and transmontane associations and usually forms a band between lower desert scrub and higher sagebrush and pinyon-juniper woodlands (CNPS 2025a).

Valley Oak Woodland

This vegetation community can range in structure from savanna-like to forest-like stands. The canopies tend to be partially closed and comprised mostly of winter-deciduous, broad-leaved species such as valley oak. Dense stands typically grow in valley soils along natural drainages and decrease with the transition from lowlands to uplands. Shrubs are also associated with this Valley oak woodland in lowland areas, especially along drainages. Valley oak stands with little or no grazing tend to develop a partial shrub layer of bird disseminated species, such as poison oak, toyon (*Heteromeles arbutifolia*), and California coffeeberry. Ground cover consists of a well-developed carpet of annual grasses and forbs such as wild oat (*Avena* spp.), bromes (*Bromus* spp.), and ryegrass (*Festuca perennis*). Valley oak woodland typically corresponds to the *Quercus lobata* Woodland Alliance as described by CNPS (2025a).

Valley-Foothill Riparian

This vegetation community is associated with drainages, particularly those with low velocity flows, flood plains, and gentle topography. Valley-foothill riparian is generally comprised of a canopy and sub-canopy tree layers dominated by valley oak, cottonwoods (*Populus* sp.), California sycamore (*Platanus racemosa*), Oregon ash (*Fraxinus latifolia*), willows (Salix spp.), white alder (*Alnus rhombifolia*), and boxelder (*Acer negundo*). The understory shrub layer comprises species such as willow thickets, mulefat (*Baccharis salicifolia*), wild grape (*Vitus californica*), wild rose (*Rosa californica*), blackberry (*Rubus* spp.), blue elderberry (*Sambucus mexicana*) and poison-oak.

Shrub Dominated Vegetation Communities

Shrub-dominated vegetation communities are comprised primarily of woody, evergreen shrubs and occur along river corridors, flood plains, levees, and on the inner Coast Range, south of I-580 within the SJCOG region (see Figure 4.3-1). The following are descriptions of shrub-dominated vegetation communities that occur within the region.

Riparian Scrub

Riparian scrub communities are early-successional willow dominated, including narrow leaved willow (*Salix exigua*), and arroyo willow (*Salix lasiolepis*). Other species commonly found in this community include *Baccharis* spp., and blackberry (*Rubus* spp.). This community occurs within flooded floodplains, along rivers and streams, and at springs. Within the SJCOG region, riparian scrub typically corresponds to the *Salix exigua* Sandbar willow thickets Shrubland Allianceas described by CNPS (2025a).

Mulefat Thickets

This shrubland alliance is dominated by mulefat, or co-dominant with California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), blue elderberry, and tobacco tree (*Nicotiana glauca*). This community occurs along canyon bottoms, floodplains, irrigation ditches and riparian edges. Within the SJCOG region, mulefat thickets typically corresponds to the *Baccharis salicifolia* Shrubland Alliance as described by CNPS (2025a).

Coyote Brush Scrub

This shrubland alliance is dominated by coyote brush, with California sagebrush, California blackberry (*Rubus ursinus*), and poison oak. Occasional trees found in this community include coast live oak and California bay laurel (*Umbellularia californica*). This community occurs along river mouths, stream sides, open exposed slopes, ridges, and disturbed edges, and may occur successionally or within fallow fields. Within the SJCOG region, coyote brush scrub typically corresponds to the *Baccharis pilularis* Shrubland Alliance as described by CNPS (2025a).

Herbaceous Dominated Vegetation Communities

These vegetation communities are generally comprised of areas dominated by grasses and other non-woody species. Most of this type of vegetation in the SJCOG region is comprised of non-native grasslands. Native grasslands, which are rare and highly fragmented, are dominated by perennial bunch grasses, such as purple needlegrass (*Stipa pulchra*).. The following are descriptions of the herbaceous dominated vegetation communities that occur within the SJCOG region.

Nonnative Annual Grasslands

This vegetation community is composed primarily of non-native annual herbs and forbs and typically lacks shrub or tree cover. The physiognomy and species composition of annual grasslands is highly variable and varies considerably on a temporal scale. Grazing is a common land use within this vegetation community. This community also commonly occurs within urban landscapes (parks, medians, vacant lots), agricultural edges, and irrigation canal banks and drainage ditches. Common grass species include wild oats, soft chess brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), Italian rye grass (*Festuca perennis*), and red brome (*Bromus madritensis*). Common forb species can include species of filaree (*Erodium* spp.), and bur clover (*Medicago polymorpha*).

California poppy can also be quite common in this vegetation community. Nonnative annual grassland can correspond to multiple alliances as described by CNPS (2025a) depending upon the species composition. These alliances can include, but are not limited to, *Avena* (*barbata, fatua*) semi-natural stands, *Bromus* (*diandrus, hordeaceus*) – *Brachypodium distachyon* semi-natural stands, *Cynodon dactylon* - *Crypsis* spp. - *Paspalum* spp. Herbaceous Semi-Natural Alliance, and *Festuca perennis*Herbaceous Semi-Natural Alliance.

Perennial Grasslands

This vegetation community in California is found in vernal pools, alkali flats, older alluvial terraces, and saline depressions, and relics in communities dominated by annual grasses and forbs. This vegetation community is dominated by perennial grass species such as Blue wildrye (*Elymus glaucus*), California melic (*Melica californica*), Saltgrass (*Distichlis spicata*), and annual hairgrass (*Deschampsia danthonioides*). Perennial grassland can correspond to multiple alliances as described by CNPS (2025a) depending upon the species composition. These alliances can include, but are not limited to, *Nassella* spp. - *Melica* spp. Herbaceous Alliance, *Distichlis spicata* - (*Juncus cooperi* - *Frankenia salina*) Interior Herbaceous Alliance, and *Cressa truxillensis* - *Distichlis spicata* Herbaceous Alliance.

Developed, Sparsely/Non-Vegetated, and Cropland Land Covers

Developed, sparsely to non- vegetated, and cropland land covers are abundant in the SJCOG region (Figure 4.3-1). Developed land covers are usually sparsely or non-vegetated and are associated with urban and agricultural areas and are highly disturbed. Species that occur in these areas are typically adapted to anthropogenic disturbance and/or comprised of ornamental species. Sparsely vegetated land covers also tend to be associated with rock outcrops and cliffs. The following are descriptions of developed and sparsely/non-vegetated land covers that occur within the SJCOG region.

Cropland

This land cover is characterized by areas in active agriculture used to grow annual or perennial herbaceous crops and is entirely man-made. The structure of vegetation can vary in size, shape, and growing pattern. The dominant cropland use is row crops and can also include hay and grain. Subcategories of cropland classifications include, but are not limited to, dryland grain crop, irrigated hayfield crop and irrigated row and field crop, irrigated hayfield, rice, and pasture. Orchards and vineyards are classified separately.

Orchard/Vineyard

This land cover is characterized by typically open, single-species tree- or woody vine-dominated agricultural areas. Depending on the tree or vine type and pruning methods, they are usually low, bushy plants with an open understory to facilitate harvest. Trees such as citrus, avocados, and olives are evergreen, and other common tree crops such as walnuts and stonefruits are deciduous. The understory is usually composed of low growing grasses and other herbaceous plants but may be managed to prevent understory growth totally or partially, such as along tree rows. Vineyards, comprised of grape vines, also share similar characteristics. Subcategories of orchard/vineyard classifications include, but are not limited to, deciduous orchard and evergreen orchard.

Urban

This land cover is also completely man-made and is comprised of residential, commercial, and industrial developed areas. Plant species within urban areas are typically comprised of ornamental plants and non-native invasive plant species, with large, developed areas lacking vegetation.

Barren

This land cover is defined by the absence of vegetation. Any area with less than two percent total herbaceous vegetation cover and less than 10 percent relative cover by tree or shrub species is defined as barren (Mayer and Laudenslayer 1988). Structure and composition of the substrate is largely determined by the region of the state as well as surrounding environment. Examples of barren land cover include areas of exposed parent rock or talus.

b. Drainages and Wetlands

Drainages

Several large rivers end in the SJCOG region where they flow into the Delta. The largest of these, the San Joaquin River, divides into three channels as it enters the Delta: "Old River," "Middle River," and the "mainstem" of the San Joaquin River. The Mokelumne, Calaveras, and Stanislaus rivers are the other major rivers in the SJCOG region. Two additional major waterways, the Delta-Mendota Canal and the California Aqueduct, occur within the SJCOG region.

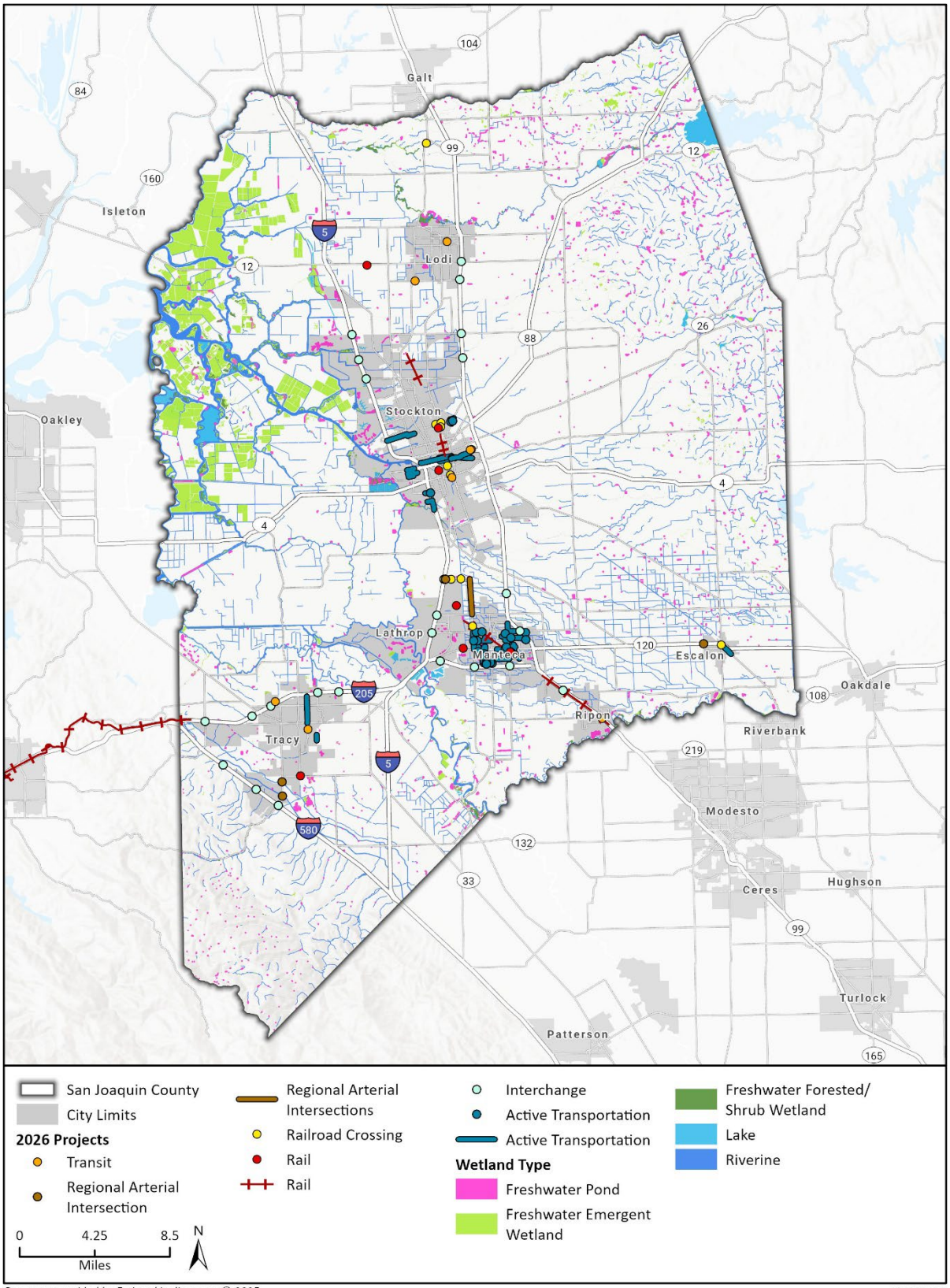
Several creeks and tributaries are associated with the riverine watersheds including Mormon Slough, Dry Creek, Corral Hollow, Hospital Creek, Lone Tree Creek, Little Johns Creek, Duck Creek, Mosher Slough, Bear Creek, Paddy Creek, and Potter Creek. The drainages within these watersheds are of biological importance as they provide valuable foraging habitat, breeding habitat, and movement corridors for a wide variety of animal species, including sensitive species such as delta smelt (*Hypomesus transpacificus*), riparian brush rabbit (*Sylvilagus bachmani riparius*), riparian woodrat (*Neotoma fuscipes riparia*), and California red-legged frog (*Rana draytonii*). Many of these rivers and their tributaries are also federally designated critical habitat for the delta smelt.

Aquatic Habitats

Aquatic habitats are regarded as important biological resources both because of their rarity and because they provide a variety of ecosystem services. Several types of wetlands exist in the SJCOG region, including freshwater marshes, vernal pools, and riparian habitats. A map illustrating wetlands in the SJCOG region is shown in Figure 4.3-2.

In addition to vernal pools, several areas within the SJCOG region contain wetlands mapped by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI; USFWS 2025a). A general description of each of the classifications used in the NWI is provided below. Of those wetland types mapped by the NWI, fresh emergent wetland and riverine habitats are also mapped by the CWHR.

Figure 4.3-2 Wetlands and Drainages in the SJCOG Region



Basemap provided by Esri and its licensors © 2025.
Additional data provided by NWI, 2025.

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Fig 4.3-2 Wetlands and Drainages

Vernal Pools

These seasonal wetlands are small depressions that fill with water during the winter, gradually drying during the spring and becoming completely dry in the summer. These pools are found in only a few places in the world outside of California. Vernal pool vegetation is adapted to the cycle of brief inundation followed by seasonal drying. Vernal pools are characterized by herbaceous plants that may begin their growth as aquatic or semi-aquatic plants and transition to a dry land environment as the pool dries, while other species germinate in the mud as the pool begins to dry. Most vernal pool plants are annual herbs, many of which are endemic to vernal pools. Wildlife species supported by vernal pools include California tiger salamander *(Ambystoma californiense*) and vernal pool fairy shrimp (*Branchinecta lynchi*).

Freshwater Emergent Wetlands

Freshwater emergent wetlands include all non-tidal waters dominated by emergent herbaceous plant species, mosses, and/or lichens. Wetlands of this type are also low in salinity. The NWI also includes in this category wetlands that lack vegetation if they are less than 20 acres in size, do not have an active wave-formed or bedrock shoreline feature, have a low water depth less than 6.6 feet. Freshwater emergent wetlands are characterized by erect, rooted herbaceous hydrophytes. Dominant vegetation is generally perennial monocots. All emergent wetlands are inundated or saturated frequently enough that the roots of the vegetation prosper in an anaerobic environment. The wetlands may vary in size from small clumps to vast areas covering several kilometers. The acreage of Freshwater Emergent Wetlands in California has decreased dramatically since the turn of the century due to drainage and conversion to other uses, primarily agriculture.

Freshwater Forested/Shrub Wetlands

These wetlands include non-tidal waters that are dominated by trees and shrubs, with emergent herbaceous plants, mosses and/or lichens. The NWI also includes within this category wetlands that lack vegetation can be included in this class if they also exhibit the same criteria as described for freshwater emergent wetlands. Freshwater forested/shrub wetlands are generally dominated by woody vegetation such as shrubs and trees. This wetland category also can include riparian habitats.

Freshwater Ponds

Freshwater ponds include non-tidal waters, typically less than 20 acres in size and typically with vegetative cover along its edges such as trees, shrubs, emergent herbaceous plants, mosses, and/or lichens. Freshwater ponds can be man-made or natural and typically consist of an area of standing water with variable amounts of shoreline. These wetlands and deep-water habitats are dominated by plants that grow on or below the surface of the water. This wetland type is also mapped by the CWHR and categorized as lacustrine habitat which includes vernal pools; however, we have recognized vernal pools as unique features and thus provided a separate description that was previously presented.

Lakes

Lakes are a lacustrine system which includes wetlands and deep-water habitats that are located in a topographic depression or dammed river channel. These areas tend to be greater than 20 acres. Vegetation cover within this habitat is generally less than 30 percent and often occurs in the form of emergent or surface vegetation. Substrates are composed of at least 25 percent cover of particles smaller than stones.

Riverine

Riverine habitats are stream systems that include all wetlands and deep-water habitats contained in natural or artificial channels that contain periodically or continuously flowing water. This system may also form a connecting link between two bodies of standing water. Substrates generally consist of rock, cobble, gravel, or sand. Features mapped as riverine wetlands in the NWI include drainages as previously described.

c. Special-Status Species

For the purpose of this EIR, special-status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS under the federal Endangered Species Act; those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the CDFW. Those plants ranked as California Rare Plant Rank (CRPR) 1 or 2 are typically regarded as rare, threatened, or endangered under CEQA by lead agencies and were considered as such in this EIR. The CRPR utilizes the following code definitions:

- **List 1A** = Plants presumed extinct in California
- **List 1B.1** = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- **List 1B.2** = Rare or endangered in California and elsewhere; fairly endangered in California (20-80 percent occurrences threatened)
- **List 1B.3** = Rare or endangered in California and elsewhere, not very endangered in California (<20 percent of occurrences threatened, or no current threats known)
- **List 2** = Rare, threatened or endangered in California, but more common elsewhere

CRPR List 3 species are "review list," and CRPR 4 species are considered "watch list" species. CRPR 3 and 4 species do not typically warrant analysis under CEQA except where they are part of a unique community, from the type locality, or designated as rare or significant by local governments, or where cumulative impacts could result in population–level effects. The CRPR 3 and 4 species reported from the region are not locally designated as rare or significant by the County of San Joaquin General Plan or General Plans for incorporated cities within the SJCOG region and are not part of a unique community. Additionally, the SJCOG region is not known to be the type locality for any ranked plant species. Therefore, potential impacts to CRPR 3 and CRPR 4 species were not considered in this analysis.

Species of Special Concern (SSC) is a category used by the CDFW for those species which are considered indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the Fish and Game Code. The SSC category is intended by the CDFW for use as a management tool to include these species for special consideration when decisions are made concerning the development of natural lands, and these species are considered sensitive as described under the CEQA Appendix G questions.

Queries of the USFWS Information, Planning and Conservation System (IPaC; USFWS 2025b), the CDFW California Natural Diversity Database (CNDDB) (CDFW 2025a), and California Native Plant Society (CNPS) *Online Inventory of Rare, Threatened and Endangered Plants of California* (CNPS 2025) were conducted. These queries were conducted to obtain comprehensive information

regarding state and federally listed species considered to have potential to occur within the SJCOG region.

Special-status Plants and Animals

The SJCOG region is home to several species protected by federal and state agencies. Important animal species can be found in a variety of habitats in the SJCOG region. The CNDDB (CDFW 2025a), CNPS (2025), and USFWS IPaC (2025b) together list 91 special-status plant and animal species (34 plant species and 57 animal species [inclusive of special animals]) that occur or have potential to occur within the SJCOG region. The status and habitat requirements of those species are presented in Appendix C as Tables C-1 and C-2, respectively.

In addition, although not listed in the CNDDB, mountain lions (*Puma concolor*) are legally classified as "specially protected species." In July 2019, the Center for Biological Diversity petitioned CDFW to list mountain lions as threatened under the CESA within a proposed evolutionarily significant unit located in Southern California and along the central coast of California. In April 2020, the Commission found that listing of this unit may be warranted and designated mountain lion within the evolutionarily significant unit as a candidate species under CESA. Mountain lions inhabit diverse habitats across most of California and can be found wherever deer are present, which includes the foothills and mountainous areas within the SJCOG region.

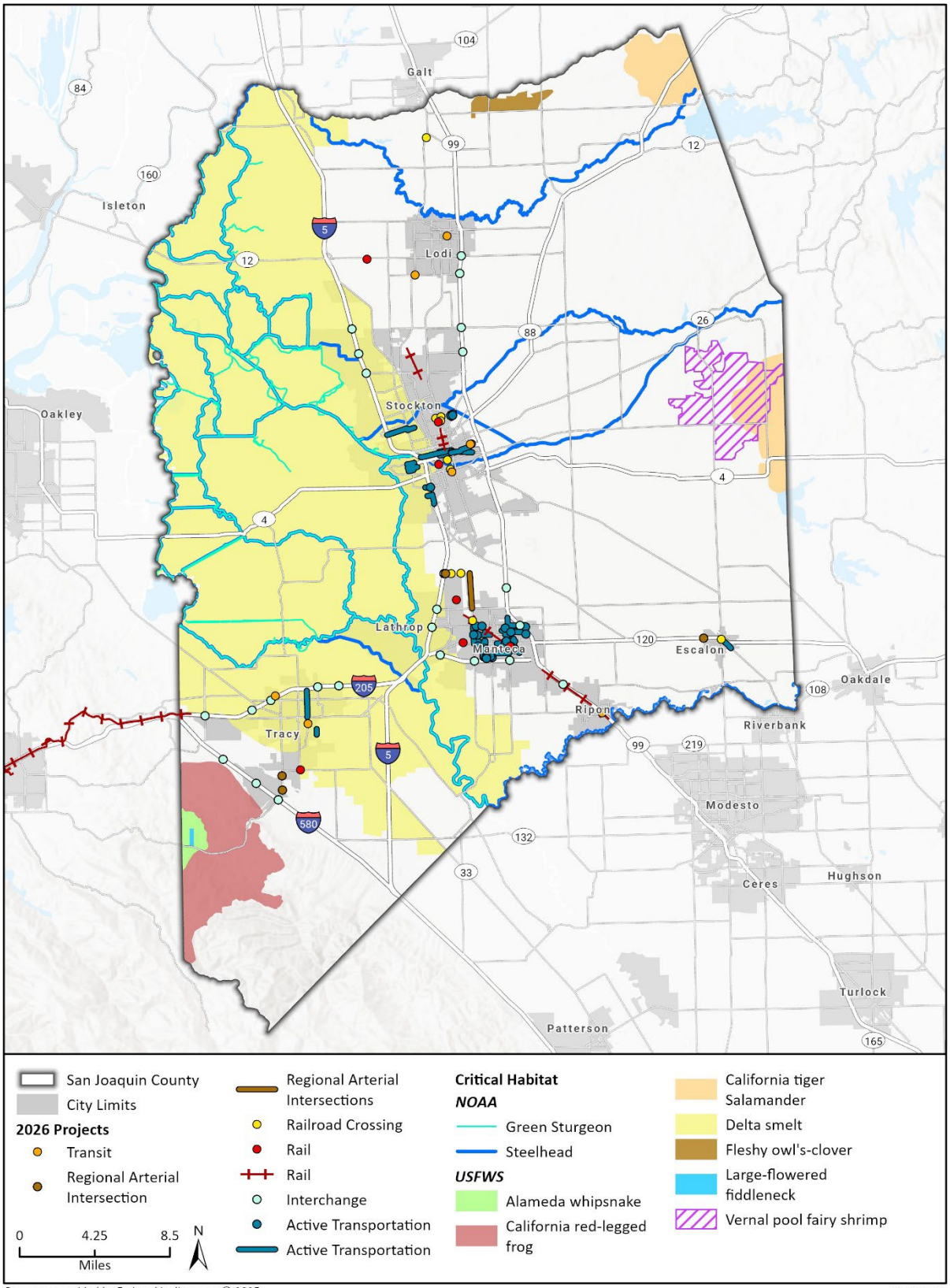
d. Sensitive Communities and Critical Habitat

Several natural communities considered sensitive by the CDFW occur within the SJCOG region (CDFW 2025a). The CNDDB lists eight natural communities that occur with the region. The Sensitive Natural Communities List in the CNDDB is not currently maintained and no new information has been added in several years. As such, CDFW maintains a list of sensitive vegetation alliances and associations[1] (CDFW 2025d). According to the CDFW's Vegetation Program, Alliances with State ranks of S1-S3 are considered to be imperiled, and thus, potentially of special concern. Because this analysis is at the regional level and programmatic, vegetation mapping and analysis at the alliance and association level is not available at this time and therefore need to be conducted at the project level. That said, some sensitive vegetation alliances and associations are already known to occur within the SJCOG region as a subset of the habitats described above in Sections 4.3.1.a and 4.3.1.b. For instance, some oak woodland alliances within the SJCOG region, notably *Quercus lobata* Woodland Alliance, which most resembles the valley oak woodland described in Section 4.3.1.a, are considered sensitive.

Federally designated critical habitat for eight species also occurs in the SJCOG region (Figure 4.3-3). These sensitive communities and critical habitats are also listed in Table 4.3-1.

[1] CDFW classifies vegetation at the two finest levels of alliance and association. The alliance is defined by plant species composition, habitat conditions, physiognomy, and diagnostic species; at least one of the diagnostic species is typically found in the uppermost or dominant stratum (Jennings et al. 2009). The association is the most detailed classification level and reflects more specific characteristics of vegetation such as finer-level differences in species composition, topography, soils, substrate, climate, hydrology, and disturbance regime (FGDC 2008). Unlike alliances, associations often recognize two or more diagnostic species found in different vegetation layers (Sawyer et al. 2009).

Figure 4.3-3 Critical Habitat in the SJCOG Region



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Additional data provided by USFWS, 2025; NOAA, 2023.

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Fig 4.3-3 Critical Habitat

Table 4.3-1 Sensitive Communities and Critical Habitats Documented within the SJCOG Region

Communities Considered Sensitive by CDFW
Coastal and Valley Freshwater Marsh
Elderberry Savanna
Great Valley Cottonwood Riparian Forest
Great Valley Mixed Riparian Forest
Great Valley Oak Riparian Forest
Northern Claypan Vernal Pool
Northern Hardpan Vernal Pool
Valley Oak Woodland
Critical Habitats
Alameda whipsnake (=striped Racer) (*Masticophis lateralis euryxanthus*)
California red-legged frog (*Rana draytonii*)
California tiger salamander (*Ambystoma californiense*)
delta smelt (*Hypomesus transpacificus*)
fleshy Owl's-clover (*Castilleja campestris* ssp. *suculenta*)
large-flowered fiddleneck (Amsinckia grandiflora)
steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop. 11)
vernal pool fairy shrimp (*Branchinecta lynchi*)

Sources: CNDDB (CDFW 2025a); USFWS IPaC (2025b)

Essential Fish Habitat

Within the SJCOG Region Essential Fish Habitat (EFH) occurs for Chinook salmon. Chinook salmon EFH is mapped within the San Joaquin River mainstem, as well as lower reaches of the Mokelumne, Calaveras, and Stanislaus Rivers, and the Sacramento–San Joaquin Delta Channels. Essential Fish Habitat is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growing to maturity. Substrate includes the sediment, hard bottom, structures underlying the waters and the associated biological communities. The east-west geographic boundary of EFH for each individual Coastal Pelagic Species finfish and market squid is defined to be all marine and estuarine water from the shoreline along the coasts of California. Therefore, estuarine habitats within the plan area would be considered EFH.

e. Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats within the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary

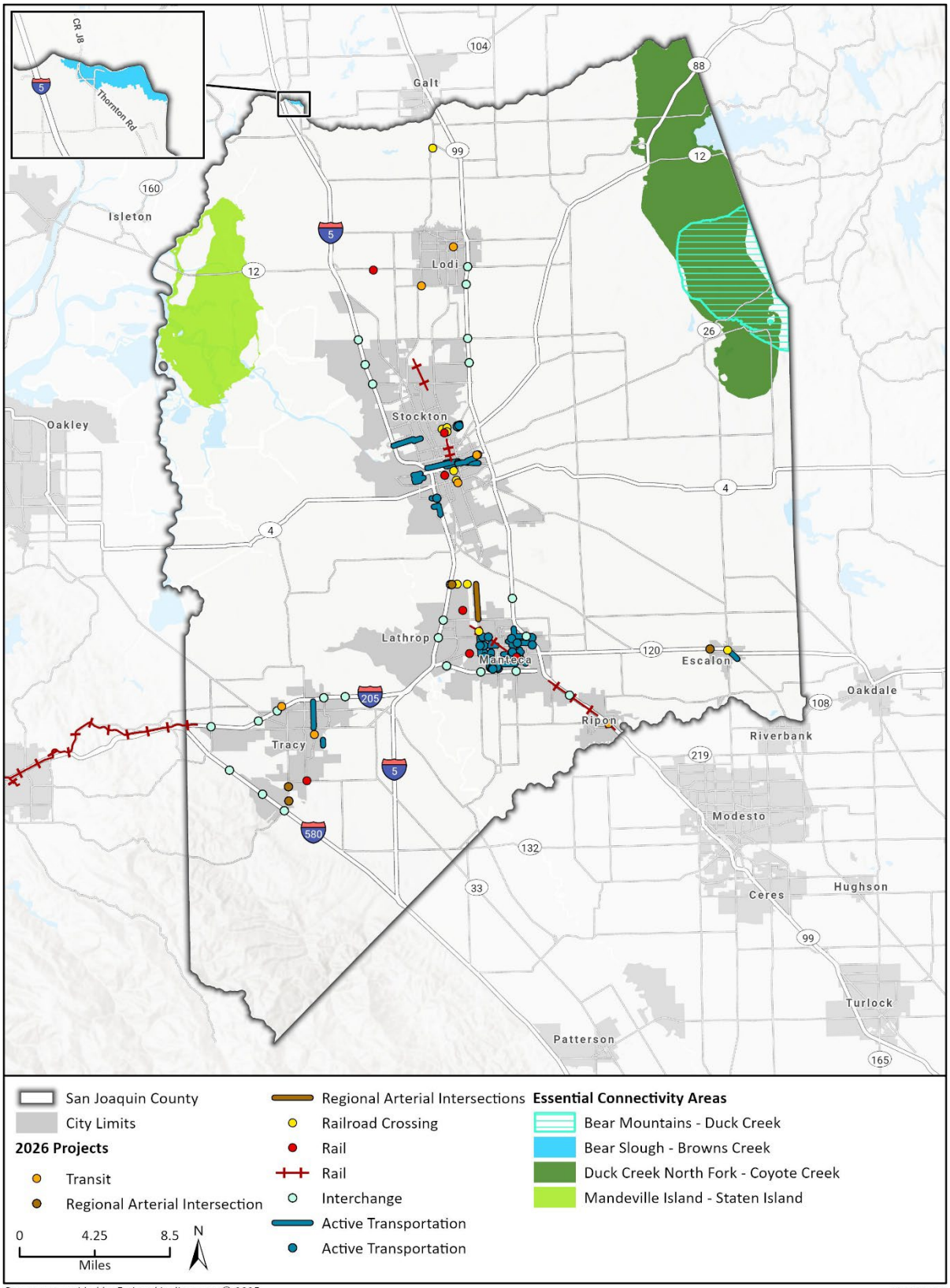
inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) may need to be located within the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

Wildlife movement corridors can be both large and small scale. Essential Connectivity Areas (ECA) as mapped in the report *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California* (Spencer et al. 2010) represents connectivity at the state level. ECAs are regions in which land conservation and management actions should be prioritized to maintain and enhance connectivity between areas of high ecological importance. ECAs are mapped based on coarse ecological condition indicators, rather than the needs of particular species and thus serve the majority of species in each region. It is important to recognize that even areas outside of Natural Landscape Blocks and ECAs support important ecological values and should not be immediately discounted as lacking conservation value without further review.

Four ECAs are mapped within the SJCOG Region (see Figure 4.3-4). The Mandeville Island-Staten Island ECA is located in the northwestern portion of the SJCOG region in the Delta. The Bear Slough-Browns Creek ECA is also located in the northwestern portion of the SJCOG region near the Consumes River Preserve. The remaining two ECAs, Bear Mountains-Duck Creek ECA and Duck Creek North Fork-Coyote Creek ECA overlap each other in the northeastern portion of the SJCOG region near Comanche Reservoir.

Small scale corridors important to wildlife movement are also present within the SJCOG region, many of which are not mapped as ECAs. These include the various rivers, creeks, drainages, and other topographic features that facilitate movement, such as the San Joaquin, Mokelumne, and Calaveras Rivers and other drainages as depicted in Figure 4.3-4. These corridors provide a means to facilitate regional connectivity for a number of wildlife species as a wildlife corridor. These areas are identified as important movement corridors for species such as San Joaquin kit fox (*Vulpes macrotis mutica*), steelhead (*Oncorhynchus mykiss irideus*), riparian birds, and other small carnivores. Additionally, the southwestern portion of the SJCOG region extends into the northern Diablo Mountain range which may serve as a movement corridor for the state provisionally protected Southern California/Central Coast evolutionarily significant unit of mountain lion (*Puma concolor*).

Figure 4.3-4 Essential Connectivity Areas in the SJCOG Region



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Additional data provided by CDFW, 2021.

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Fig 4.3-4 Essential Connectivity Areas

4.3.2 Regulatory Setting

Federal, state, and local authorities under a variety of statutes and guidelines share regulatory authority over biological resources. The primary authority for general biological resources lies within the land use control and planning authority of local jurisdictions, which in this instance includes SJCOG, San Joaquin County, and the incorporated cities in the SJCOG region. The CDFW is a trustee agency for biological resources throughout the State under the California Environmental Quality Act (CEQA) and also has direct jurisdiction under the California Fish and Game Code (CFGC), which includes, but is not limited to, resources protected by the State of California under CESA.

a. Federal Laws, Regulations, and Policies

Endangered Species Act

Under the Federal Endangered Species Act (FESA), authorization is required to "take" a listed species. Take is defined under FESA Section 3 as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Under federal regulation (50 CFR Sections 17.3, 222.102); "harm" is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Critical habitat is a specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. FESA Section 7 outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat.

Section 7(a)(2) of FESA and its implementing regulations require federal agencies to consult with USFWS or National Marine Fisheries Service (NMFS) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat. For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain an incidental take permit under FESA Section 10(a). Section 10(a) allows USFWS to permit the incidental take of listed species if such take is accompanied by a Habitat Conservation Plan (HCP) that includes components to minimize and mitigate impacts associated with the take.

USFWS and NMFS share responsibility and regulatory authority for implementing FESA (7 USC Section 136, 16 USC Section 1531 et seq.).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act authorizes the Secretary of the Interior to regulate the taking of migratory birds. The act provides that it is unlawful, except as permitted by regulations, "to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, […] any migratory bird, or any part, nest, or egg of any such bird" (16 USC Section 703(a)). The Bald and Golden Eagle Protection Act is the primary law protecting eagles, including individuals and their nests and eggs. The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). Under the Act's Eagle Permit Rule (50 CFR 22.26), USFWS may issue permits to authorize limited, non-purposeful take of bald eagles and golden eagles.

Magnuson-Stevens Fishery Conservation and Management Act

The MSA, as amended (16 U.S. Code 1801 et seq.) established:

- A fishery conservation zone between the territorial seas of the United States and 200 nautical miles offshore;
- An exclusive U.S. fishery management authority over fish within the fishery conservation zone (excluding highly migratory species);
- Regulations for foreign fishing within the fishery conservation zone through international fishery agreements, permits, and import prohibitions; and
- National standards for fishery conservation and management and eight regional fishery management councils to apply those national standards in fishery management plans.

Congress enacted the 1996 amendments to the Act, known as the Sustainable Fisheries Act (SFA) (Public Law 104-297), to address the substantially reduced fish stocks that declined as a result of direct and indirect habitat loss. The SFA requires that the Bureau of Ocean Energy Management and other agencies consult with the NMFS concerning actions that may adversely impact EFH.

In 2007, President George W. Bush signed the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006. It mandates the use of annual catch limits and accountability measures to end overfishing, provides for fishery management by a limited access program, and calls for increased international cooperation.

Pacific Coast Salmon Fishery Management Plan

The Pacific Coast Salmon Fishery Management Plan is managed by the Pacific Fishery Management Council, with implementation and regulatory authority carried out by NMFS. The current Pacific Coast Salmon FMP provides management protection for natural and hatchery salmon species off the coasts of Washington, Oregon, and California. These species include Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), pink salmon (*O. gorbuscha*) (in odd-numbered years), and all salmon protected under the ESA except steelhead. The EFH designated for these species includes marine waters from the shoreline to the boundary of the Exclusive Economic Zone (EEZ; 200 miles offshore) and estuarine and freshwater habitat within Washington, Oregon, California, and Idaho.

Clean Water Act

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE), with EPA oversight, has authority to regulate activities that result in discharge of dredged or fill material into wetlands or other “waters of the United States.” Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters. In achieving the goals of the Clean Water Act, the U.S. Army Corps of Engineers seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any discharge of dredged or fill material into jurisdictional wetlands or other jurisdictional “waters of the United States” would require a Section 404 permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetlands is met by compensatory mitigation; in general, the type and location options for compensatory mitigation should comply with the hierarchy established by the Corp/EPA 2008 Mitigation Rule (USEPA 2025) (in descending order): (1) mitigation banks; (2) in-lieu fee programs; and (3) permittee-responsible compensatory mitigation. Also, in accordance with Section 401 of the Clean

Water Act, applicants for a Section 404 permit must obtain water quality certification from the appropriate Regional Water Quality Control Board (RWQCB).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the USFWS, from "taking" bald or golden eagles, including their parts (including feathers), nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

"Disturb" means “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

b. State Laws, Regulations, and Policies

Endangered Species Act and Fully Protected Species

California Endangered Species Act (CESA; Fish and Game Code Section 2050 et. seq.) prohibits take of State-listed threatened and endangered species without a CDFW incidental take permit. Take under CESA is restricted to direct harm of a listed species and does not prohibit indirect harm by way of habitat modification.

Protection of fully protected species is described in Fish and Game Code Sections 3511, 4700, 5050 and 5515. These statutes prohibit take or possession of fully protected species. Incidental take of fully protected species may be authorized under an approved NCCP or HCP. The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) is the HCP for the SJCOG region.

California Fish and Game Code Sections 3503, 3503.5 and 3511

California Fish and Game Code sections 3503, 3503.5 and 3511 describe unlawful take, possession, or destruction of birds, nests, and eggs. Fully protected birds (CFGC Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs.

California Fish and Game Code Sections 1360-1372

Sections 1360 through 1372 of the California Fish and Game Code comprise the Oak Woodlands Conservation Act. The act was enacted to protect oak woodland habitats that were being diminished by development, firewood harvesting, and agricultural conversions. The Oak Woodlands Conservation Program was established as a result of the act and is intended to provide project funding opportunities for private landowners, conservation organizations, and cities and counties to

conserve and restore oak woodlands. The program authorizes the Wildlife Conservation Board to purchase oak woodland conservation easements and provide grants for land improvements and oak restoration efforts. Section 21083.4 of CEQA requires counties to determine if a project within their jurisdiction may result in conversion of oak woodlands that would have a significant adverse effect on the environment. If the lead agency determines that a project would result in a significant adverse effect on oak woodlands, mitigation measures to reduce the significant adverse effect of converting oak woodlands to other land uses are required.

Native Plant Protection Act

CDFW has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et seq.). The NPPA requires CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of the plant(s).

Section 1600 et seq. of the California Fish and Game Code

Section 1600 et seq. of the CFGC prohibits, without prior notification to CDFW, the substantial diversion or obstruction of the natural flow of, or substantial change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. For these activities to occur, CDFW must receive written notification regarding the activity in the manner prescribed by the department and may require a lake or streambed alteration agreement. Lakes, ponds, perennial, and intermittent streams and associated riparian vegetation, when present, are subject to this regulation.

Natural Community Conservation Planning Act

The Natural Communities Conservation Planning (NCCP) Act was established by the California Legislature, is directed by CDFW, and is implemented by the state, as well as public and private partnerships to protect habitat in California. The NCCP Act takes a regional approach to preserving habitat. An NCCP identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. Once an NCCP has been approved, CDFW may provide take authorization for all covered species, including fully protected species, Section 2835 of the CFGC.

Porter-Cologne Water Quality Control Act

The State Water Resources Control Board (SWRCB) and each of nine local RWQCB has jurisdiction over “waters of the State” pursuant to the Porter-Cologne Water Quality Control Act which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities (SWRCB 2025).

California Streets and Highways Code Section 156.3

Assessments and remediation of potential barriers to fish passage for transportation projects using State or federal transportation funds are required. Such assessments must be conducted for any projects that involve stream crossings or other alterations and must be submitted to the CDFW. New projects must be constructed so that they do not present a barrier to fish passage.

c. Local Laws, Regulations, and Policies

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

The SJMSCP was adopted by the San Joaquin Transportation Authority on November 14, 2000. The key purpose of the SJMSCP is to provide a strategy for balancing the need to conserve open space and the need to convert open space to non-open space uses while protecting the region's agricultural economy; preserving landowner property rights; providing for the long-term management of plant, fish, and wildlife species, especially those that are currently listed, or may be listed in the future, under the FESA or the CESA; providing and maintaining multiple open-spaces which contribute to the quality of life of the residents of the SJCOG region; and accommodating a growing population while minimizing costs to project proponents and society at large.

The SJMSCP is an HCP based on a 50-year planning horizon. An HCP is a federal and/or state planning document that is prepared pursuant to Section 10 of the FESA. An approved HCP within a defined plan area allows for the incidental take of federally listed species and habitat that are otherwise protected under FESA during development activities.

The SJMSCP compensates for conversions of open space for several activities including transportation projects. These are activities undertaken by both public and private individuals and agencies throughout the County and within the incorporated cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy. Public agencies, including Caltrans and SJCOG, also will undertake activities related to transportation projects which would be covered by the SJMSCP.

SJCOG administers the SJMSCP, a voluntary mitigation plan, and holds the mitigation land. Project applicants are given the option of participating in the SJMSCP to streamline compliance with required local, state, and federal laws regarding biological resources, and typically avoid having to approach each agency independently. According to the SJMSCP, adoption and implementation by local planning jurisdictions provides adequate compensation and mitigation for impacts to plants, fish, and wildlife. SJMSCP-permitted activities within the boundaries of the SJCOG region fulfill conservation and open space obligations and policies of local general plans, resolution, ordinances, and other regulations as they pertain to plants, fish, and wildlife. Adoption and implementation of the SJMSCP also secures compliance pursuant to the state and federal laws such as CEQA, the National Environmental Policy Act (NEPA), the Planning and Zoning Law, the State Subdivision Map Act, the Porter-Cologne Act, and the Cortese-Knox Act regarding species covered under the SJMSCP. If an implementing agency chooses not to participate in the SJMSCP, it will be required to provide alternative mitigation in an amount and kind equal to that provided in the SJMSCP.

Land Use and Resource Management Plan

The Land Use and Resource Management Plan was adopted by the Delta Protection Commission in 2010 to serve as a long-term resource management plan for land uses within the Primary Zone of the Delta as mandated by Public Resources Code section 29760 et seq. Approximately one-third of

the SJCOG region is located within the Primary Zone, and therefore is subject to goal, policies, and standards set forth in the Land Use and Resource Management Plan. For portions of the SJCOG region that are in the Secondary Zone, or outside of the legal Delta, the Delta Protection Commission may comment on projects that could impact Primary Zone resources. The cities of Stockton, Manteca, Lathrop, and Tracy lie within the Secondary Zone and have the potential to impact Primary Zone resources.

County and City General Plans

General Plans are created by cities and counties to guide the growth and land development of their communities. As such, General Plans typically contain elements which address protection of biological resources. These elements consist of goals, policies and actions that protect natural resources, such as environmentally sensitive habitats, special-status species, native trees, creeks, wetland, and riparian habitats. Local jurisdictions approve development as long as it is consistent with those elements of the General Plan.

Some resources are afforded protection via local ordinances such as those that protect trees, riparian corridors, and environmentally sensitive habitats. The County and incorporated cities within the SJCOG region have municipal codes which protect natural resources and addresses compliance with environmental regulations.

San Joaquin County General Plan 2035

The Natural and Cultural Resources Element of the San Joaquin County General Plan includes goals to protect the biological resources found within the County. The goals and policies of the General Plan are aimed at protecting and conserving listed species and their habitat, critical habitat, the Delta, and river environments. In addition, the General Plan includes a policy requiring the County to protect, preserve, and enhance important natural resource habitat, biological diversity, and the ecological integrity of natural systems in the County.

City General Plans and Regulations

The two largest cities in San Joaquin County are Stockton and Tracy. The City of Stockton has numerous goals and policies related to biological resources in the Envision Stockton 2040 General Plan (2018) and the Stockton Municipal Code. The General Plan includes policies and actions to protect biological resources. Policy LU-5.2 requires that the City protect natural resource areas, fish and wildlife habitat, scenic areas, open space areas, agricultural lands, parks, and other cultural/historic resources from encroachment or destruction by incompatible development. This policy is achieved through Action LU-5.2A requiring compliance with the terms of the SJMSCP to protect critical habitat and special status species. Additionally, Action LU-2.5B requires projects on or within sites that have potential to contain special status species or their habitats to prepare a baseline assessment by a qualified biologist, and to avoid, if feasible, or minimize impacts to these resources through project design features or compensation in consultation with the qualified biologist. The Stockton Municipal Code contains includes Section 16.72.245, *Heritage Trees*, to provide for the protection and preservation of heritage trees within Stockton's limits. Under this section, it is unlawful for a heritage tree in the city to be harmed, injured, defaced, destroyed, or removed without first obtaining a permit from the Stockton Community Development Department in compliance with Chapter 16.130 of the Stockton Municipal Code, *Heritage Tree Permit*.

The City of Tracy contains a Biological Resources section of the Open Spaces and Conservation element of its 2025 General Plan, including several goals and policies related to protection of biological resources and sensitive habitats within the city (City of Tracy 2011). Goal OSC-1 is focused on protecting rare, endangered, and threatened plant and animal species throughout Tracy by preserving habitats that support these species (Objective OSC-1.1). Implementation Policies include OSC-P1 (meet regulations for habitat and species protection), OSC-P2 (participate with SJCOG to enforce the SJMSCP), OSC-P3 (incorporate native plantings in new development and reduce non-native species). The Tracy Municipal Code includes Chapter 7.08 to protect street trees and vegetation throughout the city and require permits from the Parks and Community Services Director prior to removal of any city street tree or shrubbery.

Other cities in the SJCOG Region, such as Manteca and Lodi, have similar provisions, goals, policies, and regulations in their General Plans and municipal ordinances.

4.3.3 Impact Analysis

a. Methodology and Significance Thresholds

Data used for this analysis included aerial photographs, topographic maps, the CNDDB, the CNPS online inventory of rare and endangered plants, accepted scientific texts to identify species and to generally characterize the existing conditions of the project sites. Federal special-status species inventories maintained by the USFWS were reviewed in conjunction with the CNDDB and CNPS online inventory. Potential disturbance associated with construction projects or land use development as discussed in proposed 2026 RTP/SCS, were compared to the identified biological resource occurrences to determine whether an impact may occur.

Data on biological resources were collected from numerous sources, including relevant literature, maps of natural resources, and data on special-status species and sensitive habitat information obtained from the CDFW CNDDB (2025b), CDFW BIOS (2025c), CWHR (CDFW 2025a), CNPS online Inventory of Rare and Endangered Plants of California (2025b), and the USFWS IPaC (2025b). The USFWS NWI (2025a) and Critical Habitat Mapper (2025c) were also queried.

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether development facilitated by the proposed 2026 RTP/SCS would have a significant impact on biological resources, namely an analysis of whether or not the proposed 2026 RTP/SCS would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
3. Have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

b. Project Impacts and Mitigation Measures

The following section discusses potential impacts and mitigation measures that may be associated with projects contained within the proposed 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 improvements and future projects under the land use scenario envisioned by the proposed 2026 RTP/SCS could result in the impacts as described in the following section.

Threshold 1:	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Impact BIO-1 IMPLEMENTATION OF TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY PROPOSED 2026 RTP/SCS MAY RESULT IN IMPACTS TO SPECIAL-STATUS PLANT AND ANIMAL SPECIES, EITHER DIRECTLY OR THROUGH HABITAT MODIFICATIONS. THIS IMPACT WOULD BE SIGNIFICANT BUT MITIGABLE. FOR AGENCIES UTILIZING THE SJMSCP, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

For the purposes of this analysis, special-status plant and wildlife species include those designations described under Section 4.3.1.c above. Most of the transportation improvements proposed under 2026 RTP/SCS consist of minor expansions of existing facilities. However, these projects could affect areas occupied by special-status plant and wildlife species. As mentioned above, there are 91 special-status species known to occur or with potential to occur within the SJCOG region. Thirty of these species are given high levels of protection by the federal government through listing under FESA or by the State government through listing under CESA or a Fully Protected status designation (wildlife only). The remaining species shown in Tables C-1 and C-2 in Appendix C are protected under CEQA, CFGC, and/or through local ordinances. Most special-status species have very limited ranges within the SJCOG region and are associated with sensitive habitats, such as riparian habitats and drainages.

Because of the programmatic nature of proposed 2026 RTP/SCS, a precise, project-level analysis of the specific impacts of individual transportation projects on special-status species is not possible at this time. As future transportation system improvement projects identified in the proposed 2026 RTP/SCS are planned and designed, site-specific environmental review will be conducted by the agencies responsible for implementing such projects. However, some special-status species are expected to be encountered at the locations where projects administered under proposed 2026 RTP/SCS would occur, and it is assumed that certain resources would not be avoided and that potentially significant impacts would occur.

Projects such as those that occur over or in the vicinity of rivers and creeks are within suitable habitat for species such as California red-legged frog (federally threatened and State SSC) delta smelt (federally threatened and State endangered), riparian brush rabbit (federally endangered and State endangered), and riparian woodrat (federally Endangered and State SSC). Many of the creeks

and rivers found within the SJCOG region are considered accessible by delta smelt and currently support or have historically supported delta smelt populations.

In addition to the rivers and creeks that may be impacted as described above, future transportation projects under the proposed 2026 RTP/SCS could impact upland habitats and the sensitive species that may occupy them. For example, San Joaquin kit fox (a federally endangered and State threatened species) may be present in grassland habitats near roads where projects could occur. The federally threatened and State threatened California tiger salamander can also occupy annual grassland habitats containing small mammal burrows if such habitat is within 1.24 miles (the dispersal distance of the species) of known or potentially suitable breeding habitat such as vernal pools and other seasonal ponds. State candidate endangered Crotch's bumble bee (*Bombus crotchii*) and western bumble bee (*Bombus occidentalis*) may also occur where suitable nest habitat and sufficient floral nectar resources are present. Three special-status bat species may be affected by proposed projects where they occur under bridges or similar structures, or in native habitats adjacent to construction areas. Furthermore, the wide variety of habitats within the proposed 2026 RTP/SCS area can support many species of nesting birds, including sensitive species such as the State threatened Swainson's hawk (*Buteo swainsoni*) and the State candidate burrowing owl (*Athene cunicularia*). Disturbance of special-status plants could result in reductions in local population size, habitat fragmentation, or lower reproductive success.

The SJMSCP establishes standardized biological survey requirements, impact assessment methods, and mitigation measures, as well as a coordinated system of habitat preservation, restoration, and long-term management. By consolidating mitigation into a regional program that protects high-value habitat, maintains landscape connectivity, and contributes to the long-term viability and recovery of covered species, the SJMSCP provides a level of conservation benefit that exceeds what can be achieved through project-by-project permitting. Accordingly, future projects implemented consistent with the adopted SJMSCP would reduce potential biological resource impacts to a less-than-significant level. Implementing agencies have the option to participate in the SJMSCP to reduce impacts to biological resources resulting from a proposed project to a level of less-than-significant if the proposed project is consistent with the SJMSCP. If agencies do not participate in the SJMSCP direct impacts to special-status species could include injury or mortality occurring during implementation of projects under the proposed 2026 RTP/SCS. Direct impacts also include habitat modification and loss such that it results in mortality or otherwise alters the foraging and breeding behavior substantially enough to cause injury. Indirect impacts could occur due to the spread of invasive non-native species that out-compete native species and/or alter habitat towards a state that is unsuitable for special-status species. For example, the spread of certain weed species can reduce the biodiversity of native habitats, potentially eliminating special-status plant species and reduce the availability of suitable forage and breeding sites for special-status wildlife species. Indirect impacts could also result due to increased access by humans and domestic animals, particularly in areas where trails may be planned. Increased human and domestic animal (especially dogs) presence foster the spread of non-native invasive plant species and disrupt the normal behaviors of animal species.

In addition to direct and indirect impacts that may result from transportation improvement projects, the proposed 2026 RTP/SCS also contains a future land use scenario that emphasizes infill development and transit-oriented development (TOD). This land use scenario focuses future development concentrated in existing urbanized areas, which would minimize impacts to biological resources in non-urbanized areas. However, it is possible that sensitive plant and wildlife species would be located on future infill and TOD sites, as well as more undeveloped project sites. As a

result, future development projects would impact plant and wildlife species that may be present on or in proximity to undeveloped areas. Many special-status wildlife species are associated with creeks even in the most densely developed urban areas. Both native and non-native trees and shrubs throughout urban areas may support nesting birds. Impacts of land use projects would be significant because substantial adverse effects on special-status species would occur.

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 2026 RTP/SCS program for applicable transportation projects that would result in biological resource impacts, and where feasible and necessary based on site-specific considerations. San Joaquin County and incorporated cities in the County can and should implement these measures where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

For agencies utilizing the SJMSCP, impacts would be less than significant because participation in the plan requires compliance with a comprehensive set of avoidance, minimization, and mitigation measures established through the Habitat Conservation Plan. By implementing projects consistent with the SJMSCP conservation measures and contributing to a coordinated, countywide conservation strategy, participating agencies ensure that project-level effects on covered species and habitats are fully addressed under the SJMSCP's regulatory framework, thereby reducing impacts to a less-than-significant level without additional mitigation.

BIO-1(a) Biological Resources Screening and Assessment

On a project-by-project basis, a preliminary biological resource screening shall be performed as part of the environmental review process to determine whether the project has any potential to impact biological resources. If it is determined that the project has no potential to impact biological resources, no further action is required. If the project would have the potential to impact biological resources, prior to construction, a qualified biologist shall conduct a biological resources assessment (BRA) to document the existing biological resources within the project footprint plus a buffer and to determine the potential impacts to those resources. The biological resources assessment shall evaluate the potential for impacts to all biological resources including, but not limited to: special-status species, nesting birds, wildlife movement, sensitive plant communities, critical habitat, Essential Fish Habitat, and other resources judged to be sensitive by local, state, and/or federal agencies. In addition, the assessment shall document potential modifications to existing infrastructure suitable for wildlife movement (e.g., culvert, underpass, etc.). Pending the results of the BRA, design alterations, further technical studies (e.g., protocol surveys) and/or consultations with the USFWS, CDFW and/or other local, state, and federal agencies may be required. If the project cannot be designed with complete avoidance, the sponsor agency shall coordinate with the appropriate regulatory agency (i.e., USFWS, NMFS, CDFW, USACE) to obtain regulatory permits and implement project-specific mitigation prior to any construction activities, as applicable. The following mitigation measures [BIO-1(b) through BIO-1(j)] shall be incorporated only as applicable into the BRA for projects where specific resources are present or may be present and impacted by the project. Note that specific surveys described in the mitigation measures below may be completed as part of the biological resources assessment where suitable habitat is present. The results of the biological resources screening and assessment shall be provided to the implementing agency for review and approval.

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 permitting and environmental review and implemented during construction, as applicable.

BIO-1(b) Special-status Plant Species Surveys

If completion of the project-specific biological resources assessment determines that special-status plant species have potential to occur on-site, surveys for special-status plants shall be completed prior to any vegetation removal, grubbing, or other construction activity of each project (including staging and mobilization). The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the project-specific BRA. All plant surveys shall be conducted by a qualified biologist approved by the implementing agency no more than two years prior to project implementation. All special-status plant species identified on-site shall be mapped onto a site-specific aerial photograph or topographic map. Surveys shall be conducted in accordance with the most current protocols established by the CNPS, CDFW and/or USFWS. A report of the survey results shall be submitted to the implementing agency for review. If special-status plant species are identified, mitigation measure BIO-1(c) shall apply.

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 permitting and environmental review and implemented during construction, as applicable.

BIO-1(c) Special-status Plant Species Avoidance, Minimization, and Mitigation

If state or federally listed and/or CRPR 1 and 2 species are found during special-status plant surveys [pursuant to mitigation measure BIO-1(b)], then the project shall be re-designed to avoid impacting these plant species to the maximum extent feasible. Occurrences of these species that are not within the immediate disturbance footprint but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a qualified biologist, to protect them from harm. If CRPR 3 and 4 species are found, the biologist shall evaluate to determine if they meet criteria to be considered special-status, and if so, the same process as identified for CRPR 1 and 2 species shall apply.

If special-status plants species cannot be avoided and would be impacted by a project implemented under the proposed 2026 RTP/SCS, all impacts shall be mitigated at a minimum ratio of 1:1 (number of acres or individuals restored to number of acres or individuals impacted) for each species as a component of habitat restoration. A restoration plan shall be prepared and submitted to SJCOG, and/or the local jurisdiction overseeing the project for approval. The restoration plan shall include, at a minimum, the following components:

- Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type);
- Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved];

- Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values);
- Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan);
- Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule);
- Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports);
- Success criteria based on the goals and measurable objectives; said criteria to include numeric criteria to be selected based on the scale of the restoration effort and the restoration technique used:
  - At least 80 percent survival of container plants, and/or
  - Successful establishment the required number of individuals planted from seed to meet required replacement ratios; and/or
  - Sampling-based recruitment/survival criteria to achieve vegetative cover or total number of surviving individuals equal to at least 70 percent of the equivalent metric in reference sites for the same habitat type; sampling-based criteria must use a scientifically valid vegetation sampling method;
- An adaptive management program and remedial measures to address any shortcomings in meeting success criteria;
- Notification of completion of compensatory mitigation and agency confirmation; and
- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).

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 permitting and environmental review and implemented during construction, as applicable.

BIO-1(d) Endangered/Threatened Species Habitat Assessment and Protocol Surveys

Specific habitat assessment and survey protocol surveys are established for several federally and/or State endangered or threatened species. If the results of the biological resources assessment determine that suitable habitat may be present for any such species, protocol habitat assessments/surveys shall be completed in accordance with CDFW and/or USFWS/NMFS protocols prior to issuance of any construction permits/project approvals.

Alternatively, in lieu of conducting protocol surveys, the implementing agency may choose to assume presence within the project footprint and proceed with development of appropriate avoidance measures, consultation, and permitting, as applicable.

If the target species is detected during protocol surveys, or protocol surveys are not conducted and presence assumed based on suitable habitat, mitigation measure BIO-1(e) shall apply.

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 permitting and environmental review and implemented during construction, as applicable.

BIO-1(e) Endangered/Threatened Species Avoidance and Compensatory Mitigation

If habitat is occupied or presumed occupied by federal and/or state listed species and would be impacted by the project, the implementing agency shall design the project in coordination with a qualified biologist to avoid impacting occupied/presumed occupied habitat to the maximum extent feasible. Disturbance limits shall have bright orange protective fencing installed at least 50 feet beyond their extent, or other distance as approved by a qualified biologist, to protect the habitat. If occupied or presumed occupied habitat cannot be avoided, the implementing agency shall provide the total acreages for habitat that would be impacted prior to the issuance of construction permits/approvals. The implementing agency shall purchase credits at a USFWS, and/or CDFW approved conservation bank and/or establish conservation easements or funds for acquisition of conservation easements as compensatory mitigation to offset impacts to federal and/or state listed species habitat.

Compensatory mitigation shall be provided at the following ratios for permanent impacts in accordance with the *San Joaquin County Multi-Species Habitat Conservation and Open Space Plan* (SJMSCP 2000) of not less than 1:1 (area mitigated: area impacted) for agricultural habitat lands and 3:1 for natural lands (non-wetland). Compensatory mitigation may be combined/nested with special-status plant species and sensitive community restoration, where applicable. Temporary impact areas shall be restored to pre-project conditions.

If the implementing agency establishes conservation easement(s) (on- and/or off-site) to serve as compensatory mitigation for federal and/or state listed species habitat impacts, compensatory mitigation areas shall have a restrictive covenant prohibiting future development/disturbance and shall be managed in perpetuity to encourage persistence and enhancement of the preserved target species. Compensatory mitigation lands cannot be located on land that is currently held publicly for resource protection. The compensatory mitigation areas shall be managed by a conservation lands management entity or other qualified easement holder. In addition, the implementing agency shall retain a qualified biologist to prepare a Habitat Mitigation and Monitoring Plan (HMMP) to ensure the success of compensatory mitigation sites that are to be conserved for compensation of permanent impacts to federal and/or state listed species. The HMMP shall identify long term site management needs, routine monitoring techniques, techniques, and success criteria, and shall determine if the conservation site requires restoration to function as a suitable mitigation site. If restoration is required on the conservation site, the HMMP shall contain the restoration components outlined under the Restoration Plan listed in measure BIO-1(c). The HMMP shall be submitted to the implementing agency for approval.

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 permitting and environmental review and implemented during construction, as applicable.

BIO-1(f) Endangered/Threatened Species Avoidance and Minimization

The following measures shall be applied to aquatic and terrestrial species, where appropriate. Project sponsors shall select from these measures as appropriate depending on site conditions, the species with potential for occurrence, and the results of the biological resources screening and assessment (measure BIO-1[a]).

- Preconstruction surveys for federal and/or state listed species with potential to occur shall be conducted where suitable habitat is present by a qualified biologist not more than 48 hours prior to the start of construction activities. The survey area shall include the proposed disturbance area and all proposed ingress/egress routes, plus a 100-foot buffer. If any life stage of federal and/or state listed species is found within the survey area, the appropriate measures in the Biological Opinion (BO) or HCP/Incidental Take Permit (ITP) issued by the USFWS/NMFS (relevant to federal listed species) and/or the ITP issued by the CDFW (relevant to state listed species) shall be implemented; or if such guidance is not in place for the activity, the USFWS, NMFS and/or CDFW shall be consulted to determine the appropriate course of action. The results of the pre-construction surveys shall be submitted to the implementing agency for review and approval prior to start of construction.
- Ground disturbance shall be limited to the minimum necessary to complete the project. The project limits of disturbance shall be flagged. Areas of special biological concern shall have highly visible orange construction fencing.
- All projects occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed between April 1 and October 31, to avoid impacts to sensitive aquatic species.
- All projects occurring within or adjacent to sensitive habitats that may support federally and/or State endangered/threatened species shall have a qualified biologist present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, said biologist shall conduct daily pre-activity clearance surveys for endangered/threatened species. Alternatively, and upon approval of the CDFW and/or USFWS or as outlined in project permits, said biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are begin fully implemented.
- No endangered/threatened species shall be captured and relocated without authorization from the CDFW and/or USFWS.
- If pumps are used for dewatering activities, all intakes shall be completely screened with wire mesh not larger than five millimeters to prevent animals from entering the pump system.
- If at any time during construction of the project an endangered/threatened species enters the construction site or otherwise may be impacted by the project, all project activities shall cease. At that point the USFWS, NMFS and/or CDFW shall be consulted to determine the appropriate course of action, or the appropriate measures implemented in accordance with the BO or HCP/ITP issued by the USFWS (relevant to federal listed species) and/or the ITP issued by the CDFW (relevant to state listed species) and work can then continue as guided by those documents and the agencies as appropriate.
- All vehicle maintenance/fueling/staging shall occur not less than 100 feet from any riparian habitat or water body. Suitable containment procedures shall be implemented to prevent spills.
- No equipment shall be permitted to enter wetted portions of any affected drainage channel.

- All equipment operating within streambeds (restricted to conditions in which water is not present) shall be in good conditions and free of leaks. Spill containment shall be installed under all equipment staged within stream areas and extra spill containment and clean up materials shall be located in close proximity for easy access.
- At the end of each workday, excavations shall be secured with cover, or a ramp shall be provided to prevent wildlife entrapment.
- All trenches, pipes, culverts, or similar structures shall be inspected for animals prior to burying, capping, moving, or filling.

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 permitting and environmental review and implemented during construction, as applicable.

BIO-1(g) Non-Listed Special-status Animal Species Avoidance and Minimization

Depending on the species identified in the BRA, measures shall be selected from among the following to reduce the potential for impacts to non-listed special-status animal species:

- Preconstruction clearance surveys shall be conducted within 14 days prior to the start of construction (including staging and mobilization). The surveys shall cover the entire disturbance footprint plus a minimum 100-foot buffer and shall identify all special-status animal species that may occur on-site. All non-listed special-status species shall be relocated from the site either through direct capture or through passive exclusion. A report of the preconstruction survey shall be submitted to the implementing agency for their review and approval prior to the start of construction.
- A qualified biologist shall be present during all initial ground disturbing activities, including vegetation removal, to recover special-status animal species unearthed by construction activities.
- Upon completion of the project, a qualified biologist shall prepare a final compliance report documenting all compliance activities implemented for the project, including the preconstruction survey results. The report shall be submitted within 30 days of completion of the project.
- If special-status bat species may be present and impacted by the project, within 30 days of the start of construction a qualified biologist shall conduct presence/absence surveys for special-status bats, in consultation with the CDFW, where suitable roosting habitat is present. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. If active bat roosts or colonies are present, the biologist shall evaluate the type of roost to determine the next step.
    - If a maternity colony is present, all construction activities shall be postponed within a 250-foot buffer around the maternity colony until it is determined by a qualified biologist that the young have dispersed or as recommended by CDFW through consultation. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately.
    - If a roost is determined by a qualified biologist to be used by a large number of bats (large hibernaculum), alternative roosts, such as bat boxes if appropriate for the species, shall be designed and installed near the project site. The number and size of alternative roosts

installed will depend on the size of the hibernaculum and shall be determined through consultations with CDFW.

- If other active roosts are located, exclusion devices such as valves, sheeting or flap-style one-way devices that allow bats to exit but not re-enter roosts discourage bats from occupying the site.

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 permitting and environmental review and implemented during construction, as applicable.

BIO-1(h) Preconstruction Surveys for Nesting Birds

For construction activities occurring during the nesting season (generally February 1 to September 15), surveys for nesting birds covered by the CFGC, the MBTA, and Bald and Golden Eagle Protection Act shall be conducted by a qualified biologist no more than 14 days prior to vegetation removal activities.

A qualified biologist shall conduct preconstruction surveys for raptors. The survey for bald and golden eagles shall cover all areas within the disturbance footprint plus a one-mile buffer, where access can be secured. The survey area for all other nesting bird and raptor species shall include the disturbance footprint plus a 300-foot and 500-foot buffer, respectively.

If active nests (nests with eggs or chicks) are located, the qualified biologist shall establish an appropriate avoidance buffer ranging from 50 to 300 feet based on the species biology and the current and anticipated disturbance levels occurring in vicinity of the nest. The objective of the buffer shall be to reduce disturbance of nesting birds. All buffers shall be marked using high-visibility flagging or fencing, and, unless approved by the qualified biologist, no construction activities shall be allowed within the buffers until the young have fledged from the nest or the nest fails.

For bald or golden eagle nests identified during the preconstruction surveys, an avoidance buffer of up to one mile shall be established on a case-by-case basis in consultation with the USFWS and CDFW. The size of the buffer may be influenced by the existing conditions and disturbance regime, relevant landscape characteristics, and the nature, timing, and duration of the expected disturbance. The buffer shall be established between February 1 and September 15; however, buffers may be relaxed earlier than September 15 if a qualified ornithologist determines that a given nest has failed or that all surviving chicks have fledged, and the nest is no longer in use.

A report of these preconstruction nesting bird surveys and nest monitoring (if applicable) shall be submitted to the implementing agency for review and approval prior to the start of construction.

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 permitting and environmental review and implemented during construction, as applicable.

BIO-1(i) Fence and Signpost Restriction

Any fencing posts or signs installed temporarily or permanently throughout the course of the project shall have the top three post holes covered or filled with screws or bolts to prevent the entrapment of wildlife, specifically the talons of birds of prey. Also, fencing shall incorporate wildlife friendly design elements, such as smooth wires and having a 6-inch or greater gap above grade. Fencing shall be designed to be wildlife friendly (e.g., smooth top wire, smooth bottom wire at 16 inches above grade, etc.).

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 permitting and environmental review and implemented during construction, as applicable.

BIO-1(j) Worker Environmental Awareness Program (WEAP)

Prior to initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend WEAP training, conducted by a qualified biologist, to aid workers in recognizing special-status resources that may occur in the project area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved in construction of the project. All employees shall sign a form documenting that they have attended the WEAP and understand the information presented to them.

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 the County. These mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction, as applicable.

Significance After Mitigation

Compliance with the above mitigation measures would reduce impacts to special-status species and their habitat to less than significant levels because the mitigation measures require pre-project surveys and biological monitoring, focused biological surveys, avoidance or minimization of project related disturbance or loss of special-status species, compensation for disturbed or loss of special-status species habitat and coordination with permitting agencies, as required prior to project implementation.

Threshold 2:	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
Threshold 3:	Would the project have a substantial adverse effect on state or federally protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact BIO-2 IMPLEMENTATION OF TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS MAY RESULT IN IMPACTS TO SENSITIVE HABITATS, INCLUDING STATE OR FEDERALLY PROTECTED WETLANDS. THIS IMPACT WOULD BE SIGNIFICANT BUT MITIGABLE.

Transportation projects that may be implemented under the proposed 2026 RTP/SCS have the potential to impact sensitive habitats, as mapped on Figure 4.3-3. The extent and severity of the impacts is not known at this time, but some examples of potential impacts include, but are not limited to: construction and reconstruction/widening of bridges over rivers and creeks, including the San Joaquin River, Mormon Slough, Little Johns Creek, and Duck Creek. These types of projects would have potential to impact riparian areas, as well as the water bodies. In addition, projects such as multi-use trails and bike paths may also involve development along riparian corridors. Riparian areas provide wildlife habitat, and movement corridors, enabling both terrestrial and aquatic organisms to move along river systems between areas of suitable habitat. Construction of the proposed facilities could have both direct impacts due to disturbance of riparian flora and fauna and indirect impacts due to increased erosion and sedimentation, which would adversely affect downstream water quality.

In addition, other sensitive habitats, including oak woodlands, could occur at locations of transportation improvement projects and land use development sites. As noted in Section 4.3.1.c, vegetation alliances with State ranks of S1-S3 are considered imperiled and thus, potentially of special concern and sensitive (CDFW 2025d). Impacts to these sensitive communities, including oak woodlands, would be significant.

Direct impacts to sensitive habitats include loss of habitat during construction of the project. Indirect impacts include habitat degradation due to introduction of invasive plant species incidentally from construction equipment and through selection of invasive landscape plants, as well as through erosion of disturbed areas.

The future land use scenario envisioned by the proposed 2026 RTP/SCS would concentrate development primarily within existing urbanized areas. As a result, future infill and TOD projects are likely to result in only limited impacts to riparian habitat or sensitive habitat, though areas that have been relatively free of ground disturbance may contain sensitive native habitats such as Elderberry Savanna, Northern Claypan Vernal Pool, Northern Hardpan Vernal Pool, Valley Oak Woodland, or other vegetation alliances and associations that are deemed sensitive by the CDFW. Furthermore, some areas mapped by CWHR as somewhat disturbed habitats, such as annual grasslands, may at the local scale include sensitive native vegetation with unique assemblages of native plants, such as areas dominated by native wildflowers, vernal pools, and native grasslands.

In conclusion, implementation of the proposed 2026 RTP/SCS would have substantial adverse impacts on sensitive habitats, including State and federally protected wetlands, and this impact is therefore significant.

Mitigation Measures

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measures for applicable transportation projects that would result in biological resource impacts, and where feasible and necessary based on site-specific considerations. San Joaquin County and incorporated cities in the County should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

BIO-2(a) Aquatic Resources Jurisdictional Delineation and Impact Avoidance

If the results of Mitigation Measure BIO-1(a) indicate that projects implemented under the proposed 2026 RTP/SCS occur within or adjacent to wetland, drainages, riparian habitats, or other areas that may fall under the jurisdiction of the CDFW, USACE, and RWQCB, a qualified biologist shall complete an aquatic resources delineation in accordance with the requirement set forth by each agency. The result shall be submitted to the implementing agency, USACE, RWQCB, and/or CDFW as appropriate, for review and approval, and the project shall be designed to minimize impacts to jurisdictional areas to the extent feasible. The delineation shall serve as the basis to identify potentially jurisdictional areas to be protected during construction, through implementation of the avoidance and minimization identified in measure BIO-2(f)[2].

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 permitting and environmental review and implemented during construction, as applicable.

BIO-2(b) Wetlands, Drainages, and Riparian Habitat Restoration

Impacts to jurisdictional drainages, wetlands and riparian habitat shall be mitigated in accordance with the SJMSCP at a minimum ratio of 2:1 preservation plus 1:1 creation for vernal pools within the *Vernal Pool Zone*, as mapped by the SJMSCP Zone Map, and at least 1:1 creation plus 2:1 preservation for wetlands other than vernal pools (acres of habitat restored to acres impacted) and shall occur on-site or as close to the impacted habitat as possible. A Mitigation and Monitoring Plan shall be developed by a qualified biologist in accordance with the restoration plan component requirements in mitigation measure BIO-1(c) above and shall be implemented for no less than five years after construction of the segment, or until the implementing agency and/or the permitting authority (e.g., CDFW, RWQCB, and/or USACE) has determined that restoration has been successful. Alternatively, mitigation shall be accomplished through purchase of credits from an approved wetlands mitigation bank.

[2] If waters of the State are expected to be impacted, then the RWQCB may require Waste Discharge Requirements (WDR) and/or Section 401 Water Quality Certification (depending upon whether the feature falls under federal jurisdiction). If CDFW asserts its jurisdictional authority, then a Streambed Alteration Agreement pursuant to Section 1600 et seq. of the CFGC may be required prior to construction within the areas of CDFW jurisdiction. If the USACE asserts its authority, then a permit pursuant to Section 404 of the Clean Water Act may be required

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 permitting and environmental review and implemented during construction, as applicable.

BIO-2(c) Landscaping Plan

If landscaping is proposed for a specific project, a qualified biologist/landscape architect shall prepare a landscape plan for that project. This plan shall indicate the locations and species of plants to be installed. Drought tolerant, locally native plant species shall be used. Noxious, invasive, and/or non-native plant species that are recognized on the Federal Noxious Weed List, California Noxious Weeds List, and/or California Invasive Plant Council Inventory as moderate to highly invasive species shall not be permitted. Species selected for planting shall be regionally appropriate native species that are known to occur in the adjacent native habitat types.

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 permitting and environmental review and implemented during construction, as applicable.

BIO-2(d) Sensitive Vegetation Community Avoidance and Mitigation

If the results of measure BIO-1(a) indicate projects implemented under the proposed 2026 RTP/SCS would impact sensitive vegetation communities, impacts to sensitive communities shall be avoided through project design modifications. Bright orange construction fencing shall be placed a minimum of 30 feet outside the edge of areas of sensitive communities that will be retained prior to any initiation of ground disturbance activities and shall remain in place until construction is complete. No vehicles, person, materials, or equipment shall be allowed in protected areas.

If the implementing agency determines that sensitive communities cannot be avoided, impacts shall be mitigated on-site or offsite at a ratio of 1:1 for permanently impacted sensitive communities (habitat restored for habitat lost). Temporarily impacted areas shall be restored to pre-project conditions. A Restoration Plan shall be developed by a qualified biologist. The Restoration Plan shall be implemented for a period of not less than five years. Off-site habitat acquisition and off-site restoration and/or enhancement may be considered if onsite restoration is determined as unachievable, as long as the off-site proposals result in equal compensatory value. Replacement ratios for off-site mitigation may be different than those required for onsite mitigation. The plan shall include, at a minimum, the same components in accordance with the restoration plan component requirements in mitigation measure BIO-1(c) above.

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 permitting and environmental review and implemented during construction, as applicable.

BIO-2(e) Invasive Weed Prevention and Management Program

Prior to start of construction for each project that occurs within or adjacent to native habitats, an Invasive Weed Prevention and Management Program shall be developed by a qualified biologist to prevent invasion of native habitat by non-native plant species. The plan shall be submitted to the implementing agency for review and approval. A list of target species shall be included, along with measures for early detection and eradication.

The plan, which shall be implemented by the project sponsor, shall also include, but not be limited to, the following measures to prevent the introduction of invasive weed species:

- During construction, the project shall make all reasonable efforts to limit the use of imported soils for fill. Soils currently existing on-site should be used for fill material. If the use of imported fill material is necessary, the imported material must be obtained from a source that is known to be free of invasive plant species.
- To minimize colonization of disturbed areas and the spread of invasive species, the contractor shall: stockpile topsoil and redeposit the stockpiled soil after construction or transport the topsoil to a permitted landfill for disposal.
- The erosion control/ restoration plans for the project must emphasize the use of native species that are expected to occur in the area and that are considered suitable for use at the project site.
- All erosion control materials, including straw bales, straw wattles, or mulch used on-site must be free of invasive species seed.
- Exotic and invasive plant species shall be excluded from any erosion control seed mixes and/or landscaping plant palettes associated with the proposed project
- All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding shall occur where no construction activities have occurred within six (6) weeks since ground disturbing activities ceased. If exotic species invade these areas prior to hydroseeding, weed removal shall occur in consultation with a qualified biologist and in accordance with the restoration plan.

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 permitting and environmental review and implemented during construction, as applicable.

BIO-2(f) Wetlands, Drainages, and Riparian Habitat Best Management Practices During Construction

The following best management practices shall be required for development within or adjacent to wetlands, drainages, or riparian habitat:

- Access routes, staging, and construction areas shall be limited to the minimum area necessary to achieve the project goal and minimize impacts to other waters including locating access routes and ancillary construction areas outside of jurisdictional areas.
- To control sedimentation during and after project implementation, appropriate erosion control materials shall be deployed to minimize adverse effects on jurisdictional areas in the vicinity of the project.

- Project activities within the jurisdictional areas should occur during the dry season (typically between April 1 and October 31) in any given year, or as otherwise directed by the regulatory agencies.
- During construction, no litter or construction debris shall be placed within jurisdictional areas. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- All project-generated debris, building materials, and rubbish shall be removed from jurisdictional areas and from areas where such materials could be washed into them.
- Raw cement, concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic species resulting from project-related activities, shall be prevented from contaminating the soil and/or entering wetlands, drainages, or riparian habitat.
- All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 feet from bodies of water and in a location where a potential spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water source). Prior to the onset of work activities, a plan must be in place for prompt and effective response to any accidental spills.

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 the County. These mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction, as applicable.

Significance After Mitigation

The above mitigation measures require focused biological surveys, best management practices to avoidance or minimization impacts, compensation for disturbed or loss of sensitive communities and wetlands, and coordination with permitting agencies, as required, prior to project implementation. Compliance with the above mitigation measures and existing State, federal and/or local regulations would reduce impacts to sensitive communities and wetlands to less than significant levels.

Threshold 4:	Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Impact BIO-3 IMPLEMENTATION OF TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS MAY SUBSTANTIALLY INTERFERE WITH WILDLIFE MOVEMENT, INCLUDING FISH MIGRATION, AND/OR IMPEDE THE USE OF NATIVE WILDLIFE NURSERY SITES. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

As discussed above in Section 4.3.1, *Setting*, the SJCOG region contains four mapped ECAs (CDFW 2025b). These areas are composed primarily of wildlands located within the northwestern and northeastern portions of the SJCOG region. Additionally, several small scale and important local movement corridors include some agricultural and developed areas (mostly rural residential) along the various rivers, creeks, drainages, and other topographic features in the SJCOG region, such as the San Joaquin, Mokelumne, and Calaveras Rivers and other drainages as depicted in **Figure 4.3-2**.

Many of these smaller scale wildlife movement corridors are bisected by major roadways. As such, several transportation projects in the proposed 2026 RTP/SCS may overlap with areas of mapped ECAs or other locally important wildlife movement corridors including rivers and watercourses within the region.

Large swaths of undeveloped areas within the SJCOG region provide vegetative cover suitable for the movement of many terrestrial wildlife species, including medium to large-sized, mobile mammals with relatively large home ranges, such as coyote, deer, bobcat, grey fox, and mountain lion. It also provides foraging and breeding habitat for many species. Wildlife species can currently move through these vegetated areas routinely with some species also using concrete-lined or earthen stormwater channels in the area for movement.

As previously discussed under Impacts BIO-1 and BIO-2, transportation improvement projects and the land use scenario envisioned by the proposed 2026 RTP/SCS could occur within areas that support sensitive habitat (e.g., riparian areas, undeveloped natural areas). Direct and indirect disturbances to these areas could potentially interfere with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors within the SJCOG region.

Habitat fragmentation caused by roads and development throughout the San Joaquin Delta and surrounding open space areas is already a serious concern. Therefore, preserving contiguous patches of undeveloped habitats is important for the long-term viability of wildlife populations and is therefore a key priority in conservation planning.

Even in more urbanized areas such as Stockton, Lodi, and Tracy, there are pockets of natural areas that are considered native wildlife nursery sites (e.g., San Joaquin River, Oak Grove Regional Park, and Mossdale Crossing Regional Park). These areas have the potential to support nesting birds and other breeding wildlife. Development projects are required to comply with the CFGC (e.g., Sections 3503, 3503.5, 3513, and 4150); thus, it is unlikely that infill development or TOD accommodated under the proposed 2026 RTP/SCS would result in the disturbance or destruction of active nest sites or the unauthorized take of birds or nongame mammals. Nevertheless, if development activities directly (e.g., cutting of trees or other vegetation, or removal of man-made structures containing an active bird nest or denning wildlife) or indirectly (e.g., if activities sufficiently harassed birds to cause nest abandonment) affect nesting birds and nongame mammals, a violation of the Fish and Game Code would result.

Larger predatory mammals known to occur in the SJCOG region do not travel in large groups requiring large swaths of land;[3] thus, the reduction in capacity of migratory corridors would be less than significant. Conversely, game species such as mule deer, would be confined to narrower movement channels, which could lead to a reduction in capacity and could present a more opportunistic situation for predators (i.e., may increase predation rates). If prey species are dispersing through a more confined corridor, this may provide a bottleneck of which a predator can take advantage, although there is no clear evidence that predation rates universally increase in a negative way due to corridors, and the relationship between predation and corridors is complex (Conservation Corridor 2025).

[3] This discussion is related to the carrying capacity of a movement corridor and not the home range requirement of a given large predatory mammal.

Development of wider roadways and associated infill development and TOD may also result in wildlife attempting to cross roadways at inopportune areas, (i.e., areas that are significantly narrower and confined by steeper hillsides or other barriers). This potential shift may lead to an increase in road mortality. Thus, impacts to wildlife movement based on existing and post-project opportunities would be considered significant without incorporation of mitigation.

Direct impacts to wildlife include increased noise and human presence during construction, as well as increased trash which may attract predators to the project site and discourage wildlife use of surrounding natural habitat. Indirect impacts include invasion of natural habitats by non-native species and increased presence of humans and domestic animals over the long-term. These edge effects of development in and adjacent to open space have the potential to adversely affect wide ranging predators, such as mountain lions. In addition, transportation improvement projects could include new segments of fencing or walls that could hinder wildlife movement.

The future land use scenario envisioned by proposed 2026 RTP/SCS would encourage infill development and TOD within existing urbanized areas. Most of the future infill and TOD development projects would be placed on parcels that provide limited or no wildlife movement. However, even the elimination of limited wildlife movement could further isolate areas of native habitat occupied by both sensitive and common native wildlife species. Based on the above analysis, impacts related to transportation projects and impacts related to the future land use scenario envisioned by the proposed 2026 RTP/SCS would be potentially significant.

Mitigation Measures

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measures for applicable transportation projects that would result in biological resource impacts, and where feasible and necessary based on site-specific considerations. These measures in addition to Mitigation Measure BIO-1(i) under Impact BIO-1 to incorporate wildlife friendly design elements, would apply to any transportation projects under the proposed 2026 RTP/SCS that would result in impacts to wildlife movement. San Joaquin County and incorporated cities in the County should implement these measures where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

BIO-3(a) Project Design for Wildlife Connectivity

All projects including long segments of fencing and lighting shall be designed to minimize impacts to wildlife. Fencing or other project components shall not block wildlife movement through riparian or other natural habitat. Where fencing or other project components that may disrupt wildlife movement are required for public safety, they shall be designed to permit wildlife movement by incorporating design features such as:

- A minimum 16 inches between the ground and the bottom of the fence to provide clearance for small animals;
- A minimum 12 inches between the top two wires, or top the fence with a wooden rail, mesh, or chain link instead of wire to prevent animals from becoming entangled; and

- If privacy fencing is required near open space areas, openings at the bottom of the fence measure at least 16 inches in diameter shall be installed at reasonable intervals to allow wildlife movement, or the fence may be installed with the bottom at least 16 inches above the ground level.
- If fencing or other project components must be designed in such a manner that wildlife passage would not be permitted, wildlife crossing structures such as overpasses, underpasses, culverts, etc., shall be incorporated into the project design as appropriate.
- Lighting installed as part of any project shall be designed to be minimally disruptive to wildlife (see mitigation measure AES-3(a) Roadway Lighting for lighting requirements).

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 permitting and environmental review and implemented during construction, as applicable.

BIO-3(b) Maintain Connectivity in Drainages

No permanent structures shall be placed within any drainage or river that would impede wildlife movement (i.e., no hardened caps or other structures in the stream channel perpendicular to stream flow be left exposed or at depth with moderate to high risk for exposure as a result of natural bed scour during high flow events and thereby potentially create impediments to passage).

In addition, upon completion of construction within any drainage, areas of stream channel and banks that are temporarily impacted shall be returned to pre-construction contours and in a condition that allows for unimpeded passage through the area once the work has been complete.

If water is to be diverted around work sites, a diversion plan shall be submitted to SJCOG and/or local jurisdiction for review and approval prior to issuance of project construction permits/approvals. The diversion shall be designed in a way as to not impede fish and wildlife movement while the diversion is in place.

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 permitting and environmental review and implemented during construction, as applicable.

BIO-3(c) Construction Best Management Practices to Minimize Disruption to Wildlife

The following construction BMPs shall be incorporated into all grading and construction plans in order to minimize temporary disruption of wildlife, which could hinder wildlife movement:

- Designation of a 20 mile per hour speed limit in all construction areas.
- Construction shall be limited to daylight hours only, to the maximum extent practicable.
- Mufflers shall be used on all construction equipment and vehicles shall be in good operating condition.

- All trash shall be placed in sealed containers and shall be removed from the project site a minimum of once per week.
- No pets are permitted on project site during construction.

IMPLEMENTATION AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are cities and the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

Compliance with the above mitigation measures would reduce impacts to wildlife movement by requiring projects to be designed in a way that maintains connectivity. However, it cannot be guaranteed that movement of terrestrial species will not be impeded at the regional scale due to the large scale of the proposed 2026 RTP/SCS. No additional feasible mitigation measures are available to reduce impacts on wildlife movement. Thus, this impact would remain significant and unavoidable.

Threshold 5:	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact BIO-4 IMPLEMENTATION OF TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD NOT CONFLICT WITH ANY LOCAL POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES, SUCH AS A TREE PRESERVATION POLICY. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Most municipalities in the SJCOG region have local ordinances and policies in place that protect native habitat and/or native and nonnative trees in urban landscapes, as well as in unincorporated County lands. These ordinances and policies vary in their definitions of protected trees (e.g., certain species, percent within the public right-of-way, aesthetically suitable, deep-rooted trees, or a combination thereof) and in the requirements for ordinance or policy compliance. In addition, the County and cities may have ordinances or policies that are intended to protect other biological resources such as wetlands and drainages, riparian habitat, and other sensitive habitat areas.

Protected trees (i.e., heritage oaks) and other biological resources which are protected by city and/or County ordinances and/or policies are expected to be encountered at the locations where projects administered under the proposed 2026 RTP/SCS would occur and therefore there is potential for conflict with local ordinances and/or policies. Most of the transportation projects in the proposed 2026 RTP/SCS are expansions or maintenance of existing roads. Because ground disturbances would be fairly limited as a result, the potential removal of native trees and disturbances to other biological resources protected by local policies or ordinances are expected to be minimal for most projects.

In addition to potential conflicts with local policies and/or ordinances that may result from transportation improvement projects, the proposed 2026 RTP/SCS also contains a future land use scenario that emphasizes infill development and TOD. This land use scenario focuses future development concentrated in existing urbanized areas, although some development would occur in more undisturbed areas. This would reduce impacts to biological resources that are protected by

city and/or County ordinances; however, there remains the potential for conflict with local policies and ordinances from development associated with the future land use scenario.

All future development projects potentially occurring within local jurisdictions as well as the transportation projects proposed for implementation under the proposed 2026 RTP/SCS would be required to follow city and/or County development requirements, including compliance with local policies, ordinances, and applicable permitting procedures related to protecting biological resources. Project-level analysis would identify potentially significant conflicts with local policies and ordinances as well as minimize, mitigate, or avoid those impacts through the design, siting, and permitting process; and provide mitigation for any significant impacts as a condition of project approval and permitting. Therefore, the potential for approved development projects under the future land use scenario as well as proposed transportation project to conflict with local policies or ordinances protecting biological resources is considered less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 6:	Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact BIO-5 IMPLEMENTATION OF THE TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD NOT CONFLICT WITH THE PROVISIONS OF AN ADOPTED HABITAT CONSERVATION PLAN, NATURAL COMMUNITY CONSERVATION PLAN, OR OTHER APPROVED LOCAL, REGIONAL, OR STATE HABITAT CONSERVATION PLAN. IMPACTS WOULD BE SIGNIFICANT BUT MITIGABLE.

There is one adopted conservation plan within the SJCOG region. The SJMSCP was adopted by the San Joaquin Transportation Authority on November 14, 2000. The SJMSCP is intended to comprehensively minimize and mitigate impacts to the region's special-status plant and wildlife species. The SJMSCP estimates an overall habitat conversion of 109,302 acres of open space land to non-open space uses through the 50-year term of the SJMSCP.

The proposed 2026 RTP/SCS would not alter land use designations in any way that would adversely affect known wildlife linkages, migration corridors, etc. within areas covered by the SJMSCP. Individual proposed 2026 RTP/SCS transportation and development projects must comply with the SJMSCP. Land use and transportation projects included in the proposed 2026 RTP/SCS would be reviewed on an individual basis to ensure that the biological impacts are within the parameters established by the SJMSCP. Implementing agencies have the option to participate in the SJMSCP to reduce impacts to biological resources resulting from a proposed project to a less-than-significant level if the proposed project is consistent within the SJMSCP.

The small quantity of low-quality habitat loss associated with implementation of the proposed 2026 RTP/SCS would be considered a less than significant effect because of the amount of similar and higher value vegetation communities and land cover types within the SJCOG region that are already held in conservation or designated as open space. However, due to the programmatic nature of this analysis, the extent and severity of potential conflicts with the SJMSCP is not known at this time. Therefore, implementation of Mitigation Measures BIO-1(a) through BIO-3(c) should be applied to each future project, as appropriate, that is tiering off from this Program EIR. Adherence to

Mitigation Measure BIO-1(a) through BIO-3(c) in addition to individual proposed 2026 RTP/SCS, project review by lead agencies would ensure that impacts related to compliance with the SJMSCP remain less than significant and would ensure that projects, as they are designed, do not result in conflict with the SJMSCP. For agencies utilizing the SJMSCP, this impact would be less than significant through adherence to the regulations incorporated into the SJMSCP.

Mitigation Measures

Implementation of Mitigation Measures BIO-1(a) through BIO-3(c) are required.

Significance After Mitigation

Implementation of Mitigation Measures BIO-1(a) through BIO-3(c) would reduce impacts to a less than significant level.

4.3.4 Cumulative Impacts

The cumulative impact analysis area for biological resources consists of the SJCOG region and adjoining counties. Information regarding these adjoining counties can be found in Chapter 3, *Environmental Setting*, Table 3-1. Future development in this region that could impact biological resources is considered in the analysis. This cumulative extent is used to evaluate potential direct and indirect, and permanent and temporary impacts to special-status species, sensitive habitats, wildlife movement, local policies and ordinances protecting biological resources, and approved habitat conservation plans within the context of regional diminishment of these resources.

Biological resources impacts resulting from cumulative development within the cumulative impact analysis area would include direct and indirect impacts to sensitive/special status species or their habitat; impacts to riparian, wetland, or other sensitive natural communities; or interference with wildlife movement. Similarly, development pursuant to other local and regional planning efforts within the cumulative impact analysis area would impact these resources, and as a result, cumulative impacts would be significant.

Mitigation Measures BIO-1(a) through BIO-3(c) in Section 4.3.3.b establish survey requirements and define actions to be implemented when biological resources could be affected by the proposed 2026 RTP/SCS projects or the future land use scenario. Adoption of these measures by implementing agencies and project sponsors, together with compliance with applicable State, local, and federal regulations, would reduce the proposed 2026 RTP/SCS contribution to cumulative biological resource impacts. However, even with implementation of these measures, the proposed 2026 RTP/SCS would continue to make a cumulatively considerable contribution to significant cumulative impacts on special-status species and their habitats; riparian, wetland, and other sensitive natural communities; and wildlife movement.

Future development within the cumulative impact analysis area would also be required to comply with local ordinances and regulatory requirements that protect biological resources, including the SJMSCP. Compliance with the SJMSCP and other applicable regulations would be evaluated at the project level and would not, in itself, result in a cumulative impact related to conflicts with local ordinances, plans, or the SJMSCP.

4.4 Cultural Resources

This section analyzes impacts to historical and archaeological resources within the SJCOG region. Tribal cultural resources are addressed in Section 4.15, *Tribal Cultural Resources*.

4.4.1 Setting

The SJCOG region is located just east of the San Francisco Bay and is primarily situated within a region known as the Delta and Eastside Streams portion of the Central Valley in California (USGS 2021). The "Delta" is an estuary where, unlike classic deltas, multiple rivers come together, including the Sacramento, San Joaquin, Cosumnes, Mokelumne, and Calaveras Rivers. Topographically, the area consists of a low-elevation flatland with alluvial plains, river channels, old lakebeds, and marshes in the west to rolling hills in the east. Though land use in modern times is predominantly agriculture, prior to reclamation the area was once covered by extensive wetlands created by tidal action in the Delta, as well as seasonal flooding along streams (USGS 2021, Moratto 1984).

a. Precontact Background

California prehistory is generally divided into three broad time periods: Paleoindian period (ca. 11,550-8,550 B.C), Archaic Period (8,550 B.C.-A.D. 1100) and Emergent Occupation (A.D. 1000-European Contact) (Fredrickson 1973, 1994; Moratto 1984; Rosenthal et al. 2007). The prehistoric chronological sequence for the Central Valley presented below is based on Rosenthal et al. (2007) and Moratto (1984).

Paleoindian Period (11,550-8550 B.C.)

Little is known about the Paleoindian period in the Central Valley. Geoarchaeological studies have demonstrated that erosion and deposition have buried or destroyed early archaeological deposits. Most claims of ancient human occupation have been dismissed by Moratto (1984) based on radiocarbon dating. Currently, the earliest accepted date of human occupation in the Central Valley ranges from 11,550 to 9,550 B.C. and comes from fluted projectile points similar to Clovis points found at sites near Tracy Lake and the Tulare Lake Basin (Rosenthal et al. 2007). The only known Paleoindian site in the Sacramento Valley is a single possible fluted point from near Thomes Creek (Rosenthal et al. 2007).

Lower Archaic (8,550-5,550 B.C.)

Climate change at the end of the Pleistocene caused significant periods of alluvial deposition beginning around 9,050 B.C. The Lower Archaic, like the Paleoindian Period, is represented only by limited isolated finds. One isolated flaked stone crescent was identified on an ancient alluvial fan west of Orland in the Sacramento Valley (Rosenthal et al. 2007). No other Lower Archaic sites have been identified within the Sacramento Valley.

Typical Lower Archaic artifacts include flaked stone crescents and stemmed points. The identification of projectile points and a diverse faunal assemblage at KER-116 (the only Lower Archaic site identified in the Central Valley to date) point to hunting being an important subsistence activity (Rosenthal et al. 2007). Milling tools and plant remains are largely absent in the valley, thus plant use during the Lower Archaic remains unclear. Several foothill sites contain milling implements and evidence of the use of nut crops such as acorn and pine. The relationship between foothill and valley floor adaptations is largely unknown during the Lower Archaic. However, distinct adaptations

are apparent in the Middle Archaic, and it is possible that these divergent traditions first emerged in the Lower Archaic (Rosenthal et al. 2007).

Middle Archaic (5,550-550 B.C.)

The Middle Archaic began with substantial climate change to much warmer, drier conditions. Fans and floodplains stabilized after an initial period of deposition in 5,550 B.C. Archaeological deposits dating to the Middle Archaic are rare in the Central Valley proper due to these geomorphic changes. In the Sacramento Valley, one site with an early Middle Archaic component has been identified but has not been excavated (Rosenthal et al. 2007). The late Middle Archaic, however, is relatively well-represented in the Sacramento Valley and Delta. Late Middle Archaic sites point to diverse adaptations and the emergence of organized subsistence practices and residential stability along river corridors by 6,000 years ago. The typical pattern of the Middle Archaic has been identified as the Windmiller Pattern, first identified on old levee ridges adjacent to freshwater marshes near the confluence of the Mokelumne and Cosumnes rivers. This pattern is represented by extended burials oriented to the west and a sophisticated material culture (Rosenthal et al. 2007). Middle Archaic sites are relatively common in the foothills surrounding the Central Valley and show relatively little change from the Lower Archaic.

During this time, the mortar and pestle become more widespread suggesting a shift toward more intensive subsistence practices. Fishing technologies, such as bone gorges, hooks, and spears, also appear during the Middle Archaic suggesting a new focus on fishing. Several other technologies become apparent during this time, particularly in the northern San Joaquin and southern Sacramento Valleys (Rosenthal et al. 2007). Baked-clay impressions of twined basketry, simple pottery, and other baked clay objects have been found at several sites. Personal adornment items also became more frequent. Exchange with outside groups is evidenced by the presence of obsidian, shell beads and ornaments (Rosenthal et al. 2007; Moratto 1984). Trade also seemed to be focused on utilitarian items such as obsidian or finished obsidian tools from at least five separate sources (Moratto 1984).

Upper Archaic (550 B.C. – A.D. 1100)

The Upper Archaic began with the onset of the Late Holocene, marked by a cooler, wetter climate. The Upper Archaic is better represented in the archaeological record than earlier periods. Cultural diversity was more pronounced and is marked by contrasting material cultures throughout the valley (Rosenthal et al. 2007).

During this period, numerous specialized technologies were developed such as bone tools and implements, manufactured goods such as Olivella and Haliotis beads and ornaments, well-made ceremonial blades, and ground-stone plummets. Beginning after circa 2,700 years ago, lower Sacramento Valley settlements shifted to a pattern of large, mounded villages, now identified as the Berkeley Pattern. Berkeley Pattern sites in the Delta region typically contain large amounts of habitation debris and features suggestive of long-term occupation (Rosenthal et al. 2007).

Upper Archaic period economies varied by region throughout the Central Valley. Economies were primarily focused on seasonal resources such as acorns, salmon, shellfish, rabbits, and deer (Rosenthal et al. 2007). In the Sacramento Valley, sites exhibit heavy use of mortars and pestles and a reliance on acorns.

Emergent Occupation (A.D. 1100- Historic)

The stable climatic conditions of the Upper Archaic continued into the Emergent Period. In the Delta Region, this period is associated with the Augustine Pattern (Rosenthal et al. 2007). After A.D. 1000, many of the technologies identified during the Archaic disappeared to be replaced by cultural traditions recorded at European contact. The bow and arrow replaced the atlatl as the preferred hunting method sometime between A.D. 1000 and 1300.

Increased social complexity is evidenced by increased variation in burial types and offerings and larger residential communities. Grave offerings such as shell beads, ornaments, and ritually "killed" mortars and pestles are often found in association with burials. In the Sacramento Valley and Delta regions, diverse and sophisticated fishing technology is often recovered from Emergent Period sites, including various types of harpoons, fishhooks, gorges, and netting (Rosenthal et al. 2007). Pottery was produced at several sites in the lower Sacramento Valley, known as Cosumnes brownware. Baked clay human and animal effigies have also been identified at several sites in the region during this time.

As with the Archaic Period, Emergent Period economies varied geographically, though throughout the Central Valley fishing and plant harvesting increased in importance. Most Emergent residential sites contain diverse faunal assemblages containing mammal and bird remains and large amounts of fish bone. After ca. 1,000 years ago, the mortar and pestle become the dominant tool type and small seeds increase in archaeological deposits over time (Rosenthal et al. 2007).

b. Historical Background

The post-Contact history of California is generally divided into three periods: the Spanish period (1769–1822), the Mexican period (1822–1848), and the American period (1848–present). Each of these periods is briefly described below.

Spanish Period (1769–1822)

In 1542, Juan Rodriguez Cabrillo led the first European expedition to observe what is now called southern California. For more than 200 years, Cabrillo and other Spanish, Portuguese, British, and Russian explorers sailed the Alta (upper) California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003).

Gaspar de Portolá and Franciscan Father Junipero Serra established the first Spanish settlement in Alta California at Mission San Diego de Alcalá in 1769. This was the first of 21 missions erected by the Spanish between 1769 and 1823. Portolá continued north, eventually reaching the San Francisco Bay in 1769. In 1772, Pedro Fages led the first Europeans to enter the San Joaquin Valley (Wallace 1978). Fages led a small expedition into the southernmost part of the valley, stopping at a village on the shores of Buena Vista Lake, before heading towards San Luis Obispo (Wallace 1978). The next European to enter the valley was Francisco Garcés in 1776 (Wallace 1978). In the early 1800s, numerous expeditions were made into the Central Valley to search for land for new missions or to recapture runaway neophytes (Kyle 2002). However, the Spanish never succeeded in taking control of the region and no missions were established in the Central Valley.

During this period, Spain also deeded ranchos to prominent citizens and soldiers, though very few in comparison to the subsequent Mexican Period. To manage and expand their herds of cattle on these large ranchos, colonists enlisted the labor of the surrounding Native American population (Engelhardt 1927). Very few of the Central Valley tribes came under the control of the Spanish missions or ranchos. However, numerous runaway neophytes fled to the Central Valley, influencing

local populations (Wallace 1978). The increased local population and contact with diseases brought by Europeans greatly reduced the Native American population (McCawley 1996).

Mexican Period (1822–1848)

The Mexican Period commenced when news of the success of the Mexican Revolution (1810-1821) against the Spanish crown reached California in 1822. This period was an era of extensive interior land grant development and exploration by American fur trappers west of the Sierra Nevada Mountains. Beginning in 1833, mission lands were conferred as rancho grants. Governor Pío Pico and his predecessors made more than 600 rancho grants between 1833 and 1846, putting most of the state's lands into private ownership for the first time (Gumprecht 1999).

American Period (1848–Present)

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for the conquered territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. Settlement of southern California increased dramatically in the early American Period.

The discovery of gold in northern California in 1848 led to the California Gold Rush, though the first California gold was previously discovered in Placerita Canyon near the San Fernando Mission in 1842. Later, in 1848, James Marshall discovered gold while overseeing the construction of Sutter's Mill at Coloma. The discovery of gold led to an explosion in population and to the eventual establishment of the State of California. In 1850, California was admitted into the United States and by 1853, the population of California exceeded 300,000. Thousands of settlers and immigrants continued to move into the state, particularly after the completion of the transcontinental railroad in 1869.

San Joaquin County History and Historic Development

Europeans were active in what is now San Joaquin County by the late 1820s. The Mexican military established a presence in the region by 1829. That year, the Mexican army fought Native American forces that included Estanislao, an escaped indigenous captive, at a fortified site along the Stanislaus River, which was eventually named for Estanislao. After three unsuccessful attempts, a Mexican detachment led by Mariano G. Vallejo took the Native American stronghold, and the indigenous combatants dispersed into the surrounding countryside (Kyle 2002). Further European incursions into the area were made by fur trappers, who likely began hunting what is in the area by the late 1820s. The location of the community of French Camp is situated at a rendezvous spot established by French Canadian hunters in the 1830s and 1840s. The arrival of fur trappers in this era was catastrophic for the indigenous population. Indians residing in the region had little previous contact with Europeans and, as a result, had acquired little immunity to the diseases the colonizers brought with them. By 1833, European observers "reported seeing skulls and bodies under every shade tree" (Kyle 2002).

The earliest permanent European and Euro-American settlements in San Joaquin County predate the California Gold Rush. Charles M. Weber, a German immigrant and eventual founder of Stockton, arrived in Stanislaus County in 1841 as part of the Bidwell-Bartleson expedition. Bidwell initially settled in San Jose and formed a business partnership with blacksmith William Gulnac. In 1842, however, the Weber and Culnac assembled a team of 12 men to settle a colony in what is now French Camp. In 1847, Weber left the colony and founded Stockton, but with the discovery of gold in 1848, briefly left for present El Dorado County to operate a trading company. He soon returned to

Stockton and worked to position the town as the area's main shipping point to supply the goldmines. In the 1850s, the influx of gold seekers and the resulting growth of local trade fueled Stockton's growth as the county's main commercial center Kyle 2002).

In the second half of the nineteenth century, the county's population grew sufficiently to feed the expansion of agriculture and industry. As was the case through much of the state, in the 1850s and 1860s, agricultural enterprise flourished in fertile San Joaquin Valley after frustrated miners descended into the San Joaquin Valley to establish farms. Secondary population centers grew to support the agricultural areas, giving birth to such communities as Lockeford (1859) and Lodi (1874). Additional growth centered on railroad development, which began in 1869, when transcontinental service first reached Stockton (Kyle 2002). By the 1890s, Stockton's port and rail access allowed the city to emerge as the principal industrial and transportation hub for the county's agricultural periphery. Around the turn of the twentieth century, a thriving shipbuilding industry first developed along the city's San Joaquin River waterfront (Visit Stockton 2025).

Through the twentieth century, San Joaquin County grew modestly and retained its largely agricultural character. Tracy experienced a population boom in the 1970s as numbers of new residents from the San Francisco Bay Area relocated to the city, speeding up its urbanization (Tracy Historical Museum 2025). Stockton remains the county's main urban center, with 291,000 residents accounting for roughly 40 percent of the county's population of 762,000.

c. Known and Potential Historical Resources

Under the California Environmental Quality Act (CEQA), a historical resource is a building, site, structure, object, or district that is eligible for listing or is listed in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or a local register due to its historical or archaeological significance. Archaeological historical resource types present, or expected to exist, within the SJCOG region include prehistoric period occupation areas (both short and long term), burial areas, ceremonial areas, resource collection and processing sites, lithic scatters, quarries, rock art sites, trails, and isolated examples of prehistoric period artifacts.

For the historic period, historical resources may include buildings and structures, in addition to trails, roads, railroads, small and large-scale mining features, logging features, occupation areas (short and long term), water conveyance features, quarries, trash dumps, and cemeteries.

In general, prehistoric-period cultural resources were situated in the most favored environmental settings—areas adjacent to permanent water sources with relatively level topography. This is also true of most historic-period built-environment historical resources, with the exception of mining related features and settlements where the discovery of a mineral deposit did not always correspond with a favored environmental setting. It is important to note that lower sensitivity areas could still contain historical resources, and all areas proposed for development should be studied to determine whether potential historical resources are present.

A review of the NRHP and the California Office of Historic Preservation (OHP) web site identified California Historical Landmarks and NHRP- and CRHR-listed properties located in the SJCOG region. NRHP-listed properties are automatically listed in the CRHR. There may be other known and potential historical resources located in the SJCOG region. Resources identified on the OHP web site are listed in Table 4.4-1. A review of the OHP Built Environment Resource Directory identified more than 2,300 known and potential historical resources that have been listed in, determined eligible for, or recommended eligible for listing in the NRHP, CRHR, or a local register. The Caltrans Historic Bridge Inventory identifies one local agency bridge in the SJCOG region that has been determined

eligible for the NRHP, Mormon Slough Bridge (Bridge Number 29C0232), which carries South Sutter Street over Mormon Slough in Stockton. The historical significance of some local agency bridges in the SJCOG region have not been determined, and some may possess historical significance that would qualify them as historical resources. The Caltrans inventory of historic state agency bridges identified 4 bridges that are eligible for listing in the NRHP: the W120-S5 Connector (Bridge Number 29 0016F) carrying the State Route 120-Interstate 5 connector over the San Joaquin River; Mokelumne River Bridge (Bridge Number 29 0043), which carries State Route 12 over the Mokelumne River; the Old River Bridge (Bridge Number 29 0045) carrying State Route 4 over the Old River; and the Middle River Bridge (29 0049) carrying State Route 4 over the Middle River.

Table 4.4-1 SJCOG Region Historical Resources[1]

Landmark Plaque Number	Location	Resource Name	Address and/or Date Listed
California Historical Landmarks[2]			
149	Thornton	Benson's Ferry	South bank of North Fork Mokelumne River, 100 feet west of County Road J8
155	Clements	Lone Star Mill	Entrance to Stillman L. Magee Park, Mackville Road
162	Thornton	Site of Mokelumne City	200 feet north of intersection of Cameron Road and Thornton Road
163	Woodbridge	Site of Wood's Ferry and Wood's Bridge	Present bridge is at the approximate location of the original ferry and bridge, County Highway Jl0
165	Stockton	Weber Point	Center Street between Channel and Miner streets
178	Stockton	Site of first building in present city of Stockton	City Hall, on Civic Street between Miner and El Dorado streets
214	N/A	Site of battle between forces under General Vallejo and San Joaquin Valley Indians	200 yards southeast of the confluence of the San Joaquin and Stanislaus rivers on the north bank of Stanislaus River
358	Woodbridge	Town of Woodbridge	On County Highway Jl0
365	Lockeford	Lockeford (Loke's Ford)	0.6 mi north on Elliotte Road
436	Ripon	New Hope	Ripon City Park, Fourth and Locust streets
437	Tracy	First landing place of the sailing launch *Comet*	Plaque located at the entrance to Mossdale Crossing Park and Ramp
513	Stockton	Burial place of John Brown (Juan Falco)	1100 East Weber Street
520	Woodbridge	San Joaquin Valley College	18500 North Lilac Street
668	French Camp	French Camp	Elm Street at French Camp School
740	Tracy	Carnegie	Carnegie State Vehicular Recreation Area, 5.9 miles west of I-580 on Corral Hollow Road
755	Tracy	Corral Hollow	1.5 miles west of I-580 on Corral Hollow Road
765	Stockton	Temple Israel Cemetery	East Acacia Street between North Pilgrim and North Union streets
777	Tracy	Site of San Joaquin City	1.4 mi north of the San Joaquin County line on County Highway J3
780	Tracy	First Transcontinental Railroad—site of completion of the Pacific Railroad	Plaque located at the entrance to Mossdale Crossing Park and Ramp
801	Stockton	Reuel Colt Gridley Monument	Stockton Rural Cemetery near Memory Chapel

Landmark Plaque Number	Location	Resource Name	Address and/or Date Listed
931	Lodi	Lodi Arch	Southeast corner of East Pine and South Sacramento streets
934	Stockton	Temporary detention camps for Japanese Americans-Stockton Assembly Center	Administration Building, San Joaquin County Fairgrounds, Airport Way
935	French Camp	California Chicory Works	1672 West Bowman Road
995	N/A	Trail of the John C. Frémont 1844 Expedition	Northwest corner of junction of Highway 88 and the Calaveras River
1016	Stockton	Stockton Developmental Center	510 E Magnolia Street
1039	Stockton	Sikh Temple Site	1930 South Grant Street
National Register of Historic Places			
N2357	Clements	I.O.O.F. Lodge #355	Harding Way and Pacific Ave.
N/A	Lockeford	Harmony Grove Church	42 N. Sutter St.
N178	Lockeford	Locke House and Barn	11 S. San Joaquin St.
N1039	Lockeford	Locke's Meat Market	242 E. Main St.
N/A	Lodi	Hotel Lodi	345 W. Clay St.
N902	Lodi	Lodi Arch	548 Park St.
N1454	Lodi	Morse–Skinner Ranch House	133 E. Weber Ave.
N1281	Lodi	Terminous Culling Chute	25 S. Commerce St.
N715	Lodi	Woman's Club of Lodi	55 W. Flora St.
N1561	Stockton	Cole's Five Cypress Farm	1000 N. Hunter St.
N931	Stockton	Commercial and Savings Bank	921 S. San Joaquin St.
N510	Stockton	El Dorado Elementary School	146 W. Weber Ave.
N868	Stockton	Elks Building	445 W. Weber
N907	Stockton	Farmer's and Merchant's Bank	301 E. Main St.
N789	Stockton	Fox California Theater	229 E. Weber St.
N672	Stockton	Gew, Wong K., Mansion	401 N. San Joaquin St.
N1052	Stockton	Holt, Benjamin, House	628 Central Ave.
N950	Stockton	Hotel Stockton	801 Central Ave.
N667	Stockton	Nippon Hospital	31524 S. Kasson Rd.
N251	Stockton	Old Weber School	25 W. 7th St.
N/A	Stockton	Philomathean Clubhouse	24 W. 11th St.
N594	Stockton	Rodgers, Moses, House	47 W. 6th St.
N1040	Stockton	Sperry Office Building	Main St.
N747	Stockton	Sperry Union Flour Mill	1040 Augusta St.
N681	Stockton	Stockton Savings and Loan Society Bank	18819 East CA 88
N1152	Stockton	Tretheway Block	11455 E Locke Rd
N1175	Stockton	U.S. Post Office	19960 W. Elliott Rd.
N1364	Tracy	Bank of Italy	13480 CA 88
N867	Tracy	Bank of Tracy	5 S. School St.
N1022	Tracy	Ohm, John, House	Pine St.

Landmark Plaque Number	Location	Resource Name	Address and/or Date Listed
N824	Tracy	Tracy City Hall and Jail	13063 N. CA 99
N919	Tracy	Tracy Inn	14900 W. CA 12
N715	Tracy	West Side Bank	325 W. Pine St.
N1095	Woodbridge	I.O.O.F. Hall	11221 E. Eight Mile Rd.
N1593	Woodbridge	Woodbridge Masonic Lodge No. 131	343 Main St.
C25	Ripon	Markham Hotel[3]	N/A
C24	Stockton	Oak Lawn/Shippee Home Ranch[3]	N/A
C19	Stockton	Western Pacific Railway Depot[3]	1025 East Main Street

Sources: California Office of Historic Preservation 2025; NRHP 2025

1. This list may not include all historical resources listed on the NRHP and CRHR.

2. California Historical Landmarks 1-769 and Points of Historical Interest designated prior to January 1998 need to be reevaluated using current standards.

3. This resource is listed in the CRHR but not in the NRHP.

4.4.2 Regulatory Setting

a. Federal Laws, Regulations, and Policies

National Historic Preservation Act

The NHPA of 1966, as amended, is the primary mandate governing projects under federal jurisdiction that may affect cultural resources. Section 106 of the NHPA requires federal agencies, or those they fund or permit, to consider the effects of their actions on the properties that may be eligible for listing or that are listed in the National Register. The regulations implementing Section 106 are codified in 36 CFR Part 800. To determine whether an undertaking could affect National Register-eligible properties, cultural resources must be inventoried and evaluated for listing in the National Register. The criteria applied to evaluate the significance of cultural resources are defined as follows.

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and that have any of the following characteristics:

a. Associated with events that have made a significant contribution to the broad patterns of our history
b. Associated with the lives of persons significant in our past
c. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
d. Have yielded, or may be likely to yield, information important in prehistory or history

The Department of Transportation Act

Passed in 1966, the Department of Transportation Act (49 United States Code 303, formerly 49 United States Code 1651(b)(2) and 49 United States Code 1653f) includes Section 4(f), which states that the Federal Highway Administration and other U.S. Department of Transportation agencies cannot approve the use of land from public and private historical sites unless certain conditions apply. These conditions are the following: If there is no feasible and prudent avoidance alternative to the use of land, and if the action includes all possible planning to minimize harm to the property resulting from such use; or if the Federal Highway Administration determines the use of the property will have a de minimis impact. Section 4(f) was modified by Congress in 2005 to provide a method for approving the use of 4(f) properties when the impact is considered de minimis, simplifying the approval process.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act was enacted in 1979 to protect archaeological resources and sites that are on public lands and tribal lands, to foster increased cooperation and exchange of information between government representatives, the professional archaeological community, and private individuals. Section 4 of the statute and Sections 16.5-16.12 of the uniform regulations describe the requirements that must be met before federal authorities can issue a permit to excavate or remove any archaeological resource on federal or tribal lands. The curation requirements of artifacts, other materials excavated or removed, and the records related to the artifacts and materials are described in Section 5 of the Act. This section also authorizes the Secretary of the Interior to issue regulations describing in more detail the requirements regarding these collections.

b. State Laws, Regulations, and Policies

California Register of Historical Resources

The California Register of Historical Resources (CRHR) program was designed for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. A historical resource can include any object, building, structure, site, area, or place that is determined to be historically or archaeologically significant. The CRHR is an authoritative guide to the state's significant archaeological and historic architectural resources. The list of these resources can be used for state and local planning purposes; the eligibility determinations can be used for state historic preservation grant funding and listing in the CRHR provides a certain measure of protection under CEQA.

California Historical Landmarks Program

The Historical Landmarks Program was instated to register buildings or landmarks of historical interest. Historical Landmarks are defined as sites, buildings, or features that have a statewide historical, cultural, anthropological, or other significance. To be designated as a Historical Landmark by the Director of California State Parks, the resource must meet set criteria, be recommended for designation by the State Historical Resources Commission, and be approved by the property owners. The goals of the program include the preservation and maintenance of registered landmarks, most of which include missions, early settlements, battles, and gold rush sites (Public Resources Code [PRC] Sections 5020.4, 5021, 5022, 5022.5, 5031 and 5032).

ARCHAEOLOGICAL RESOURCES

CEQA requires lead agencies to consider whether projects would affect unique archaeological resources. PRC Section 21083.2(g) states that "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions. And there is a demonstrable public interest in that information
2. Has a special and particular quality, such as being the oldest of its type or the best available example of its type
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person

IMPACTS TO HISTORICAL RESOURCES

Section 15064.5 of the *CEQA Guidelines* states that "a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." The *CEQA Guidelines* (Section 15064.5(a)) define an "historical resource" as including the following:

1. A resource listed in, or eligible for listing in, the California Register of Historical Resources
2. A resource listed in a local register of historical resources (as defined at PRC Section 5020.1(k)
3. A resource identified as significant in a historical resources survey meeting the requirements of PRC Section 5024.1(g)
4. Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. (Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the CRHR

CEQA Guidelines (Section 15064.5(b)[1]) define "substantial adverse change" as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." Generally, the significance of a historical resource is "materially impaired" when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in or eligibility for the CRHR, or its inclusion in a local register of historical resources (*CEQA Guidelines* Section 15064.5(b)(2)).

STANDARD MITIGATION MEASURES UNDER CEQA

Historical Resources

Mitigation measures for historical resources impacts are discussed in *CEQA Guidelines* Section 15126.4. Generally, by following the Secretary of the Interior's Standards for the Treatment of Historic Properties or the Secretary of the Interior's Standards for Rehabilitation, impacts can be considered as mitigated to a level less than significant. For historical resources that are

archaeological sites, according to the *CEQA Guidelines* Section 15126.4(b)(3), public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature.

Unique Archaeological Resources

A cultural resource is also significant if it is a unique archaeological resource, which is defined in Section 21083.2(g) as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person

If an archaeological resource qualifies as a "historical resource," potential adverse impacts must be considered in the same manner as a historical resource pursuant to *CEQA Guidelines* Section 15064.5(c)(2)). If the archaeological site does not qualify as a historical resource but does qualify as a unique archaeological resource, then the archaeological site is treated in accordance with PRC Section 21083.2 (*CEQA Guidelines* Section 15064.5(c)(3)).

California Public Resources Code Section 5024 and State-Owned Lands

Historical resources on State-owned lands are subject to the requirements of PRC Section 5024. PRC Section 5024.5(f) requires State agencies to submit to SHPO for comment documentation for any project having the potential to affect historical resources under its jurisdiction listed in or potentially eligible for inclusion in the NRHP or registered or eligible for registration as California Historical Landmarks. The SHPO has 30 days after receipt of the notice for review and comment. If the SHPO determines that a proposed action would have an adverse effect on a listed historical resource, the relevant State agency shall adopt prudent and feasible measures that will eliminate or mitigate the adverse effects.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act (PRC Section 5097.9) applies to both State and private lands. The act requires, upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are those of a Native American, the coroner must notify the NAHC, which notifies and has the authority to designate the most likely descendant of the deceased. The act stipulates the procedures that the descendants may follow for treating or disposing of the remains and associated grave goods.

Health and Safety Code Section 7050.5

Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If they are determined to be Native American, the coroner must contact the NAHC.

Public Resources Code Section 5097

PRC Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the NAHC. Section 5097.5 of the PRC states the following:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

California Health and Safety Code Sections 7050.5, 7051, and 7054

HSC Sections 7050.5, 70051, and 7051, and 7054 specify the provisions for the protection of human burial remains. Section 7050.5 of the HSC states the following:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

Section 7051 of the HSC states the following:

> Every person who removes any part of any human remains from any place where it has been interred, or from any place where it is deposited while awaiting interment, cremation, or hydrolysis, with intent to sell it or to dissect it, without authority of law, or written permission of the person or persons having the right to control the remains under Section 7100, or with malice or wantonness, has committed a public offense that is punishable by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code.

Section 7054 of the HSC states the following:

> (a) (1) Except as authorized pursuant to the sections referred to in subdivision (b), every person who deposits or disposes of any human remains in any place, except in a cemetery, is guilty of a misdemeanor.

(2) Every licensee or registrant pursuant to Chapter 12 (commencing with Section 7600) of Division 3 of the Business and Professions Code and the agents and employees of the licensee or registrant, or any unlicensed person acting in a capacity in which a license from the Cemetery and Funeral Bureau is required, who, except as authorized pursuant to the sections referred to in subdivision (b), deposits or disposes of any human remains in any place, except in a cemetery, is guilty of a misdemeanor that shall be punishable by imprisonment in a county jail not exceeding one year, by a fine not exceeding ten thousand dollars ($10,000), or both that imprisonment and fine.

(b) Cremated remains or hydrolyzed human remains may be disposed of pursuant to Sections 7054.6, 7116, 7117, and 103060.

(c) Subdivision (a) of this section shall not apply to the reburial of Native American remains under an agreement developed pursuant to subdivision (l) of Section 5097.94 of the Public Resources Code, or implementation of a recommendation or agreement made pursuant to Section 5097.98 of the Public Resources Code.

Public Resources Code Section 5097.98

PRC Section 5097.98 addresses the disposition of Native American burials, protects such remains, and established the NAHC to resolve any related disputes. Section 5097.98 of the PRC states the following:

(a) Whenever the commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American human remains and may recommend to the owner or the person responsible for the excavation work means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods. The descendants shall complete their inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site.

(b) Upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section, with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

Native American Graves Protection and Repatriation Act

Health and Safety Code Sections 8010–8011 establishes a State repatriation policy intent that is consistent with and facilitates implementation of the federal Native American Graves Protection and Repatriation Act. The act strives to ensure that all California Indian human remains and funerary objects are treated with appropriate dignity and respect. It also states the intent for the State to provide mechanisms for aiding California Indian tribes, including non-federally recognized tribes, in filing repatriation claims and getting responses to those claims.

California Health and Safety Code Sections 18950 through 18961

The State Historic Building Code (HSC; Sections 18950–18961) provide alternative building regulations and building standards for the rehabilitation, preservation, restoration (including related reconstruction), or relocation of buildings or structures designated as historic buildings. Such alternative building standards and building regulations are intended to facilitate the restoration or change of occupancy to preserve their original or restored architectural elements and features, to encourage energy conservation and a cost-effective approach to preservation, and to provide for the safety of the building occupants.

c. Local Laws, Regulations, and Policies

The San Joaquin County General Plan Natural and Cultural Resources Element includes the following goals and policies related to cultural resources:

Goal NCR-6: To protect San Joaquin County's valuable architectural, historical, archaeological, and cultural resources.

- NCR-6.1 Protect Historical and Cultural Resources. The County shall protect historical and cultural resources and promote expanded cultural opportunities for residents to enhance the region's quality of life and economy.
- NCR-6.2 No Destruction of Resources. The County shall ensure that no significant architectural, historical, archaeological, or cultural resources are knowingly destroyed through County action.
- NCR-6.3 Encourage Public and Private Preservation Efforts. The County shall continue to encourage efforts, both public and private, to preserve the historical and cultural heritage of San Joaquin County and its communities and residents.
- NCR-6.4 Registration of Historic Properties. The County shall encourage owners of eligible historic properties to apply for State and Federal registration, to participate in tax incentive programs for historical restoration, and to enter into Mills Act Contracts.
- NCR-6.5 Protect Archaeological and Historical Resources. The County shall protect significant archaeological and historical resources by requiring an archaeological report be prepared by a qualified cultural resource specialist prior to the issuance of any discretionary permit or approval in areas determined to contain significant historic or prehistoric archaeological artifacts that could be disturbed by project construction.
- NCR-6.6 Tribal Consultation. The County shall consult with Native American tribes regarding proposed development projects and land use policy changes consistent with the State's Local and Tribal Intergovernmental Consultation requirements.
- NCR-6.7 Adaptive Reuse of Historic Structures. The County shall encourage the adaptive reuse of architecturally significant or historic buildings if the original use of the structure is no longer feasible and the new use is allowed by the underlying land use designation and zoning district.
- NCR-6.8 Land Use Development. The County shall encourage land uses and development that retain and enhance significant historic properties and sustain historical community character.
- NCR-6.9 Educational Programs. The County shall support educational and outreach programs that promote public awareness of and support preservation of historical and cultural resources.

City General Plans and Regulations

City of Escalon General Plan

Adopted in 2005, the City of Escalon General Plan Community Design Element contains policies intended to preserve and improve the quality of life in Escalon by addressing, among other issues, the preservation and enhancement of the historical character of the community. In addition, Chapter 17.31 of the City of Escalon Municipal Code regulates the designation of Historic or H Overlay Districts and Landmarks to ensure the protection, enhancement, perpetuation, and use of structures and districts of historical and architectural significance located within the city for the cultural, and aesthetic benefit to the community and the enhancement of the economic, cultural, and aesthetic standing of the city. An individual property or a collection of properties may be designated historical if they meet certain criteria identified in the ordinance.

City of Lathrop General Plan

Updated in 2022, the City of Lathrop General Plan Resource Management Element includes two policies pertaining to the preservation of archaeological and built-environment historical resources. The first of these promotes the protection of known Native American archaeological sites, proposing adherence to CEQA guidance regarding confidentiality, the development of project design alternatives, and consultation with Native American tribes. The other policy proposes certain requirements to ensure that development activities avoid impacts to unknown archaeological resources.

City of Lodi General Plan

Updated in 2024, the General Plan's Conservation Element outlines thirteen policies intended to preserve archaeological and built-environment cultural resources. Policies related to the protection of archaeological resources include specific requirements related to the conduct of background research and field surveys, preparation of technical reports, best practices in the case of the inadvertent discovery of archaeological discoveries, and procedures to follow if human remains are found. Policies relevant to built-environment resources require efforts to relocate historically significant buildings proposed for demolition, prepare adequate environmental review consistent with CEQA prior to the issuance of permits, coordinate with local historical societies, and, where applicable, adhere to current Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.

City of Manteca General Plan

Adopted in 2024, the City of Manteca General Plan Resource Conservation Element includes 22 goals, policies, and implementation measures pertaining to the preservation of the city's archaeological and built-environment cultural resources and heritage. To preserve and enhance the City's archaeological and historic resources and its Native American heritage, the Conservation Element establishes standards for the conduct of research, site evaluation, and design of impact mitigation for development projects that may affect archaeological sites, as guided by CEQA and the National Historic Preservation Act. Additionally, the plan suggests that the community's historic resources shall be preserved where feasible. Implementation measures include background research, survey, and inadvertent discovery of resources or human remains.

City of Ripon General Plan

Adopted in 2006, the City of Ripon General Plan Open Space and Conservation Element contains goals and policies intended to prevent the knowing demolition of archaeological and built-environment historical resources. In addition, Ripon has a Historic Overlay Districts ordinance (Chapter 16.44), which was enacted to promote the preservation of historical resources in the city. Under the ordinance, a building, site, natural feature or part of the city may be designated as a landmark if it meets certain criteria. Certain limits are placed on projects that propose to alter or demolish a designated property.

City of Stockton General Plan

Updated in 2024, the City of Stockton 2040 General Plan Land Use Element contains goals, policies, and actions intended to promote the preservation of archaeological and built-environment historical resources. These include provisions to preserve the character of neighborhoods and historic districts and establish requirements for background research, the preparation of cultural resources field reports, site studies, Native American consultation, and implementation of measures to mitigate effects to cultural resources. In addition, Chapter 16.220 of the City of Stockton Municipal Code provides regulations for the preservation of the city's cultural resources. Under the ordinance, a qualifying resource may be designated under one of four categories: Landmark, Historic Preservation District, Historic Site, and Structure of Merit.

City of Tracy General Plan

Adopted in 2011, the City of Tracy General Plan's Community Character Element outlines policies to preserve and enhance Tracy's character, while incorporating new growth and development. The Community Character Element provides several goals, objectives, policies and actions applicable to archaeological and built-environment historical resources. These provisions pertain to, among other things, the identification and protection of archaeological and built environment historical resources, specifically in downtown Tracy, where preservation, restoration, rehabilitation, reuse and maintenance of existing Downtown buildings is encouraged.

City of Mountain House

The City of Mountain House, incorporated in 2024, is currently preparing its first General Plan. Until adoption, land use planning is guided by the Mountain House Master Plan, adopted by San Joaquin County, along with associated Specific Plans.

4.4.3 Impact Analysis

a. Methodology and Significance Thresholds

For this discussion, the term cultural resource broadly includes historical and archaeological resources. The significance of a cultural resource impact is determined by whether that resource meets the criteria discussed above. Where the significance of a site is unknown, it is presumed to be a significant CEQA defined "historical resource" for the purpose of the impact evaluation in this EIR. Listings of historical resources in San Joaquin County were obtained from the State Office of Historic Preservation. Potential areas of disturbance associated with the proposed 2026 RTP/SCS projects were compared to the identified historical sites listed in Table 4.4-1 to determine whether an impact to a known cultural resource may occur. As discussed above, Table 4.4-1 is based on

information available online through the State Historic Preservation Office and do not reflect the complete California Historical Resources Information System, which would be consulted on a project-by-project basis.

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether a project's impacts would have a significant impact on cultural resources:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
2. Cause a substantial adverse change in the significant of an archaeological resource pursuant to Section 15064.5; and/or
3. Disturb any human remains, including those interred outside of formal cemeteries.

b. Project Impacts and Mitigation Measures

The following section describes cultural resource impacts associated with the transportation improvements and future land use scenario in the 2050 MTP/SCS. In general, implementation of proposed transportation improvements and the reasonably foreseeable future development facilitated under the land use scenario envisioned by the 2026 RTP/SCS would result in cultural resources impacts as described in the following sections.

Threshold 1:	Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Impact CUL-1 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD CAUSE A SUBSTANTIAL ADVERSE CHANGE IN BUILT ENVIRONMENT CULTURAL RESOURCES THAT ARE HISTORICAL RESOURCES AS DEFINED IN *CEQA GUIDELINES* SECTION 15064.5. IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

With regard to known significant historic structures, the location and nature of the proposed 2026 RTP/SCS projects were evaluated relative to the location of the historic properties listed in Table 4.4-1. Projects involving bridge replacements and removal of other structures older than 50 years may impact historic structures by altering the integrity of those structures through demolition, alterations, and/or by changing their environmental context.

The proposed 2026 RTP/SCS also includes a future land use scenario emphasizing infill development near transit, such as train stations and multimodal transportation hubs in existing urbanized areas. Some development in outlying areas would still occur. Known historical resources and historic-aged structures may be altered or demolished due to future infill near transit and impacts may result in a loss of integrity, the physical representation of why a structure is historically significant and eligible for listing in federal, state, or local registers of historical resources. These impacts could occur in outlying areas as well; however, they are more likely to occur in infill areas due to the presence of existing development that may be considered historic. Redevelopment or demolition could result in the permanent loss of historic structures.

Similarly, it is possible that such projects may require reconstruction or demolition of transportation infrastructure or other structures that are over 50 years old, and which may be considered historically significant as determined by site specific evaluation. Such reconstruction or demolition would result in the permanent loss of historic structures.

In general, prior to commencement of any action, development, or land use changes on lands subject to federal jurisdiction or for projects involving federal funding, a cultural resource survey and an environmental analysis must be prepared, including a historic resources assessment. Historic structures are protected under the regulations of the National Historic Preservation Act and the Department of Transportation Act of 1966. Review and analysis under Section 15064.5 of the *CEQA Guidelines* regarding cultural resources, as discussed above, would also apply to all projects. SJCOG-sponsored projects would be subject to local ordinance requirements within the jurisdiction in which they occur, including General Plan provisions that protect cultural resources. Nevertheless, impacts would be significant because there could be substantial adverse changes to historic structures that meet the definition of "historical resources." Thus, the following mitigation measures would be required for any project that may impact historical resources.

Mitigation Measures

To minimize impacts to historical resources for transportation projects under SJCOG jurisdiction, SJCOG shall, and transportation project sponsor agencies can and should, implement the following mitigation developed for the proposed 2026 RTP/SCS program. These measures may be used where applicable for transportation projects that result in impacts to historical resources, and where feasible and necessary based on project- and site-specific considerations. Cities and county in the SJCOG planning region can and should implement these measures, where relevant, to land use projects implemented under the proposed 2026 RTP/SCS. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site specific conditions.

CUL-1 Historical Resources Impact Minimization

Prior to individual project permit issuance, the implementing agency of a proposed 2026 RTP/SCS project involving earth disturbance or construction of permanent above ground structures or roadways shall, or can and should, prepare a map defining the Area of Potential Effects (APE). This map shall indicate the areas of primary and secondary disturbance associated with construction and operation of the facility and will determine whether known historical resources are located within the impact zone. If a structure greater than 45 years in age is within the identified APE, a survey and evaluation of the structure(s) to determine their eligibility for recognition under State, federal, or local historic preservation criteria shall be conducted. The evaluation shall be prepared by an architectural historian meeting the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, Professional Qualification Standards*. The evaluation shall comply with *CEQA Guidelines* Section 15064.5(a). The study must also analyze impacts in accordance with *CEQA Guidelines* Section 15064.5(b). Based on the findings of the study, recommendations shall be implemented, which may include, but are not limited to, the following:

- Realign or redesign projects to avoid impacts on known historic resources where possible
- If avoidance of a significant architectural/built environment resource is not feasible, additional mitigation options include, but are not limited to, specific design plans for historic districts, or plans for alteration or adaptive re-use of a historical resource that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitation, Restoring, and Reconstructing Historic Buildings
- Comply with existing local regulations and policies that exceed or reasonably replace any of the above measures that protect historic resources

IMPLEMENTING AGENCIES AND TIMING

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

Significance After Mitigation

Redevelopment or demolition that may be required to implement transportation improvements and/or infill development may result in the permanent loss or damage to historical resources. While implementation of Mitigation Measure CUL-1 would reduce impacts to the extent feasible, some project specific impacts may be unavoidable. Therefore, this impact would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

Threshold 2:	Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Impact CUL-2 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD CAUSE A SUBSTANTIAL ADVERSE CHANGE IN THE SIGNIFICANCE OF ARCHAEOLOGICAL RESOURCES AS DEFINED IN *CEQA GUIDELINES* SECTION 15064.5. IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

It is known that archaeological resources are present throughout the SJCOG region. Therefore, it is possible to encounter known and unknown archaeological resources during implementation of transportation improvement projects under the proposed 2026 RTP/SCS, particularly when ground-disturbing activities are involved. Many of the improvements proposed under the proposed 2026 RTP/SCS consist of minor expansions of existing facilities that would not involve construction in previously undisturbed areas. However, depending on the location and extent of the proposed improvement and ground disturbance, known and/or unknown cultural resources could be impacted. Project specific analysis would be required as individual projects are proposed.

The proposed 2026 RTP/SCS considers a future land use scenario that emphasizes infill near transit and in existing urbanized areas. However, it is possible that archaeological resources could be located on or near future infill development sites, and in undisturbed areas that would be developed during implementation of the proposed 2026 RTP/SCS. Project grading and excavation for development sites would disturb these undiscovered resources.

In general, prior to commencement of any action, development, or land use changes on lands subject to federal jurisdiction or for projects involving federal funding, a cultural resource survey and an environmental analysis must be prepared. Review and analysis under Section 15064.5 of the *CEQA Guidelines* regarding cultural resources, as discussed above, would also apply to all projects. County and city sponsored projects would be subject to local ordinance requirements, including general plan provisions that protect cultural resources. Nevertheless, impacts to archaeological resources would be significant because there would be substantial adverse changes to the significance of archaeological resources, i.e., archaeological resources that meet the definition of "historical resources" or "unique archaeological resources."

Mitigation Measures

To minimize impacts to cultural resources for transportation projects under SJCOG jurisdiction, SJCOG shall, and transportation project sponsor agencies can and should, implement the following mitigation developed for the proposed 2026 RTP/SCS program where applicable for transportation projects that result in impacts to archaeological resources, and where feasible and necessary based on project- and site-specific considerations. Cities and county in the SJCOG region can and should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site specific conditions.

CUL-2(a) Archaeological Resources Impact Minimization

Before construction activities, implementing agencies shall, or can and should, retain a qualified archaeologist to conduct a record search at the Central California Information Center to determine whether the project area has been previously surveyed and whether resources were identified. When recommended by the Information Center, and prior to construction, implementing agencies shall, or can and should, retain a qualified archaeologist to conduct a cultural resources study that includes an archaeological survey, Native American Heritage Commission Sacred Lands File Search, background research, and recommendations for resource management strategies. Implementing agencies shall, or can and should, follow recommendations identified in the cultural resources study, which may include, but would not be limited to subsurface testing, data recovery, designing and implementing a Worker Environmental Awareness Program (WEAP), construction monitoring by a qualified archaeologist, or avoidance of sites and preservation in place. Recommended mitigation measures will be consistent with *CEQA Guidelines* Section 15126.4(b)(3) and may include but not be limited to preservation in place and/or data recovery. All cultural resources work shall follow accepted professional standards in recording any at find including submittal of standard DPR Primary Record forms (Form DPR 523) and location information to the appropriate California Historical Resources Information System office for the project area.

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 the counties. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction, as applicable.

CUL-2(b) Unanticipated Discoveries During Construction

If evidence of any prehistoric or historic-era subsurface archaeological features or deposits are discovered during construction-related earthmoving activities (e.g., ceramic shard, trash scatters, lithic scatters), implementing agencies shall, or can and should, halt all ground-disturbing activity proximate to the discovery until a qualified archaeologist (36 CFR Section 61) can assess the significance of the find. If the find is a prehistoric archaeological site, the culturally affiliated California Native American tribe shall be notified. If the archaeologist determines that the find does not meet the CRHR standards of significance for cultural resources, construction may proceed. If the archaeologist determines that further information is needed to evaluate significance, a testing plan shall be prepared and implemented. If the find is determined to be significant by the qualified archaeologist (i.e., because the find is determined to constitute either an historical resource or a unique archaeological resource), the archaeologist shall work with the implementing agency to

avoid disturbance to the resources, and if complete avoidance is not feasible in light of project design, economics, logistics and other factors, shall recommend additional measures such as the preparation and implementation of a data recovery plan. Recommended mitigation measures will be consistent with *CEQA Guidelines* Section 15126.4(b)(3) recommendations and may include but not be limited to preservation in place and/or data recovery. All cultural resources work shall follow accepted professional standards in recording any find including submittal of standard DPR Primary Record forms (Form DPR 523) and location information to the appropriate California Historical Resources Information System office for the project area. If the find is a prehistoric archaeological site, the culturally affiliated California Native American tribe shall be notified and afforded the opportunity to monitor mitigative treatment. During evaluation or mitigative treatment, ground disturbance and construction work may continue in other parts of the project area that are distant enough from the find not to impact it, as determined by the qualified archaeologist.

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 permitting and environmental review and implemented during construction, as applicable.

Significance After Mitigation

Implementation of the above measures would reduce impacts to archaeological resources by requiring cultural resource searches and surveys of project areas and providing a procedure for discovered cultural archaeological resources. While implementation of Mitigation Measures CUL-2(a) and CUL-2(b) would reduce impacts to the extent feasible, some project specific impacts may be unavoidable. Therefore, this impact remains significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

Threshold 3:	Would the project disturb any human remains, including those interred outside of formal cemeteries?

Impact CUL-3 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS COULD DISTURB HUMAN REMAINS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Human burials outside of formal cemeteries are often associated with prehistoric archaeological contexts. Therefore, it is possible to encounter unknown human burials because of implementation of transportation improvement projects under the proposed 2026 RTP/SCS. Excavation during construction activities in the SJCOG region would have the potential to disturb these resources, including Native American burials.

In addition to being potential archaeological resources, human burials have specific provisions for treatment in PRC Section 5097, as listed under Section 4.5.2, Regulatory Setting. The California Health and Safety Code (Sections 7050.5, 7051 and 7054) has specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains, and protects them from disturbance, vandalism, or destruction, and established procedures to be implemented if Native American skeletal remains are discovered. PRC Section 5097.98 also addresses the disposition of Native American burials, protects such remains, and established the NAHC to resolve any related disputes. Implementation of these regulations would

ensure that 2026 RTP/SCS impacts to disturbance of human remains, including those interred outside of formal cemeteries would be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant, as jurisdictions are required to follow the protection policies and ordinances as described above.

4.4.4 Cumulative Impacts

The cumulative analysis presented below primarily relies on a projections-based approach, using regional land use and growth forecasts for the SJCOG region and adjoining counties to evaluate cumulative conditions. The project is assessed within the existing and foreseeable future environmental setting, and a determination is made as to whether its incremental contribution would be cumulatively considerable when considered alongside both the overall envisioned land use scenario and specific large-scale planned projects.

The increase in growth in previously undisturbed areas contributes to regional impacts on existing and previously undisturbed and undiscovered historic and archaeological resources, including CEQA-defined “historical resources.” While most cultural resources are site specific, with impacts that are project specific, others may have regional significance; for example, a historic structure that represents the last known example of its kind would constitute a regional impact if it were affected by future 2026 RTP/SCS project implementation. In addition, there are historic districts or areas that can be affected by multiple or successive projects over time, resulting in a cumulative impact to the historic resource. For such a resource, cumulative impacts would be significant, and the proposed 2026 RTP/SCS contribution to them would be cumulatively considerable. Mitigation Measures CUL-1, CUL-2(a), and CUL-2(b) would reduce impacts associated with the proposed 2026 RTP/SCS projects through impact minimization for historical and archaeological resources. However, it cannot be guaranteed that all future project level impacts can be mitigated to a less than significant level. As such, the proposed 2026 RTP/SCS contribution would remain cumulatively considerable after mitigation.

4.5 Energy

This section discusses the energy impacts of implementing transportation projects in the proposed Plan, as well as the energy related consequences of land use projects that are consistent with the proposed 2026 RTP/SCS.

4.5.1 Setting

Energy relates directly to environmental quality. Energy use can adversely affect air quality and other natural resources. The vast majority of California's air pollution is caused by burning fossil fuels. Consumption of fossil fuels is linked to changes in global climate and depletion of stratospheric ozone. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes (auto, carpool, and public transit); vehicle speeds; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy. In addition, residential, commercial, and industrial land uses consume energy, typically through the use of natural gas and electricity.

a. Energy Supply

According to the U.S. Energy Information Administration (EIA), California's primary sources of fuel production in 2022 included approximately 44.6 percent crude oil, 11.5 percent nuclear energy, 11.5 percent natural gas, and 7.7 percent wood and waste, with the remainder derived from other renewable sources such as biofuels (U.S. EIA 2025a). In terms of electricity generation, California's 2022 energy mix consisted of approximately 47.3 percent non-hydroelectric renewable energy, 35.2 percent natural gas, 11.5 percent hydroelectric power, 5.9 percent nuclear energy, and 0.1 percent coal-fired generation (U.S. EIA 2025a).

Petroleum fuels are regulated by California Geologic Energy Management Division (CalGEM). This includes oil and gas activities within San Joaquin County by performing annual inspections of wells, facilities, pipelines, and other pertinent equipment throughout oil production leases. CalGEM is also responsible for protecting the health, safety, public welfare, physical environment, and natural resources of the County by the reasonable regulation of petroleum facilities and operations, including but not limited to: exploration (drilling), production, storage, processing, disposal, well plugging, and well abandonment (CalGEM 2025; CalGEM 2026). According to CalGEM, there are several oil and gas wells of unknown status within the County including wells that are classified as orphaned, abandoned, or operating oil wells in the Stockton and Lodi areas (CalGEM 2026). San Joaquin County contains approximately 102 active gas wells (CalGEM 2026), which produced 283,576 thousand cubic feet (Mcf) of natural gas in 2023 (CalGEM 2025). Oil and natural gas production in the SJCOG region in 2023 is provided in Table 4.5-1.

Table 4.5-1 Oil and Natural Gas Production in the SJCOG Region (2023)

Natural Resource	California	SJCOG Total	SJCOG Proportion of Statewide Production
Crude Oil (bbl)	186,660,463	0	0%
Natural Gas (Mcf)	123,223,770	283,576	0.23%

Bbl = barrel

Source: CalGEM 2025

b. Energy Consumption and Sources

Total energy consumption in the U.S. in 2023 was estimated at approximately 93,558 trillion Btu (U.S. EIA 2023a). Petroleum provided approximately 37.9 percent of the energy used in 2023 in the U.S. (U.S. EIA 2023b). In the same year, coal provided approximately 8.7 percent of energy consumed, natural gas provided approximately 35.9 percent, nuclear energy provided approximately 8.7 percent and total renewable sources supplied the rest at approximately 8.8 percent (U.S. EIA 2023b). On a per-capita basis, California is ranked second lowest of the states in terms of energy use in 2023 (173.9 million Btu per person), or about 37 percent less than the U.S.'s average per-capita consumption of 278 million Btu per person (U.S. EIA 2023c).

Electricity and Natural Gas

In 2024, California used 282,783 gigawatt hours (GWh) of electricity; approximately 62 percent of California's electricity supply came from renewable energy sources, such as wind, solar photovoltaic, geothermal, and biomass (CEC 2026a; CEC 2026b). In 2024, California also consumed approximately 11,104 million U.S. therms of natural gas (CEC 2026b). Table 4.5-2 illustrates the electricity and natural gas consumption within the SJCOG region and their proportion of statewide consumption in 2024. In addition, many rural areas within the SJCOG region rely on wood, propane, or other liquefied petroleum gases (LPGs) as heating fuels.

Table 4.5-2 Electricity and Natural Gas Consumption in the SJCOG Region (2024)

County	2024 Electricity Consumption (GWh)[1]	Electricity Consumption Per Capita Consumption (kWh)	Electricity Consumption Statewide Proportion	Natural Gas Consumption 2024 Consumption (MMthm)[2]	Natural Gas Consumption Per Capita Consumption (thm)	Natural Gas Consumption Statewide Proportion
San Joaquin	6,029	7,497	2.1%	176.79	219.82	1.6%

[1]Electricity consumption is quantified in Millions of Kilowatt-Hours (GWh), while per capita electricity is quantified in Kilowatt hours (kWh)

[2]Natural gas consumption is quantified in Millions of Therms (MMthm), while per capita natural gas consumption is Quantified in Therms (thm).

Note: The per capita consumption for natural gas and electricity are determined by using 2024 data from the CEC for overall county wide consumption and divided by the 2025 county population provided by SJCOG (804,252).

Sources: CEC 2026a; CEC 2026b, Appendix D

As shown in Table 4.5-2, the SJCOG region accounted for approximately 2.1 percent of the State's electricity consumption and approximately 1.6 percent of the State's natural gas consumption in 2024. Natural gas and electricity services within the SJCOG region are provided by Pacific Gas & Electric (PG&E).

Petroleum

Energy consumed by the transportation sector accounts for roughly 50.4 percent of California's energy demand, amounting to approximately 3,030 trillion Btu in 2023 (U.S. EIA 2025a). California's transportation sector, including on-road and rail transportation, consumed roughly 491,570,248 bbl of petroleum fuels in 2023 (U.S. EIA 2025a). Furthermore, petroleum-based fuels are used for approximately 98.0 percent of the State's transportation activity (U.S. EIA 2025a). Most gasoline and diesel fuel sold in California for motor vehicles is refined in California to meet state-specific formulations required by the California Air Resources Board (CARB). Major petroleum refineries in California are concentrated in three counties: Contra Costa, Kern, and Los Angeles (CEC 2026b).

Fuel consumption for the SJCOG region can be found in Table 4.5-3 below.

Table 4.5-3 Fuel Consumption in SJCOG Region (2024)

Fuel	Annual Fuel Use (million gallons)	Annual Fuel Use (million Btu)	Daily Energy Use (million Btu)	Daily Per Capita Energy Use (thousand Btu)
Gasoline	326	35,790,297	98,055.61	121.92
Diesel	150	16,467,928	45,117.61	56.10
Total	**476**	**52,258,225**	**143,173.22**	**178.02**

Btu = British Thermal Units

Notes: Per capita energy use was calculated by using 2024 fuel use data divided by SJCOG's 2025 population statistic of 804,252. Btus were calculated by multiplying 2025 Annual Fuel Use by U.S. EIA conversion values for motor gasoline and diesel

Sources: CEC 2026d, Appendix D

Transportation metrics show that approximately 19 million vehicle miles were traveled each day within the SJCOG region in 2025. Table 4.5-4 Illustrates the daily and annual vehicle miles traveled (VMT) for the SJCOG region in 2025.

Table 4.5-4 Daily and Annual VMT for the SJCOG Region (2025)

Daily VMT	Annual VMT
18,854,706	6,881,967,690

Source: SJCOG 2022a, Appendix D

Alternative Fuels

A variety of alternative fuels are used to reduce petroleum-based fuel demand. The use of these fuels is encouraged through various statewide regulations and plans, such as the Low Carbon Fuel Standard and Senate Bill (SB) 32. Conventional gasoline and diesel may be replaced, depending on the capability of the vehicle with transportation fuels including the following:

- **Hydrogen** is being explored for use in combustion engines and fuel cell electric vehicles. The interest in hydrogen as an alternative transportation fuel stems from its clean-burning qualities, its potential for domestic production, and the fuel cell vehicle's potential for high efficiency, which is two to three times more efficient than gasoline vehicles. Currently, 46 hydrogen refueling stations are located in California, none of which are within the SJCOG region (U.S. Department of Energy [DOE] 2025).
- **Biodiesel** is a renewable alternative fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases. Biodiesel is biodegradable and cleaner-burning than petroleum-based diesel fuel. Biodiesel can run in any diesel engine generally without alterations; however, fueling stations have been slow to make it available. There are currently 452 biodiesel refueling stations in California, none of which are located in the SJCOG region (DOE 2025).
- **Electricity** can be used to power electric and plug-in hybrid electric vehicles directly from the power grid. Electricity used to power vehicles is generally provided by the electricity grid and stored in the vehicle's batteries. Fuel cells are being explored as a way to use electricity generated onboard the vehicle to power electric motors. There are approximately 19,402 public electric Level 2 and DC Fast charging stations in California, of which there are approximately 100 located in the SJCOG region (DOE 2025).

4.5.2 Regulatory Setting

Federal Fuel Economy and Emissions Standards

Corporate Average Fuel Economy Standards

The Energy Policy and Conservation Act in 1975 established the Corporate Average Fuel Economy Standards (CAFE) standards are Federal rules established by the National Highway Traffic Safety Administration (NHTSA) that set fuel economy standards for all new passenger cars and light trucks sold in the United States. The CAFE standards (40 CFR Parts 531, 531.5 and 533) become more stringent each year, reaching an estimated 38.3 miles per gallon for the combined industry-wide fleet for model year 2020 (77 Federal Register 62624 et seq. [October 15, 2012, Table I-1]). In August 2016, the U.S. Environmental Protection Agency and NHTSA announced the adoption of the phase two programs related to the fuel economy and greenhouse gas (GHG) standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi- trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. These standards are expected to lower carbon dioxide (CO_2) emissions by approximately 1.1 billion metric tons (MT) and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.

On June 7, 2024, the NHTSA issued new vehicle fuel economy standards. In this final rule, fuel economy will increase 2 percent per year for model years 2027-2031 for passenger cars, while light trucks will increase 2 percent per year for model years 2029-2031. These increases will bring the average light-duty vehicle fuel economy up to approximately 50.4 miles per gallon by model year 2031.

Heavy-duty pickup truck and van fuel efficiency will increase 10 percent per year for model years 2030-2032 and 8 percent per year for model years 2033-2035. This will result in a fleetwide average of approximately 35 miles per gallon by model year 2035. These improved standards will save almost 70 billion gallons of gasoline through 2050, preventing more than 710 million metric tons of carbon dioxide emissions by 2050.

In 2024, CAFE standards were finalized for model years (MYs) 2027 through 2031. The final rule establishes standards that require an industry-wide fleet average of approximately 49 miles per gallon (mpg) for passenger cars and light trucks.

On February 18, 2026, The U.S Environmental Protection Agency (USEPA) rescinded the Clean Air Act Endangerment Finding for GHGs and repealed all GHG emission standards for light-duty, medium-duty, and heavy-duty vehicles and engines pursuant to CAA Section 202(a) (USEPA 2026). The proposed rule removed GHG-related provisions from 40 CFR part 600 without affecting provisions related to CAFE standards and fuel economy labeling.

Executive Order 14154

Issued on January 20, 2025, Executive Order 14154 establishes a national policy aimed at expanding domestic energy production, with a particular emphasis on fossil fuels and critical minerals. The order revokes several prior climate-focused executive orders and terminates the American Climate Corps. It eliminates federal support for electric vehicle mandates and energy efficiency standards for appliances. Additionally, it directs federal agencies to expedite permitting under the National Environmental Policy Act and revise National Environmental Policy Act regulations to prioritize permitting efficiency over environmental considerations. Funding under the Inflation Reduction Act

and the Infrastructure Investment and Jobs Act is suspended pending review for consistency with the Administration's energy policy.

Executive Order 14156

Also issued on January 20, 2025, Executive Order 14156 declared a national emergency due to insufficient domestic energy supply and infrastructure. It invokes emergency authorities under the Defense Production Act and the Clean Water Act to accelerate energy infrastructure development. The order directs agencies to prioritize permitting and leasing for energy projects on federal lands and requires streamlined consultations under the Endangered Species Act, including convening the Endangered Species Act Committee to address regulatory barriers. Energy security is emphasized as a national defense priority, particularly in regions with 'constrained supply' such as the Northeast and West Coast.

Executive Order 14260

Issued on April 8, 2025, Executive Order 14260 challenges state-level climate and energy regulations that are deemed to exceed constitutional authority. It directs the Attorney General to identify and pursue legal action against state laws that impose retroactive fines, carbon caps, or other climate-related claims. The order specifically targets policies in states such as California, New York, and Vermont that regulate emissions or energy infrastructure in ways that may affect interstate commerce. It asserts federal primacy over energy regulation and seeks to prevent states from influencing national energy policy through environmental justice or environmental, social, and governance frameworks.

Executive Order 14361

Also issued on April 8, 2025, Executive Order 14261 designates coal as a "critical mineral" and prioritizes its development and export. The order directs federal agencies to remove barriers to coal leasing and expedite environmental reviews. It terminates the Jewell Coal Leasing Moratorium and encourages reductions in royalty rates. The order promotes coal-powered infrastructure for artificial intelligence data centers and steel production and calls for expanded use of categorical exclusions under National Environmental Policy Act for coal-related projects.

Executive Order 14262

Issued on April 8, 2025, Executive Order 14262 addresses rising electricity demand driven by artificial intelligence and manufacturing. It directs the Department of Energy to streamline emergency orders under the Federal Power Act to prevent grid failures. The order mandates the development of a national methodology to assess reserve margins and identify regions at risk of reliability issues. It also requires the retention of critical generation resources, including fossil-fueled power plants, to ensure grid reliability.

a. State Laws, Regulations, and Policies

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as CEC. The Act established a State policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The

California Public Utilities Commission (CPUC) regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

Integrated Energy Policy Report

Senate Bill (SB) 1389 (Chapter 568, Statutes of 2002) required CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The CEC shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety.

CEC prepares an Integrated Energy Policy Report (IEPR) every two years, with updates published in alternating years, pursuant to Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002). The 2025 IEPR Update provides a comprehensive assessment of California's energy system and outlines strategies to support the state's goals for reliable, affordable, and environmentally responsible energy (CEC 2026d). Topics addressed include electricity and natural gas demand forecasts, transportation energy trends, energy efficiency savings, distributed energy resources, strategic transmission planning, climate adaptation and resilience, and emerging technologies such as wave and tidal energy.

The report highlights California's progress toward decarbonization, including the retirement of over 16,000 megawatts (MW) of fossil fuel generation since 2010 and the addition of more than 22,000 MW of clean energy resources. Battery storage capacity has expanded from 770 MW in 2019 to over 13,000 MW in 2024. In the first nine months of 2024 alone, California added nearly 4,000 MW of new energy resources, primarily from solar and battery storage.

California Renewables Portfolio Standard Program

Senate Bill 1078 (Chapter 516, Statutes of 2002) established California's initial Renewables Portfolio Standard (RPS), requiring retail sellers of electricity—including investor-owned utilities and community choice aggregators—to procure 20 percent of their electricity from renewable sources by 2017. The legislation also mandated annual increases in renewable procurement of at least one percent.

This goal was later accelerated by Senate Bill 107 (2006), which moved the 20 percent target forward to 2010. California successfully met this revised target and has continued to expand its RPS program through subsequent legislation. The RPS has since evolved to require 33 percent renewable electricity by 2020 (SB 2 [1X]), 50 percent by 2030 (SB 350 of 2015), and 60 percent by 2030 with a goal of 100 percent carbon-free electricity by 2045 (SB 100 of 2018).

The RPS program is jointly implemented by the CPUC and CEC and has been instrumental in driving the development of solar, wind, geothermal, and other renewable energy resources statewide.

2022 Scoping Plan

The 2022 Scoping Plan outlines California's strategy to achieve carbon neutrality by 2045 through a comprehensive transformation of the state's energy systems (CARB 2022). The Scoping Plan calls for a dramatic reduction in fossil fuel combustion, particularly petroleum, by deploying clean technologies, expanding renewable energy generation, and electrifying end uses across sectors. It recommends building no new fossil gas-fired power plants and accelerating the retirement of existing ones, while increasing investments in zero-emission vehicles, building decarbonization, and clean fuels. The Scoping Plan emphasizes the need for unprecedented build-out of renewable and

zero-carbon electricity generation and storage to meet rising demand from electrification in transportation and buildings. It also supports a multi-agency process to ensure an equitable transition away from oil extraction and refining, especially in communities disproportionately burdened by pollution. These energy recommendations are designed to help reduce greenhouse gas emissions by 85 percent below 1990 levels, cut air pollution by 71 percent, and improve public health and economic resilience statewide.

Senate Bill X1-2

Senate Bill X1-2, signed into law by Governor Brown in 2011, expanded California's RPS program by requiring retail sellers of electricity, including investor-owned utilities, publicly owned utilities, and community choice aggregators, to procure at least 20 percent of electricity retail sales from eligible renewable energy resources by 2010, and 33 percent by 2020. This legislation built upon earlier RPS mandates and established a more aggressive timeline for renewable energy integration.

CPUC and CEC jointly implement the statewide RPS program through rulemaking, compliance monitoring, and oversight of procurement activities. The program has been instrumental in accelerating the deployment of solar, wind, geothermal, and other renewable energy technologies across the state.

California successfully met the 33 percent RPS target by 2020 and continues to advance toward more ambitious goals established under subsequent legislation, including Senate Bill 100, which mandates 60 percent renewable electricity by 2030, and 100 percent zero-carbon electricity by 2045.

Senate Bill 350

In 2015, Governor Brown signed SB 350, which established new renewable portfolio standard targets, requiring retail sellers of electricity to provide at least 50 percent of electricity retail sales from renewable sources by 2030. SB 350 also set a goal of doubling energy efficiency savings in electricity and natural gas by 2030.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard Program. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 50 percent by 2026, 60 percent by 2030, and 100 percent by 2045.

Assembly Bill 1493 and Advanced Clean Cars

Assembly Bill (AB) 1493 (Chapter 200, Statutes of 2002), known as the "Pavley bill," amended Health and Safety Code Sections 42823 and 43018.5 requiring CARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks and other vehicles used for noncommercial personal transportation in California.

Implementation of new regulations prescribed by AB 1493 required that the State of California apply for a waiver under the federal Clean Air Act. Although USEPA initially denied the waiver in 2008, USEPA approved a waiver in June 2009, and in September 2009, CARB approved amendments to its initially adopted regulations to apply the Pavley standards that reduce GHG emissions to new passenger vehicles in model years 2009 through 2016. In 2012, CARB approved the Low-Emission

Vehicle III GHG regulation, which requires further reductions in passenger GHG for 2017 and subsequent vehicle model years. According to CARB, implementation of the Pavley regulations is expected to reduce fuel consumption while also reducing GHG emissions.

In 2022, CARB approved the Advanced Clean Cars II rule regulating model years from 2026 to 2035. The rule establishes a year-by-year roadmap so that by 2035, 100 percent of new cars and light trucks sold in California would be zero-emission vehicles, including plug-in hybrid electric vehicles. The regulation realizes and codifies the light-duty vehicle goals set out in Governor Newsom's Executive Order N-79-20. By 2040, CARB anticipates that the rule would reduce GHG emissions from light-duty vehicles by 50 percent for a cumulative total of 395 MMT CO_2e from 2026 through 2040. The EPA granted CARB its California's Clean Air Act waiver request for the Advanced Clean Cars II rule on December 18, 2024. However, Public Law 119-16 enacted on June 12, 2025, disapproves of this regulation under the Congressional Review Act, retroactively revoking the state's waiver issued by the USEPA under the Clean Air Act to implement the Advanced Clean Cars II rule.

Advanced Clean Trucks and Low-NOx Regulation

The Advanced Clean Trucks rule is a CARB regulation (CCR, Title 13, Section 1963 – 1963.5) that requires medium and heavy-duty truck manufacturers to gradually increase the percentage of zero-emission vehicles they sell in the state. Effective in March 2021, the rule mandates that by 2035, 55 percent of Class 2b-3 truck sales, 75 percent of Class 4-8 straight truck sales, and 40 percent of truck tractor sales must be zero-emissions vehicles. The goal is to accelerate the transition to zero-emission trucks. The USEPA granted the waiver request under the CAA to enact the more stringent fuel economy components of the ACT regulation on April 6, 2023. However, Public Law 119-15 enacted on June 12, 2025, disapproves of this regulation under the Congressional Review Act, retroactively revoking the state's waiver issued by the USEPA under the Clean Air Act to implement the Advanced Clean Trucks regulation.

The Heavy-Duty Low-NO_X Omnibus Regulation was adopted by CARB in 2021 (effective December 22, 2021; amended in May 2024), and mandates steep reductions in NO_X and PM emissions from new medium- and heavy-duty diesel and Otto-cycle engines starting with model year 2024. By full rollout, the regulation is projected to eliminate approximately 17–23 tons/day of NO_X by 2031. However, Public Law 119-17, enacted on June 12, 2025, disapproves of this regulation under the Congressional Review Act, retroactively revoking the state's waiver issued by the USEPA under the Clean Air Act to implement the low-NO_X regulation.

Drayage Truck Regulation

CARB established the Drayage Truck Regulation as part of its ongoing efforts to reduce PM and NOx emissions from diesel-fueled engines and improve air quality associated with goods movement. The purpose of this regulation is to reduce emissions and public exposure to diesel PM, NOx, and other air contaminants by setting emission standards for in-use, heavy-duty diesel-fueled vehicles.

CARB adopted the Advanced Clean Fleets (ACF) Regulation (CCR Title 13, Division 3, Chapter 1, Article 4) in 2023, which included updated requirements for drayage trucks operating at seaports and intermodal railyards. Beginning January 1, 2024, only zero-emission drayage trucks can be newly registered in CARB's Truck Regulation Upload, Compliance, and Reporting System. Existing legacy trucks must meet annual operational and useful life requirements to remain in service, with non-compliant vehicles removed from the registry starting in 2025. By 2035, all drayage trucks operating in California must be zero-emission, supporting statewide goals to reduce diesel

particulate matter, NOx, and greenhouse gas emissions, particularly in communities disproportionately impacted by freight-related pollution.

On January 23, 2025, CARB withdraw is request for a Clean Air act waiver for the ACF Regulation. CARB is not enforcing the federal and private fleets portions of the ACF that require a Clean Air Act waiver, but is enforcing portions of the ACF Regulation that do not require a Clean Air Act waiver, such as the state and local government fleets portion.

Assembly Bill 1007

AB 1007 (Chapter 371, Statutes of 2005) required CEC to prepare a State plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan in partnership with the CARB and in consultation with other State, federal and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non- petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Executive Order S-01-07

Executive Order S-01-07, issued in 2007, directed CARB to develop and implement a Low Carbon Fuel Standard (LCFS) aimed at reducing the carbon intensity of transportation fuels used in California. Codified in 17 California Code of Regulations Section 95480 et seq., the LCFS originally required a 10 percent reduction in average fuel carbon intensity by 2020 and was designated as an early action measure under Assembly Bill 32 (Global Warming Solutions Act of 2006).

CARB has amended the LCFS multiple times to align with California's evolving climate and energy goals. In 2018, amendments extended carbon intensity reduction targets through 2030 and introduced crediting mechanisms for zero-emission vehicles, alternative jet fuels, carbon capture and sequestration, and other advanced technologies. In 2025, CARB adopted further amendments that took effect on July 1, 2025, establishing new targets to reduce fuel carbon intensity by 30 percent by 2030 and 90 percent by 2045.

The LCFS remains in effect and continues to be a cornerstone of California's strategy to decarbonize the transportation sector. Since its inception, the program has displaced over 30 billion gallons of petroleum fuel, reduced fuel carbon intensity by nearly 13 percent, and generated approximately $4 billion annually in private sector investment. It is projected to reduce greenhouse gas emissions by 558 million metric tons, NO_x by 25,500 tons, and $PM_{2.5}$ by 4,200 tons between 2025 and 2045.

Executive Order N-79-20

Executive Order N-79-20 established a Statewide goal that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035. A further goal of the State is that 100 percent of medium- and heavy-duty vehicles in the State be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks.

California Building Energy Efficiency Standards

The California Code of Regulations Title 24 is referred to as the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency

standards for residential and non-residential buildings to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

Future land use projects would be subject to the 2025 California Building Energy Efficiency Standards, codified in Title 24, Part 6 of the California Code of Regulations, which take effect on January 1, 2026. These standards are designed to reduce energy consumption in residential and non-residential buildings, support California's climate goals, and improve indoor environmental quality.

Key updates to the 2025 standards include expanded requirements for heat pump technologies, electric readiness for future electrification, enhanced ventilation and indoor air quality measures, and battery storage system readiness for homes with larger electrical service capacities. These measures are expected to reduce building energy demand, lower greenhouse gas emissions, and support integration of distributed energy resources.

AB 130 of 2025 imposes a moratorium on changes to California building codes affecting residential units, including both state and local amendments, through 2031, with limited exemptions. Essentially, AB 306 would prohibit CEC or any other adopting agency from considering, approving, or adopting any proposed building standards affecting residential units, unless a certain condition is met, including that the CEC deems those changes necessary as emergency standards to protect health and safety. The 2025 Energy Code will proceed as planned with an effective date of January 1, 2026, and the 2031 Energy Code cycle is anticipated to be unaffected.

California Green Building Standards Code

The 2026 California Green Building Standards Code (CALGreen), codified in Title 24, Part 11 of the California Code of Regulations, and effective in 2025, establishes mandatory minimum environmental performance standards for newly constructed residential and non-residential buildings statewide. These standards are enforced by local jurisdictions and address key sustainability areas including energy efficiency, water conservation, material resource efficiency, and indoor environmental quality.

CALGreen also includes voluntary tiers (Appendices A4 and A5) that provide enhanced environmental performance options. These voluntary measures are intended as model provisions for jurisdictions considering above-code ordinances (also known as "reach codes") or for builders seeking additional compliance flexibility under the California Energy Code.

b. Local Laws, Regulations, and Policies

San Joaquin County General Plan

The County of Joaquin has established a series of provisions in the San Joaquin County 2035 General Plan that relate to energy use in the County (County of San Joaquin 2016). The General Plan includes the following goals and policies regarding energy consumption:

LU-3.11: The County shall encourage new residential subdivisions and new commercial, office, industrial, and public buildings to be oriented and landscaped to enhance natural lighting and solar access in order to maximize energy efficiency.

LU-9.4: The County shall ensure that all new or renovated County-owned buildings are energy efficient and meet, at a minimum, LEED (Leadership in Energy and Environmental Design) Silver or equivalent standards.

TM-1.7: The County shall develop the transportation system to reduce vehicle miles traveled, conserve energy resources, minimize air pollution, and reduce greenhouse gas emissions.

TM-2.3: The County shall encourage the development of uses in Urban Communities that support the use of public transit, bicycling, walking, and other alternatives to the automobile

TM-9.1: The County shall support the development of alternative fueling stations (e.g. electric and hydrogen) for emerging technologies.

TM-9.2: The County shall encourage the use of parking lots of major employers, commercial shopping centers, and trucks stops for alternative fueling stations (e.g., electric) for automobiles and goods movement trucks.

IS-3.6: The County shall use available clean energy and fuel sources where feasible to operate its buildings, vehicles, and maintenance/construction equipment.

IS-3.9: The County shall encourage contractors to use reduced emission equipment for County construction projects and contracts for services, as well as businesses which practice sustainable operations.

PHS-6.2: The County shall reduce community greenhouse gas emissions by 15 percent below 2005 levels by 2020, and shall strive to reduce GHG emissions by 40 percent and 80 percent below 2020 levels by 2035 and 2050, respectively.

City General Plans

City of Escalon General Plan

The City of Escalon's General Plan (2005) Safety Element includes a climate adaptation and resilience goal which identifies and prepares for potential adverse effects of climate change. Implementation strategies related to this goal include requiring a review of projects for the potential for new uses of land to contribute or increase impacts associated with climate change, and incorporating measures, such as bicycle and pedestrian friendly amenities and energy-efficient design, into projects to reduce impacts related to climate change.

City of Lathrop General Plan

The City of Lathrop's General Plan (2022) identifies energy conservation opportunities through conservation and development, specifically including California Building Code Title 24 requirements in building design and encouraging further implementation of energy conservation features. Public Facilities & Services Element Implementing Action PFS-5c supports energy conservation measures and the innovative uses of solar energy, heat recovery, and co-generation in development and infrastructure projects and in structural and industrial processes.

City of Lodi General Plan

The City of Lodi General Plan (2010) required the preparation and implementation of a comprehensive Climate Action Plan. The Climate Action Plan includes enforceable control measures to reduce energy consumption and greenhouse gas emissions. Of these, policies related to transportation include implementing TDM strategies, reducing parking requirements in new

development, implementation of transportation improvements identified in the City of Lodi's Short Range Transit Plan, and encouragement of ridesharing.

City of Manteca General Plan

The City of Manteca General Plan Update (2024) describes energy conservation measures within its Resource Conservation Element. These policies include implementing construction standards which promote energy conservation, enforcement of Title 24 energy requirements, implement Transportation System Management measures to reduce the need for car use and petroleum products, and develop alternative transportation systems.

City of Ripon General Plan

The City of Ripon's General Plan (2006) ensures the City will continue to enforce energy standards that define construction standards that promote energy conservation such as insulation, air leakage, vapor barriers, space conditioning, water heating plumbing system measures and lighting. The City also promotes energy efficiency through landscape design standards that encourage tree planting.

City of Stockton General Plan

The City of Stockton's Envision Stockton 2040 General Plan (2018) addresses energy in its Safety Element. An overarching goal of the Safety Element is to reduce air impacts from mobile and stationary sources of air pollution. Subsequent actions and policies include the use of low-emission construction equipment, installation of energy-star appliances, encourage employers to participate in a transportation demand management (TMD) program facilitated by SJCOG.

City of Tracy General Plan

The City of Tracy General Plan (2011) includes goals and policies to improve air quality and reduce greenhouse gas emissions. The City of Tracy has policies which promote land use patterns that reduce motor vehicle trips, encourage implementing TMD programs, encourage planting trees, and promote use of renewable energy sources, when feasible.

4.5.3 Impact Analysis

a. Methodology and Significance Thresholds

Direct and Indirect Energy Consumption

As this analysis is programmatic and specific details related to construction and timing for transportation and land use development projects implementing the 2026 RTP/SCS are not known at this time, energy consumption from construction activities and future land use operations is assessed qualitatively. Construction energy use, such as fuel consumption from equipment, worker commutes, and material delivery, is typically short-term and would vary depending on the nature and timing of individual projects. Similarly, operational energy use from buildings (e.g., electricity and natural gas) is also speculative due to the absence of detailed project-specific information. In accordance with CEQA Guidelines Appendix G, this section provides a qualitative discussion of potential energy impacts from construction of and operation land use projects.

The calculation of total energy consumption from transportation during operation for this analysis follows the Input-Output methodology suggested by Caltrans (Caltrans 1983). Caltrans methodology provides the calculation of the cumulative transportation energy consumption, including energy consumption that would be due to the construction of 2026 RTP/SCS projects, and energy consumption that is not due to the 2026 RTP/SCS, but rather is due to changes in VMT caused by socioeconomic growth (e.g., population and employment), land use policies, and the existing transportation infrastructure.

Energy consumption from transportation projects is categorized in terms of direct and indirect energy, defined below.

Direct Energy Consumption for Transportation Projects

Direct energy is that energy used in the daily operation of the transportation system, including the propulsion of passenger vehicles (automobiles, vans, and trucks) and transit vehicles (buses and trains). The direct energy analysis for the project is based on 2025 and 2049 VMT with and without the 2026 RTP/SCS.

The 2024 daily gasoline and diesel fuel consumption data for the SJCOG region was converted to Btu (refer to Table 4.5-3) and divided by region wide daily VMT (refer to Table 4.5-4) to derive a regional Btu/VMT conversion factor of 7,594 Btu per VMT.

It should be noted that the Btu/VMT factor is forecast to continue to decrease into the future as a result of improved fuel economy. Applying the 2024-based factor to future year (2049) VMT therefore provides a reasonable worst-case evaluation of energy consumption as the energy efficiency of vehicles in 2049 is anticipated to be higher than the fuel efficiency of current vehicles.

Indirect Energy Consumption

Indirect energy is the energy required to construct, operate, and maintain the transportation network, as well as to manufacture and maintain on-road vehicles and transit vehicles. Therefore, construction-related impacts associated with the 2026 RTP/SCS are included in the indirect energy analysis. The indirect energy analysis was conducted using the Input-Output methodology developed by Caltrans (1983). This method converts VMT, lanes miles, or construction dollars into energy consumption based on data from other transportation projects in the United States. Table 4.5-5 shows the indirect energy consumption factors used in this analysis. It should be noted that indirect energy consumption due to production of fuel and transportation/transmission to the end users is not included in this analysis, as any such analysis would be speculative.

Table 4.5-5 Indirect Energy Consumption Factors

Mode	Factor
Manufacturing	
Passenger Vehicles	1,410 Btu/VMT
Transit Buses	3,470 Btu/VMT
Roadway (construction)	27,300 Btu/VMT
Maintenance	
Passenger Vehicles	1,400 Btu/VMT
Transit Buses	13,142 Btu/VMT
Rail	7,060 Btu/VMT

Source: Caltrans 1983

Appendix G of the CEQA Guidelines identifies the following criteria for determining whether a project's impacts would have a significant impact to energy resources. This is consistent with the programmatic nature of the EIR. For the purposes of this EIR, implementation of the 2026 RTP/SCS would have a significant impact if it would:

1. Result in significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation (including transportation), based on whether the project would:
   a. Result in an increase in overall per-capita energy consumption relative to baseline conditions;
   b. Result in an increased reliance on fossil fuels and decreased reliance on renewable energy sources; or
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

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 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 2026 RTP/SCS could result in the impacts as described in the following section.

Threshold 1a:	Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation (including transportation), based on whether the project would result in an increase in overall per-capital energy consumption relative to baseline conditions

Impact E-1 FUTURE TRANSPORTATION IMPROVEMENT PROJECTS AND IMPLEMENTATION OF THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD NOT RESULT IN SIGNIFICANT ENVIRONMENTAL IMPACT DUE TO THE WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction and maintenance of proposed 2026 RTP/SCS transportation projects (including construction and maintenance of roadways and rail lines) would result in short-term consumption of energy resulting from the use of construction equipment and processes. During construction activities, energy would be needed to operate construction equipment. In addition, roadway and transit construction materials, such as asphalt, concrete, surface treatments, steel, rail ballast, as well as building materials, require energy to be produced, and would likely be used in projects that involve new construction or replacement of older materials. The CALGreen Code includes specific requirements related to recycling, construction materials, and energy efficiency standards, which would apply to construction of roadway and transit improvement projects envisioned by the proposed 2026 RTP/SCS, which would reduce waste and energy consumption. Construction of transportation projects, as well as land use projects, implementing the proposed 2026 RTP/SCS, would be required to comply with the CALGreen Code and would thus result in efficient construction energy consumption.

Daily operation of the SJCOG region's transportation system uses energy in the form of fuel consumed by propulsion of passenger vehicles (automobiles, vans, and trucks) and transit vehicles (buses and trains). Some highway and roadway improvements included in 2026 RTP/SCS would potentially increase vehicle capacity, allowing a greater number of vehicles on facilities in the SJCOG region. Increases in motor vehicle trips are primarily a combined function of population growth and employment growth. It should be noted that population growth and an increase in VMT would occur within the region regardless of whether 2026 RTP/SCS is implemented. As a result, energy consumption as it relates to vehicles would increase beyond the 2025 baseline in any scenario. The proposed 2026 RTP/SCS would help to minimize energy consumption by improving the overall efficiency of the transportation system. In addition, many of the proposed 2026 RTP/SCS projects (e.g., bikeway and pedestrian, rail, transit, and Transportation Demand Management [TDM] projects) would improve the availability of alternative transportation modes, help reduce congestion and resultant harmful air quality emissions in the SJCOG region. Generally, the availability of these alternative modes would be expected to potentially reduce overall motor vehicular trips, VMT, and associated energy consumption.

Table 4.5-6 shows the VMT and total energy use (Btu) in the SJCOG region under 2025 conditions and conditions in 2049 with implementation of 2026 RTP/SCS.

Table 4.5-6 Transportation Energy Use

Year	Daily VMT	Direct Energy Use (Daily MMBtu)	Per-Household Energy Use (Million Btu per year)[1]	Per-Capita Energy Use Daily (MMBtu)
2025 Baseline	18,854,706	143,173.22	213.32	0.18
Proposed 2026 RTP/SCS in 2049	21,418,525	162,641.58	205.12	0.17
Change % (Baseline vs. 2026 RTP/SCS) [1]	**13.6%**	**13.6%**	**(3.8%)**	**(3.8%)**

[1]Per-Household Energy Use was calculated using housing assumptions generated by SJCOG

Source: SJCOG 2025, Appendix D

As shown in Table 4.5-6, per-household and per-capita direct transportation energy consumption would be reduced by 3.8 percent in comparison to baseline conditions. This per-household and per-capita reduction demonstrates that the 2026 RTP/SCS would result in a more efficient use of energy, not a wasteful, inefficient, or unnecessary consumption of energy resources during operation. The Low Carbon Fuel Standard, encouraging the use of more efficient fuels, along with the Energy Policy and Conservation Act, the Energy Independence and Security Act, and the CAFE fuel efficiency standards, among other regulations, all require increased fuel efficiency in vehicles to further increase energy efficiency, further reducing wasteful and inefficient use of energy through 2049.

Operational energy use is shown in Table 4.5-6. As shown in the table, daily VMT and total daily energy use would increase over time as the result of regional socioeconomic (population and employment) growth and the proposed 2026 RTP/SCS energy usage would increase. However, the proposed 2026 RTP/SCS would result in 3.8 percent decrease in per-household and per-capita energy usage when compared to 2025 baseline conditions. The per-household and per-capita reductions in energy use would be partially attributed to reduced traffic congestion, more efficient road network, alternative modes of transportation, increases in vehicle fuel efficiency over time, and more efficient transit-oriented land use patterns.

Transportation Projects

The transportation improvements proposed under the proposed 2026 RTP/SCS would result in an efficient transit system. The proposed 2026 RTP/SCS also would result in greater availability of public transit and other alternative modes of transportation, such as bicycling, which does not consume fuel energy and also reduces traffic congestion. The reduction in overall congestion resulting from these service level improvements would reduce fuel consumption and promote fuel efficiency beyond what is accounted for in the above analysis. As mentioned previously, improvements to State fuel efficiency standards for vehicles and State-mandated increases in the supply and use of alternative transportation fuels would further reduce fuel consumption, such as implementation of an electric vehicle charging station plan.

New transportation facilities that require energy for operation, such as signal lighting, roadway or parking lot lighting, and electronic equipment would increase energy demand. New landscaping irrigation would also increase energy demand through water pumping and treatment. However, energy consumption would not be unnecessary or wasteful, as all lighting, signage and irrigation systems would comply with applicable energy efficiency requirements within the California Building Code. Therefore, the transportation improvements projects included in the proposed 2026 RTP/SCS would not result in inefficient, unnecessary, or wasteful consumption of gasoline or diesel fuel or an increased reliance on fossil fuels.

Land Use Changes

The proposed 2026 RTP/SCS emphasizes a regional land use scenario that promotes land development in existing commercial corridors. Mixed use and infill projects would help reduce VMT and energy use because they would locate people closer to existing goods and services, thereby resulting in shorter vehicle trips and/or promoting walking or biking, and they would locate people closer to existing transportation hubs, thereby encouraging the use of alternative modes of transit (e.g., buses) resulting in fewer vehicle trips. Operation of future land development projects would increase overall demand for energy beyond existing demand; however, such development would not require unusual, unnecessary, or wasteful amounts of energy. Future land use projects would be constructed using standard building practices. These projects would also be subject to the CALGreen Code and Title 24 of the California Energy Code, which set forth specific energy efficiency requirements related to design, construction methods and materials.

In summary, the proposed 2026 RTP/SCS would reduce energy consumption per-capita and per-household; thus, it would not result in wasteful or inefficient energy consumption within the region relative to baseline conditions. Therefore, the proposed 2026 RTP/SCS impacts on energy consumption would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 1b:	Result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resource, during project construction or operation (including transportation), based on whether the project would result in an increased reliance on fossil fuels and decreased reliance on renewable energy sources

Impact E-2 THE PROPOSED 2026 RTP/SCS WOULD NOT INCREASE RELIANCE ON FOSSIL FUELS OR DECREASE RELIANCE ON RENEWABLE ENERGY SOURCES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The proposed 2026 RTP/SCS, resulting transportation projects, and implementation of the land use scenario envisioned by proposed 2026 RTP/SCS are required to follow State regulations, such as California's Green Building Standards, by incorporating alternative energy use. PG&E and Ava Community Energy (starting May 2026) are the utility providers for the vast majority of the SJCOG region, and pursuant to CPUC regulations, utilities such as PG&E and Ava Community Energy utilize a long-term planning process to plan for increased energy demand in the future with its publication of ten-year integrated resource plans. The most recent PG&E plan, titled PG&E's 2022 Integrated Resource Plan, details planned projects between 2022 and 2035 that aim to ensure compliance with North American Electric Reliability Corporation standards, improve transmission system access for renewable generation to meet Renewable Portfolio Standard (RPS) goals and targets, improve service reliability for end users and coordinate long-term plans for PG&E's transmission system (PG&E 2022). Additionally, within this plan, PG&E has introduced ambitious emissions reduction goals that include achieving net zero GHG emissions by 2040 and being climate positive by 2050.

Similarly, Ava Community Energy's most recent plan, titled Ava Community Energy's 2022 Integrated Resource Plan, identified a least-cost portfolio that exceeds state emissions-reduction benchmarks and achieves a fully GHG-free energy supply by 2030 without relying on new large hydro or nuclear resources, instead using entirely qualifying renewable resources—surpassing the state's 60 percent renewable goal and including a substantial share of long-term contracted generation (Ava Community Energy 2022). Thus, renewable energy options would be incorporated in the proposed 2026 RTP/SCS projects as future transportation improvements and implementation of the land use scenario envisioned by the proposed 2026 RTP/SCS rely on the aforementioned service providers, and each has integrated a reduction in reliance on fossil fuels as part of their standards and goals.

Each Integrated Resource Plan published is a ten-year planning document; thus, each utility will continue to assess the reliability and capacity of its energy facilities every ten years based on critical system conditions, growth assumptions and study years agreed upon by the California Independent System Operator Corporation and participating stakeholders.

Furthermore, as described under Impact E-1, construction and operation of land use development envisioned under the proposed 2026 RTP/SCS would be required to comply with relevant provisions of CALGreen and Title 24 of the California Energy Code. In addition, land use and transportation projects would be required to comply with the State's Alternative Fuels Plan, among other regulatory standards to reduce GHG and encourage alternative energy use.

Transportation Projects

As shown in Table 4.5-6 and discussed above, the proposed 2026 RTP/SCS would result in a slight decrease in per-capita energy consumption compared to 2025 conditions. The proposed 2026 RTP/SCS includes projects that would support alternative energy use and potentially decrease VMT

including roadway improvements that incorporate multi-use paths along existing corridors. For instance, there are multiple projects planned by the proposed 2026 RTP/SCS in Lodi, Ripon, and Stockton which would support active transportation, such as bicycle lane installation, street improvements, and crosswalk installation. These specific projects support alternative energy use by providing residents with non-motorized transportation options. Also, as mentioned above, the proposed 2026 RTP/SCS includes other transportation projects which are subject to the State's Alternative Fuels Plan, thereby encouraging alternative energy use.

Land Use Projects

The proposed 2026 RTP/SCS emphasizes a regional land use scenario that promotes mixed-use and infill development in existing commercial corridors in combination with high quality transit service and improved bicycle and pedestrian infrastructure, which would result in the same per-capita energy consumption, despite induced demand that would stem from population growth. Operation of future infill projects would increase the overall demand for energy beyond existing demand, however, such development would not require unusual, unnecessary, or wasteful amounts of energy shown through the same per-capita energy use with implementation of the land use scenario envisioned in the proposed 2026 RTP/SCS. As mentioned above, land use projects would incorporate renewable energy options through reliance on a service provider that has integrated a reduction in reliance on fossil fuels as part of their standards and goals. Therefore, the proposed 2026 RTP/SCS would not increase reliance on fossil fuels or decrease reliance on renewable energy sources. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 2:	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

Impact E-3 THE 2026 RTP/SCS WOULD NOT CONFLICT WITH OR OBSTRUCT A STATE OR LOCAL PLAN FOR RENEWABLE ENERGY OR ENERGY EFFICIENCY. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

As discussed in 4.5.2, *Regulatory Setting*, several State plans, the County's adopted General Plan, city General Plans, and local Climate Action Plans include energy conservation and energy efficiency strategies intended to enable the State and the County to achieve GHG reduction and energy conservation goals. A full discussion of the proposed 2026 RTP/SCS's consistency with GHG reduction plans is included in Section 4.9, *Greenhouse Gas Emissions and Climate Change*.

Transportation Projects

As discussed in Impact E-1, the proposed 2026 RTP/SCS would result in a 3.8 percent decrease in per-household and per-capita energy use in the region and would not result in energy used in an unnecessary or wasteful manner. Accordingly, there are no inconsistencies between the proposed 2026 RTP/SCS and adopted plans and policies related to renewable energy or energy conservation. The discussion below further examines consistency with adopted plans related to energy conservation.

Regulations related to fuel efficiency standards and alternative fuel vehicles are described in Section 4.6.2, *Regulatory Setting*. The proposed 2026 RTP/SCS would not conflict with such regulations (e.g., Energy Policy and Conservation Act and CAFE Standards, EPAct, Energy Independence and Security Act of 2007, AB 1493: Reduction of Greenhouse Gas Emissions, AB 1007: State Alternative Fuels).

In addition, the 2025 IEPR includes a set of strategies to address California's future energy needs (CEC 2026d). Key topics covered in the report include electricity resource and supply plans; electricity and natural gas demand forecasts; natural gas outlooks; transportation energy demand forecasts; energy efficiency savings; integrated resource planning; a barriers study; climate adaptation and resilience; renewable gas; distributed energy resources; strategic transmission investment plans; and existing power plan reliability issues. The proposed 2026 RTP/SCS would not conflict with these policies.

Land Use Projects

The proposed 2026 RTP/SCS would be consistent with the San Joaquin County General Plan and city general plans that include goals and policies that encourage energy conservation and energy efficiency. The plan encourages the use of renewable energy, energy conservation and energy efficiency techniques in all new building design, orientation, construction, and support of alternative transportation and fuels. Local General Plans include similar goals and policies. The proposed 2026 RTP/SCS would be consistent with the State and local plans, as the proposed 2026 RTP/SCS would implement strategies that are designed to enhance the connection between land use and transportation choices through projects supporting energy efficiency. Therefore, the proposed 2026 RTP/SCS would be consistent with State energy efficiency plans, the County's adopted energy conservation and efficiency strategies contained in its General Plan and local General Plans' efficiency policies. As described under Impact E-1, construction and operation of the proposed 2026 RTP/SCS would be required to comply with relevant provisions of CALGreen and Title 24 of the California Energy Code. Therefore, this impact would be less than significant, and no mitigation is required.

Mitigation Measures

No mitigation measures are required.

4.5.4 Cumulative Impacts

The cumulative impact analysis area for energy consists of the SJCOG region and adjoining counties. Information regarding these adjoining counties can be found in Section 3, *Environmental Setting*. Future development in this region that could impact energy use is considered in the analysis. This cumulative extent is used to evaluate potential wasteful or inefficient use of energy resulting in an increase overall per capita energy consumption or result in increased reliance on fossil fuels and decreased reliance on renewable energy sources or conflict with state or local plans for renewable energy or energy efficiency.

Future development in the cumulative impact analysis area would result in short term consumption of energy resulting from construction equipment and use of fuel for vehicles. Operation of future developments would also require energy but would be subject to CalGreen and California Building Energy Efficiency Standards. Furthermore, pursuant to the California Public Utilities Commission, utilities such as PG&E and Ava Community Energy must utilize a long-term planning process to plan for increased energy demand in the area and would account for increased development and an increase in population. As such, growth in the cumulative impact analysis area and increased energy

demand would be accounted for and would not result in the inefficient, unnecessary, or wasteful use of energy. Transportation fuel use would be subject to the Low Carbon Fuel Standard, encouraging the use of more efficient fuels, along with the Energy Policy and Conservation Act, the Energy Independence and Security Act, and the CAFE fuel efficiency standards, among other regulations, all requiring increased fuel efficiency in vehicles to further increase energy efficiency, further reducing wasteful and inefficient use of energy through 2049.

Demand for energy resources such as natural gas, electricity, and transportation fuels would increase as the population of the SJCOG region grows. However, many of the transportation improvement projects under the 2026 RTP/SCS would conserve transportation energy by relieving congestion and contributing towards other transportation efficiencies, resulting in lower per capita transportation energy consumption in 2049 than in the 2025 baseline year. In addition, renewable energy sources steadily constitute a larger proportion of California's energy supply makeup, resulting in a trend of decreased dependency on fossil fuels and increased dependency on renewable energy sources throughout the cumulative impact analysis area. As a result, the 2026 RTP/SCS would not contribute to significant cumulative impacts related to increased reliance on fossil fuels or decreased reliance on renewable energy sources, or conflicts with plans for renewable energy or energy efficiency.

In summary, cumulative impact related to wasteful or inefficient use of energy, increased reliance on fossil fuels or decreased reliance on renewable energy sources, and conflicts with plans for renewable energy or energy efficiency would be less than significant. The proposed 2026 RTP/SCS contribution to these cumulative impacts would not be cumulatively considerable.

4.6 Agriculture and Forestry Resources

This section evaluates potential impacts to agriculture and forestry resources from development facilitated by the proposed 2026 RTP/SCS.

4.6.1 Setting

a. Overview of Regional Agriculture and Forestry

Agriculture is the largest industry in the SJCOG region and contributes a substantial amount of money to the region's economy. San Joaquin County is currently ranked seventh in the United States in agricultural production and is one of eleven California counties with a billion dollars or more in crop value annually. Within the SJCOG region, there are approximately 22,990 acres of forest land, located primarily in the southwest area of the region and smaller areas scattered throughout.

Agricultural Lands

SJCOG's planning area includes expansive agricultural lands as well as forestry resources. The specific agricultural resources within the SJCOG region are discussed below. San Joaquin County consistently ranks in the top 10 of counties in overall agricultural productivity in California. Agriculture continues to be the main producing industry in the County. For the 2024 crop year (latest available data), the County had a total gross production value of $2,524,767,656, surpassing the gross production value for the prior year by $52,190,656, an increase of approximately 2.1 percent. The top ten revenue crops that were produced in the County in 2024 included milk, almonds, grapes, eggs and chicken, walnuts, cherries, cattle, tomatoes, blueberries, and silage (San Joaquin County 2024).

San Joaquin County is among California's leaders in the production of dairy, grapes, and nuts. In 2022, 734,680 acres of land in the County were classified as "agricultural land", according to the California Department of Conservation. Of this land, more than 378,055 acres were classified as "Prime Farmland". Due to conversion to other/nonagricultural uses, the amount of prime farmland in the County has been declining since the Department started compiling such information in 1998 (California Department of Conservation 2025). Similarly, the amount of land under Williamson Act Contracts has been declining in recent years. The decrease in agricultural land can partially be attributed to the encroachment of urban uses into farming areas, creating land use conflicts and the loss of productive agricultural soil (San Joaquin County 2016).

The urban areas within San Joaquin County are almost exclusively surrounded by agricultural zone districts; these districts range from AG-40 to the east of Stockton and Manteca, and north of Lodi and Lathrop. There are two AG-160 zones, one south of Tracy and the other on the eastern border of the County. Thus, the SJCOG region mostly consists of a variety of rural land uses. This rural land contains a high percentage of rich agricultural soils which are in production. These areas are characterized by a wide variety of productive soils, from the deep organic soils of the Delta to the young alluvial soils that cover much of the valley floor. Nearly all the soil types found within the County are suitable for agricultural production. The SJCOG region is noted for their high-quality irrigated crops, including rice, sorghum, corn, and wheat. Cattle ranching is one of the top revenue producers in the SJCOG region and a significant amount of farmland within San Joaquin County is characterized by this land use (San Joaquin County 2020). Agricultural areas in the County also

provide benefits such as wildlife habitat, flood control, groundwater recharge, and energy production.

Since 1998, there has been an overall County-wide decrease of agricultural land acreage. However, from 2016 to 2018 there was a net gain of 352 acres of Prime Farmland, a net loss of 455 acres of Farmland of Statewide Importance, but a net gain of 4,174 acres of Unique Farmland. During the same period, urban and built-up land had a net total increase of 2,211 acres, Farmland of Statewide Importance had a net total decrease of 2,960 acres, and grazing land had a net total decrease of 2,856 acres (California DOC 2019).

Important Farmland

To characterize the environmental baseline for agricultural resources, Important Farmland Maps produced by the California Department of Conservation's (DOC) Farmland Mapping and Monitoring Program (FMMP) were reviewed. Figure 4.6-1 illustrates the intersection of Important Farmland, forest land, and projects listed under the 2026 RTP/SCS in the region. Unless otherwise expressed, the future use of "Important Farmland" specifically includes the following definitions provided by the DOC (DOC 2025).

Prime Farmland

Land which has the best combination of physical and chemical characteristics to produce crops. It has the soil quality, growing season and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming standards.

Farmland of Statewide Importance

Land that is like Prime Farmland but with minor shortcomings, such as greater slopes or less ability to hold and store moisture.

Unique Farmland

Land of lesser quality soils is typically used to produce specific high economic value crops. It has the special combination of soil quality, location, growing season and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. It is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Examples of crops include oranges, olives, avocados, rice, grapes and cut flowers.

Williamson Act Lands

The California Land Conservation Act of 1965, commonly referred to as the "Williamson Act", enables local governments to restrict the use of specific parcels of land to agricultural or related open space use (DOC 2022). As of January 1, 2021, 4,095,553 acres of land are under Williamson Act contract in the SJCOG region (DOC 2022).

Important Farmland Trends

According to the most recent Farmland Conversion Report prepared by the DOC, Prime Farmland increased by 3,669 net acres, coupled with a Farmland of Statewide Importance decreasing by 455 net acres. Partially offsetting these losses was the addition of 3,772 net acres of irrigated crops on soils mapped as Unique Farmland.

As shown in Table 4.6-1, the SJCOG region experienced a 709-acre net increase in Important Farmland between 2016-2018 (DOC 2019). Net increases in acreages occurred for Prime Farmland and Unique Farmland, and net decreases for both Farmland of Statewide Importance and Farmland of Local Importance. Total acreages in 2018 for Prime Farmland was 381,984 acres, 82,163 acres for Farmland of Statewide Importance, and 85,694 acres of Unique Farmland, totaling 550,291 acres of Important Farmland (all three categories combined).

Table 4.6-1 Important Agriculture Land Conversion in the SJCOG Region 2016-2018

	Total Acreage Inventoried		2016-2018 Acreage Changes			
Land Use Category	2016	2018	Acres Lost (-)	Acres Gained(+)	Total Acreage Changed	Net Acreage Changed
Prime Farmland	381,632	381,984	1,071	1,858	4,068	352
Farmland of Statewide Importance	82,618	82,163	265	466	1,387	-455
Unique Farmland	81,922	85,694	681	4,174	4,576	3,772
Important Farmland Total[1]	**546,172**	**550,291**	**2,017**	**6,498**	**10,031**	**3,669**

[1] Important Farmland represents all Prime Farmland, Farmland of Statewide Importance, and Unique Farmland.

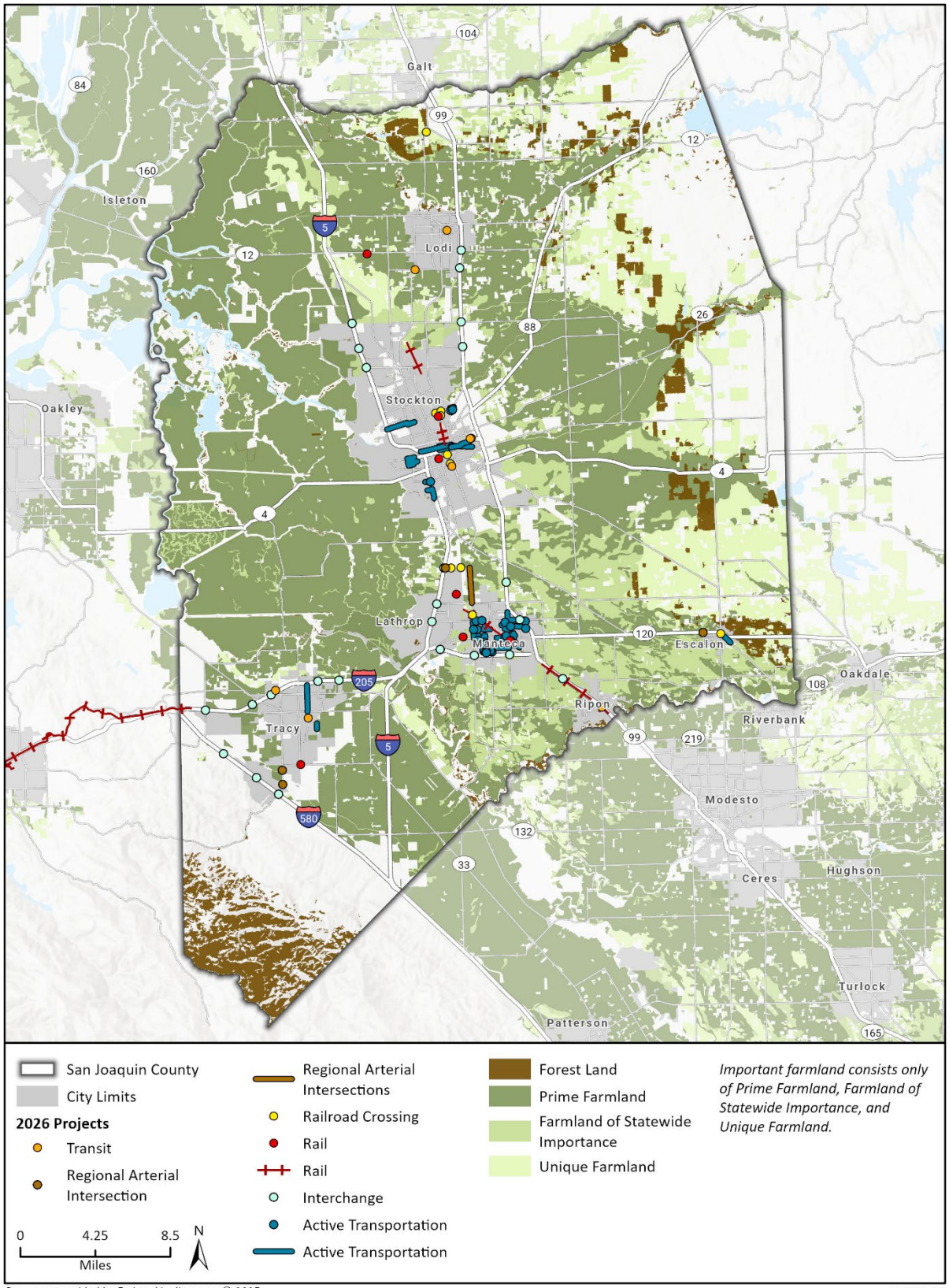
Source: DOC 2019a.

Forest Lands and Oak Woodlands

Forest land is defined in PRC Section 12220(g) is "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."

Oak woodland is defined as a habitat with over 10 percent of the canopy cover comprised of native oak trees. There are 20,000 acres of oak woodland in the SJCOG region. As shown in Figure 4.6-1 these areas are located in the southwest and northeast portions of the SJCOG region. See Section 4.3, *Biological Resources*, for more discussion of forest lands found in the region. There are no Timber Harvesting Plans or Timberland Production Zones within the region. However, there is a blue oak habitat in the SJCOG region, which is considered Forest land as defined above. See Section 4.3, *Biological Resources*, for more discussion of oak woodlands found in the SJCOG region.

Figure 4.6-1 Important Farmland and Forest Land in the SJCOG Region



Basemap provided by Esri and its licensors © 2025.
Additional data provided by USDA Forest Service, CALVEG, CWHR, 2015; FMMP, 2022.

24-16872 EIR
Fig X Important Farmland and Forestland

4.6.2 Regulatory Setting

b. Federal, Laws, Regulations, and Policies

Federal Farmland Protection Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that to the extent possible federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency.

Agricultural Conservation Easement Program

The Agricultural Conservation Easement Program (ACEP) is a voluntary easement program that helps farmers and ranchers keep their land in agriculture and conserve environmentally sensitive lands. Established by the Agricultural Act of 2014 (2014 Farm Bill), ACEP protects agricultural use and conservation values of eligible land and restores, protects, and enhances wetlands and grazing lands. The program provides financial and technical assistance to state, tribal, and local governments and nongovernmental organizations to purchase conservation easements or other interests in land that limit nonagricultural uses. ACEP is administered by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) and includes two components: Agricultural Land Easements and Wetland Reserve Easements. Under Agricultural Land Easements, NRCS provides matching funds to eligible entities to acquire easements that ensure long-term agricultural use. Easements are generally permanent, and priority is given to applications that best protect agricultural viability and conservation values. Existing easements remain valid and enforceable under their original terms.

Federal Forest Legacy Program

The Federal Forest Legacy Program was a part of the 1990 Farm Bill. Its purpose is to identify and protect environmentally important forestlands that are threatened by present or future conversion to non-forest uses. The program provides conservation easements and gives priority to lands that can be effectively protected and managed, as well as lands that have significant scenic, recreational, timber, riparian, fish and wildlife, threatened and endangered species, and other cultural or environmental values. Properties that are "working forests," whereby the forestland is managed for the production of forest products, are also eligible under this program. Involvement in this program by private landowners is voluntary.

c. State Laws, Regulations, and Policies

Farmland Mapping and Monitoring Program

The DOC, under the Division of Land Resource Protection, developed the FMMP to monitor the conversion of the state's farmland to and from agricultural use. Data is collected at the county level to produce a series of maps identifying eight land use classifications using a minimum mapping unit of 10 acres. The program also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates the "Important Farmland Series Maps" every two years (DOC 2018).

Williamson Act

The California Land Conservation Act of 1965, Sections 51200 et seq. of the California Government Code, commonly referred to as the "Williamson Act," enables local governments to restrict the use of specific parcels of land to agricultural or related open space use. Landowners enter into contracts with participating cities and counties and agree to restrict their land to agriculture or open space use for a minimum of ten years. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market (speculative) value.

The Right to Farm Act

The Right to Farm Act of 1981 (Civ. Code, Section 3482.5) is meant to protect commercial agricultural operations from nuisance complaints that may occur when agricultural operations are conducting business in a "manner consistent with proper and accepted customs." The code states operations that have been in business for three or more years and not nuisances upon commencement of operation shall not be considered a nuisance because of new land use.

The Cortese-Knox-Hertzberg Local Government Reorganization Act

The Cortese-Knox-Hertzberg Local Government Reorganization Act (Government Code Sections 56000 et seq.) establishes procedures for local government changes of organization, including city incorporations, annexations to a city or special district and city and special district consolidations. This act requires that development or use of land for other than open space will be guided away from existing prime agricultural lands in open space use toward areas containing nonprime agricultural lands, unless that action would not promote that planned, orderly, efficient development of an area.

Forest Practice Act

CAL FIRE enforces the laws that regulate logging on privately owned lands in California under the Forest Practice Act. Under the Forest Practice Act of 1973, timber operations may only be conducted pursuant to an approved THP, an environmental review document prepared by a Registered Professional Forester and submitted by landowners to CAL FIRE. The THP outlines the timber they want to harvest, how it will be harvested, and the steps that will be taken to prevent damage to the environment. Because a THP is the functional equivalent to an EIR for tree removal activities, the approval of a THP could depend on the inclusion of required mitigation.

A landowner that proposes to carry out a project that will result in timberland being converted to a non-timber growing use must apply for either a Timberland Conversion Permit or a notice of exemption. Grounds for exemption include conversions of less than three acres, conversions to construct or maintain a right–of-way by a public agency or a public or private utility, and development of subdivisions on forest land where approved by local government. When a Timberland Conversion Permit is issued, restocking of the timber resources is not required, as the land is converted to a non-timber growing use.

d. Regional and Local Laws, Regulations, and Policies

Land Conservation Trusts

A land trust works to preserve land or conservation easement acquisition. A land conservation trust is another type of organization devoted to protecting open space, agricultural lands, wildlife habitats, and natural resource lands. There are approximately 80 established trusts in California. Local and regional land trusts, organized as charitable organizations under federal tax laws, are directly involved in conserving land for its natural, recreational, scenic, historical, and productive values. Local governments and special districts, either on their own or working with land trusts and conservancies, can acquire fee title to agricultural and open space lands or purchase development rights to preserve rural and agricultural areas, watersheds, or critical habitat, or to create public parks and recreational areas. There is currently one land trust located in the SJCOG region: the San Joaquin River Parkway and Conservation Trust. In part, the Trust was established to promote educational, recreational, and agricultural uses of the San Joaquin River.

San Joaquin County General Plan

According to the 2035 County of San Joaquin General Plan, agriculture will remain the mainstay of the County's economy, while agriculturally related industries and non-agricultural industries will play an increasingly larger role in the local economy. Many of the planning principles and policies in the General Plan protect existing agricultural lands and industries while providing support for advancement and diversification of agriculturally related enterprises (San Joaquin County 2016).

City of Escalon General Plan

The City of Escalon's General Plan policies regarding farmland are to maximize the amount of farmland, open space, and wildlife habitat preservation on lands outside of the City by establishing a greenbelt, including land not designated for future annexation (City of Escalon 2005).

City of Lathrop General Plan

The City of Lathrop General Plan policies regarding agricultural land are intended to preserve the city's agricultural heritage through protection and maintenance of significant areas of agricultural lands around the city and in lands adjacent to the Sphere of Influence (City of Lathrop 2022).

City of Lodi General Plan

Within the City of Lodi's General Plan, conservation of open space is identified as important to the City itself and surrounding community. Multiple policies are identified in this General Plan to prevent excessive agricultural land conversion, including prioritizing infill development within the existing City limits, compact development in new growth areas, and the continuation of most agricultural activities in the Planning Area (City of Lodi 2010).

City of Manteca General Plan

The City of Manteca's General Plan stated goal is promoting the continuation of agricultural uses within the planning area and to discourage the premature conversion of agricultural land to non-agricultural uses, while providing for future urban development in Manteca (City of Manteca 2024).

City of Ripon General Plan

Policy D1 of the City of Ripon's General plan discourages the premature conversion of agricultural lands to reduce the intrusion of urban development into agricultural areas. Strategies include deterring development of properties subject to Williamson Act contracts for which a notice of non-renewal has not been filed (City of Ripon 2006).

City of Stockton General Plan

The City of Stockton's General Plan states the need for local agricultural lands provide needed buffers between Stockton and neighboring cities, plus some of the most important scenic vistas in the Planning Area. Accordingly, the City has adopted a Right to Farm ordinance to protect local agricultural lands, which limits the circumstances under which an agricultural operation may be considered a nuisance and establishes notification requirements for agricultural neighbors of this protection (City of Stockton 2018).

City of Tracy General Plan

The City of Tracy's General Plan's Open Space and Conservation Element provides a regulatory framework for the City to maintain its identity through the preservation of agricultural lands and the creation of new park and open space lands (City of Tracy 2011).

City of Mountain House General Plan

The City of Mountain House, incorporated in 2024, is currently preparing its first General Plan. Until adoption, land use planning is guided by the Mountain House Master Plan, adopted by San Joaquin County, along with associated Specific Plans.

4.6.3 Impact Analysis

e. Methodology and Significance Thresholds

The methodology used for the following evaluation is based on a review of publicly available data and planning documents to determine the potential for implementation of the proposed 2026 RTP/SCS to result in impacts to agriculture and forestry resources in the SJCOG region. This includes land use and zoning maps, the California Important Farmland Finder, Timberland Production Zone data, and relevant city and county General Plans. Due to the regional scale and programmatic nature of the analysis, site-specific analyses were not conducted. Instead, the evaluation focuses on typical impacts associated with transportation and land use changes and considers consistency with applicable policies and the potential for land conversion or disruption of resource-related activities.

Appendix G of the *CEQA Guidelines* identifies criteria for determining whether the proposed 2026 RTP/SCS would have a significant impact on agricultural or forestry resources, namely an analysis of whether or not the proposed 2026 RTP/SCS would:

1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use;
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract;
3. Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timber Production;

4. Result in the loss of forest land or conversion of forest land to non-forest use; and/or
5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

f. Project Impacts and Mitigation Measures

The following section discusses potential impacts and mitigation measures that may be associated with projects contained within the proposed 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 improvements and future projects under the land use scenario envisioned by the proposed 2026 RTP/SCS could result in the impacts as described in the following section.

Threshold 1:	Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?
Threshold 2:	Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?
Threshold 5:	Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

Impact AG-1 PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PATTERNS ENVISIONED BY THE PROPOSED 2026 RTP/SCS COULD RESULT IN THE CONVERSION OF IMPORTANT FARMLAND TO NONAGRICULTURAL USE, AND/OR CONFLICT WITH EXISTING ZONING FOR AGRICULTURE. THIS WOULD BE A SIGNIFICANT AND UNAVOIDABLE IMPACT.

As discussed in Section 4.2.1, the SJCOG region contains approximately 378,055 acres of Prime Farmland, 79,981 acres of Farmland of Statewide Importance, and 89,194 acres of Unique Farmland as of 2022 (DOC 2022). The proposed 2026 RTP/SCS land use pattern emphasizes projects in developed areas, and emphasizes infrastructure maintenance, public transit operations, and improvements to existing roads. However, transportation improvement projects in the proposed 2026 RTP/SCS adjacent to agricultural areas (Figure 4.6-1), particularly those requiring new rights-of-way, could also have direct or indirect impacts on agricultural lands and Williamson Act contracted lands. Although the incorporated cities in the SJCOG region are urbanized, many cities border lands in agricultural production, including FMMP-designated Important Farmland.

Transportation improvement projects that involve roadway widening have the potential to affect narrow segments of agricultural land located immediately along the existing right-of-way of proposed improvements. In addition, improving, expanding, and extending existing roadways, along with the installation of roadway improvements, could remove some barriers to development taking place on the urban edge as the region's connectivity and access improves from these projects.

The proposed 2026 RTP/SCS envisions growth in areas already served by transit, redirecting housing growth towards more compact unit types, and a mix of uses and neighborhood design to enable an increase walkability and bike trips. Such land use development within urbanized areas would not be expected to result in agricultural resource impacts since they would be located within existing urban

areas. However, implementation of the proposed 2026 RTP/SCS may impact lands that are currently agricultural to be converted to urban uses; increase development pressure as nearby land values increase, and increase nuisances from urban development onto agricultural lands may all contribute to a loss of agricultural land. It is important to note that for federally funded projects, implementing and local agencies are required to follow the rules and regulations of the Farmland Protection Policy Act including determining the impact by completing the Farmland Conversion Impact Rating form (AD-1006), if required.

In developing the proposed 2026 RTP/SCS forecasted development pattern and transportation system, SJCOG relied on the policies of local governments to develop urbanization assumptions based on the most recent information available. The general plans and related environmental documentation for each local jurisdiction identify potential impacts to agricultural resources that could occur because of Plan implementation. As such, the proposed 2026 RTP/SCS was developed consistent with the applicable general plans. However, new or different impacts not identified in previous environmental documentation may occur as a result of the proposed 2026 RTP/SCS.

A determination of the impacts to Important Farmland, agricultural zoning, and conflicts with Williamson Act contracts would be made on a case-by-case basis as individual projects are implemented. Many individual projects would likely not create significant impacts, particularly those that involve only minor widening along existing rights-of-way or would be located in urbanized areas zoned for development. Nevertheless, as the actual magnitude of impacts from individual projects cannot be determined at this time, and because of the potential increase in the average annual conversion rate of agricultural land to non-agricultural uses over the next 25 years, this would be considered a potentially significant impact.

Mitigation Measures

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measures for applicable transportation projects that would result in impacts to Important Farmland, and where feasible and necessary based on site-specific considerations. San Joaquin County and incorporated cities in the County should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site specific conditions.

AG-1 Impact Avoidance and Minimization

Project sponsors shall implement measures, where feasible and necessary based on project-and site-specific considerations that include but are not limited to those identified below.

- Require project relocation or corridor realignment, where feasible, to avoid Important Farmland;
- Manage project construction to minimize the introduction of invasive species or weeds that may affect agricultural production on agricultural land adjacent to project sites. Managing project construction may include washing construction equipment before bringing equipment on-site, using certified weed-free straw bales for construction Best Management Practices (BMPs), and other similar measures.

- Provide buffers, berms, setbacks, fencing, or other project design measures to protect surrounding agriculture, and to reduce conflict with farming that could result from implementation of transportation improvements and/or development included as a part of the RTP/SCS;
- Achieve compensatory mitigation in advance of impacts through purchase or creation of mitigation credits, as deemed appropriate by permitting agencies; and/or
- Require acquisition of conservation easements on land in the same jurisdiction, if feasible, and at least equal in quality and size to converted Important Farmland, to offset the loss of Important Farmland.
- Institute new protection of farmland in the project area or elsewhere through the use of long-term restrictions on use, such as 20-year Farmland Security Zone contracts (Government Code Section 51296 et seq.) or 10-year Williamson Act contracts (Government Code Section 51200 et seq.).

IMPLEMENTATION AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are San Joaquin County and incorporated cities within the SJCOG region. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

Implementation of Mitigation Measure AG-1 would require avoidance or compensation for Important Farmland impacts by specific projects included in the proposed 2026 RTP/SCS, thereby reducing the impact of conversion of Important Farmland to non-agriculture use and conflicts with agricultural zoning and Williamson Act contracts. However, the mitigation would not ensure that the future land use development pattern and transportation projects could feasibly relocate or realign to avoid conversion of Farmland, lands zoned for agriculture, and lands under Williamson Act contract to a less than significant level. As a result, the aforementioned mitigation would reduce impacts, but impacts would remain significant and unavoidable.

Threshold 3:	Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])?
Threshold 4:	Would the project result in the loss of forest land or conversion of forest land to non-forest use?

Impact AG-2 THE PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PATTERNS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD NOT CONFLICT WITH EXISTING ZONING FOR FOREST LAND, TIMBERLAND, OR TIMBERLAND PRODUCTION, NOR CONVERT FOREST LAND TO NON-FOREST USES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Forest lands are generally located in the southwestern area of the SJCOG region, as shown in Figure 4.6-1. Due to existing state and federal protections for these areas, the rate of forest land loss due to urbanization would be low. The proposed 2026 RTP/SCS and county and city polices focus development in areas that do not include forest land, as defined by statutes. Land use

strategies contained within the proposed 2026 RTP/SCS encourage growth in developed areas rather than a more dispersed land use pattern that could result in conversion of forest land, timberland, or Timberland Production zones. As such, the proposed 2026 RTP/SCS would not conflict with existing zoning for forest land, timberland, or timber production, nor convert forest land to non-forest use.

Because land use strategies contained within the proposed 2026 RTP/SCS would help to encourage growth in developed areas, and because the forest lands and timber areas are outside the identified land use development areas in the SJCOG region, impacts on conversion of forest land or conflicts with land zoned for forest land, timberland, or timberland production would be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant, as jurisdictions are required to follow the protection policies and ordinances as described above.

4.6.4 Cumulative Impacts

The cumulative impact analysis area for agriculture and forestry resources consists of the SJCOG region and adjoining counties. Information regarding these adjoining counties can be found in Chapter 3, *Environmental Setting,* Table 3-1. Future development in this region that could impact farmland or forestry is considered in the analysis. This cumulative extent is used to evaluate potential loss/conversion of farmland and forest land within the context of regional diminishment of these resources.

Future development within the cumulative impact analysis area would convert agricultural land to non-agricultural uses and may result in conflicts with agricultural zoning and Williamson Act contracts. In addition, future development adjacent to agricultural land has the potential to result in a loss of farmland due to land use conflicts, which adds to the cumulative conversion of agricultural lands, including areas designated as Important Farmland by the FMMP. Cumulative impacts to agricultural resources would be significant.

Implementation of Mitigation Measure AG-1 would reduce the contribution of the proposed 2026 RTP/SCS to cumulative agricultural land impacts. However, the mitigation would not ensure that the future land use development pattern and transportation projects could feasibly relocate or realign to avoid impacts, and impacts would remain significant and unavoidable. The contribution of the proposed 2026 RTP/SCS to cumulative impacts to agricultural and Williamson Act lands would therefore remain cumulatively considerable post-mitigation.

In the cumulative impact analysis area, forestland and timber resources are primarily located in Stanislaus County, specifically the Stanislaus National Forest. National forests and national parks are protected by federal law and greatly restrict any type of urban development that can occur in these areas. Thus, future development within the cumulative impact analysis area would not convert forestland to non-forest uses and thus would not result in conflicts with forest zoning. Cumulative impacts to forestland and timber resources would therefore be less than significant.

4.7 Environmental Justice

This section evaluates potential impacts to environmental justice communities from development facilitated by the proposed 2026 RTP/SCS.

4.7.1 Setting

a. Overview

Environmental justice (EJ) is defined in the California Government Code as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (Gov. Code § 65040.12 (e)). In May 2012, the California Attorney General's office released a report titled "Environmental Justice at the Local and Regional Level – Legal Background" which interprets CEQA to include considerations of environmental justice, although environmental justice is not explicitly mentioned in the CEQA guidelines. The report defines "fairness" in this context to mean that "the benefits of a healthy environment should be available to everyone, and the burdens of pollution should not be focused on sensitive populations or on communities that already are experiencing its adverse effects."

In the transportation context, environmental justice seeks to ensure that underserved communities are involved in transportation planning and decision-making, benefit equitably from transportation plans and investments, and do not suffer disproportionate burdens from any adverse impacts. Prior to environmental justice emerging as a regulatory issue, the issues underlying environmental justice emerged in the Civil Rights movements and are reflected in Title VI of the Civil Rights Act. In 1994, President Bill Clinton signed Executive Order 12898 -- Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which became effective on February 11, 1994. This Executive Order was revoked in January 2025 with U.S. Department of Transportation order 5610.2(a) implementing environmental justice withdrawn shortly thereafter. Title VI remains a federal statutory civil rights requirement for federally assisted programs.

Issues of environmental justice impact low-income populations; minority individuals and populations; and low-mobility populations, and may include, but are not limited to concerns related to health and safety, economic development, society and culture, accessibility, and the natural environment. These populations are discussed further below.

Minority populations are further defined by the guidance document prepared by the Council on Environmental Quality (CEQ) titled Environmental Justice: Guidance Under the National Environmental Policy Act (CEQ 1997). In that document, CEQ defines "minority persons" as "individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black (not of Hispanic origin; or Hispanic" (CEQ 1997). Hispanic or Latino refers to an ethnicity whereas American Indian, Alaskan Native, Asian, Pacific Islander, and Black/African American (as well as White or European American) refers to racial categories; thus, for Census purposes, individuals classify themselves into racial categories as well as ethnic categories, where ethnic categories include Hispanic/Latino and non-Hispanic/Latino. The 2020 U.S. Census allowed individuals to choose more than one race. For this analysis, consistent with guidance from CEQ (1997), "minority" refers to people who are Hispanic/Latino of any race, as well as those who are non-Hispanic/Latino of a race other than White or European-American. While "Other" is quantified, it is not factored into the analysis of concentrations of minority population.

b. Demographics

The SJCOG region contains seven incorporated cities: Escalon, Lathrop, Lodi, Manteca , Ripon, Stockton, and Tracy. In 2024, approximately 39.8 percent of the SJCOG region population was concentrated in the City of Stockton, with the next most populous cities being Tracy (12.3 percent) and Manteca (11.6 percent). The County also contains other census-designated places and Table 4.7-1 summarizes the racial and ethnic composition for communities within the SJCOG region. Table 4.7-2 summarizes median income, households below poverty level, and unemployment rates for communities within the region (U.S. Census Bureau 2025a).

Table 4.7-1 Racial and Ethnic Composition of the SJCOG Region (2024)

Location	White	Black	American Indian	Asian	Pacific Islander	Two or More Races	Hispanic or Latino	Minority
California	57.7%	7.2%	3.1%	18.2%	0.9%	4.4%	40.2%	74.0%
SJCOG Region (All San Joaquin County)	51.0%	9.1%	5.7%	21.9%	1.4%	4.6%	42.5%	85.2%
Incorporated Cities								
Escalon	86.0%	0.2%	1.4%	5.6%	0.8%	4.9%	26.6%	39.5%
Lathrop	23.2%	6.1%	0.0%	26.0%	0.5%	3.9%	40.1%	76.8%
Lodi	67.0%	2.7%	9.2%	16.3%	1.2%	3.8%	38.5%	71.7%
Manteca	58.1%	6.3%	5.3%	21.1%	1.5%	4.6%	40.8%	79.6%
Ripon	83.5%	2.3%	4.2%	7.6%	1.2%	3.8%	26.3%	45.4%
Stockton	42.9%	12.8%	5.9%	20.5%	1.0%	4.4%	49.8%	94.4%
Tracy	44.9%	8.3%	3.6%	34.2%	2.4%	5.9%	34.0%	88.4%
Census-Designated Places (CDP)								
August	15.6%	1.6%	0.0%	3.1%	0.2%	2.5%	76.9%	84.4%
Country Club	33.5%	6.2%	0.1%	4.7%	0.0%	2.7%	52.7%	66.5%
Garden Acres	16.1%	0.9%	0.5%	0.2%	0.3%	0.3%	81.8%	83.9%
Mountain House	40.7%	6.6%	0.6%	58.2%	0%	10.5%	8.3%	84.2%

Note: "Hispanic" is defined as an ethnicity while the other categories are races. To prevent double counting, persons whom identified themselves as Hispanic were excluded from racial population counts, but comprise a portion of the total minority population.

Source: U.S. Census Bureau 2025a

Table 4.7-2 Income and Poverty Rate in the SJCOG Region (2024)

Location	Median Household Income	Poverty Rate All People	Percent Unemployed
California	$99,122	11.8%	5.1%
SJCOG Region (All San Joaquin County)	$92,179	12.9%	6.4%
Incorporated Cities			
Escalon	$82,394	8.8%	3.3%
Lathrop	$90,179	7.1%	5.2%
Lodi	$91,541	12.4%	6.6%
Manteca	$99,382	9.5%	5.3%

Location	Median Household Income	Poverty Rate All People	Percent Unemployed
Ripon	$114,506	5.4%	2.5%
Stockton	$76,841	15.5%	6.8%
Tracy	$131,706	7.8%	4.8%
Census Designated Places			
August	$53,173	26.9%	9.0%
Country Club	$81,464	15.4%	7.1%
Garden Acres	$66,474	18.9%	11.3%
Mountain House	$177,163	5.0%	2.1%

Sources: U.S. Census Bureau 2025(b)

As shown in Table 4.7-1, approximately 85.2 percent of SJCOG region residents were identified as being a minority race or ethnicity (U.S. Census Bureau 2025a). The minority group in the SJCOG region is defined as *American Indian or Native Alaskan Alone (non-Hispanic/non-Latino); Asian Alone (non-Hispanic/non-Latino); Black of African American Alone (non-Hispanic/non-Latino); Hispanic or Latino of Any Race; Native Hawaiian or Pacific Islander Alone (non-Hispanic/non-Latino); and Other (Some Other Race, Two, or More Races).* The majority-minority group in the SJCOG region is Hispanic or Latino of Any Race (42.5 percent) followed by Asian (21.9 percent). As shown Table 4.7-2 the median income for the SJCOG region was $92,179, the poverty rate was 12.9 percent, and the unemployment rate was 6.4 percent (U.S. Census Bureau 2025b;). The 2024 State median income was $99,122 and the poverty rate was 11.8 percent (U.S. Census Bureau 2025b). EDD statistics identify a 5.1 percent unemployment rate in California as of 2025 (EDD 2025).

EJ Communities

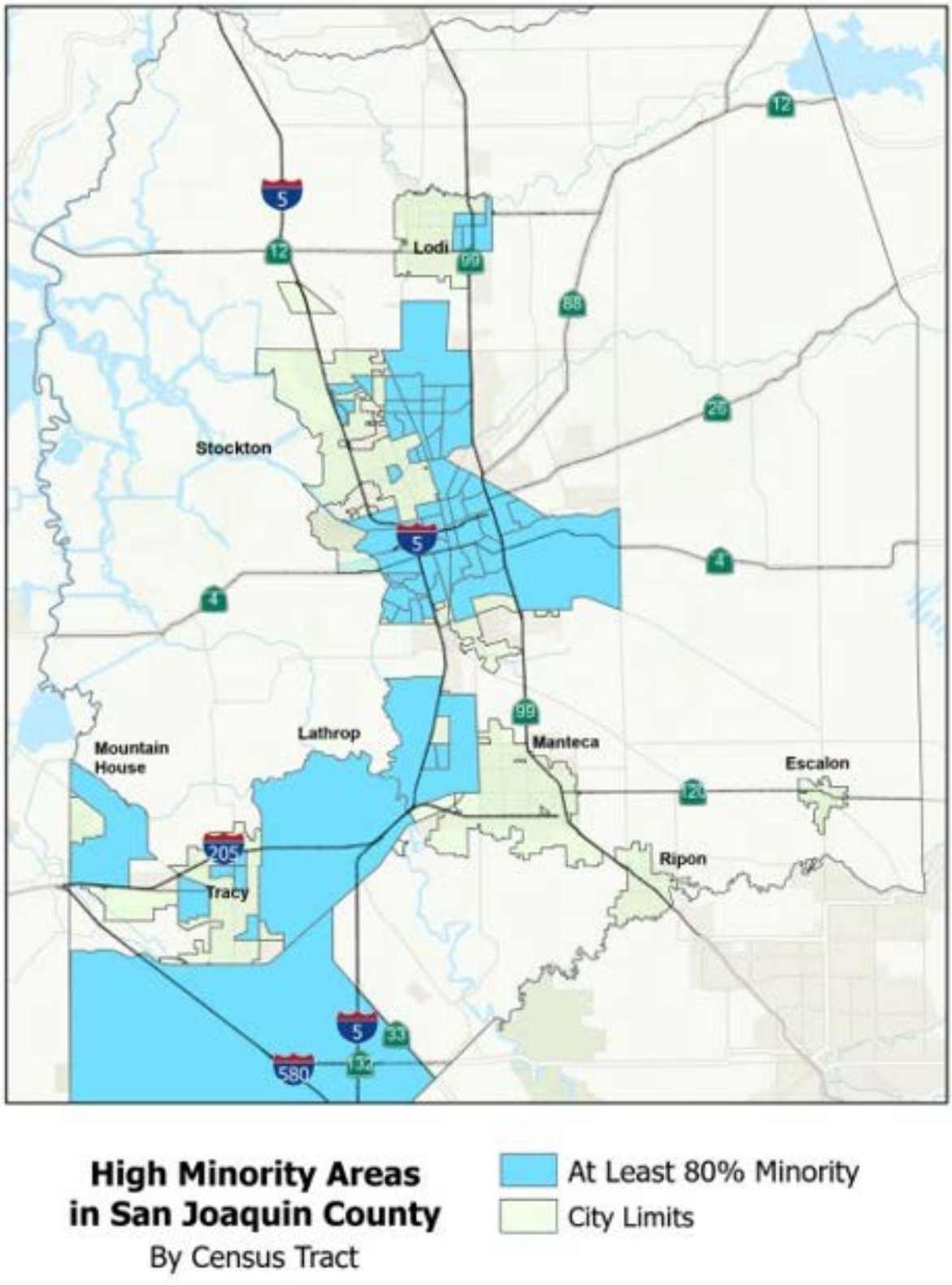
EJ communities in the SJCOG region were identified using socioeconomic data provided by the American Community Survey (ACS) Five-Year Estimates for 2024 (U.S. Census Bureau 2025b). For the purpose of this analysis, two socioeconomic indicators were considered in identifying EJ communities: minority population and households living in poverty. Minority persons are those who identify as Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, some other race, multiple races, or Hispanic/Latino of any race. Non-minority persons are those self-reporting as white and not of Hispanic/Latino ethnic origin. The Census defines poverty thresholds for each year based on the size of a family and number of children under 18 years old. As such, the Census poverty threshold varies. For example, for 2025, the Census poverty threshold for one person under age 65 with no children was $15,650 while for a family of four with two children the threshold was $32,150 (Census 2025).

For the purposes of the proposed 2026 RTP/SCS, EJ communities were mapped by SJCOG using the following criteria (SJCOG 2026a):

- Census tracts with at least 40 percent of the population living at or below 150 percent of the federal poverty level as defined by the Census Bureau.
- Census tracts where at least 80 percent of population is minority. The U.S. Census definition was used for minority persons.

Figure 4.7-1 shows the identified EJ communities within the SJCOG region.

Figure 4.7-1 EJ Communites in the SJCOG Region



Source: American Community Survey 5-Year Estimates (2019-2023)

4.7.2 Regulatory Setting

a. Federal Law, Regulations, and Policies

Federal Law

Recent federal executive orders related to environmental justice have been rescinded, including Executive Order 14008 and Executive Order 14096, which previously directed federal agencies to advance environmental justice initiatives and related federal coordination efforts. However, Title VI of the Civil Rights Act of 1964 remains in effect and continues to prohibit discrimination on the basis of race, color, or national origin in programs and activities receiving federal financial assistance. Accordingly, Title VI remains an applicable federal civil rights requirement for the 2026 RTP/SCS.

b. State Laws, Regulations, and Policies

California Government Code Section 65040.12 Senate Bill (SB) 115 of 1999 and SB 89 of 2000 (Section 65040.12 of the Government Code) required the California Office of Planning and Research (OPR) to:

- Consult with the Secretaries of the California Environmental Protection Agency (CalEPA), the Resources Agency, and the Business, Transportation, and Housing Agency, the Working Group on Environmental Justice established pursuant to Section 72002 (now Section 71113) of the Public Resources Code, any other appropriate State agencies, and all other interested members of the public and private sectors in this State.
- Coordinate the Office's efforts and share information regarding environmental justice programs with the CEQ, the United States Environmental Protection Agency, the General Accounting Office, the Office of Management and Budget, and other federal agencies.
- Review and evaluate any information from federal agencies that is obtained as a result of their respective regulatory activities under federal Executive Order 12898, and from the Working Group on Environmental Justice established pursuant to Section 72002 of the Public Resources Code.

SB 89 also required the formation of an advisory committee, California Environmental Justice Advisory Committee (CEJAC) to provide information and assistance to the Secretary of CalEPA and Interagency Working Group on Environmental Justice (IWG) in establishing and implementing an intra-agency strategy to achieve environmental justice. In 2004, the CalEPA released its Environmental Justice Strategy and Action Plan based on the IWG recommendations for identifying and addressing any gaps in existing programs, policies, or activities that may impede the achievement of environmental justice and suggested procedures for collecting, maintaining, analyzing, and coordinating information relating to its environmental justice strategy.

California Government Code Section 11135

California Government Code Section 11135 states that no person in the State of California shall, on the basis of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, or disability, be unlawfully denied full and equal access to the benefits of, or be unlawfully subjected to discrimination under, any program or activity that is conducted, operated, or administered by the State or by any State agency, is funded directly by the State, or receives any financial assistance from the State.

Senate Bill 1000

Senate Bill 1000, signed in 2016, requires local governments to identify environmental justice communities in their jurisdictions and address environmental justice in their general plans. The bill requires the environmental justice element, or related environmental justice goals, policies, and objectives integrated into other elements, to identify objectives and policies to reduce health risks in disadvantaged communities. Senate Bill 1000 required the environmental justice element, or the environmental justice goals, policies, and objectives in other elements, to be adopted or reviewed upon the adoption or next revision of two or more elements concurrently on or after January 1, 2018.

Senate Bill 244

Senate Bill 244, signed in 2011, requires that general plans identify disadvantaged unincorporated communities, disadvantaged communities located outside of the city limit, but within the Sphere of Influence. Senate Bill 244 requires that cities analyze infrastructure and fire service needs and deficiencies and assess potential funding mechanisms for expansions of services and facilities.

California Fair Housing Task Force

The California Fair Housing Task Force (CFHTF) is a joint task force created in February 2017 between the California Tax Credit Allocation Committee and the California Department of Housing and Community Development. The CFHTF creates opportunity maps to identify areas in every region of the state which identify opportunities for equitable development and inform the California Tax Credit Allocation Committee policies. In December 2017, the California Tax Credit Allocation Committee adopted the map to accompany policies aimed at increasing access to areas for families and children in housing financed with 9 percent Low Income Housing Tax Credits. The CFHTF categorizes areas into 'resources' with areas with the highest opportunity for equitable development categorized as 'Highest Resource' or 'High Resource.'

c. Local Laws, Regulations, and Policies

City General Plans and Regulations

Senate Bill 1000 required a consideration of environmental justice in a city's General Plan to be adopted or reviewed upon the adoption or next revision of two or more General Plan elements concurrently on or after January 1, 2018. Since that date, several cities in the SJCOG region including Stockton, Manteca, Lathrop, and Lodi have adopted comprehensive or focused General Plan updates. Of these cities, the City of Stockton and the City of Lodi have incorporated explicit environmental justice policies and/or standalone environmental justice elements into their General Plans.

City of Stockton 2040 General Plan

Pursuant to Senate Bill 1000, the City of Stockton's 2040 General Plan contains several policies and actions which are aimed to address environmental justice. Of these, Policy CH-2.1 prioritizes maintenance of streets and improvement of sidewalks, parks, and other infrastructure in areas of the city that historically have been comparatively underserved by public facilities. Actions under Policy CH-2.1 include (City of Stockton 2018):

- **Action CH-2.1A:** When considering parks and infrastructure maintenance and improvement projects, consider the following through an open and engaging process inclusive of community residents:
  - Whether the affected community is underserved or disadvantaged
  - What the priority needs of the community are and whether the project would address those needs
  - Whether the project would negatively impact the community, such as through increased exposure to pollutants or displacement of residents or local businesses
- **Action CH-2.1B**: Provide incentives for rehabilitation or redevelopment of distressed properties that takes into consideration strategies to avoid gentrification
- **Action CH-2.1C**: Develop incentives to promote reuse of distressed areas, such as through re-zoning, permit streamlining, density bonuses, and other appropriate tools.
- **Action CH-2.1D**: Conduct marketing to potential developers to encourage the redevelopment and conversion of distressed commercial strips into housing and mixed-use area that include strategies to avoid gentrification
- **Action CH-2.1E**: Investigate and implement programs that will incentive landlords to maintain properties free of Municipal Code violations and criminal activity
- **Action CH-2.1F**: Work with transit agencies, non-profit organizations, and communities to maintain and improve transit service in underserved and disadvantaged neighborhoods to connect residents with jobs, shopping, and services.

City of Lodi General Plan Environmental Justice Element

Pursuant to Senate Bill 1000, the City of Lodi adopted a standalone Environmental Justice Element that incorporates environmental justice considerations into the General Plan. The Environmental Justice Element includes goals and policies that prioritize improvements to public facilities and infrastructure in the City's Community of Focus, where residents have historically experienced disproportionate environmental and socioeconomic burdens. Policies such as EJ-P6.1 and associated implementation programs direct the City to equitably distribute public investments and prioritize infrastructure improvements that address community needs, thereby explicitly integrating environmental justice principles into General Plan policy and implementation (City of Lodi 2024).

4.7.3 Impact Analysis

a. Methodology and Significance Thresholds

Under CEQA, a significant impact is defined as "a substantial or potentially substantial adverse change in the environment" (CEQA Section 21068). For determining the significance of environmental justice impacts, the analysis focuses on whether environmental benefits and burdens are distributed generally equally across the region's EJ and non-EJ communities, or if EJ communities bear substantially greater environmental burdens or benefit substantially less than non-EJ communities.

To evaluate whether EJ communities would disproportionately bear the impacts of the transportation system resulting from the proposed 2026 RTP/SCS, the following performance measures were used across the region's population to evaluate whether EJ communities would

benefit proportionally from the benefits of the proposed 2026 RTP/SCS transportation improvements. The following performance measures were analyzed:

- Percentage of EJ households versus non-EJ households within 500 feet of a major transportation corridor
- Percentage of EJ households versus non-EJ households within a half-mile of transit
- Percentage of EJ households versus non-EJ households within a half-mile of employment

In addition, the diversity of the housing stock was evaluated to assess the effects of the proposed 2026 RTP/SCS on the provision of diverse housing types. The provision of more affordable housing types is an important issue in considering impacts to EJ communities because lack of housing can lead to displacement of existing EJ communities, typically to areas with poorer environmental conditions. The proposed 2026 RTP/SCS would have a significant EJ impact if the plan would lower the availability of more affordable housing types. EJ is not a resource area included in Appendix G of the State CEQA Guidelines. For the purposes of this Program EIR, SJCOG has determined that significant impacts to EJ communities would occur if the 2026 RTP/SCS would:

1. Result in disproportionately high or adverse environmental impacts to EJ communities;
2. Result in disproportionately lower distribution of benefits derived from the proposed transportation improvement projects to EJ communities; or
3. Result in decreased availability of affordable housing stock

b. Project Impacts and Mitigation Measures

The following section discusses potential impacts and mitigation measures that may be associated with projects contained within the proposed 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 improvements and future projects under the land use scenario envisioned by the proposed 2026 RTP/SCS could result in the impacts as described in the following section.

Threshold 1: Would the project result in disproportionately high or adverse environmental impacts to EJ communities.

Impact EJ-1 THE PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD NOT RESULT IN ADVERSE IMPACTS TO EJ HOUSEHOLDS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Short-Term Impacts

During construction of some transportation improvement projects and the development of the land use scenario envisioned in the proposed 2026 RTP/SCS, some minority and/or low-income populations may experience impacts. Improvement projects included in the proposed 2026 RTP/SCS may have short-term impacts on surrounding communities related to construction, including impacts related to air quality, noise, and traffic (refer to Sections 4.2, Air Quality, 4.13, Noise, and 4.14 Transportation, respectively). Specific air quality impacts could include exposure to dust and diesel particulate matter (DPM) due to the operation of construction vehicles (i.e., scrapers, loaders, dump trucks), and clearing and grading activities. Other air quality impacts include short term

exposure to hazardous air emissions, such as diesel emissions from construction equipment. Construction noise impacts from the use of heavy equipment at construction sites could expose nearby receptors to levels up to 76 to 88 dBA at 50 feet from the source, as discussed in Section 4.13, Noise. Temporary traffic impacts include delays during road closures or other disturbances from construction activities could occur from implementation of the proposed 2026 RTP/SCS. According to SJCOG, the majority of EJ communities are primarily concentrated within the city of Stockton, Lodi, and adjacent to Lathrop and Manteca (SJCOG 2026). Proposed transportation projects and land use development envisioned by the proposed 2026 RTP/SCS would take place in these communities. However, future land use and transportation projects would not solely be placed within these identified EJ communities. Transportation projects, including roadway widenings, roadway extensions, roadway replacement, and railroad crossings would occur in areas that are not identified as EJ communities. These projects are present in unincorporated San Joaquin County, as well as within incorporated cities such as Lathrop, Manteca, Mountain House, Tracy, and Lodi. Therefore, transportation projects would occur throughout the region. As such, short-term construction impacts would not disproportionately effect EJ populations. Short-term impacts would be less than significant.

Long-Term Impacts

Proximity to major transportation corridors can increase a population's exposure to high levels of noise, as well as air contaminants, such as DPM from diesel exhaust and re-entrained road dust caused by moving vehicles. Environmental justice populations are usually located closer to freeways and could be adversely impacted by the proposed 2026 RTP/SCS if it would increase the percentage of the EJ population within 500 feet of a major transportation corridor, as compared to the non-EJ population, relative to existing conditions. Under existing conditions, 41 percent of households in EJ communities are within 500 feet of a freeway, compared to 38 percent in non-EJ communities. At 2049 with proposed project conditions, 41 percent of households in EJ communities would be within 500 feet of a freeway, compared to 59 percent non-EJ communities. This is the result of the proposed 2026 RTP/SCS focusing on infill and redevelopment of existing property which tends to be within or near an urban core where there is a higher density of freeways. Although the proposed 2026 RTP/SCS would result in an increased percentage of households in EJ communities within 500 feet of a freeway, it would increase for non-EJ communities as well. In addition, the projected increase, less than one percent for both EJ and non-EJ households, would not account for a disproportionately high impact to EJ communities. Therefore, the proposed 2026 RTP/SCS would not disproportionately or adversely affect EJ communities. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2: Would the project result in disproportionately lower distribution of benefits derived from the proposed transportation improvement projects to EJ communities.

Impact EJ-2 THE PROPOSED TRANSPORTATION IMPROVEMENTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD NOT RESULT IN A DISPROPORTIONATELY LOWER DISTRIBUTION OF BENEFITS TO EJ COMMUNITIES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

For populations with limited financial, physical or other means, convenient access to transit is critical due to the lower likelihood of these populations having access to a vehicle. The high-quality transit selected under the proposed 2026 RTP/SCS would maintain a medium level of transit investment, similar to existing conditions. Table 4.7-3 illustrates how transit improvements are distributed among the EJ and non-EJ population under existing conditions and 2049 conditions with implementation of the proposed 2026 RTP/SCS. The table includes two metrics: the percentage of EJ and non-EJ households located within 0.5-mile of transit, and the percentage of EJ and non-EJ households located within 0.5-mile of employment.

Table 4.7-3 Percentage of Households within One-Half Mile of Transit and Employment

	Percent EJ Households| Percent Non-EJ Households	
Metric	**2023**	**2049 with 2026 RTP/SCS**
Households located within 0.5-mile of transit	4%|4%	7%|5%
Employment located within 0.5-mile of transit	4%|4%	5%|6%

Source: SJCOG 2026

As shown in Table 4.7-3, the proposed 2026 RTP/SCS would increase the proportion of EJ households located within 0.5-mile of transit and 0.5-mile of employment relative to existing conditions. As such, the proposed 2026 RTP/SCS would distribute benefits derived from the proposed transportation improvement projects to EJ communities. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 3: Would the project result in decreased availability of affordable housing stock.

Impact EJ-3 IMPLEMENTATION OF THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD INCREASE THE AVAILABILITY OF AFFORDABLE HOUSING STOCK. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The provision of affordable housing is an important issue in considering impacts to EJ communities because lack of housing can lead to displacement of existing EJ communities, typically to areas with poorer environmental conditions. Providing a greater mix of housing types allows for a greater range of options for all populations, including the EJ population, and also provides for a greater range of housing affordability. Typically, multifamily housing provides more a more affordable option relative to single family housing.

Table 4.7-4 provides the composition of SJCOG's housing stock under baseline and 2049 with proposed 2026 RTP/SCS conditions. As indicated in the table, the diversity of the housing stock would increase, with a greater percentage of multi-family housing available in 2049 under proposed 2026 RTP/SCS conditions.

Table 4.7-4 Composition of Housing Stock in Identified EJ Areas

	Percent of Housing Stock	
Housing Type	**2023**	**2049 with 2026 RTP/SCS**
Single Family	63	63
Multifamily/Mobile Homes/Other	37	37

Source: SJCOG 2026b

Additionally, under the proposed 2026 RTP/SCS, 37 percent of new dwelling units would be provided at 20+ units per acre (SJCOG 2026b). Furthermore, the proposed 2026 RTP/SCS would provide housing within identified EJ areas. The CFHTF identifies Highest Resource and High Resource areas within and immediately surrounding the cities of Tracy, Manteca, Lathrop, Lodi, and Stockton (CFHTF 2025). As noted in CFHTF methodology, the Highest Resource and High Resource areas would qualify under the 9 percent Federal Low-Income Housing Tax Credit Program which provides a reduction in federal tax liability to investors partnering with project sponsors in the development of qualified low-income housing (CFHTF 2025). Therefore, implementation of the proposed 2026 RTP/SCS would not decrease the diversity of the housing stock, but rather keep stable housing diversity and affordability. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Impacts would be less than significant without mitigation.

4.7.4 Cumulative Impacts

The cumulative impact analysis area for environmental justice consists of the SJCOG region and adjoining counties. Information regarding these adjoining counties can be found in Chapter 3, *Environmental Setting*. Future development in this region that could impact environmental justice communities is considered in this analysis. This cumulative extent is used to evaluate potential direct and indirect, permanent, and temporary impacts from disproportionately causing more environmental impacts in environmental justice communities, lowering the benefit of projects for environmental justice communities, or decreasing affordable housing stock within the context of the cumulative impact analysis area.

Growth and development in adjoining counties would be developed in accordance with applicable General Plans, RTP/SCS programs, and other planning documents across the cumulative impact area. As such, any proposed growth and development would be required to comply with goals, policies, and programs adopted for the purpose of avoiding or mitigating environmental effects, including those that pertain specifically to EJ communities. However, as applicable planning documents across the cumulative impact area focus efforts to encourage transit-oriented infill development pursuant to State GHG reduction goals, a greater proportion of residential development, particularly high-density, low-income residential development, would be placed near

transit corridors and exposed to environmental effects associated with living near a transportation corridor. Therefore, cumulative impacts related to environmental justice communities would be significant.

As previously discussed in Impact EJ-1, the proposed 2026 RTP/SCS would not result in significant and unavoidable impacts to EJ communities with regards to disproportionately high adverse effects to EJ communities as a result of closer proximity to transportation corridors. The proposed 2026 RTP/SCS would increase transit-oriented infill development, which would result in a minor increase in both EJ and non-EJ housing located near transportation corridors. As such, EJ housing would not be disproportionately exposed to adverse environmental effects associated with living near a transportation corridor. Therefore, the contribution of the proposed 2026 RTP/SCS to cumulative EJ impacts would not be cumulatively considerable.

4.8 Geology and Soils

This section evaluates impacts on geology and soils and paleontological resources from implementation of the proposed 2026 RTP/SCS.

4.8.1 Setting

a. Regional Geology

San Joaquin County includes parts of two of the eleven geomorphic provinces of California: The Great Central Valley and Coast Ranges (California Geological Survey 2002). The Great Central Valley, which covers the majority of San Joaquin County except for the southwestern corner, is an asymmetrical synclinal trough, approximately 50 miles wide and 400 miles long. The region is an unusual lowland in that sediments within the basin are relatively undeformed, while the surrounding rock units are highly deformed. Little geologic variation exists within the Great Central Valley, with surficial deposits consisting primarily of unconsolidated Quaternary sediments. The Great Central Valley is bordered on the east by the west sloping Sierran bedrock surface, which continues westward beneath alluvium and older sediments. The Western border is underlain by east-dipping Cretaceous and Cenozoic strata that form a deeply buried synclinal trough. The San Joaquin Valley comprises the southern portion of the Great Central Valley, whereas the Sacramento Valley is present in the northern portion. Oil fields follow anticlinal uplifts that mark the southwestern border of the San Joaquin Valley and its southernmost basin. The Sacramento Valley plain is interrupted by the Marysville Buttes, an isolated Pliocene volcanic plug approximately 2,000 feet high. There are no active faults located within the SJCOG region but there are potentially active Quaternary faults which transect the southwestern area of the SJCOG region (Figure 4.8-1). Existing geologic, soils, and flooding conditions are briefly summarized below.

b. Local Geology

San Joaquin County consists of 10 geologic units mapped on the Geologic Map of California (Jennings 2010) including; (1) Quaternary (Pleistocene to Holocene) marine and nonmarine sedimentary rock (Q), (2) Quaternary (Pleistocene) marine and nonmarine sedimentary rocks (Qoa), (3) Tertiary to Quaternary (Pliocene to Pleistocene) nonmarine sedimentary rock (QPc), (4) Tertiary (Miocene) marine sedimentary rocks (M), (5) Tertiary (Miocene) nonmarine sedimentary rock (Mc), (6) Tertiary (Eocene) marine sedimentary rocks (E), (7) Tertiary (Paleocene) marine sedimentary rock (Ep), (8) Upper Cretaceous marine sedimentary and metasedimentary rock (Ku), (9) Cretaceous to Jurassic marine sedimentary and metasedimentary rock (KJf), (10) Cretaceous to Jurassic marine sedimentary and metasedimentary rocks (KJf_m).

San Joaquin County is located at the northern end of the San Joaquin Valley, a sedimentary basin filled with an up to six-mile-thick sequence of interbedded clay, silt, sand, and gravel deposits ranging in age from more than 144 million years old to less than 10,000 years. Recent sediments consist of coarse-grained sand and gravel deposits along river courses and fine-grained alluvium consisting of silt and clay deposited in low-lying areas or flood basins. The southwestern corner of San Joaquin County contains part of the Diablo Mountains. The foothills of the Diablo Mountains contain older sedimentary rocks of Pliocene or Pleistocene age (QPc) (Figure 4.8-2). Older rocks are exposed further to the southwest into the main range. Within San Joaquin County, rocks of Neogene (M), Paleogene (E and Ep), Cretaceous (Ku), and Cretaceous-Jurassic (KJf and KJfm) age are exposed. These are primarily sedimentary units, but parts of the Mesozoic (Ku, KJf, and KJfm) units are slightly

metamorphosed (metasedimentary). Mesozoic plutonic (um) and metavolcanic (Mzv) rocks have been reported in nearby areas of the Diablo Mountains but not within San Joaquin County.

The northeastern part of San Joaquin County contains foothills of the Sierra Nevada. Older Quaternary alluvial sediments (Qoa) and Plio-Pleistocene sedimentary rocks (QPc) are found here. The northeastern edge of San Joaquin County contains units mapped as terrestrial Miocene sedimentary rocks (Mc). Exposures of older (Paleogene, Mesozoic, and Paleozoic) sedimentary and plutonic rocks are found deeper within the Sierra Nevada, west of San Joaquin County. Table 4.8-1 summarizes the paleontological sensitivities of each geologic unit.

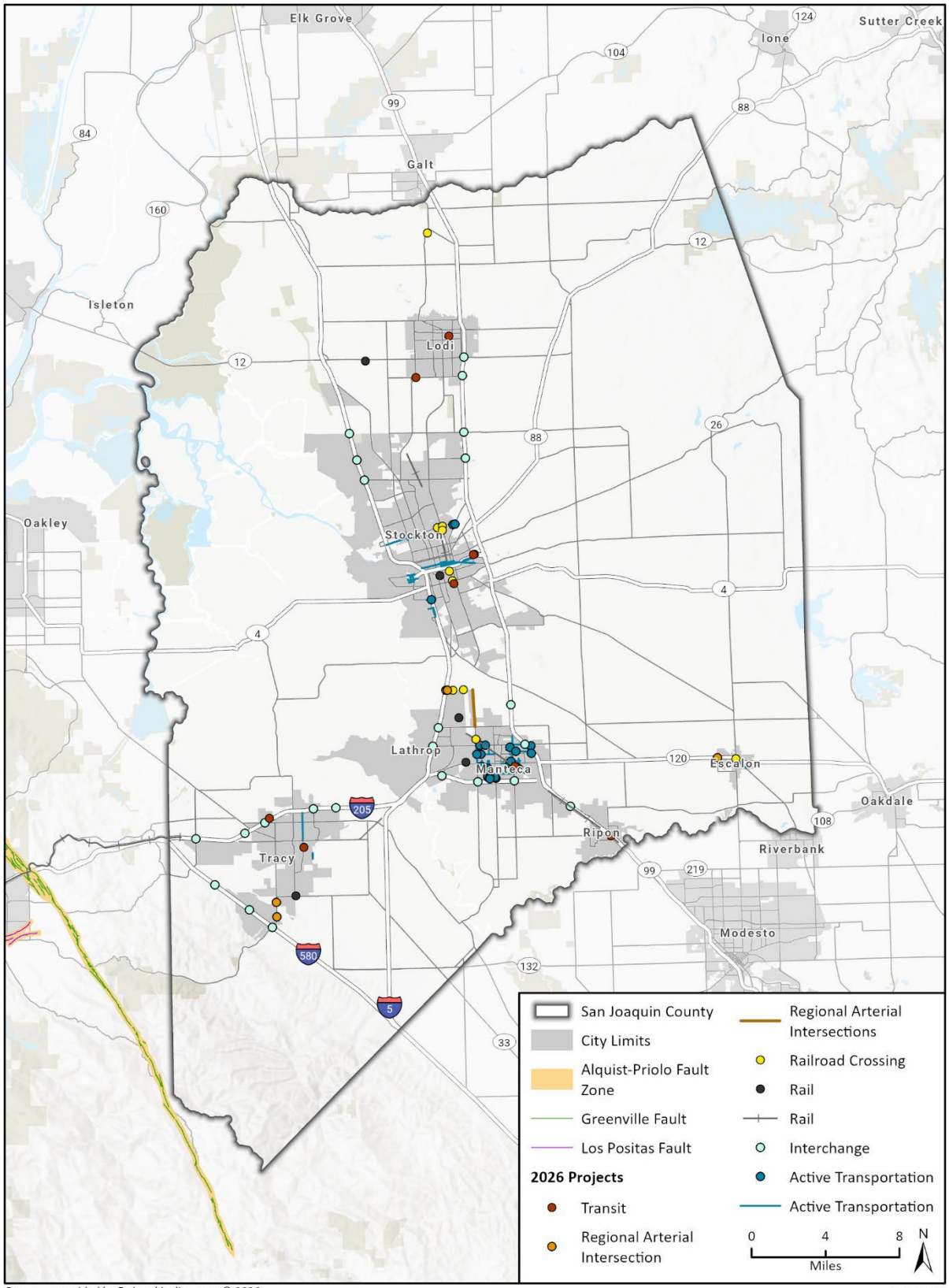
Table 4.8-1 Paleontological Sensitivity of Geologic Units in the Project Area

Geologic Unit	Abbreviation	Paleontological Sensitivity
Quaternary (Pleistocene-Holocene) marine and nonmarine (continental) sedimentary rocks	Q	Low at surface; increase to high with depth
Quaternary (Pleistocene) marine and nonmarine (continental) sedimentary rocks	Qoa	High
Quaternary-Pliocene (Pliocene-Pleistocene) nonmarine (continental) sedimentary rocks	QPc	High
Miocene marine sedimentary rocks	M	High
Miocene nonmarine (continental) sedimentary rocks	Mc	High
Eocene marine sedimentary rocks	E	Low
Paleocene marine sedimentary rocks	Ep	Low
Upper Cretaceous marine sedimentary and metasedimentary rocks	Ku	High
Cretaceous-Jurassic marine sedimentary and metasedimentary rocks	KJf and KJfm	High

Earthquake Ground-Shaking and Fault Rupture

According to the San Joaquin County 2035 General Plan EIR, there are no active faults located within the SJCOG region (Figure 4.8-1). Instead, there are potentially active Quaternary faults which transect the southwestern area of the SJCOG region, including the Black Butte Fault which lies directly adjacent to Interstate 580 and the Vernalis Fault approximately 3.9 miles east of the City of Tracy. Additionally, the SJCOG region is located between two areas of seismic activity (San Joaquin County 2014). To the west there are active faults associated with the San Andreas Fault System, with the Marsh Creek-Greenville fault located approximately one mile west of the southern tip of the SJCOG region. The Marsh Creek-Greenville fault is capable of producing a maximum moment magnitude earthquake of 6.9 on the Richter Scale, and most recently triggered a magnitude 5.6 earthquake in 1980. Other active faults associated with the San Andreas Fault System include the Concord (25 miles northeast), Calaveras (15 miles southwest), Hayward (18 miles southwest), and the San Andreas (35 mile southwest) faults. To the east of the SJCOG region there is a regional shear zone associated with the Sierra Nevada foothills known as the Foothills Fault System, located approximately 10 miles east and thought capable of producing a maximum moment magnitude earthquake of 6.5 on the Richter scale, but has not been classified as active. It is expected that ground-shaking from a major earthquake could produce a range of ground-shaking intensities that could affect the SJCOG region (San Joaquin County 2014).

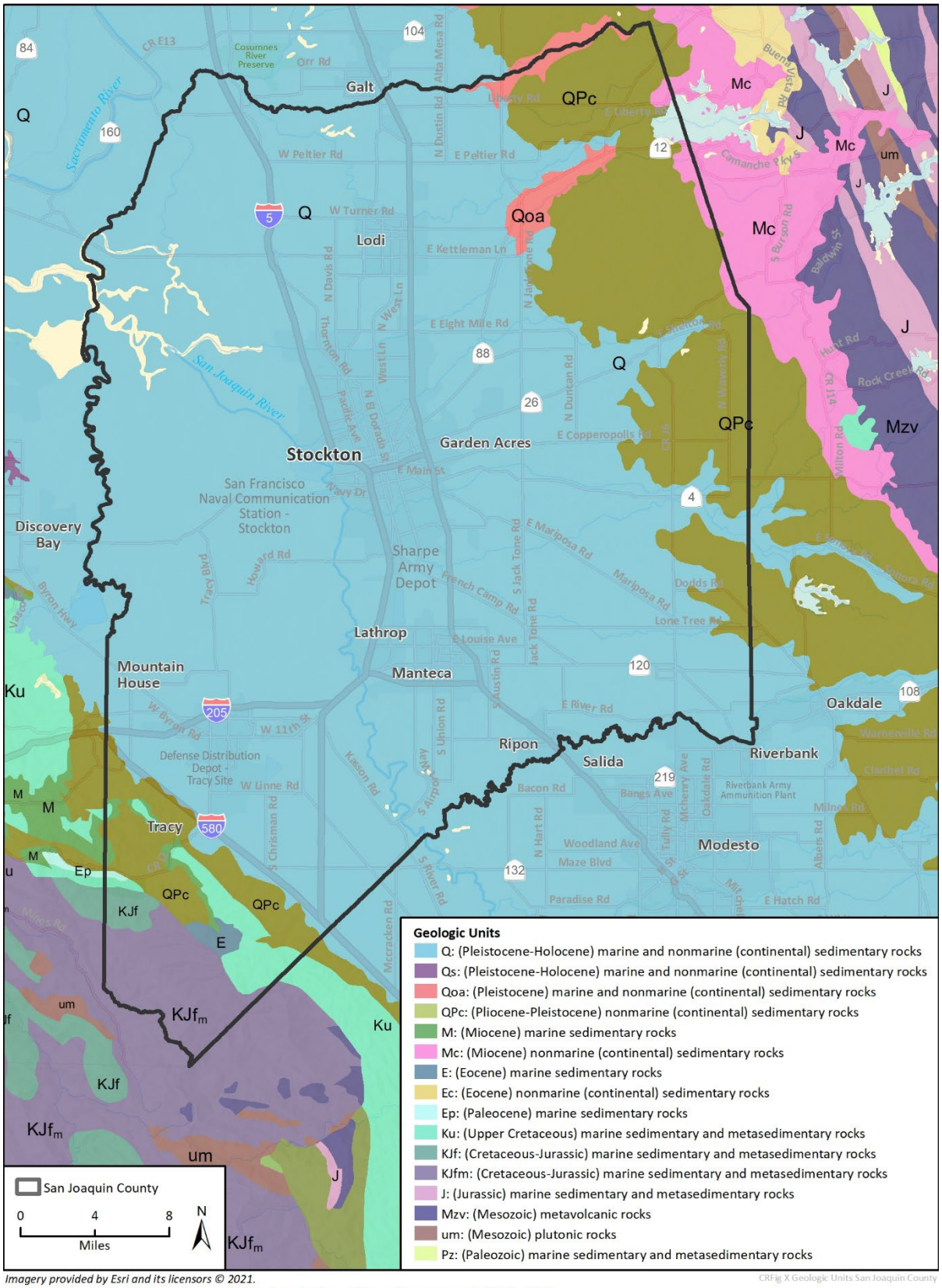
Figure 4.8-1 Fault Lines in the SJCOG Planning Area



Basemap provided by Esri and its licensors © 2026.
Additional data provided by CGS, 2026.

24-16872 EIR
Fig X Fault Zones

Figure 4.8-2 Geologic Units in the SJCOG Region



Imagery provided by Esri and its licensors © 2021.
Additional data provided by Geologic map of California by Jennings, Gutierrez, Bryant, Saucedo & Wills, 2010.

Liquefaction and Lateral Spreading

Liquefaction, or the loss of soil bearing strength during a strong earthquake, is a potential occurrence in several areas with younger soils as well as in areas where the groundwater table is less than 50 feet deep. Specifically, in areas of loose sand and silt that is saturated with water, soils can behave like liquid during earthquakes. In addition to necessary soil conditions, ground acceleration and duration of the earthquake must be of sufficient energy to induce liquefaction. No generalized liquefaction mapping has been completed for the SJCOG region (San Joaquin County 2014), but mapped liquefaction zones exist immediately west of the SJCOG region within the County of Contra Costa and northwest in Solano County (California Geological Survey [CGS] 2025a). Thus, any potential liquefaction susceptibility would likely occur within the western portion of the SJCOG region (San Joaquin County 2014). According to the General Plans of Lathrop and Manteca, liquefaction is found within their respective planning areas (City of Lathrop 2022; City of Manteca 2024). The most serious liquefaction threat lies in the Delta, with many levees directly underlain by relatively clean, water saturated sands and peats. Strong ground shaking could cause liquefaction under these levees and lead to localized flooding (San Joaquin County 2014).

Slope Stability

Landslides and surficial slope failures are most likely to occur in areas of greater than 25 percent slope (hillside areas) and along steep bluffs. Landslides also occur due to specific events, such as loss of vegetation after fires or earthquakes adding loads to barely stable slopes. Steep slopes within the SJCOG region are relatively limited and primarily found in the southwestern portion of San Joaquin County, along with smaller slopes susceptible to instability located throughout the Delta area's levee system (San Joaquin County 2014).

Expansive Soils

Soils with relatively high clay content are expansive due to the capacity of clay minerals to take in water and swell (expand) to greater volumes. Expansive soils are present throughout the SJCOG region, primarily near its western boundary as well as its central portion, near Stockton, and some eastern portions. Soils within the southwestern end of the SJCOG region have been mapped with high shrink-swell potential (San Joaquin County 2014). As noted in the San Joaquin County General Plan, close to half of the upper five feet of soils throughout the county have a low shrink-swell potential (San Joaquin County 2014).

Subsidence

Subsidence is a gradual settling or sudden sinking of the Earth's surface due to removal or displacement of subsurface earth materials. Principal causes include aquifer-system compaction associated with groundwater withdrawals; drainage of organic soils; underground mining; or natural compaction or collapse, such as with sinkholes or thawing permafrost (USGS 2022). The loss of peat soils, due to compaction and mining, has caused land within the Delta portion of the SJCOG region to subside. This subsidence has resulted in the Delta being, on average, approximately 15 feet below sea level, with some areas approximately 25 feet below sea level (San Joaquin County 2014).

c. Paleontological Resources

Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces

thereof (e.g., trackways, imprints, burrows, etc.). Paleontological resources are not found in "soil" but are contained within the geologic deposits or bedrock that underlies the soil layer. Typically, fossils are greater than 5,000 years old (i.e., older than middle Holocene in age) and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions (Society of Vertebrate Paleontology [SVP] 2010). Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors. It is possible to evaluate the potential for geologic units to contain scientifically important paleontological resources, and therefore evaluate the potential for impacts to those resources and provide mitigation for paleontological resources if they are discovered during construction of a project.

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. Such impacts have the potential to be significant and, under the *CEQA Guidelines*, may require mitigation. Sensitivity is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geological units having the potential to contain vertebrate fossils are considered the most sensitive.

The SVP outlines in its Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010) guidelines for categorizing paleontological sensitivity of geologic units within a project area. The SVP (2010) describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrates or significant invertebrate fossils have been determined by previous studies to be present or likely to be present.

The geographic distribution, general characteristics, and paleontological sensitivities of each geologic unit in the SJCOG region is discussed below. Figure 4.8-2 summarizes the paleontological sensitivities of each geologic unit.

Quaternary (Pleistocene-Holocene) marine and nonmarine (continental) sedimentary rocks (Q)

Sediments of Holocene age are generally too young (i.e., less than 5,000 years before present) to preserve paleontologically significant resources (SVP 2010). Although Figure 4.8-2 (based on Jennings et al. 2010) depicts much of the center of San Joaquin County as the undifferentiated Q unit, Wahrhaftig et al. (1993) recognized differentiated Quaternary gravel, sand, and silt alluvial units of Holocene to early Pleistocene age in the County. These deposits are referred to the Modesto, Riverbank, and Turlock Lake formations. The University of California Museum of Paleontology (UCMP) records 18 Pleistocene fossil localities in San Joaquin County (UCMP 2025). Three of the localities are from the Modesto Formation, but the unit of origin for the other 15 is unreported making it impossible to tell whether the localities originate from units depicted as Q, Qoa, or QPc in Figure 4.8-2. Taxa reported from the localities include horses (*Equus*), camels (*Camelops*), mammoths (*Mammuthus*) and ground sloths (*Megalonyx*) (Jefferson 2010). Overall, the sediments mapped as Quaternary marine and nonmarine (continental) sedimentary rocks (Q) in San

Joaquin County have a low sensitivity at the surface and increases to high with depth. If more precise maps are used to differentiate between Pleistocene and Holocene sediments, Pleistocene units would have a high paleontological sensitivity. In this case, Holocene units would have a low paleontological sensitivity that increases with depth, because although they are not old enough to bear fossils themselves, the sediments likely grade into Pleistocene sediments below ground.

Quaternary (Pleistocene) marine and nonmarine (continental) sedimentary rocks (Qoa)

The lithology and paleontological sensitivity of Qoa is identical to the Pleistocene-aged sections of the areas mapped as Q described above except that they are of confirmed Pleistocene age. Therefore, areas mapped as Qoa have a high paleontological sensitivity.

Quaternary-Pliocene (Pliocene-Pleistocene) nonmarine (continental) sedimentary rocks (QPc)

Areas mapped as QPc in southwestern San Joaquin County consist of the Oro Loma Formation per the map Dibblee and Minch (2006). There are no reported vertebrate fossil localities from this unit. Plio-Pleistocene units in northeastern San Joaquin County include the North Merced Gravel and Laguna Formation (Dawson 2009; Gutierrez & Holland 2018). Neither of the units are known to be fossiliferous. Given that areas mapped as QPc include Pleistocene units, these areas may cover the Turlock Lake, Modesto, or Riverbank formations as well. As stated above, these units are known to be fossiliferous. UCMP (2025) reports two Pliocene-aged fossil localities from San Joaquin County both bearing horse (*Equus*) remains. One locality is from an unnamed unit, whereas the other is reportedly from the marine San Joaquin Formation. Given that the areas mapped as QPc include Pleistocene units known to be fossiliferous and Pliocene-aged vertebrate fossils have been found in San Joaquin County, areas mapped as QPc have a high paleontological sensitivity.

Miocene marine sedimentary rocks (M)

The Miocene marine sedimentary unit consists of the Neroly Formation and Briones (or Cierbo) Sandstone preserving marine and marginal marine paleoenvironments (Dibblee & Minch 2006). These units are often referred to collectively as the San Pablo group, but other, often older, sources group the units as the San Pablo Formation. The UCMP reports 35 localities from the Neroly and "San Pablo" formations. Despite the marine or marginal marine nature of the rocks, their fossil content is primarily terrestrial mammals, such as horses (*Nannippus* and *Hipparion*), pronghorn (*Capromeryx*), canids (*Borophagus* [=*Osteoborus*]), elephants (*Gomphotherium*), and rodents (Paleobiology Database [PBDB] 2025; UCMP 2025). Additional fossil localities from the same units occur in Alameda, Contra Costa, and Stanislaus Counties. Given their prolific history of producing vertebrate fossils, the Miocene marine sedimentary units are assigned a high paleontological sensitivity.

Miocene nonmarine (continental) sedimentary rocks (Mc)

The Miocene nonmarine sedimentary unit consists of the Mehrten and Valley Springs formations (Dawson 2009; Gutierrez & Holland 2018). The late Miocene Mehrten Formation is highly fossiliferous. UCMP reports one locality within San Joaquin County, but 42 others are reported from Merced, Stanislaus, and Tuolumne Counties. The localities preserve mammals (horses, cats, elephants, and camels), reptiles (turtles), and fish (PBDB 2025; UCMP 2025). No fossil localities have yet been reported from the Valley Spring Formation. Due to the fossiliferous nature of the Mehrten

Formation within and outside of San Joaquin County, areas mapped as Mc are assigned a high paleontological sensitivity.

Eocene marine sedimentary rocks (E)

The Eocene marine sedimentary unit outcrops within the Diablo Range in southwestern San Joaquin County consist of the Tesla Formation (Dibblee & Minch 2006b). The Tesla Formation has produced invertebrate (mollusk) fossils within San Joaquin County, but no vertebrate material has been reported (PBDB 2025; UCMP 2025). The marine sedimentary rocks have a low paleontological sensitivity.

Paleocene marine sedimentary rocks (Ep)

The mapped Paleocene marine sedimentary units also represent the Tesla Formation. Although Dibblee & Minch (2006a) recognize the entire Tesla Formation as Eocene in age, the location of the outcrops and lack of any Paleocene units in the interpretation of Dibblee & Minch (2006a) show that this is the correct unit. Units designated E in Figure 4.8-2, have a low paleontological sensitivity.

Upper Cretaceous marine sedimentary and metasedimentary rocks (Ku)

The Upper Cretaceous marine sedimentary and metasedimentary units include outcrops of the Moreno and Panoche formations (Dibblee & Minch 2006a, b). The Panoche Formation produces abundant invertebrate (mollusk, arthropod, and echinoderm) throughout the Diablo Range, including San Joaquin County (PBDB 2025; UCMP 2025). However, vertebrate remains are much rarer. Fragmentary bony fish, shark, and marine reptile fossils have been recovered from less than five localities in the Panoche Formation in Contra Costa, Merced, and Stanislaus Counties. The Moreno Formation has produced more than 100 vertebrate fossil localities (PBDB 2021; UCMP 2025). Taxa include marine reptiles (mosasaurs, plesiosaurs, and turtles), bony fish, and sharks, but some of California's few non-avian dinosaur fossils (hadrosaurs) come from the Moreno Formation (Bell & Evans 2010). All vertebrate-bearing localities from the Moreno Formation come from Fresno and Stanislaus Counties, but there are invertebrate (mollusk) fossils reported from San Joaquin and Contra Costa Counties as well, demonstrating that this unit is fossiliferous throughout. Due to the fossil-bearing potential of the Upper Cretaceous marine sedimentary and metasedimentary rocks, particularly the Moreno Formation, has a high paleontological sensitivity.

Cretaceous-Jurassic marine sedimentary and metasedimentary rocks (KJf and KJfm)

Both Cretaceous-Jurassic marine sedimentary and metasedimentary units mapped in Figure 4.8-2 represent the Franciscan Complex differing only in that in areas labeled KJfm consist of fragmented and sheared rather than bedded Franciscan rocks (Jennings et al. 2010). Two marine reptile specimens have been recovered from the Franciscan Complex (PBDB 2025; UCMP 2025). One of the specimens, an ichthyosaur, comes from San Joaquin County (Camp 1941). The other, a plesiosaur, comes from San Luis Obispo County. Invertebrate-bearing localities from the Franciscan Complex are reported throughout the Coast Ranges of central California. The Cretaceous-Jurassic marine sedimentary and metasedimentary rocks have a high paleontological sensitivity.

4.8.2 Regulatory Setting

a. Federal Laws, Regulations, and Policies

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1977 to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." To accomplish this, the act established the National Earthquake Hazard Reduction Program (NEHRP). NEHRP's mission includes improved understanding and characterization of hazards and vulnerabilities, improvement of building codes and land use practices, risk reduction through post-earthquake investigations and education, development and improvement of design and construction techniques, improvement of mitigation capacity, development of alternative performance objectives to advance functional recovery, and accelerated application of research results. The NEHRP designates the National Institute of Standards and Technology as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under the NEHRP help inform and guide planning and building code requirements, such as emergency preparedness responsibilities and seismic code standards.

Disaster Recovery Reform Act

The Disaster Recovery Reform Act was signed into law in 2018. The reforms acknowledge the shared responsibility for disaster response and recovery, are intended to reduce the complexity of the Federal Emergency Management Agency (FEMA) and build the nation's capacity for the next catastrophic event. The law, which amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act, contains 56 distinct provisions that require FEMA policy or regulation changes for full implementation. Examples of the provisions include expanding eligible hazard mitigation activities including the replacement of electric utility poles resilient to extreme winds (Section 1204) and earthquake early warning technology (Section 1233).

b. State Laws, Regulations, and Policies

Alquist-Priolo Earthquake Fault Zoning Act

The purpose of the Alquist-Priolo Earthquake Fault Zoning Act (PRC 2621 et seq.) is to regulate development near active faults so as to mitigate the hazard of surface fault rupture. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along active faults (Earthquake Fault Zones). It also defines criteria for identifying active faults, giving legal weight to terms such as "active," and establishes a process for reviewing building proposals in and adjacent to Earthquake Fault Zones. Under the Alquist-Priolo Act, faults are zoned, and construction along or across them is strictly regulated if they are "sufficiently active" and "well-defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined as within the last 11,000 years). A fault is considered well-defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria and judgment (CGS 2018).

Additionally, the Alquist-Priolo Act requires lead agencies to prepare site specific fault identification investigations conducted by licensed geotechnical professionals, or to otherwise comply with any existing local policies that exceed or reasonably replace any of the Alquist-Priolo Act's requirements. Fault identification studies required by the Alquist-Priolo Act involve on-site trenching and excavation for site specific identification and location of fault rupture planes where any future rupture would be anticipated. Structures intended for human occupancy (defined in the Act as a structure that might be occupied more than 2,000 hours per year) must be located at a minimum distance of 50 feet from any identified active fault traces.

Seismic Hazards Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC 2690–2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including liquefaction, earthquake-induced landslides, and amplified ground shaking. Its provisions are similar in concept to those of the Alquist-Priolo Act: the State is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones (CGS 2025b).

California Building Code

The California Building Code (CBC) appear in the CCR as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The 2019 CBC is based on the 2018 IBC published by the International Code Council. In addition, the CBC contains necessary California amendments, which are based on reference standards obtained from various technical committees and organizations, such as the American Society of Civil Engineers (ASCE), the American Institute of Steel Construction, and the American Concrete Institute. ASCE Minimum Design Standard 7-05 (ASCE 7-05) provides requirements for general structural design and includes means for determining earthquake loads, as well as other loads (e.g., flood, snow, wind), for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure, or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements consider the occupancy category of the structure, site class, soil classifications, and various seismic coefficients that are used to determine a Seismic Design Category (SDC) for a project as described in Chapter 16 of the CBC. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E (very high seismic vulnerability and near a major fault) and SDC F (hospitals, police stations, emergency control centers in areas near major active faults). Design specifications are then determined according to the SDC in accordance with Chapter 16 of the CBC. Chapter 16, Section 1613 provides earthquake loading specifications for design and construction to resist the effects of earthquake motions in accordance with ASCE 7-05.

Chapter 18 of the CBC covers the requirements of geotechnical investigations (Section 1803); excavation, grading, and fills (Section 1804); load-bearing of soils (1806); foundations (Section 1808); shallow foundations (Section 1809); and deep foundations (Section 1810). Chapter 18 also

describes analysis of expansive soils and the determination of the depth to groundwater table. For SDC D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses mitigation measures to be considered in structural design, which may include ground stabilization, selection of appropriate foundation type and depths, selection of appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

Specifically, Section 1803.7 of the CBC requires geologic and earthquake engineering reports for all proposed construction. The purpose of the engineering report is to identify geologic and seismic conditions that may require mitigation. The reports, which are prepared by a California certified engineering geologist in consultation with a California-registered geotechnical engineer, assess the nature of the site and potential for earthquake damage based on appropriate investigations of the regional and site geology, project foundation conditions, and potential seismic shaking at the site. These reports must consider the most recent CGS Note 48 (Checklist for the Review of Engineering Geology and Seismology Reports for California Public Schools, Hospitals, and Essential Services Buildings), CGS Special Publication 42: Fault Rupture Hazard Zones in California (for project sites proposed within an Alquist-Priolo Zone), and the most recent version of CGS Special Publication 117: Guidelines for Evaluating and Mitigating Seismic Hazard in California (for project sites proposed within a Seismic Hazard Zone). All conclusions must be fully supported by satisfactory data and analysis.

The geotechnical report required by Section 1803 provides completed evaluations of the foundation conditions of the site and the potential geologic and seismic hazards. It includes site specific evaluations of design criteria related to the nature and extent of foundation materials, groundwater conditions, liquefaction potential, and settlement potential and slope stability, as well as the results of the analysis of problem areas identified in the engineering geologic report. The geotechnical report incorporates estimates of the characteristics of site ground motion provided in the engineering geologic report. The geotechnical report must be prepared by a geotechnical engineer registered in the State of California with the advice of the certified engineering geologist and other technical experts, as necessary. The approved engineering geologic report is submitted with, or as part of, the geotechnical report. Local jurisdictions in the SJCOG region typically regulate construction activities through a process that requires the preparation of a site specific geotechnical investigation, consistent with Title 24, Part 2, Chapter 18 of the CBC.

CALGreen Regulations

The California Green Building Standards Code (CALGreen) appearing as Title 24, Part 11 of the CCR, is the first-in-the-nation mandatory green building code, applying statewide to new and significantly renovated buildings, and setting standards for energy efficiency, water conservation, material use, and environmental quality. In 2007, CBSC developed green building standards in an effort to meet the goals of California's landmark initiative AB 32, which established a comprehensive program of cost-effective reductions of greenhouse gases (GHG) to 1990 levels by 2020.

The code includes a variety of mandatory measures for residential and nonresidential development intended to reduce potential adverse environmental effects. The 2025 iteration of the CALGreen Code includes:

- Regulations for energy efficiency, water efficiency and conservation, material conservation and resource efficiency, environmental quality, and more.
- Mandatory provisions for commercial, residential, and public school buildings.
- Appendices with voluntary provisions for all of these occupancies plus hospitals.
- Residential and nonresidential provisions are in separate chapters for easier use.

Relevant measures to geology and soils resources include those intended to reduce pollution related to stormwater runoff and reduce potential soil loss. Specifically, Section 5.106.1 requires newly constructed nonresidential projects and additions of less than one acre to reduce the pollution of storm water runoff through compliance with a local ordinance or implementing BMPs that address soil loss. Specific projects would be subject to future project-level environmental review and would be required to comply with all applicable policies and regulations, including those applied at a local level.

Clean Water Act Section 402

Section 402 of the Clean Water Act authorizes the California State Water Resources Control Board (SWRCB) to issue National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit (Order Number 2022-0057-DWQ, as amended), referred to as the "General Construction Permit." Construction activities can comply with and be covered under the General Construction Permit provided that the permittee:

- Develops and implements a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will reduce the risk of construction pollutants from contacting stormwater and with the intent of minimizing sediment from moving off-site into receiving waters.
- Eliminates or reduces non-stormwater discharges to storm sewer systems and other waters of the nation.
- Performs inspections of all BMPs

California Department of Transportation Regulations and Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC) which contain new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support and Materials and Foundations. Memo 20-1 outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components and seismic design practices that collectively comprise Caltrans' seismic design methodology (Caltrans 2010).

California Assembly Bill 885 (2000)

AB 885 (Chapter 781, Statutes of 2000) required SWRCB to draft and implement regulations for siting, installation, operation, and maintenance of on-site wastewater treatment systems. Proposed regulations were issued in 2009 and adopted in June 2012.

California Public Resources Code

Section 5097.5 of the Public Resources Code states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here "public lands" means those owned by, or under the jurisdiction of, the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

c. Local Laws, Regulations, and Policies

San Joaquin County General Plan

The 2035 San Joaquin County General Plan Public Health and Safety Element contains goals and policies related to seismic and geologic hazards. Goal PHS-3 is "To protect life and property from seismic and geologic hazards." The County shall consider the risk to human safety and property from seismic and geologic hazards in designating the location and intensity for new development (PHS3.1). Emergency services, major utility lines and facilities, manufacturing plants using or storing hazardous materials, high occupancy structures, and facilities housing dependent populations are not to be located within one-eighth of a mile of any active fault or on soil that is highly susceptible to liquefaction (PHS-3.2). Emergency service facilities must be capable of withstanding earthquakes and remain operational to provide emergency response (PHS-3.3). New developments in areas determined to have high liquefaction potential must include detailed site-specific liquefaction studies (PHS-3.4). All proposed structures, utilities, or public facilities within County-recognized areas of near-surface subsidence or liquefaction shall be located and constructed in a manner that minimizes or eliminates potential damage (PHS-3.5). The county shall promote regional and local efforts to reduce subsidence in the Delta (PHS-3.6). The county shall encourage the planting of vegetation to decrease loss of soil by erosion (PHS-3.7). The county shall support soil conservation and restoration efforts of the US Soil Conservation Service and the Resource Conservation Districts (PHS-3.8) (San Joaquin County 2016).

City General Plans and Regulations

City of Escalon General Plan

The Safety Element of the City of Escalon's General Plan aims to protect the community from seismic and geologic hazards. Geologic Hazards Policies includes ensuring development and infrastructure projects are designed and planned to reduce risk related to seismic and geologic hazards. Specifically, the City of Escalon utilizes implementation strategies which implement California Building Code requirements and require development and infrastructure projects to identify and address potential adverse impacts associated with unstable soils (City of Escalon 2019).

City of Lathrop General Plan

The City of Lathrop General Plan includes goals and policies for achieving and maintaining safety from seismic events including preventing injury, loss of life, serious damage to critical facilities, and disruption in providing essential public services. Specific policies include, reviewing and monitoring geologic and seismic hazards maps in concert with updates from the California Geologic Survey and local surveys (PS-1.1), enforcing State seismic design standards and guidelines and relevant building codes to reduce the risk of damage associated with seismic activity (PS-1.2), and requiring professional inspection of foundation, excavation, earthwork, and other geotechnical aspects of site development during constructions (PS-1.4) (City of Lathrop 2022).

City of Lodi General Plan

Guiding Policy S-G2 Chapter 8: Safety of the City of Lodi's General Plan aims to prevent the loss of lives, injury, illness, and property damage due to flooding, hazardous materials, seismic and geologic hazards, and fire. Policies S-P18 through S-P22 require soils reports, grading and erosion plans, require geotechnical investigations be prepared for all proposed critical structures, and for buildings identified as seismically unsafe, prohibit change in use to higher occupancy or more intensive use until an engineering evaluation has been conducted and structural deficiencies corrected consistent with the City of Lodi building codes (City of Lodi 2010).

Policy C-P18 of Chapter 7: Conservation of the City of Lodi's General Plan addresses procedures for the discovery of paleontological resources. It states (City of Lodi 2010):

> In the event that archaeological/paleontological resources are discovered during site excavation, the City shall require that grading and construction work on the project site be suspended until the significance of the features can be determined by a qualified archaeologist/paleontologist. The City will require that a qualified archeologist/ paleontologist make recommendations for measures necessary to protect any site determined to contain or constitute an historical resource, a unique archaeological resource, or a unique paleontological resource or to undertake data recovery, excavation, analysis, and curation of archaeological/paleontologist materials. City staff shall consider such recommendations and implement them where they are feasible in light of project design as previously approved by the City.

City of Manteca General Plan

The Safety Element of the City of Manteca General Plan 2043 introduces a number of policies intended to reduce potential geologic risks. These include enforcing adopted regulations to identify and address potential hazards relating to seismic, geologic, and soils conditions (S-2.1), regulating development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, and expansive soils (S-2.2), requiring new development to mitigate the potential impacts of geologic and seismic hazards, including uncompacted fill, liquefaction, and subsidence, through the development review process (S-2.3), and ensuring public facilities are responsibly sited in compliance with the California Building Standards Codes and other applicable standards (S-2.6).

Specific implementation measures identified include preparation of geological reports for proposed new development located in an area of potentially significant geologic hazards, development review to ensure compliance with the current State building standards, ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law) (City of Manteca 2024).

City of Ripon General Plan

The City of Ripon General Plan's Community Health and Safety chapter includes goals and policies which aim to prevent the loss of life and property damage due to geological hazards. Policies from the San Joaquin County General Plan Public Health and Safety Element are incorporated into the City of Ripon's General Plan (City of Ripon 2006).

City of Stockton General Plan

The City of Stockton's Safety Element of the Envision Stockton 2040 General Plan Goal SAF-2 focuses on the protection of residents and businesses from natural and human-caused hazards. Actions SAF-2.2B through SAF-2.2D require period updating of emergency management plans, require critical facilities to be located, designed, and constructed to avoid or mitigate seismic and geologic events, and require coordination between the County Office of Emergency Services, other cities, and disaster agencies to coordinate emergency preparedness planning (City of Stockton 2024).

The Land Use Element of the Envision Stockton 2040 General Plan requires the following tasks by an approved archeologist or paleontologist prior to any project approval (City of Stockton 2024):

- Conduct a record search at the Central California Information Center located at California State University Stanislaus, the University of California Museum of Paleontology at Berkeley, and other appropriate historical or archaeological repositories.
- Conduct field surveys where appropriate.
- Prepare technical reports, where appropriate, meeting California Office of Historic Preservation or other appropriate standards.
- Where development cannot avoid an archaeological or paleontological deposit, prepare a treatment plan in accordance with appropriate standards, such as the Secretary of the Interior's Standards for Treatment of Archaeological Sites.

City of Tracy General Plan

The Safety Element of the City of Tracy's General Plan Goal SA-1 aims to reduce risks in the community from earthquakes and other geologic hazards. Specifically, Objectives SA-1.1 and SA-1.2 minimize the impacts of geologic hazards on land development and implement measures related to site preparation and building construction that protect life and property from seismic hazards. Policies that carry out these objectives include requiring underground utilities to be designed to withstand seismic forces, requiring geotechnical reports for projects where potentially serious geologic risks exist, enforcing California Building Code and Tracy Municipal Code standards (City of Tracy 2011).

The Community Character Element of the City of Tracy's General Plan Policies P4 and P5 under Objective CC-3.1 implement a condition of approval for projects that halt operations should a paleontological resource be discovered and require preservation of paleontological resources and implementation of conservation measures should any resources be found unexpectedly (City of Tracy 2011).

City of Mountain House General Plan

The City of Mountain House, incorporated in 2024, is currently preparing its first General Plan. Until adoption, land use planning is guided by the Mountain House Master Plan, adopted by San Joaquin County, along with associated Specific Plans.

4.8.3 Impact Analysis

a. Methodology and Significance Thresholds

To evaluate the impacts of the transportation projects and land use scenario included in the proposed 2026 RTP/SCS related to geologic and seismic hazards as well as soil erosion, analysis is conducted in relation to known geologic hazards and features, including earthquake faults, ground failure, underlying geology, and soils. In determining the level of significance, the analysis assumes the proposed buildout would comply with relevant laws, regulations, and guidelines. The analysis is based on review of available documentation, including applicable general plans, local hazard mitigation plans, the CGS website, and USGS data and publications. The evaluations of the paleontological impacts of the proposed buildout is based on review of available documentation, including primary literature and online fossil databases available from the Paleobiology Database, Society of Vertebrate Paleontology and the University of California Museum of Paleontology.

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether development facilitated by the proposed 2026 RTP/SCS would have a significant impact on geology and soils, namely an analysis of whether or not the proposed 2026 RTP/SCS would:

1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?
    ii. Strong seismic ground shaking,
    iii. Seismic-related ground failure, including liquefaction, or
    iv. Landslides;
2. Result in substantial soil erosion or the loss of topsoil;
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
4. Be located on expansive soil, creating substantial risks to life or property;
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; and/or
6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

b. Project Impacts and Mitigation Measures

The following section discusses potential impacts and mitigation measures that may be associated with projects contained within the proposed 2026 RTP/SCS. Section 4.8.3.c summarizes the impacts associated with capital improvement projects proposed in the 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 improvements and future projects

under the land use scenario envisioned by the proposed 2026 RTP/SCS could result in the impacts as described in the following section.

Threshold 1: Would the project: expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

ii. Strong seismic ground shaking,

iii. Seismic-related ground failure, including liquefaction, or

iv. Landslides?

Impact GEO-1 THE PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD NOT DIRECTLY OR INDIRECTLY CAUSE POTENTIAL SUBSTANTIAL ADVERSE EFFECTS, INCLUDING THE RISK OF LOSS, INJURY, OR DEATH INVOLVING RUPTURE OF A KNOWN EARTHQUAKE FAULT, STRONG SEISMIC GROUND SHAKING, SEISMIC-RELATED GROUND FAILURE, INCLUDING LIQUEFACTION, OR LANDSLIDES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Fault Rupture

Fault rupture can occur along or immediately adjacent to faults during an earthquake. Fault rupture is characterized by ground cracks and displacement which could endanger life and property. Damage is typically limited to areas close to the moving fault.

As indicated by Figure 4.8-1, transportation projects across the SJCOG region would not be vulnerable to fault rupture as none of the roadway projects for the proposed 2026 RTP/SCS are located within or near an active fault system. Proposed interchange and highway projects would take place along Interstate 580 near the Black Butte Fault, and along Interstate 205 and Interstate 5, near the Black Butte and Vernalis Faults, but these are considered potentially active rather than active. Land use growth envisioned under the proposed 2026 RTP/SCS would emphasize infill development and thus be implemented within the cities of the SJCOG region, none of which intersect earthquake fault zones, as shown in Figure 4.8-1.

Ground Shaking

Ground shaking effects are also the result of an earthquake, but the impacts can be widespread. Although a function of earthquake intensity, ground shaking effects can be magnified by the underlying soils and geology, which may amplify shaking at great distances. It is difficult to predict the magnitude of ground shaking following an earthquake, as shaking can vary widely within a relatively small area.

The City of Tracy is adjacent to the Black Butte and Vernalis Faults and has the potential to be at risk of adverse effects from ground shaking. However, any potential structural damage and the exposure of people to the risk of injury or death from structural failure would be minimized by compliance with California Building Code engineering design and construction measures. Foundations and other structural support features would be designed to resist or absorb damaging forces from strong ground shaking.

The transportation and land use projects proposed under the 2026 RTP/SCS are unlikely to exacerbate seismic activity, fault rupture, or increases in ground shaking due to the nature of the project's effects, including construction, being near or on the ground surface. Footings and pilings that could extend below the surface would be localized to the project site and require geological testing for specific impacts. The potential to directly, or indirectly, cause adverse impacts due to rupture of a known earthquake fault related to the projected land use pattern and planned transportation improvements from implementation of the proposed 2026 RTP/SCS would be less than significant.

Ground Failure

Seismic related ground failure such as liquefaction may result from an earthquake in the SJCOG region. According to the San Joaquin County General Plan EIR, no specific countywide assessments to identify liquefaction hazards have been performed in San Joaquin County. Liquefaction typically occurs in areas underlain with loose saturated cohesion-less soils within the upper 50 feet of subsurface materials. The Counties of Contra Costa and Solano, which have similar Delta conditions as the SJCOG region, indicate the Delta area of the SJCOG region is likely to have areas with moderate to high susceptibility (San Joaquin County 2014). Detailed, site-specific geotechnical engineering investigations would be necessary to evaluate liquefaction potential more accurately in specific project areas and to identify and map the extent of locations in the SJCOG region subject to liquefaction.

Landslides

Projects near the canal and levee system in the Delta are particularly susceptible to landslides. Much of the system has not been engineered to withstand forces that could be created by future earthquakes. Projects which are the most susceptible include regional highway segments which cross or are adjacent to steeply sloped streambanks within the Delta region, and projects near the Manteca-Lathrop area. Landslide risk also occurs in the southwestern region of the SJCOG region, within the foothills southwest of the City of Tracy; however, proposed 2026 RTP/SCS projects do not extend into the foothills area of the SJCOG region. The potential to directly or indirectly cause adverse impacts due to seismic-related liquefaction or landslide from the projected land use development and planned transportation improvements from implementation of the proposed 2026 RTP/SCS would be less than significant.

Design Standards

All projects are required to adhere to design standards described in the CBC and all standard geotechnical investigation, design, grading, and construction practices to avoid or reduce impacts from earthquakes, ground shaking, ground failure, and landslides. These requirements would partially reduce seismic impacts. Moreover, construction within seismic zones as identified by the Alquist-Priolo Act and the Seismic Hazards Mapping Act of 1990 (PRC 2690 -2699.6) is required by the CBC to follow more stringent regulations to withstand fault ruptures and ground shaking effects from seismic activities. The CBC provides standards for various aspects of construction, including but not limited to: excavation, grading and earthwork construction; fills and embankments; expansive soils; foundation investigations; liquefaction potential; and soil strength loss. In accordance with California law and regulation, proponents of specific projects are required to comply with all provisions of the CBC for certain aspects of design and construction.

There are limited instances where the proposed land use pattern and planned transportation investments of the proposed 2026 RTP/SCS may result in growth in or near a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides prone areas, substantial geologic-related effects could still occur. The types of transportation and land use projects planned under the proposed 2026 RTP/SCS are unlikely to exacerbate seismic activity, fault rupture, or increases in ground shaking due to the nature of the project's effects, including construction, being near or on the ground surface. Footings and pilings that could extend below the surface would be localized to the project site and require geological testing for specific impacts. The proposed 2026 RTP/SCS would not have the potential to exacerbate risks related to seismic activity. Compliance with the CBC and provisions of the Alquist-Priolo Act, including the preparation of a site-specific geotechnical investigation, would minimize the potential for seismic damage to occur as a result of implementation of proposed 2026 RTP/SCS projects. Based on the above analysis, impacts would be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 2:	Would the project result in substantial soil erosion or the loss of topsoil?

Impact GEO-2 THE PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD NOT RESULT IN SUBSTANTIAL SOIL EROSION OR THE LOSS OF TOPSOIL. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Transportation projects and future land use development under the proposed 2026 RTP/SCS would include earthwork activities that expose soils to the effects of erosion or loss of topsoil. Once disturbed, either through removal of vegetation, asphalt, or demolition of a structure, stockpiled soils would be exposed to the effects of wind and water. The topography of the SJCOG region includes relatively wide expanses of fairly flat areas with soil conditions that exhibit minimal potential for erosion impacts. Varying topography exists within the foothills to the immediate southwest of the City of Tracy, however no proposed projects are southwest of Interstate 580 and South Corral Hollow Road, where the foothill region begins. Buildout under the proposed 2026 RTP/SCS would occur in conformance with Title 9 of the San Joaquin County Code of Ordinances for grading and erosion standards and guidelines for projects in unincorporated San Joaquin County. Each City has similar requirements to control grading and erosion impacts. These ordinances would require the appropriate measures to prevent erosion as a result of implementation of transportation and land use projects under the proposed 2026 RTP/SCS, further reducing impacts.

Buildout under the proposed 2026 RTP/SCS would comply with applicable policies and regulations related to grading, erosion, and drainage controls, including but not limited to those contained within relevant general plans, county codes, and municipal codes, as discussed in Section 4.8.2, *Regulatory Setting*. Adherence to applicable policies and regulations would require measures to reduce erosion resulting from implementation of transportation and land use projects under the proposed 2026 RTP/SCS, thus reducing erosion impacts.

In addition, the Construction General Permit would require a project specific Stormwater Pollution Prevention Plan (SWPP) to be prepared for each project that disturbs an area one acre or larger. The SWPPPs would include project specific best management practices (BMPs) designed to control drainage and erosion. Project BMPs to control erosion may include, but would not be limited to silt

fencing, fiber rolls, slope stabilization and sandbags. These BMPs would be required as part of each individual project permit and would minimize impacts related to soil erosion and loss of topsoil as a result of construction or grading. Projects that would disturb less than one acre would be subject to the CalGreen requirements related to stormwater drainage that have been designed to prevent or reduce discharges of sediments through BMPs that include on-site retention and filtration. In addition, CalGreen regulations (Cal. Code Regs. Title 24, Part 11) include mandatory measures for residential and nonresidential development. Section 5.106.1 requires newly constructed nonresidential projects and additions of less than one acre to reduce the pollution of storm water runoff through compliance with a local ordinance or implementing BMPs that address soil loss. Specific projects would be subject to future project-level environmental review and would be required to comply with all applicable policies and regulations, including those applied at a local level.

NPDES permits in California cover MS4 permittees statewide, including many smaller municipalities within San Joaquin County. The City of Stockton and unincorporated portions of the County are covered by separate Phase I MS4 permits. For jurisdictional projects, the Phase I and Phase II MS4 Permits require permittees to develop a stormwater management program and individual dischargers to develop and implement Stormwater Management Plans. The state Phase II MS4 Permit, as adopted by the SWRCB and Region 5 RWQCB, would apply to all projects envisioned by the proposed 2026 RTP/SCS that create or replace greater than 2,500 square feet of impervious surface.

For Caltrans projects, the Caltrans specific Stormwater Permit, as discussed Section 4.11.2, *Regulatory Setting,* of Section 4.11, *Hydrology and Water Quality*, regulates stormwater and non-stormwater discharges from Caltrans properties and facilities associated with operation and maintenance of the State highway system. Additionally, Caltrans developed a Statewide Stormwater Management Plan which describes the Caltrans stormwater management program and the minimum procedures and practices used to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. Projects on Caltrans facilities are required to follow the guidelines and procedures outlined in the latest Statewide Stormwater Management Plan and include BMPs in the project design to address stormwater runoff and thus erosion. Adherence to the applicable ordinance codes and other local, State, and regulatory programs, as discussed above, would ensure that project-specific erosion and topsoil loss would be minimized. Because such effects would not be substantial, impacts related to erosion and loss of topsoil would be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 3:	Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?
Threshold 4:	Would the project be located on expansive soil, creating substantial direct or indirect risks to life or property?

Impact GEO-3 IMPLEMENTATION OF TRANSPORTATION IMPROVEMENTS AND FUTURE PROJECTS INCLUDED IN THE LAND USE SCENARIO ENVISIONED IN THE PROPOSED 2026 RTP/SCS COULD BE LOCATED ON POTENTIALLY UNSTABLE SOILS, IN AREAS OF LATERAL SPREADING, SUBSIDENCE, OR HIGH LIQUEFACTION POTENTIAL, OR AREAS OF EXPANSIVE SOIL. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Implementation of proposed transportation improvements and future projects under the land use scenario envisioned by the proposed 2026 RTP/SCS could be prone to slope instability, liquefaction, and other soil-related hazards.

Ground failure, including liquefaction, lateral spreading, and subsidence, caused by an earthquake could occur in the SJCOG region depending on the underlying conditions including ground water level, relative size of soil particles, and density of subsurface materials within 50 feet of ground surface. Damage from earthquake-induced ground failure associated with liquefaction, lateral spreading, and subsidence could be high in buildings with foundations not properly constructed for such hazards. Ground failure associated with liquefaction would result in damage to transportation projects if not engineered appropriately.

Transportation projects exist near the Manteca-Lathrop area, as well as in the Delta area, where there is potential for landslides and liquefaction. Erosion and ground slumping of soils can also occur along the banks of rivers, such as the San Joaquin River. It is known subsidence occurs across the Delta and has caused a decrease in land elevation. Impacts related to these types of geological hazards are site specific and need to be evaluated on a project-by-project basis (San Joaquin County 2014).

New land use development and transportation projects constructed on expansive soils could be subject to damage or could become unstable when the underlying soil shrinks or swells. Soils with high clay content have the highest potential for shrink-swell. Within the SJCOG region, expansive soils are more common along the western boundary as well as its central portion, near Stockton, and some eastern portions. There are proposed 2026 RTP/SCS projects within areas of expansive soils (San Joaquin County 2014). However, expansive soils found on site can be remediated, as structures and foundations would be engineered to withstand the forces of expansive soil to ensure compliance with the CBC

The preparation of site-specific geotechnical studies prepared in accordance with requirements as set forth by the CBC, the Seismic Hazards Mapping Act, and standard industry practices would reduce impacts related to slope instability, liquefaction, soil expansion, and ground failure. Future projects under the proposed 2026 RTP/SCS would also be required to comply with local general plans and local building code requirements that contain seismic safety policies to resist ground failure through construction techniques, including structural design. Potential structural damage and the exposure of people to the risk of injury or death from structural failure would be minimized by compliance with California Building Code engineering design and construction measures. Foundations and other structural support features would be designed to resist or absorb damaging forces from expansive soils, liquefaction, or landslides. Land use and transportation projects included in the proposed 2026 RTP/SCS would be required to comply with the CBC, and local

building standards including the implementation of geotechnical practices such as ground treatments or replacing existing soils with engineered fill. Transportation projects that would involve the construction or improvements of bridge or overpass design would also be required to comply with Caltrans seismic design criteria which would reduce potential ground failure hazards. The proposed 2026 RTP/SCS would not have the potential to exacerbate risks related to ground failure.

Therefore, impacts related to ground failure hazards, including liquefaction, lateral spreading, subsidence, and expansive soils would be less than significant with compliance with the CBC, local general plans and building standards, and Caltrans design criteria for transportation projects, where applicable.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 5:	Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Impact GEO-4 THE PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS IN RURAL AREAS MAY HAVE SOILS INCAPABLE OF ADEQUATELY SUPPORTING SEPTIC TANKS OR ALTERNATIVE WASTEWATER DISPOSAL SYSTEMS. COMPLIANCE WITH EXISTING REGULATIONS WOULD MINIMIZE OR REDUCE IMPACTS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The proposed 2026 RTP/SCS does not include transportation projects that would require the use of septic tanks or alternative wastewater disposal systems. The expansion and/or improvement of streets, highways, transit facilities, airports and related transportation infrastructure would not include elements that would require wastewater treatment or otherwise necessitate the development of septic systems.

Most future land use development projects implementing the proposed 2026 RTP/SCS land use would connect to centralized wastewater infrastructure. New septic systems would be required primarily in rural areas in the SJCOG region, where centralized wastewater infrastructure is not currently available. Septic tanks and alternative wastewater disposal systems would be required to comply with AB 885, applicable County or City regulations, and other local regulatory requirements that ensure soils would adequately support these systems. Relevant regulatory requirements applicable to the SJCOG region include requirements from the San Joaquin County Environmental Health Department and San Joaquin County Municipal Code Title 5, Division 3, Chapter 1, Section 5-3004: Septic Tanks. Compliance with applicable regulations and design guidelines, as described above, would ensure appropriate siting and design of existing and potential future septic systems, minimizing the risk of siting septic systems where existing conditions, soil or otherwise, are inadequate to support system operation. Therefore, impacts related to having soils incapable of adequately supporting the use of septic tanks and alternative wastewater disposal systems would be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 6:	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact GEO-5 IMPLEMENTATION OF THE PROPOSED TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS COULD CAUSE A SUBSTANTIAL ADVERSE CHANGE IN OR DISTURB KNOWN AND UNKNOWN PALEONTOLOGICAL RESOURCES AS DEFINED IN *CEQA GUIDELINES* SECTION 15064.5. IMPACTS TO PALEONTOLOGICAL RESOURCES WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Paleontological resources are present throughout the SJCOG region. Therefore, it is possible to encounter known and unknown paleontological resources as a result of implementation of transportation improvement projects pursuant to the proposed 2026 RTP/SCS. Paleontological resources are by nature specific to their local context, and as such, impacts on these resources would occur at the local level. Projects involving excavation, grading, or soil removal in previously undisturbed areas have the greatest likelihood to encounter these resources.

The *CEQA Guidelines* provide no definition to the term "unique geologic feature." This phrase also has no common definition. However, a geologic unit for this document is considered unique if it is a stratotype, contributes to scientific research, or is exclusive to the region.

Many of the land use and transportation projects proposed under the proposed 2026 RTP/SCS consist of minor expansions of existing facilities that would not involve construction in previously undisturbed areas. However, depending on the location and extent of the proposed improvement and ground disturbance, paleontological resources or unique geologic features could be impacted. There are mapped areas with a higher occurrence of paleontological features, but it should be noted that any project overlying a geologic unit with high paleontological sensitivity could result in impacts, regardless of location relative to existing development. It is also possible that construction activities associated with some of the proposed roadway or bridge widening or extension projects could adversely impact paleontological resources or unique geologic features by exposing them to potential vandalism or causing displacement from the original context and integrity. Project-specific analysis would be required as individual projects are proposed.

In addition, the proposed 2026 RTP/SCS contains a future land use scenario that emphasizes infill near transit and within existing urbanized areas, but with development still allowed in more suburban and rural areas. But it is possible that paleontological resources or unique geologic features could be located on or near future infill sites or other development sites. Project grading and excavation for land development may disturb these known or undiscovered resources. Impacts to paleontological resources or unique geologic features would therefore be potentially significant. The following mitigation measures would reduce this impact.

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 2026 RTP/SCS program where applicable for transportation projects that would result in impacts to paleontological resources and where feasible and necessary based on project and site-specific considerations. Cities and the County can and should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site specific conditions.

GEO-5 Paleontological Resources Impact Minimization

The implementing agency of a proposed 2026 RTP/SCS project involving ground disturbing activities (including grading, trenching, foundation work and other excavations) shall, or can and should, retain a qualified paleontologist, defined as a paleontologist who meets the Society of Vertebrate Paleontology (SVP) standards for Qualified Professional Paleontologist (SVP 2010), to conduct a Paleontological Resources Assessment (PRA). The PRA shall determine the age and paleontological sensitivity of geologic formations underlying the proposed disturbance area consistent with SVP Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (SVP 2010) guidelines for categorizing paleontological sensitivity of geologic units within a project area. If underlying formations are found to have a high potential (sensitivity) for paleontological resources and/or could be considered a unique geologic feature, the following measures shall apply:

Projects shall avoid routes and project designs that would permanently alter unique paleontological and geological features. If avoidance practices cannot be implemented, the following measures shall apply.

- **Retention of a Qualified Paleontologist.** A Qualified Paleontologist who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for at least two years (SVP 2010) shall be retained to create a Paleontological Resources Monitoring and Mitigation Program (PRMMP) to direct all mitigation measures related to paleontological resources.
- **Paleontological Worker Environmental Awareness Program (WEAP).** Prior to the start of ground disturbance activity, construction personnel shall be informed on the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.
- **Paleontological Monitoring.** Ground disturbing activity with the potential to disturb geologic units with high paleontological sensitivity, as determined by initial paleontological surveying or records search as deemed appropriate, shall be monitored on a full-time basis by a qualified paleontological monitor. Should no fossils be observed during the first 50 percent of such excavations, paleontological monitoring could be reduced, under the discretion of the qualified paleontologist, to weekly spot-checking. Monitoring shall be conducted by a qualified paleontological monitor, defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor. If it is determined that the fossil(s) is (are) scientifically significant, the Qualified Paleontologist shall complete the following conditions to mitigate impacts to significant fossil resources:
    - **Fossil Salvage**. If fossils are discovered, the implementing agency shall be notified immediately, and the qualified paleontologist (or paleontological monitor) shall recover them. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case, the paleontologist should have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner.

- **Preparation and Curation of Recovered Fossils**. Once salvaged, fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps.
- **Final Paleontological Mitigation and Monitoring Report**. Upon completion of ground disturbing activity (and curation of fossils, if necessary) the Qualified Paleontologist shall prepare a final mitigation and monitoring report outlining the results of the PRMMP. The report shall include discussion of the location, duration and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated. The report shall be submitted to the sponsor agency. If the monitoring efforts recovered fossils, then a copy of the report shall also be submitted to the designated museum repository.

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 the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate

Significance After Mitigation

Implementation of the above mitigation measure would reduce impacts to paleontological resources by requiring a Paleontological Resources Assessment for any projects under the proposed 2026 RTP/SCS that may impact sensitive paleontological resources. While implementation of Mitigation Measure GEO-5 would reduce impacts to the extent feasible, some project-specific impacts may be unavoidable. Therefore, this impact is significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

4.8.4 Cumulative Impacts

The cumulative impact analysis area for geology and soils consists of the SJCOG region and adjoining counties. Information regarding these adjoining counties can be found in Chapter 3, *Environmental Setting*. Future development in this region that could impact geology and soils is considered in the analysis. This cumulative extent is used to evaluate potential direct and indirect, permanent and temporary impacts to increased exposure to seismic hazards, increased erosion and/or loss of topsoil, the presence of unstable or expansive soils, and the presence of paleontological resource or unique geologic features within the context of the cumulative impact analysis area.

Geology and soils impacts may be related to increased exposure to seismic hazards, increased erosion and/or loss of topsoil, the presence of unstable/expansive soils and alternative waste disposal or septic systems. Individual projects and developments in the cumulative impacts analysis area would be subject to geologic hazards based on site-specific conditions and project design. These effects occur independently of one another and are caused by site specific and project specific characteristics and conditions. In addition, existing regulations, such as the California Building Code, specify mandatory actions that must occur during project development, which would minimize effects from construction and operation of projects related to geology, soils, and seismicity as discussed above. Cumulative impacts related to geology, soils and seismicity would therefore be less than significant.

While projects envisioned under the proposed 2026 RTP/SCS may be subject to seismic hazards, including ground-shaking, landslides, liquefaction, and subsidence, compliance with applicable requirements would reduce impacts. Future development envisioned under the proposed 2026 RTP/SCS would be required to comply with the California Building Code, Seismic Hazards Mapping Act, Alquist Priolo Act, and local building codes, general plan goals and policies. Furthermore, geology and soils impacts are site specific by nature and would not result in cumulative impacts to the surrounding area. The proposed 2026 RTP/SCS would not have a cumulatively considerable contribution to significant cumulative impacts related to geology, soils and seismicity.

Development and construction in the cumulative impacts analysis area would require excavation and ground disturbance. Excavation and ground disturbance could encounter and damage or destroy subsurface paleontological resources, depending on underlying geologic units and soils. While most paleontological resources are typically site specific, with impacts that are project specific, others may have regional significance. For example, fossils may capture a particular type of organism that was endemic to a region and therefore have regional significance. Due to the potential for a fossil of regional significance to be uncovered during excavation and ground disturbing activities of projects in the cumulative impact analysis area, cumulative impacts would be significant.

The proposed 2026 RTP/SCS could cause a substantial adverse change in or disturb known and unknown paleontological resources and would therefore result in a cumulatively considerable contribution to the significant impact. Mitigation measures outlined above, would reduce paleontological resource impacts associated with proposed 2026 RTP/SCS projects. However, as discussed in Impact GEO-5, it cannot be guaranteed that all future project-level impacts can be mitigated to a less than significant level. As such, the proposed 2026 RTP/SCS contribution to cumulative impacts to paleontological resources would be cumulatively considerable.

4.9 Greenhouse Gas Emissions and Climate Change

This section evaluates impacts related to greenhouse gas (GHG) emissions and climate change facilitated by the proposed 2026 RTP/SCS. Air quality impacts are discussed in Section 4.2, *Air Quality.*

4.9.1 Setting

a. Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey other changes in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate changes continuously, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed substantial acceleration in the rate of warming during the past 150 years (Intergovernmental Panel on Climate Change [IPCC] 2021). The understanding of anthropogenic warming and cooling influences on climate has led to an unequivocal understanding that human activities have been the dominant cause of warming since the mid-nineteenth century (IPCC 2021).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). GHGs that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are primarily determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2, CH_4, and N_2O are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. N_2O is produced by microbial processes in soil and water, including those reactions that occur in fertilizers that contain nitrogen, fossil fuel combustion, and other chemical processes. Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6.

Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2e) and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 28, meaning its warming effect is 28 times greater than carbon dioxide on a molecule-per-molecule basis (IPCC 2014). N_2O has a GWP of 265 (IPCC 2014).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effect of GHGs, the earth's surface would be about 33 degrees Celsius (°C) cooler (World Meteorological Organization 2021). However, since 1750, estimated concentrations of CO_2, CH_4, and N_2O in the atmosphere have increased by 47 percent, 156 percent, and 23 percent, respectively, primarily due to human activity (IPCC 2021). GHG emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally.

b. Greenhouse Gas Emissions Inventories

United States Emissions Inventory

Total U.S. GHG emissions were 6,343 MMT of CO_2e in 2022. Emissions increased in 2022 by 1 percent (after accounting for sequestration from the land sector) compared to the previous year. The increase in total greenhouse gas emissions was driven largely by an increase in CO_2 emissions from fossil fuel combustion. In 2022, CO_2 emissions from fossil fuel combustion increased by 1 percent relative to the previous year. This increase in fossil fuel consumption emissions was from increased energy use, due in part to the continued rebound in economic activity after the height of the COVID-19 pandemic. GHG emissions in 2022 (after accounting for sequestration from the land sector) were 17 percent below 2005 levels. In 2022, the industrial and transportation end-use sectors accounted for 23 percent and 28 percent, respectively, of nationwide GHG emissions while the commercial and residential end-use sectors accounted for 13 percent of nationwide GHG emissions (U.S. Environmental Protection Agency [USEPA] 2025).

California Emissions Inventory

Based on the California Air Resources Board (CARB) California GHG Inventory for 2000-2023, California produced 360.4 million metric tons of CO_2e in 2023 (CARB 2025a). The largest single source of GHG in California is transportation, contributing 37.1 percent of the State's total GHG emissions. In the transportation sector, passenger vehicles are the main contributor with 28.3 percent of emissions generated by these vehicles. Heavy-duty vehicles account for approximately 6.4 percent and the remaining two percent is from other sources of transportation (e.g., aviation, ships, and rail). Industrial sources are the second-largest source of the state's GHG emissions, contributing 18.6 percent of the State's GHG emissions (CARB 2025a). Emissions from this sector are primarily produced from refineries, oil and gas extraction, cement plans, and general fuel use. The electric power sector contributed 15.9 percent of the State's GHG emissions, with emissions from in-state power generation and imported electricity being the primary sources. Residential and commercial fuel combustion (e.g., natural gas and other fuels for space heating, cooking, and hot water or steam generation) account for 12 percent of the State's GHG emissions. The agriculture sector contributes 8.1 percent of the State's GHG emissions, with the major emissions sources being enteric fermentation and manure management from livestock, crop production, and fuel combustion for agriculture activities. The remaining 8 percent is due high GWP gases (5.8 percent) and waste (2.4 percent). High GWP gases include ozone depleting substance substitutes, SF_6 emissions from electricity transmission and distribution, and gases emitted by the semiconductor manufacturing process. Waste sources include landfills and commercial-scale composting.

c. Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past four decades has been warmer than all the previous decades in the instrumental record and the decade from 2011 through 2020 has been the warmest. The observed global mean surface temperature (GMST) for the decade from 2011 to 2020 was approximately 1.09°C (0.95°C to 1.20°C) higher than the average GMST over the period from 1850 to 1900. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, the latest IPCC report states that "human-induced climate change is already affecting many weather and climate extremes in every region across the globe" (IPCC 2021). These climate change impacts include climate change sea level rise, increased weather extremes, and substantial ice loss in the Arctic over the past three decades.

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 0.6 to 1.1°C higher than those recorded from 1901 to 1960. Impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, more frequent large forest fires, and more drought years (State of California 2018). In addition to statewide projections, *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state and regionally specific climate change case studies (State of California 2018). However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. A summary follows of some of the potential effects that could be experienced in California and the SJCOG region as a result of climate change.

Public Health

Climate change is expected to cause a number of impacts which could negatively affect public health in the SJCOG region. As temperatures increase, the Central Valley is set to experience an increased number of extreme heat days, which may lead to increases in the number of heat-related deaths and illnesses (State of California 2018). An increase in the frequency and severity of wildfires may contribute to worsening air quality and cause additional illnesses such as asthma. Higher temperatures could also lead to increased air pollution formation and potentially accelerate the spread of certain diseases and pests. These adverse impacts may also disproportionately burden vulnerable populations.

Air Quality

Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C in the next 50 years and by 3.1 to 4.9°C in the next century (State of California 2018). Higher temperatures are conducive to air pollution formation, and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the State has increased, and wildfires have occurred at higher elevations in

the Sierra Nevada Mountains (State of California 2018). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the State.

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the West, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common (California Department of Water Resources 2018). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand are not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meters along the central and southern California coasts (State of California 2018).

The Sierra snowpack provides the majority of California's water supply as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack (State of California 2018). Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (State of California 2018).

Agriculture

California has a roughly $60 billion annual agricultural industry that produces nearly half of the country's vegetables and over three quarters of the country's fruits and nuts (California Department of Food and Agriculture 2025). Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks (State of California 2018). Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

Ecosystems and Wildlife

Climate change and the potential resultant changes in weather patterns could have ecological effects at the global and local scale. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; State of California 2018).

4.9.2 Regulatory Setting

The following regulations address both climate change and GHG emissions.

a. Federal Laws, Regulations, and Policies

There is no overarching federal law specifically related to climate change or the reduction of GHG emissions. Additionally, in March 2025, the current administration announced that the U.S. Environmental Protection Agency (USEPA) will undertake 31 actions, focusing primarily on reconsidering actions adopted by previous administrations, including numerous actions and regulations related to climate change and the reduction of GHG emissions (USEPA 2025d). These include, but are not limited to, reconsideration of regulations on power plants, the Mandatory Reporting Rule, the Endangerment Finding, and fuel economy standards, among others.

On February 12, 2026, USEPA finalized a rule rescinding the 2009 GHG Endangerment Finding and repealing all GHG emission standards for light-duty, medium-duty, and heavy-duty vehicles and engines under CAA Section 202(a); the rule was published in the Federal Register on February 18, 2026, and became effective on April 20, 2026 (USEPA 2025e). This action removes federal GHG emission standards for on-road vehicles and engines and associated regulatory provisions (including those in 40 CFR Part 600), while not affecting requirements related to criteria pollutants, Corporate Average Fuel Economy (CAFE) standards, or fuel economy labeling, and is currently subject to ongoing legal challenges that may influence its implementation.

Federal Fuel Economy and Emissions Standards

Corporate Average Fuel Economy Standards

The Energy Policy and Conservation Act of 1975 established CAFE standards, which are federal regulations administered by the National Highway Traffic Safety Administration that set fuel economy requirements for new passenger cars and light trucks sold in the United States. In 2024, National Highway Traffic Safety Administration finalized CAFE standards for model years 2027 through 2031, which are projected to achieve an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks.

On February 12, 2026, USEPA rescinded the 2009 GHG Endangerment Finding and repealing all GHG emission standards for light-duty, medium-duty, and heavy-duty vehicles and engines under CAA Section 202(a); the rule was published on February 18, 2026, and became effective on April 20, 2026 (USEPA 2025e). This action removes federal GHG-related regulatory provisions, including those in 40 CFR part 600, while leaving CAFE standards and fuel economy labeling requirements administered by National Highway Traffic Safety Administration unaffected; however, the rule is subject to ongoing legal challenges that may influence its implementation.

Federal Motor Vehicle GHG Emissions Standards

The federal motor vehicle GHG emission standards were adopted by USEPA under Section 202(a) of the CAA following the 2009 Endangerment Finding, which determined that GHG emissions from motor vehicles contribute to air pollution that may endanger public health and welfare.

As mentioned above, on February 12, 2026, USEPA rescinded the 2009 Endangerment Finding and repealing all federal GHG emission standards for light-, medium-, and heavy-duty vehicles and engines; the rule was published in the Federal Register on February 18, 2026, and became effective on April 20, 2026 (USEPA 2025e). This action removes the federal regulatory basis for GHG emission

standards under CAA Section 202(a) and eliminates associated compliance obligations for manufacturers, although the rule is currently subject to ongoing legal challenges that may affect its implementation.

Accordingly, federal motor vehicle GHG emission standards are no longer in effect as of the rule's effective date; however, regulatory conditions may continue to evolve pending the outcome of litigation and related federal actions.

Executive Order 14260

Issued on April 8, 2025, Executive Order 14260 challenges state-level climate and energy regulations that are deemed to exceed constitutional authority. It directs the Attorney General to identify and pursue legal action against state laws that impose retroactive fines, carbon caps, or other climate-related claims. The order specifically targets policies in states such as California, New York, and Vermont that regulate emissions or energy infrastructure in ways that may affect interstate commerce. It asserts federal primacy over energy regulation and seeks to prevent states from influencing national energy policy through environmental justice or environmental, social, and governance frameworks.

b. State Laws, Regulations, and Policies

CARB is responsible for the coordination and oversight of state and regional GHG emissions reduction programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

Executive Order S-3-05

Executive Order S-3-05, among other things, established the following GHG emission reduction goals for California: reduction to 2000 levels by 2010; to 1990 levels by 2020; and to 80 percent below 1990 levels by 2050.

Assembly Bill 1493 and Advanced Clean Cars

Assembly Bill (AB) 1493 (Chapter 200, Statutes of 2002), known as the "Pavley bill," amended Health and Safety Code Sections 42823 and 43018.5 requiring CARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks and other vehicles used for noncommercial personal transportation in California.

Implementation of new regulations prescribed by AB 1493 required that the State of California apply for a waiver under the federal Clean Air Act. Although USEPA initially denied the waiver in 2008, USEPA approved a waiver in June 2009, and in September 2009, CARB approved amendments to its initially adopted regulations to apply the Pavley standards that reduce GHG emissions to new passenger vehicles in model years 2009 through 2016. In 2012, CARB approved the Low-Emission Vehicle III GHG regulation, which requires further reductions in passenger GHG for 2017 and subsequent vehicle model years. According to CARB, implementation of the Pavley regulations is expected to reduce fuel consumption while also reducing GHG emissions.

In 2022, CARB approved the Advanced Clean Cars II rule regulating model years from 2026 to 2035. The rule establishes a year-by-year roadmap so that by 2035, 100 percent of new cars and light trucks sold in California would be zero-emission vehicles, including plug-in hybrid electric vehicles. The regulation realizes and codifies the light-duty vehicle goals set out in Governor Newsom's Executive Order N-79-20. By 2040, CARB anticipates that the rule would reduce GHG emissions from

light-duty vehicles by 50 percent for a cumulative total of 395 MMT CO2e from 2026 through 2040. USEPA granted CARB its California's Clean Air Act waiver request or the Advanced Clean Cars rule on December 18, 2024. However, Public Law 119-16 enacted on June 12, 2025, disapproves of this regulation under the Congressional Review Act, retroactively revoking the state's waiver issued by USEPA under the Clean Air Act to implement the Advanced Clean Cars II rule. The implications of this law on the State's capability to enforce its ACC II rule are uncertain at this time, as the California Attorney filed a lawsuit challenging P.L. No. 119-16 on June 12, 2025. Whether this action will be successful is unknown, as is the possibility that a federal judge will issue a stay to halt the implementation of the ACC II rule during the legal process.

Advanced Clean Trucks and Low-NOx Regulation

The Advanced Clean Trucks rule is a CARB regulation that requires medium and heavy-duty truck manufacturers to gradually increase the percentage of zero-emission vehicles (ZEVs) they sell in the state. Effective in March 2021, the rule mandates that by 2035, 55 percent of Class 2b-3 truck sales, 75 percent of Class 4-8 straight truck sales, and 40 percent of truck tractor sales must be ZEVs. The goal is to accelerate the transition to zero-emission trucks. USEPA granted the waiver request under the CAA to enact the more stringent fuel economy components of the ACT regulation on April 6, 2023. However, Public Law 119-15 enacted on June 12, 2025, disapproves of this regulation under the Congressional Review Act, retroactively revoking the state's waiver issued by USEPA under the Clean Air Act to implement the Advanced Clean Trucks regulation.

The Heavy-Duty Low-NO_x Omnibus Regulation was adopted by CARB in 2021 (effective December 22, 2021; amended in May 2024), and mandates steep reductions in NO_x and PM emissions from new medium- and heavy-duty diesel and Otto-cycle engines starting with model year 2024. By full rollout, the regulation is projected to eliminate approximately 17–23 tons/day of NO_x by 2031. However, Public Law 119-17 enacted on June 12, 2025, disapproves of this regulation under the Congressional Review Act, retroactively revoking the state's waiver issued by USEPA under the Clean Air Act to implement the low-NO_x regulation.

The implications of these laws on the State's capability to enforce its ACT and Low NOx rules are uncertain at this time, as the California Attorney filed a lawsuit challenging P.L. Nos. 119-15 and 17 on June 12, 2025. Whether this action will be successful is unknown, as is the possibility that a federal judge will issue a stay to halt the implementation of the ACT and Low NOx rules during the legal process.

Advanced Clean Fleets

CARB adopted the Advanced Clean Fleets (ACF) Regulation in 2023, which included updated requirements for drayage trucks operating at seaports and intermodal railyards. Beginning January 1, 2024, only zero-emission drayage trucks can be newly registered in CARB's Truck Regulation Upload, Compliance, and Reporting System. Existing legacy trucks must meet annual operational and useful life requirements to remain in service, with non-compliant vehicles removed from the registry starting in 2025. By 2035, all drayage trucks operating in California must be zero-emission, supporting statewide goals to reduce diesel particulate matter, NOx, and greenhouse gas emissions, particularly in communities disproportionately impacted by freight-related pollution.

On January 23, 2025, CARB withdrew its request for a Clean Air act waiver for the ACF Regulation. CARB is not enforcing the federal and private fleets portions of the ACF that require a Clean Air Act waiver but is enforcing portions of the ACF Regulation that do not require a Clean Air Act waiver, such as the state and local government fleets portion.

Assembly Bill 1007

AB 1007 (Chapter 371, Statutes of 2005) required the California Energy Commission to prepare a State plan to increase the use of alternative fuels in California. The California Energy Commission prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other State, federal and local agencies (DOE 2007). The State Alternative Fuels Plan presents strategies and actions California must take to increase the use of alternative non- petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Assembly Bill 32

The California Global Warming Solutions Act of 2006, AB 32, outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 MMT CO2e, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Scoping Plan's approval.

CARB approved the 2013 Scoping Plan update in May 2014 (CARB 2014). The update defined the CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the state's longer term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

Senate Bill 32

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006, by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100 (discussed later). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six MT CO2e by 2030 and two MT CO2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county,

sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state (CARB 2017).

Assembly Bill 1279

AB 1279, the California Climate Crisis Act, was passed on September 16, 2022, and declares the State would achieve net zero GHG emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. In addition, the bill states that the State would reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045.

In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, CARB published the Final 2022 Climate Change Scoping Plan in November 2022 (CARB 2022). The 2022 Scoping Plan builds upon the framework established by the 2008 Climate Change Scoping Plan and previous updates while identifying new, technologically feasible, cost-effective, and equity focused path to achieve California's climate target. The 2022 Scoping Plan includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

The 2022 Scoping Plan assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan, addresses recent legislation and direction from Governor Gavin Newsom, extends and expands upon these earlier plans, and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work. As stated in the 2022 Scoping Plan, "The plan outlines how carbon neutrality can be achieved by taking bold steps to reduce GHGs to meet the anthropogenic emissions target and by expanding actions to capture and store carbon through the state's natural and working lands and using a variety of mechanical approaches" (CARB 2022). Specifically, the 2022 Update:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045, and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as driving principles throughout the document.
- Incorporates the contribution of natural and working lands to the State's GHG emissions, as well as their role in achieving carbon neutrality.
- Relies on the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits of taking action.
- Identifies key implementation actions to ensure success.

In addition to reducing emissions from transportation, energy, and industrial sectors, the 2022 Scoping Plan includes emissions and carbon sequestration in natural and working lands and explores how natural and working lands contribute to long-term climate goals. Under the Scoping Plan Scenario, California's 2030 emissions are anticipated to be 48 percent below 1990 levels, representing an acceleration of the current SB 32 target. Cap-and-Trade regulation continues to play a large factor in the reduction of near-term emissions for meeting the accelerated 2030 reduction target. Every sector of the economy will need to begin to transition in this decade to meet the GHG emissions reduction goals and achieve carbon neutrality no later than 2045. The 2022 Scoping Plan approaches decarbonization from two perspectives, managing a phasedown of existing energy sources and technologies, as well as increasing, developing, and deploying alternative clean energy sources and technology.

Executive Order B-55-18

On September 10, 2018, the governor issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets. The 2022 Scoping Plan Update assesses progress towards achieving the SB 32 target and lays out a path to achieve carbon neutrality. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

Executive Order S-01-07

Executive Order S-01-07 (17 CCR 95480 et seq.) required the state to achieve a 10 percent or greater reduction by 2020 in the average fuel carbon intensity for transportation fuels in California regulated by CARB. CARB identified the Low Carbon Fuel Standard as a discrete early action item under AB 32. The 2020 target was achieved in 2016.

In 2018, CARB approved amendments to the Low Carbon Fuel Standard regulation (CARB 2018), which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

Executive Order B-16-12

Executive Order B-16-12 orders State entities under the direction of the Governor including CARB, the Energy Commission, and the California Public Utilities Commission to support the rapid commercialization of zero emission vehicles (ZEVs). It directs these entities to achieve various benchmarks related to zero emission vehicles, including:

- Infrastructure to support up to one million zero emission vehicles by 2020,
- Widespread use of zero emission vehicles for public transportation and freight transport by 2020,
- Over 1.5 million zero emission vehicles on California roads by 2025,
- Annual displacement of at least 1.5 billion gallons of petroleum fuels by 2025, and
- A reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050.

Executive Order N-19-19

Executive Order N-19-19 was signed on September 20, 2019, and is intended to require the redoubling of the state's efforts to reduce GHG emissions and mitigate the impacts of climate change while building a sustainable, inclusive economy. The Executive Order includes four main directives which include investment, transportation, state buildings and operations, and zero emissions vehicles.

Advanced Clean Fleets

CARB adopted the Advanced Clean Fleets (ACF) Regulation in 2023, which included updated requirements for drayage trucks operating at seaports and intermodal railyards. Beginning January 1, 2024, only zero-emission drayage trucks can be newly registered in CARB's Truck Regulation Upload, Compliance, and Reporting System. Existing legacy trucks must meet annual operational and useful life requirements to remain in service, with non-compliant vehicles removed from the registry starting in 2025. By 2035, all drayage trucks operating in California must be zero-emission, supporting statewide goals to reduce diesel particulate matter, NOx, and greenhouse gas emissions, particularly in communities disproportionately impacted by freight-related pollution.

On January 23, 2025, CARB withdrew its request for a Clean Air act waiver for the ACF Regulation. CARB is not enforcing the federal and private fleets portions of the ACF that require a Clean Air Act waiver but is enforcing portions of the ACF Regulation that do not require a Clean Air Act waiver, such as the state and local government fleets portion.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard Program. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 50 percent by 2026, 60 percent by 2030, and 100 percent by 2045.

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state's ability to achieve significant GHG reductions from changes to land use patterns and improved transportation networks. SB 375 directs CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. Metropolitan Planning Organizations are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the Metropolitan Planning Organization's Regional Transportation Plan (RTP). On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. SJCOG's updated reduction target is 16 percent per capita GHG emissions reduction from 2005 levels by 2035.

SJCOG's previous (2022) RTP/SCS reduced per capita GHG emissions to meet the target set by CARB of 16 percent reduction from 2005 levels by 2035. This target applies to the entire SJCOG region for all on-road light duty trucks and passenger vehicles emissions, and not to individual cities or sub-regions. SJCOG, through the proposed 2026 RTP/SCS, must continue to meet the 2035 target. SB 375 specifically states that nothing in the law changes local governments' local land use authorities.

The proposed 2026 RTP/SCS provides a regional policy foundation that local governments may build upon if they so choose. The proposed 2026 RTP/SCS includes and accommodates the growth

projections for the region. SB 375 also requires that forecasted development patterns for the region be consistent with the eight-year regional housing needs as allocated to member jurisdictions through the Regional Housing Needs Allocation process under State housing law.

In addition, this EIR lays the groundwork for the streamlined environmental review of qualifying development projects. Qualifying projects that meet statutory criteria and are consistent with the proposed 2026 RTP/SCS are eligible for streamlined environmental review pursuant to CEQA under SB 375 and other laws.

Assembly Bill 197

AB 197 of 2016 (Chapter 250, Statutes of 2016) expands CARB membership to include two nonvoting members from the Legislature; creates a Joint Legislative Committee on Climate Change Policies to make recommendations to the Legislature concerning climate change policies; provides for annual reporting of GHG emissions from sectors covered by the AB 32 Scoping Plan as well as evaluations of regulatory requirements and other programs that may affect GHG emissions trends; and specifies that the adoption of GHG emissions reduction rules and regulations shall consider the social costs. In addition, Scoping Plan updates are required to identify the range of potential GHG emissions reductions and the cost-effectiveness for each emissions reduction measure, compliance mechanism and incentive.

Executive Order N-79-20

Executive Order N-79-20 established a Statewide goal that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035 and a further goal of the State that 100 percent of medium- and heavy-duty vehicles in the State be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks.

Executive Order N-82-20

Executive Order N-82-20 established a goal of conserving at least 30 percent of California's lands and coastal waters by 2030 and directed state agencies to create a Natural and Working Lands Climate Smart Strategy to advance the State's carbon neutrality goal and builds climate resilience.

Senate Bill 1383

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with CARB, to adopt regulations that achieve:

- 50-percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020; and
- 75-percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2025.

The bill also mandates various state and local agencies develop further strategies to reduce emissions generated by specific industries such as agriculture. The stated goal is to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels

- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

California Building Energy Efficiency Standards

The California Code of Regulations Title 24 is referred to as the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy efficiency standards for residential and non-residential buildings to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

Future land use projects would be subject to the 2025 California Building Energy Efficiency Standards, codified in Title 24, Part 6 of the California Code of Regulations, which take effect on January 1, 2026. These standards are designed to reduce energy consumption in residential and non-residential buildings, support California's climate goals, and improve indoor environmental quality.

Key updates to the 2025 standards include expanded requirements for heat pump technologies, electric readiness for future electrification, enhanced ventilation and indoor air quality measures, and battery storage system readiness for homes with larger electrical service capacities. These measures are expected to reduce building energy demand, lower greenhouse gas emissions, and support integration of distributed energy resources.

AB 130 of 2025 imposes a moratorium on changes to California building codes affecting residential units, including both state and local amendments, through 2031, with limited exemptions. Essentially, AB 306 would prohibit CEC or any other adopting agency from considering, approving, or adopting any proposed building standards affecting residential units, unless a certain condition is met, including that the CEC deems those changes necessary as emergency standards to protect health and safety. The 2025 Energy Code became effective on January 1, 2026, and the 2031 Energy Code cycle is anticipated to be unaffected.

California Green Building Standards Code

The 2026 California Green Building Standards Code (CALGreen), codified in Title 24, Part 11 of the California Code of Regulations, and effective in 2025, establishes mandatory minimum environmental performance standards for newly constructed residential and non-residential buildings statewide. These standards are enforced by local jurisdictions and address key sustainability areas including energy efficiency, water conservation, material resource efficiency, and indoor environmental quality.

CALGreen also includes voluntary tiers (Appendices A4 and A5) that provide enhanced environmental performance options. These voluntary measures are intended as model provisions for jurisdictions considering above-code ordinances (also known as "reach codes") or for builders seeking additional compliance flexibility under the California Energy Code.

California State Transportation Agency Climate Action Plan for Transportation Infrastructure

The Climate Action Plan for Transportation Infrastructure (CAPTI) was adopted in July 2021 (CalSTA 2025). CAPTI 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. CAPTI 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.

Throughout 2024, the California State Transportation Agency engaged with public stakeholders to develop new strategies which informed an updated CAPTI 2.0, adopted in January 2025 as an update to the original CAPTI (CalSTA 2025). CAPTI 2.0 builds on the original plan and introduces four new strategies, which include the following:

- S1. Transforming the Future of the State Highway System
- S2. Reducing GHG Impacts of Transportation Investments
- S3. Delivering Equitable Outcomes
- S4. Improving Transparency and Accountability

Each strategy includes specific actions, for a total of 14 new actions necessary for further implementation of the CAPTI framework to align transportation infrastructure investments with California's climate goals. Such changes would help advance a slate of projects that meet climate goals, ensure that these projects are prioritized for state funding, and promote project construction and operations that minimize emissions and impacts from climate change (CalSTA 2025).

c. Local Laws, Regulations, and Policies

Four of SJCOG's member jurisdictions have climate action plans (CAPs) that set goals and targets for the reduction of GHG emissions and outline policies to help achieve those goals. The cities of, Lodi, Manteca Stockton, and Tracy have conducted baseline emissions inventories, which establish a reference point for GHG emissions reduction. The City of Stockton CAP (2026), City of Tracy CAP (2011), City of Lodi CAP (2014), and City of Manteca CAP (2025) also establish GHG reduction targets and reduction measures to meet those targets. To date, no other jurisdictions in the SJCOG region have adopted CAPs. Baseline and projected business-as-usual GHG emissions from the respective CAPs and jurisdictions are shown in Table 4.9-1 below. The inventories and projections below include emissions produced by transportation, electricity and natural gas consumptions, water supply and conveyance, wastewater treatment, agriculture, and solid waste disposal.

Table 4.9-1 GHG Emissions Inventories for SJCOG Member Jurisdictions

	Baseline		Projected Business-as-Usual	
Jurisdiction	Year	Emissions (MT of CO_2e/year)	Year	Emissions (MT of CO_2e/year)
Stockton[1]	2022	5,146,263	2045	3,491,186
Tracy	2006	1,338,872	2020	1,735,022
Lodi	2008	486,628	2030	852,575
Manteca	2020	723,937	2045	1,118,167

[1]The scope of the City of Stockton CAP emissions inventory includes the Stockton Metropolitan Statistical Area, which includes San Joaquin County and all incorporated cities within the county.

Sources: City of Stockton 2026; City of Tracy 2011; City of Lodi 2014; City of Manteca 2025

The types and quantity of emissions produced in the SJCOG region vary among jurisdictional boundaries. However, for most jurisdictions, transportation and energy consumption are responsible for the majority of GHG emissions. To address these emissions, policies included in local CAPs in the region establish a framework for improved circulation networks and energy conservation. Transportation policies aim to reduce vehicle miles traveled (VMT) by offering more opportunities for alternative transportation modes, such as bicycling and transit use. In addition, many of the CAPs include policies to promote transit-oriented development. To reduce emissions produced by energy usage, jurisdictions have established policies that will facilitate and encourage energy efficiency for both residential and commercial land uses along with programs to improve energy efficiencies in old and new buildings and decrease the use of fossil fuels by providing incentives for use of renewable energy.

In addition to CAPs, San Joaquin County and cities have included in their general plans policies for reducing overall energy consumption, improving energy efficiency, and promoting renewable energy. These are reviewed in Section 4.6, *Energy*.

4.9.3 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

Mobile Source Emissions Modeling

GHG emissions from on-road mobile sources were calculated using the emission factors, fleet mix, and vehicle trip and population estimates from CARB's EMFAC2021 model and regional VMT from SJCOG's Regional Travel Demand Model (as further described in Section 4.14, *Transportation*), shown in Table 4.9-2. EMFAC2021 reflects CARB's most current assumptions regarding vehicle regulations and fleet turnover. Following guidance from CARB, adjustments were made to emission factors to account for emissions impacts from recent federal actions affecting California motor vehicle standards— including Advanced Clean Cars II, Advanced Clean Trucks (ACT), Zero-Emission Airport Shuttle requirements, Heavy-Duty Vehicle and Engine Warranty and Maintenance Provisions (Warranty Phase 1), and the Heavy-Duty Omnibus regulation (EMFAC 2021 v. 1.0.2). Although these federal actions are subject to ongoing legal proceedings, use of the latest available CARB-released EMFAC model and associated adjustments are appropriate for CEQA analysis as it provides the most conservative analysis approach. Detailed methodologies and calculations are provided in Appendix E.

Table 4.9-2 Proposed 2026 RTP/SCS Total Daily VMT

Year	Total Daily VMT
2005 Baseline (SB 375 Baseline)	14,600,612
2025 Baseline (existing conditions)	18,854,706
2030 with Proposed 2026 RTP/SCS	19,387,932
2045 with Proposed 2026 RTP/SCS	21,068,148
2049 No Project	21,444,530
2049 with Proposed 2026 RTP/SCS	21,418,525

[1] Regional VMT only includes vehicle miles traveled within the SJCOG region.
VMT = vehicle miles traveled
Source: Appendix E

Projected emissions from all vehicle types on the SJCOG transportation network for the year 2049 under proposed 2026 RTP/SCS conditions were compared with emissions estimated for baseline year 2025. The proposed 2026 RTP/SCS scenario was also compared with emissions estimated for year 2049 without implementation of the proposed 2026 RTP/SCS for informational purposes.

Total transportation related GHG emissions were evaluated using daily regional VMT with emissions reported in terms of CO_2e, which captures vehicle miles traveled on trips that travel within the SJCOG region. For the purposes of evaluating consistency with the SB 32 target, 2005 daily regional VMT (which captures trips within the region only) was utilized. This is needed to back-calculate estimated 1990 emissions levels pursuant to CARB's guidance to assume 1990 emissions levels are roughly equivalent to a 15 percent reduction from baseline 2005 emissions levels (CARB 2008). In addition, for the SB 32 consistency analysis, emissions were calculated in terms of CO_2e, which represents a mass-based metric that aggregates all GHGs based on their global warming potential into a single comparable unit. Using CO_2e allows emissions of different gases (e.g., CO_2, methane, nitrous oxide) to be evaluated collectively in a manner consistent with state inventory and reduction targets. The estimated project-related CO_2e emissions were then compared to baseline statewide emissions levels (1990) and the SB 32 target year (2030) to evaluate consistency with California's legislatively mandated goal of reducing GHG emissions to 40 percent below 1990 levels by 2030. In this context, the CO_2e estimates serve as a proxy for assessing the project's incremental contribution to statewide emissions and the associated percent change over time between the 1990 baseline and 2030 target scenario.

SB 375 Analysis

To determine whether the proposed 2026 RTP/SCS would allow SJCOG to meet its SB 375 reduction targets, per capita CO_2e emissions were calculated by multiplying the emission factors by the VMT from passenger vehicles and dividing by the region's population. For the purposes of this analysis, the year 2005 is used as the baseline year per the requirements of SB 375.

SJCOG calculated 2005 emissions using EMFAC2011. EMFAC2011 was used to calculate SB 375-based baseline conditions because it was CARB's latest approved model version at the time of SB 375 target development. Subsequent evaluations of the SB 375 targets require Metropolitan Planning Organizations to utilize the same model version (EMFAC2011) for consistency, or to create an adjustment factor for emissions in 2005 and future years estimated using a different model version. SJCOG calculated the 2035 per capita GHG emissions using EMFAC2014 and created an adjustment factor to account for the two versions of EMFAC used. SJCOG elected to use EMFAC2014 to estimate future emissions as this model version incorporated several changes, new data, and new methodology for calculating motor vehicle emissions compared to EMFAC2011. While a newer EMFAC model was used than the one applied for 2005 emissions, the adjustment factor accounts for potential differences between EMFAC2011 and EMFAC2014 model results.

The EMFAC model generates an output of CO_2e emissions, which were used as the overall indicator of GHG emissions associated with passenger vehicles. The CO_2e emissions associated with vehicle starts are accounted for in the EMFAC model based on the distribution of vehicle starts by vehicle classification, vehicle technology class, and operating mode. EMFAC adds these vehicle starts to the running emissions to compute total on-road mobile source emissions.

Consistency with SB 32, the 2022 Scoping Plan, and AB 1279

Meeting the goals of SB 375 does not guarantee consistency with SB 32, AB 1279, and the 2022 Scoping Plan. As described above, SB 375 is only concerned with VMT from specific passenger vehicle categories. For an analysis regarding SB 32 and AB 1279, the full fleet needs to be accounted for because these policies pertain to all mobile emissions as well as land use emissions. To determine that a project would not conflict with the State's ability to achieve the SB 32 target or the AB 1279 target, the 2026 RTP/SCS would need to achieve substantial progress toward achieving the target reductions. Mobile source emissions were calculated to determine regionwide GHG emissions with implementation of the 2026 RTP/SCS. If implementation of the 2026 RTP/SCS would achieve substantial progress toward the emissions reduction targets established by SB 32 and AB 1279, then impacts related to these policies would not be considered significant.

The State Legislature has codified targets of reducing emissions to 40 percent below 1990 emissions levels by 2030 (SB 32) and 85 percent below 1990 emissions levels by 2045 (AB 1279). The 2022 Scoping Plan Update was developed to demonstrate how the State will achieve the 2045 target and stay on track to meet the 2030 SB 32 target. The plan also identifies a path to achieve carbon neutrality by 2045.

While state and regional regulators of energy and transportation systems, along with the State's Cap-and-Trade program, are designed to be set at limits to achieve most of the reductions needed to attain the State's long-term targets, local governments can do their fair share toward meeting the State's targets by siting and approving projects that accommodate planned population growth and projects in ways that are GHG-efficient. The Association of Environmental Professionals (AEP) Climate Change Committee recommends that CEQA GHG analyses evaluate project emissions in light of the trajectory of state climate change legislation and assess their "substantial progress" toward achieving long-term reduction targets identified in available plans, legislation, or executive orders (AEP 2016).

Consistent with AEP Climate Change Committee recommendations, GHG impacts are analyzed using a threshold based on the State's 2030 and 2045 targets, which evaluates whether the project would impede "substantial progress" toward meeting the reduction goals identified in SB 32, and AB 1279. Because SB 32 is considered an interim target toward meeting the 2045 State goals, consistency with SB 32 is considered to be contributing substantial progress toward meeting the State's long-term 2045 goals.

Significance Thresholds

Appendix G of the CEQA Guidelines identifies the following two general criteria for determining whether a project's impacts would have a significant impact related to GHG emissions. Specific criteria under each general criterion have been developed for this EIR.

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. An increase that exceeds the following threshold would be considered a significant impact:
    a. A net increase in GHG emissions by 2049 compared to existing baseline conditions.
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Any conflict with the following thresholds would be considered a significant impact:

a. Conflict with regional SB 375 per capita passenger vehicle CO_2 emission reduction targets of 16 percent by 2035 from 2005 levels;
b. Conflict with state's ability to achieve SB 32 GHG reduction target, which aims to reduce statewide emissions to 40 percent below 1990 levels by 2030;
c. Conflict with state's ability to achieve AB 1279 net zero greenhouse gas emissions goal as soon as possible, but no later than 2045, and to achieve and maintain net negative greenhouse gas emissions thereafter, and to ensure that by 2045, statewide anthropogenic greenhouse gas emissions are reduced to at least 85 percent below the 1990 levels;
d. Conflict with applicable local GHG emission reduction plans.

The San Joaquin Valley Air Pollution Control District has not adopted GHG significance thresholds that are applicable to evaluating the impacts of the proposed 2026 RTP/SCS in light of the State's post-2020 GHG emission reduction targets. In the absence of applicable District-adopted thresholds, this section uses the project-specific thresholds of significance listed above for each GHG impact criterion in Appendix G.

b. Project Impacts and Mitigation Measures

The following section discusses impacts and mitigation measures that may be associated with transportation projects and the land use scenario contained within the proposed 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 2026 RTP/SCS could result in the impacts as described in the following section.

Threshold 1:	**Would the project** generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. An increase that exceeds the following threshold would be considered a significant impact? a. A net increase in GHG emissions by 2049 compared to existing baseline conditions

Impact GHG-1 CONSTRUCTION OF THE TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD GENERATE GHG EMISSIONS THAT MAY HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT. IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Construction activities associated with transportation improvement projects and future land use projects envisioned by the proposed 2026 RTP/SCS would generate temporary short-term GHG emissions primarily due to the operation of construction equipment and truck trips. GHG emissions from construction can vary depending on the level of activity, the specific operations taking place, the equipment being operated and other factors. However, because such emissions are dependent on the characteristics of individual development projects, at the program-level of analysis, it is not feasible to quantify the amount of emissions expected from implementation of the proposed 2026 RTP/SCS. This is due to the variability in the extent of construction based on site conditions throughout the SJCOG region and the lack of project details needed to conduct such an analysis. Therefore, this analysis includes a qualitative analysis of GHG emissions from construction activity associated with projected land use development and proposed transportation projects.

Construction activity tends to be temporary in nature and would be expected to occur throughout the planning period of the proposed 2026 RTP/SCS. During construction activities, GHG emissions would be emitted from vehicular travel to and from the worksites and the operation of construction equipment such as graders, backhoes, and generators. Site preparation and grading typically generate the greatest amount of emissions due to the intensive use of grading equipment and soil hauling. The level of GHG emissions from the construction of any one project or of all projects combined would be primarily dependent on the particular type, size, quantity, engine type, fuel type, and fuel efficiency of the equipment and the duration of their operation at the construction site or in the region. Construction activities generally result in annual GHG emissions that represent a small proportion of total annual GHG emissions from operational sources such as transportation and land use emissions. For example, the Southern California Association of Governments noted in their 2020-2045 RTP/SCS PEIR that total construction-related emissions typically account for less than 0.3 percent of total GHG emissions for the entire region (Southern California Association of Governments 2020).

Construction activities generally result in annual GHG emissions that represent a small proportion of total annual GHG emissions. Nonetheless, construction activities would still result in GHG emissions would still result in GHG emissions exceeding the 2025 baseline, which would constitute a significant impact. The following mitigation measures would be required.

Mitigation Measures

For all transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measure developed for the proposed 2026 RTP/SCS where applicable for transportation projects generating construction-related GHG emissions. Cities and the County can and should implement this measure, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust this mitigation measure as necessary to respond to site-specific conditions. Implementation of Mitigation Measures AQ-2(b) and AQ-2(c) in Section 4.3, *Air Quality*, would also reduce construction GHG emissions from the proposed 2026 RTP/SCS.

GHG-1 Construction GHG Reduction Measures

The implementing agency shall incorporate the most recent GHG reduction measures and/or technologies for reducing GHG emissions measures for off-road construction vehicles during construction. The measures shall be noted on all construction plans, and the project sponsor shall perform periodic site inspections. Current GHG-reducing measures include the following:

- Off road diesel construction equipment meeting the most stringent CARB emissions standards for off-road heavy-duty diesel engines must be used (e.g., as of 2026, this would be Tier 4 emission standards). Where the use of the most stringent CARB emissions standards for off-road heavy-duty diesel engines is not feasible, the next lower tier shall be used; where the use of the next lower tier is not feasible, the next lowest tier shall be used.
- Use of on-road heavy-duty trucks that meet CARB's most stringent or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the five-minute idling limit;
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible;

- Use of alternatively fueled construction equipment, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, in place of diesel-powered equipment for 15 percent of the fleet, to the extent electric powered equipment is not feasible;
- Use of materials sourced from local suppliers;
- Recycling of at least 75 percent of construction waste materials; and
- Implementing agencies shall incentivize that construction workers carpool, and/or use electric vehicles to commute to and from the project site.

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 the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

Implementation of Mitigation Measure GHG-1 would reduce short-term construction emissions from individual projects and thus reduce the severity of impacts by requiring best practices for exhaust emissions via readily available, lower-emitting diesel equipment, and/or equipment powered by alternative cleaner fuels (e.g., propane) or electricity, as well as on-road trucks using particulate exhaust filters. Implementation of Mitigation Measures AQ-2(b) and AQ-2(c) would also reduce GHG emissions from the proposed 2026 RTP/SCS. However, these mitigation measures may not be feasible or effective for all projects. Therefore, this impact would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

Threshold 1:	Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. An increase that exceeds the following threshold would be considered a significant impact? a. A net increase in GHG emissions by 2049 compared to existing baseline conditions

Impact GHG-2 PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD RESULT IN A NET INCREASE IN GHG EMISSIONS BY 2049 COMPARED TO THE EXISTING BASELINE CONDITIONS AND WOULD THEREFORE HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT. IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Transportation-Related Emissions

Table 4.9-3 compares the total transportation-related emissions from all vehicle classes for baseline (2025) conditions and with implementation of the proposed 2026 RTP/SCS. As presented in Table 4.9-3, implementation of the proposed 2026 RTP/SCS would result in a net reduction in per capita emissions of 0.73 MT of CO_2e per person per year and a net reduction in total emissions of 163,400 MT of CO_2e per year, compared to baseline (2025) conditions. The estimated reduction in total mobile source emissions is primarily due to stricter fuel efficiency and vehicle emissions standards such as the CAFE standards that will phase in over the planning period as reflected in

EMFAC2021 emission factors. In addition, improved circulation networks and multimodal transportation initiatives outlined in the proposed 2026 RTP/SCS would reduce per capita VMT.

Because the proposed 2026 RTP/SCS would result in a net decrease in overall transportation-related emissions in the SJCOG region, operational activities under the plan would not generate GHG emissions that may have a significant impact on the environment, and impacts would be less than significant.

Table 4.9-3 Proposed 2026 RTP/SCS Net Change in Transportation-Related Emissions (2025-2049)

Scenario	Total Emissions (MT of CO_2e/year)	Per Capita Emissions (MT of CO_2e/person/year)
2025 Baseline	2,928,615	3.64
2049 No Project	2,772,918	2.92
2049 with Proposed 2026 RTP/SCS	2,765,215	2.91
Net Change from Existing (2025)	**(163,400)**	**(0.73)**
Net Change from Baseline	**(7,703)**	**(0.01)**
Threshold of Significance	> 0	> 0
Threshold Exceeded?	No	No

( ) denotes a negative number.

MT = metric tons; CO_2e = carbon dioxide equivalent

Source: Appendix E

The estimated reduction in total mobile source emissions is, in part, due to stricter fuel efficiency and vehicle emissions standards that will phase in over the planning period as reflected in EMFAC2021 emission factors.[1] In addition, the estimated reduction in per capita mobile source emissions is also the result of slower growth in VMT as compared to forecast population growth, due to the improved circulation networks and multimodal transportation initiatives outlined in the proposed 2026 RTP/SCS, which would reduce per capita VMT. The proposed 2026 RTP/SCS would also result in a slight net reduction in VMT, and associated emissions as compared to the future "No Project" scenario due to implementation of strategies and proposed RTP/SCS projects. Because the proposed 2026 RTP/SCS would result in a net decrease in overall transportation-related emissions in the SJCOG region, operational activities for transportation projects under the plan would not generate GHG emissions that may have a significant impact on the environment, and impacts would be less than significant.

Other Land Use Development Emissions

In addition to the transportation-related GHG emissions shown in Table 4.9-3, land use projects envisioned by the land use scenario in the proposed 2026 RTP/SCS would also result in GHG emissions due to sources such as electricity and natural gas consumption. Residential, commercial, agricultural, and other land uses would result in GHG emissions; however, data is not available to quantify impacts from such sources. For instance, agricultural machinery and processes have unique emission factors, and GHG emissions must be calculated using precise information regarding specific

[1] Following guidance from CARB, adjustments were made to emission factors to account for emissions impacts from recent federal actions rescinding USEPA approval of California motor vehicle standards— including Advanced Clean Cars II, Advanced Clean Trucks (ACT), Zero-Emission Airport Shuttle requirements, Heavy-Duty Vehicle and Engine Warranty and Maintenance Provisions (Warranty Phase 1), and the Heavy-Duty Omnibus regulation.

processes. Furthermore, emissions from land use projects cannot be feasibly quantified at this time because details about future land use projects and their timing are unknown at this time. Therefore, because future land use projects would represent new sources of GHG emissions, it can be conservatively estimated that total GHG emissions from the land use scenario envisioned by the proposed 2026 RTP/SCS would increase over the planning period. Although per capita emissions associated with electricity and natural gas consumption, water and wastewater conveyance and treatment, and solid waste disposal are anticipated to decline, primarily as a result of increasingly stringent iterations of State building code standards (specifically, the California Energy Code and the California Green Building Standards Code), total emissions may increase due to population growth and future land use projects. As a result, impacts of land use projects implementing the proposed 2026 RTP/SCS would be significant.

Mitigation Measures

Cities and the County can and should implement the following mitigation measure where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust this mitigation measure as necessary to respond to site-specific conditions.

GHG-2 Land Use Project Energy Consumption and Water Use Reduction Measures

The cities and the County, when processing discretionary land use projects, shall implement the following measures as applicable and feasible to the project. The cities and the County may also incorporate these measures into their local planning regulations.

Measures to reduce GHG emissions for land use projects include, but are not limited to:

- Require new residential and commercial construction to install solar energy systems or be solar-ready
- Require new residential and commercial development to install low flow water fixtures
- Require new residential and commercial development to install water-efficient drought-tolerant landscaping, including the use of compost and mulch
- Require new development to exceed the applicable Title 24 energy-efficiency requirements
- Require new residential and commercial development to offer information on recycling, composting, and disposal of household hazardous waste and e-waste
- Require new development to implement circulation design elements in parking lots for non-residential uses to reduce vehicle queuing and improve the pedestrian environment

IMPLEMENTING AGENCIES AND TIMING

Implementing agencies for land use projects are cities and the County. This mitigation measure 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 described above, impacts would be reduced because energy, water use, solid waste generation, and VMT-related GHG emissions from land use projects would be reduced. However, implementation of project-level GHG-reducing measures cannot be guaranteed on a project-by-project basis. Therefore, this impact would remain

significant and unavoidable. No additional feasible mitigation measures are available that would ensure no net increase in GHG emissions compared to existing baseline conditions.

Threshold 2: Would the project **c**onflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? Any conflict with the following thresholds would be considered a significant impact:

a. Conflict with regional SB 375 per capita passenger vehicle CO_2 emission reduction targets of 16 percent by 2035 from 2005 levels

Impact GHG-3 THE TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD NOT CONFLICT WITH REGIONAL SB 375 PER CAPITA PASSENGER VEHICLE CO_2 EMISSION REDUCTION TARGETS OF 16 PERCENT BY 2035 FROM 2005 LEVELS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

One of the goals of SB 375 is to reach the per capita GHG emissions reduction targets for passenger vehicles set by CARB through an integrated land use, transportation, and housing plan. Achievement of this goal is an objective of the proposed 2026 RTP/SCS. The target from CARB, analyzed in this EIR, is identified as a 16 percent reduction in per capita passenger vehicle emissions from 2005 levels by 2035[2]. Table 4.9-4 presents per capita passenger vehicle emissions for 2035 as compared to the 2005 baseline.

Table 4.9-4 Per Capita Passenger Vehicle CO_2 Emissions Comparison

	Percent Change in Per Capita CO_2 Emissions (lbs/day)		
	2005 Baseline (per SB 375)	2035	2049
Per Capita Passenger Vehicle Emissions[1]	20.4	16.7	14.8
Percent Change from in Per Capita GHG Emissions from 2005		-18.1%	-27.5%
SB 375 Target		-16%	n/a[2]
SB 375 Target Met?		Yes	n/a[2]

CO_2 = carbon dioxide; lbs = pounds; SB = Senate Bill

Source: Appendix E

[1]Per capita passenger vehicle emissions for 2035 and 2049 derived from reduction percentages provided by SJCOG.

[2]SB 375 targets have not been adopted for post-2035 years.

As shown in Table 4.9-4, implementation of the proposed 2026 RTP/SCS in the year 2035 would result in a decrease of per capita passenger vehicle CO_2 emissions by 18.1 percent compared to 2005 levels. Therefore, implementation of the proposed 2026 RTP/SCS would achieve the SB 375 GHG reduction target for SJCOG of 16 percent by 2035, and the proposed 2026 RTP/SCS would therefore be consistent with SB 375. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

[2] The SB 375 target for 2020 is not utilized herein as a threshold of significance because the 2026 RTP/SCS would apply only to future transportation and land use planning from the year of adoption (anticipated to be 2022) forward.

Threshold 3:	Would the project **c**onflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? Any conflict with the following thresholds would be considered a significant impact: b. Conflict with state's ability to achieve SB 32 GHG reduction target, which aims to reduce statewide emissions to 40 percent below 1990 levels by 2030 c. Conflict with state's ability to achieve AB 1279 net zero greenhouse gas emissions goal as soon as possible, but no later than 2045, and to achieve and maintain net negative greenhouse gas emissions thereafter, and to ensure that by 2045, statewide anthropogenic greenhouse gas emissions are reduced to at least 85 percent below the 1990 levels; or d. Conflict with applicable local GHG reduction plans

Impact GHG-4 IMPLEMENTATION OF THE PROPOSED 2026 RTP/SCS WOULD CONFLICT WITH THE STATE'S ABILITY TO ACHIEVE SB 32 AND AB 1279, AND APPLICABLE LOCAL GHG REDUCTION PLAN TARGETS AND GOALS. IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

SB 32 and AB 1279

The SB 375 targets remain an important supporting component of CARB's 2017 Scoping Plan. However, the 2017 Scoping Plan has been superseded by the 2022 Scoping Plan, which establishes a framework for achieving the 2045 target codified by AB 1279. In addition, the 2017 Plan states, "Stronger SB 375 GHG reduction targets [adopted in 2018] will enable the State to make significant progress toward this goal, but alone will not provide all of the VMT growth reductions that will be needed. There is a gap between what SB 375 can provide and what is needed to meet the State's 2030 and 2050 goals" (CARB 2017). Therefore, consistency with the SB 375 target does not necessarily equate to consistency with SB 32 and the 2017 Scoping Plan. Accordingly, the SB 375 target does not equate to consistency with AB 1279 and the 2022 Scoping Plan.

This analysis conservatively assumes that to be consistent with State targets, the 2026 RTP/SCS would be required to achieve the same proportional GHG reductions as the State by the year 2045 (i.e., an 85 percent reduction in anthropogenic GHG emissions below 1990 levels), as well as achieving the interim 2030 target (i.e., a 40 percent reduction in GHG emissions below 1990 levels). As shown in Table 4.9-4 GHG emissions in 2030 would increase by 16 percent as compared to 1990 levels, which is not sufficient to achieve the 2030 target of a 40 percent reduction below 1990 levels. GHG emissions in 2045 would increase by 11 percent as compared to 1990 levels, which is not sufficient to achieve the 2045 target of an 85 percent reduction below 1990 levels.

It should be noted that the regional 2030 and 2045 GHG emissions shown in Table 4.9-4 do not account for the TDM, TSM, zero emission vehicles and EV charging infrastructure, nor the telecommuting strategies, which would reduce the on-road transportation GHG emissions further. However, implementation of these strategies would not be enough to achieve the SB 32 or AB 1279 reduction targets. Therefore, although the projects, policies, and land use patterns identified in the 2026 RTP/SCS are designed to align transportation and land use planning to reduce transportation related GHG emissions, the 2026 RTP/SCS would conflict with the State's ability to achieve the SB 32 and AB 1279 GHG emissions reduction goals. As a result, impacts related to conflicts with SB 32 and AB 1279 would be significant.

2022 Scoping Plan

The proposed 2026 RTP/SCS would implement a suite of transportation improvement projects and facilitate a land use scenario that is consistent with the transportation and land use strategies of the 2022 Scoping Plan, which establishes a pathway to achieve carbon neutrality by 2045 through deep reductions in VMT, accelerated deployment of zero-emission technologies, and increased use of low-carbon mobility options. Consistent with the 2022 Scoping Plan, the land use scenario envisioned by the proposed 2026 RTP/SCS concentrates forecasted population and employment growth within already urbanized areas to support infill development, reduce automobile dependence, and limit growth in VMT. Active transportation projects would implement design policies that prioritize transit, biking, and walking throughout the SJCOG region, including but not limited to the cities of Lodi, Manteca Stockton, and Tracy. These projects would improve the safety, connectivity, and attractiveness of active transportation facilities through the addition of sidewalks, trails, bike lanes, crosswalks, intersection improvements, and signage. In addition, the proposed 2026 RTP/SCS includes transit projects designed to maintain, enhance, and expand public transit services provided by agencies in the SJCOG region operating as the San Joaquin County Regional Transit District. Proposed projects include electric bus procurement, continuation of the Student Transit Pass Program, expansion of compressed natural gas fueling infrastructure, transit system technology improvements, and the addition of new transit routes. Collectively, these investments would expand access to low-carbon and zero-emission transportation options, reduce reliance on single-occupant vehicle travel, and support the 2022 Scoping Plan's strategies for transforming the transportation sector, including increased transit use, VMT reduction, and transition to zero-emission vehicles. Therefore, the 2026 RTP/SCS is consistent with the transportation strategies of the 2022 Scoping Plan.

As demonstrated in this analysis, the proposed plan would not reduce GHG emissions to achieve carbon neutrality or an 85 percent reduction in anthropogenic GHG emissions by 2045, or at a magnitude consistent with the SB 32 target and, therefore would not align with the emissions trajectory contemplated by the 2022 Scoping Plan for achieving the State's long-term statutory climate goals. Since the plan would not achieve an 85 percent reduction in GHG emissions from 1990 levels by 2045, the 2026 RTP/SCS would conflict with the State's ability to achieve the 2022 Scoping Plan's goals, resulting in a significant impact.

Local Climate Action Plans

Four of SJCOG's member jurisdictions (the cities of Lodi, Manteca, Stockton, and Tracy) have adopted CAPs that set goals and targets for the reduction of GHG emissions, and outline policies to help achieve those goals (City of Stockton 2026; City of Tracy 2011; City of Lodi 2014; City of Manteca 2025). Two of these CAPs (City of Tracy, City of Lodi) had been adopted prior to enaction of SB 32 and thus present strategies intended to comply with the GHG emissions reduction goals recommended for local governments in the AB 32 Scoping Plan, which was aimed at reducing GHG emissions to 1990 levels by 2020 in accordance with AB 32. The City of Stockton's CAP, updated in 2026, aims to achieve a 39 percent reduction below 2022 levels by 2030, an 82 percent reduction below 2022 levels by 2045, and carbon neutrality by 2045, consistent with statewide reduction goals. Similarly, the City of Manteca's CAP aims to achieve reduction goals as outlined in SB 32 and AB 32, as well as to achieve carbon neutrality by 2045, consistent with AB 1279. As discussed previously, the proposed 2026 RTP/SCS was determined to be inconsistent with the SB 32 target and AB 1279 carbon neutrality goals. Therefore, it would also conflict with the goals of local CAPs designed to meet the same State goals, and impacts would be significant.

Conclusion

The proposed 2026 RTP/SCS would facilitate infill and transit oriented land use development as well as transit and alternative transportation projects, which would improve the transportation network in the SJCOG planning region and encourage the use of transportation modes other than passenger vehicles. Furthermore, by achieving its SB 375 target, the 2026 RTP/SCS contributes transportation-related GHG emission reductions towards meeting the State's GHG reduction target for 2030 under SB 32 and 2045 under AB 1279.

However, the expected GHG emissions in the SJCOG region in 2045 would not be consistent with the State's AB 1279 GHG reduction target for 2045 and the 2022 Scoping Plan goals based on this target, nor would emissions be consistent with the State's SB 32 target of 40 percent below 1990 levels by 2030. Therefore, the 2026 RTP/SCS would conflict with the state's ability to achieve SB 32 and AB 1279 GHG reduction targets. As such, this impact is significant. The following mitigation measures would reduce this impact.

Mitigation Measures

For all transportation projects under their jurisdiction, implementing agencies shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measures developed for the proposed 2026 RTP/SCS where applicable for transportation projects generating construction GHG emissions. The County of San Joaquin and cities in the SJCOG region can and should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

Implementation of Mitigation Measure GHG-2 would also reduce GHG emission from land use projects. Implementation of Mitigation Measures AQ-3(b) in Section 4.2, Air Quality, and T-1(a) and T-1(b) in Section 4.14, *Transportation*, would further reduce GHG emissions from the proposed 2026 RTP/SCS.

GHG-4(a) Transportation-Related GHG Reduction Measures

The implementing agency shall incorporate the most recent GHG reduction measures and/or technologies for reducing VMT and associated transportation related GHG emissions. GHG-reducing mitigation measures include the following:

- Installation of electric vehicle charging stations beyond those required by State and local codes
- Utilization of electric vehicles and/or alternatively fueled vehicles in company fleet
- Provision of dedicated parking for carpools, vanpool, and clean air vehicles
- Provision of new or improved transit amenities (e.g., covered turnouts, bicycle racks, covered benches, signage, lighting, sidewalk connectivity, and accessible crosswalks) if project site is located along an existing transit route
- Optimize transit route networks and service levels to boost ridership
- Provision of employee lockers and showers
- Provision of on-site services that reduce the need for off-site travel (e.g., childcare facilities, automatic teller machines, postal machines, food services)

- Provision of alternative work schedule options, such as telework or reduced schedule (e.g., 9/80 or 10/40 schedules) for employees
- Implementation of transportation demand management programs to educate and incentivize residents and/or employees to use transit, smart commute, and alternative transportation options

IMPLEMENTING AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. This mitigation measure shall, or can and should, be applied during permitting and environmental review, and implemented during operation where appropriate.

GHG-4(b) Land Use Project Energy Consumption and Water Use Reduction Measures

For land use projects under their jurisdiction, the cities and counties in the SJCOG region can and should implement measures to reduce energy consumption, water use, solid waste generation, and VMT, all of which contribute to GHG emissions. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site specific conditions.

- Require new commercial construction to install solar energy systems or be solar-ready
- Require new residential and commercial development to install low flow water fixtures
- Require new residential and commercial development to install water-efficient drought-tolerant landscaping, including the use of compost and mulch
- Require new development to exceed the applicable Title 24 energy-efficiency requirements
- Encourage new development to be fully electric

IMPLEMENTING AGENCIES AND TIMING

Implementing agencies for land use projects are cities and the County. 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 described above, impacts would be reduced because transportation related GHG emissions from transportation and land use projects would be reduced. However, implementation of project-level GHG-reducing measures may not be feasible and cannot be guaranteed on a project-by-project basis. Additionally, it is speculative at this time to forecast whether project-level GHG emission reductions would be sufficient to achieve a countywide reduction in GHG emissions of 40 percent below 1990 levels by 2030 and carbon neutrality by 2045. Therefore, this impact would remain significant and unavoidable. No additional feasible mitigation measures are available that would reduce emissions to trajectories consistent with SB 32 and AB 1279 GHG reduction targets and goals.

4.9.4 Cumulative Impacts

The impacts of GHG emissions are, by definition, cumulative impacts, as they add to the global accumulation of greenhouse gases in the atmosphere. The cumulative impact analysis area for GHG emissions consists of the SJCOG region, adjoining counties, and the entire State of California. The entire state is included in the analysis area because GHG emissions from the SJCOG region and adjoining counties would influence the ability for the State to achieve its GHG reduction targets. The analysis presented in Section 4.9.3, *Impact Analysis*, evaluates both plan-level impacts as well as the contribution of the proposed 2026 RTP/SCS to the existing cumulative impact related to GHG emissions, the effects of which are outlined in Section 4.9.1(c), *Potential Effects of Climate Change*.

As discussed under Impact GHG-1, construction activities associated with transportation improvement projects and future land use projects envisioned by the proposed 2026 RTP/SCS would generate temporary GHG emissions. The temporary construction GHG emissions would occur concurrent with ongoing GHG emissions in the cumulative impact analysis area, such as GHG emissions ongoing agricultural activities in surrounding Valley counties such as Stanislaus County and Merced County, resulting in a significant cumulative impact. As described under Impact GHG-1, construction-related GHG emissions associated with buildout under the proposed 2026 RTP/SCS would be significant even after implementation of Mitigation Measure GHG-1. Implementation of Mitigation Measures AQ-2(a) through AQ-2(c) for individual projects would reduce PM and ozone precursor emissions. However, the contribution of construction emissions facilitated by the proposed 2026 RTP/SCS would remain cumulatively considerable and unavoidable because it cannot be guaranteed that all future project-level impacts can be mitigated to a less-than-significant level. Therefore, the contribution of the proposed 2026 RTP/SCS construction emissions to the cumulative impact of total GHG emissions would be cumulatively considerable, pre- and post-mitigation.

As discussed under Impacts GHG-2 through GHG-4, the transportation projects and land use scenario envisioned in the proposed 2026 RTP/SCS would also generate operational GHG emissions. Overall, implementation of the proposed 2026 RTP/SCS would reduce total regionwide mobile emissions by 2049 with the proposed 2026 RTP/SCS compared to baseline 2025 conditions. As a result, the long-term operational mobile source emissions under the proposed 2026 RTP/SCS would not result in a cumulatively considerable contribution to existing significant cumulative air quality impacts. However, land use operational emissions would be cumulatively considerable before and after mitigation because land use projects under the proposed 2026 RTP/SCS may contribute to an increase in ozone precursor and PM emissions. As discussed under Impact AQ-6, impacts from other emissions (such as odors) adversely affecting a substantial number of people would not be significant, and cumulative odor impacts would not be significant due to the short-term nature of construction odors and compliance with local odor prevention regulations. As discussed under Impact AQ-5, impacts from TAC emissions would be cumulatively considerable despite a decrease in TAC emissions from baseline 2025 conditions because the proposed 2026 RTP/SCS may result in the siting of sensitive receptors in close proximity to existing or new sources of TACs. Mitigation Measure AQ-5 would reduce impacts from TACs; however, it cannot be guaranteed that impacts resulting from the proposed 2026 RTP/SCS can be mitigated to a less-than-significant level. Therefore, the impact would remain cumulatively considerable.

The proposed 2026 RTP/SCS would not conflict with SB 375 because per capita emissions reductions would meet and exceed the regional target of a 16 percent reduction by 2035 compared to 2005 levels. However, reductions achieved by the proposed 2026 RTP/SCS would not be sufficient to achieve the 2030 target of a 40 percent reduction in overall emissions set forth by SB 32 and therefore would also be inconsistent with AB 1279 carbon neutrality goals. Other ongoing land uses

and operation of future development in the cumulative impact analysis area would also generate GHG emissions. Implementation of Mitigation Measures GHG-2 and GHG-4 would reduce the proposed 2026 RTP/SCS impacts related to consistency with state GHG reduction targets and goals; however, emissions would remain in exceedance of applicable significance thresholds. Therefore, the proposed 2026 RTP/SCS would have a cumulatively considerable contribution to the cumulative impact of inconsistency with state GHG reduction targets and goals, both pre- and post- mitigation.

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4.10 Hazards and Hazardous Materials

This section identifies and evaluates issues related to hazards and hazardous materials in the context of the proposed 2026 RTP/SCS. The section discusses the environmental and regulatory setting; the criteria used to determine the significance of environmental impacts related to hazards and hazardous materials; and potential impacts related to hazards and hazardous materials that would result from implementation of the proposed 2026 RTP/SCS. Potential water quality effects related to surface water runoff from implementation of projects under the proposed 2026 RTP/SCS are discussed in Section 4.11, *Hydrology and Water Quality*. Potential impacts related to toxic air contaminants are discussed in Section 4.2, *Air Quality*.

4.10.1 Setting

Overview of Hazardous Materials

The term "hazardous materials" has different definitions for different regulatory programs. For the purpose of this Programmatic Environmental Impact Report (PEIR), the term "hazardous materials" refers to both hazardous materials and hazardous waste. California Health and Safety Code Section 25501(n)(1) defines a hazardous material as any material that "because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment." Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or environment.

A material is hazardous if it exhibits one or more of the following characteristics: toxicity, ignitability, corrosivity, and reactivity. These types of hazardous materials are defined below:

- **Toxic Substances**. Toxic substances are materials that are poisonous to living organisms and can cause health effects. Carcinogens, substances that can cause cancer, are a special class of toxic substances. Examples of toxic substances include benzene (a component of gasoline and suspected carcinogen) and lead (a known carcinogen).
- **Ignitable Substances**. Ignitable substances are hazardous because of their ability to burn. Gasoline, hexane, and natural gas are examples of ignitable substances.
- **Corrosive Materials**. Corrosive materials can cause severe burns. Corrosives include strong acids and bases such as sodium hydroxide (lye) or sulfuric acid (battery acid).
- **Reactive Materials.** Reactive materials may cause explosions or generate toxic gases. Explosives, pure sodium or potassium metals (which react violently with water), and cyanides are examples of reactive materials.

Generation and Disposal of Hazardous Materials and Waste

Many chemicals used in household cleaning, construction, light and heavy industry, dry cleaning, landscaping, and automotive maintenance and repair are considered to generate hazardous materials and waste. Additionally, in some cases, past industrial or commercial uses on a site may have resulted in spills or leaks of hazardous materials and petroleum that have caused contamination of the underlying soil and groundwater. Federal and state laws require that soils and

groundwater having concentrations of contaminants that are higher than certain acceptable levels are handled and disposed as hazardous waste during excavation, transportation, and disposal. The California Code of Regulations (CCR), Title 22, Sections 66261.20-24 contains technical descriptions of characteristics that would cause a soil to be classified as a hazardous waste. Hazardous materials require special methods of disposal, storage, and treatment, and the release of hazardous materials requires an immediate response to protect human health and safety, and the environment. Improper disposal can harm the environment and people who work in the waste management industry.

Businesses that handle or generate hazardous materials within the San Joaquin Council of Governments (SJCOG) region are monitored by the United States Environmental Protection Agency (USEPA); the Central Valley Regional Water Quality Control Board; the San Joaquin County Environmental Health Department (EHD); Local Enforcement Agency programs; and San Joaquin Valley Air Pollution Control District (SJVAPCD). Generators of hazardous waste fall into two categories: large-quantity generators (LQG) and small-quantity generators (SQG). An LQG is defined as a person or facility generating more than 2,200 pounds of hazardous waste per month. An SQG is defined as generating greater than 100 kilograms (kg) and less than 1,000 kg (2,200 pounds) of hazardous waste per month. LQGs include industrial and commercial facilities, such as manufacturing companies, petroleum refining facilities and other heavy industrial businesses.

LQGs must comply with federal and state requirements for managing hazardous waste. LQGs need an USEPA identification number that is used to monitor and track hazardous waste activities. SQGs include facilities such as service stations, automotive repair, dry cleaners, and medical offices. The regulatory requirements for SQGs are less stringent than the requirements for LQGs; however, SQGs must also obtain an USEPA identification number, which must be used for traceability on all hazardous waste documentation. Pursuant to federal law (40 CFR 262.41-43), all such generators must register with USEPA for record-keeping and reporting.

Transportation of Hazardous Materials and Waste

Hazardous materials, hazardous wastes, medical waste, and petroleum products are a subset of the goods routinely shipped along the transportation corridors in the SJCOG region. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by the Department of Toxic Substances Control (DTSC). The DTSC maintains a list of active registered hazardous waste transporters throughout California and the California Department of Public Health regulates the haulers of hazardous waste. There are 29 registered hazardous waste transporters based in the SJCOG region (DTSC 2025).

Transportation of hazardous materials and wastes in the SJCOG region occurs through a variety of modes: truck, rail, air, ship, and pipeline. Transportation of hazardous materials by truck is regulated by the Department of Transportation (DOT). The DOT's Federal Motor Carrier Safety Administration identifies several highways and county roads in the SJCOG region as a Hazardous Materials Route in its National Hazardous Materials Route Registry. Federally designated Hazardous Materials Routes are listed in Table 4.10-1.

Table 4.10-1 Federally Designated Hazardous Routes in the SJCOG Region

Road or Highway Name		
Interstate Highways		
▪ Interstate 5	▪ Interstate 205	▪ Interstate 580
State Highways		
▪ Highway 4	▪ Highway 120	▪ Highway 132
▪ Highway 26	▪ Highway 12	▪ Route 33
▪ Highway 88	▪ Highway 99	
County and City Streets		
▪ Ahern Road	▪ Kasson Road	▪ Patterson Pass
▪ Byron Road	▪ Bird Road	
▪ Grant Line Road	▪ Chrisman Road/11th Street	

Source: Federal Motor Carrier Safety Administration 2023

Flammable liquids continue to represent the largest share of hazardous materials shipped nationally by both tonnage and value. Trucks still transport the majority of hazardous materials (by tonnage) accounting for over 50 percent while pipelines remain the second-largest mode at around 24 percent. However, trucks account for the lowest share of total distance traveled (ton miles) among all modes, because the hazardous materials they carry are typically shipped over much shorter distances compared to rail or pipelines (Bureau of Transportation Statistics 2024). Considering the abundance of roads in the SJCOG region compared to rail and pipelines, trucks are generally responsible for transporting most hazardous materials within the SJCOG region. According to the DOT's Pipeline and Hazardous Materials Safety Administration, highway transport consistently accounts for the largest share of reportable accidents or incidents each year in California. From 2015 through 2025, truck transport accounted for about 91 percent of reportable incidents in the State, while air transport accounted for roughly 7 percent, rail for about 2 percent, and water for less than 0.1 percent (PHMSA 2025). While hazardous waste incidents account for a small percentage of overall highway incidents, the impact of these incidents can be more severe due to the nature of the material(s) involved. However, about two thirds of all hazardous material spills from all modes of transport do not occur during transport; they occur during loading and unloading of the materials (Bureau of Transportation Statistics 2024).

The transport of hazardous materials by rail is also regulated by DOT. Freight railroads have employee safety training requirements and operating procedures that govern the handling and movement of hazardous goods, including crude oil. Federal regulations and self-imposed safety practices dictate train speeds, equipment and infrastructure inspections, and procedures for how to handle and secure trains carrying hazardous materials. The freight rail industry provides instruction to local public safety officials at the Transportation Technology Center's Security and Emergency Response Training Center, a training facility where cargo trucks and freight trains are routinely used in large-scale hazardous response trainings. Individual railroads conduct additional local training for first responders. Freight railroads also work with State emergency planning committees and local first responders to develop municipal emergency response plans. In accordance with a February 2014 agreement between DOT and Association of American Railroads, railroads have developed an inventory of emergency response resources and provides DOT with information on the deployment of those resources. This information is available upon request to appropriate emergency responders. A list of the rail facilities in the SJCOG region is provided in Chapter 2, *Project Description*.

Pipelines, primarily underground, are used to transport a variety of potentially hazardous substances, including natural gas, crude oil, and other petroleum products throughout the SJCOG region. For example, Pacific Gas & Electric maintains and operates a natural gas pipeline that is roughly parallel to Interstate 5 through most of the SJCOG region, passing through the city of Stockton, and Phillips 66 Pipeline operates a crude oil pipeline parallel to Interstate 580 in the southwestern portion of the SJCOG region. Most of the pipelines in the SJCOG region run through urban areas with some intra- or interstate lines running through rural and agricultural areas (NPMS 2025). The Transportation Research Boards' 2004 report *Transmission Pipelines and Land Use: A Risk-Informed Approach*, encouraged the use of zoning regulations to minimize casualties in the event of a catastrophic pipeline rupture. Possible land use techniques include, for example, establishing setbacks (the Report emphasized using the American Petroleum Institutes' recommended setbacks of 50 feet from petroleum and hazardous liquids lines for new homes, businesses, and places of public assembly; 25 feet for garden sheds, septic tanks, and water wells; and 10 feet for mailboxes and yard lights since the vast majority of pipeline spills are caused by homeowner or contractor digging. Recommendations also included regulating or prohibiting certain types of structures and uses near transmission pipelines and encouraging, through site and community planning, other types of activities and facilities, such as mini-storage businesses, linear parks, and recreational paths, within or in the vicinity of pipeline rights-of-way because these uses would minimize human exposure during potential incidents, reduce excavation related damage risks, maintain open and accessible rights of way for inspection, and allow communities to safely utilize land that cannot support dense development (TRB 2004).

The Port of Stockton is located within the SJCOG region along the San Joaquin River on the Stockton Deepwater Ship Channel 80 miles from the Pacific Ocean. The Port is next to I-5, State Route 99, and the Union Pacific and Burlington Northern Santa Fe Railway (SJCOG 2022). The Port owns and operates a major, diversified intermodal transportation center that encompasses more than 4,200 acres of operating area and real estate. The Port of Stockton has over 11,000 lineal feet of waterside docking for berthing and cargo operations of up to 17 vessels, as well as 1.1 million square feet of dockside transit sheds and shipside rail trackage, with 60 miles of rail track that can be served by Union Pacific or Burlington Northern Santa Fe Railroads. Existing facilities include 7.7 million square feet of warehousing for both dry bulk and general cargo, which compose the largest percentage of the Port's dockside operations. Stockton's deepwater channel has an average depth of 35 feet. Panamax-sized vessels with load capacity up to 45,000-ton dead-weight class fully loaded and partially loaded 80,000-ton dead-weight vessels can be accommodated. and ships up to 900 feet in length can navigate the Stockton Ship Channel. There is no width restriction on vessels.

Hazardous Material Use and Hazardous Material Sites

Many activities in the SJCOG region involve the use, storage, or production of hazardous materials. The use of hazardous materials is commonplace in commercial, industrial, and manufacturing activities, and many businesses within the SJCOG region are permitted to handle and transport hazardous materials. There are historic and existing land uses that have generated hazardous waste as part of daily business operations. LQGs and SQGs include such commercial uses as painters, dry cleaners, automotive service stations, medical offices, and industrial uses such as metal fabrication, scrap yards, railways, cement companies, food manufacturing, chemical manufacturing, landfill and waste disposal, and electrical substations. In addition, older structures may contain building materials that are considered hazardous, such as asbestos and lead-based paint. In general, these historic and current uses and building materials are located throughout the SJCOG region. The County Environmental Health Department oversees permitting and regulation of hazardous material

generators in the SJCOG region and currently identifies 1,150 facilities that they are actively managing (San Joaquin County EHD 2025).

California Government Code Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to prepare an annual Hazardous Waste and Substances List, commonly referred to as the Cortese List. The addition or inclusion of a site on the Cortese List has bearing on the local permitting process and compliance with CEQA. For example, projects proposed at a site on the Cortese List are not eligible for categorical exemptions to CEQA per Section 15300.2(e) of the *CEQA Guidelines*. The Cortese List is not maintained as a centralized list, however, and a variety of governmental data sources identify sites where hazardous substances may have been released or may have created a hazardous condition on-site. These include:

- DTSC Active Transporter County Search Report
- DTSC EnviroStor database (Cortese List) for tracking hazardous waste facilities and site with known contamination or sites where there may be reasons to investigate further;
- State Water Resources Control Board's (SWRCB) GeoTracker database of records for sites that require cleanup, such as leaking underground storage tank (UST) sites, Department of Defense sites, landfill sites and Cleanup Program sites;
- California Office of Emergency Services (OES) Hazardous Materials Spill Notification database that includes information on reported hazardous material accidental releases or spills;
- The DOT's Hazardous Materials Incident Report System database, which is maintained by the USEPA and contains data on hazardous material spill incidents;
- California Department of Resources Recycling and Recovery's (CalRecycle) Solid Waste Inventory System database of active and closed solid waste sites;
- The USEPA Envirofacts database of Resource Conservation and Recovery Act (RCRA) sites, as well as other hazardous sites, such as superfund and brownfield sites; and
- The United States Army Corps of Engineers list of Formerly Used Defense Sites for California

All databases listed above have identified sites within the SJCOG region. The DTSC Active Transporter Registry identifies 29 registered hazardous waste transporters in the SJCOG region. The US DOTs Hazardous Materials Incident Report System database identified 1,868 hazardous materials spill incidents in the SJCOG region between January 2015, and December 2025 (U.S. DOT 2025). Five sites in the SJCOG region are identified on the USACE list of Formerly Used Defense Sites for California. According to CalRecycle's Solid Waste Inventory System database, there are 20 active landfill, recycling, and transfer sites in the SJCOG region, an additional 33 sites that have been closed, and two that are inactive but not closed (CalRecycle's Solid Waste Inventory System 2025). None are currently on the CalRecycle list of sites that are violating minimum standards, and nine are operating without permits or are under notification of permit expiration.

For some databases, such as the DTSC EnviroStor and USEPA Envirofacts databases, the list of identified sites is too exhaustive to provide in its entirety for purposes of this EIR. For example, the EnviroStor identifies more than 300 cleanup sites in the SJCOG region including closed sites that have been fully remediated, sites where contamination is contained but land use restrictions are in place, and sites under evaluation, active remediation, or monitoring. Among these sites are Superfund sites, state response hazardous sites, contaminated soil sites, school cleanup sites and leaking UST sites. The USEPA Envirofacts database also identifies hundreds of RCRA sites in the region, most of which are also listed in the EnviroStor database. Examples of some of the RCRA sites identified in the region include gas stations, dry cleaners, automotive repair shops, medical facilities,

automobile dealerships, paint stores, and trucking companies. The SWRCB GeoTracker database identifies more than 2,000 cleanup sites, most of which represent remediated and closed cases, and some of which have yet to be closed. For purposes of this EIR, it is more important to note that many sites on the Cortese list exist throughout the SJCOG region, typically within proximity to the transportation network and more densely populated areas in the region, than to list or analyze each of the hundreds or thousands of relevant sites throughout the SJCOG region.

To address the potential for documented and undocumented hazards on a site, the American Society for Testing and Materials has developed widely accepted practice standards for the preliminary evaluation of site hazards (E-1527-05). Phase I Environmental Site Assessments (ESAs) include an on-site visit to determine current conditions; an evaluation of possible risks posed by neighboring properties; interviews with persons knowledgeable about the site's history; an examination of local planning files to check prior land uses and permits granted; file searches with appropriate agencies having oversight authority relative to water quality and/or soil contamination; examination of historic aerial photography of the site and adjacent properties; a review of current topographic maps to determine drainage patterns; and an examination of chain-of-title for environmental lines and/or activity and land use limitations. If a Phase I ESA indicates the presence, or potential presence of contamination, a site-specific Phase II ESA is generally conducted to test soil and/or groundwater. Based on the outcome of a Phase II ESA, remediation of contaminated sites under federal and state regulations may be required prior to development. Phase I ESAs can also be used to identify the potential for presence of hazardous building materials in situations where older structures intended for demolition could contain lead-based paint, asbestos containing materials, mercury, or polychlorinated biphenyls.

Naturally Occurring Asbestos

Asbestos is not a formal mineralogical term, but rather a commercial and industrial term historically applied to a group of silica-containing minerals that form long, very thin mineral fibers (termed amphiboles), which generally form in bundles, that were once widely used in commercial products. Naturally occurring asbestos includes minerals in their natural state, such as in bedrock or soils. Naturally occurring asbestos, which was identified as a toxic air contaminant by the California Air Resources Board (CARB) in 1986, is of concern due to potential exposures to the tiny fibers that can become airborne if asbestos-bearing rocks are disturbed by natural erosion or human activities, such as road building, excavations, and other ground-disturbing activities. Once disturbed, microscopic fibers can become lodged in the lungs, which can potentially lead to serious health problems. Tulare County contains one former asbestos exploration prospect site and ultramafic rocks, such as serpentinite, which can contain asbestos fibers. Naturally occurring asbestos sites are most concentrated in the central/western area of the County (USGS 2011). In general, naturally occurring asbestos fibers do not pose a threat unless disturbed and introduced into the air as fugitive dust.

Schools

Children are particularly susceptible to long-term effects from emissions of hazardous materials. Therefore, locations where children spend extended periods of time, such as schools, are particularly sensitive to hazardous air emissions and accidental release associated with the handling of extremely hazardous materials, substances, or wastes. According to the California Department of Education there are 245 public and private schools in the SJCOG region. According to the San

Joaquin County Office of Education, there are 14 school districts with more than 154,000 students enrolled (San Joaquin County Office of Education 2025).

Airports

The SJCOG region contains public-use airports and seven private air facilities including hospital heliports and small agricultural airstrips. Currently, there are no operational military airfields in the SJCOG region. The six public use airports are Kingdon, Lodi, Lodi Precessi Airpark, New Jerusalem, Stockton Metropolitan, and Tracy Municipal. Only the Stockton Metropolitan Airport provides scheduled air carrier service and it is the primary regional airport. Potential aviation related hazards to the public, in relationship to airport operations, are generally regulated by the Federal Aviation Administration (FAA), with local planning and evaluation of proposed projects (in terms of a proposed project's compatibility in relationship to air and ground operations and the safety of the public) under the authority of the applicable airport land use commission through an airport land use compatibility plan (ALUCP). Applicable ALUCPs to the SJCOG region are discussed in Section 4.10.2, *Regulatory Setting*, below.

4.10.2 Regulatory Setting

a. Federal Laws, Regulations, and Policies

USEPA is the lead agency responsible for enforcing federal regulations that affect public health or the environment. The primary federal laws and regulations include the RCRA of 1976 and the Hazardous and Solid Waste Amendments enacted in 1984; the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA); and the Superfund Act and Reauthorization Act of 1986 (SARA). Federal statutes pertaining to hazardous materials and wastes are contained in the CFR Title 40 - Protection of the Environment.

Toxic Substances Control Act

The Toxic Substances Control Act of 1976 (15 U.S. Code Section 2601 et seq.) grants USEPA the authority to develop reporting, record-keeping, and testing requirements for, as well as restrictions on, the manufacture, use, and sale of chemical substances. Pursuant to Title II of the Toxic Substances Control Act, the USEPA adopted the Asbestos Model Accreditation Plan in 1994. The Model Accreditation Plan requires that all persons who inspect for asbestos-containing materials or design or conduct response actions with respect to friable asbestos obtain accreditation by completing a prescribed training course and passing an exam. Section 403 of the Toxic Substances Act establishes standards for lead-based paint hazards in paint, dust, and soil.

Resource Conservation and Recovery Act

RCRA Subtitle C regulates the generation, transportation, treatment, storage and disposal of hazardous waste by LQGs (1,000 kilograms per month or more) through comprehensive life cycle or "cradle to grave" tracking requirements. The requirements include maintaining inspection logs of hazardous waste storage locations, records of quantities being generated and stored, and manifests of pick-ups and deliveries to licensed treatment/storage/disposal facilities. RCRA also identifies standards for treatment, storage, and disposal, which is codified in 40 CFR 260.

Comprehensive Environmental Response Compensation and Liability Act

Congress enacted CERCLA, setting up what has become known as the Superfund program, in 1980 to establish prohibitions and requirements concerning closed and abandoned hazardous waste sites; provide for liability of persons responsible for releases of hazardous waste at these sites; and establish a trust fund to provide for cleanup when no responsible party can be identified. Generally, CERCLA authorizes two kinds of response actions:

- Short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response.
- Long-term remedial response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life threatening.

Superfund Amendments and Reauthorization Act

SARA amended the CERCLA in 1986, emphasizing the importance of permanent remedies and innovative treatment technologies to clean up hazardous waste sites; requiring Superfund actions to consider the standards and requirements found in other state and federal environmental laws and regulations; providing new enforcement authorities and settlement tools; increasing involvement of the states in every phase of the Superfund program; increasing the focus on human health problems posed by hazardous waste sites; encouraging greater citizen participation in making decisions on how sites should be cleaned up; and increasing the size of the trust fund to $8.5 billion.

Hazardous Materials Transportation Act

The transportation of hazardous materials is regulated by the Hazardous Materials Transportation Act (49 CFR Section 101 et seq.), which is administered by the Research and Special Programs Administration of U.S. DOT. The Hazardous Materials Transportation Act governs the safe transportation of hazardous materials by all modes. The DOT regulations that govern the transportation of hazardous materials are applicable to any person who transports, ships, causes to be transported or shipped, or who is involved in any way with the manufacture or testing of hazardous materials packaging or containers. The DOT regulations govern every aspect of the movement, including packaging, handling, labeling, marking, placarding, operational standards, and highway routing.

Emergency Planning Community Right-to-Know Act

The Emergency Planning Community Right-to-Know Act, or the SARA Title III, was enacted in October 1986. SARA Title III requires any infrastructure at the State and local levels to plan for chemical emergencies, including identifying potential chemical threats. Reported information is then made publicly available so that interested parties may become informed about potentially dangerous chemicals in their community. Emergency Planning Community Right-to-Know Act Sections 301–312 are administered by USEPA's Office of Emergency Management. USEPA's Office of Information Analysis and Access implements the act's Section 313 program. In California, SARA Title III is implemented through the California Accidental Release Prevention Program (CalARP).

Federal Disaster Mitigation Act

The Disaster Mitigation Act of 2000 provided a new set of mitigation plan requirements that encourage state and local jurisdictions to coordinate disaster mitigation planning and

implementation. States are encouraged to complete a "Standard" or an "Enhanced" Natural Mitigation Plan. "Enhanced" plans demonstrate increased coordination of mitigation activities at the state level and, if completed and approved, increase the amount of funding through the Hazard Mitigation Grant Program.

Code of Federal Regulations, Title 14, Part 77

The primary role of the Federal Aviation Administration (FAA) is to promote aviation safety and control the use of airspace. Public use airports that are subject to the FAA's grant assurances must comply with specific FAA design criteria, standards, and regulations. Land use safety compatibility guidance from the FAA is limited to the immediate vicinity of the runway, the runway protection zones at each end of the runway, and the protection of navigable airspace. 14 CFR 77, Safe Efficient Use and Preservation of the Navigable Airspace, establishes the federal review process for determining whether proposed development activities in the vicinity of an airport have the potential to result in a hazard to air navigation. 14 CFR Part 77 identifies standards for determining whether a proposed project would represent an obstruction "that may affect safe and efficient use of navigable airspace and the operation of planned or existing air navigation and communication facilities." Objects that are identified as obstructions based on these standards are presumed to be hazards until an aeronautical study conducted by the FAA determines otherwise.

b. State Laws, Regulations, and Policies

California Asbestos Regulations

In 1990, CARB issued an Airborne Toxic Control Measure, which prohibited the use of serpentine aggregate for surfacing if the asbestos content was 5 percent or more. In July 2000, CARB adopted amendments to the existing Airborne Toxic Control Measure prohibiting the use or application of serpentine, serpentine-bearing materials, and asbestos-containing ultramafic rock for covering unpaved surfaces unless it has been tested using an approved asbestos bulk test method and determined to have an asbestos content that is less than 0.25 percent. In July 2001, CARB adopted a new Airborne Toxic Control Measure for construction, grading, quarrying, and surface mining operations in areas with serpentine or ultramafic rocks. These regulations are codified in Title 17, Section 93105 of the CCR. The regulations require preparation and implementation of an Asbestos Dust Mitigation Plan for construction or grading activities on sites greater than 1 acre in size with known NOA soils. The air districts enforce this regulation. In October 2000, the Governor's Office of Planning and Research issued a memorandum providing guidance to lead agencies in analyzing the impacts of NOA on the environment through the CEQA review process. In November 2000, the California Department of Real Estate added a section to subdivision forms that includes questions related to NOA on property proposed for development. In 2004, as part of its school-site review program, DTSC's School Property Evaluation and Cleanup Division released interim guidance on evaluating NOA at school sites. In addition, California Health and Safety Code Section 19827.5 prohibits issuance of demolition permits by local and State agencies without assessment of the potential for the structure to contain asbestos.

Title 8, California Code of Regulations

The California Division of Occupational Safety and Health Administration lead standard for construction activities is implemented under Title 8 of the CCR. The standard applies to any construction activity that may release lead dust or fumes, including, but not limited to, manual

scraping, manual sanding, heat gun applications, power tool cleaning, rivet busting, abrasive blasting, welding, cutting, or torch burning of lead-based coatings. Unless otherwise determined by approved testing methods, all paints and other surface coatings are assumed to contain lead at prescribed concentrations, depending on the application date of the paint or coating.

California Accidental Release Prevention Program

The CalARP Program addresses facilities that contain specified hazardous materials, known as "regulated substances," that, if involved in an accidental release, could result in adverse off-site consequences. The CalARP Program defines regulated substances as chemicals that pose a threat to public health and safety or the environment because they are highly toxic, flammable, or explosive.

California Unified Program Administration

The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections and enforcement activities of six environmental and emergency response programs, as listed below:

- Hazardous Materials Release Response Plans and Inventories (Business Plans);
- CalARP Program;
- Underground Storage Tank Program;
- Aboveground Petroleum Storage Act Program;
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs; and
- California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements

The state agency partners involved in the Unified Program have the responsibility of setting program element standards, working with CalEPA on ensuring program consistency and providing technical assistance to the Certified Unified Program Agencies. The following state agencies are involved with the Unified Program:

- CalEPA is directly responsible for coordinating the administration of the Unified Program. The Secretary of the CalEPA certifies Certified Unified Program Agencies
- DTSC provides technical assistance and evaluation for the hazardous waste generator program including onsite treatment (tiered permitting)
- OES is responsible for providing technical assistance and evaluation of the Hazardous Material Release Response Plan (Business Plan) Program and the CalARP Programs
- The Office of the State Fire Marshal is responsible for ensuring the implementation of the Hazardous Material Management Plans and the Hazardous Material Inventory Statement Programs. These programs tie in closely with the Business Plan Program
- SWRCB provides technical assistance and evaluation for the UST program in addition to handling the oversight and enforcement for the aboveground storage tank program

The Certified Unified Program Agency (CUPA) for the SJCOG region is the San Joaquin County Environmental Health Department (EHD). The EHD is responsible for implementing the federal and state laws and regulations pertaining to the handling of hazardous wastes and hazardous materials.

California Land Environmental Restoration and Reuse Act

The California Land Environmental Restoration and Reuse Act of 2001 established California Human Health Screening Levels (CHHSLs) as a tool to assist in the evaluation of contaminated sites for potential adverse threats to human health. The CHHSLs were developed by the Office of Environmental Health Hazard Assessment, an agency under the umbrella of CalEPA. The thresholds of concern used to develop the CHHSLs are an excess lifetime cancer risk of one in 1 million and a hazard quotient of 1.0 for non-cancer health effects. The CHHSLs were developed using standard exposure assumptions and chemical toxicity values published by USEPA and CalEPA. The CHHSLs can be used to screen sites for potential human health concerns where releases of hazardous chemicals to soils have occurred. Under most circumstances, the presence of a chemical in soil, soil gas, or indoor air at concentrations below the corresponding CHHSLs can be assumed to not pose a significant health risk to people who may live (residential CHHSLs) or work (commercial/ industrial CHHSLs) at the site.

California Multi-Hazard Mitigation Plan

The State Hazard Mitigation Plan represents the state's primary hazard mitigation guidance document - providing an updated analysis of the state's historical and current hazards, hazard mitigation goals and objectives, and hazard mitigation strategies and actions. The plan represents the state's overall commitment to supporting a comprehensive mitigation strategy to reduce or eliminate potential risks and impacts of disasters in order to promote faster recovery after disasters and, overall, a more resilient state. State Hazard Mitigation Plans are required to meet the Elements outlined in the Federal Emergency Management Agency's State Mitigation Plan Review Guide (revised March 2015, effective March 2016).

OES is responsible for the development and maintenance of the State's plan for hazard mitigation. The State's multi-hazard mitigation plan was last approved by the Federal Emergency Management Agency as an Enhanced State Mitigation Plan in 2018. The plan is designed to reduce the effects of disasters caused by natural, technological, accidental, and adversarial/human-caused hazards. The State Hazard Mitigation Plan sets the mitigation priorities, strategies, and actions for the state. The plan also describes how risk assessment and mitigation strategy information is coordinated and linked from local mitigation plans into the State Hazard Mitigation Plan and provides a resource for local planners of risk information that may affect their planning area. The State of California is required to review and revise its mitigation plan and resubmit for Federal Emergency Management Agency approval at least every five years to ensure continued funding eligibility for certain federal grant programs.

California Public Resources Code 21151.4

Pursuant to Public Resources Code Section 21151.4, projects that can be reasonably anticipated to produce hazardous air emissions or handle extremely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school must consult with the potentially affected school district and provide written notification not less than 30 days prior to the proposed certification or adoption of an environmental document. Where a school district proposes property acquisition or the construction of a school, the environmental document must address existing environmental hazards, and written findings must be prepared regarding existing pollutant sources.

California Education Code

Sections 17071.13, 17072.13, 17210, 17210.1, 17213.1-3 and 17268 of the California Education Code became effective January 1, 2000. Together, they establish requirements for assessments and approvals regarding toxic and hazardous materials that school districts must follow before receiving final site approval from the DOE and funds under the School Facilities Program. These requirements are consistent with those described above for certification or adoption of an environmental document under Public Resources Code Section 21151.4. California Education Code Section 17213(b) establishes requirements for assessments and approvals that address the potential for existing contamination on the site, and whether nearby land uses might reasonably be anticipated to emit hazardous air emissions or handle hazardous materials. Assessment of existing contamination is conducted in coordination with DTSC's School Property Evaluation and Cleanup Division, which is responsible for assessing, investigating, and cleaning up proposed school sites. This Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy a new school.

Carpenter-Presley-Tanner Hazardous Substances Account Act

The Carpenter-Presley-Tanner Hazardous Substance Account Act imposes liability for hazardous substances removal or remedial actions and requires the State Attorney General to recover from the liable person, as defined, certain costs incurred by the DTSC or any of the state's nine RWCQBs, upon the request of the DTSC or Regional Water Quality Control Board. The act authorizes, except as specified, a party found liable for any costs or expenditures recoverable under the act for those actions to establish, as specified, that only a portion of those costs or expenditures are attributable to the party, and requires the party to pay only for that portion. If each party does not establish its liability, the act requires a court to apportion those costs or expenditures, as specified, among the defendants and the remaining portion of the judgment is required to be paid from the Toxic Substances Control Account. Existing law authorizes the money deposited in the Toxic Substances Control Account in the General Fund to be appropriated to the DTSC for specified purposes, including the payment of the costs incurred by the state for those actions.

Lempert-Keene-Seastrand Oil Spill Prevention and Response Act

The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 granted the Office of Spill Prevention and Response the authority to direct prevention, removal, abatement, response, containment, and cleanup efforts regarding all aspects of any oil spill in marine waters of California. The Office of Spill Prevention and Response implements the California Oil Spill Contingency Plan, consistent with the National Contingency Plan, which pays special attention to marine oil spills and impacts to environmentally- and ecologically sensitive areas. In 2014, the Office of Spill Prevention and Response program was expanded to cover all statewide surface waters at risk of oil spills from any source, including pipelines and the increasing shipments of oil transported by railroads.

Local Community Rail Security Act

The Local Community Rail Security Act of 2006 (Public Utilities Code Sections 7665-7667) requires all rail operators to provide security risk assessments to California Public Utilities Commission, the Director of Homeland Security and the Catastrophic Event Memorandum Account that describe the following:

- Location and function of each rail facility;
- Types of cargo stored at or typically moved through the facility;
- Hazardous cargo stored at or moved through the facility;
- Frequency of hazardous movements or storage;
- Description of sabotage-terrorism countermeasures;
- Employee training programs;
- Emergency response procedures; and
- Emergency response communication protocols

c. Local Laws, Regulations, and Policies

San Joaquin Valley Air Pollution Control District

SJVAPCD is responsible for attaining and maintaining air quality standards within the San Joaquin Valley Air Basin, which includes the Valley-air-basin portion of Kern County and Kings, Tulare, Fresno, Madera, Merced, Stanislaus, and San Joaquin counties. SJVAPCD oversees regional air monitoring, stationary-source permitting, enforcement, long-range air quality planning, and development of regulations consistent with the federal Clean Air Act and the California Clean Air Act. Projects within the San Joaquin Valley Air Basin are subject to SJVAPCD's rules and regulations, which cover a wide array of topics including prohibitions, permitting requirements, fee schedules, emission reduction programs, and contingency planning measures. SJVAPCD's rules are also incorporated into the federally approved State Implementation Plan, including regulations pertaining to open burning (Rule 4103) and other pollutant-specific prohibitions. These regulations ensure compliance with state and federal air quality standards and establish enforceable requirements for emissions.

San Joaquin County General Plan

The San Joaquin County General Plan Public Health and Safety Element includes policies intended to minimize the impacts of man-made or natural disasters, hazardous materials, or other safety concerns. Relevant policies to the proposed 2026 RTP/SCS EIR include the following (San Joaquin County 2016):

- **Policy PHS-7.1: Minimize Hazardous Materials and Wastes**. The County shall discourage the use of hazardous materials and the creation of hazardous wastes.
- **Policy PH-7.2: Avoid Contamination of Resources**. The County shall strive to ensure that hazardous materials and wastes do not contaminate air, water, or soil resources.
- **Policy PHS-7.3: Control Hazardous Materials**. The County shall require the use, storage, and disposal of hazardous materials and wastes to comply with local, State, and Federal safety standards
- **Policy PHS-7.4: County Hazardous Waste Management Plan**. The County shall maintain and implement the County Hazardous Waste Management Plan.
- **Policy PHS-7.5: Locate Hazardous Materials Away from Populated Areas**. To the extent feasible, the County shall require proposed activities and land uses that use, store, or dispose of hazardous materials or wastes to be located away from existing and planned populated areas.

- **Policy PHS-7.6: Require Hazardous Materials Management Plans**. The County shall require businesses that use or store materials and wastes on-site to prepare Hazardous Materials Management Plans (Business Plans) that map and inventory all hazardous materials and contain contingency plans for accidents, designate an individual or individuals as emergency coordinator(s), and ensure that all employees understand the potential for accidents and the appropriate response. Plans must follow the requirements for Federal, State, and/or local defined special flood hazard areas.
- **Policy PHS-7.7: County Hazardous Materials Area Plan**. The County shall maintain and implement the County Hazardous Materials Area Plan for emergency response to a release or threatened release of hazardous material within the unincorporated County.
- **Policy PHS-7.8: Consistency with Hazardous Waste Management Plan**. The County shall require all new development to be consistent with the County Hazardous Waste Management Plan (CHWMP). Any proposed hazardous waste facility, or expansion of an existing hazardous waste facility, shall be consistent with the CHWMP.
- **Policy PHS-7.9: Require Disclosure of Hazardous Materials and Waste**. The County shall require public disclosure of hazardous materials and wastes for existing and proposed businesses.
- **Policy PHS-7.10: Household Hazardous Waste**. The County shall provide educational programs to inform the public about household hazardous waste and the proper disposal methods.
- **Policy PHS-7.11: Hazardous Materials Transportation Routes**. The County shall continue to maintain route designations for hazardous materials transport within San Joaquin County.
- **Policy PHS-7.12: Hazardous Liquids Storage Tanks**. The County shall maintain and implement hazardous material regulations for the storage of hazardous liquids in underground or aboveground storage tanks.
- **Policy PHS-7.13: Hazardous Waste Disposal Waste**. The County shall provide areas for hazardous waste disposal facilities sufficient to meet the needs of county residents and businesses.
- **Policy PHS-7.14: Legislative Support**. The County shall support legislation that would further reduce public risks associated with hazardous materials, reduce hazardous waste generation, aid in cleanup, or provide assistance for hazardous materials management.
- **Policy PHS-7.15: Site Cleanup Support**. The County shall support programs and funding for determination of sites contaminated with hazardous materials and for site cleanup.
- **Policy PHS-7.16: Hazardous Waste Property Designations**. When known, the County shall refer contaminated sites to the appropriate lead agency with established authority/jurisdiction for the required assessment and cleanup activities.

City General Plans

Local planning policies related to hazards and hazardous materials are established in each jurisdiction's General Plan, generally in the Safety Element or equivalent chapter. Safety Elements are required to address geologic hazards, fire hazards, dam failure, evacuation routes, flooding, and emergency response among other issues. For emergency services, some of the relevant policies may include coordinating with other agencies that are responsible for planning medical facilities to meet the health care needs of residents in the region, retaining hospitals, evaluating medical facility proposals, providing emergency response services, and participating in mutual-aid agreements. Most of the incorporated cities in the SJCOG region each have an adopted General Plan which includes a Safety Element or equivalent chapter. The City of Mountain House, incorporated in 2024,

is currently preparing its first General Plan. Until adoption, land use planning is guided by the Mountain House Master Plan, adopted by San Joaquin County, along with associated Specific Plans. For projects within the municipal area of these cities these Plans would supersede the elements of the County General Plan. The most notable goals and policies of these General Plans concerning hazards and hazardous materials are listed in the following sections.

City of Lodi

The City of Lodi's Safety Element of the General Plan identifies the natural and manmade hazards that exist within the city and seeks to mitigate their potential impacts through both preventative and response measures. Relevant goals to the proposed 2026 RTP/SCS EIR include the following (City of Lodi 2024):

- **Policy S-G1:** Ensure a high level of public health and safety
- **Policy S-G2:** Prevent loss of lives, injury, illness, and property damage due to flooding, hazardous materials, seismic and geological hazards, and fire.
- **Policy SG-3:** Protect the public from disasters and provide guidance and response in the event a disaster or emergency.

City of Manteca

The City of Manteca's General Plan Safety element includes policies that exist within the city that minimize the impacts of man-made or natural disasters, hazardous materials, or other safety concerns. Relevant policies to the proposed 2026 RTP/SCS EIR include the following (City of Manteca 2025):

- **Policy S-4.1**: Maintain an awareness of hazardous materials throughout the Manteca region.
- **Policy S-4.2**: Strictly regulate the production, use, storage, transport, and disposal of hazardous materials in compliance with local, federal, and State requirements to protect the health and safety of Manteca residents.
- **Policy S-4.3**: As part of the development review process, consider the potential for the production, use, storage, transport, and/or disposal of hazardous materials and provide for appropriate controls on such hazardous materials consistent with federal, state, and local standards.
- **Policy S-4.4:** Use the environmental review process to comment on Hazardous Waste Transportation, Storage and Disposal Facilities proposed in the Manteca Planning Area and throughout the County to request a risk assessment and ensure that potentially significant, widespread, and long-term impacts on public health and safety of these facilities are identified and mitigated, as such impacts do not respect jurisdictional boundaries.

City of Tracy

The City of Tracy's General Plan Safety Element provides information about the risks in Tracy due to natural and human-made hazards with policies geared towards minimizing the level of risk. These policies fall under goal SA-4 which may be relevant to the proposed 2026 RTP/SCS EIR and is stated in following way (City of Tracy 2011):

- **Goal SA-4:** Protection from the harmful effects of hazardous materials and waste.

Local Hazard Mitigation Plans

Local jurisdictions develop, adopt, and update hazard mitigation plans to establish guiding principles for reducing hazard risk, as well as specific mitigation actions to eliminate or reduce identified vulnerabilities. San Joaquin County OES's Local Hazard Mitigation Plan (LHMP) was last updated in 2023. The LHMP recognized earthquakes, floods, dam inundation, landslides, and wildfire as the local natural hazards among others. The LHMP also states mitigation strategies and actions that serve as the long-term blueprint for reducing potential losses. Activities such as seismic retrofitting essential facilities and implementing erosion and sediment control regulations are examples of specific actions which can be taken to prevent or minimize damage. Such activities have been identified for each hazard in the LHMP (San Joaquin County LHMP 2023).

Airport Land Use Compatibility Plans

The six public airports within the SJCOG region are: Kingdon Airport, Lodi (Lind's) Airport, Lodi (Precissi) Airpark, New Jerusalem Airport, Stockton Metropolitan Airport, and Tracy Municipal Airport. The Airport Land Use Compatibility Plans (ALUCP) adopted two ALUCPs for these airports. The Stockton Metropolitan ALUCP was adopted in 2016 and amended in 2018, and the other ALUCP, which covers the other five airports, was adopted in 2009. Each ALUCP establishes areas of influence within which airport operations are likely to affect land uses or land uses could affect airport operations. Safety and noise criteria are identified in the ALUCP so that land use conflicts with airport operations are minimized. Prior to amending a general plan, a local agency must "refer" the proposed action to the ALUCP (Pub. Util. Code Sec. 21676, et seq.) County and city General Plans must be consistent with the applicable ALUCP (Government Code Section 65302.2).

4.10.3 Impact Analysis

a. Methodology and Significance Thresholds

The methodology used for the following evaluation is based on a review of documents and publicly available information about hazardous and potentially hazardous conditions in the SJCOG region to determine the potential for implementation of the proposed 2026 RTP/SCS to result in an increased health or safety hazard to people or the environment. This includes city and county planning documents, and hazardous materials database information maintained by various state and federal agencies, such as DTSC and SWRCB. Due to the large area of the SJCOG region and the programmatic nature of impact analyses, known sites of current or former contamination were not evaluated in detail, and physical surveys were not conducted. Rather, this program-level analysis is based on hazards typically associated with certain transportation projects and land uses, and an overall understanding of the key safety concerns that could result from implementation of the proposed 2026 RTP/SCS.

Appendix G of the *CEQA Guidelines* identifies criteria for determining whether a project's impacts would have a significant impact related to hazards and hazardous materials, namely an analysis of whether or not the proposed 2026 RTP/SCS would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

3. Emit hazardous emissions or handles hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school;
4. Be located on a site which is included on a list of hazardous materials compiled by the Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area;
6. Impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Impacts related to exposure to wildland fires (Threshold 7), are discussed in detail Section 4.16, *Wildfire*, under Impact WF-1.

The methodology used for the following evaluation is based on a review of documents and publicly available information about hazardous and potentially hazardous conditions in the SJCOG region to determine the potential for implementation of the proposed 2026 RTP/SCS to result in an increased health or safety hazard to people or the environment. This includes city and county planning documents, and hazardous materials database information maintained by various state and federal agencies, such as DTSC and SWRCB. Due to the large area of the SJCOG region, known sites of current or former contamination were not evaluated in detail, and physical surveys were not conducted. Rather, this program-level analysis is based on hazards typically associated with certain land uses and an overall understanding of the key safety concerns that could result from implementation of the proposed 2026 RTP/SCS.

The evaluation of hazards and hazardous materials impacts reasonably assumes that the construction and development under the proposed 2026 RTP/SCS would adhere to the latest federal, state, and local regulations, and conform to the latest required standards in the industry, as appropriate for individual projects.

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 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 improvements and future projects under the land use scenario envisioned by the proposed 2026 RTP/SCS could result in the impacts as described in the following sections.

Threshold 1:	Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
Threshold 2:	Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Impact HAZ-1 TRANSPORTATION IMPROVEMENT PROJECTS AND LAND USE PATTERNS INCLUDED IN THE PROPOSED 2026 RTP/SCS MAY FACILITATE THE ROUTINE TRANSPORT, USE, OR DISPOSAL OF HAZARDOUS MATERIAL, AND MAY RESULT IN REASONABLY FORESEEABLE UPSET AND ACCIDENT CONDITIONS. MANDATORY COMPLIANCE WITH EXISTING REGULATIONS AND PROGRAMS WOULD MINIMIZE THE RISK ASSOCIATED WITH THESE ACTIVITIES OR ACCIDENT CONDITIONS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction of land use patterns and transportation projects associated with implementation of the proposed 2026 RTP/SCS would temporarily increase the regional transport, use, storage, and disposal of hazardous materials commonly used at construction sites, such as diesel fuel, lubricants, paints and solvents, and asphalt and cement products containing strong basic or acidic chemicals. Hazardous waste generated during construction may consist of welding materials, fuel and lubricant containers, paint and solvent containers, and discarded asphalt and cement products.

The demolition of existing structures, particularly older structures, for construction of land use and transportation projects included in the 2026 RTP/SCS has the potential to expose workers and the public to asbestos containing materials or lead-based paint. Construction could also occur in areas of naturally occurring asbestos, which could expose construction workers and the public to asbestos. Health and Safety Code Section 19827.5 requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. Mandatory compliance with asbestos abatement and disposal regulations and requirements, including SJCACD Rule 4002, which incorporates the federal asbestos National Emission Standards for Hazardous Air Pollutants would minimize the risk of exposure. All hazardous materials would be stored, handled, and disposed of according to the manufacturers' recommendations and spills would be cleaned up in accordance with applicable regulations, as described in Title 49 CFR 171–180 and the Hazardous Materials Transportation Act. Hazardous materials spills or releases, including petroleum products such as gasoline, diesel, and hydraulic fluid, regardless of quantity spilled, must be immediately reported if the spill has entered or threatens to enter a water of the State, including a stream, lake, wetland, or storm drain, or has caused injury to a person or threatens injury to public health. Immediate notification must be made to the local emergency response agency, or 911, and the OES Warning Center. For non-petroleum products, additional reporting may be required if the release exceeds federal reportable quantity thresholds over a release period of 24 hours as detailed in California Health and Safety Code Section 25359.4 and in 40 CFR 302.4. According to the DTSC Hazardous Waste Tracking System database, approximately 56,000 tons of hazardous waste was transported within the SJCOG region in 2020, and 16 hazardous-material spill incidents were reported during the same year (U.S. DOT 2025). As described above, the DOT has identified multiple routes within the SJCOG region as hazardous material routes to increase the safe transport of hazardous materials (Federal Motor Carrier Safety Administration 2023). Additionally, trucks transporting hazardous material would also have to use local collector and arterial streets to access individual project sites in the SJCOG region. Transportation projects would also require the temporary storage and use of hazardous materials at locations along project roads. Thus, trucks transporting hazardous materials for project construction

would use many of the same freeways, arterials, and local streets as other traffic. This would create a risk of accidents and associated release of hazardous materials affecting drivers and people along these routes, as well as drivers of those trucks. Although the transportation of hazardous materials could result in accidental spills, leaks, toxic releases, fire, or explosion, the DOT prescribes strict regulations for the safe transportation of hazardous materials, as described in Title 49 of the CFR and the Hazardous Materials Transportation Act. These standard accident and hazardous materials recovery training and procedures are enforced by the state and followed by private state-licensed, certified, and bonded transportation companies and contractors.

The construction of land use and transportation projects included in the proposed 2026 RTP/SCS that require demolition of existing structures, particularly older structures, would have the potential to expose workers and the public to asbestos containing materials or dust containing asbestos. California Health and Safety Code Section 19827.5 requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. Mandatory compliance with asbestos abatement and disposal regulations and requirements would minimize the risk of exposure.

Land use patterns included in the proposed 2026 RTP/SCS would have the potential to increase population, jobs, and households and a variety of land uses including residential, commercial, and industrial. Specific uses such as dry cleaners, gas stations, and certain industrial uses, would involve routine transport, use, and disposal of hazardous materials such as household hazardous wastes (e.g., paints, cleaning supplies, solvents, and petroleum products) and commercial and industrial hazardous waste. The operation of businesses facilitated by land use patterns included in the proposed 2026 RTP/SCS that use, create, or dispose of hazardous materials would be regulated and monitored by federal, state, and local regulations that provide a high level of protection to the public and the environment from the hazardous materials manufactured within, transported to, and disposed within the SJCOG region. Use of hazardous materials at these businesses would also require permits and monitoring to avoid hazardous waste release through the local CUPA. During operation, businesses that store hazardous materials could potentially experience accidents or upset conditions that result from their routine use. These businesses would be required to prepare spill prevention, containment, and countermeasures plans (pursuant to 40 CFR 112) or, for smaller quantities, a spill prevention and response plan. These plans identify best management practices for spill and release prevention and provide procedures and responsibilities for rapidly, effectively, and safely cleaning up and disposing of any spills or releases. Oversight is provided by the CUPA. Disposal of hazardous waste generated by these businesses would be subject to compliance with DTSC and CalEPA regulations.

Pursuant to the requirements and liabilities of applicable regulations, the routine use or accidental spill of hazardous materials at business and industrial uses facilitated by the land use patterns included in the proposed 2026 RTP/SCS would not pose a substantial hazard to the public or the environment.

Transportation projects included in the proposed 2026 RTP/SCS include a variety of transportation modifications such as new travel lanes, auxiliary lanes, roadway widening, increased transit service and expansion, and other maintenance and rehabilitation projects. The projects may increase the capacity of roadways to transport hazardous materials. Roadway projects in the proposed 2026 RTP/SCS would also improve road safety, as well as pedestrian and bicycle safety, thereby potentially reducing transportation-related hazardous materials risks because fewer accidents would occur on safer roads. As described earlier, hazardous materials associated with the project

would be stored, handled, transported, and disposed of in accordance with Title 49 CFR 171–180, which establishes federal requirements for the safe packaging, handling, and transportation of hazardous materials under the Hazardous Materials Transportation Act, ensuring that construction and operation of transportation projects would provide safe transport and disposal of hazardous waste.

The proposed 2026 RTP/SCS encourages infill development and increased population and employment density near public transit stops, including rail. There could also be increased urbanization along transportation corridors. Thus, the number of people potentially exposed to hazardous conditions could increase as a result of land use patterns included in the proposed 2026 RTP/SCS. To be declared a sustainable communities project under Public Resources Code Section 21155.1, projects in transit priority areas must demonstrate that there would not be an "unusually high" risk of fire or explosion from materials stored or used on or near the property and the project would not result in a risk of exposure to a potentially hazardous material at levels that exceed state and federal standards. This would occur on a project-specific basis and does not affect the other streamlining strategies and statutes under the Sustainable Communities Act.

As described above in 4.10.2, *Regulatory Setting*, the DOT regulates the transport of hazardous materials by all modes, including rail and highways under the regulations of the Hazardous Materials Transportation Act. The Local Community Rail Security Act of 2006 requires all rail operators to provide security risk assessments to California Public Utilities Commission, which includes emergency response procedures and communication protocols. Mandatory implementation of additional federal, state, and local requirements such as CalARP Program and the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act would minimize potential exposure to the public and the environment from accidental releases. Therefore, although population density would increase in proximity to major transportation corridors that are used to transport hazardous and flammable materials, the increased risk of hazards from routine transport or accidental upsets during transport would still be minimal.

In conclusion, both planned land use patterns and transportation projects could increase the routine transport, use, storage, and disposal of hazardous wastes in the SJCOG region. The planned land use patterns and transportation projects could also increase the potential for unintentional upset and accident conditions. Because of the existing federal, state, and local regulations and oversight in place that would effectively reduce the inherent hazard associated with routine transport, use, storage and disposal activities, and regulations that effectively reduce the potential for individual projects to create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions, impacts would be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 3:	Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Impact HAZ-2 TRANSPORTATION IMPROVEMENT PROJECTS AND LAND USE PATTERNS INCLUDED IN THE PROPOSED 2026 RTP/SCS WOULD FACILITATE HAZARDOUS EMISSIONS OR HANDLING OF ACUTELY HAZARDOUS MATERIALS, SUBSTANCES OR WASTE WITHIN ONE-QUARTER MILE OF AN EXISTING OR PROPOSED SCHOOL. EXISTING REGULATIONS AND PROGRAMS WOULD REDUCE THE RISK TO SCHOOLS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

As described in Section 4.10.1*, Settings,* there are 245 public and private schools in the SJCOG region with more than 154,000 students enrolled (San Joaquin County Office of Education 2025). Land use patterns included in the proposed 2026 RTP/SCS would increase population, jobs, and households and include a variety of land uses including residential, commercial, and industrial. Specific uses such as dry cleaners, gas stations, and certain industrial uses, would involve routine handling of hazardous materials such as household hazardous substances (e.g., paints, cleaning supplies, solvents, and petroleum products) and commercial and industrial hazardous waste. The proposed 2026 RTP/SCS could increase the amount of hazardous materials handled within 0.25 mile of schools, depending on the specific location of land uses relative to schools in the region. Many of the proposed transportation projects and land use scenarios would occur in the main urban areas of the SJCOG region and as a result, may occur near schools.

Any new commercial or industrial operations in proximity to existing schools would be required to comply with regulations related to the routine use, storage, and transport of hazardous materials. Land uses that would generate emissions or involve the handling of extremely hazardous materials, substances, or waste within 0.25 mile of an existing school must notify the affected school district pursuant to Public Resources Code Section 21151.4. Compliance with existing regulations would reduce the exposure to potential hazards associated with these land uses.

For new schools that may be developed to address the population distribution changes resulting from land use patterns included in the proposed 2026 RTP/SCS, the California Education Code, including Education Code Section 17213(b), establishes requirements for assessments and approvals that address the potential for existing contamination on the site, and whether nearby land uses might reasonably be anticipated to emit hazardous air emissions or handle hazardous materials. Assessment of existing contamination is conducted in coordination with DTSC's School Property Evaluation and Cleanup Division, which is responsible for assessing, investigating, and cleaning up proposed school sites. This Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy a new school. Therefore, hazardous impacts on schools related to land use patterns included in the proposed 2026 RTP/SCS would be less than significant.

The transportation projects included in the proposed 2026 RTP/SCS could increase the capacity to transport hazardous materials on roads within the SJCOG region, including within 0.25 mile of schools. However, all materials must be used, stored, and disposed of in accordance with applicable federal, state, and local laws, which would effectively reduce the potential impacts associated with hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or potential future school. Transportation projects in the proposed 2026 RTP/SCS would be designed to improve road safety, thereby reducing the potential for accidents in proximity of schools related to hazardous materials. Therefore, the hazardous materials

impacts related to existing and proposed schools from implementation of the transportation projects included in the proposed 2026 RTP/SCS would be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 4:	Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Impact HAZ-3 THE PROPOSED 2026 RTP/SCS INCLUDES LAND USE PATTERNS AND TRANSPORTATION PROJECTS THAT COULD OCCUR ON PREVIOUSLY UNKNOWN HAZARDOUS MATERIAL SITES OR SITES ON THE LIST COMPILED BY GOVERNMENT CODE SECTION 65962.5, AND THEREFORE CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR ENVIRONMENT. THIS IMPACT WOULD BE SIGNIFICANT BUT MITIGABLE.

Throughout the SJCOG region there are many sites where historical releases of hazardous materials or wastes have occurred; these are listed in environmental databases pursuant to Government Code Section 65962.5. As described above, there are hundreds of documented sites of contamination in some stage of DTSC or SWRCB oversight in the region. These sites range from small releases that have had localized effects on private property and have already been remediated to large scale releases from long-term historical industrial practices that have had wider ranging effects on groundwater. Specific sites of documented contamination are not evaluated in this analysis because this is a programmatic level document. Further, because the precise timing of future land use developments is unknown, an evaluation of the potential for specific sites of known contamination within the SJCOG region to be affected by land use patterns included in the proposed 2026 RTP/SCS cannot be conducted at this time. However, land use can be used to generally characterize the potential for release of hazardous materials (i.e., hazardous materials releases are more likely to have occurred in areas that currently or historically supported industrial uses). In addition, construction activities that disturb subsurface materials could encounter previously unidentified contamination from past practices or placement of undocumented fill or even unauthorized disposal of hazardous wastes. Encountering these hazardous materials could expose workers, the public or the environment to adverse effects depending on the volume, materials involved, and concentrations.

A common practice that is typically required by lending institutions when properties change hands is for a Phase I ESA to be prepared to research and disclose the prior uses of the site and the likelihood that residual hazardous materials and/or waste might be present in underlying soil and/or groundwater. Also, in many instances implementing and/or permitting agencies require submittal of a Phase I ESA prior to approval or implementation of a project. These studies include research in a variety of government databases to determine whether the site has had prior underground tanks or other industrial uses that could result in hazardous materials on or below the ground surface. However, with the exceptions for streamlining projects in transit priority areas and siting public schools, there are no general regulatory requirements to conduct a Phase I ESA, or subsequent investigation of potential contamination. Therefore, because it cannot be assumed these practices would regularly occur, the impacts related in land use patterns included in the proposed 2026 RTP/SCS would be potentially significant.

Similarly, there would be potential for transportation projects to encounter previously unidentified contamination from past practices on sites that have not been listed in environmental databases pursuant to Government Code Section 65962.5. Thus, this impact on transportation projects included in the proposed 2026 RTP/SCS would be significant.

Mitigation Measures

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measure developed for the proposed 2026 RTP/SCS program where applicable for transportation projects that would be located on or near hazardous materials. Municipalities in the SJCOG region can and should implement this measure, where relevant to land use projects implementing the proposed 2026 RTP/SCS.

HAZ-1 Site Remediation

If an individual project included in the proposed 2026 RTP/SCS is located on or near a hazardous materials and/or waste site pursuant to Government Code Section 65962.5, the implementing agency shall prepare a Phase I ESA in accordance with the American Society for Testing and Materials' E-1527- 05 standard. For work requiring any demolition or renovation, the Phase I ESA shall make recommendations for any hazardous building materials survey work that shall be done. All recommendations included in a Phase I ESA prepared for a site shall be implemented. If a Phase I ESA indicates the presence or likely presence of contamination, the implementing agency shall require a Phase II ESA, and recommendations of the Phase II ESA shall be fully implemented. Examples of typical recommendations provided in Phase I/II ESAs include removal of contaminated soil in accordance with a soil management plan approved by the local environmental health department; covering stockpiles of contaminated soil to prevent fugitive dust emissions; capturing groundwater encountered during construction in a holding tank for additional testing and characterization and disposal based on its characterization; and development of a health and safety plan for construction workers.

IMPLEMENTATION AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are cities and the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

With implementation of this mitigation, impacts would be reduced to less than significant because project sites with hazardous material contamination that are on the list compiled by the Government Code Section 65962.5 would be identified prior to commencement of project construction. Additionally, prior to commencement of construction, measures to remediate contamination, such as containment and disposal of contaminated soil pursuant to federal and state regulations would be required. However, it cannot be guaranteed that all future project level impacts can be mitigated to a less than significant level. There are no other feasible potential mitigation measures. Therefore, impacts would remain significant and unavoidable.

Threshold 5:	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Impact HAZ-4 TRANSPORTATION IMPROVEMENT PROJECTS AND LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS MAY BE LOCATED AT OR NEAR A PUBLIC USE AIRPORT OR PRIVATE AIRSTRIP. EXISTING REGULATIONS AND REGULATORY OVERSIGHT WOULD REDUCE THE INHERENT HAZARD OF DEVELOPMENT NEAR AIRPORTS TO SAFE LEVELS, AND THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Land use patterns and transportation projects included in the proposed 2026 RTP/SCS may be located at or near one of the six public use airports or the private airstrips in the SJCOG region, and/or within the ALUCP areas. Impacts associated with development at or near existing airports are largely dependent upon site- and project-specific information that is not currently available and would be provided in the future as projects within the proposed 2026 RTP/SCS undergo project level environmental review. However, 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 Section 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. Additionally, the proposed 2026 RTP/SCS would not change existing land use designations or zoning, and land use development would be subject to existing zoning regulations, including height restrictions. Because there are existing federal, state, and local regulations and oversight in place that would effectively reduce the inherent hazard associated with development near airports to an acceptable and safe level, the proposed 2026 RTP/SCS would result in a less than significant impact.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 6:	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact HAZ-5 TRANSPORTATION IMPROVEMENT PROJECTS AND THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS COULD INTERFERE WITH EXISTING EMERGENCY RESPONSE AND EVACUATION. HOWEVER, REQUIRED REGULAR UPDATES TO EMERGENCY RESPONSE AND EVACUATION PLANS WOULD ACCOUNT FOR DEVELOPMENT AND PROJECTS AND STANDARD NOTIFICATION OF EMERGENCY RESPONSE AGENCIES DURING CONSTRUCTION ACTIVITIES WOULD ENSURE EVACUATION AND RESPONSE ROUTES ARE MODIFIED APPROPRIATELY. IMPACTS RELATED TO INTERFERENCE OR IMPAIRMENT OF AN ADOPTED EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN WOULD BE LESS THAN SIGNIFICANT.

Construction of some of the land use and transportation projects included in the proposed 2026 RTP/SCS would require temporary road closures that could impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Some of the transportation projects may require multiple years to construct. However, standard construction practices include notification of emergency responders where road closures are required. Because road closures are temporary and would be coordinated with emergency responders so that

alternative evaluation routes could be developed and employed, construction activities would have a less than significant impact.

The land use patterns included the proposed 2026 RTP/SCS emphasize infill and transit-oriented development, which would generally focus growth in existing urbanized areas of the SJCOG region. Thus, population density in urbanized areas would increase, which may improve emergency response by eliminating the need to travel to more rural and dispersed locations in the region. Alternatively, large concentrations of people could also cause adverse effects related to the implementation of emergency plans because the increased population may overburden adopted evacuation routes and other emergency response resources. However, the management of emergency response and emergency evacuation plans includes regular updates to these plans that incorporate new or proposed developments. Thus, land use patterns in the proposed 2026 RTP/SCS would be reflected in the regular updates of emergency and evacuation plans applicable to the SJCOG region.

Additionally, the proposed transportation projects would generally increase mobility and circulation capacity and, thereby, have the potential to improve response times for police, fire, and emergency service providers, especially in heavily congested areas. However, as described above, emergency and evacuation plans are regularly updated to incorporate current conditions. Therefore, potential impacts related to interference with emergency response and evacuation plans would be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant as jurisdictions are required to follow the protection policies and ordinances as described above.

4.10.4 Cumulative Impacts

The cumulative impact analysis area for hazards and hazardous materials consists of the SJCOG region and adjoining counties. Information regarding these adjoining counties can be found in Chapter 3, *Environmental Setting*, Table 3-1. Future development in this region that could result in impacts related to hazards and hazardous materials is considered in this analysis. This cumulative extent is used to evaluate potential direct and indirect, and permanent and temporary impacts to the public or the environment associated with hazardous materials, hazardous emissions, or other safety hazards within the context of the SJCOG region and adjoining counties.

Several potential hazards impacts would be site-specific, such as airport hazards and emergency response. Impacts related to airport hazards depend on the characteristics and design of individual projects and their location relative to distance and location of nearby airports. Existing regulations place limitations on the types of development that can be permitted within various aircraft zones surrounding an airport, such as building height restrictions or prohibiting residential occupancy. Mandatory compliance with these regulations would prevent substantial hazards related to airports. Cumulative impacts would be less than significant.

While some potential impacts related to hazards and hazardous materials are generally related to site-specific and project-specific characteristics and conditions, hazardous sites or releases can occur across multiple adjoining properties or jurisdictions. The transport of hazardous materials may occur on rail or on roadways, such as Interstate 5, that traverse both the SJCOG region and adjacent counties. Although such transport would be subject to existing federal, state, and local regulations and oversight, as outlined in Section 4.10.2, *Regulatory Setting*, hazards to the public or the

environment through upset and accident conditions could occur within the SJCOG region as well as adjoining counties.

In addition, land use development envisioned as part of the 2026 RTP/SCS could result in the development of sites listed in environmental databases pursuant to Government Code Section 65962.5. Cumulative impacts related to hazards and hazardous materials would be significant and implementation of the 2026 RTP/SCS would result in cumulatively considerable impacts. Transportation improvement projects and land use development included in the 2026 RTP/SCS would be required to undergo remediation and can and should comply with Mitigation Measure HAZ-1; however, this mitigation measure may not apply to areas outside the SJCOG region, and it cannot be guaranteed that all future project level impacts can be mitigated to a less than significant level. Thus, cumulative impacts related to the use and transport of hazardous materials and hazardous materials sites would be significant and unavoidable, and the 2026 RTP/SCS would have a cumulatively considerable contribution to these impacts.

4.11 Hydrology and Water Quality

This section describes the environmental and regulatory setting as well as potential water quality, groundwater supply, drainage, runoff, flooding, and dam inundation impacts of development facilitated by the proposed 2026 RTP/SCS.

4.11.1 Setting

The SJCOG region encompasses approximately 1,440 square miles in central California, and includes rivers, streams, sloughs, marshes, wetlands, channels, harbors, and aquifers. Stockton is the largest city in the SJCOG region.

a. Surface Water Hydrology

The SJCOG region is contained entirely within the San Joaquin River Hydrologic Region (HR), which includes all or part of 15 counties, four groundwater basins, and eleven subbasins. The HR stretches from the Sierra Nevadas in the east to the Coastal Range in the west. The northern border of the HR roughly follows the Cosumnes River to Folsom Lake and then lies between the Cosumnes and South Fork American Rivers. Fresno County marks the southern extent of the HR (DWR 2025a). The San Joaquin Valley is a broad alluvial plain which comprises the southernmost portion of the Great Valley Geomorphic Province of California. The Great Valley is a broad structural trough bounded by the tilted block of the Sierra Nevada on the east, the uplifted Klamath Mountains to the north, and the complexly folded and faulted Coast Ranges on the west (California Geological Survey 2002).

The major rivers in the San Joaquin River HR are the San Joaquin, Cosumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno. In general, watersheds within the HR flow from the foothills of the Sierra Nevadas towards the Sacramento-San Joaquin River Delta (the 'Delta') and eventually discharge into San Francisco Bay. The Calaveras, Mokelumne, and Stanislaus Rivers flow through or border the SJCOG region and discharge directly into the Delta or into the San Joaquin River which in turn flows through the SJCOG region and to the Delta. The west and southwestern portion of the SJCOG region are part of the Delta (Greater San Joaquin County Regional Water Coordinating Committee [RWCC] 2021).

San Joaquin River

The San Joaquin River is approximately 330 miles long and originates on the western slopes of the Sierra Nevada Mountains. It drains an area of approximately 13,500 square miles including most of the area from the southern border of Yosemite, south to Kings Canyon National Park. The majority of its flow derives from the Merced, Tuolumne, and Stanislaus Rivers. It flows northwest through the SJCOG region before entering the Delta (ESJGBA 2014).

Mokelumne River

The Mokelumne River flows westward from its headwaters high in the Sierra Nevada to the eastern edge of the Delta where it combines with the Cosumnes River. It drains approximately 660 square miles with several reservoirs including the Pardee and Camanche Reservoirs which provide water supply to the East Bay Municipal Utility District and the PG&E-operated Salt Springs Reservoir which is used for hydropower generation and is not in the SJCOG region (ESJGBA 2014).

Calaveras River

The Calaveras River flows southwest for approximately 80 miles and originates in northeast Calaveras County. The Calaveras River drains approximately 363 square miles and flows through San Joaquin County and the City of Stockton before flowing into the San Joaquin River. It derives almost entirely from rainfall, with virtually no snowmelt inflow, and contains the New Hogan Dam and Reservoir, operated by the United States Army Corps of Engineers (ESJGBA 2014).

Stanislaus River

The Stanislaus River is approximately 65 miles long and is extensively dammed, including the New Melones Dam which is an integral part of the Central Valley Project (CVP) water distribution system. It drains an approximately 904-square- mile watershed and is one of the largest tributaries to the San Joaquin River with an average annual runoff of one million acre-feet per year (AFY). It has a North, Middle, and South Fork and originates in the Sierra Nevada. The Stanislaus River forms the southern boundary of the SJCOG region, just north of Modesto (ESJGBA 2014).

Other Rivers

The Tuolumne River originates in the Sierra Nevada Mountains and is the largest tributary to the San Joaquin River. It has a watershed of approximately 1,500 square miles and an unimpaired annual runoff of approximately 1.8 million acre-feet. Flows in the lower reaches of the Tuolumne River are regulated by the New Don Pedro Dam, which was constructed in 1971 and is owned by Turlock and Modesto Irrigation Districts. New Don Pedro Reservoir has a capacity of approximately 2 million acre-feet and is operated for irrigation, hydroelectric generation, fish/wildlife protection, recreation, and flood control. Irrigation water is diverted downstream from New Don Pedro at La Grange into the Modesto Main Canal and Turlock Main Canal. The City and County of San Francisco operate O'Shaughnessy Dam in the Hetch Hetchy Valley, Lake Eleanor, and Cherry Lake in the upper watershed of the Tuolumne. These facilities are operated for municipal and industrial supply as well as hydropower (ESJGBA 2014).

The Cosumnes River is a tributary to the Mokelumne River, with the confluence of these two rivers located just north of the San Joaquin-Sacramento County line, near the town of Thornton.

Dry Creek is a minor tributary to the Mokelumne River and forms the northern boundary between San Joaquin and Sacramento Counties.

Reservoirs

The SJCOG region has eight reservoirs, one being the Camanche Reservoir which is located at the juncture of Amador, Calaveras, and San Joaquin counties. Table 4.11-1 lists each reservoir and provides the water source, size, and operating agency of each reservoir.

Table 4.11-1 Reservoirs in the SJCOG Region

Reservoir	River	Size (acre/feet)	Owning/Operating Agency
Pardee Reservoir	Mokelumne River	197,950	East Bay Municipal Utility District
Camanche	Mokelumne River	417,120	East Bay Municipal Utility District
New Hogan Lake	Calaveras River	317,000	US Bureau of Reclamation, US Army Corps. of Engineers, Stockton East Water District, Calaveras County Water District
New Melones Reservoir	Stanislaus River	2,400,00	US Bureau of Reclamation, Central Valley Water Project
Beardsley Reservoir	Stanislaus River	77,600	Oakdale Irrigation District and South San Joaquin Irrigation District
Donnells Reservoir	Stanislaus River	56,893	Oakdale Irrigation District and South San Joaquin Irrigation District
Tulloch Reservoir	Stanislaus River	68,400	Oakdale Irrigation District and South San Joaquin Irrigation District
Friant Dam	San Joaquin River	520,500	US Bureau of Reclamation

Source: State of California 2002, RWCC 2021.

b. The Delta Hydrology

The Delta waterway system is one of the State's most valuable water resources. The Delta lies within the boundaries of six counties (San Joaquin, Sacramento, Yolo, Contra Costa, Alameda, and Solano Counties) but over half of it—approximately 55 percent--lies within western San Joaquin County. The Delta is legally divided into the Primary Delta and Secondary Delta with differing regulations and uses. The Delta supplies fresh water to two-thirds of the state's population and to millions of acres of farmland (DWR 2026). Over 7.0 million acres of agricultural land, including some of the most productive and valuable agricultural areas in the world, are irrigated using Delta water imported through the State Water Project (SWP) and federal Central Valley Project (CVP). Over 700,000 acres of land and 700 miles of interlacing waterways form the Delta. Many aspects of the Delta are managed by the Delta Protection Commission and the Delta Stewardship Council (DSC), while the water itself is managed by the Delta Watermaster (San Joaquin County 2016).

All the rivers within the SJCOG region either flow directly into the Delta or flow into the San Joaquin which in turn runs into the Delta. The hydrology of the Delta has been impacted by the vast network of canals, waterways, and levees designed to control and channel the waters to provide for transportation, flood control, and water direction into the crucial SWP and CVP aqueduct systems. The portion of the Delta within the SJCOG region consists of extensive wetlands and ecologically critical areas north of State Highway 12 fed by the Mokelumne River, the many islands and both natural and artificial waterways surrounding and formed by the San Joaquin River west of Stockton, and the wetlands of the Old and Middle Rivers northwest of Tracy. Bethel Island and Discovery Bay both lie just outside the SJCOG region to the west.

c. Groundwater Hydrogeology

Three groundwater subbasins fall within the SJCOG region, including the Eastern San Joaquin and Tracy Subbasins and the northwestern tip of the Delta-Mendota Subbasin. The information in this section is largely taken from the DWR's Bulletin 118 (California's Groundwater) entries for the respective subbasins (DWR 2006 a-c) and from the Groundwater Sustainability Plans (GSPs) for the

two main Subbasins (see *Water Management Agencies,* below). The Cosumnes Subbasin was previously considered to lie within both San Joaquin and Sacramento Counties in the 2006 updates to Bulletin 118 but has since been redrawn so the border of the Cosumnes Subbasin and the Eastern San Joaquin Subbasin matches the border between the two Counties. This analysis focuses on the first two Subbasins; the Delta-Mendota Subbasin is not a primary source of groundwater within the SJCOG region, and the area of the Subbasin overlain by the SJCOG region is comparatively small. The Delta-Mendota Subbasin is managed by the Del Puerto Water District of Stanislaus County.

Eastern San Joaquin Subbasin

The Eastern San Joaquin Subbasin is defined by DWR as the areal extent of unconsolidated and semi-consolidated sedimentary deposits and is bounded by the Mokelumne, San Joaquin, and Stanislaus Rivers as well as consolidated bedrock to the east and lies entirely within the SJCOG region. Inflow estimates indicate the primary sources of recharge are precipitation and applied water, with some seepage from surface waters. Measurements over the 40 years prior to 2006 show a fairly continuous decline in groundwater levels in eastern San Joaquin County. Groundwater levels declined at an average rate of 1.7 feet per year and dropped as much as 100 feet in some areas. It is estimated that groundwater overdraft during that period reduced storage in the basin by as much as 2 million acre feet (af). Due to the continued overdraft of groundwater within the subbasin extending to the present day, significant groundwater depressions are present below the City of Stockton, east of Stockton, and east of Lodi. Several of these groundwater depressions extend to depths of about 100 feet below ground surface (or more than 40 feet below mean sea level, DWR 2006a). This has resulted in alteration of the hydrology of the subbasin, as some groundwater now flows towards the lower depression instead of away from it towards the Delta, and greatly exacerbated existing issues to water quality from salinity, which are discussed under *Water Quality*, below.

The total available groundwater storage capacity from a depth of 20 feet to the base of the groundwater basin was estimated at about 42,400,000 af based on a total aquifer material volume of 579,900,000 af and an average specific yield of 7.3 percent. This estimate was based on a study area that encompassed approximately 586,000 acres. Since the currently defined subbasin size is over 707,000 acres, the storage value mentioned above underestimates the total storage capacity for the subbasin area as defined in Bulletin 118 (DWR 2006a). The Eastern San Joaquin Subbasin has approximately 53 million acre-feet of groundwater in storage. Based on both past and recent simulations, groundwater in storage fluctuates approximately 0.01 percent per year. Current water budget estimates are simulated based on historical surface and groundwater supply covering the 20-year period of water years 1996-2015. This period was selected as the representative hydrologic period to calibrate and reduce the uncertainty. (Eastern San Joaquin Groundwater Authority [ESJGA] 2024).

The areas of the Subbasin closest to the Delta see the least pumping and levels there have been fairly stable for decades (ESJGA 2019).

Tracy Subbasin

The Tracy Subbasin also lies entirely within the SJCOG region. It is bounded by the Diablo Range to the west, the Mokelumne and San Joaquin Rivers to the north and east, and the San Joaquin County line with Stanislaus County to the south. It is adjacent to the Eastern San Joaquin Subbasin. Roughly half of the Tracy Subbasin consists of Delta islands and waterways and the rest is mixed urban and agricultural communities. 97 percent of the water used in the subbasin is surface water. There is

insufficient published data to provide a groundwater budget or estimate of recharge sources (DWR 2006b). Groundwater levels within the Subbasin have been relatively stable and recover after periods of pumping with only a few areas indicating declining groundwater levels (Tracy Subbasin Groundwater Sustainability Agencies [TSGSA] 2021). There are no published groundwater storage values for the entire basin; however, the groundwater storage capacity for the Tracy-Patterson Storage Unit is estimated at 4,040,000 af. This storage unit includes the southern portion of the currently defined Tracy Subbasin from approximately one-mile north of Tracy to the San Joaquin-Stanislaus County line. Since the Tracy Subbasin comprises roughly one third of the Tracy-Patterson Storage Unit, it can be inferred that the approximate storage capacity of the southern portion of the Tracy Subbasin is on the order of 1,300,00 af (DWR 2006b).

d. Water Quality

Water quality is a concern because of its potential effect on human health, aquatic organisms, and ecosystem conditions. Quality is determined by factors such as native condition of groundwater and surface water, and sources of contamination (natural and human induced).

Urban areas of the SJCOG region are largely characterized by impervious surfaces, such as buildings, roads, sidewalks, and parking lots. These features alter the natural hydrology of their area by preventing infiltration, increasing and redirecting runoff, and ultimately increasing the risk of pollutant discharge and flooding. Agricultural land uses can cover large areas with contaminants such as fertilizer and pesticides which can infiltrate into soil or runoff into drainage channels that feed to the streams.

Surface Water

Surface water quality within the SJCOG region is monitored and regulated by the Central Valley Regional Water Quality Control Board (CVRWQCB), which, under the authority of Section 303 of the Clean Water Act (see Section 4.11.2, *Regulatory Setting)* determines the beneficial uses that each water body has and has listed multiple water bodies as impaired from these uses due to one or more pollutants. The CVRWQCB Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (the 'Basin Plan') describes water quality objectives within the SJCOG region and neighboring areas (CVRWQCB 2018). Table 4.11-2 lists all 303(d) listed waterbodies within the SJCOG region. Contamination of these waterbodies is largely due to urban and agriculture runoff, as well as resource extraction. The CVRWQCB describes the Delta within the SJCOG region and all the major rivers as impaired primarily from urban and agricultural runoff, including polluted stormwater flows and septic and landfill leachate in the urban areas as well as fertilizer and pesticide runoff and uncontrolled animal waste management from the large agricultural land use. Upstream, many of the tributaries and streams that flow into the larger rivers are contaminated, especially with heavy metals from mining in the foothill and mountain areas that are the source of many of the streams. Timber harvesting is another primary source of contamination. CVRWQCB considers mining to be the largest source of copper, zinc, and cadmium to area surface waters, far exceeding natural levels (CVRWQCB 2018).

Table 4.11-2 303(d) Impaired Water Bodies in the SJCOG Region

Water Body Name	Water Body Type	Pollutant
Avena Drain	River & Stream	Indicator Bacteria; Ammonia
Brack Tract Drain, at Woodbridge Rd (San Joaquin County)	River & Stream	Arsenic
Calaveras River, Lower (in Delta Waterways, eastern portion)	River & Stream	Organic Enrichment/Low Dissolved Oxygen; Indicator Bacteria; Mercury
Calaveras River, Lower (from Stockton Diverting Canal to the Delta Waterways)	River & Stream	Indicator Bacteria
Calaveras River, Lower (from Bellota Weir to Stockton Diverting Canal)	River & Stream	Toxicity
Delta Waterways (Stockton Ship Channel)	Estuary	DDT; PCBs; Temperature, water; Toxicity; Mercury; Organic Enrichment/Low Dissolved Oxygen; Dioxin; Furan Compounds; Group A Pesticides; Invasive Species
Five Mile Slough (Alexandria Place to Fourteen Mile Slough; in Delta Waterways, eastern portion)	River & Stream	Organic Enrichment/Low Dissolved Oxygen; Chlorpyrifos; Diazinon
French Camp Slough (San Joaquin County; outside Delta Waterways)	River & Stream	Indicator Bacteria; Oxygen, Dissolved; Toxicity; Chlorpyrifos
Grant Line Canal subwatershed at Clifton Court Rd (San Joaquin County)	River & Stream	Specific Conductivity
Mokelumne River, Lower (San Joaquin County, outside Delta Waterways)	River & Stream	Copper; Toxicity; Zinc; Mercury
Mormon Slough (Commerce Street to Stockton Deep Water Channel; partly in Delta Waterways, eastern portion)	River & Stream	Organic Enrichment/Low Dissolved Oxygen
Mormon Slough (San Joaquin County; outside Delta Boundary)	River & Stream	Indicator Bacteria
Mormon Slough (from Stockton Diverting Canal to Bellota Weir--Calaveras River)	River & Stream	Toxicity; Chlorpyrifos
Mosher Slough (downstream of I-5; in Delta Waterways, eastern portion)	River & Stream	Organic Enrichment/Low Dissolved Oxygen
Pixley Slough (San Joaquin County; outside Delta Waterways)	River & Stream	Oxygen, Dissolved; Chlorpyrifos; Diazinon
San Joaquin River (Stanislaus River to Delta Boundary)	River & Stream	DDE; DDT; Diuron; Mercury; Temperature, water; Toxicity
San Joaquin River (in Delta Waterways, southern portion)	River & Stream	Temperature, water
Temple Creek	River & Stream	Indicator Bacteria; Simazine; Chlorpyrifos
Tom Paine Slough (in Delta Waterways, southern portion)	River & Stream	Chloride; Oxygen, Dissolved
Davis No 2, unnamed spillway (near N Podesta Lane)	Lake & Reservoir	Mercury
Empire Tract (in Delta Waterways, eastern portion)	River & Stream	Oxygen, Dissolved; Specific Conductivity

DO: Dissolved Oxygen; IB: Indicator Bacteria (*E. Coli*); EC: Electrical Conductivity; OE: Organic Enrichment (nutrients); IS: Invasive Species.

Source: SWRCB 2024 303(d) List

Groundwater

Localized impairments including total dissolved solids (TDS), sodium chloride, nitrate, and inorganic compounds—especially arsenic-- are common in groundwater in the SJCOG region, impairing the water quality. In many cases, sampling has indicated levels of salinity, nitrates, arsenic, and other contaminants well in excess of the Maximum Contaminant Levels (MCLs, see Section 4.11.2, *Regulatory Setting*) established for drinking water by the USEPA. However, groundwater is generally treated prior to use as drinking water, and currently all the groundwater within the SJCOG region is not considered impaired for the beneficial uses of drinking or agricultural supply (CVRWQCB 2018).

The primary constituents of concern in groundwater within the SJCOG region - and within the entire San Joaquin River Basin - are naturally occurring salinity and arsenic in addition to anthropogenic nitrates, salinity, and point-source contaminants from urban and industrial use (CVRWQCB 2018). The greatest concern is salinity, which derives from both natural and anthropogenic sources and is of concern throughout the entire HR and especially the San Joaquin River Basin.

Natural salinity increases as groundwater is depleted. The flow of dissolved solids and salts from natural sources is relatively constant into the subbasins from the Sierra Nevada foothills and from there into Delta sediments and groundwater. As the amount of groundwater is reduced, the concentration of salt ions increases accordingly. In addition, there is a deep saline aquifer underlying the freshwater aquifers of the San Joaquin Valley which originates in marine sedimentary deposited rocks which underlie the alluvial plain of the Great Valley. As it is denser it does not normally migrate upwards into the freshwater above, but both deep wells and pumping from shallower wells can cause upwelling of the deep saline waters into the shallower, lighter freshwater aquifers. A further source of salinity is agricultural runoff, which causes salinity flow both from pesticide and fertilizer runoff but also increases salinity as applied irrigation water evaporates and leaves higher concentrations of salts behind to be washed off in rain or runoff. CVRWQCB and the local Groundwater Sustainability Agencies (GSAs) have expressed great concern over the rate of increase in salinity and some estimates indicate that if left unchecked, increasing salinity would eventually render the majority of the groundwater in the entire basin unusable (CVRWQCB 2018, ESJGA 2019).

Nitrates occur both naturally and anthropogenically in groundwater but human sources, primarily from agricultural practices, are by far the greatest source. Levels have been increasing steadily even as more sampling wells have been drilled; in 1960 1 percent of the 240 wells sampled had nitrate concentrations above the MCL, and in 2010 17 percent of the 11,060 wells sampled had concentrations over the MCL (ESJGA 2019). The Groundwater Sustainability Plans (GSPs) submitted and under review for the SJCOG region contain proposed methods to reduce nitrate contamination but also state there is no direct evidence for a causal nexus between nitrate contamination and sustainable groundwater management, citing a lack of regulatory authority over land use problems.

Arsenic is common in natural groundwaters, particularly in California, and arises both from natural sources and agricultural or industrial practices. Federal and State standards for arsenic were revised in 2006, and the number of wells with concentrations of arsenic over MCL limits has been rising steadily since data began being collected in the 1960s; it is primarily detected in the areas between Interstate 5 and State Route 99 and not as regularly in the streams flowing from the foothills, indicating a strong probability that arsenic contamination in area groundwaters may be derived more from anthropogenic agricultural sources than from mountain runoff or existing arsenic-laden subterranean strata. In 1970, 14 percent of 339 wells sampled were over the 2006 MCL, and by 2010 52 percent of 5,109 wells had concentrations over the MCL (ESJGA 2019).

A brief specific water quality description for each of the SJCOG region's subbasins is provided below.

Eastern San Joaquin Subbasin

As a result of declining groundwater levels, water with higher salinity has been moving east along the east side of the Delta. The degradation is particularly evident in the Stockton area where the saline front was moving eastward at a rate of 140 to 150 feet per year in a DWR study conducted in 1967. Data from 1980 and 1996 indicated that the saline front had continued to migrate eastward up to about one mile beyond its 1963 extent. This may be partially caused—and worsened—by the increasing groundwater depression east of Stockton which creates a height gradient and causes more-saline groundwater close to the Delta to flow towards it instead of away. Large areas of elevated nitrate in groundwater also exist within the subbasin, located southeast of Lodi and south of Stockton and east of Manteca extending towards the San Joaquin – Stanislaus County line (DWR 2006a).

Tracy Subbasin

Areas of poor water quality exist throughout the subbasin. Areas of elevated chloride occur in several areas including along the western side of the subbasin, in the vicinity of the City of Tracy, and along the San Joaquin River. Areas of elevated nitrate occur in the northwestern part of the subbasin and in the vicinity of the City of Tracy. Areas of elevated boron occur over a large portion of the subbasin from south of Tracy and extending to the northwest side of the subbasin (DWR 2006b).

e. Water Supply

Water delivery in the SJCOG region is provided by dozens of agencies and projects including federal, state, regional, and local water projects and special districts (e.g., irrigation, water, and water conservation). Historically, unmetered and private water systems have accounted for a large percentage of the estimated water usage in the SJCOG region, including for agricultural irrigation. Under active GSA management, regionally adopted GSPs include goals to move away from the use of private water systems within city limits when municipal water service is readily and feasibly available. Irrigation and domestic water systems within the SJCOG region are operated and maintained by irrigation districts, water districts, and water conservation districts. The many large reservoirs within the SJCOG region which serve both the SJCOG region and other parts of the State are likewise operated by a variety of local, state, and federal agencies including USBR and USACE.

The Delta is a major source of water for the entire State through the systems of aqueducts and canals of the SWP and the CVP; the C.W. Bill Jones Pumping Plant north of the City of Tracy is a major transit point for water from the Sacramento River into the Delta-Mendota Canal and the CVP. The main water resources in the SJCOG region are provided in Table 4.11-3, presenting the primary users of these resources, and the beneficial uses associated with each source.

Table 4.11-3 Water Sources and Uses in the SJCOG Region

Water Source	MUN	AGR	IND	REC	HABITAT	MIGR	SPWN	WILD	NAV
San Joaquin River		X	X	X	X	X	X	X	
Mokelumne River	X	X		X	X	X	X	X	
Camanche Reservoir	X	X		X	X	X	X	X	
Calaveras River	X	X		X	X	X	X	X	
Stanislaus River		X	X	X	X	X	X	X	
Delta	X	X	X	X	X	X	X	X	X

Water Source	MUN	AGR	IND	REC	HABITAT	MIGR	SPWN	WILD	NAV
Delta-Mendota Canal	X	X		X	X			X	
California Aqueduct	X	X	X	X				X	
Groundwater	X	X	X						

Beneficial Uses: MUN=Municipal and Domestic Supply, AGR=Agricultural Supply, IND=Industrial Supply, REC=Recreation, HABITAT=Habitat supporting ecosystems, MIGR=Migration of Aquatic Organisms, SPWN=Spawning, Reproduction, and/or Early Development, WILD=Wildlife habitat, NAV=Navigation.

Source: RWQCB 2024, RWCB 2019

Surface Water

Surface water supplies in the SJCOG region are subject to the complex system of riparian and appropriative rights and are further complicated by numerous agreements and water service contracts. The quantity of imported surface water delivered each year for groundwater recharge and urban or agricultural use varies significantly from year to year due to contractual and water rights conditions. The actual quantities utilized within the SJCOG region also vary significantly with climatic fluctuations, infrastructure limitations, and facility operation. In general, the SJCOG region uses both native surface waters and groundwater and imports surface water from the CVP and SWP through the Delta.

Surface water supplies are likely to decrease in the future. Several current contracts are for "interim" supplies, which are available subject to requirements of upstream or senior rights holders. Contracts on much of the Counties' surface water imports expired in 2015 and the 'interim' status reflects ongoing negotiations regarding future contracts for surface water imports. As development increases in areas with senior water rights, County surface water supplies will be correspondingly reduced. Water from the Delta through the CVP or SWP that isn't distributed locally by the three Delta Water Agencies is controlled by the Delta Watermaster, and allocations of water from the Delta are subject to reductions in contracted amounts ('Table A' amounts for the SWP) during drought years as the SWP and CVP systems must distribute water to a large number of contract-holding purveyors throughout the State; it is exceptionally rare that any contractor will receive their full legal maximum allocation of water from the SWP or CVP.

San Joaquin County has been attempting to obtain diversionary water rights to water from the American River from DWR since 1990. The most recent application denial and resubmittal was in 2010. If municipalities in the SJCOG region obtain rights to water from the American, they would only be from December 30 to June 1 of any year, and only if allocations were available. It is unlikely the American River will be a significant source of surface water to the SJCOG region even if the application is adopted by DWR.

Groundwater and Groundwater Banking

Beginning in 1850, the development of groundwater for agriculture expanded rapidly. Within the Central Valley, irrigated agriculture has grown from less than 1 million acres to an estimated 7 to 8 million acres at present over the last 100 hundred years, although in periods of drought the amount of land actually irrigated can be up to 1.9 million acres less (NASA 2015). In average years almost 870,000 af is pumped per year within the SJCOG region from the Eastern San Joaquin Subbasin, and 178,000 af from the Tracy Subbasin (ESJGBA 2014, TSGSA 2021). DWR designated the Eastern San Joaquin Subbasin in critical overdraft and the Tracy Subbasin was designated a medium-priority basin (DWR 2025b).

Long-term overdraft has created opportunities for groundwater banking to the benefit of regional and statewide interests. Groundwater banking is the storage of excess water supplies into aquifers during wet periods for later withdrawal for use during dry periods. Historically, during wet periods, surface water imports have been substantial enough to satisfy irrigation and urban water needs and thus, excess water has been recharged to groundwater aquifers. The groundwater is then extracted through private and publicly owned wells located throughout the region during dry periods when local or imported surface water supplies are insufficient. Large portions of California rely on imported water from the Delta for use in groundwater banking programs. However, as drought periods increase in length, frequency, and severity the combination of increased groundwater pumping and decreased supply of imported water for recharge may continue to reduce the efficacy of groundwater recharge as a tool to achieve groundwater basin stability.

f. Water Demand

The demand for water within the SJCOG region is serviced by a variety of water purveyors, including the irrigation districts and domestic water districts, investor-owned water companies, mutual water companies, municipalities and private well owners. The water demand summarized below represents data collected from multiple regional agencies and combines estimates from multiple years (from 2010 to 2020). Complete water demand in the SJCOG region is unknown due to the large number of private, un-metered wells as well as the multiple reporting water agencies.

Urban Demand

Table 4.11-4 summarizes estimated water demands for the urban areas in the SJCOG region. Annual water was summarized based on Urban Water Management Plans (UWMPs), water production data obtained from water service providers, or other general planning documents. Various factors determine how unincorporated portions of the SJCOG region receive their water; some unincorporated areas are located close enough to one of the cities to have connected to the cities' water infrastructure; estimates for the City of Stockton in particular include a large number of unincorporated areas connected to the City's infrastructure.

Table 4.11-4 Estimated Urban Water Demand in the SJCOG Region

Urban Areas	Estimated Urban Water Demand (afy)
RWCC Cities and incorporated areas	192,930
Tracy and incorporated areas	19,527
Total	**212,457**

AFY = Acre-feet per year

RWCC = Greater San Joaquin County Regional Water Coordinating Committee

Demand estimates cover a range of years from 2014 – 2020 and are not all from the same year

Source: Tracy 2020, ESJGA 2024, TSGSA 2021, RWCC 2021

Agricultural Demand

Agricultural water use is based on various crop evapotranspiration and efficiency data collected by DWR. The evapotranspiration of a crop represents the total amount of water transpired by the plant, retained in the plant tissue, and evaporated from adjacent soil surfaces during the growing period. In dry years, the precipitation is less than normal, thus, the amount of applied water must be increased to meet the total evapotranspiration of the crop. Also, the irrigation efficiency of

applied water varies due to cultural practices, canal or ditched delivery, pressurized delivery systems, and soil drainage conditions. The majority of agricultural water use in the SJCOG region comes from private wells or sources managed by the Greater San Joaquin County Regional Water Coordinating Committee (RWCC); agricultural use in the Tracy area is either provided by the South Delta WA or accounted for in the Westside-San Joaquin IRWMP, which covers the small portion of the SJCOG region south and west of Tracy but stretches through multiple southern counties into Kings County. The 2020 RWCC Addendum to the 2014 IRWMP of the former ESJGBA estimates 2020 agricultural demand throughout the entire SJCOG region, including that for areas outside the RWCC planning area but within the South Delta WA, at 1,031,496 AFY (RWCC 2021), or roughly five times the estimated urban water use.

g. Flooding and Dam Inundation

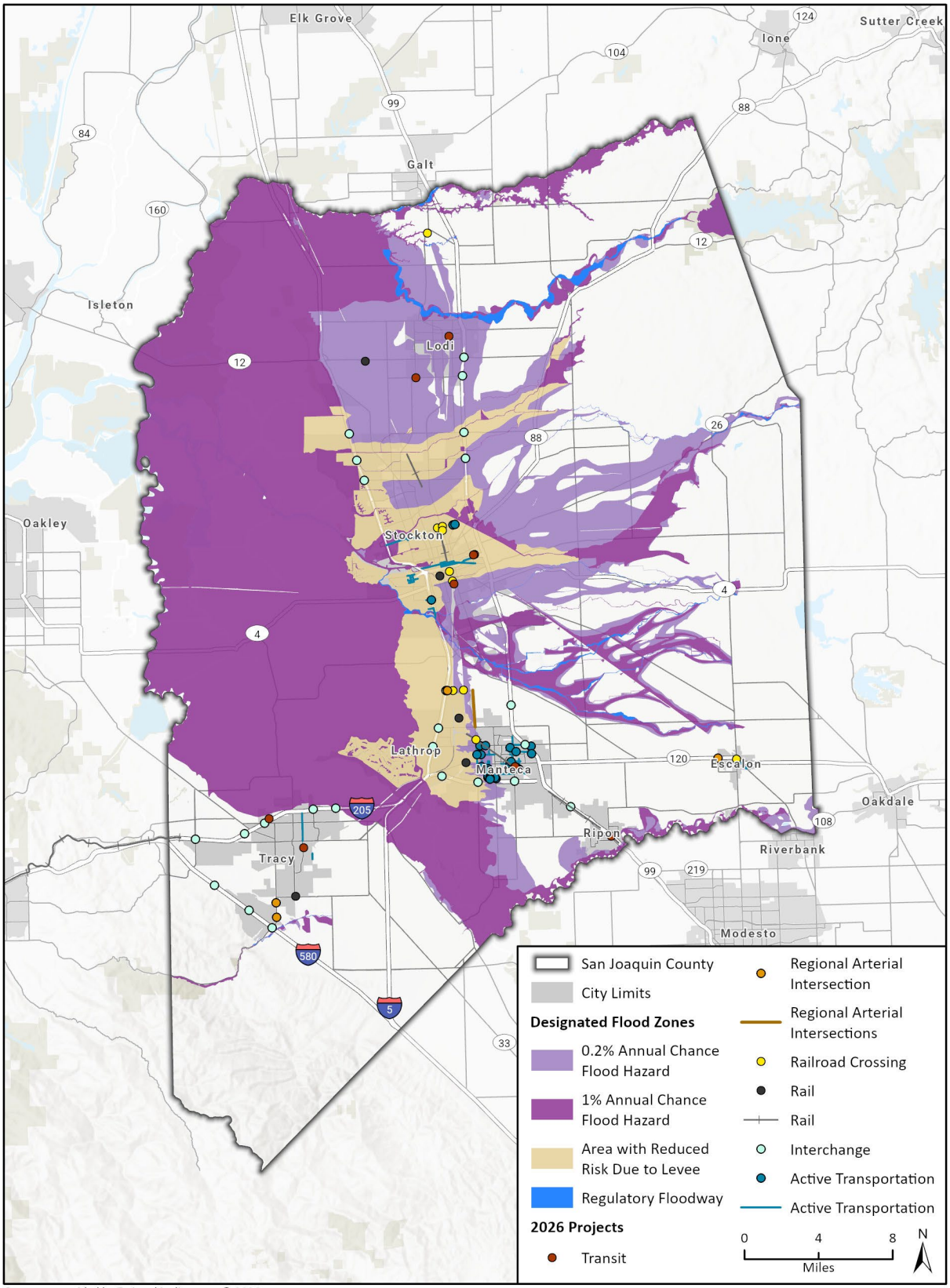
Floodplains and Floodways

The risks of inundation in the SJCOG region are related to the failure of levees in the Delta, dam failures along the major rivers, and 100-year flood events. These risks of flooding are greatest during the rainy season, between November and April, yet snowmelt from the Sierra Nevada can also extend the period of time for water flows, typically between April and June. Not all levees within the SJCOG region have been built and/or maintained in accordance with federal standards as either federal flood control project levees or by local districts. The main levees protecting the Cities of Stockton, Manteca, Lathrop, and Tracy, as well as along the San Joaquin River south of the Delta are federally maintained or compliant; the Delta itself is filled with private levees. Many of the privately constructed levees are maintained by local landowners or local agencies and are in poor condition and have been identified for reconstruction or improvement to meet higher standards (RWCC 2021).

The 100-year floodplain denotes an area that has a one percent chance of being inundated during any particular 12-month period. Floodplain zones are determined by the Federal Emergency Management Agency (FEMA) and used to create Flood Insurance Rate Maps (FIRMs). These tools assist communities in mitigating flood hazards through land use planning. FEMA also outlines specific regulations for any construction located within a 100-year floodplain, including transportation infrastructure, such as mandatory height above 100-year floodplain levels. FEMA is currently undergoing a public comment period prior to beginning a review of current standards for floodplain management.

The San Joaquin County Office of Emergency Services has determined that over 6,600 properties within the SJCOG region are located in FEMA-designated floodplains, which are depicted on Figure 4.11-1, with over 50,000 citizens living in Special Flood Hazard Zones. In addition, most of the major highways and interstates within the SJCOG region have stretches located within flood hazard areas, including Interstates I-5, I-205, and I-580 and State Highways 4, 12, 26, 88, 99, 120, and 132 (San Joaquin County Office of Emergency Services 2023). FEMA-declared floodways lie along all of the major watercourses in the SJCOG region, which impose further development restrictions within the designated areas designed to reduce the possibility of upstream flooding due to reduction of flood flow along the streams and rivers.

Figure 4.11-1 100-Year Floodplains and Proposed Projects



Basemap provided by Esri and its licensors © 2026.
Additional data provided by FEMA, 2026.

24-16872 EIR
Fig X Designated Flood Zones

Dam Failure

The OES is responsible for developing and implementing a Flood and Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information. The 2023 Flood and Dam Failure Plan Update does not propose major planning changes to the Flood and Dam Failure Plan. According to the OES, there are 14 dams located in and around the SJCOG region. Each of these dams has the potential to inundate portions of the SJCOG region if they were to fail. The failure of any one of these dams would result from structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam.

Larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams. The Division of Safety of Dams is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The DWR maintains inundation maps that depict the areas likely to be flooded in event of catastrophic dam failure and assigns the level of risk each presents. Two dams within the SJCOG region (the Gilmore Dam and New Woodbridge Diversion) are assigned a "Significant" level of risk, and the Maria Dam is assigned a "High" level of risk (DWR 2025b).

4.11.2 Regulatory Setting

a. Federal Laws, Regulations, and Policies

Clean Water Act

Congress enacted the Clean Water Act (CWA), 33 U.S.C. Section 1251 et seq., formerly the Federal Water Pollution Control Act of 1972, with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and non-point source discharges to surface water. Point source discharges are regulated by the National Pollutant Elimination System (NPDES) permit process (CWA Section 402). NPDES permitting authority is administered by the SWRCB and nine Regional Water Quality Control Boards (RWQCBs). Section 401 of the CWA requires that any activity that would result in a discharge into waters of the U.S. be certified by the applicable RWQCB. This certification ensures that the proposed activity does not violate state water quality standards. Section 404 of the CWA authorizes the U.S. Army Corps of Engineers to regulate the discharge of dredged or fill material to the waters of the U.S. and adjacent wetlands. Discharges to waters of the U.S. must be avoided where possible, and minimized and mitigated where avoidance is not possible. Section 303(d) of the CWA requires states to establish total maximum daily load programs for streams, lakes, and coastal waters that do not meet certain water quality standards.

Section 10 of the Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act, administered by the U.S. Army Corps of Engineers, requires permits for all structures (such as riprap) and activities (such as dredging) in navigable waters of the United States.

National Flood Insurance Act/Flood Disaster Protection Act

The National Flood Insurance Act of 1968 (42 U.S.C. Section 4001 et seq.) made national flood insurance available for the first time. The Flood Disaster Protection Act of 1973 (42 U.S.C. Section 4001 et seq.) made the purchase of flood insurance mandatory for the protection of property located in Special Flood Hazard Areas. These laws are relevant because they led to mapping of floodplains and to local management of floodplain areas according to guidelines that include prohibiting or restricting development in flood hazard zones.

Floodplain Management (Executive Order 11988)

Executive Order 11988, issued in coordination with the National Environmental Policy Act of 1969, the National Flood Insurance Act of 1968, and the Flood Disaster Protection Act of 1973, directs federal executive agencies to avoid, wherever practicable, the short- and long-term adverse impacts associated with the occupancy and modification of floodplains, and to prevent direct or indirect support of floodplain development. This applies to agencies involved in acquiring, managing, or disposing of federal lands and facilities; funding or undertaking construction projects; and conducting programs that affect land use, such as water resource planning, regulation, and licensing. Agencies must evaluate the potential effects of their actions in floodplains, ensure that planning and budgeting reflect flood hazard considerations, and implement procedures that align with floodplain management policies.

b. State Laws, Regulations, and Policies

Porter Cologne Water Quality Control Act

The Porter Cologne Water Quality Control Act of 1967 Water Code Section 13000 et seq. requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect state waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The Water Quality Control Plan, or Basin Plan, protects designated beneficial uses of state waters through the issuance of Waste Discharge Requirements (WDRs) and through the development of total maximum daily load s (CCRWQCB 2019). Anyone proposing to discharge waste that would affect the quality of the waters of the State must obtain a WDR authorization from the RWQCB or SWRCB as appropriate, in compliance with Porter-Cologne.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA), mentioned above under "Groundwater," was enacted in September 2014, and establishes a structure for the local management of California's groundwater resources, towards the goal of facilitating sustainable groundwater management, or the management and use of groundwater in a manner that can be maintained over a 50-year planning and implementation horizon without causing undesirable (i.e., unsustainable) results. Groundwater overdraft is a common hindrance to sustainable groundwater management and is known to affect groundwater basins throughout the state. SGMA establishes the key elements, presented below, which facilitate sustainable groundwater management including consideration to historical overdraft conditions.

1. Requires the establishment of a GSA for each groundwater basin in the state, subject to Department of Water Resources (DWR) approval, with the GSA for each respective groundwater

basin or subbasin consisting of one or more local agencies with management authority over the basin(s).

2. If the DWR does not approve of a proposed GSA, or if no agency steps forward or is formed to fulfill the role of GSA, this role defaults to the DWR which then assumes the GSA responsibilities, including development of a GSP for the affected basin(s).
3. Requires all groundwater basins designated by the DWR as Medium- or High Priority to prepare and implement a GSP to achieve and maintain sustainable groundwater conditions for the applicable basin according to a SGMA-established timeline, which depends upon the priority ranking of the basin. In San Joaquin county, groundwater basins are all designated as Medium- or High Priority.
4. Provides for the proposed revisions, by local agencies, to the boundaries of a DWR Bulletin 118 basin, including the establishment of new subbasins.
5. Provides authority for DWR to adopt regulations to evaluate GSPs and review the GSPs for compliance every 5 years.
6. Requires DWR to establish Best Management Practices (BMPs) and technical measures for GSAs to develop and implement GSPs.

Antidegradation Policy

California's antidegradation policy, formally known as the Statement of Policy with Respect to Maintaining High Quality Waters in California, restricts degradation of surface and ground waters. It protects waters where existing water quality is higher than necessary for the protection of beneficial uses. Any actions with the potential to adversely affect water quality must be consistent with the maximum benefit to the people of the State; not unreasonably affect present and anticipated beneficial use of the water; and not result in water quality less than prescribed in water quality plans and policies.

Cobey-Alquist Floodplain Management Act

The Cobey-Alquist Floodplain Management Act (Water Code Section 8400 et seq.) gives support to the National Flood Insurance Program by encouraging local governments to plan, adopt, and enforce land use regulations for floodplain management, to protect people and property from flooding hazards. The Act also identifies requirements that jurisdictions must meet to receive state financial assistance for flood control.

California Department of Transportation (Caltrans) Stormwater Permit

The *National Pollutant Discharge Elimination System Statewide Stormwater Permit And Waste Discharge Requirements For State Of California Department Of Transportation* (Caltrans MS4 Permit), Order No. 2022-0033-DWQ, regulates stormwater and non-stormwater discharges from Caltrans properties and facilities associated with operation and maintenance of the state highway system. It contains four basic requirements:

- Caltrans must comply with the requirements of the Construction Stormwater General Permit;
- Caltrans must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges;

- Caltrans stormwater discharges must meet water quality standards through implementation of construction and operational BMPs, and other measures deemed necessary by SWRCB and/or other agency having authority in reviewing the stormwater component of the project; and
- Caltrans must comply with the prohibition of discharge of trash to surface waters of the State or deposition of trash where it may be discharged into surface waters of the State through compliance with the requirements of Attachment E of the Caltrans Stormwater Permit, with a demonstration of full compliance by December 2, 2030.

The Caltrans MS4 Permit incorporates the requirements of SWRCB Resolution 2015-0019, which amended the *Water Quality Control Plan for Ocean Waters of California* and the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* to include trash-related requirements, referred to in the order as the "Trash Provisions." Implementation of the Trash Provisions includes the following:

- Caltrans must install, operate, and maintain any combination of full capture systems, other treatment controls, and/or institutional controls for all storm drains that capture runoff from Significant Trash Generating Areas (where trash accumulates in substantial amounts). Caltrans must develop and implement monitoring plans that demonstrate such combinations achieve full capture system equivalency.
- Caltrans must coordinate efforts with MS4 permittees subject to NPDES permits that implement the Trash Provisions to install, operate, and maintain full capture systems, other treatment controls, and/or institutional controls in Significant Trash Generating Areas and/or Priority Land Uses.

To comply with the permit, Caltrans developed the Statewide Stormwater Management Plan to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Statewide Stormwater Management Plan assigns responsibilities within Caltrans for implementing stormwater management procedures and practices, as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The Statewide Stormwater Management Plan describes the Caltrans stormwater management program and the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. Projects on Caltrans facilities are required to follow the guidelines and procedures outlined in the latest Statewide Stormwater Management Plan and include BMPs in the project design to address stormwater runoff.

California Green Building Standards Code

The California Green Building Standards Code (CalGreen, Cal. Code Regs. Title 24, Part 11) includes mandatory measures for residential and nonresidential development. For example, Section 4.106.2 requires residential projects that disturb less than one acre and are not part of a larger common plan of development to manage stormwater drainage during construction through on-site retention basins, filtration systems, and/or compliance with a stormwater management ordinance. Section 5.106.1 requires newly constructed nonresidential projects and additions of less than one acre to reduce the pollution of stormwater runoff because of construction through compliance with a local ordinance or implementing BMPs that address soil loss, and good housekeeping to manage

equipment, materials, and wastes. Section 5.303 sets measures for indoor water use for non-residential development requiring metering devices to conserve water.

Phase II Municipal Stormwater Permit

The Municipal Stormwater Permitting Program regulates stormwater discharges from MS4s. The NPDES MS4 permits in California are issued in two phases by SWRCB and the RWQCBs. Phase I MS4 permits are issued by the RWQCBs to medium (i.e., serving between 100,000 and 250,000 people) and large (i.e., serving more than 250,000 people) municipalities. Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. The Phase II MS4 Permit is issued by the SWRCB and is applicable to smaller municipalities (i.e., populations of less than 100,000 people) and nontraditional small MS4s (e.g., military bases, public campuses, prison, and hospital complexes). The Phase II MS4 Permit (Waste Discharge Requirements [WDRs] for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems [MS4s] General Permit], Order No. 2013-0001-DWQ, NPDES No. CAS000004, as amended by Order Nos. 2015-0133-EXEC, 2016-0069-EXEC, 2017-0031-DWQ, 2018-0001-EXEC, 2018-0007-EXEC, and ORDER WQ 2019-0009-EXEC) became effective on July 1, 2013, last amended February 8, 2019, and covers Phase II permittees statewide, including some smaller municipalities within the SJCOG region. The City of Stockton and unincorporated San Joaquin County are covered by separate Phase I MS4 permits issued by the CVRWQCB. The City of Stockton is covered under NPDES Permit No. CAS0085324 as issued by General Order No. R5-2016-0040-002 and the County is covered under Permit No. CAS0085324 issued by General Order No. R5-2016-0040-003 (CVRWQCB 2016). The Phase I and Phase II MS4 Permits require permittees to develop a stormwater management program and individual dischargers to develop and implement Stormwater Management Plans.

Construction Stormwater General Permit

The *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*, Order No. 2022-0057-DWQ, NPDES No. CAS000002 (Construction Stormwater General Permit), adopted by SWRCB, regulates construction activities that include clearing, grading, and excavation resulting in soil disturbance of at least one acre of total land area. The Construction Stormwater General Permit authorizes the discharge of stormwater to surface waters from construction activities and requires all developers of land where construction activities will occur over more than one acre to do the following:

- Complete a Risk Assessment to determine pollution prevention requirements pursuant to the three risk levels established in the Construction Stormwater General Permit;
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the United States;
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies construction BMPs that will reduce pollution in stormwater discharges to the Best Available Technology/Economically Achievable/Best Conventional Pollutant Control Technology standards;
- Perform inspections and maintenance of all BMPs; and
- Conduct stormwater sampling, if required based on risk level.

To obtain coverage under the Construction Stormwater General Permit, a project applicant must electronically file all permit registration documents with SWRCB prior to the start of construction. Permit registration documents must include a Notice of Intent, Risk Assessment, site map, SWPPP,

annual fee, and signed certification statement. The SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

Typical BMPs contained in SWPPPs are designed to minimize erosion during construction, stabilize construction areas, control sediment, control discharges from groundwater dewatering, and control pollutants from construction materials. The SWPPP must also include a discussion of the program to inspect and maintain all BMPs.

The Construction Stormwater General Permit also contains post-construction requirements for projects not covered under a Phase I or Phase II MS4 Permit. The Construction Stormwater General Permit requires implementation of operational BMPs and low impact development features to reduce runoff and pollutants in stormwater discharge.

The Construction Stormwater General Permit also includes groundwater dewatering requirements for projects not covered under a De Minimis or Low Threat Discharge Permit. The dewatering requirements mandate dischargers to implement BMPs to control the volume and velocity of dewatering discharges. The Construction Stormwater General Permit also requires testing and treatment, if necessary, of groundwater discharge to verify the discharge meets or exceeds the effluent limitations specified in the permit.

Industrial Stormwater Permit

The *General Permit for Stormwater Discharges Associated with Industrial Activities* (Industrial General Permit; Order No. 2015-0122-DWQ; NPDES No. CAS00001, as amended in 2015 and 2018) regulates operation of industrial facilities in California based on the Standard Industrial Classification Codes specified in the permit. These facilities include, but are not limited to, manufacturing plants, mining facilities, oil and gas facilities, hazardous waste facilities, landfills, wastewater treatment facilities, recycling facilities, and vehicle maintenance shops that have the potential to discharge stormwater runoff into water bodies. To comply with the Industrial General Permit, the operators of these regulated industrial facilities must implement an operational SWPPP that outlines the measures and stormwater BMPs the operator of an industrial facility must implement to reduce stormwater pollution. Operators of facilities regulated by the Industrial General Permit are also required to conduct stormwater monitoring of pollutants including, but not limited to, sediment, metals, oils, and total suspended solids. In addition, the Industrial General Permit requires industrial discharge to comply with total maximum daily load implementation requirements for impaired water bodies. The SWRCB and RWQCBs implement and enforce the Industrial General Permit, which may impact any industrial development under the 2050 MTP/SCS land use scenario.

Delta Protection Act

The Delta Protection Act of 1992 refined the definition of the Legal Delta by designating a Primary Delta and a Secondary Delta. It also established the Delta Protection Commission (DPC) for the purpose of developing a long-term management plan for the Primary Delta, which constitutes approximately two- thirds of the Delta's area. The Land Use and Resources Management Plan for the Delta Primary Zone was adopted in 1995. The Plan provides direction for local jurisdictions in the Delta region on land use decisions. Local jurisdictions with lands in the Primary Zone are required to incorporate the Plan within their general plans and other planning activities.

Delta Reform Act

In November 2009, the California Legislature enacted the Sacramento-San Joaquin Delta Reform Act (Delta Reform Act) of 2009, also known as Sen. Bill No. 1 (SB X7-1). The Delta Reform Act created the DSC. The DSC is made up of seven members that are advised by a 10-member board of scientists. The DSC is tasked with addressing the coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. According to the Delta Reform Act, the coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place. The DSC regulates covered actions, as statutorily defined, to address the coequal goals.

c. Local Laws, Regulations, and Policies

Water Management Agencies

The Eastern San Joaquin County Groundwater Basin Authority Integrated Regional Water Management Plan (IRWMP) formerly covered the majority of the SJCOG region and overlay the portion of the Eastern San Joaquin Subbasin that lies within the region. The original 2014 IRWMP was subsequently amended in 2020 to meet the new standards provided in DWR Proposition 1 2016 IRWM Guidelines (updated IRWM guidelines) and to maintain eligibility for upcoming Implementation Grant solicitations. The RWCC is in the process of developing a formally updated IRWMP for the area largely based on the prior iteration. A portion of the Westside San Joaquin IRWMP area lies within the southwestern County and extends into Stanislaus County to the south. These are the two IRWMPs in the SJCOG region. The primary purpose of IRWMPs is to assist in obtaining government funding for water projects and they have no regulatory authority on their own. Management of the Delta water is performed by the Delta Watermaster who reports jointly to the SWRCB and the DSC and is facilitated by the three Delta Water Agencies who act as the water districts within the Delta itself as well as providing regulatory protection from seawater and salinity intrusion into the Delta. The Central and South Delta Water Agencies are also members of the RWCC; the South Delta Water Agency is also part of the Westside San Joaquin IRWMP.

Seventeen member GSAs came together under a Joint Exercise of Powers and formed the ESJGA which acts as the coordinator for all GSAs within the Eastern San Joaquin Subbasin. The initial agreed-upon GSP was adopted by the ESJGA in 2019 and submitted to DWR in 2020 as required by SGMA; DWR determined it incomplete in January 2022 and it is under revision.

Six GSAs formed in the Tracy Subbasin but did not sign a Joint Exercise of Powers or Memorandum of Understanding; however, they worked cooperatively to develop a single GSP and voted to appoint the County of San Joaquin as the Lead Agency and point of contact with DWR. As the Tracy Subbasin is a medium-priority basin their initial GSP incorporated separately, approved by DWR in January of 2024.

As detailed above, the Urban Water Management Planning Act requires any water provider who services more than 3,000 connections or provides over 3,000 AFY of water to prepare an UWMP every five years. There are multiple purveyors within the SJCOG region large enough to require preparation of UWMPs but they are all members of either or both of the IRWMPs and of the two major GSA groups. As such, although urban water management in the SJCOG region occurs at the municipal level, it takes place under the umbrella of the region-wide management plans and with full co-ordination with the Delta management agencies, and the urban water needs of the SJCOG region are considered a region-wide management issue.

Delta Water Agencies

The Delta Agency was established in 1965 to maintain agricultural water quality throughout the Delta. In 1973, the agency was replaced by three distinctive agencies: North, Central, and South Delta Water Agencies. They function as water purveyors for agricultural uses within the Delta and exercise legal authority over issues related to seawater intrusion and salinity.

Stockton Urbanized Area NPDES Municipal Permit

The SJCOG region includes the City of Stockton and its surrounding incorporated and unincorporated urbanized areas, which contain densely settled territory containing 250,000 or more people and are grouped together as County Service Area (CSA) 54. Due to the proximity of CSA 54 to the City of Stockton, the urbanized areas' physical interconnection to the City's storm drain system, and the locations of their discharges relative to the City's system, unincorporated San Joaquin County is designated as a part of the medium MS4 for Stockton. Any MS4 designation must comply with the CWA under the NPDES program. The City of Stockton, the urbanized areas of the County that are interconnected with the City, and the urbanized areas of the unincorporated County which surround the City are therefore referred to as the Stockton Urbanized Area and are subject to Order No. RS-2015-0024 (NPDES No. CAS083470), which is a shared NPDES permit.

The implementation of the permit requires a coordinated management effort by the City of Stockton and the County. While named as co-permittees, the City and County currently have separate programs and submit documents and reports separately to the CVRWQCB. However, the programs are essentially identical, and the co-permittees collaborate with each other to address common issues and to ensure consistency in program development and implementation. Although the co-permittees coordinate with each other, each agency is responsible for implementing within their respective jurisdictions and their infrastructure and/or watercourses.

Other City and County NPDES Permits

There are a variety of General Orders in effect in the SJCOG region which cover and permit discharges from agricultural uses, pasture and dairy facilities, landfills and waste treatment, and so forth. These include multiple non-traditional permittees under the general State Phase II MS4 Permit including the other incorporated Cities, school districts, fairgrounds, community services districts, and Universities. Parts of the unincorporated County with small MS4 systems not covered by any other permit are in general under the Region 5 Region-Wide MS4 Permit, Order No. R5-2016-0040 (NPDES No. CAS0085324). Other relevant Orders include Order No. 2003-0003-DWQ, *General Waste Discharge Requirements for Discharges to Land With A Low Threat to Water Quality* and the *General Dewatering Permit* (Order R5-2013-0074). Dewatering related to projects programmed or proposed under the proposed 2026 RTP/SCS is likely to be limited in scope, but larger projects or those which are longer in duration may require these permits.

County and City General Plans

General Plans can be described as a city or county's "blueprint" for future development. It represents the community's view of its future; a constitution made up of the goals and policies upon which the city council, board of supervisors, or planning commission will base their land use decisions. To illustrate its importance, all subdivisions, public works projects, and zoning decisions (except in charter cities) must be consistent with the general plan. If inconsistent, they must not be approved.

State law requires that each city and each county adopt a general plan containing the following seven components or "elements": land use, circulation, housing, conservation, open-space, noise, and safety (Government Code Sections 65300 et seq.), and an air quality element within the San Joaquin Valley. At the same time, each jurisdiction is free to adopt a wide variety of additional elements covering subjects of particular interest to that jurisdiction such as recreation, urban design, or public facilities. Most the cities in the SJCOG region have created General Plans, The City of Mountain House, incorporated in 2024, is currently preparing its first General Plan. Until adoption, land use planning is guided by the Mountain House Master Plan, adopted by San Joaquin County, along with associated Specific Plans.

Projects that fall within a jurisdiction or Sphere of Influence covered by a General Plan would be required to adhere to all applicable standards, goals, and policies outlined within that Plan; every General Plan has policies and goals related to water conservation, water quality, and water supply and most also address groundwater policies where relevant.

County and City Municipal Codes

Many local stormwater and pollutant control ordinances and requirements are contained within either the San Joaquin County Ordinance Code or the many municipal city Codes. Similar to the General Plans, the multiple Codes are too numerous and detailed to discuss within this Regulatory Setting, but virtually all municipal Codes have some regulation of stormwater and other water quality issues and address many of the potential impacts through permitting and approval processes of varying levels of complexity. It is assumed that all projects falling within incorporated areas subject to a City Municipal Code will comply with all requirements of said Code, and all projects falling in the unincorporated areas of San Joaquin County will comply with all water quality related ordinances and regulations in the County Ordinance Code.

4.11.3 Impact Analysis

a. Methodology and Significance Thresholds

To determine the potential impacts of the programmatic issues considered in this EIR, information was gathered from a variety of sources and viewed in terms of both individual proposals discussed in the proposed 2026 RTP/SCS scenarios (where possible) and the overall, collective effects of the project as a whole. In general, the analysis compares the existing conditions to reasonably assumed conditions that would exist by 2049. These future conditions, in general, assume a full buildout of the programmed or proposed projects as it is not possible at this time to confirm which, if any, projects may end up being removed from future consideration. Reasonable future conditions and the change in such conditions from current conditions were then compared to the significance thresholds determined using the *CEQA Guidelines*.

These considerations and the magnitude of the potential change from current conditions form the basis of this analysis supplemented by area-specific conditions for individual proposed projects or groups of projects where necessary. It is not possible to compare estimated changes and adherence to requirements such as NPDES permits or GSP limitations with potential future changes in such requirements or changes in water quality regulation. For example, it is not possible at this time to compare estimates of groundwater usage and compliance with area groundwater management plans with potential future, stricter management actions or limitations as the extent and timing of such actions are virtually unknown. Therefore, the comparisons of potential impacts to regulatory

systems within this analysis assume that such regulatory systems remain in place throughout the implementation lifespan of the proposed RTP/SCS.

Appendix G of the *CEQA Guidelines* identifies criteria for determining whether a project's impacts would have a significant impact related to hydrology and water quality, namely an analysis of whether or not the proposed 2026 RTP/SCS would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    a. Result in substantial erosion or siltation on- or off-site;
    b. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
    c. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    d. Impede or redirect flood flows.
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

e. Project Impacts and Mitigation Measures

The following section discusses potential impacts and mitigation measures that may be associated with projects contained within the proposed 2026 RTP/SCS. Due to the programmatic nature of proposed 2026 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 improvements and future projects under the land use scenario envisioned by the proposed 2026 RTP/SCS would result in the impacts as described in the following section.

Threshold 1:	Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Impact HYD-1 IMPLEMENTATION OF PROPOSED TRANSPORTATION PROJECTS AND FUTURE PROJECTS INCLUDED IN THE LAND USE SCENARIO ENVISIONED IN THE PROPOSED 2026 RTP/SCS WOULD NOT VIOLATE WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS, OR OTHERWISE SUBSTANTIALLY DEGRADE SURFACE OR GROUNDWATER QUALITY. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Implementation of proposed transportation and land use projects envisioned in the proposed 2026 RTP/SCS would result in both short-term and long-term impacts to surface and groundwater water quality. For program-level analyses, water-related impacts are often similar among individual projects within project classes (e.g., constructing new roadways, widening existing roadways, etc.). For

example, when a new roadway is constructed, it will tend to have a greater impact than the widening of an existing roadway as it would generate runoff and contamination issues where there previously were none, as well as tend to create a larger amount of new impermeable surfaces than a widening project would. Similarly, improvements within built-up urban areas are less likely to generate concerns over water body pollution than improvements outside the urban landscape, as urban areas frequently have better stormwater drainage (and potential treatment) than countryside roadways, where stormwater capture may consist of only a ditch or swale along the road.

Groundwater Quality

Groundwater quality can be impaired in a variety of ways, including through drawdown of shallow, nutrient-polluted agricultural runoff near over-pumped wells; overall untreated runoff from agricultural and animal operations that percolates directly into shallow aquifers; percolation of wastes from septic systems; and percolation into the water table from polluted surface water where such interchange occurs. The proposed 2026 RTP/SCS does not feature alterations to the region's agricultural land uses, and the land use proposals feature increased urban density which would not be likely to include septic usage. Therefore, the primary potential impact to regional ground water quality would be associated with impacts to surface water quality in areas where surface water is directly connected to underlying ground water supplies. Potential impacts associated with increased overdraft of ground water are discussed in Impact HYD-2.

Surface Water Quality

Certain transportation improvements would increase the overall impervious surface area throughout the SJCOG region. For example, the multiple road and highway widening projects would introduce increased pavement in areas that are currently undeveloped, with corresponding increases in runoff. Construction activities for transportation projects facilitated by the proposed 2026 RTP/SCS may include soil disturbance, excavation, grading, and similar activities with a high potential to generate sediment and other pollutants. Sediment especially would not require stormwater to transport it into the environment; a high wind would be sufficient. Such projects would also serve to encourage increased use of the improved transportation network and facilitate the planned growth of the County population, leading to an increase in operational contamination from transportation use.

Development projects envisioned under the land use scenario would also introduce impervious surfaces, including infill sites, if the infill site is currently unpaved. However, it is likely that most infill sites are already developed, thus minimizing the increase of impervious surfaces. These and other more outlying projects that would increase impervious surfaces may generate adverse impacts to surface water quality. Pollutants and chemicals associated with urban activities would run off new roadway surfaces or other new impervious surfaces flowing into nearby bodies of water during storm events. These pollutants would include but are not limited to heavy metals from auto emissions, oil, grease, debris, and air pollution residues. Such contaminated urban runoff may result in the incremental long-term degradation of water quality.

Most transportation improvement projects would enhance and upgrade existing and outdated stormwater infrastructure, improving runoff quality: such benefits may be outweighed by the increases in current levels of pollutants caused by increase of traffic flows encouraged by better transportation systems. Similarly, any proposed 2026 RTP/SCS projects with landscaping may require fertilizer/pesticide application, which would enter nearby bodies of water and cause adverse effects to water quality.

As discussed under Section 4.11.2, *Regulatory Setting*, the federal CWA requires that coverage under an NPDES permit be obtained for construction projects that would disturb greater than one acre, or that are part of a larger plan of development that itself covers more than one acre. Acquisition of coverage under the Construction General Permit is dependent on the preparation of a SWPPP that contains project specific BMPs to control the discharge of pollutants, including sediment, into the local surface water drainages as well as post-construction measures to ensure continued permit compliance. In addition, all transportation projects for which Caltrans is the sponsor agency would comply with the Caltrans Statewide NPDES permit that regulates all stormwater discharges from Caltrans owned conveyances, maintained facilities and construction activities. Most proposed 2026 RTP/SCS transportation projects, such as state highway widenings and interchange construction, would disturb more than one acre and therefore subject to these regulations.

Coverage under the Region 5 Region-Wide MS4 Permit would be required for all projects and land uses during their operation that discharged to an MS4 system, including compliance with the general Findings and the Program Elements Part F (Planning and Land Development/Post Construction Storm Water Management Program) of Attachment J, such as all requirements for post-construction BMPs, low impact development (LID) features, and implementation or compliance with Stormwater Management Plans.

In addition, planning and approval of the various future projects envisioned by the proposed 2026 RTP/SCS would require the lead agencies and project sponsors to ensure compliance with existing local jurisdiction requirements, including applicable municipal code sections.

Wastewater Treatment and Water Quality

The land use scenario included in the proposed 2026 RTP/SCS would generate new sources of wastewater, which would also be conveyed to wastewater treatment facilities in the region Discharges of treated wastewater, also called effluent, from the treatment plants are regulated as point sources by the RWQCB and must meet water quality effluent limitations established in the NPDES permit issued by the RWQCB for the treatment plant. Thus, although implementation of the proposed 2026 RTP/SCS would increase the volume of point-source wastewater discharges in the region at individual treatment plants, required compliance and monitoring of effluent prior to discharge from treatment facilities would ensure impacts would be less than significant.

Development under the 2026 RTP/SCS would not substantially degrade water quality or violate water quality standards because compliance with state regulation such as NPDES and MS4 permits would require implementation of BMPs and development to reduce discharge of runoff and maintain water quality. In addition, local ordinances require measures such as erosion control reduce the discharge of pollutants into storm drain systems. Although individual projects included in the proposed 2026 RTP/SCS have the potential to adversely affect water quality at a project specific level, projects would adhere to existing regulations related to water quality. Thus, although implementation of the proposed 2026 RTP/SCS would increase the volume of point-source wastewater discharges in the SJCOG region, required compliance and monitoring of effluent prior to discharge from treatment facilities would ensure impacts would be less than significant.

Summary

Compliance with the various regulations and restrictions of the multiple types of permits individual projects may fall under, as well as conformity with applicable County or municipal General Plan policies, would serve to reduce impacts from project construction and operational lifespan by

requiring measures to prevent runoff and pollutants from leaving a project site wherever it was located within the SJCOG Region, and ensuring all non-point and point source discharges to surface waters standards of the applicable NPDES Permits and Water Quality Control Plans. These measures and permit requirements may not serve to eliminate impacts to water quality for certain individual projects; however, permit coverage would ensure that the transportation and land use projects implementing the proposed 2026 RTP/SCS would not violate any water quality standards or waste discharge requirements; therefore, impacts from violation of water quality standards or waste discharge requirements, or other impairment of water quality, would be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant, as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 2:	Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Impact HYD-2 IMPLEMENTATION OF PROPOSED TRANSPORTATION AND LAND USE PROJECTS ENVISIONED IN THE PROPOSED 2026 RTP/SCS WOULD SUBSTANTIALLY DECREASE GROUNDWATER SUPPLIES. AND INTERFERE WITH GROUNDWATER RECHARGE SUCH THAT IT MAY IMPEDE SUSTAINABLE GROUNDWATER MANAGEMENT OF THE BASINS. IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

In undeveloped conditions, natural vegetation can intercept and retain precipitation and limit surface runoff, and runoff that occurs over large areas is often unconcentrated and able to percolate down into the ground and replenish groundwater supplies naturally. When natural areas, even bare dirt, are covered over by impermeable surfaces such as pavement, this natural infiltration is obstructed. Runoff from such areas is concentrated and may increase to volumes and flow rate greater than the natural infiltration rate of the surrounding soil, leading to saturated ground which cannot accept any more water and ultimately to impairment of natural recharge due to loss of otherwise rechargeable rainwater to evaporation or discharge to streams that flow to areas unable to assist recharge, or even to the oceans.

Major proposed 2026 RTP/SCS projects and the land use scenario envisioned by the proposed 2026 RTP/SCS, would affect groundwater supplies by incrementally reducing groundwater recharge potential. This reduction in groundwater recharge would occur because the impermeable surfaces associated with the proposed improvements would increase surface water runoff at the expense of natural infiltration.

Infill Projects

The land development envisioned in the proposed 2026 RTP/SCS, though it encourages infill development within urbanized areas of the SJCOG region, would interfere with groundwater recharge by increasing the extent of impervious surfaces already present in this area. Urbanized areas are typically characterized by extensive impervious surfaces such as buildings and paved roads; as such, infill development would have minimal potential to further alter the rates and patterns of groundwater recharge to the overall basin. However, infill as well as any outlying development on currently unpaved sites would result in a net increase of impervious surfaces in the area and would have associated impacts on site specific runoff and infiltration patterns.

Land Use Projects

As development under the proposed 2026 RTP/SCS occurs, site specific drainage features would be designed to retain, capture, and convey increased runoff in accordance with the city or county design standards and State requirements, such as the Program Elements Part F post-construction site control features and hydromodification requirements of the Region-Wide MS4 Permit discussed under Section 4.11.2 *Regulatory Setting,* and Impact HYD-1, above. Compliance with these standards and regulations typically includes the use of LID features which, as described above, are designed to simulate natural processes of runoff and infiltration to minimize or avoid potential adverse effects associated with new development. Most land use development would not occur on currently permeable surface and uses that would incorporate design features in order to reduce impacts to recharge; therefore, impacts to groundwater recharge from land use projects implementing the proposed 2026 RTP/SCS would be less than significant.

Transportation Projects

In addition to the development that would occur under the proposed 2026 RTP/SCS, transportation projects would also increase the extent of impervious surfaces. Many of the planned transportation projects, such as the addition of new lanes to existing roads or highways, would have negligible effect on the overall extent of impervious surfaces, as they would occur in areas already characterized by paved surfaces. In addition, transportation improvements often serve to increase infiltration and recharge as outdated (or nonexistent) runoff infrastructure and design is replaced by modern drainage and LID features. As with the infill development discussed above, transportation projects would also be implemented with project specific drainage plans for new features would be designed to retain, capture, and convey runoff in accordance with the city or county design standards, where applicable, and federal and State requirements. As many projects may serve to improve recharge in their area or would be required to implement design features to reduce impacts to groundwater recharge, impacts to groundwater recharge from transportation projects proposed by the proposed 2026 RTP/SCS would be less than significant.

Groundwater Supply Management

Activities would be implemented under California regulations governing use of groundwater, including SGMA, as well as groundwater provisions of applicable local general plans. Regional municipal UWMPs provide strategies for reducing water usage and increasing available supply, such as investing in reclaimed water infrastructure and increasing user education and awareness of conservation practices UWMPs cannot impose any mandatory regulations or limits on water use, and any improvements in future proposals are currently speculative. Taken as a whole, these regulations and plans are intended to reduce groundwater use and subsequent overdraft of groundwater basins.

During grading and general construction activities, water would be needed to suppress fugitive dust generated by construction equipment, for the mixing of concrete or other materials, for cleaning, and for a variety of other uses. Such water would most likely be provided by connections to urban water purveyors where feasible, or through the use of water trucks where such connection to water supply infrastructure is not feasible or possible. It is unlikely that many projects would require the installation and operation of additional groundwater extraction wells at the project locations. The SJCOG region does utilize surface water—both local and imported—as part of its water mix, but it is not possible to determine the individual water mix of surface, imported, or groundwater supply at a single project location and in the frequent case where surface water supply is reduced, groundwater

is consistently relied on to make up the difference. Given the current state of overdraft of the groundwater basins in the study area and the likelihood that more than one project would be constructed simultaneously in areas with over-drafted basins, the short-term water supply impact of projects implementing the proposed 2026 RTP/SCS would be significant.

Over the long term, the water use of the proposed transportation projects would be primarily expected to consist of irrigation uses for project landscaping components as well as potable water use such as restrooms or water fountains for transit station expansions or new facilities (such as Projects Lo-12, M-23, and RTD-10). Such use would be incrementally minor for individual projects, and as most improvements involve modification of existing facilities and would not result in a substantial increase in landscaped areas that require irrigation, many may not feature any increased operational water use at all. But for those which propose to incorporate new or enhanced landscaping whether for aesthetic or structural considerations, including vegetating graded areas for slope stability and maintenance or for use as noise barriers or as part of stormwater control, or that will require permanent potable water facilities like restrooms, such water use may constitute a significant draw on regional supplies by full buildout in 2049. Although there is some current use of reclaimed water for transportation facility landscaping, this is not common region-wide. Further, in more remote areas, reclaimed water sources are not located within a reasonable distance. As such, it may not be economically feasible to convey reclaimed water to outlying areas.

Summary

The proposed land use scenario features increased projected density of municipal areas, especially near transportation hubs, as well as potential increases in the population served by projects such as when a current transit hub is increased in size and gains a large number of new users. Such increase in urban density would be accompanied by increased usage of water, potentially past that envisioned by applicable, local planning documents. As groundwater is a major source of municipal water within the region, increases in urban density would have a corresponding effect on the use of groundwater supplies throughout the region, and for much of this potential increased usage reclaimed or recycled water would not be a potential source (e.g., drinking water).

For many of the projects, measures contained within the applicable regulatory structures or planning documents may serve to reduce or eliminate water use impacts. Most municipal NPDES permits would require implementation of LID features such as stormwater reuse (through the C.3 provision or others), and the Region-wide MS4 NPDES Permit would require projects covered under it to incorporate similar LID strategies under the general Findings and the Program Elements Part F (Planning and Land Development/Post Construction Storm Water Management Program) of Attachment J. General Plan policies and ordinances at the local and regional level, such as Green Building Codes, would encourage or require consideration of reclaimed water and drought-resistant landscaping , and AB 1881 would apply to most landscaped areas over 2,500 sf. However, these and similar measures may not apply to every planned improvement under the proposed 2026 RTP/SCS.

Conformity with applicable GSPs in specific project areas is discussed under Impact HYD-5, below, and as discussed in Section 4.11.2, *Regulatory Setting,* and further under Impact HYD-5, the two regional GSPs in the SJCOG region do not currently contain regulatory groundwater extraction limits. In addition, neither GSP has been approved by DWR; the ESJGA GSP was determined to be incomplete. The multiple GSAs within each basin are working cooperatively to develop their unified groundwater management strategies, and this cooperation will undoubtedly serve to assist in future comprehensive management actions, but at present the regional GSAs lack an approved GSP operational system.

Many of the regional municipal UWMPs and IRWMPs propose a variety of potential strategies for reducing water usage or increasing available supply, such as investing in reclaimed water infrastructure and increasing user education and awareness of conservation practices. Neither type of planning document, however, contains enforceable regulation. IRWMPs serve as vehicles for regional water infrastructure funding, and therefore future iterations of these documents are likely to include the upcoming transportation and land use projects envisioned by the proposed 2026 RTP/SCS scenario in their planning and may assist in continuing to propose and potentially fund improvements to the regional water supply. Similarly, UWMPs will be required to take into account growth projected from the proposed 2026 RTP/SCS in their future updates, which are required every five years, and may assist in proposing additional conservation measures based on this data. Water supply assessments under SB 610 and 221 will likewise need to take these projections into account and may serve to inform future approval of projects for which they are required based on continuing drought status (in general, water supply assessments are required to provide estimates of supply under multiple drought scenarios for 20-year horizons). But these documents cannot impose any mandatory regulations or limits on water use, and any improvements in future proposals are currently speculative.

Due to the current over-drafted state of the basins, and especially within the Eastern San Joaquin subbasin, the magnitude of change from the current conditions caused by any additional overdraft of groundwater supply would be considered significant. Therefore, short- and long-term water uses associated with the proposed 2026 RTP/SCS would substantially decrease groundwater supplies and thereby impede sustainable groundwater management. The mitigation measures below would reduce this impact as they are not included in most LID or conservation regulatory schemes that apply within the region.

Mitigation Measures

Transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects. The County and cities in the SJCOG region can and should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

HYD-2(a) Construction Dust Suppression Water Supply

For all proposed 2026 RTP/SCS projects, where feasible, reclaimed and/or recycled water shall be used for dust suppression during construction activities. This includes use of such reclaimed water in water trucks utilized for project construction occurring outside developed areas and away from water infrastructure which would otherwise provide such reclaimed water. It should be noted that use of reclaimed water in water trucks is generally no different than use of potable water, and therefore use of reclaimed water in projects that will require the use of water trucks should be given extra consideration as a measure which can enable use of reclaimed water in areas where it would otherwise be impossible due to lack of infrastructure. This measure shall be noted on construction plans and shall be spot checked by the local jurisdiction.

IMPLEMENTATION AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are cities and the County. This mitigation

measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

HYD-2(b) Landscape Watering

In jurisdictions that do not already have an appropriate local regulatory program related to landscape watering, or for proposed 2026 RTP/SCS projects that are not required to comply with AB 1881, projects that include landscaping shall be designed with drought tolerant plants and drip irrigation. When feasible, native plant species shall be used. In addition, landscaping associated with proposed improvements shall be maintained using reclaimed water when feasible. If reclaimed water would feasibly be utilized for project landscape watering due to proximity of reclaimed water sources but is unavailable due to lack of connecting infrastructure, local agencies or transportation sponsors shall conduct an analysis of the upgrades needed to provide such infrastructure, which will include the potential for new connections to existing reclaimed water systems to provide reclaimed water to other nearby sources besides the proposed project in the analysis, and shall perform such steps as necessary to utilize available reclaimed water if feasible.

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 the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

Implementation of the above measures would reduce proposed project impacts on water supply and groundwater overdraft in the SJCOG region. However, due to the programmatic nature of this proposed 2026 RTP/SCS EIR, a precise, project-level analysis of specific water demand and supply impacts associated with individual transportation and land use projects is not possible. The land use scenario envisioned by the proposed 2026 RTP/SCS along with transportation projects would result in the need for additional water supply, even with the implementation of mitigation measures listed above. Given the overdraft conditions of area groundwater basins, impacts would remain significant and unavoidable. No additional feasible mitigation measures to reduce this impact to a less than significant levels are available.

Threshold 3:	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or impede or redirect flood flows?

Impact HYD-3 TRANSPORTATION AND FUTURE LAND USE PROJECTS IMPLEMENTING THE PROPOSED 2026 RTP/SCS WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF A SITE OR AREA THROUGH ALTERATION OF THE COURSE OF A STREAM OR RIVER OR THROUGH THE ADDITION OF IMPERVIOUS SURFACES IN A MANNER WHERE DRAINAGE CHANGES WOULD RESULT IN FLOODING ON- OR OFF-SITE, REDIRECT OR IMPEDE FLOOD FLOWS, EXCEED THE CAPACITY OF STORMWATER SYSTEMS, OR PROVIDE ADDITIONAL POLLUTED RUNOFF. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction of transportation and development projects under the proposed 2026 RTP/SCS would result in the change of existing drainage patterns on individual project sites or within a project area, which would impact water quality. Project grading and construction of impervious surfaces for transportation projects may alter existing drainage patterns by altering slopes, increasing impervious surface and reducing infiltration. Additionally, infill development projects included in the SCS land use scenario would also increase impervious surfaces and develop structures that may alter existing drainages. Projects that include improvements on or near bridges may result in fill material being placed within the stream channel, although it is unlikely that any of the proposed projects would necessitate or result in actual alteration of a streambed or course. Additionally, many projects would feature some level of risk of sediment loading and erosion which would further alter drainage patterns within the immediate area. Implementation of proposed transportation and land use projects implementing the proposed 2026 RTP/SCS may increase or redirect stormwater flows, resulting in increased volume and/or velocity of stormwater runoff. Potential increases in stormwater volume and/or velocity would result in on- or off-site flooding.

However, planned transportation and land use projects would be designed to comply with existing State and local jurisdiction requirements, included applicable County and municipal code sections related to stormwater runoff and drainages, such as curb and gutter design, and would be required to build drainage infrastructure if necessary to control and accommodate the increase in stormwater flows. Effects of increased polluted runoff have already been examined in this EIR, including under Impact HYD-1 specifically, and runoff from drainage changes would be included under those overall runoff impacts. Any streambed filling would be required to comply with the terms of any applicable USACE 404 or RWQCB permit which would include an analysis of any impacts from flooding or drainage alteration. Oversight of projects within flood areas or affecting flood control infrastructure would be provided by the San Joaquin County Flood Control and Water Conservation District (or the San Joaquin Area Flood Control Agency in the Stockton Urbanized Area) and would ensure potential impacts related to alteration of future flood flows were minimized.

Land use projects under proposed 2026 RTP/SCS in incorporated areas would require drainage control and hydromodification measures required either under an individual MS4 NPDES Permit or under the Region-Wide NPDES MS4 permit and would include implementation of LID drainage control features if required under Program Requirement Part F or under a C.3 provision, as well as any hydromodification requirements related to drainage flow rate control, stormwater system capacity, and similar hydrologic concerns. These measures would typically include incorporation of

permeable paving, vegetated swales, infiltration retention basins and other features that would minimize stormwater runoff or velocity and are selected from sets of feasible options based on project-specific site or engineering characteristics. Similar sets of requirements may further be imposed by local regulatory programs as discussed under Section 4.11.2, *Regulatory Setting,* above.

Compliance with the existing suite of applicable regulations minimize impacts related to on- or off-site flooding, stormwater drainage capacity, polluted flood runoff, and redirection or impedance of flood flows, and such impacts would therefore be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant, as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 4:	In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Impact HYD-4 TRANSPORTATION AND LAND USE PROJECTS IMPLEMENTING THE PROPOSED 2026 RTP/SCS WOULD NOT RISK RELEASE OF POLLUTANTS DUE TO PROJECT INUNDATION IN FLOOD HAZARD, TSUNAMI, OR SEICHE ZONES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

In the SJCOG region, the dam inundation areas lie within the natural floodplains and therefore this analysis considers the effects of flooding and dam failure to be similar. There is virtually no risk of tsunami within the SJCOG region, due to its distance from the coast. Seiche behavior would be possible in the larger reservoirs after a major earthquake or similar event that causes large-scale disturbance to the waters. Due to the size of the reservoirs within the SJCOG region, seiche waves which topped the dams and flowed downstream would be expected to be much smaller than the flood from a dam failure or flooding from heavy rains. Therefore, regulatory requirements which serve to reduce impacts on floodplains or from dam failure would apply equally to seiche impacts within the SJCOG region.

There are several federal, state and local programs to reduce flooding and control the flow of floodwaters, as well as to encourage proper flood planning in project design within the region as discussed in the Regulatory Setting. The National Flood Insurance Act makes the purchase of flood insurance mandatory for properties in Special Flood Hazard Areas. The Cobey-Alquist Floodplain Management Act encourages local governments to plan, adopt and enforce land use regulations for floodplain management. The California Division of Dam Safety inspects dams across the State, including in the SJCOG region, on a yearly schedule to ensure that they are performing and being maintained in a safe manner. The San Joaquin Flood Control and Water Conservation District manages flood control projects in the unincorporated County, currently operating flood control repair and maintenance projects in the two largest flood districts (Zone 9 and Zone 10). In addition, the San Joaquin Area Flood Agency (of which the Flood Control and Water Conservation District is a member agency) covers the City of Stockton, the Urbanized Area, and since 2017, has covered the Cities of Lathrop and Manteca. While many private levees and flood control infrastructure throughout the SJCOG region are in poor condition, those maintained by either of the main flood control agencies fulfill FEMA standards and qualify for federal and state funding under the appropriate regulations.

Land use changes envisioned within the SCS would occur within flood zones, especially in the City of Stockton and the Urbanized Area. These would mostly occur within developed areas or on the edges of such areas and would therefore be connected to existing or planned stormwater and flood

control infrastructure and be required to conform with applicable regulations regarding runoff control and pollution control, including the mitigation measures proposed in this EIR. Such development would not substantially interfere with existing flood infrastructure without separate project-specific analysis of such impacts and the impacts of potential runoff to water quality have already been examined and mitigated to the greatest extent feasible. The impacts of urban development increase the risk of flood inundation and the release of pollutants due to such inundation due to the increase in impermeable surfaces. This impact would be less than significant. A greater risk of impact would arise from the transportation projects in less developed areas with less extensive flood protection or capability to deal with potential polluted runoff from roadways during a flood event. Locations of transportation improvements proposed in the proposed 2026 RTP/SCS within floodplain areas of the region are depicted in Figure 4.11-1.

However, all such projects within floodplain or dam inundation areas would be required to adhere to any development restrictions or regulations enforced by the two primary flood control agencies, and projects within municipal areas would need to comply with hydromodification regulations of the municipal Flood Control or Public Works Department for drainage and stormwater flooding. The implementation of SWPPP plans and BMPs imposed through these or other regulatory plans, as well as the requirements to improve local stormwater flow capacity if needed, would serve to mitigate the risks of flooding to these projects to the greatest extent feasible. Unlike in an urban area, where floodwaters might put pollutants normally safe from rain flows at risk, except in extraordinary circumstances, the amount of pollution being washed off a roadway in a flood would be the same as that washed off in a heavy rain, as most pollutants on roads are contaminants like motor oil, metals from brake pads, trash, and similar debris. It is possible floodwaters would rise high enough to overcome drainage ditches, bioswales and similar pollution-capturing systems alongside roadways and bridges but such situations would distribute relatively few pollutants (those immediately extant on the road stretch being flooded) over a large area and would have a lesser impact than the long-term impacts of constant runoff from the roadways that is already mitigated by runoff control devices.

Although individual projects implementing the proposed 2026 RTP/SCS have the potential to adversely affect water quality at a project-specific level due to floodwater inundation, projects would adhere to existing regulations regarding risks from water quality pollutants and flood surges. The risks from polluted runoff during flood events would be similar to those of rain events on countryside roadways, and while greater in developed areas, would likewise be more regulated and surrounded by infrastructure better able to deal with such flows.

The types of development that would be most likely to result in release of pollutants during inundation include uses such as wastewater treatment plants, chemical manufacturing plants, or hazardous materials landfills. Generally, the proposed 2026 RTP/SCS envisions land development in already urbanized areas where wastewater treatment plants, landfills, and chemical manufacturing plants already exist to serve existing development. Accordingly, the land use projects envisioned in the proposed 2026 RTP/SCS would not substantially increase the risk of release of pollutants into the environment as a result of inundations.

Based on the above analysis, water quality impacts of the proposed 2026 RTP/SCS due to flooding or dam failure would be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant, as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 5:	Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Impact HYD-5 TRANSPORTATION AND LAND USE PROJECTS ENVISIONED IN THE PROPOSED 2026 RTP/SCS WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF A WATER QUALITY CONTROL PLAN OR SUSTAINABLE GROUNDWATER MANAGEMENT PLANS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Implementation of transportation and land use projects implementing the proposed 2026 RTP/SCS would affect water quality, but there is nothing in the proposed 2026 RTP/SCS which would prevent the CVRWQCB or any applicable local agency from carrying out the regulatory provisions of the Basin Plan. The transportation projects included in the proposed 2026 RTP/SCS would not conflict with the beneficial uses for water identified in the Basin Plan. For example, transportation projects would not interfere with the beneficial use of water for municipal and domestic supplies, agricultural supply, or wildlife habitat supply. Likewise, the land use scenario envisioned in the proposed 2026 RTP/SCS would not obstruct or conflict with beneficial uses of water in the water quality control plan. The land use scenario in the proposed 2026 RTP /SCS focuses on infill development and locating people and employment near transit. The infill characteristics of the land use scenario would generally be consistent with the past use of water in these areas, and supportive of the beneficial uses identified in the water quality control plan, such as municipal and domestic supplies.

Primary goals of the Basin Plan include management of the 303(d) listed bodies, maintenance of water throughout the SJCOG region for designated beneficial uses, and management of salt concentrations within the groundwater subbasins (CVRWQCB 2018). It is unlikely that project implementation would have any effect on the attainment of these main goals at this time, and new development and improvements facilitated by the project would be required to maintain adherence with changes in the Basin Plan as they are planned in the future. Transportation projects with a potential for affecting 303(d) impaired water bodies (listed in Table 4.11-2) would be strictly regulated and are unlikely in general to produce the kinds of pollutants for which the bodies are mostly impaired, which tend to be the result of agricultural and urban pollution. Although the project buildout may affect groundwater supplies, as detailed above, it is not likely to cause a change in the ability of County groundwater to maintain its beneficial use. Impacts to beneficial uses of 303(d) impaired bodies would be expected to be less than significant in the same vein as impacts to listed pollutant levels. Should individual projects be likely to cause substantial impacts to water quality, the CVRWQCB would have authority to mandate limitations or monitoring of discharges under the applicable SWPPP required by an NPDES Permit or imposed by CVRWQCB for smaller projects deemed a threat to water quality. Finally, the Basin Plan in general monitors salt concentrations through specific conductivity measurements and sets maximum conductivity levels for the San Joaquin, Feather, Sacramento, and American Rivers at various checkpoints, as well as at several area lakes and with separate requirements for the Delta. Similarly, to constituents of concern in the 303(d) bodies, various salts and constituents increasing ionic content and specific conductivity in receiving waters are more commonly associated with agriculture than with transportation (in areas that do not regularly freeze and require heavy applications of road salts). Should individual projects be likely to cause potential substantial impacts to the salinity of receiving waters, the CVRWQCB would have authority to mandate limitations or monitoring of discharges for salinity under the SWPPP required by the General Permit (or imposed by CVRWQCB for smaller projects deemed a threat for salinity).

The land use pattern included in the proposed 2026 RTP/SCS would generate new sources of wastewater, which would also be conveyed to wastewater treatment facilities in the region for secondary or tertiary treatment. Discharges of treated wastewater, also called effluent, from the treatment plants are regulated by the CVRWQCB and must meet water quality effluent limitations established in the applicable NPDES/WDR permits for point source discharges, as also discussed under Impact HYD-1, above. Thus, although implementation of the proposed 2026 RTP/SCS would increase the volume of point-source wastewater discharges in the SJCOG region, required compliance and monitoring of effluent prior to discharge from treatment facilities would ensure Basin Plan compliance and impacts would be less than significant.

Implementation of the proposed 2026 RTP/SCS would not obstruct or hinder CVRWQCB or municipal agencies from fulfilling their regulatory duties and would be required to comply with all statues, codes, and regulations that applied. Further, the scenarios envisioned in the proposed 2026 RTP/SCS would not conflict with the stated goals of the Basin Plan. Therefore, impacts of the proposed project to implementation of any water quality control plan would be less than significant and no mitigation is required.

Regarding impacts on sustainable groundwater management plans, as discussed under Impact HYD-2, implementation of the proposed 2026 RTP/SCS would likely have an impact on groundwater levels and supply. As detailed under the *Regulatory Setting*, groundwater management within California in general falls under SGMA. Of the two primary GSPs in the SJCOG region. The ESJGA was submitted for DWR review and has been determined incomplete and must undergo further revision, while that for the TSGSA is currently in the process of undergoing DWR review with approval or disapproval anticipated by 2024.

As discussed under Section 4.11.2, *Regulatory Setting,* along with information-gathering, setting of fees, and determining sustainable yields, the primary regulatory tool provided to GSAs under SGMA is the ability to set and enforce area-specific mandatory groundwater pumping limitations through regular updates to GSPs for medium- and high-priority groundwater basins. DWR-approved GSPs are required to provide mechanisms that allow the sustainable use of groundwater, with growth projections considered, and the first set of adopted and DWR-approved GSPs are focused on measuring extractions to obtain the necessary data to determine sustainable yields. This is also the emphasis in the two GSPs proposed for the SJCOG region, along with determination of applicable fees and numerous proposed public outreach and conservation policies.

After gaining DWR approval and then determining sustainable yields through the next planning cycles, the GSPs may begin to incorporate mandatory monitoring, pumping limitations, or other groundwater sustainability policies based on their determined sustainable yields. Projects being implemented under the proposed 2026 RTP/SCS would be required to conform with any new applicable regulations supporting groundwater use and sustainable groundwater management. Therefore, water use facilitated by the proposed 2026 RTP/SCS would not obstruct any current GSP in the SJCOG region, as any increase in water demand that would result from the proposed 2026 RTP/SCS land use plan would be subject to monitoring requirements or other limitations as set forth in the applicable GSPs, including the addition of new monitoring devices as needed on existing or new wells utilized by any projects if required by the GSAs. This impact would be less than significant.

Further, the existing regulations and permit requirements regarding water usage, LID, stormwater recapture and similar water conservation issues serve to ensure that projects implemented under any of the various proposed 2026 RTP/SCS scenarios will conform as best possible with the overall stated goals of the multiple GSPs in terms of water conservation and monitoring as well. Therefore,

impacts of the proposed project to sustainable groundwater management goals and plans will be less than significant and mitigation will not be required.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant, as jurisdictions are required to follow the protection policies and ordinances as described above.

4.11.4 Cumulative Impacts

The cumulative impact analysis area for hydrology and water quality encompasses the watersheds and groundwater basins affected by the transportation projects and land use pattern envisioned in the proposed 2026 RTP/SCS, including creeks and drainages, floodplains, and aquifers. Therefore, the cumulative impact assessment area consists of the SJCOG region and the adjoining counties, which encompasses the applicable watersheds and basins.

Cumulative development would increase erosion and sedimentation resulting from grading and construction, as well as changes in drainage patterns which would degrade surface and ground water quality. In addition, new development would increase the generation of urban pollutants that may adversely affect water quality in the long term. As with the proposed 2026 RTP/SCS, individual construction projects within the cumulative impact area would be required to comply with applicable water quality regulations. Compliance with these existing requirements would reduce project level impacts throughout the cumulative impact area; as such, cumulative impacts related to water quality would be less than significant.

Development within the cumulative impact area would increase impervious surfaces and reduce groundwater infiltration. Counties and cities in the cumulative impact area have regulatory requirements for stormwater management, effectively requiring minimization of stormwater runoff. Because the volume of runoff would be reduced by these regulations, as well as State and federal regulations, precipitation would be retained on individual project sites and infiltrated or treated and discharged to swales, creeks, or other drainages. Still, development within the cumulative impact area would substantially decrease groundwater supplies by increasing the amount of overdraft throughout critically over-drafted basins, impeding sustainable groundwater management. In addition, as the various watersheds and subbasins within the SJCOG region are part of the larger San Joaquin River HR, and basin delineations are often based on political divisions and not hydrologic connectivity, impacts on groundwater levels in the SJCOG region would be expected to have corresponding impacts on levels in basins outside of the SJCOG region, and vice versa, as a result of buildout of the proposed 2026 RTP/SCS, with corresponding impacts to water management. Therefore, cumulative impacts related to groundwater supply would be significant and the proposed 2026 RTP/SCS contribution to this impact would be cumulatively considerable pre -mitigation. Mitigation measures HYD-2(a) and HYD-2(b) would reduce this impact, but it would remain cumulatively considerable after mitigation due to the scale of major development involved in the fully built-out land use scenario envisioned in the RTP/SCS.

Development within the cumulative impact area could result in incremental modifications over time that can have cumulative adverse effects on drainage in the cumulative impact area by impeding and displacing flood flows, contributing incrementally to surface drainage runoff or degrading water quality, and the capacity of a drainage way to carry flood flows and/or the overall quality of the water may be cumulatively affected. New impervious cover associated with reasonably foreseeable future development could also be potentially significant on a cumulative basis, as it would contribute to a significant increase in the overall net impervious surface throughout the region

leading to changes in regional drainage patterns. As discussed in Impact HYD-3, projects implementing the proposed 2026 RTP/SCS would be required to maintain pre-project hydrology and projects that would disturb more than one acre would be subject to requirements that prevent increase in runoff flows. These drainage requirements would minimize the contribution of the proposed 2026 RTP/SCS to cumulative drainage impacts, and the contribution of the proposed 2026 RTP/SCS to these impacts would not be cumulatively considerable.

Development within the cumulative impact area may occur within floodplains and floodways and may include development of projects such as industrial parks, wastewater treatment plants, hazardous materials storage, or other infrastructure which may pose a release of pollutants from inundation. Implementing agencies would conduct or require project-specific hydrology studies for projects proposed to be constructed within floodplains to demonstrate compliance with Executive Order 11988 (for federally funded projects), the NFIP, the National Flood Insurance Act, and the Cobey-Alquist Floodplain Management Act, as well as any further FEMA or State requirements that are adopted at the local level. These studies would identify project design features that reduce impacts on either floodplains or flood flows that would be required through the permitting process, as well as requiring measures to reduce the risk of pollutant release from inundation. Therefore, the cumulative effects of polluted runoff from flood inundation would be less than significant.

The cumulative impact area is entirely within the CVRWQCB region and falls under the Basin Plan. All development within the Basin Plan area must comply with the goals, beneficial uses, and 303(d) limitations outlined in the Plan, as well as falling under the authority of any Orders issued by CVRWQCB. Therefore, the potential for cumulative development to result in an impact related to a conflict with or obstruction of implementation of a water quality control plan would be less than significant. There are multiple individual GSAs within the cumulative impact area. Each development within the cumulative area would only fall under management actions required by the GSA approved within its individual area. By its nature, SGMA emphasizes local action and not regional management. Although some of the groundwater basins within the cumulative impact area are hydrologically connected, individual GSAs only have authority over their defined geographic areas, and although each basin in the SJCOG area falls generally under a single joint GSP, many other basins have multiple GSAs covering different portions of the basin. Therefore, cumulative impacts throughout the analysis area would not serve to obstruct any GSPs other than those in effect in their immediate area. As an example, a project exclusively using water generated by purveyors in one GSA area with its specific available yield would not obstruct the monitoring or pumping limitations of a GSP in effect in a different area, with a different sustainable yield, even if they were both within the same groundwater basin. Therefore, potential for cumulative development to result in an impact related to a conflict with or obstruction of implementation of a sustainable groundwater management plan would be less than significant.

4.12 Land Use and Planning

This section evaluates potential impacts of the proposed 2026 RTP/SCS associated with physically dividing an established community and causing a significant environmental impact due to a conflict with a land use plan, policy, or regulation.

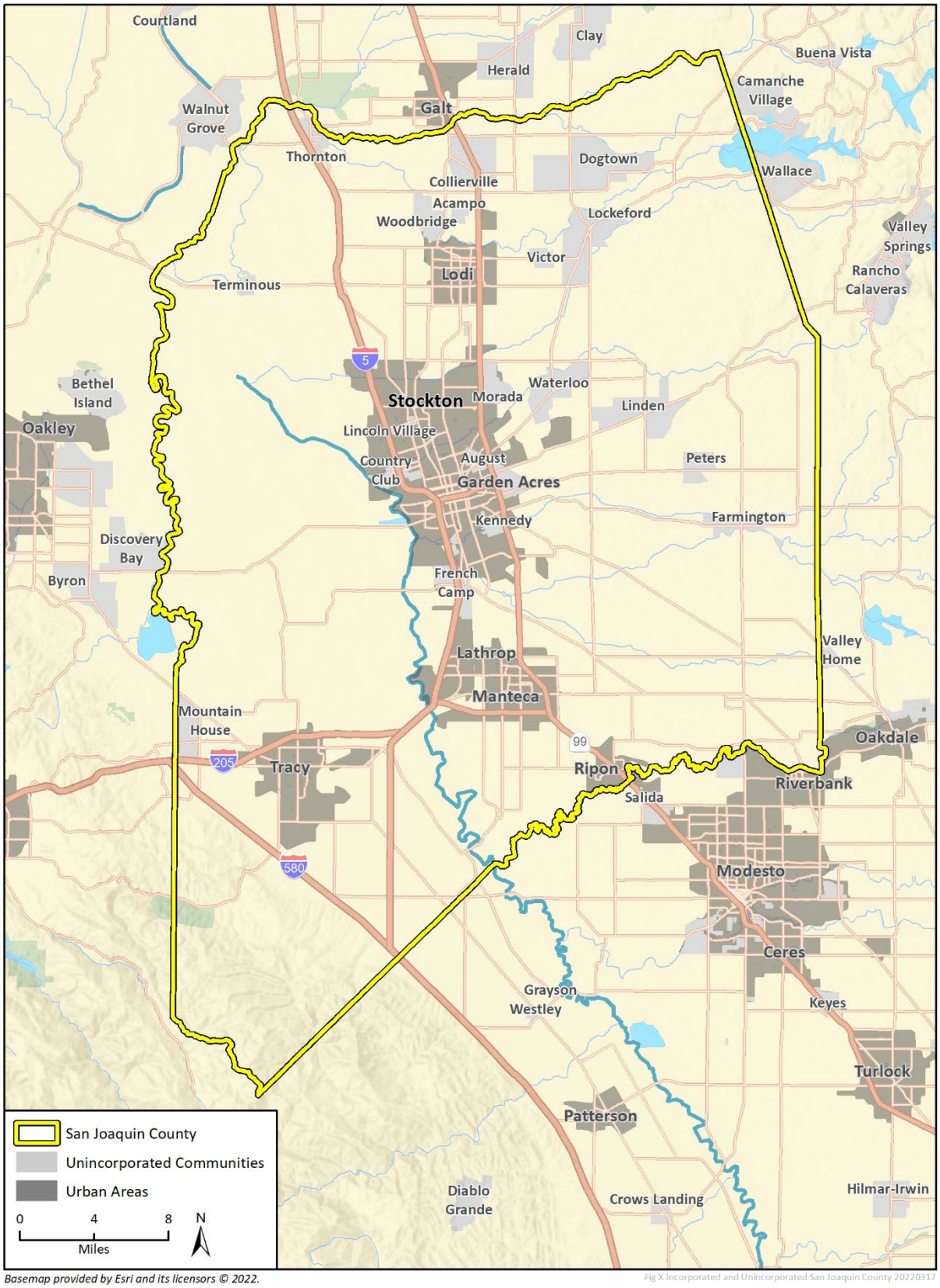
4.12.1 Setting

The SJCOG region is 1,440 square miles, with an estimated population of 802,328; it is located in the San Joaquin Valley in central California (DOF 2025). Much of the SJCOG region is flat and generally used for agriculture, with the exception of the Diablo Foothills in the southwest corner of the region and the Sierra Nevada foothills along the region's eastern boundary. The region is home to seven incorporated cities (Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, Tracy). Figure 4.12-1 shows the San Joaquin County boundary, as well as the incorporated cities and unincorporated communities within the SJCOG region.

Stockton is the financial, governmental, cultural, and commerce center of the SJCOG region, and is the largest urban center in the SJCOG region, with an approximate 2025 population of 323,355 (DOF 2025). However, with few exceptions, much of the Valley remains agricultural and rural in character. Stockton is a major regional transportation hub, home to an extensive railroad network and the largest inland deep-water port in California. Unincorporated communities and other communities are separated by agricultural land uses and open space. Within San Joaquin County, most population growth and development occur within and in close proximity to previously existing communities.

As required by law, each incorporated city in the SJCOG region, as well as San Joaquin County for the unincorporated areas, has a general plan containing at minimum seven statutorily required elements, among them a land use element and housing element that designate appropriate land uses throughout the jurisdiction, accommodate each jurisdiction's share of the regional housing need and define specific goals, policies, and objectives that the local jurisdiction has determined to be important.

Figure 4.12-1 SJCOG Planning Area



4.12.2 Regulatory Setting

Numerous federal, State, and local laws, regulations, policies, programs, plans, codes, and ordinances regulate land use in the SJCOG region. Local land use issues are regulated by the general plans, specific plans, and zoning ordinances adopted by San Joaquin County and the incorporated cities within the County. The SJCOG region itself is landlocked, surrounded by Sacramento County to the north, Stanislaus County to the south, Calaveras County and Amador County to the east, and Contra Costa County and Alameda County to the west. Thus, it is not within the immediate proximity of any local, state, or national costal zones.

a. Federal Laws, Regulations, and Policies

Code of Federal Regulations Title 25

Federally recognized Native American tribes are considered domestic dependent nations with tribal sovereignty. "Tribal sovereignty" refers to tribes' right to govern themselves, define their own membership, manage tribal property, and regulate tribal business and domestic relations; it further recognizes the existence of a government-to-government relationship between such tribes and the federal government. In general, state, and local governments do not have "civil regulatory" jurisdiction (i.e., land use) on Indian Land, which is land held in trust or restricted status for a tribe.

b. State Laws, Regulations, and Policies

Sustainable Communities Strategy and Climate Protection Act

Senate Bill (SB) 375, the Sustainable Communities Strategy and Climate Protection Act, is a California law passed in 2008 that requires each Metropolitan Planning Organization (MPO) to demonstrate, through the development of a Sustainable Communities Strategy (SCS), how its region will integrate transportation, housing, and land use planning to meet the greenhouse gas (GHG) reduction targets set by the State.

In addition to creating requirements for MPOs, it also created requirements for the California Transportation Commission and California Air Resources Board (CARB). Some of the requirements include the following:

- The California Transportation Commission must maintain guidelines for the travel demand models that MPOs develop for use in the preparation of their RTPs or Metropolitan Transportation Plan (MTPs).
- CARB must develop regional GHG emission reduction targets for automobiles and light duty trucks for 2020 and 2035 by September 30, 2010. These targets were approved on September 23, 2010. CARB is tasked to update the regional targets every eight years, with the option of revising them every four years. The latest targets were approved on March 18, 2018 and went into effect October 1, 2018.
- Each MPO must prepare an SCS as part of its RTP or MTP to demonstrate how it will meet the regional GHG targets.
- Each MPO must adopt a public participation plan for development of the SCS that includes informational meetings, workshops, public hearings, consultation, and other outreach efforts.

- If an SCS cannot achieve the regional GHG target, the MPO must prepare an Alternative Planning Strategy showing how it would achieve the targets with alternative development patterns, infrastructure, or transportation measures and policies.
- Each MPO must prepare and circulate a draft SCS at least 55 days before it adopts a final RTP or MTP.
- After adoption, each MPO must submit its SCS to CARB for review.
- CARB must review each SCS to determine whether, if implemented, it would meet the GHG targets. CARB must complete its review within 60 days.

CARB set targets for the SJCOG region requiring a 16 percent per capita reduction in GHG emissions from passenger vehicles and light trucks by 2035 relative to 2005 levels. These targets apply to the entire SJCOG region, not individual cities or sub-regions. The proposed 2026 RTP/SCS includes the required years (2005 base year and 2035) and additional scenario years (2030 and 2046) to comply with federal law. The proposed 2026 RTP/SCS would incorporate strategies to meet these targets through integrated land use and transportation planning.

SB 375 specifically states that nothing in the law changes local governments local land use authorities. The proposed 2026 RTP/SCS provides a regional policy foundation that local governments may build upon if they choose to. The proposed 2026 RTP/SCS includes and accommodates the growth projections for the region. SB 375 also requires that forecasted development patterns for the region be consistent with the eight-year regional housing needs as allocated to member jurisdictions through the Regional Housing Needs Allocation process under State housing law.

In addition, this proposed 2026 RTP/SCS EIR lays the groundwork for the streamlined review of qualifying development projects. Qualifying projects that meet statutory criteria and are consistent with the proposed 2026 RTP/SCS are eligible for streamlined environmental review pursuant to CEQA under SB 375 and other laws.

Office of Land Use and Climate Innovation Research 2023 General Plan Guidelines

The 2017 General Plan Guidelines (Governor's Office of Land Use and Climate Innovation 2017) is the first comprehensive update to the guidelines since 2003 and addresses numerous new laws, requirements, resources, and research that affect long-range planning in California. The 2017 update includes links to external documents and additional resources. This includes guidance for implementing the following legislation: Environmental Justice (SB 1000), Climate Change (SB 379), Sustainable Communities Strategies (SB 375), Flood Management (SB 5), Vehicle Miles Traveled (SB 743), Island or Fringe Communities (SB 244), Tribal Consultation (Assembly Bill [AB] 52) and Local Hazard Mitigation Plans (AB 2140). Beyond State law requirements, the 2017 General Plan Guidelines also provide direction on topics including healthy communities, equitable and resilient communities, economic development, climate change, and renewable energy. The 2017 General Plan Guidelines are currently being updated, a process anticipated for March 2027 completion.

Planning and Zoning Law

California Government Code Section 65000, et seq., regulates the substantive and topical requirements of general plans. State law requires each city and county to adopt a general plan "for the physical development of the county or city, and any land outside its boundaries which bears

relation to its planning." The California Supreme Court has called the general plan the "constitution for future development." The general plan expresses the community's development goals and embodies public policy relative to the distribution of future land uses, both public and private. Zoning authority originates from city and county police power and from the Planning and Zoning Law, which sets minimum requirements for local zoning ordinances. Zoning ordinances must be consistent with the general plan and specific plans. The consistency requirement does not apply to charter cities other than Los Angeles unless the charter city adopts a consistency rule.

Cortese Knox Hertzberg Local Government Reorganization Act

The Cortese Knox Hertzberg Local Government Reorganization Act is the most substantial reform to local government reorganization law since the 1963 statute that created a Local Agency Formation Commission (LAFCO) in each county. The law established procedures for local government changes of organization, including city incorporation, annexation to a city or special district, and consolidation of cities or special districts (Section 56000, et seq.). LAFCOs have numerous powers under the Act, but those of prime concern are the power to act on local agency boundary changes and to adopt spheres of influence for local agencies. The law also states that to update a sphere of influence, LAFCOs are required to first conduct a review of the municipal services provided in the SJCOG region.

Senate Bill 743

SB 743 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 Pub. Resource Code, Section 21099, subd. (b)(2)). SB 743 provides opportunities to streamline CEQA for qualifying urban infill development near major transit stops in metropolitan regions statewide. A transit-oriented infill project can be exempt from CEQA if consistent with a specific plan for which an EIR was prepared, and consistent with the use, intensity, and policies of an SCS or Alternative Planning Strategy that is certified by the CARB as meeting its greenhouse gas reduction targets. A city or county may designate an "infill opportunity zone" by resolution if it is consistent with the general plan and any applicable specific plan and is a transit priority area within the adopted SCS or Alternative Planning Strategy. This infill opportunity zone is then exempt from level of service standards in the congestion management plan. Furthermore, SB 743 specifies that parking impacts are not considered significant impacts on the environment under CEQA.

Senate Bill 330

SB 330, the Housing Crisis Act of 2019, was enacted to accelerate housing production in high-need areas by limiting local actions that reduce housing capacity. It prohibits downzoning, housing moratoria, and new development standards that constrain housing. The law streamlines approvals by capping public hearings at five and requiring timely decisions on housing projects. It also locks in zoning and development standards at the time a preliminary application is submitted, providing greater certainty for developers. These provisions aim to reduce delays and regulatory barriers for housing, especially in jurisdictions with severe housing shortages.

Assembly Bill 130

Effective June 30, 2025, AB 130 introduces substantial reforms to streamline housing development under CEQA. The bill establishes a statutory CEQA exemption for qualifying infill housing projects located in urban areas up to 20 acres, provided they meet specific criteria such as adjacency to urban uses and avoidance of historic or environmentally sensitive sites. This exemption is designed to reduce environmental review burdens for projects that align with local zoning and planning standards. AB 130 also makes permanent several provisions of the Permit Streamlining Act, including timelines for application completeness and project approval, and limits the number of public hearings for qualifying housing projects. Additionally, the bill codifies elements of the Housing Accountability Act and SB 330, including protections for vested rights and restrictions on growth control measures. A notable provision is the statewide freeze on residential building code updates from October 1, 2025, through June 1, 2031, which aims to reduce regulatory uncertainty and development costs. AB 130 also enhances the role of the California Department of Housing and Community Development in overseeing Regional Housing Needs Allocation methodologies, further aligning local planning efforts with state housing goals.

Senate Bill 131

SB 131, effective June 30, 2025, complements AB 130 by focusing on CEQA streamlining for infrastructure and public-serving projects. It introduces a new review pathway for "near miss" projects—those that narrowly fail to qualify for a CEQA exemption due to a single disqualifying condition. Under this provision, CEQA review is limited to the environmental effects of that specific condition, and such projects are exempt from analyzing alternatives or growth-inducing impacts. SB 131 also creates or expands CEQA exemptions for a range of project types, including advanced manufacturing facilities on industrial-zoned land, broadband infrastructure in public rights-of-way, updates to climate adaptation plans, High-Speed Rail maintenance facilities, and local rezoning actions that implement Housing Element commitments. Additionally, the bill mandates biennial updates to *CEQA Guidelines* to improve clarity and address ambiguities. These changes reflect a broader policy shift toward facilitating development while maintaining targeted environmental protections, and they are expected to significantly impact the planning and approval processes for both housing and infrastructure projects across California.

State Open Space Standards

State planning law (Government Code Section 65560) provides a structure for the preservation of open space by requiring every city and county in the State to prepare, adopt, and submit to the Secretary of the Resources Agency a "local open-space plan for the comprehensive and long-range preservation and conservation of open-space land within its jurisdiction." The following open space categories are identified for preservation:

- **Open space for public health and safety**, including, but not limited to, areas that require special management or regulation because of hazardous or special conditions;
- **Open space for the preservation of natural resources**, including, but not limited to, natural vegetation, fish and wildlife, and water resources;
- **Open space for resource management and production**, including, but not limited to, agricultural and mineral resources, forests, rangeland, and areas required for the recharge of groundwater basins;

- **Open space for outdoor recreation**, including, but not limited to, parks and recreational facilities, areas that serve as links between major recreation and open space reservations (such as trails, easements, and scenic roadways), and areas of outstanding scenic and cultural value; and
- **Open space for the protection of Native American sites**, including, but not limited to, places, features, and objects of historical, cultural, or sacred significance, such as Native American sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines located on public property (further defined in PRC Sections 5097.9 and 5097.993).

Senate Bill 1425 Open Space Element Update

AB 1425 which passed in September of 2022, states that by January 1, 2026, every city and county shall review and update its local open-space plan to address the following components:

- Access to open space for all residents in a manner that considers social, economic, and racial equity, correlated with the environmental justice element or environmental justice policies in the general plan, as applicable.
- Climate resilience and other co-benefits of open space, correlated with the safety element.
- Rewilding opportunities, correlated with the land use element.

c. Regional and Local Laws, Regulations, and Policies

The following section focuses on the key plans that regulate land use in the SJCOG region, which consist of county and city general plans. This section outlines the status of those plans.

San Joaquin County General Plan 2035

San Joaquin County General Plan 2035 has land use regulatory authority over all unincorporated land in the County. Significant population and employment growth is expected to occur within the County over the time frame of the General Plan (i.e., 2035), and where this growth is planned will have an impact on many aspects of the County including agriculture, unincorporated communities, and employment opportunities. Shifting away from current development patterns in the Central Valley will require development to take on new forms that make more efficient use of existing infrastructure, reduce pollution, support public transit and other modes of active transportation, and preserve agricultural and open space lands (County of San Joaquin 2016).

City of Escalon General Plan

The City of Escalon's General Plan update was adopted in 2005. It consists of significant changes and updates to the General Plan adopted in 1994. In particular, the Land Use Element of the General Plan emphasizes the role of downtown as a focal point for the community. Furthermore, it states that development in the community should be compact and contiguous to existing developed areas (City of Escalon 2005).

City of Lathrop General Plan

The City of Lathrop's Land Use chapter establishes the foundation for Lathrop's long-term growth and development strategy. It defines how land will be allocated for housing, employment, recreation, and public services while preserving open space and agricultural heritage. The chapter

ensures that land use decisions align with community priorities, economic goals, and environmental sustainability (City of Lathrop 2022).

City of Lodi General Plan

The 2010 General Plan is the City of Lodi's guiding document for growth and prosperity. The plan outlines goals, policies, and implementation measures in a fashion complimenting the City's core values and providing direction for services provided by all departments. The General Plan contains the following elements; safety, growth management and infrastructure, parks & recreation/open space, land use, community design and livability, transportation, and conservation (City of Lodi 2010).

City of Manteca General Plan

The City of Manteca General Plan aims to provide a mix and distribution of uses that meet the identified needs of the community. Specific to the Land Use Element are the general distribution, location, and extent of the uses of land for housing, business, industry, education, public buildings and grounds, waste disposal, and open space (City of Manteca 2023).

City of Ripon General Plan

The City of Ripon is currently in the process of updating its General Plan for 2040. However, the General Plan's current Land Use Chapter still establishes land use, growth accommodation, community design goals, policies, and actions to give direction to development in Ripon. It provides the central policy background on which to base all land use decision-making in the City. It is through the realization of the goals and carrying out of corresponding actions that the future land use patterns of Ripon will continue to be shaped (City of Ripon 2006).

City of Stockton General Plan

The City of Stockton's 2040 General Plan governs land use and physical development within the geographic area of the incorporated city limits. Envision Stockton 2040 General Plan's land use map aims to concentrate high-intensity mixed uses and high-density residential uses in the Downtown area and shrink the future footprint of the city by changing areas previously designated Village to Open Space/Agriculture. Along the waterfront, future uses would promote an environment to further boost the Downtown's vitality. Outside of the Downtown, industrial designations along major corridors would shift to the outer parts of the city to promote more walkable, bikeable, and connected commercial and mixed-use corridors (City of Stockton 2018).

City of Tracy General Plan

The City of Tracy's 2011 General Plan Land Use Element contains specific goals, objectives, policies, and actions to guide land use for both the City of Tracy and its surrounding planning area. It lists land use designations and emphasizes a balanced pattern of growth. The City's Growth Management Ordinance adopted in 1987, amended in 2000, was adopted to achieve a steady growth rate that allows for an adequate provision of public services and a balance of housing opportunities (City of Tracy 2011).

City of Mountain House General Plan

The City of Mountain House, incorporated in 2024, is currently preparing its first General Plan. Until adoption, land use planning is guided by the Mountain House Master Plan, adopted by San Joaquin County, along with associated Specific Plans.

4.12.3 Impact Analysis

Methodology and Significance Thresholds

The proposed 2026 RTP/SCS was assessed to determine whether the transportation projects and SCS land use pattern and strategies could conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. This evaluation of land use assumes that construction and development under the proposed 2026 RTP/SCS would adhere to applicable federal, state, and local regulations and would conform to appropriate standards as relevant for individual projects.

Impacts related to conflicts with habitat conservation plans or natural community conservation plans are discussed in Section 4.3, *Biological Resources*. Impacts related to population and housing are discussed in Section 4.17, *Effects Considered Less Than Significant*.

Appendix G of the *CEQA Guidelines* identifies criteria for determining the proposed 2026 RTP/SCS would have a significant impact on land use, namely whether or not the proposed 2026 RTP/SCS would:

1. Physically divide an established community; and/or
2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation (including, but not limited to, the General Plan, or Zoning Ordinance) and result in a physical change to the environment not already addressed in the other resource chapters of this EIR.

Project Impacts and Mitigation Measures

The following section discusses potential impacts that may be associated with the projects contained within the proposed 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 improvements and future projects under the land use scenario envisioned by the proposed 2026 RTP/SCS could result in the impacts as described in the following section.

Threshold 1:	Would the project physically divide an established community?

Impact LU-1 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS AND THE LAND USE SCENARIO ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD NOT PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The proposed 2026 RTP/SCS implements roadway projects and transportation improvements that will decrease traffic congestion, increase mobility, and improve alternative transportation infrastructure consistent with state and federal planning requirements, including SB 375 and CARB GHG reduction targets. Construction of additions to existing facilities and new facilities routinely

involve temporary disruptions within established communities such as lane or road closures along roads and highways and service delays or detours for bus routes and passenger rail. Local jurisdictions routinely require traffic control plans and related measures to ensure that construction activities accommodate vehicular and pedestrian access, such as designating alternate routes or scheduling disruptive activities late at night or on weekends. With these controls, construction activities would not result in the physical division of established communities.

The proposed 2026 RTP/SCS is intended to improve the system for all modes of transit so vehicles and non-motorized transit can use the streets simultaneously and safely. As a result, while roads may be expanded and widened under the proposed 2026 RTP/SCS, these and/or other planned projects would include improvements to bicycle and pedestrian facilities. Because the existing roads subject to expansion or widening are already part of the communities in which they are located, such projects would not have the potential to divide those communities. The projects are intended to achieve goals of the proposed 2026 RTP/SCS to increase mobility, reduce congestion, and decrease GHG; therefore, the projects should result in bringing communities closer together rather than dividing them. New road, highway interchanges, bicycle lanes and ADA accessibility projects included in the proposed 2026 RTP/SCS transportation system are long-planned projects that are typically included in local circulation elements. As such, they have been anticipated and accommodated in local land use planning and would be integrated into the community infrastructure. These projects would increase community connectivity and mobility and decrease congestion and GHG emissions.

The existing and new road projects contained in the proposed 2026 RTP/SCS originate from either local circulation plans or state projects supported by cities and counties. The projects have therefore been coordinated with and integrated into local plans that support and connect communities consistent with state planning law.

The land use scenario envisioned by the proposed 2026 RTP/SCS would encourage infill, mixed use, and transit-oriented development within existing urbanized areas. The land use scenario accommodates the people, households, and jobs identified in the regional growth forecast, and prioritizes future growth within existing communities. This type of development would not divide a community; rather it would promote the development of existing vacant or underutilized properties. This would locate people closer to existing employment and goods and services within established communities. Buildout of the SCS land use scenario would result in more compact development in those established communities. Buildout of the SCS land use scenario could result in some outlying development that would not divide communities.

Implementation of the proposed 2026 RTP/SCS land use strategies would integrate future development into existing communities along the existing transportation network and would therefore not physically divide established communities. Many proposed transportation projects, such as expansion of transit services or the building of active transportation infrastructure, are intended to improve mobility and accessibility and may, as a result, improve community connectivity. Because the proposed 2026 RTP/SCS establishes a regional planning framework rather than approving individual projects, and because future projects would be consistent with local plans and incorporate multimodal improvements, impacts related to dividing an established community would be less than significant.

Mitigation Measures

Mitigation measures are not required because this impact would be less than significant, as jurisdictions are required to follow the protection policies and ordinances as described above.

Threshold 2:	Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect not already addressed in the other resource chapters of this EIR?

Impact LU-2 THE PROPOSED 2026 RTP/SCS WOULD NOT CAUSE A SIGNIFICANT ENVIRONMENTAL IMPACT DUE TO A CONFLICT WITH ANY LAND USE PLAN, POLICY, OR REGULATION AND RESULT IN A PHYSICAL CHANGE TO THE ENVIRONMENT NOT ALREADY ADDRESSED IN OTHER RESOURCE CHAPTERS. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT AFTER IMPLEMENTATION OF MITIGATION DISCUSSED THROUGHOUT THIS EIR.

In planning for projected growth in the region, the proposed 2026 RTP/SCS represents a voluntary growth strategy that retains local government land use autonomy. Neither SB 375 nor any other law requires local member agency general plans or land use regulations to implement the land use policies in the RTP/SCS. Thus, implementation of the proposed 2026 RTP/SCS is dependent on local government policy decisions and voluntary action. The proposed 2026 RTP/SCS includes a list of planned and programmed projects including local and regional capital improvements that have been anticipated or accounted for in local general plans. These plans are summarized above in Section 4.12.2, *Regulatory Setting*.

The land use scenario envisioned in the proposed 2026 RTP/SCS is built on a set of integrated policies, strategies, and investments to maintain and enhance the transportation system to meet the diverse needs of the region. The proposed 2026 RTP/SCS encourages a multimodal transportation network, improvements to existing roads, an emphasis on non-motorized transportation and land use patterns to reduce the distance between trip destinations.

The proposed 2026 RTP/SCS would help the region reach its GHG emission reduction targets established by the CARB from passenger vehicles and light trucks in 2020 and 2035 (see Section 4.9, *Greenhouse Gas Emissions and Climate Change*) under SB 375. Furthermore, the proposed 2026 RTP/SCS encourages infill and TOD development to reduce automobile traffic and commute trip lengths. Proposed 2026 RTP/SCS projects would encourage a multi-modal transportation network in high quality transit areas, roadway improvements, widening existing highways to relieve traffic congestion, and land use patterns to reduce distance between trip destinations.

At the local level, the proposed 2026 RTP/SCS builds on and incorporates regional and local planning efforts of its member agencies, including local general plans. Other key regional and local examples include, but are not limited to:

- Bicycle, Pedestrian, and Safe Routes to School Master Plan,
- Stockton Mobility Collective,
- Altamont Corridor Express,
- Ripon Blossom Express.

The land use scenario envisioned in the proposed 2026 RTP/SCS was developed in close coordination with SJCOG member agency planning staff, the LAFCO within San Joaquin County, and the seven incorporated cities that comprise the SJCOG region. The envisioned land use scenario would build on the current local general plans of jurisdictions within the SJCOG region. This involved close coordination with SJCOG planning staff to discuss the land use pattern including methodology, assumptions, growth projections, place types, opportunity areas, economic development, and the transportation network included in the proposed 2026 RTP/SCS. While cities and counties are not

required by SB 375 to make their plans consistent with the RTP/SCS, every effort was made to avoid inconsistencies.

The proposed 2026 RTP/SCS was assessed to determine whether the SCS land use pattern and strategies could conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. This review focused on the process used by SJCOG to develop regional growth projections, the transportation network and programs, housing needs estimates, and the SCS land use strategies. Future projects under the transportation or land use scenario envisioned by the proposed 2026 RTP/SCS would be required to undergo project-level environmental analysis to address potential environmental impacts. The proposed 2026 RTP/SCS would result in significant and unavoidable impacts in several environmental issue areas as described throughout this EIR. However, the envisioned land use scenario would not result in additional impacts beyond the findings of significant and unavoidable impacts as already analyzed in respective environmental issue area sections of this EIR. Therefore, the SCS land use and transportation projects envisioned within the proposed 2026 RTP/SCS would result in conflicts with land use plans, policies, or regulations. However, the proposed 2026 RTP/SCS would not result in a physical change to the environment that has not already been addressed in the other resource chapters of this EIR. The impacts of any such conflicts are described throughout respective sections of the EIR along with a discussion of the applicable General Plan goals and policies of the jurisdictions within the SJCOG region.

Mitigation Measures

Mitigation measures are provided for applicable resources throughout their respective environmental issue area sections of the EIR to reduce impacts.

Significance After Mitigation

This impact would be less than significant after implementation of the mitigation measures identified in Chapter 4 of this EIR.

4.12.4 Cumulative Impacts

Intensified development of cities in the SJCOG region could influence land uses in adjoining counties. Accordingly, the cumulative impact analysis area for land use and planning consists of the SJCOG region and adjoining counties. Information regarding these adjoining counties can be found in Chapter 3, *Environmental Setting*, Table 3-1. Future development in this region that could divide an established community or conflict with any major land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect is considered in the analysis. This cumulative extent is used to evaluate potential impacts from the combined growth in this region.

The SJCOG region shares a border with six counties: Alameda, Stanislaus, Contra Costa, Sacramento, Amador, and Calaveras. Each of the six neighboring counties have adopted general plans that direct new growth to existing developed areas, strongly support the preservation of open space, and are part of other regional transportation plans. These general plans include goals, policies and programs adopted for the purpose of avoiding or mitigating environmental effects. All six counties have zoning ordinances. Since the geographic reach of proposed 2026 RTP/SCS does not extend into these counties, and the goals, policies, programs and regulations adopted by the six adjacent counties are geographically limited to each of those counties, the potential for cumulatively considerable conflict between the subject goals, policies, programs and regulations of these

counties with the proposed 2026 RTP/SCS and the SJCOG region is minimal. Therefore, the cumulative impacts related to conflict with plans, policies and regulations would be less than significant.

Implementation of the proposed 2026 RTP/SCS would result in significant and unavoidable impacts in several environmental issue areas, as outlined in Sections 4.1 through 4.16 of this EIR. The transportation projects and envisioned land use scenario would not result in additional impacts beyond the findings of significant and unavoidable impacts already analyzed in respective environmental issue area sections within this EIR and would not result in a physical change to the environment that has not already been addressed in this EIR. Implementation of mitigation as listed throughout resource chapters of this EIR would reduce impacts of the proposed 2026 RTP/SCS.

When considered in combination with the adopted plans of adjacent counties, the cumulative impacts of the proposed 2026 RTP/SCS would not result in a substantial adverse effect on the physical environment. Although the proposed 2026 RTP/SCS would result in significant and unavoidable impacts in certain issue areas, these impacts would occur within a broader regional planning framework that includes mitigation measures, infill development strategies, and resource conservation policies. The adjacent counties' general plans and regional RTP/SCSs similarly emphasize sustainable growth and environmental protection. Furthermore, the physical separation between urban growth areas across county boundaries limits the potential for overlapping or compounded impacts. Therefore, the combined cumulative impact of regional development, including the proposed 2026 RTP/SCS and adjacent county plans, would be less than significant.

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4.13 Noise

This section evaluates potential noise and vibration impacts from development facilitated by the proposed 2026 RTP/SCS.

4.13.1 Setting

a. Overview of Noise and Vibration

The following discussion describes the characteristics of noise and vibration. These characteristics are used to assess potential impacts at sensitive land uses. Noise- and vibration-sensitive land uses include locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, senior facilities, schools, hospitals, guest lodging, libraries and some passive recreation areas are examples of typical noise- and vibration-sensitive land uses.

Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013a).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz and less sensitive to frequencies around and below 100 Hertz (Kinsler, et. al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dBA; reducing the energy in half would result in a 3 dBA decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud ([10.5x the sound energy] Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner in which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013a). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result from simply the geometric spreading

of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013a). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce exposure to noise as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The impact of noise is not a function of loudness alone. The time of day when noise occurs, and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level (L_{eq}); it considers both duration and sound power level. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Typically, L_{eq} is summed over a one-hour period. Lmax is the highest root mean square (RMS) sound pressure level within the sampling period, and Lmin is the lowest RMS sound pressure level within the measuring period, respectively (Crocker 2007).

The sound level that is exceeded "n" percent of time during a given sample period in the percentile noise level is represented as L_n. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum), and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (L_{dn}), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours; it is also measured using Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013a). Noise levels described by L_{dn} and CNEL usually differ by about 1 dBA. The relationship between the peak-hour L_{eq} value and the L_{dn}/CNEL depends on the distribution of traffic during the day, evening, and night. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 dBA, while areas near arterial streets are in the 50 to 60-plus CNEL range. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency

vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020a). When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may actually amplify the vibration level due to structural resonances of the floors and walls.

Vibration amplitudes are usually expressed in inches per second (in/sec) peak particle velocity (PPV). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration and other construction activity because it is related to the stresses that are experienced by buildings (Caltrans 2020a).

b. Noise and Vibration Sources

The principal noise generators in the SJCOG region are associated with transportation (i.e., major roads, airports, and rail lines). Local collector streets are not typically significant noise sources as traffic volume and speeds are generally much lower than for freeways and arterial roadways.

Similar to the environmental setting for noise, the vibration environment is typically dominated by traffic from nearby roadways and activity on construction sites. Heavy trucks typically operate on major streets and can generate groundborne vibration that varies depending on vehicle type, weight, and pavement conditions. Nonetheless, vibration due to roadway traffic is typically not perceptible. The major noise and vibration sources in the region are described below.

Motor Vehicle Traffic

Motor vehicles, including cars/light trucks, buses, and various types of trucks, are the most substantial source of noise in most of the SJCOG region. This can be attributed to the extensive network of major, primary, and secondary arterials located throughout the region, as well as the large number of vehicle trips that occur each day.

The primary roadway corridor noise sources in the SJCOG region are Interstate 5 and State Route (SR) 99 due to the high traffic volumes and the high traffic speed of these roadways. In 2023, daily traffic on Interstate 5 averaged from 47,700 vehicles north of the Stanislaus-San Joaquin County line to 152,000 vehicles between the junction with SR 205 West and SR 120 East, west of the City of Manteca. In 2023, daily traffic on SR 99 averaged from 61,000 vehicles south of the Sacramento-San Joaquin County line to 155,000 vehicles between Milgeo Avenue and Jack Tone Road, near the southern County line (Caltrans 2023). As a result, noise levels along Interstate 5 and SR 99 corridors in the region exceed 65 dBA CNEL. Levels of highway noise typically range from 70 to 80 dBA at a distance of 50 feet from highways (Caltrans 2020).

Traffic on other major transportation corridors in the SJCOG region, such as SR 12, 26, 88, 120, and 132, and Interstate 205 and 580 also generate noise in excess of 65 dBA CNEL within certain distances from the centerline of the freeway/roadway. Traffic on several roads in the region also generates noise in excess of normally acceptable standards for noise-sensitive uses.

Aircraft Operation

San Joaquin County has six public-use aviation airports, which include the following:

- Kingdon Airpark

- Lodi Airport
- Lodi Precissi Airpark
- New Jerusalem Airport
- Stockton Metropolitan Airport
- Tracy Municipal Airport

Of these airports, only the Stockton Metropolitan Airport provides scheduled air carrier service. The Stockton Metropolitan Airport has commercial and general aviation activities. Because of the level of activity at this airport, noise generated is audible in the surrounding communities. Therefore, land uses in the surrounding areas have been planned to ensure that noise levels remain at acceptable levels for the various uses.

Stockton Metropolitan, Tracy Municipal, Lodi Airport, and New Jerusalem (outside Tracy) are all public airports while the Lodi Precissi Airpark and the Kingdon Airpark are privately owned. While these general aviation airports do not generate as much noise as Stockton Metropolitan Airport, flight operations would also generate noise to the nearby residential areas because of their location.

In addition to airplanes, helicopter flights occur throughout the SJCOG region. These flights typically follow major and primary arterials with the exception of police patrol activities. Other flight-related activities include tourist sightseeing and San Joaquin County Sheriff's Department for search and rescue operations. San Joaquin General Hospital in San Joaquin is verified as a Level II Trauma Center and provides helicopter emergency medical services from Oakland to Rancho Murrieta. Although single-event noise exposure resulting from helicopter operations may be considered a nuisance, the relatively low frequency and short duration of these operations do not significantly affect average daily noise levels anywhere in the SJCOG region.

Railroad Operations

Train operations on the Altamont Corridor Express (ACE) and Amtrak generate noise within proximity to the railroad lines. Noise is generated during rail operations by locomotives starting and stopping, trains braking, the connection and disconnection of cars, train whistles, and track noise (i.e., the trains' wheels running on the track). The ACE commuter rail connects Stockton to San Jose. Amtrak originates in the City of Bakersfield and travels north towards Stockton.

The Amtrak San Joaquin is a passenger train. Twelve daily trains run between Bakersfield and Stockton, where the route splits to Oakland (four trains each way) or Sacramento (two trains each way). In the southern part of the County, train tracks are generally located much closer to residences.

Railroad operations generate high, relatively brief, intermittent noise events. These noise events are an environmental concern for sensitive uses located along rail lines and near sidings and switching yards. According to the FTA Transit Noise and Vibration Impact Assessment guidance document (2018), vehicle propulsion rail units generate the following noises: (1) whine from electric control systems and traction motors that propel rapid transit cars, (2) diesel-engine exhaust noise from locomotives, (3) air-turbulence noise generated by cooling fans and (4) gear noise. Additional noise of motion is generated by the interaction of wheels/tires with their running surfaces. The interaction of steel wheels and rails generates three types of noise: (1) rolling noise due to continuous rolling contact; (2) impact noise when a wheel encounters a discontinuity in the running surface, such as a rail joint, turnout or crossover; and (3) squeal generated by friction on tight curves.

When comparing electric- and diesel-powered trains, speed dependence is strong for electric-powered transit trains because wheel/rail noise dominates, and noise from this source increases strongly with increasing speed. On the other hand, speed dependence is less for diesel-powered commuter rail trains, particularly at low speeds where the locomotive exhaust noise dominates. As speed increases, wheel-rail noise becomes the dominant noise source and diesel- and electric-powered trains will generate similar noise levels. For transit vehicles in motion, close-by sound levels also depend upon other parameters, such as vehicle acceleration and vehicle length, plus the type/condition of the running surfaces. For very high-speed rail vehicles, air turbulence can also be a significant source of noise. In addition, the guideway structure can also radiate noise as it vibrates in response to the dynamic loading of the moving vehicle.

Rail operations generate varying noise levels depending on the type of rail activity. Heavier commuter or freight trains, which are diesel-powered, generate more noise than electrically-powered light-rail vehicles. According to the FTA, six commuter trains traveling at 50 miles per hour with a horn blowing generate a noise level of 81 dBA L_{eq} at 50 feet. This same activity without a horn generates a noise level of 68 dBA L_{eq} at 50 feet. In comparison, 12 light rail transit trains traveling 40 miles per hour generate a noise level of 65 dBA L_{eq} at 50 feet. These same light rail transit trains generate a noise level of 57 dBA L_{eq} at 20 miles per hour at 50 feet (FTA 2018).

Industrial and Manufacturing

Noise from industrial complexes and manufacturing plants are characterized as stationary or point sources even though they may include mobile sources like heavy equipment. Local governments typically regulate noise from industrial, manufacturing and construction equipment and activities through enforcement of noise ordinance standards, implementation of general plan policies and imposition of conditions of approval for building or grading permits.

In general, in the SJCOG region and throughout California, industrial complexes and manufacturing plants are located away from sensitive land uses and, as such, noise generated from these sources has less of an effect on surrounding properties.

Construction Noise and Vibration

Noise and vibration from construction sites are characterized as stationary or point sources even though heavy construction equipment is often mobile. Construction activities typically generate high, intermittent noise and vibration on and adjacent to construction sites and related noise and vibration impacts are short-term, occurring primarily on weekdays and during daylight hours. The dominant source of noise from most construction equipment is their diesel engine. During pile driving or pavement breaking events, impact noise is the dominant source and equipment produces the highest vibration levels. Construction equipment operates in two modes: stationary and mobile. Stationary equipment operates in one location for one or more days at a time and can generate a constant noise level (e.g., pumps, generators, and air compressors) or variable noise levels (e.g., pile drivers and pavement breakers). Mobile equipment moves around the construction site (e.g., dozers, tractors). Noise levels vary depending on the power cycle being used. Mobile equipment such as trucks, move to and from the site using adjacent streets/roads.

4.13.2 Regulatory Setting

a. Federal Laws, Regulations, and Policies

Relevant federal regulations include those established by the FHWA, FTA, Federal Aviation Administration (FAA), and Department of Housing and Urban Development (HUD).

Federal Highway Administration

Title 23, Part 772 of the Code of Federal Regulations - Traffic Noise

Traffic noise impacts, as defined in 23 CFR Section 772.5, occur when the predicted noise level in the design year approach or exceed the noise abatement criteria (NAC) specified in 23 CFR Section 772, or a predicted noise level substantially exceeds the existing noise level (a "substantial" noise increase). A "substantial increase" is defined as an increase of 12 dBA L_{eq} during the peak hour of traffic. For sensitive uses, such as residences, schools, churches, parks, and playgrounds, the NAC for interior and exterior spaces is 57 dBA L_{eq} and 66 dBA L_{eq}, respectively, during the peak hour of traffic noise. Table 4.13-1 summarizes NAC corresponding to various land use activity categories. Activity categories and related traffic noise impacts are determined based on the actual land use in a given area.

Table 4.13-1 Noise Abatement Criteria (NAC)

Activity Category	Hourly Leq	Hourly L10[1]	Analysis Location	Description of Activity Category
A	57	60	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67	70	Exterior	Residential
C	67	70	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52	55	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E	72	75	Exterior	Hotels, motels, offices, restaurants/bars and other developed lands, properties or activities not included in A-D or F
F				Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical) and warehousing
G				Undeveloped lands that are not permitted

[1] L10 is the level of noise exceeded for 10 percent of the time.

Source: FHWA 2017

Title 40, Part 205, Subpart B of the Code of Federal Regulations – Medium and Heavy Trucks

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 CFR Part 205, Subpart B. The federal truck passby noise standard is 80 dBA at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers. The FHWA regulations for noise abatement apply to federal or federally-funded projects involving the construction of a new highway or significant modification of an existing freeway when the project would result in a substantial noise increase or when the predicted noise levels approach or exceed the NAC.

Title 40, Part 201 and Title 49, Part 210 of the Code of Federal Regulations - Railroad Noise

Federal regulations for railroad noise are contained in 40 CFR Part 201 and 49 CFR Part 210. The regulations set noise limits for locomotives and are implemented through regulatory controls on locomotive manufacturers.

Title 23, Part 772 of the Code of Federal Regulations – Federal and Federal-Aid Highway Projects

Title 23 of the Code of Federal Regulations (23 CFR Section 772) provides procedures for preparing operational and construction noise studies and evaluating noise abatement for federal and federal-aid highway projects. Under 23 CFR Section 772.5, projects are categorized as Type I, II, or III projects. FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes. A Type II project is a noise barrier retrofit project that involves no changes to highway capacity or alignment.

Type I projects include those that create a completely new noise source, increase the volume or speed of traffic, or move the traffic closer to a receiver. Type I projects include the addition of an interchange, ramp, auxiliary lane, or truck-climbing lane to an existing highway, or the widening an existing ramp by a full lane width for its entire length. Projects unrelated to increased noise levels, such as striping, lighting, signing, and landscaping projects, are not considered Type I projects.

Under 23 CFR Section 772.11, noise abatement must be considered for Type I projects if the project is predicted to result in a traffic noise impact. In such cases, 23 CFR Section 772 requires that the project sponsor "consider" noise abatement before adoption of the environmental document. This process involves identification of noise abatement measures that are reasonable, feasible and likely to be incorporated into the project as well as noise impacts for which no apparent solution is available.

Type III projects are Federal or Federal-aid highway projects that do not meet the classification of a Type I or Type II project. Noise analysis is not required for Type III projects. Projects unrelated to increased noise levels, such as striping, lighting, signing, and landscaping projects, are considered Type III projects.

Federal Aviation Administration

Title 14, Part 36 of the Code of Federal Regulations - Aircraft Noise

Aircraft operated in the U.S. are subject to federal requirements regarding noise emissions levels. These requirements are set forth in Title 14 CFR, Part 36. Part 36 establishes maximum acceptable noise levels for specific aircraft types, taking into account the model year, aircraft weight and number of engines.

Federal Transit Administration

The FTA has developed guidance to evaluate noise impacts from operation of surface transportation modes (i.e., passenger cars, trucks, buses, and rail) in the 2018 FTA *Transit Noise Impact and Vibration Assessment* (FTA 2018). All mass transit projects receiving federal funding must use these guidelines to predict and assess potential noise and vibration impacts. As ambient levels increase, smaller increments of change are allowed to minimize community annoyance related to transit operations.

Groundborne vibration levels produced during construction activities could induce potential architectural damage to buildings as identified by FTA are included in Table 4.13-2. Based on FTA recommendations, limiting vibration levels to below 0.2 in/sec PPV at non-engineered timber and masonry buildings (which would apply to a typical residential structure) would prevent excessive vibration levels that cause architectural damage.

Table 4.13-2 FTA Groundborne Vibration Architectural Damage Criteria - Construction

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Nonengineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

in/sec = inches per second; PPV = peak particle velocity
Source: FTA 2018

For groundborne vibration created during operation of a roadway or railway, FTA provides the vibration criteria contained in Table 4.13-3 “for a detailed analysis”

Table 4.13-3 FTA Groundborne Vibration Criteria - Operation

Land Use	Max VdB	Description of Use
Workshop	90	Vibration that is distinctly felt. Appropriate for workshops and similar areas not as sensitive to vibration.
Office	84	Vibration that can be felt. Appropriate for offices and similar areas not as sensitive to vibration
Residential, Day	78	Vibration that is barely felt. Adequate for computer equipment and low-power optical microscopes (up to 20X).
Residential, Night Operating Rooms	72	Vibration is not felt, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power optical microscopes (100X) and other equipment of low sensitivity.

VdB = vibration decibels
Source: FTA 2018

FTA also provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction in their *Transit and Noise Vibration Impact Assessment Manual* (FTA 2018). For residential uses, the daytime noise threshold is 80 dBA L_{eq} for an 8-hour period.

FTA has developed a screening procedure to identify locations where a rail project may cause a noise impact. The screening distances for requiring noise assessments for various types of projects are presented in Table 4.13-4.

Table 4.13-4 Screening Distances for Noise Assessments – Rail Transit Projects (in feet)

Type of Project		Unobstructed	Intervening Buildings
Commuter Rail Mainline		750	375
Commuter Rail Station	With Horn Blowing	1,600	1,200
Commuter Rail Station	Without Horn Blowing	250	200
Commuter Rail -Highway Crossing with Horns and Bells		1,600	1,200
Railroad Transit		700	350
Railroad Transit Station		200	100
Light Rail Transit		350	175
Streetcar		200	100
Access Roads to Stations		100	50
Low and Intermediate Capacity Transit	Steel Wheel	125	50
Low and Intermediate Capacity Transit	Rubber Tire	90	40
Low and Intermediate Capacity Transit	Monorail	175	70
Yards and Shops		1,000	650
Parking Facilities		125	75
Access Roads to Parking		100	50
Ventilation Shafts		200	100
Power Substations		250	125

Source: FTA 2018

FTA has developed a screening procedure to identify locations where a bus project may cause a noise impact. The screening distances for requiring noise assessments for various types of projects is presented in Table 4.13-5.

Table 4.13-5 Screening Distances for Noise Assessments – Bus Transit Projects (in feet)

Type of Project		Unobstructed	Intervening Buildings
Busway		500	250
BRT on Exclusive Roadway		200	100
Bus Facilities	Access Roads	100	50
Bus Facilities	Transit Mall	225	150
Bus Facilities	Transit Center	225	150
Bus Facilities	Storage and Maintenance	350	225

Type of Project		Unobstructed	Intervening Buildings
Bus Facilities	Park and Ride Lots with Buses	225	150

Source: FTA 2018

Department of Housing and Urban Development

Title 24, Part 51, Subpart B of the Code of Federal Regulations – Noise Abatement and Control

The mission of HUD includes fostering "a decent, safe, and sanitary home and suitable living environment for every American." Accounting for acoustics is intrinsic to this mission as safety and comfort can be compromised by excessive noise. To facilitate the creation of suitable living environments, HUD has developed a standard for noise criteria. The basic foundation of the HUD noise program is set out in the noise regulation 24 CFR Part 51 Subpart B, Noise Abatement and Control.

HUD's noise policy requires noise attenuation measures be provided when proposed projects are to be located in high noise areas. Within the HUD Noise Assessment Guidelines, potential noise sources are examined for projects located within 15 miles of a military or civilian airport, 1,000 feet from a road or 3,000 feet from a railroad.

HUD exterior noise regulations state that 65 dBA L_{dn} noise levels or less are acceptable for residential land uses and noise levels exceeding 75 dBA L_{dn} are unacceptable. HUD's regulations do not contain standards for interior noise levels. The HUD regulations establish a goal of 45 decibels, and the attenuation requirements are focused on achieving that goal. The HUD guidelines assume that with standard construction methods and materials, any building will provide sufficient attenuation so that if the exterior level is 65 dBA L_{dn} or less, the interior level will be 45 dBA L_{dn} or less.

b. State Laws, Regulations, and Policies

Land Use Compatibility Guidelines

The Governor's Office of Planning and Research is required to adopt and periodically revise guidelines for the preparation and content of local general plans. The State's General Plan Guidelines, last comprehensively updated in 2017 and subsequently revised through OPR website updates and technical advisories issued in 2023, continue to establish statewide land use compatibility guidance. These updates include revisions posted on October 5, 2023, and ongoing work toward the next statewide update cycle. Where a noise level range is denoted as "normally acceptable" for the given land use, the highest noise level in that range should be considered the maximum desirable for conventional construction that does not incorporate any special acoustic treatment. The acceptability of noise environments classified as "conditionally acceptable" or "normally unacceptable" will also depend on the anticipated amount of time that will normally be spent outside the structure and the acoustic treatment to be incorporated in structural design.

Regarding noise-sensitive residential uses, the recommended exterior noise limits are 60 dBA CNEL for single-family residences and 65 dBA CNEL for multi-family residences. The recommended maximum interior noise level is 45 dBA CNEL, which could normally be achieved using standard construction techniques if exterior noise levels are within the levels described above.

California Department of Transportation

Caltrans establishes noise limits for vehicles licensed to operate on public roads (Caltrans 2013a). For heavy trucks, the State passby standard is consistent with the federal limit of 80 dBA. The State pass-by standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dBA at 15 meters from the centerline. For new roadway projects, Caltrans uses the NAC discussed above in connection with FHWA. In addition, Caltrans has published the Traffic Noise Analysis Protocol (April 2020) for assessing noise levels associated with roadway projects (Caltrans 2020a).

Caltrans has a *Transportation and Construction Induced Vibration Manual* that provides general guidance on vibration issues associated with construction and operation of projects in relation to human perception and structural damage (Caltrans 2020b).

California Streets and Highways Code, Section 216

Section 216 of the California Streets and Highways Code relates to the noise effects of a proposed freeway project on public and private elementary and secondary schools. Under this code, a noise impact occurs if, as a result of a proposed freeway project, noise levels exceed 52 dBA L_{eq} in the interior of public or private elementary or secondary classrooms, libraries, multipurpose rooms, or spaces. If a project results in a noise impact under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below 52 dBA L_{eq}. If the noise levels generated from roadway sources exceed 52 dBA L_{eq} prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project.

California's Airport Noise Standards and Compatibility Planning

The State of California has the authority to establish regulations requiring airports to address aircraft noise impacts near airports. The State of California's Airport Noise Standards, found in Title 21 of the California Code of Regulations, identify a noise exposure level of 65 dB CNEL as the noise impact boundary around airports. Within the noise impact boundary, airport proprietors are required to ensure that all land uses are compatible with the aircraft noise environment, or the airport proprietor must secure a variance from Caltrans.

California Noise Insulation Standards

The California Noise Insulation Standards found in Title 24 of the California Code of Regulations set requirements for new multi-family residential units, hotels, and motels that may be subject to relatively high levels of transportation-related noise. For interior noise, the noise insulation standard is 45 dBA L_{dn} in any habitable room and requires an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to exterior noise levels greater than 60 dBA L_{dn}.

California Aeronautics Act

The State Aeronautics Act (Public Utilities Code, Section 21670 et seq.) requires the establishment of Airport Land Use Commissions (ALUCs), which are responsible for developing airport land use compatibility plans (ALUCPs) for noise-compatible land uses in the immediate proximity of a commercial or public airport (Section 21675). ALUCs have two major roles: preparation and adoption of airport land use compatibility plans, which address policies for both noise and safety

and review of certain local government land use actions and airport plans for consistency with the land use compatibility plan.

The ALUCP is the major tool for ALUC land use regulation. The intent of the ALUCP is to encourage compatibility between airports and the various land uses that surround them. ALUCPs typically include the development of noise contours to identify excessive airport-related noise levels and measures to reduce noise levels. For example, Monterey Regional Airport encourages noise abatement procedures related to quiet departure techniques.

Airport Noise Standards and Compatibility Planning

The State of California has the authority to establish regulations requiring airports to address aircraft noise impacts near airports. The State of California's Airport Noise Standards, found in Title 21 of the California Code of Regulations, identify a noise exposure level of 65 dB CNEL as the noise impact boundary around airports. Within the noise impact boundary, airport proprietors are required to ensure that all land uses are compatible with the aircraft noise environment, or the airport proprietor must secure a variance from the California Department of Transportation.

The Aeronautics Division of Caltrans has published the *California Airport Land Use Planning Handbook* (Caltrans 2011). The purpose of the *California Airport Land Use Planning Handbook* is to provide guidance for conducting airport land use compatibility planning. This handbook includes a section related to noise and states, “The basic strategy for achieving noise compatibility in the vicinity of an airport is to prevent or limit development of land uses that are particularly sensitive to noise. Common land use strategies are ones that either involve few people (especially people engaged in noise-sensitive activities) or generate significant noise levels themselves (such as other transportation facilities or some industrial uses).”

c. Local Laws, Regulations, and Policies

To identify, appraise, and remedy noise and vibration problems in local communities, San Joaquin County and incorporated cities in the SJCOG region are each required to adopt a noise element as part of their General Plan. Local governments use the Governor’s Office of Planning and Research’s General Plan Guidelines (2017), including land use compatibility guidelines, to prepare General Plan noise elements.

Each noise element is required to analyze and quantify current and projected noise levels associated with local noise sources, including, but not limited to: highways and freeways, primary arterials and major local streets, rail operations, air traffic associated with the airports; local industrial plants; and other ground stationary sources that contribute to the community noise environment. Beyond statutory requirements, local jurisdictions are free to adopt their own goals and policies in their noise elements, although most jurisdictions have chosen to adopt noise/land use compatibility guidelines that are similar to those recommended by the State. Land use compatibility considers both existing noise levels in a community, as well as community attitudes toward dominant noise sources.

In addition to regulating noise through noise element policies, local jurisdictions regulate noise through enforcement of local ordinance standards. These standards generally relate to noisy activities (e.g., use of loudspeakers and construction) and stationary noise sources and facilities (e.g., air conditioning units and industrial activities). The SJCOG region has seven incorporated cities, each of which has its own adopted noise standards. Noise standards for the County and the cities within the County typically apply land-use compatibility criteria of 65 dBA L_{dn} or less as being the

normally acceptable range for new residential developments, and interior noise criteria of 45 dBA L_{dn}, consistent with the overall State recommendations.

As discussed above, the State Aeronautics Act (Public Utilities Code, Section 21670 et seq.) requires the preparation of an ALUCP for nearly all public-use airports in the State (Section 21675). An Airport Land Use Commission (ALUC) is responsible for preparing the ALUCPs and ensuring compatible land uses in the vicinity of airports within their jurisdiction (Section 21676).

Within the SJCOG region, SJCOG serves as the ALUC and is responsible for protecting public health, safety and welfare by ensuring that vacant lands in the vicinity of airports are planned and zoned for uses compatible with airport operations. The San Joaquin County Airport Land Use Plan was adopted in 1993 (SJCOG 1993).

4.13.3 Impact Analysis

a. Methodology and Significance Thresholds

The analysis of noise impacts considers the effects of both temporary construction-related noise and long-term noise associated with proposed transportation system improvements. Temporary construction noise was estimated based upon levels presented in the FTA Transit Noise and Vibration Impact Assessment.

San Joaquin County and the eight incorporated cities within the SJCOG region each have their own noise standards. These local noise standards typically apply land-use compatibility criteria of 60-65 dBA CNEL as the normally acceptable range for residential developments, and interior noise criteria of 45 dBA CNEL, consistent with the overall State recommendations and the recommendations of HUD for residential uses.

The operational and construction noise limits used in this analysis are based on levels at which a substantial noise level increase would occur relative to ambient noise levels. Because these noise limits are tailored to specific uses (e.g., exterior and interior areas), they account for typical ambient noise levels associated with each use such that an increase in ambient noise levels that exceeds these limits would be considered a substantial increase above ambient noise levels. The analysis of potential impacts includes an assessment of all applicable standards, including those established by local jurisdictions, counties, the State of California, and federal agencies, where appropriate.

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether development facilitated by the proposed 2026 RTP/SCS would have a significant noise or vibration impact. SJCOG has added a threshold related to absolute noise increases. Therefore, this analysis evaluates whether or not the proposed 2026 RTP/SCS would:

1. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
2. Generate a substantial absolute increase in ambient noise;
3. Generate excessive groundborne vibration or groundborne noise levels; or
4. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Thresholds 1, 2, and 3 are discussed further in this section. Threshold 4 is discussed in Section 4.17, *Effects Considered Less Than Significant*.

Since this document analyzes noise impacts on a program level only, project level analyses for various projects within the proposed 2026 RTP/SCS will be necessary in the future.

b. Project Impacts and Mitigation Measures

The following section discusses potential impacts and mitigation measures that may be associated with projects contained within the proposed 2026 RTP/SCS. Section 4.13.3.c summarizes the impacts associated with capital improvement projects proposed in the 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 RTP/SCS, a precise, project-level analysis of the specific impacts associated with individual transportation and land use projects would be speculative at this time. In general, however, implementation of proposed transportation improvements and future projects under the land use scenario envisioned by the proposed 2026 RTP/SCS could result in the impacts as described in the following section.

Threshold 1:	Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
Threshold 2:	Generate a substantial absolute increase in ambient noise;

Impact NOI-1 CONSTRUCTION ACTIVITY ASSOCIATED WITH PROPOSED TRANSPORTATION IMPROVEMENT PROJECTS AND OTHER LAND USE DEVELOPMENT ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD GENERATE A SUBSTANTIAL TEMPORARY INCREASE IN AMBIENT NOISE LEVELS IN EXCESS OF STANDARDS ESTABLISHED IN LOCAL GENERAL PLANS OR NOISE ORDINANCES AND WOULD GENERATE A SUBSTANTIAL ABSOLUTE NOISE INCREASE OVER EXISTING NOISE LEVELS. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

The operation of equipment during the construction of roadway infrastructure, as well as land-use development envisioned in the proposed 2026 RTP/SCS, would result in temporary increases in noise in the immediate vicinity of individual construction sites. As shown in Table 4.13-6, average noise levels associated with the use of heavy equipment at construction sites typically range from 76 to 88 dBA at 50 feet from the source, depending upon the types of equipment in operation at any given time and the phase of construction. For projects that require pile driving, construction noise levels may reach 101 dBA at 50 feet from the source. For projects that do not require pile driving, the highest noise levels typically occur during excavation and foundation development, which involves the use of such equipment as backhoes, bulldozers, pile drivers, and front-end loaders.

Table 4.13-6 Typical Noise Levels for Construction Equipment (dBA)

Equipment	Typical Level 25 feet from the Source	Typical Level 50 feet from the Source	Typical Level 100 feet from the Source
Air Compressor	86	80	74
Backhoe	86	80	74
Concrete Mixer	91	85	79
Dozer	91	85	79
Grader	91	85	79

Equipment	Typical Level 25 feet from the Source	Typical Level 50 feet from the Source	Typical Level 100 feet from the Source
Jack Hammer	94	88	82
Loader	86	80	74
Paver	91	85	79
Pile-drive (Impact)	107	101	95
Pile-driver (Sonic)	101	95	89
Roller	91	85	79
Saw	82	76	70
Scarified	89	83	77
Scraper	91	85	79
Truck	90	84	78

Source: FTA 2018

Noise generated by construction projects would vary depending on the project and intensity of equipment use. Roadway widening projects and new roadway projects would likely require the operation of multiple pieces of heavy-duty equipment that generate high noise levels. Alternatively, repainting/restriping projects typically requiring minimal use of heavy equipment. This conservative analysis assesses construction noise based on the operation of heavy-duty equipment. Noise levels from point sources such as individual construction sites typically attenuate at a rate of 6 dBA per doubling of distance. Therefore, areas within 800 feet of a construction site with heavy-duty equipment may be exposed to noise levels exceeding 65 dBA. Areas within 3,200 feet of impact pile drivers may be exposed to noise levels exceeding 65 dBA.

Some local agencies in the SJCOG region include specific regulations in their municipal code to reduce construction noise impacts. In most cases, these regulations restrict construction activities to specific times and days. Such local policies serve to reduce the impacts of noise on surrounding communities by prohibiting construction during the night when people are engaged in noise-sensitive activities like sleeping. Nevertheless, this impact is significant because applicable noise standards would be exceeded, or because a substantial temporary increase in ambient noise levels in the project vicinity would occur.

Mitigation Measure

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measure developed for the proposed 2026 RTP/SCS program where applicable for transportation projects that would result in noise impacts, and where feasible and necessary based on project and site-specific considerations. San Joaquin County and incorporated cities in the County can and should implement this measure where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust this measure as necessary to respond to site-specific conditions.

N-1 Construction Noise Reduction

To reduce construction noise levels to achieve applicable standards, implementing agencies for transportation and land use projects shall implement the measures identified below where feasible and necessary.

a. **Compliance with local Construction Noise Regulations.** Implementing agencies shall ensure that, where residences or other noise sensitive uses are located within 800 feet of construction sites without pile driving, appropriate measures shall be implemented to ensure consistency with local noise ordinance requirements relating to construction. Specific techniques may include, but are not limited to, restrictions on construction timing, use of sound blankets on construction equipment, and the use of temporary walls and noise barriers to block and deflect noise.

b. **Noise Complaint and Enforcement Manager.** Designate an on-site construction complaint and enforcement manager for projects within 800 feet of sensitive receivers. Implementing agencies shall post phone numbers for the on-site enforcement manager at construction sites along with complaint procedures and who to notify in the event of a problem.

c. **Pile Driving**. For any project within 3,200 feet of sensitive receptors that requires pilings, the implementing agency shall require caisson drilling or sonic pile driving as opposed to pile driving, where feasible. This shall be accomplished through the placement of conditions on the project during its individual environmental review.

d. **Construction Equipment Noise Control**. Implementing agencies shall ensure that equipment and trucks used for project construction utilize the best available noise control techniques (including mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).

e. **Impact Equipment Noise Control.** Implementing agencies shall ensure that impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for project construction be hydraulically or electrically powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, use of an exhaust muffler on the compressed air exhaust can lower noise levels from the exhaust by up to about 10 dBA. When feasible, external jackets on the impact equipment can achieve a reduction of 5 dBA. Whenever feasible, use quieter procedures, such as drilling rather than impact equipment operation.

f. **Construction Activity Timing Restrictions.** The following timing restrictions shall apply to 2026 RTP/SCS activities creating noise levels at or above 65 dBA at a nearby dwelling unit, except where timing restrictions are already established in local codes or policies. Construction activities shall be limited to:

   - Monday through Friday: 7 a.m. to 6 p.m.
   - Saturday: 9 a.m. to 5 p.m.
   - Sundays and Holidays: Not permitted

g. **Placement of Stationary Noise Sources.** Locate stationary noise sources as far from noise-sensitive receptors as possible. Stationary noise sources that must be located near existing receptors will be equipped with the best available mufflers.

IMPLEMENTING AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are San Joaquin County and incorporated cities within the County. This mitigation measure shall, or can and should, be applied during project permitting and environmental review and implemented during construction, as applicable.

Significance After Mitigation

Mitigation Measure N-1 would reduce construction noise impacts to the extent feasible. However, even with application of Mitigation Measure N-1, construction noise from all the proposed 2026 RTP/SCS projects may not be reduced below applicable thresholds and impacts would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

Threshold 1:	Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
Threshold 2:	Generate a substantial absolute increase in ambient noise;

Impact NOI-2 PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS WOULD GENERATE A SUBSTANTIAL PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN EXCESS OF STANDARDS OR OVER EXISTING NOISE LEVELS AND GENERATE A SUBSTANTIAL ABSOLUTE NOISE INCREASE OVER EXISTING NOISE LEVELS. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Traffic

Overall traffic levels on highways and roadways in the SJCOG region are projected to increase as a result of regional growth through the year 2046, with or without implementation of the proposed 2026 RTP/SCS (refer to Section 4.14, *Transportation*).The proposed project is expected to reduce total daily vehicle miles traveled (VMT) in 2049 by approximately 26,005 VMT compared to the no project. In general, reductions in VMT correspond to reductions in overall regional traffic activity, which would also reduce associated traffic noise at the regional scale, although daily VMT would increase by 2,563,819 VMT from the 2025 baseline levels (Table 4.9-2).

The proposed 2026 RTP/SCS includes several projects that would potentially increase traffic noise by increasing traffic levels along and in the vicinity of affected facilities. Such projects include intersection improvements, addition of high occupancy vehicle (HOV) lanes on Interstate 5 and SR 99, widening existing roadways, widening ramps and bridge structures, interchange modifications, and road improvements that would allow increased traffic volumes. These projects are intended to relieve current or projected future traffic congestion or unacceptable safety conditions. However, in some cases, projects that expand roadway capacity would accommodate additional traffic volumes and/or relocate noise sources closer to sensitive receptors. Therefore, this impact is significant because applicable noise standards could be exceeded, or because a substantial permanent increase in ambient noise levels in the project vicinity would occur.

Airports

The proposed 2026 RTP/SCS does not include any airport improvement projects or programs that would directly or indirectly increase aircraft operations at operating airports in the SJCOG region. Therefore, the proposed 2026 RTP/SCS would not increase ambient noise levels associated with airports. No impacts due to aircraft operations would occur.

Rail Operations

The proposed 2026 RTP/SCS includes investments in passenger rail and train service, such as the construction of new double main tracks, construction of track connections, grade separations, right

of way improvements, extension of existing services at various facilities, and maintenance activities at various facilities. The FTA has developed a screening procedure to identify locations where a rail project may cause a noise impact. The screening distances for requiring noise assessments for various types of projects are presented in Table 4.13-7.

Table 4.13-7 Screening Distances for Noise Assessments – Rail Transit Projects

		Screening Distance (Feet)	
Type of Project		**Unobstructed**	**Intervening Buildings**
Commuter Rail Mainline		750	375
Commuter Rail Station	With Horn Blowing	1,600	1,200
	Without Horn Blowing	250	200
Commuter Rail -Highway Crossing with Horns and Bells		1,600	1,200
Light Rail Transit		350	175
Street car		200	100
Access Roads		100	50
Low- and Intermediate-Capacity Transit	Steel Wheel	125	50
	Rubber Tire	90	40
	Monorail	175	70
Yards and Shops		1,000	650
Parking Facilities		125	75
Access Roads to Parking		100	50
Ventilation Shafts		200	100
Power Substations		250	125

Source: FTA 2018

Rail transit projects included in the proposed 2026 RTP/SCS would be located in urban areas near to facility ridership. Sensitive land uses would be located within proximity to new and expanded rail corridors and would potentially be exposed to noise levels that exceed acceptable standards. Therefore, noise impacts from rail projects would be potentially significant.

Bus Operations

The proposed 2026 RTP/SCS includes projects to improve existing bus service, such as improvements at existing transit centers, purchasing of replacement buses, fleet maintenance, bus stop/shelter replacement/improvements, solar charging facilities for electric buses, and construction of a new bus maintenance and storage facility, which could indirectly increase bus operations. The FTA has developed a screening procedure to identify locations where a bus project may cause a noise impact. The screening distances for requiring noise assessments for various types of projects are presented in Table 4.13-8.

Table 4.13-8 Screening Distances for Noise Assessments – Bus Transit Projects

Type of Project		Screening Distance (Feet)	
		Unobstructed	Intervening Buildings
Busway		500	250
BRT on Exclusive Roadway		200	100
Bus Facilities	Access Roads	100	50
	Transit Center	225	150
	Storage and Maintenance	350	225
	Park and Ride Lots with Buses	225	150

Source: FTA 2018

Increase frequency of bus operations along existing corridors would increase noise for existing sensitive receptors along bus routes; the addition of local buses is unlikely to increase noise by significant levels as bus routes would be in urban areas with high ambient noise levels. However, sensitive land uses would be located within close proximity to new bus activity and would potentially be exposed to noise levels that exceed acceptable standards, and ambient noise levels may increase in excess of standards. Therefore, this impact will be significant and unavoidable.

Mitigation Measures

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measure developed for the proposed 2026 RTP/SCS program where applicable for transportation projects that would result in traffic noise impacts, and where feasible and necessary based on project and site-specific considerations. San Joaquin County and incorporated cities in the County can and should implement this measure where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust this measure as necessary to respond to site-specific conditions.

N-2 Noise Assessment and Control for Mobile and Point Source Reduction

Implementing agencies shall complete detailed noise assessments using applicable guidelines (e.g., Caltrans Traffic Noise Analysis Protocol) for roadway and rail projects that may impact noise sensitive receptors. The implementing agency shall ensure that a noise survey is conducted that, at a minimum:

- Determines existing and projected noise levels
- Determines the amount of attenuation needed to reduce potential noise impacts to applicable State and local standards
- Identifies potential alternate alignments that allow greater distance from, or greater buffering of, noise-sensitive areas
- If warranted, recommends methods for mitigating noise impacts, including:
  - Appropriate setbacks
  - Sound attenuating building design, including retrofit of existing structures with sound attenuating building materials
  - Use of sound barriers (earthen berms, sound walls, or some combination of the two)

- Locate transit-related passenger stations, central maintenance facilities, decentralized maintenance facilities, and electric substations away from sensitive receptors to the maximum extent feasible

Where new or expanded roadways or transit are found to expose receptors to noise exceeding normally acceptable levels, the individual project lead agency shall implement techniques as recommended in the project-specific noise assessments. The preferred methods for mitigating noise impacts will be the use of appropriate setbacks and sound attenuating building design, including retrofit of existing structures with sound attenuating building materials where feasible. In instances where use of these techniques is not feasible, the use of sound barriers (earthen berms, sound walls, or some combination of the two) will be considered. Long expanses of walls or fences should be interrupted with offsets and provided with accents to prevent monotony. Landscape pockets and pedestrian access through walls should be provided. Whenever possible, a combination of elements shall be used, including open grade paving, solid fences, walls, and landscaped berms. Other techniques such as rubberized asphalt or "quiet pavement" can be used where feasible to reduce road noise for new roadway segments or modifications requiring repaving. The effectiveness of noise reduction measures shall be monitored by taking noise measurements and installing adaptive mitigation measures to achieve applicable standards.

IMPLEMENTING AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are San Joaquin County and incorporated cities within the County. This mitigation measure shall, or can and should, be applied during project permitting and environmental review and implemented during construction, as applicable.

Significance After Mitigation

Implementation of Mitigation Measure N-2 would reduce noise from mobile sources. However, even with implementation of this mitigation measure, mobile source noise from buildout of the proposed 2026 RTP/SCS may continue to exceed acceptable standards. No additional mitigation measures to reduce this impact to less than significant levels are feasible. Therefore, this impact would remain significant and unavoidable.

Threshold 3: Generate excessive groundborne vibration or groundborne noise levels; or

Impact NOI-3 PROJECTS CONSTRUCTION ACTIVITIES ASSOCIATED WITH TRANSPORTATION PROJECTS AND LAND USE IMPLEMENTING THE PROPOSED 2026 RTP/SCS WOULD GENERATE EXCESSIVE GROUNDBORNE VIBRATION LEVELS. NEW TRUCK AND BUS TRAFFIC RESULTING FROM THE PROPOSED 2026 RTP/SCS WOULD GENERATE EXCESSIVE OPERATIONAL VIBRATION LEVELS. THESE IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Construction

Construction-related vibration has the potential to damage structures, cause cosmetic damage (e.g., crack plaster), or disrupt the operation of vibration-sensitive equipment. Vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. Heavy construction operations can cause substantial vibration near the source. Table 4.13-9 shows vibration levels associated with typical construction equipment. Similar to construction noise,

vibration levels would be variable depending on the type of construction project and related equipment use.

Table 4.13-9 Vibration Source Levels for Construction Equipment

Equipment		Approximate Vibration Level (VdB)			
		25 feet from Source	50 feet from Source	100 feet from Source	200 feet from Source
Caisson Drilling		87	78	69	60
Jackhammer		79	70	61	52
Large Bulldozer		87	78	69	60
Loaded Truck		86	77	68	58
Pile Driver (impact)	Upper range	112	103	94	84
	Typical	104	95	86	77
Pile Driver (sonic)	Upper range	105	96	87	78
	Typical	93	84	75	65
Small Bulldozer		58	48	39	30
Vibratory Roller		94	85	76	67

Source: FTA 2018

Typical project construction activities, such as the use of jackhammers, other high-power or vibratory tools, compactors, and tracked equipment, may generate substantial vibration (i.e., greater than 0.2 inches per second PPV) in the immediate vicinity, typically within 15 feet of the equipment. Through the use of scheduling controls, typical construction activities would be restricted to hours with least potential to affect nearby properties. Thus, perceptible vibration can be kept to a minimum and not result in human annoyance or structural damage.

Some specific construction activities result in higher levels of vibration. Pile driving has the potential to generate the highest vibration levels and is the primary concern for structural damage to nearby structures, especially when near fragile and/or historic structures. Vibration levels generated by pile driving activities would vary depending on project conditions, such as soil conditions, construction methods and equipment used. Depending on the proximity of existing structures to each construction site, the structural soundness of the affected buildings and construction methods, vibration caused by pile driving or other foundation work with a substantial impact component such as blasting, rock or caisson drilling, and site excavation or compaction may be high enough to be perceptible outside the construction area and potentially damage existing structures.

San Joaquin County and some of the incorporated cities in the SJCOG region include regulations in their municipal code that reduce construction noise and vibration impacts. In most cases, these regulations restrict vibration-generating construction activities to specific times and days. Such local policies reduce the impacts of vibration on surrounding communities by prohibiting construction during the night when people are engaged in vibration-sensitive activities like sleeping. Nevertheless, this impact is significant because transportation or land use project construction would cause excessive groundborne vibration or groundborne noise levels.

Operation

The primary vibration sources associated with transportation system operations include heavy truck and bus traffic along roadways and train traffic along rail lines. However, vehicle traffic, including heavy trucks traveling on a highway, rarely generate vibration amplitudes high enough to cause structural or cosmetic damage, except in rare cases (e.g., where heavy truck traffic passes near fragile older buildings). Heavy trucks traveling over potholes or other pavement irregularities can cause vibration high enough to result in complaints from nearby residents. These conditions are commonly addressed by smoothing the roadway surface. Based on vibration measurements throughout California by Caltrans, worst-case traffic vibrations were shown to drop below the threshold of perception at distances of 150 feet or greater (Caltrans 2013). Given that sensitive receptors are located within 150 feet of transportation facilities within the SJCOG region, and that proposed 2026 RTP/SCS transportation projects include roadway expansion and construction of high occupancy vehicle lanes on Interstate 5, SR 99, or other highways, significant impacts related to vibration associated with truck traffic could occur.

Rail activity is also a source of vibration. Caltrans conducted measurements of vibration levels associated with train activity throughout the State and found a peak vibration level of 0.36 inches per second PPV at ten feet from the track (Caltrans 2004). Based on this reference vibration level, vibrations from train activity drop below the threshold of perception at distances greater than 250 feet. The proposed 2026 RTP/SCS includes additional train maintenance facilities (SJ07-6017), implementation and support of one additional commuter train by 2026 and a second by 2030 (SJ07-6018), improved rail information systems (SJ07-6019), safety upgrades (SJ07-6023), lengthening the platform at the current Lathrop/Manteca Station (SJ18-6001), and lengthening the platform at the current Tracy Station (SJ18-6002). These additions would potentially increase rail activity along existing lines. These changes may expose nearby sensitive receptors and fragile buildings to a substantial increase in vibration levels relative to the existing condition. Impacts would be significant because excessive groundborne vibration or groundborne noise levels could be generated. Mitigation measures are available to reduce vibration noise to the extent feasible, and are discussed below.

Mitigation Measure

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measures for applicable transportation projects that would result in vibration impacts, and where feasible and necessary based on site-specific considerations. San Joaquin County and incorporated cities in the County should implement these measures where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust this measure as necessary to respond to site-specific conditions.

N-3(a) Vibration Mitigation for Construction of Transportation Projects

Where local vibration and groundborne noise standards do not apply, implementing agencies of 2026 RTP/SCS projects utilizing heavy construction equipment shall estimate vibration levels generated by construction activities and use the Caltrans vibration damage potential threshold criteria to screen for and screen out projects as to their potential to damage buildings on site or near a project.

Caltrans Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/ Frequent Intermittent Sources
Extremely fragile historic buildings	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older Residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial structures	2.00	0.50

Source: Transportation and Construction Vibration Guidance Manual, April 2020

If construction equipment would generate vibration levels exceeding acceptable levels as established by Caltrans, implementing agencies of the proposed 2026 RTP/SCS shall, or can and should, complete the following tasks:

- Prior to construction, survey the project site for vulnerable buildings, and complete geotechnical testing (preconstruction assessment of the existing subsurface conditions and structural integrity), for any older or historic buildings within 50 feet of pile driving. The testing shall be completed by a qualified geotechnical engineer and qualified historic preservation professional and/or structural engineer.
- Prepare and submit a report to the lead agency that contains the results of the geological testing. If recommended by the preconstruction report implementing agencies shall require ground vibration monitoring of nearby historic structures. Methods and technologies shall be based on the specific conditions at the construction site. The preconstruction assessment shall include a monitoring program to detect ground settlement or lateral movement of structures in the vicinity of pile-driving activities and identify corrective measures to be taken should monitored vibration levels indicate the potential for building damage. In the event of unacceptable ground movement with the potential to cause structural damage, all impact work shall cease, and corrective measures shall be implemented to minimize the risk to the subject, or adjacent, historic structure.
- To minimize disturbance withing 550 feet of pile-driving activities, implement “quiet” pile-driving technology, such as predrilling of piles and the use of more than one pile driver to shorten the duration of pile driving), where feasible, in consideration of geotechnical and structural requirements and conditions as defined as part of the geotechnical testing, if testing was feasible.
- Use cushion blocks to dampen noise from pile driving.
- Phase operations of construction equipment to avoid simultaneous vibration sources

IMPLEMENTING AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are San Joaquin County and incorporated cities within the County. This mitigation measure shall, or can and should, be applied during project permitting and environmental review and implemented during construction, as applicable.

N-3(b) Vibration Mitigation for Operation of Transportation Projects

Implementing agencies of 2026 RTP/SCS projects shall comply with all applicable local vibration and groundborne noise standards, or in the absence of such local standards, comply with guidance provided by the FTA in *Transit Noise and Vibration Impact Assessment* (FTA 2018) to assess impacts to buildings and sensitive receptors and reduce vibration and groundborne noise. FTA recommended thresholds shall be used except in areas where local standards for groundborne noise and vibration have been established. Methods that can be implemented to reduce vibration and groundborne noise impacts include, but are not limited to:

- Rail Traffic
  - Maximizing the distance between tracks and sensitive uses
  - Conducting rail grinding on a regular basis to keep tracks smooth
  - Conducting wheel truing to re-contour wheels to provide a smooth running surface and removing wheel flats
  - Providing special track support systems such as floating slabs, resiliently supported ties, high-resilience fasteners and ballast mats
  - Implementing operational changes such as limiting train speed and reducing nighttime operations
- Bus and Truck Traffic
  - Construct noise barriers
  - Use noise reducing tires and wheel construction on bus wheels
  - Use vehicle skirts (i.e., a partial enclosure around each wheel with absorptive treatment) on freight vehicle wheels

IMPLEMENTING AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are San Joaquin County and incorporated cities within the County. This mitigation measure shall, or can and should, be applied during project permitting and environmental review and implemented during construction, as applicable.

Significance After Mitigation

Implementation of Mitigation Measure N-3(a) would reduce potential construction vibration impacts. However, even with implementation of Mitigation Measure N-3(a), construction vibration from all proposed 2026 RTP/SCS projects may not be reduced below applicable thresholds and impacts would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible. Implementation of Mitigation Measure N-3(b) would reduce potential operational vibration impacts. However, even with implementation of Mitigation Measure N-3(b), vibration from buildout of the proposed 2026 RTP/SCS may continue to be excessive. No additional mitigation measures to reduce this impact to less than significant levels are feasible. Impacts would remain significant and unavoidable.

Threshold 1:	Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
Threshold 2:	Generate a substantial absolute increase in ambient noise;

Impact NOI-4 LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2026 RTP/SCS MAY PLACE SENSITIVE RECEPTORS IN AREAS WITH NOISE LEVELS IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

The proposed 2026 RTP/SCS is based on a land use and transportation scenario which defines a pattern of future growth and transportation system investment for the region emphasizing TOD and infill development near transit and other transportation facilities, but development outside these areas could occur as well. Population and job growth is allocated principally within existing urban areas near public transit and existing transit corridors. New noise-sensitive development in infill areas could be exposed to noise levels exceeding County or incorporated city noise standards for residential land uses, with a lesser potential in more suburban and rural areas. Potential sources of noise exposure include traffic, rail and/or bus operations, commercial activity, and industrial activity. New development in infill areas near transit may also expose existing noise-sensitive uses to noise levels exceeding local noise thresholds. Impacts would be significant because applicable noise standards could be exceeded, or because infill project residents could be exposed to a substantial increase in ambient noise levels.

Mitigation Measures

San Joaquin County and incorporated cities in the County can and should implement the following mitigation measure where relevant to land use projects implementing the proposed 2026 RTP/SCS, and where feasible and necessary based on project and site-specific considerations. Project-specific environmental documents may adjust this measure as necessary to respond to site-specific conditions.

N-4 Noise Mitigation for Land Uses

If a land use project is located in an area with exterior ambient noise levels that may exceed local noise standards, the implementing agency shall ensure that a noise study is conducted to determine the existing and projected exterior noise levels in the vicinity of the project. If the project residents would be exposed to noise levels exceeding local standards or to a substantial increase in ambient noise levels, feasible attenuation measures shall be used to reduce operational noise to meet acceptable standards. In addition, noise insulation techniques shall be utilized to reduce indoor noise levels to thresholds set in applicable State and/or local standards. Such measures may include but are not limited to: dual-paned windows, solid core exterior doors with perimeter weather stripping, air conditioning system so that windows and doors may remain closed, and situating exterior doors away from roads. The noise study and determination of appropriate mitigation measures shall be completed during the project's individual environmental review.

IMPLEMENTING AGENCIES AND TIMING

Implementing agencies for land use projects are San Joaquin County and incorporated cities within the County. This mitigation measure shall, or can and should, be applied during project permitting and environmental review and implemented during construction, as applicable.

Significance After Mitigation

Implementation of Mitigation Measure N-4 would reduce noise for sensitive land uses in areas that exceed noise standards. However, even with implementation of this mitigation measure, noise from buildout of the proposed 2026 RTP/SCS land use scenario may continue to impact nearby noise sensitive receptors and exceed acceptable standards. This impact would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

4.13.4 Cumulative Impacts

Noise resulting from roadway improvement projects envisioned in the proposed 2026 RTP/SCS could influence ambient noise levels in adjoining counties, if and where the projects are located in proximity to adjoining counties. Therefore, the cumulative impact analysis area for noise consists of the SJCOG region and adjoining counties. Information regarding these adjoining counties can be found in Chapter 3, *Environmental Setting*, Table 3-1. Future development in this region that could result in noise impacts is considered in the analysis.

Operation of transportation projects would generate noise. Noise would predominantly be from vehicles, such as the noise of engines or the noise generate from the friction between tires and the roadway surface. Generally, these noises affect ambient noise levels near the roadways. However, some of the proposed 2026 RTP/SCS transportation projects would increase inter-regional travel, because the proposed 2026 RTP/SCS addresses accommodating projected growth and because some projects are on regional roadways, such as Interstate 5 or SR 99. Therefore, the proposed 2026 RTP/SCS would contribute to traffic noise outside the region. The cumulative impact would be significant, and the overall contribution of the proposed 2026 RTP/SCS to significant cumulative traffic noise impacts, despite implementation of Mitigation Measures N-2 and N-4, would be cumulatively considerable.

Future land use development within the cumulative impact analysis area would increase travel and associated cumulative transportation noise levels. Land use development in the SJCOG region combined with the growth outside of its region could potentially contribute to a cumulatively considerable increase in noise as a result of increased activity resulting from that combined growth. This activity would include primarily highway and roadway noise. As a result, the proposed 2026 RTP/SCS could result in a cumulatively considerable increase in transportation-related noise. Mitigation Measures N-2 and N-4 would reduce the proposed 2026 RTP/SCS's contribution to these impacts, but not to a less-than-cumulatively-considerable level. Therefore, the contribution of the proposed 2026 RTP/SCS to this significant cumulative noise impact would be cumulatively considerable.

Construction associated with implementation of the proposed 2026 RTP/SCS transportation projects and the land use scenario it supports could lead to significant construction noise and vibration impacts. Construction noise and vibration resulting from either the transportation projects or the land use scenario could combine with other ongoing vibration or additional construction vibration within the SJCOG region, resulting in localized construction noise and vibration levels exceeding local standards. Cumulative construction vibration impacts would be significant, and the proposed RTP/SCS contribution to these impacts would be cumulatively considerable, even after implement of Mitigation Measures N-2 and N-3(a).

4.14 Transportation

This section examines the impacts of the proposed 2026 RTP/SCS on transportation conditions.

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 2026 RTP/SCS in Appendix I 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 2026 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 2026 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 2023 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 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.

Table 4.14-1 Baseline VMT for SJCOG Region

Base Year	Regional VMT[1]	VMT per Capita[2]
2023 (2026 RTP/SCS Base Year)	18,773,254	24.20

Source: Appendix F

[1] Modeled VMT. SJCOG model result is within 3 percent of the 2023 HPMS VMT sample-based estimate of 18,327,350

[2] VMT per capita is based on a population of 775,865 resident in 2023 SJCOG model.

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

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-

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

a-ride programs provide connection services to fixed-route lines and to passenger rail (such as ACE and Amtrak).

SJRTD's Interregional Commuter Service offers bus service to passengers traveling to Alameda, and Sacramento counties, including feeder service to Bay Area Rapid Transit 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. As of October 2024, SJRTD's commuter offerings include a small fleet of zero-emission buses with capacity to travel 300 miles (SJRTD 2024). 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. Lodi also offers VineLine, a door-to-door ADA paratransit service that offers accessible public transit for residents who are ADA-certified and unable to use fixed route bus services. 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 2026 RTP/SCS, approximately $810.4 million in passenger bus transit operations and $635 million in passenger bus transit capital investments are planned. Capital investments are generally focused on replacing and expanding bus fleets, building zero-emission infrastructure, constructing maintenance and storage facilities, and improving passenger amenities such as shelters and real-time information systems.

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 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 Modesto and Ceres, beginning in late 2026 followed by a new station in Ripon in 2027. Additional extensions to Turlock are planned for 2029, with service to Livingston and Merced anticipated around 2030. Sacramento construction begins in 2027 with service in 2031.

Within the proposed 2026 RTP/SCS, substantial investments in passenger rail service are planned, including long-term funding for rail operations as well as multiple capital improvement projects supporting expansion of the regional passenger rail network. The 2026 RTP/SCS includes sustained funding for ACE and Valley Rail operations, along with significant capital investments such as new and expanded stations, track extensions, siding upgrades, layover facilities, rail information systems, and corridor improvements designed to enhance service frequency, reliability, and connectivity

throughout the region. A substantial portion of these funds is directed toward expanding and modernizing the existing passenger rail system, including the ongoing Valley Rail program, which provides new stations in Lodi, Manteca, Ripon, and North Lathrop; track extensions between Calla and Ripon; the Lathrop Wye connection; and additional siding and layover improvements necessary to support expanded ACE and San Joaquins service. Collectively, these investments would improve multimodal mobility, reduce travel times, and support the long-term regional transit vision established by SJCOG and its partner agencies.

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 four types of bikeways identified by the California Manual on Uniform Traffic Control Devices and recognized in the SJCOG region are identified below[2].

- **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[3]. 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. Building on this foundation, the 2026 RTP/SCS plans substantial new active transportation investments, including corridor-specific projects and countywide programs for bicycle and pedestrian improvements and planning. In total,

[2] California Department of Transportation (Caltrans). 2026. California Manual on Uniform Traffic Control Devices. Revision 6. March 30, 2021. https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/ca-mutcd/rev6/camutcd2014-rev6.pdf (accessed May 2022).
[3] The 2012 plan is currently being updated by SJCOG. The 2026 Regional Active Transportation Plan: Innovations in Bike and Pedestrian Project Delivery is anticipated to be completed by winter of 2026.

the 2026 RTP/SCS identifies approximately $761 million for active transportation and community enhancement 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 Metropolitan 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. Transportation innovations include the following: on-demand ridesharing; connected and autonomous vehicles; mobility aggregation applications that provide users with one source for mobility services (e.g., Moovel, CityMapper); transportation network companies (i.e., Lyft, Uber); 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 The effect these technologies will have on the transportation system is uncertain and will be shaped by regulations and policies surrounding their use.

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[4].

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. The Program has demonstrated a fuel reduction of up to 8.6 percent in California (USDOT 2007). 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. 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; provision of an on-site transportation coordinator; and electric vehicle charting stations. 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

[4] Federal Highway Administration (FHWA). 2012. Integrating Demand Management into the Transportation Planning Process: A Desk Reference. Publication Number FHWA-HOP-12-035. https://ops.fhwa.dot.gov/publications/fhwahop12035/index.htm.

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 Regulations

U.S. Department of Transportation Metropolitan Transportation Plan Requirements

Pursuant to Title 23 of the Code of Federal Regulations (CFR), Section 450.324 and Title 49 U.S. Code Section 5303, every Metropolitan Planning Organization (MPO), such as SJCOG, is required to prepare a MTP, also known as an RTP. The MTP or RTP serves as a long-range planning document that outlines strategies and investments to develop and maintain multimodal transportation system over a minimum 20-year horizon, while remaining fiscally constrained. The plan must be updated every five years in attainment areas and every four years in nonattainment or maintenance areas for air quality. The MTP or RTP must address current and projected transportation demand, identify existing and proposed transportation infrastructure, and report on progress toward meeting performance targets[5].

Infrastructure Investment and Jobs Act/Bipartisan Infrastructure Law

The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (Public Law 117-58), was signed into law on November 15, 2021. The IIJA reauthorizes surface transportation programs through fiscal year 2026 and builds upon the policy framework and performance-based planning/programming provisions established under Moving Ahead for Progress in the 21st Century Act and the Fixing America's Surface Transportation Act. The IIJA maintains the core metropolitan and statewide transportation planning requirements under 23 U.S. Code § 134 and § 135, while expanding the scope of planning to further address climate change, equity, resiliency, and infrastructure modernization. In the development of the MTP and RTPs, the IIJA continues to require MPOs and Regional Transportation Planning Agencies (RTPAs) to:

- Coordinate with officials responsible for other types of planning activities affected by transportation, such as land use, housing, economic development, environmental protection, freight, and emergency management.
- Engage traditionally underserved and disadvantaged communities to ensure equitable access to transportation planning and project benefits.
- Incorporate consideration of climate change, environmental justice, and resilience, particularly regarding the impact of extreme weather and natural disasters on transportation infrastructure.
- Improve infrastructure condition, safety, and system efficiency, while supporting economic vitality, freight mobility, and multimodal connectivity.

[5] United States Department of Transportation Federal Transit Administration. 2022. Metropolitan Transportation Plan (MTP). https://www.transit.dot.gov/regulations-and-guidance/transportation-planning/metropolitan-transportation-plan-mtp

The IIJA adds emphasis on:

- Reducing greenhouse gas emissions through transportation planning and investments.
- Increasing resilience to natural hazards and climate-related events.
- Investing in complete streets, bicycle/pedestrian infrastructure, and multimodal transportation.
- Strengthening public involvement and interagency coordination, including with housing and health agencies.
- Supporting equitable access to transportation options for disadvantaged communities.

The 2026 RTP/SCS prepared by SJCOG has been developed to comply with the planning requirements of the IIJA and its associated regulations under 23 CFR Part 450.

b. State Regulations

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 emissions to goals set by the California Global Warming Solutions Act of 2006 (AB 32, discussed in Section 4.9, *Greenhouse Gas Emissions*) and implementing legislation SB 375 (discussed below). The most recent California Transportation Plan was adopted in 2021[6]. The California Transportation Plan 2050 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.

In 2024, an addendum to the California Transportation Plan, known as the State Climate Resilience Improvement Plan for Transportation (SCRIPT), was passed. The SCRIPT "supports the [California Transportation Plan] 2050 Climate Goal of increasing resilience to climate change" (Caltrans 2026a). The SCRIPT was created in response to the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation Federal Aid Program, which invited states to create resilience improvement plans. The SCRIPT summarizes existing climate adaptation policies, tools, guidance, and activities. Additionally, the SCRIPT discusses existing and planned climate adaption efforts, explains the foundation of existing climate resilience planning, and explains how the Cost-Saving Transportation Federal Aid Program is administered in California (Caltrans 2024).

Assembly Bill 130

AB 130 was signed into law on June 30, 2025. The legislation introduces a new fee-based option for mitigating VMT impacts under CEQA. AB 130 establishes the Transit-Oriented Development Implementation Fund, administered by the California Department of Housing and Community Development. Starting July 1, 2026, lead agencies may mitigate significant VMT impacts to less than significant by funding or facilitating VMT-reducing projects or through contributions to the Transit-Oriented Development Implementation Fund. The bill adds Section 21080.44 to the Public

[6] California Transportation Plan 2050

Resources Code, authorizing lead agencies to mitigate significant transportation impacts by facilitating or funding VMT-reducing projects, including through contributions to the Transit-Oriented Development Implementation Fund. However, lead agencies retain discretion to require additional mitigation measures if necessary. The Governor's Office of Land Use and Climate Innovation issued draft guidelines for implementing the AB 130 VMT Mitigation Program in April 2026 (LCI 2026).

Climate Action Plan for Transportation Infrastructure

The Climate Action Plan for Transportation Infrastructure (CAPTI) was adopted in July 2021. CAPTI 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. CAPTI builds on executive orders signed by Governor Gavin Newsom in 2019 and 2020 targeted at reducing greenhouse gas (GHG) emissions in transportation, which account for more than 40 percent of all emissions, to reach the state's ambitious climate goals. Throughout 2024, the California State Transportation Agency (CalSTA) engaged with public stakeholders to develop new strategies which informed an updated CAPTI 2.0 adopted in January 2025 (CalSTA 2025).

CAPTI 2.0 builds on the original plan and introduces four new strategies, which include the following:

- S1. Transforming the Future of the State Highway System
- S2. Reducing GHG Impacts of Transportation Investments
- S3. Delivering Equitable Outcomes
- S4. Improving Transparency and Accountability

Each strategy includes specific actions, for a total of 14 new actions necessary for further implementation of the CAPTI framework to align transportation infrastructure investments with California's climate goals and support the Caltrans Transit Policy, which prioritizes transit movement on the state highway system and reaffirms California's commitment to achieving VMT neutrality (CalSTA 2025).

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. The transportation plan must consider factors specified in the IIJA metropolitan transportation planning rules (23 CFR Part 450 and 49 CFR Part 613), 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.

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

The California Transportation Commission 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 2024 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 2024 RTP Guidelines for MPOs (California Transportation Commission, 2024a) and the 2024 RTP Guidelines for RTPAs (California Transportation Commission, 2024b) specify that the requirements outlined in the documents apply to all RTP updates begun following adoption. Since the 2026 RTP/SCS was started after the January 2024 adoption date of the 2024 RTP Guidelines, SJCOG has used the 2024 RTP Guidelines for the 2026 RTP/SCS and the RTPAs have used use the 2024 RTP Guidelines for the RTPs.

The 2024 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 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.

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 MTPs and RTPs to include land use impacts and climate change issues. Specifically, SB 375 requires 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 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). See Section 4.9, *Greenhouse Gas Emissions,* for a more in-depth discussion of SB 375 and its implications for the proposed 2026 RTP/SCS.

Under SB 375, some development and transportation projects assumed as a part of the 2026 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 2026 RTP/SCS, and fall within the identified criteria for development and transportation projects. Streamlining under SB 375 is described in more detail in Section 1.4.1.

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. As specified in 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 Land Use and Climate Innovation (LCI; formerly known as the Office of Planning and Research) established VMT as the preferred metric for measuring transportation impacts of most projects in place of vehicle level of service 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 LCI's Technical Advisory on

Evaluating Transportation Impacts in CEQA in December 2018 and, beginning July 1, 2020, is the required metric statewide.

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 1.4.1. 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 (LCI 2018[7]).

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

- The Transportation Analysis under CEQA 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 2020)
- The Transportation Analysis Framework (2nd Edition) 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 2025).

CEQA Guidelines Section 15064.3 and LCI Technical Advisory

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.

[7] California Office of Planning and Research. 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. https://lci.ca.gov/docs/20190122-743_Technical_Advisory.pdf

CEQA lead agencies were required to comply with the State Guideline Section 15064.3 no later than July 1, 2020. Some municipalities in the SJCOG region have adopted thresholds for purposes of evaluating VMT impacts of projects within its jurisdiction. For example, the City of Stockton adopted Transportation Impact Analysis Guidelines (May 2, 2023) that set forth screening criteria, methods, and documentation requirements for VMT-based CEQA analyses, which also clarify the City's separate, non-CEQA operational analyses, for example, level of service (LOS), where applicable. SJCOG also maintains public information on SB 743 implementation and LCI's intent to replace LOS with VMT statewide. Other municipalities and agencies in the SJCOG region have not formally adopted thresholds for evaluating VMT impacts. They may consider using a threshold of 25 percent less VMT per capita compared to 2019 levels by 2030 and 30 percent below by 2045. The 25-30 percent below 2019 VMT threshold for land use projects is based on guidance provided by the California Air Resources Board's 2022 Scoping Plan for Achieving Carbon Neutrality (CARB 2022).

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.

2022 Scoping Plan

The CARB 2022 Scoping Plan for Achieving Carbon Neutrality (CARB 2022) concludes that California cannot meet its GHG reduction targets through vehicle electrification alone and identifies a reduction in per capita VMT of approximately 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045 as necessary benchmarks to support achievement of the State's climate goals. SJVAPCD has not adopted this benchmark.

California Bicycle Transportation Act

The California Bicycle Transportation Act of 1994 required all cities and counties to have an adopted bicycle master plan to apply for the Bicycle Transportation Account funding source. As of 2013, the Bicycle Transportation Account, along with older programs such as the Transportation Alternatives Program, and Safe Routes to School, have been consolidated into the Active Transportation Program, which is now the primary source of funding for infrastructure and non-infrastructure projects and planning to promote walking and biking in California. The Program is administered by Caltrans and the Division of Local Assistance, Office of State Programs, and supports a wide range of projects that facilitate active modes of transportation. Jurisdictions are encouraged to develop and maintain comprehensive Active Transportation Plans to maintain eligibility for Active Transportation Program funding.

California Manual on Uniform Traffic Control Devices

On January 18, 2026, the newly updated 2026 California Manual on Uniform Traffic Control Devices went into effect statewide. The CAMUTCD establishes uniform standards for all official traffic control devices in the State of California. Revisions (referred to as Revision 9). It also includes policy revisions and various corrections and format changes from the 2014 CAMUTCD.

Active Transportation Program

Pursuant to SB 99 (Chapter 359, Statutes of 2013) and AB 101 (Chapter 354, Statutes of 2013), the Active Transportation Program was created to encourage increased use of active modes of transportation, such as biking and walking. The Program 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 (Caltrans 2025b). The Program is administered jointly by the California Transportation Commission and Caltrans and combines many federal and state funding streams previously used for bicycle, pedestrian, safety, and other related purposes into one funding stream.

Assembly Bill 1358

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.

Strategic Highway Safety Plan

The California Strategic Highway Safety Plan is a comprehensive, statewide transportation safety plan which provides a collaborative framework for reducing fatalities and serious injuries across all travel modes and on all public roads. The Plan utilizes a data-driven process to identify key safety needs and guides resource and investment decisions that provide the greatest potential to achieve the plan's goal of zero traffic fatalities and serious injuries on all of California's public roadways. It is a statewide-coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads (Caltrans 2026c).

California Transportation Commission Regional Transportation Plan Guidelines

The California Transportation Commission publishes and periodically updates guidelines for the development of long-range transportation plans, such as TCAG's proposed 2026 RTP/SCS. Pursuant to Government Code Section 65080(d), each RTPA is required to adopt and submit an updated RTP to the California Transportation Commission and Caltrans every four years. SJCOG is the designated RTPA for San Joaquin County.

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.

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. Since the establishment of this fee in 2005, the program has undergone periodic review and revisions, most recently through a comprehensive eight-year update adopted by the SJCOG Board on June 27, 2024, which included an updated nexus analysis, revised capital project list, and incorporation of the Economic Development Corridor Program, which provides a framework for directing these fees investments toward regionally significant employment corridors to better support workforce access and economic growth.

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, 2019).

City of Lathrop General Plan

The Lathrop General Plan Circulation Element establishes a framework for projected regional transportation demand and land use in Lathrop, along with the roadway, multimodal, and infrastructure improvements necessary to support projected growth. The plan discusses the

proximity of Lathrop to interregional and interstate air, rail, truck, and automobile networks, and how this proximity might be improved through multiple proposed projects that enhance regional connectivity (City of Lathrop, 2022).

City of Manteca General Plan

The Manteca General Plan Circulation Element establishes a framework for a complete multimodal transportation system designed to accommodate pedestrians, bicyclists, transit riders, and motorists, while minimizing VMT and supporting regional coordination through SJCOG. In addition to multimodal accessibility, the plan emphasizes integration of complete streets and adaptation to emerging technologies such as electric vehicles and autonomous mobility, regional connectivity, movement of goods, and expansion of transit. The Circulation Element is correlated to the Land Use Element to ensure consistency between transportation planning and future development patterns (City of Manteca, 2024).

Mountain House General Plan

The City of Mountain House, incorporated in 2024, is currently preparing its first General Plan. Until adoption, land use planning is guided by the Mountain House Master Plan, adopted by San Joaquin County, along with associated Specific Plans.

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). The City of Tracy is beginning a comprehensive update to the General Plan, along with an update to the Zoning Code, Title 10 of the Tracy Municipal Code.

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.

Active Transportation Plans

Many jurisdictions, including those within the SJCOG region, develop active transportation plans or similar documents, such as bicycle master plans or pedestrian plans, to guide the expansion and improvement of non-motorized transportation networks. These plans identify existing and planned facilities, prioritize projects to enhance connectivity and accessibility for all users, and establish goals and policies that support walking and bicycling. Such goals and policies are often closely aligned with broader objectives related to reducing greenhouse gas emissions, improving public health, and promoting equitable access to transportation options.

While several jurisdictions in the SJCOG region have adopted standalone active transportation or bicycle and pedestrian plans, others address active transportation through general plans, regional planning efforts, and project-level initiatives. Active transportation plans and similar planning efforts in the SJCOG region are discussed below.

SJCOG Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan

SJCOG adopted its Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan in 2012 to facilitate the development of a coordinated, regional network of bicycle and pedestrian facilities. The plan identifies existing and proposed bikeways, pedestrian routes, and Safe Routes to School improvements intended to improve connectivity and accessibility between jurisdictions, schools, employment centers, and key destinations throughout San Joaquin County. It establishes goals, policies, and implementation strategies aimed at increasing walking and bicycling, improving safety for non-motorized uses, and encouraging active transportation as a viable alternative to automobile travel. The plan includes project prioritization criteria, funding strategies, and design guidance to support local jurisdictions within SJCOG in advancing bicycle and pedestrian projects (SJCOG 2012). SJCOG is currently in the process of preparing a 2026 Regional Active Transportation Plan, which will update and expand upon the 2012 plan and is anticipated to be adopted in Winter 2026 (SJCOG 2026).

San Joaquin County Bicycle Master Plan Update

The San Joaquin County Bicycle Master Plan Update establishes a comprehensive framework to guide the development and improvement of bicycle facilities within unincorporated areas of the County. The plan describes existing conditions, including current bikeway networks, safety data, connectivity gaps, and proposes a system of recommended bicycle infrastructure projects designed to create a safer and more accessible network for cyclists. It includes goals and policies aimed at improving mobility and expanding opportunities for bicyclists as a viable transportation option for residents and visitors. The plan also provides implementation strategies, including project prioritization, funding opportunities, and programmatic recommendations to support long-term bicycle network development and coordination with incorporated cities and regional plans (San Joaquin County 2020).

City of Lathrop Citywide Active Transportation Plan

The City of Lathrop Active Transportation Plan, adopted in 2024, establishes a framework to facilitate the development and improvement of bicycle and pedestrian infrastructure throughout the city. The plan evaluates existing conditions, including current active transportation facilities,

safety concerns, and connectivity gaps, and identifies a network of proposed improvements to improve access to schools, parks, transit, and other key destinations. It includes goals, policies, and prioritized projects focused on improving safety and expanding mobility options to position walking and bicycling as viable modes of transportation. The plan also establishes implementation strategies, funding opportunities, phasing, and coordination with regional efforts (City of Lathrop 2024).

City of Lodi Bicycle Master Plan

The City of Lodi Bicycle Master Plan was adopted in 2012 to guide the development and enhancement of bicycle facilities throughout the city. The plan describes and evaluates existing bikeways, identifies key destinations and connectivity gaps, and proposes a network of recommended bicycle improvements, including Class I, Class II, and Class III facilities, to support safe and efficient bicycle travel. It includes objectives with an emphasis on improving safety, promoting bicycling as a viable mode of transportation, and integrating citywide bicycle infrastructure with regional and local plans. The plan outlines implementation strategies, including project prioritization, design standards, and funding considerations to support the expansion of the city's bicycle network and improve access to community destinations (City of Lodi 2012).

City of Stockton Bicycle Master Plan and Greater Downtown Active Transportation Plan

The City of Stockton Bicycle Master Plan (2017) and Greater Downtown Active Transportation Plan (2020) collectively provide a framework that guides the development and improvement of bicycle and pedestrian facilities citywide. The Bicycle Master Plan identifies existing bikeways, evaluates connectivity and safety conditions, and proposes a network of improvements intended to expand and enhance bicycle infrastructure citywide. The Greater Downtown Active Transportation Plan provides a more focused assessment of walking and bicycling conditions within the downtown area, evaluating specific infrastructure, as well as providing programmatic policy recommendations to improve safe accessibility and connectivity in a key employment and activity center. Together, these plans establish goals and policies to prioritize projects aimed at promoting active transportation and improving multimodal mobility while also providing implementation strategies and funding considerations to support the advancement of bicycle and pedestrian improvements citywide (City of Stockton 2017, City of Stockton 2020).

City of Tracy Bikeways Master Plan

The City of Tracy Bikeways Master Plan was adopted in 2005 to facilitate the development and improvement of bicycle facilities throughout Tracy. The plan evaluates existing bikeway infrastructure in relation to key destinations and connectivity gaps, and proposes a network of recommended bicycle routes and facilities, including Class I and Class II bike paths, to support safe and efficient bicycle travel. It includes goals and policies focused on improving safe connectivity and encouraging bicycling as a viable mode of transportation for both commuting and recreational purposes. The plan also includes implementation strategies such as project prioritization, design considerations, and coordination with regional plans to support the expansion of the citywide bicycle network and improve access to community destinations (City of Tracy 2005).

4.14.3 Impact Analysis

a. Methodology and Significance Thresholds

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 2026 RTP/SCS, SJCOG refined the travel demand model used for the previous 2022 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 from the three-County Valley Model Improvement Program version 2 with sociodemographic details and existing roadway network refinements to reflect the planned projects included in the 2026 RTP/SCS. The model output was evaluated to confirm that model performance is consistent with the previous version.

Pursuant to 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.

Transportation data was supplied by SJCOG based on forecasts developed using the updated SJCOG travel demand model (SJCOG Model). This one-county model characterizing the transportation system was developed in accordance with and validated to state/federal standards including the 2024 California Transportation Commission RTP Guidelines.

Model inputs are listed here:

- 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, 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.

Given the complementary strengths and limitations of travel demand models and elasticity-based approaches (i.e., National Center for Sustainable Transportation (NCST) Calculator), to fully account for induced demand associated with the proposed 2026 RTP/SCS, a hybrid approach was applied. The hybrid approach incorporates the SJCOG travel demand model to evaluate short-term induced travel effects associated with changes in roadway capacity, and an elasticity-based approach to evaluate longer-term induced VMT effects associated with broader behavioral adjustments and system-wide travel responses over time. Given that the SJCOG model is regionally calibrated and validated to reflect observed travel behavior, network conditions, and regional characteristics, it

provides a context-sensitive representation of near-term travel responses, including trip-making, route choice, traffic redistribution, and diversion.

Induced demand/VMT is generally considered under two-time frames. Short-term induced effects typically occur soon after capacity is added (1- 3 years) and reflect immediate behavioral responses to improved travel conditions. Its effects include shifts in route choice as drivers move from longer, more circuitous routes to new, less-congested facilities, and potential mode shift to autos when additional capacity results in a lower generalized cost of travel compared to alternatives such as transit. Long-term induced effects emerge over several years (3-20 years) and reflect broader adjustments in travel behavior and development patterns, including choice of residence location, choice of employment location, increasing auto dependency, and destination changes.

Additional information about the modeling assumptions and inputs used for estimating induced demand associated with the SJCOG 2026 RTP/SCS is provided in Appendix F.

The criteria for determining whether the proposed 2026 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. The significance threshold for per capita VMT used in this EIR is further informed by adopted state climate policy and guidance. Specifically, the CARB Scoping Plan for Achieving Carbon Neutrality concludes that California cannot meet its GHG reduction targets through vehicle electrification alone and identifies a reduction in per capita VMT of approximately 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045 as necessary benchmarks to support achievement of the State's climate goals. 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 (2023) conditions;
    b. A change in VMT per capita in the region that fails to reach 15 percent below baseline (2023) 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

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 2026 RTP/SCS. Section 4.14.3.c summarizes the impacts associated with capital improvement projects in the proposed 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 2026 RTP/SCS could result in the impacts as described in the following section.

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

Impact TRA-1 TRANSPORTATION PROJECTS AND LAND USE PROJECTS IMPLEMENTING THE PROPOSED 2026 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 2026 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 2026 RTP/SCS includes performance-based goals and objectives for the continued progress of meeting SJCOG's multimodal Federal Regional Congestion Management Process (RCMP) and the Federal Performance Measurement Rule performance targets[8]. As part of SJCOG's performance-based planning and programming process, the 2026 RTP/SCS goals and objectives and associated performance metrics aim for the continued progress toward reducing traffic fatalities and serious injuries on all public roads; maintaining the highway infrastructure asset system in a state of good repair; improving reliability and reducing congestion on the National Highway System; improving the efficiency of the surface transportation system; enhancing the performance of the transportation system while protecting and enhancing the natural environment; and, improving overall mobility and accessibility. Overall, the goals and objectives included in the proposed 2026 RTP/SCS are intended to ensure that future transportation projects would not conflict with a State or local program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Transportation projects included under the proposed 2026 RTP/SCS consist of widening existing roadways; constructing new and expanded expressways and arterials; implementing managed lanes; reconstructing and modifying interchanges; constructing grade separations at railroad crossings; installing new traffic signals, roundabouts, and adaptive signal systems; and completing roadway rehabilitation, pavement preservation, and corridor level safety improvements. Such projects would result in capacity increases, congestion relief, safety improvements, and overall circulation improvements. Therefore, the proposed 2026 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 2022 RTP/SCS and the proposed 2026 RTP/SCS.

Active transportation projects included under the proposed 2026 RTP/SCS would add new pedestrian and bicycle facilities including sidewalks, bike lanes, buffered or Class IV cycle tracks, multiuse trails, bicycle and pedestrian bridges, Safe Routes to School improvements, and ADA compliant curb ramps, and would implement complete streets improvements, connectivity enhancements, lighting upgrades, wayfinding, and safety features. These projects include corridors cale bike/ped upgrades, community enhancement projects, and mobility hubs, each designed to improve bicycle and pedestrian safety and accessibility throughout San Joaquin County. 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.

[8] SJCOG's Federal RCMP and the Federal Performance Management Rule have been integrated such that the PM1-3 Federal performance measures are addressed through SJCOG's RCMP monitoring.

Transit projects included under the proposed 2026 RTP/SCS would bolster the existing operational network; improve transit centers and transfer facilities; construct new maintenance and storage facilities; purchase replacement, expansion, and zero emission buses; improve bus stops and passenger amenities; implement ITS technologies and real time information systems; and support ongoing transit operations across the region. Such projects would result in increased transit ridership, reduced emissions from fleet electrification, and improved rider experiences. Therefore, the proposed 2026 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 proposed 2026 RTP/SCS.

Since the proposed 2026 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 2026 RTP/SCS would result in roadway capacity increases, congestion relief, safety improvements, and overall circulation improvements. Therefore, the proposed 2026 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.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 2:	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?
	a. An overall increase in total regional VMT above baseline (2025) conditions would be considered a significant impact;
	b. A change in VMT per capita in the region that fails to reach a substantial increase in induced travel due to roadway capacity expansions would be considered a significant impact

Impact TRA-2 THE PROPOSED 2026 RTP/SCS WOULD RESULT IN AN OVERALL INCREASE IN REGIONAL VMT ABOVE BASELINE (2025) CONDITIONS, BUT WOULD RESULT IN AN INCREASE IN VMT PER CAPITA ABOVE BASELINE (2025) CONDITIONS. REGIONAL VMT AND VMT PER CAPITA IMPACTS FROM IMPLEMENTATION OF THE PROPOSED 2026 RTP/SCS WOULD BE SIGNIFICANT AND UNAVOIDABLE. THE INDUCED TRAVEL IMPACT AT THE REGIONAL LEVEL WOULD BE LESS THAN SIGNIFICANT.

The proposed 2026 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 2026 RTP/SCS projects include expanding the capacity of major arterials in various locations in the County. According to TABLE 4.14-2, below, stratifies and compares the number of new lane miles by Class I facilities (Interstates), Class II and Class III facilities combined (Other Freeways/Expressways and Other Principle Arterials respectively) for baseline conditions in 2023 and for anticipated 2049 conditions with and without implementation of the proposed 2026 RTP/SCS. Note that per CEQA, capacity increasing projects that have an identified funding source and are currently programmed in the FTIP are assumed to be part of the future baseline (i.e., 2049 No Build). Hence, there will be

some induced demand generated by the 2049 No Build alternative but less than the 2049 Build alternative that reflects all added lane miles both planned and programmed as appropriate.

Overall Increase in Regional VMT

The SJCOG Model used to estimate VMT includes the regional transportation system elements shown in Table 4.14-3. 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 RTP Lane Miles of New Roadway Capacity

Scenario	2023	2049 Plan[1]	2049 No Build[2]
Class I Facilities New Lane Miles (SJCOG Mode)	N/A	42	2
Class II & III Facilities New Lane Miles (SJCOG Model)	N/A	142	46
Total New Class I-III Lane Miles	**N/A**	**184**	**48**

Source: SJCOG Modelling Information

[1] Reflects all capacity increasing projects both planned and programmed

[2] Reflects programmed capacity increasing projects only.

Table 4.14-3 VMT Results Summary

Scenario	2023	2049 Plan	2049 No Build
Base VMT (SJCOG Model)	18,773,254	21,418,525	21,304,545
Short-Term Induced VMT (SJCOG Model)	N/A	223,087	109,107
Long-Term Induced VMT (NCST)	N/A	288,867	45,267
Total Induced VMT (Hybrid)	N/A	511,954	154,374
Total VMT	**18,773,254**	**21,930,479**	**21,458,919**

Source: SJCOG Modelling Information

[1] Reflects all capacity increasing projects both planned and programmed

[2] Reflects programmed capacity increasing projects only.

As shown in Table 4.14-3, baseline 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 long-term 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.

As shown, the proposed 2026 RTP/SCS is projected to increase the total regional VMT above 2023 baseline conditions. Including induced travel as shown in Table 4.14-3, with implementation of the 2026 RTP/SCS, total daily regional VMT would increase by an estimated 3,157,225 miles in 2049, which would be an approximately 17 percent increase from the baseline 2023 conditions for 2049. Therefore, this impact would be significant.

For informational purposes, Table 4.14-3 shows that total regional VMT would also increase without implementation of the proposed 2026 RTP/SCS. Specifically, total daily regional VMT would increase

by an estimated 2,685,665 miles from baseline for 2049 without implementation of the proposed 2026 RTP/SCS, which would be an approximately 14 percent increase. This demonstrates that population growth in the SJCOG region would increase daily VMT, regardless of implementation of the proposed 2026 RTP/SCS.

Per Capita Vehicle Miles Traveled

Table 4.14-4 VMT Results Summary

Scenario	Regional VMT	VMT per Capita[1]
2023 Baseline	18,773,254	24.20
2049 with proposed 2026 RTP/SCS	21,930,479	23.08
2049 without proposed 2026 RTP/SCS	21,458,919	22.59

Source: Appendix F
[1] VMT per capita is based on a 2023 population size of 775,865 persons, and an interpolated 2049 population size of 950,019 persons.

Daily VMT per capita including induced demand would decrease from 24.20 to 23.08 miles by 2049 with implementation of the proposed 2026 RTP/SCS, a decrease of approximately 5 percent. For informational purposes, Table 4.14-4 also shows that without implementation of the proposed 2026 RTP/SCS, daily VMT per capita would decrease from 24.20 to 22.59 by 2049. This would be a decrease of approximately 7 percent for 2049. As shown, the proposed 2026 RTP/SCS would fail to reach 16 percent below baseline (2023) VMT per capita conditions in 2049. Therefore, this impact would be significant.

The proposed 2026 RTP/SCS coordinates land use and transportation projects through the 2049 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.

Induced Demand

Induced demand refers to the supposition that "new" travel activity will occur solely as a result of adding roadway capacity. When new lanes or road improvements reduce travel time or the perceived "cost" of driving, people may respond by taking more trips, traveling longer distances, changing routes or destinations, or shifting travel from other modes or times of day. If travel times are significantly reduced, an individual's choice of where to live and/or work can also be affected. Over time, these behavioral changes can increase total regional VMT, sometimes offsetting congestion relief. This phenomenon is referred to as induced demand.

San Joaquin County is predominantly suburban and rural in nature, with relatively low levels of recurring congestion and, therefore, correspondingly lower levels of suppressed (latent) travel demand compared to major metropolitan regions. Under these conditions, induced travel effects are expected to be more limited, as increases in roadway capacity are unlikely to generate the substantial travel time savings needed to significantly alter travel behavior, as highlighted in recent

research, including the Rural Induced Demand Study[9]. Accordingly, in San Joaquin County, there is limited potential for substantial increases in new trips, longer trip lengths, or major shifts in travel patterns resulting solely from roadway capacity increases. Instead, observed changes in VMT are more likely to reflect underlying regional growth, demographic trends, and land-use patterns than to be attributable to capacity expansion alone. Therefore, induced demand 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 2026 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.

TRA-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, such as dibs
- 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
- 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 and Commute with Enterprise
- Encourage telecommute programs
- Purchase AB 130 VMT mitigation credits
- 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

[9] https://www.nctc.ca.gov/Reports/RCTF-Rural-Induced-Demand-Study/index.html

- Increase access to goods and services, such as groceries, schools, and daycare
- 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 Bank 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:	Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

Impact TRA-3 TRANSPORTATION AND LAND USE PROJECTS IMPLEMENTED UNDER THE PROPOSED 2026 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 2026 RTP/SCS does not define design level features of roadways. While the proposed 2026 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 2026 RTP/SCS consist of widening existing roadways; constructing new arterial and expressway segments; implementing managed lanes; reconstructing and modifying interchanges; constructing grade separations at railroad crossings; and completing corridor level operational, safety, and pavement rehabilitation

improvements, 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 2026 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 2026 RTP/SCS 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 2026 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 2026 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 2026 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 2026 RTP/SCS would not substantially increase hazards due to incompatible uses.

Furthermore, the 2026 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.

Significance After Mitigation

Impacts would be less than significant without mitigation.

Threshold 4: Would the project result in inadequate emergency access?

Impact TRA-4 TRANSPORTATION AND LAND USE PROJECTS IMPLEMENTED UNDER THE PROPOSED 2026 RTP/SCS WOULD NOT RESULT IN INADEQUATE EMERGENCY VEHICLE ACCESS. 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 2026 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 2026 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 2026 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 2026 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 2026 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.

Significance After Mitigation

Impacts would be less than significant without mitigation.

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 2026 RTP/SCS related to conflict with programs, plans, and ordinances or policies addressing the circulation system would be less than significant, and the proposed 2026 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 (2023) conditions, partially due to commuters travelling to and from employment in the adjoining counties. However, the 2026 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 2026 RTP/SCS would increase daily VMT in 2049 compared to the baseline 2023 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 2049 due to increased VMT in the region, both with and without implementation of the proposed 2026 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 2026 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 TRA-3 and TRA-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 transportation hazards or an emergency access impact within the SJCOG region and surrounding counties. Thus, cumulative impacts related to transportation hazards and emergency access would not be significant and the proposed 2026 RTP/SCS contribution would not be cumulatively considerable.

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4.15 Tribal Cultural Resources

This section evaluates potential impacts to tribal cultural resources from development facilitated by the proposed 2026 RTP/SCS.

4.15.1 Setting

a. Ethnographic Context

The SJCOG region is centrally located between the Sacramento and San Joaquin Valleys in the Delta and Eastside Streams region of California (USGS 2021). The area was primarily inhabited by two aboriginal California Native American groups: the Plains Miwok and the Northern Valley Yokuts.

Plains Miwok

Most of the SJCOG region is located in the traditional tribal territory of the Plains Miwok, members of the larger Miwokan subgroup of the Utian language family inhabiting an area along the lower reaches of the Mokelumne and Cosumnes rivers and both banks of the Sacramento River roughly from Rio Vista north to Freeport (Levy 1977). Plains Miwok subsistence practices centered on the use of acorns and seeds as primary plant food sources and on hunting of mule deer, tule elk, pronghorn antelope, and various species of waterfowl. Hunting was typically done with a sinew-backed bow and arrow. Fishing was a particularly important activity for the Plains Miwok, primarily with various types of nets. Seines were used in large rivers and sloughs where the pace of water flow was slow. Hook and line was typically used to take sturgeon while harpoons were the most common implement for salmon fishing (Levy 1977).

The Plains Miwok made both twined and coiled basketry, usually from will and redbud. They also manufactured tule mats used as floor covering. Woven blankets were often made of rabbit skin strips or feathers attached to cordage woven from plant fibers. Tule balsa rafts were crafted and used to navigate rivers and sloughs (Levy 1977).

Plains Miwok settlements typically included thatched, conical houses and semisubterranean earth-covered dwellings in winter, constructed by higher-status families. Houses generally had a central hearth and an earth oven for cooking purposes. Large, semisubterranean assembly houses were constructed for use as a ritual and social gathering place. In summer, a circular brush hut was constructed for use in mourning ceremonies. Other structures included sweathouses for curing disease and purification prior to hunting, small conical structures used by menstruating women, and grinding houses built over bedrock mortars to permit food processing in inclement weather. Acorn granaries were constructed for long-term acorn storage (Levy 1977).

Political organization centered on small tribelets of approximately 300 to 500 people and several distinct settlements. Each tribelet was headed by a chief, and each settlement had a representative of the chief overseeing local affairs. Chiefs acted as advisors and managed use of natural resources by preventing trespassing on tribelet territory and determining the appropriate time to begin acorn harvest each season. The chief also arbitrated any disputes and sanctioned the punishment of criminal offenders.

Miwok social organization followed the moiety pattern, with all living things belonging to one of two categories: land and water. Moieties were typically exogamous and played an important role in many ceremonies (Levy 1977).

Northern Valley Yokut

The southern portion of the SJCOG region is located at the very northern end of the San Joaquin Valley, an area historically occupied by the Penutian-speaking Yokuts (Kroeber 1925, Wallace 1978, Latta 1999). Three geographical divisions of the Yokuts are the Northern Valley, Southern Valley, and Foothill Yokuts. The distinction between the three groups is primarily based on language dialect (Mithun 2001).

The Yokuts established large permanent village settlements, or closely associated smaller settlements, such as the Tulamniu village. Residential structures were most often of two types: single-family dwellings and larger communal residences that housed ten families or more. Villages frequently included mat-covered granaries and a sweathouse (Mithun 2001; Sutton et al. 2016).

The basic economic unit among the Yokuts was the nuclear family. The nuclear family was linked to totemic lineages based on patrilineal descent. Totem symbols were passed from father to offspring. Families that shared the same totem formed an exogamous lineage. Totems were associated with one of two moieties. This moiety division played a role during ceremonies and other social events (Wallace 1978).

Yokuts were split into self-governing local groups that included several villages. Each group had a chief who directed ceremonies, mediated disputes, handled punishment of those doing wrong, hosted visitors, and provided aid to the impoverished. In certain cases, settlements had two chiefs, one for each moiety. Other political positions included the chief's messenger and the spokesman (Wallace 1978).

Shamans were an important part of Yokut village life. A Yokut Shaman gained power through a dream or vision. If, after this vision, the man accepted the role as shaman, he would pray, fast, and acquire talismans to aid him in his future work. Shamans had the ability to heal the sick and served a primary role in religious life (Wallace 1978).

Yokuts subsistence strategy was based on a mixed economy focused on fishing, collecting, and hunting small game. Fishermen employed tule rafts and caught fish with nets, spears, basket traps, and bow and arrow. They often gathered mussels and hunted turtles in lakes, rivers, and streams. Wild seeds and roots contributed a large portion to the Yokuts diet. Tule roots were gathered, dried, and pounded into a flour which was prepared as a mush. Tule seeds and grass and flowering herb seeds were prepared in the same way. Leaves and stems of certain plants, such as clover and fiddle-neck, were also collected. Acorns, a staple of most California Native Americans, were not readily available in the ethnographic territory of the Yokuts. Some Yokuts tribes traded for acorns with neighboring groups, such as the Salinan and Chumash to the west, the Foothill Yokuts to the east, and the Kawaiisu and Kitanemuk to the southeast (Kroeber 1925). Waterfowl was frequently hunted with snares, nets, and bow and arrow. Land mammals and birds contributed a smaller part of the Yokuts diet. Small game was occasionally taken in snares or traps or shot with bows and arrows (Wallace 1978; Sutton et al. 2016).

Yokuts technology depended primarily on tule. Stems of the plant served as the raw material for baskets, cradles, boats, housing, and many other items. Manos and metate were used to process food and animal hides (Sutton et al. 2016). Tools such as knives, projectile points, and scraping tools were made from imported lithic materials because stone was not readily available in the Central Valley. Some tools, such as bead drills, could be made from local obsidian (Sutton et al. 2016). Marine shells secured through trade with coastal groups were used as shell money and personal adornment items, such as Olivella beads (Sutton et al. 2016; Wallace 1978).

b. Tribal Cultural Resources

Tribal cultural resources that could be present within the SJCOG region include but are not limited to Native American burial sites, village or occupation sites, traditional resource gathering locations and natural landforms such as mountain peaks, ridge tops, or rivers. Such resources are present throughout the SJCOG region, including known and documented sites as well as undocumented sites that will be identified through cultural resources survey or ground disturbance. Tribal cultural resources are likely to be encountered near areas of prior Native American occupation and activity, which includes areas both within and outside of areas of current development. Surficial archaeological deposits that are tribal cultural resources are more likely to be heavily disturbed within urban areas and more intact in rural settings; however, this does not preclude the presence of buried archaeological resources that may be significant in urban settings.

4.15.2 Regulatory Setting

a. Federal Laws, Regulations, and Policies

The Department of Transportation Act

Passed in 1966, the Department of Transportation Act (49 United States Code 303, formerly 49 United States Code 1651(b)(2) and 49 United States Code 1653(f) includes Section 4(f), which states that the Federal Highway Administration and other U.S. Department of Transportation agencies cannot approve the use of land from public and private historical sites unless certain conditions apply. These conditions are the following: If there is no feasible and prudent avoidance alternative to the use of land, and if the action includes all possible planning to minimize harm to the property resulting from such use; or if the Federal Highway Administration determines the use of the property will have a de minimis impact.

Archaeological Resources Protection Act

This statute was enacted to protect archaeological resources and sites that are on public lands and tribal lands, to foster increased cooperation and exchange of information between government representatives, the professional archaeological community, and private individuals. Section 4 of the statute and Sections 16.5-16.12 of the uniform regulations describe the requirements that must be met before federal authorities can issue a permit to excavate or remove any archaeological resource on federal or tribal lands. The curation requirements of artifacts, other materials excavated or removed, and the records related to the artifacts and materials are described in Section 5 of the Archaeological Resources Protection Act. This section also authorizes the Secretary of the Interior to issue regulations describing in more detail the requirements regarding these collections.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act of 1978 (42 U.S. Code Section 1996) pledges to protect and preserve the traditional religious rights of American Indians, Aleuts, Eskimos, and Native Hawaiians. It establishes a national policy that traditional Native American practices and beliefs, sites (and right of access to those sites), and the use of sacred objects shall be protected and preserved. If a place of religious importance to American Indians could be affected by a federal undertaking, the Act promotes consultation with Indian religious practitioners, which could be coordinated with Section 106 consultation. Amendments to Section 106 of the NHPA in 1992 strengthened the interface between the American Indian Religious Freedom Act and the NHPA by

clarifying the following: (1) properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization could be determined to be eligible for inclusion in the NRHP; and (2) in carrying out its responsibilities under Section 106, a federal agency shall consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to properties described under (1).

Native American Graves Protection and Repatriation Act

The intent of the Native American Graves Protection and Repatriation Act of 1990 (25 U.S. Code Section 3001) is to identify Native American affiliation or lineal descent and ensure the rightful disposition, or repatriation, of Native American human remains, funerary objects, sacred objects, and items of cultural patrimony that are in federal possession or control. The regulations implementing the requirements of Native American Graves Protection and Repatriation Act relating to the inadvertent discovery of human remains and objects of cultural patrimony of Native American origin on federal or tribal lands are described in 43 CFR Section 10.4.

b. State Laws, Regulations, and Policies

Assembly Bill 52

Assembly Bill (AB) 52 expanded CEQA by defining a new resource category, "tribal cultural resources." AB 52 establishes that "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resources Code [PRC] Section 21084.2). AB 52 further states when feasible, the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe," and meets either of the following criteria:

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k).
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. AB 52 requires that lead agencies "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed in the jurisdiction of the lead agency.

AB 52 (PRC Section 21084.3(b)) describes mitigation measures that may avoid or minimize the significant adverse impacts to TCRs. Examples include:

> (1) Avoiding and preserving the resources in place, including, but not limited to, planning and constructing to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria

(2) Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

(A) protecting the cultural character and integrity of the resource

(B) protecting the traditional use of the resource

(C)protecting the confidentiality of the resource

(3) Establishing permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places

(4) Protecting the resource

SJCOG has conducted AB 52 consultation as the lead agency for implementation of the proposed 2026 RTP/SCS. SJCOG sent letters on May 6, 2025 to 13 Native American organizations (Buena Vista Rancheria of Me-Wuk Indians, California Valley Wiwok Tribe, Chicken Ranch Rancheria of Me-Wuk Indians, Confederated Villages of Lisjan Nation, Guidiville Indian Rancheria, Ione Band of Miwok Indians, Muwekma Ohlone Tribe of the SF Bay Area, Nashville Enterprise Miwok-Maidu-Nishinam Tribe, Northern Valley Yokuts Tribe, Tule River Indian Tribe, United Auburn Indian Community of the Auburn Rancheria, Wilton Rancheria, and Wuksachi Indian Tribe/Eshom Valley Band) who were included on a contact list provided by the NAHC on March 11, 2024. One response was received as of the date of this EIR on May 16, 2025, from the Confederated Villages of Lisjan Nation. SJCOG met with the Lisjan Nation virtually on July 30, 2025. They requested additional consultation when more was known about the project. SJCOG reached out via email on December 15, 2025, regarding additional consultation. No response was received as of the date of this Draft EIR. Appendix G Tribal Coordination includes letters sent to the tribes as required by AB 52.

4.15.3 Impact Analysis

a. Methodology and Significance Thresholds

In accordance with the requirements of AB 52, SJCOG conducted AB 52 consultation for the proposed 2026 RTP/SCS, which consisted of written communication with NAHC-listed Native American contacts as described above. One response was received, as described above, with no follow up request after meeting. Therefore, AB 52 consultation has concluded and no tribal cultural resources were identified within the SJCOG region.

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether a project's impacts would have a significant impact to tribal cultural resources:

1. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
    b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource

Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

b. Project Impacts and Mitigation Measures

The following section discusses potential impacts and mitigation measures that may be associated with projects contained within the proposed 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 improvements and future projects under the land use scenario envisioned by the proposed 2026 RTP/SCS could result in the impacts as described in the following section.

Threshold 1: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Impact TCR-1 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS AND FUTURE PROJECTS INCLUDED IN THE LAND USE SCENARIO ENVISIONED IN THE PROPOSED 2026 RTP/SCS HAS THE POTENTIAL TO IMPACT TRIBAL CULTURAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

As stated above, one of the tribes requested AB 52 consultation with SJCOG, which occurred on July 30, 2025. No further request for consultation or identification of tribal resources has been provided. Therefore, AB 52 notification did not result in the identification of any tribal cultural resources.

Although no resources were identified during consultation, it is possible that Native American burial sites, village or occupation sites, traditional resource gathering locations, and natural landforms of importance to area tribes could exist in the SJCOG planning area. Thus, tribal cultural resources could be encountered during implementation of the transportation improvement projects listed in the proposed 2026 RTP/SCS and the land use scenario envisioned by the proposed 2026 RTP/SCS. Effects on tribal cultural resources depend highly on the individual project site conditions and the characteristics of the proposed project. Impacts may include damage or destruction of tribal cultural resources. Adherence to the requirements of AB 52 would encourage tribal consultation with local California Native American tribes and require the identification of project specific substantial adverse effects on tribal cultural resources and appropriate project specific mitigation measures. If the implementing agency determines that a specific transportation or land use project could cause a substantial adverse change in the significance of a tribal cultural resource, the impact would be significant.

Mitigation Measures

For transportation projects under their jurisdiction, SJCOG shall, and transportation project sponsor agencies can and should, implement the following mitigation developed for the proposed 2026 RTP/SCS program where applicable for transportation projects that result in impacts to tribal cultural resources, and where feasible and necessary based on project- and site-specific considerations. Cities and counties in the SJCOG region can and should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site specific conditions.

TCR-1 Tribal Cultural Resources Impact Minimization

Implementing agencies shall, or can and should, comply with AB 52, which requires formal tribal consultation. If the implementing agency determines that a project may cause a substantial adverse change to a tribal cultural resource, they shall, or can and should, implement mitigation measures identified in the consultation process required under PRC Section 21080.3.2, or shall, or can and should, implement the following measures where feasible to avoid or minimize the project specific significant adverse impacts:

- Avoidance and preservation of the resources in place, including, but not limited to planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
- Treating the resource with culturally appropriate dignity considering the tribal cultural values and meaning of the resource, including, but not limited to, the following:
  - Protecting the cultural character and integrity of the resource
  - Protecting the traditional use of the resource
  - Protecting the confidentiality of the resource
  - Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places
- Native American monitoring by the appropriate tribe for all projects in areas identified as sensitive for potential tribal cultural resources and/or in the vicinity (within 100 feet) of known tribal cultural resources
- If potential tribal cultural resources are encountered during ground-disturbing activities; work in the immediate area must halt and the appropriate tribal representative(s), the implementing agency, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find and determine the proper course of action

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 the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

Mitigation Measure TCR-1 would require AB 52 compliance and would result in necessary mitigation being identified through tribal consultation to avoid impacts to tribal cultural resources. These measures would protect the resource's character, traditional use, and confidentiality. With such protection, implementation of the above measure would reduce impacts to tribal cultural resources to less than significant.

4.15.4 Cumulative Impacts

Tribal cultural resources are regionally specific and determined by the local tribes. When resources occur near jurisdictional boundaries, such city or county limits, the resource can extend across jurisdictions. Therefore, the cumulative impact analysis area for tribal cultural resources consists of the SJCOG region and the adjoining counties.

Development in the cumulative impact analysis area would increasingly extend into previously undeveloped areas. Construction of transportation and land use development projects would require ground disturbance that could impact tribal cultural resources. Tribal cultural resources are often associated with areas near water, such as rivers, because Native American Tribes congregated near water. The increase in growth in previously undisturbed areas would contribute to regional impacts on tribal cultural resources. Cumulative impacts would be significant.

Development in the SJCOG area would increase under the proposed 2026 RTP/SCS by increasing mobility and growth. The increase in growth in previously undisturbed areas contributes to regional impacts on tribal cultural resources. If there may be tribal cultural resources at the location of a project site, tribal consultation in accordance with AB 52 would help ensure protection of tribal cultural resources. However, tribal territory often crosses the boundaries of multiple jurisdictions within and outside of the SJCOG region, and there could be several minor impacts to tribal cultural resources that together would result in a significant cumulative impact. Thus, the cumulative tribal cultural resources impact would be significant, and the proposed 2026 RTP/SCS's contribution to the cumulative tribal cultural resources impact would be cumulatively considerable despite implementation of Mitigation Measure TCR-1.

4.16 Wildfire

This section analyzes wildfire impacts from buildout of the proposed 2026 RTP/SCS. Impacts related to emergency response plans, exposure to wildfire risk factors, associated infrastructure, and exposure to people or structures due to post-fire risks are addressed.

4.16.1 Setting

a. Physical Setting

Wildfires

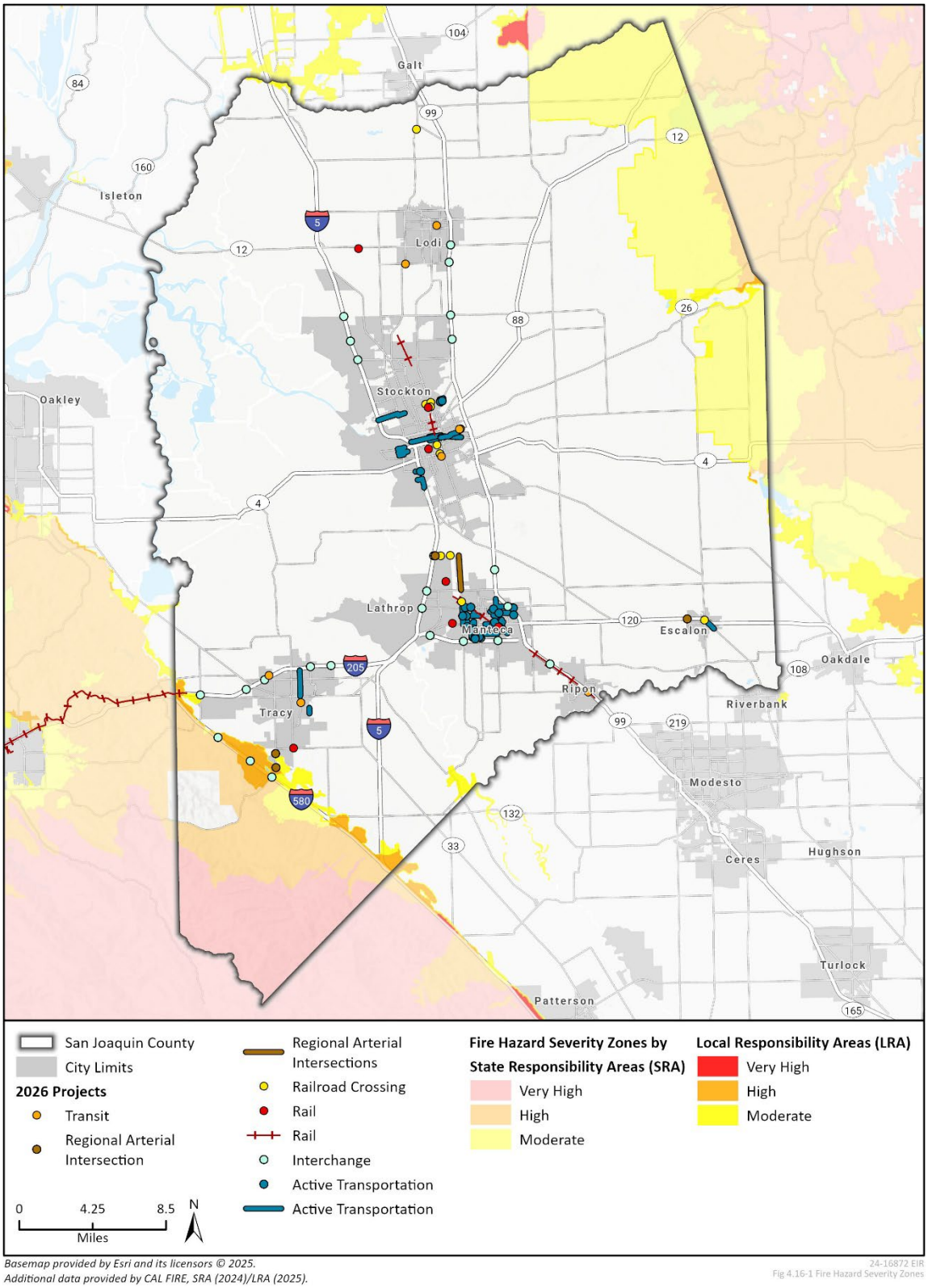
In California, responsibility for wildfire prevention and suppression is shared by federal, State, and local agencies. Federal agencies are responsible for federal lands in Federal Responsibility Areas. California has determined that some non-federal lands in unincorporated areas with watershed value are of statewide interest and have classified those lands as State Responsibility Areas (SRA), which are managed by the California Department of Forestry and Fire Protection (CAL FIRE). All incorporated areas and other unincorporated lands are classified as Local Responsibility Areas (LRA).

While all of California is subject to some degree of wildfire hazard, there are specific features that make certain areas more hazardous. CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors (Public Resources Code [PRC] 4201-4204 and California Government Code 51175-89). Factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition and atmospheric conditions. CAL FIRE has identified two types of wildfire risk areas: 1) Wildland Areas That May Contain Substantial Forest Fire Risks and Hazards and 2) Very High Fire Hazard Severity Zones. Each risk area carries with it code requirements to reduce the potential risk of wildfires. Under state regulations, areas within very high fire hazard risk zones must comply with specific building and vegetation management requirements intended to reduce property damage and loss of life within these areas.

Throughout the SJCOG region, there is a full range of conditions and fire hazards as indicated in the applicable Fire Hazard Severity Zone (FHSZ) Maps for the region. According to the CAL FIRE Fire Hazard Severity Zones in SRAs (CAL FIRE 2024a) and LRAs (CAL FIRE 2025), Moderate and High FHSZs are present in the northeastern portions of the county. Moderate, High, and Very High FHSZs are mapped in the southwestern portion of the county (CAL FIRE 2024a, CAL FIRE 2025). Most of these fire hazard areas are within SRAs, but there are some areas of moderate and high hazard present in LRAs in the southwestern portion of the county.

Development that has spread into less densely populated, often hilly areas, has increased the number of people living in heavily vegetated areas that are prone to wildfire and more difficult to battle due to the hilly terrain. The area where wildlands meet urban development is referred to as the wildland-urban interface, where urban wildfires occur. The 2020 Santa Clara Unit (SCU) Lightning Complex Fire started in multiple locations throughout Santa Clara County, Alameda County, Contra Costa County, San Joaquin County, Merced, and Stanislaus County and is ranked as the fifth largest wildfire in California history (CAL FIRE 2024b). The SCU Lightning Complex Fire resulted in 396,625 burned acres and destroyed 225 structures (CAL FIRE 2024b) and is an example of the major losses that can result from a fire in the wildlife-urban interface.

Figure 4.16-1 San Joaquin County Fire Hazard Severity Zone Map



Basemap provided by Esri and its licensors © 2025.
Additional data provided by CAL FIRE, SRA (2024)/LRA (2025).

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Fig 4.16-1 Fire Hazard Severity Zones

4.16.2 Regulatory Setting

a. Federal Laws, Regulations, and Policies

International Fire Code

The International Fire Code (IFC), created by the International Code Council, is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The IFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The IFC and the International Building Code use a hazard classification system to determine what protective measures are required for fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the IFC employs a permit system based on hazard classification. The IFC is updated every three years and is the basis for the California Fire Code (CFC) (also updated triennially). Local jurisdictions, including the SJCOG region cities, then adopt the CFC, in some cases with local amendments.

Federal Disaster Mitigation Act

The Disaster Mitigation Act of 2000 provided a new set of mitigation plan requirements that encourage state and local jurisdictions to coordinate disaster mitigation planning and implementation. States are encouraged to complete a "Standard" or an "Enhanced" Natural Mitigation Plan. "Enhanced" plans demonstrate increased coordination of mitigation activities at the state level and, if completed and approved, increase the amount of funding through the Hazard Mitigation Grant Program. The State of California Multi-Hazard Mitigation Plan (SHMP) complies with this act.

National Fire Plan

The U.S. Department of the Interior's National Fire Plan is intended to ensure an appropriate federal response to severe wildland fires, reduce fire impacts on rural communities, and ensure sufficient firefighting capacity in the future. The Rural Fire Assistance program is funded to enhance the fire protection capabilities of rural fire districts and safe and effective fire suppression in the wildland/urban interface. The program promotes close coordination among local, state, tribal, and federal firefighting resources by conducting training, equipment purchase, and prevention activities on a cost-shared basis.

b. State Laws, Regulations, and Policies

2024 Strategic Plan for California

The 2024 Strategic Plan prepared by CAL FIRE and the California Natural Resources Agency lays out central goals for reducing and preventing the impacts of fire in the State. The goals are meant to establish, through local, State, federal, and private partnerships, a natural environment that is more resilient and human-made assets that are more resistant to the occurrence and effects of wildland fire.

In addition to the 2024 Strategic Plan for California, individual CAL FIRE units develop fire plans, which are major strategic documents that establish a set of tools for each CAL FIRE unit for its local area. Updated annually, unit fire plans identify wildfire protection areas, initial attack success, assets and infrastructure at risk, pre-fire management strategies, and accountability within their unit's geographical boundaries. The unit fire plan identifies strategic areas for pre-fire planning and fuel treatment as defined by the people who live and work locally. The plans include contributions from local collaborators and stakeholders and are aligned with other plans for the area.

California Building Code

The California Building Code (CBC) has been codified in the California Code of Regulations as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The 2022 CBC is based on the 2021 International Building Code (IBC) published by the International Code Council, though will be superseded by the 2025 CBC which is expected to become effective in January 2026. In addition, the CBC contains necessary California amendments, which are based on reference standards obtained from various technical committees and organizations, such as the American Society of Civil Engineers (ASCE), the American Institute of Steel Construction, and the American Concrete Institute. ASCE Minimum Design Standard 7-05 (ASCE 7-05) provides requirements for general structural design and includes means for determining earthquake loads, as well as other loads (e.g., flood, snow, wind), for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure, or any appurtenances connected or attached to such buildings or structures throughout California. Specifically, Chapter 7A of the California Building Code (California Code of Regulations, Title 24, Part 2) includes specific requirements related to exterior wildfire exposure. These requirements establish minimum standards to protect buildings located in FHSZs within SRAs and Wildland Urban Interface (WUI) Fire Areas. This code includes provisions for ignition-resistant construction standards for new buildings.

California Fire Code

The 2022 CFC (California Code of Regulations, Title 24, Part 9) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of buildings or structures or any appurtenances connected or attached to such building structures throughout California. The 2022 CFC will be superseded by the 2025 CFC which goes into effect January 1, 2026.

Wildland-Urban Interface Building Standards

On September 20, 2007, the Building Standards Commission approved the Office of the State Fire Marshal emergency regulations amending the California Code of Regulations, Title 24, Part 2, known

as the California Building Code (CBC). These codes include provisions for ignition-resistant construction standards in the WUI.

California Emergency Services Act

The California Emergency Services Act of 2008 merged the duties, powers, purposes, and responsibilities of OES and the Governor's Office of Homeland Security into a new cabinet-level agency, the California Emergency Management Agency (Cal EMA). In 2013, the Governor merged the California Emergency Management Agency with the Office of Public Safety Communications and renamed the organization the California Governor's Office of Emergency Services (Cal OES). CAL OES is responsible for overseeing and coordinating emergency preparedness, response, recovery, and homeland security activities within the California. Section 8687.7 of the California Disaster Assistance Act required the development of a Standard Emergency Management System (SEMS) program, for managing multiagency and multijurisdictional responses to emergencies in California. The Cal OES Emergency Management Systems Unit is a multi-agency group charged with methodical review, evaluation, and approval of needed improvements to SEMS. State agencies are required to use SEMS and local government entities must use SEMS in order to be eligible for any reimbursement of response-related costs under the State's disaster assistance programs.

Cal OES serves as the lead State agency for emergency management and coordinates the State response to major emergencies in support of local government. SEMS provides the mechanism by which local governments request assistance from Cal OES, and Cal OES maintains oversight of the State's mutual aid system.

State of California Emergency Plan

The Cal OES Emergency Plan outlines a state-level strategy to support local government efforts during a large-scale emergency. In accordance with the California Emergency Services Act, the State Emergency Plan describes methods for carrying out emergency operations, mutual aid processes, emergency services of governmental agencies, resource mobilization, emergency public information, and continuity of government (Cal OES 2023a).

California Multi-Hazard Mitigation Plan

The California Office of Emergency Services prepares the SHMP, which identifies hazard risks and includes a vulnerability analysis and a hazard mitigation strategy (Cal OES 2023b). The SHMP is required under the Disaster Mitigation Act of 2000 for the State to receive federal funding. The Disaster Mitigation Act of 2000 requires a State mitigation plan as a condition of disaster assistance.

The SHMP represents the state's primary hazard mitigation guidance document - providing an updated analysis of the state's historical and current hazards, hazard mitigation goals and objectives, and hazard mitigation strategies and actions. The plan represents the state's overall commitment to supporting a comprehensive mitigation strategy to reduce or eliminate potential risks and impacts of disasters in order to promote faster recovery after disasters and, overall, a more resilient state. State Hazard Mitigation Plans are required to meet the Elements outlined in the Federal Emergency Management Agency (FEMA) State Mitigation Plan Review Guide (FEMA 2025).

Cal OES is responsible for the development and maintenance of the State's plan for hazard mitigation. The SHMP was last approved by FEMA as an Enhanced State Mitigation Plan in 2023. The plan is designed to reduce the effects of disasters caused by natural, technological, accidental, and

adversarial/human-caused hazards. The SHMP sets the mitigation priorities, strategies, and actions for the state. The plan also describes how risk assessment and mitigation strategy information is coordinated and linked from local mitigation plans into the SHMP, and provides a resource for local planners of risk information that may affect their planning area. The State of California is required to review and revise its mitigation plan and resubmit for FEMA approval at least every five years to ensure continued funding eligibility for certain federal grant programs.

Senate Bill 1241

Senate Bill 1241 (Chapter 311, Statutes of 2012) requires cities and counties to address fire risk in SRAs and VHFHSZs in the safety element of their general plans. It also requires cities and counties to make certain findings regarding available fire protection and suppression services before approving a tentative subdivision map or parcel map.

Assembly Bill 3074

Assembly Bill 3074 (Chapter 259, Statutes of 2020) imposes additional fuel reduction requirements on a person who owns, leases, controls, operates, maintains, or builds an occupied dwelling or structure in, upon, or adjoining wild lands within a very high fire hazard severity zone.

SRA Fire Safe Regulations

The SRA Fire Safe Regulations CCR Title 14, Division 1.5, Section 1270 et seq. establishes CAL FIRE's basic wildland fire protection standards for new development and is applicable in all SRAs in California—areas where CAL FIRE is responsible for wildfire protection.

Executive Order N-05-19

On January 9, 2019, Governor Gavin Newsom issued Executive Order N-05-19 to address wildfire in California. Executive Order N-05-19 directs CAL FIRE, in consultation with other state agencies and departments, to recommend immediate, medium-term, and long-term actions to help prevent destructive wildfires. In response, CAL FIRE created the Community Wildfire Prevention and Mitigation Report, which contains recommendations to reduce damage from wildfires across the state. Specifically, they focus on reducing wildfire fuel (such as vegetation clearing), long-term community protection (creating defensible space in communities), wildfire prevention, and forest health.

California Public Resources Code

Sections 4442, 4291, and 4443 set requirements for spark arresters on vehicles, defensible space around structures, and regulate the use of handheld portable internal combustion engines, respectively. These regulations are intended to prevent wildfire during construction, operation, and maintenance of projects throughout the state.

c. Local Laws, Regulations, and Policies

Local Hazard Mitigation Plan

Due to the extensive history of natural disasters occurring throughout California, the State encourages communities to adopt Local Hazard Mitigation Plans (LHMPs) to gather hazard risk data

and ensure local-level mitigation and preparedness. Local jurisdictions develop, adopt and update hazard mitigation plans to establish guiding principles for reducing hazard risk, as well as specific mitigation actions to eliminate or reduce identified vulnerabilities. The San Joaquin County Local Hazard Mitigation Plan (2023) serves to reduce or eliminate long-term risk to people and property from natural hazards and their effects in the SJCOG region, including the County of San Joaquin and the cities of Stockton, Lodi, Manteca, Tracy, Ripon, Escalon, and Lathrop. The plan includes goals and policies to reduce fire severity and intensity in the county through wildfire prevention, fuels management, and maintenance of evacuation routes. The LHMP is required to be updated every five years.

General Plans

Local planning policies related to wildfire hazards are established in each jurisdiction's general plan, generally in the Safety Element or equivalent chapter. For emergency services, some of the relevant policies include coordinating with other agencies responsible for planning medical facilities to meet the health care needs of residents in the region, retaining hospitals, evaluating medical facility proposals, providing emergency response services, and participating in mutual-aid agreements. Example county General Plan goals and policies are provided below.

County of San Joaquin General Plan

The San Joaquin County Public Health and Safety Element contains goals and policies with the specific intention of reducing the region's fire hazard risk. It was adopted in 2016 and demonstrates the County's compliance with fire prevention and protection requirements outlined in State law (San Joaquin 2016).

- **Policy IS-5.6 Consistent Fire Protection Standards for New Development** The County, in coordination with local water agencies and fire protection agencies, shall ensure consistent and adequate standards for fire flows and fire protection for new development. (RDR/IGC)
- **Goal PHS-4 To minimize the risk of wildland and urban fire hazards**
- **PHS-4.1 Community Wildfire Protection Plan** The County shall maintain and implement the Community Wildfire Protection Plan as a mechanism for community input and identification of areas with high fire hazard risk. (PSP)
- **PHS-4.2 Residential Densities in High Hazard Areas** The County shall restrict development to rural residential densities or lower and require on-site fire suppression measures in areas with high or extreme wildfire hazards. (RDR/PSP)
- **PHS-4.3 Fire Prevention Measures** The County shall implement State recommendations for fire prevention in Fire Hazard Severity Zones and require new and/or existing development to provide clearance around structures, use fire-resistant ground cover, build with fire-resistant roofing materials, participate in fuel load reduction, and take other appropriate measures. (RDR/PSP)
- **PHS-4.4 Clear Zones** The County shall require clear zones and regular weed abatement around residential structures in high fire hazard areas and assist property owners in identifying how clear zones should be maintained. (RDR)
- **PHS-4.5 Vegetation and Fuel Management** The County shall require new development in high fire-hazard areas to have fire-resistant vegetation, cleared fire breaks separating communities or clusters of structures from native vegetation, or a long-term comprehensive vegetation and

fuel management program consistent with State codes 4290 and 4291 for wildland fire interface and vegetation management. (RDR/PSP)

- **PHS-4.6 Fire Protection Coordination** The County shall encourage well-organized and efficient coordination among fire agencies, CalFire, and the County. (IGC)

City General Plans

The City of Lathrop General Plan Public Facilities and Services Element (City of Lathrop 2022) contains policies which address fire facilities, emergency response times, and roadway design to ensure adequate emergency response and access. The Public Safety Element includes policies to protect life and property from urban and wildfire emergencies. These include the following:

- **Policy PS-2.1 Building Fire Codes.** Require that all buildings and facilities within the city comply with local, state, and federal regulatory standards such as the California Building and Fire Codes, as well as other applicable fire safety standards, to minimize the risk of fire in the city.
- **Policy PS-2.2 Fire Protection Services.** Coordinate with the Lathrop Manteca Fire Protection District (LMFD) and French Camp-McKinley Fire District (French Camp) in the provision of fire protection services to serve the city's current and future population and development.
- **Policy PS-2.5 Roadway Design and Maintenance.** Design and maintain roadways to maintain acceptable emergency vehicle response times and turning movements.

The City of Ripon's Community Health and Safety Element contains policies to protect people and property from fire risk (City of Ripon 2006). Goal D seeks to prevent loss of life, injury, and property damage due to wild land and urban fires. The policies to address Goal D include Policy D1, D2, D3, D4, D5, and D6. The policies are as follows:

- **Policy D1.** All new non-residential development will be equipped with automatic interior sprinkler systems to meet the Uniform Building Code.
- **Policy D2.** Encourage the Ripon Consolidated Fire District to maintain a regular program of fire inspection for existing commercial and industrial buildings. Involve the District at the planning stage of new development to ensure Volume I- Chapter Four Community Health and Safety 4-3 Adopted September 19, 2006, appropriate life safety and fire issues are addressed.
- **Policy D3. Require** that the construction of new roads and streets be adequate as to width and turning radius to simplify access by firefighting apparatus. Plans for new streets will be submitted for review and comment to the Ripon Consolidated Fire District.
- **Policy D4.** All development will be required to meet the minimum fire flow rates specified by the City's Fire Code.
- **Policy D5.** Enforce building and fire codes and City ordinances regarding fire protection.
- **Policy D6.** Support the Ripon Consolidated Fire District in the establishment and adjustments of fees and/or funds collected from new development for capital facilities, apparatus, and equipment required to mitigate the impact of new growth.

The City of Tracy General Plan Safety Element contains five policies specifically related to fire hazards that evaluate the potential for wildland fire hazards when considering new development (City of Tracy 2011). Polices P1-P5 in the City of Tracy General Plan require the following:

- **Policy P1.** All development in areas of potential wildland fire hazards shall include the following:
  - Clearance around structures.

  - Fire-resistant ground cover.
  - Fire-resistant roofing materials.

- **Policy P2.** Development in areas with steep terrain shall be restricted as necessary in order to ensure fire safety.
- **Policy P3.** New developments shall satisfy fire flow and hydrant requirements, street widths and design requirements as established by the City.
- **Policy P4.** The City shall incorporate drought-resistant and fire-resistant plants in public works projects in areas subject to wildland fires.
- **Policy P5.** The City of Tracy Fire Department shall train regularly for urban and wildland firefighting conditions.

These policies are achieved through Action A1 which requires the maintenance of a current map of areas subject to wildland fires.

Other cities in the SJCOG Region, such as Manteca and Lodi, have similar provisions, goals, policies, and regulations in their General Plans and municipal ordinances.

4.16.3 Impact Analysis

a. Methodology and Significance Thresholds

The methodology used for the following evaluation is based on a review of documents and publicly available information about wildfire conditions in the SJCOG region to determine the potential for implementation of projects in the proposed 2026 RTP/SCS to result in increased wildfire risks. This includes city and county planning documents. This program-level analysis is based on an overall understanding of the key fire safety concerns that could result from implementation of the proposed 2026 RTP/SCS. The evaluation of wildfire impacts reasonably assumes that the construction and development under the proposed 2026 RTP/SCS would adhere to the latest federal, state, and local regulations, and conform to the latest required standards in the industry, as appropriate for individual projects.

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether a project's impacts would have a significant impact on wildfire: If located in or near SRAs or lands classified as very high fire hazard severity zones, would the project:

a. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
b. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
c. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.
d. expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

Impacts related to interference with an emergency response or evacuation plan are addressed in Section 4.10, *Hazards and Hazardous Materials.*

b. Project Impacts and Mitigation Measure

The following section discusses potential impacts and mitigation measures that may be associated with projects contained within the proposed 2026 RTP/SCS. Due to the programmatic nature of the proposed 2026 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 improvements and future projects under the land use scenario envisioned by the proposed 2026 RTP/SCS could result in the impacts as described in the following section.

Threshold 1: If located in or near state responsibility areas or lands classified as VHFHSZs would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Impact WF-1 PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE 2026 RTP/SCS WOULD BE LOCATED IN OR NEAR AN SRA, AND EXPOSURE OF PEOPLE OR STRUCTURES TO A SIGNIFICANT RISKS OF LOSS, INJURY, OR DEATH FROM WILDFIRES COULD OCCUR. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

As shown in Figure 4.16-1, Moderate and High FHSZs are present in the northeastern portions of the SJCOG region, and Moderate, High, and Very High FHSZs are mapped in the southwestern portion of the region. The land use scenario envisioned by the proposed 2026 RTP/SCS concentrates the forecasted population and employment growth in urban areas and corridors of the County, such as incorporated cities, unincorporated towns, and major roadways, where the risk of wildfire is less than in more rural, forested, or mountainous areas where fuels are abundant and emergency response access is restricted. The proposed 2026 RTP/SCS transportation improvements, including roadway improvements, transportation demand management, and transit improvements, would not involve developing residential uses that would include occupants. While some transportation projects may include office or maintenance structures, occupation would be temporary and would not be situated in very high FHSZs or SRAs. Additionally, transportation projects associated with the proposed 2026 RTP/SCS would improve mobility in the SJCOG region, which could facilitate an expedited evacuation or escape during a wildfire. These projects would increase the exposure of transportation infrastructure to risk of loss or damage from wildfire. While most projects included in the 2026 RTP/SCS would not include structures, transportation projects in the southwest portion of the county that are near moderate and high FHSZs within an SRA could be at a higher risk of loss due to wildfire.

Additionally, construction activities for transportation and land use projects within the 2026 RTP/SCS involving the use of vehicles and heavy machinery could result in the ignition of a wildfire. During construction, heavy equipment and passenger vehicles driving on vegetated areas prior to clearing and grading could increase the risk of fire. Heated mufflers, explosives used during site preparation, and improper disposal of cigarettes could potentially ignite surrounding vegetation. The use of heavy equipment, such as bulldozers and graders, has the potential to accidentally ignite a fire from sparks created when equipment blades strike rocks or metal objects. If noticed by the equipment operator or other project specific personnel, small ignitions can easily be suppressed by the construction equipment and/or on-site fire watch personnel. A fire could also be started by project personnel improperly disposing of burning cigarettes in areas covered with wildland vegetation and within 50 feet of combustible material storage.

Moreover, if the introduction of invasive, non-native plants is not controlled during construction, a project site could progressively become dominated by non-native plants which tend to increase the frequency and severity of wildfires. Based on recent scientific evidence, it is likely that anthropogenic climate change will continue to chronically enhance the potential for western U.S. forest fire activity when fuels are not limited. As discussed further in Section 4.9, *Greenhouse Gas Emissions and Climate Change*, increasingly difficult drought conditions and extreme weather events will continue to raise wildfire risk within the SJCOG region.

New construction would be subject to the latest California Fire Code, which contains safety measures to minimize the threat from wildfires, in addition to the California PRC Sections 4442 and 4443, which regulate vehicles and equipment used during construction to reduce the risk of wildfire. Title 14 of the California Code of Regulations sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which help prevent loss of structures or life by reducing wildfire hazards. Additionally, new land use development envisioned in the proposed 2026 RTP/SCS would be subject to the latest CFC, which contains safety measures to minimize the threat from wildfires, such as requiring use of ignition-resistant building materials and sealing any gaps around doors, windows, eaves, and vents to prevent intrusion by flame or embers. CCR Title 14 establishes minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which help prevent loss of structures or life by reducing wildfire hazards.

The codes and regulations would reduce the risk of loss, injury, or death from wildfire for new development envisioned by the 2026 RTP/SCS. With implementation of Mitigation Measures WF-1(a) and WF-1(b)and compliance with aforementioned plans and regulations, impacts would be reduced to less than significant.

Mitigation Measures

Transportation project sponsor agencies can and should implement the following mitigation measures for applicable transportation projects that would result in wildfire impacts. The County and cities in the SJCOG region can and should implement these measures, where relevant to land use projects implementing the 2026 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

WF-1(a) Wildfire Risk Reduction

If an individual transportation or land use project included in the proposed 2026 RTP/SCS is located within or less than two miles from an SRA or very high fire hazard severity zone, the implementing agency shall require appropriate mitigation to reduce the risk. Examples of mitigation to reduce risk of loss, injury or death from wildlife include, but are not limited to:

- Require the use of fire-resistant vegetation native to San Joaquin County and/or the local microclimate of the project site and discourage the use of fire-prone species especially nonnative, invasive species.
- Enforce defensible space regulations to keep overgrown and unmanaged vegetation, accumulations of trash and other flammable material away from structures.
- Provide public education about wildfire risk, fire prevention measures, and safety procedures and practices to allow for safe evacuation and/or options to shelter-in-place.
- Require adherence to the local hazard mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildfires through land use compatibility, training,

sustainable development, brush management, public outreach, and service standards for fire departments.

- Ensure sufficient emergency water supply.
- Encourage the use of fire-resistant vegetation native to San Joaquin County and/or the local microclimate of the project site and discourage the use of fire-prone species especially non-native, invasive species.
- Require a fire safety plan be submitted to and approved by the local fire protection agency. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. The local fire protection agency may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase of the project.
- Prohibit certain project construction activities with potential to ignite wildfires during red-flag warnings issued by the National Weather Service for the project site location. Example activities that should be prohibited during red-flag warnings include welding and grinding outside of enclosed buildings.
- Require fire extinguishers to be onsite during construction of projects. Fire extinguishers shall be maintained to function according to manufacturer specifications. Construction personnel shall receive training on the proper methods of using a fire extinguisher.
- Smoking and open fires shall be prohibited at individual transportation or land use projects sites included in 2026 RTP/SCS during construction and operations. A copy of the notification to all contractors regarding prohibiting smoking and burning shall be provided to the County.

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 the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

WF-1(b) Fire Protection Plan

Individual transportation or land use projects included in the proposed 2026 RTP/SCS shall prepare a Fire Protection Plan that meets Fire Prevention Bureau of San Joaquin County requirements. The plan shall contain (but not be limited to) the following provisions:

- All construction equipment shall be equipped with appropriate spark arrestors and carry fire extinguishers.
- A fire watch with appropriate firefighting equipment shall be available at the project site at all times when welding activities are taking place. Welding shall not occur when sustained winds exceed that set forth by the Fire Prevention Bureau of San Joaquin County unless a Fire Prevention Bureau of San Joaquin County-approved wind shield is on site.
- A vegetation management plan shall be prepared to address vegetation clearance around all future transportation projects.
- Operational fire water tanks shall be installed prior to construction.
- Provisions for fire/emergency services access if roadway blockage occurs due to large loads during construction and operation

- Cleared, maintained parking areas shall be designated; no parking shall be allowed in non-designated areas.
- The need for and/or use of dedicated repeaters for emergency services.
- Appropriate hot work permits (such as cutting and welding permits) shall be obtained from the jurisdictional fire agency.

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 the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

With implementation of Mitigation Measures WF-1(a) and WF-1(b), the risk of loss of structures and transportation infrastructure and the risk of injury or death due to wildfires would be reduced. These measures would make structures and transportation infrastructure more fire resistant and less vulnerable to loss in the event of a wildfire. These measures would also reduce the potential for construction of 2026 RTP/SCS projects to inadvertently ignite a wildfire. Therefore, impacts would be less than significant with mitigation incorporated

Threshold 2: If located in or near state responsibility areas or lands classified as Very High FHSZs, would the project:

a) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;

b) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; and/or

c) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Impact WF-2 IMPACT WFR-2: PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE 2026 RTP/SCS WOULD BE LOCATED IN OR NEAR SRAS. THIS WOULD EXACERBATED WILDFIRE RISKS THAT COULD LEAD TO INCREASED POLLUTION CONCENTRATIONS, INCREASE WILDFIRE RISK ASSOCIATED WITH THE CONSTRUCTION OR MAINTENANCE OF INFRASTRUCTURE SUCH AS ROADS, AND INCREASE THE LIKELIHOOD OF POST-FIRE LANDSLIDES AND FLOODING. EXISTING REGULATIONS AND PROPOSED MITIGATION MEASURES WOULD REDUCE THIS RISK AND IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Fire Risk Associated with Installation or Maintenance of Infrastructure

As shown in Figure 4.16-1, Moderate and High FHSZs are present in the northeastern portions of the SJCOG region, and Moderate, High, and Very High FHSZs are mapped in the southwestern portion of the region. Installation and maintenance of infrastructure such as roadways and access roads could

exacerbate fire risk in these areas. However, compliance with CBC regulations would reduce this impact. Specifically, Title 14 sets forth the minimum development standards for emergency access, including fuel modification, setback, signage, and water supply, which are intended to result in development that avoids or minimizes the hazards associated with development including associated infrastructure to roads, fuel breaks, emergency water sources, power lines or other utilities in wildfire-prone areas. With adherence to existing regulations, impacts would be less than significant.

Landslide Risk, Pollutant Runoff, and Flooding Fire-related impacts may extend far beyond the fire footprint as damage to homes, infrastructure, and ecosystems, and diminished air and water quality could all occur. People residing in residential development could be exposed to smoke and air pollution from wildfires regardless of their location within urbanized areas or the WUI. However, requirements to adhere to the local hazard mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildfires through land use compatibility, training, sustainable development, brush management, public outreach, and service standards for fire departments would reduce the risk of wildfire and airborne pollutants resulting from a wildfire for these projects

Slope failure and landslides can be exacerbated in regions in the aftermath of a wildfire. Hillsides can become denuded of vegetation and become unstable, increasing the potential for landslide risks and associated hazards downslope from such landslides. Potential impacts related to slope stability and landslides are discussed in Section 4.8, *Geology and Soils*. As discussed therein, stable slope conditions vary depending on location of the project within the region and the potential for substantial landslides was found to be low to moderate in most of the proposed project regions. Steep slopes within the SJCOG region are relatively limited and primarily found in the southwestern portion of San Joaquin County, along with smaller slopes susceptible to instability located throughout the Delta area's levee system (San Joaquin County 2014). In addition, in areas of high susceptibility to landslides (near foothill areas), proposed 2026 RTP/SCS projects would be required to conform to San Joaquin County slope stability guidelines of Chapter 14 Grading Ordinance 4477, prior to approval of construction. With compliance to County regulations, this impact would be less than significant.

This same issue applies to runoff and flooding potential after a wildfire with denuded and unstable hillsides. Potential impacts related to flooding, runoff, and drainage are discussed in Section 4.11, *Hydrology and Water Quality*. Projects would be required to comply with existing design guidelines and local requirements for post-development peak stormwater flows and Best Management Practices to avoid and/or minimize flooding impacts and impacts to on-site and off-site drainage. Even through adherence to these regulations, impacts associated with exposure of people or structures to downslope or downstream flooding or landslides as a result of runoff due to post-fire slope instability would continue to be significant. The project would be required to comply with existing design guidelines, applicable San Joaquin County Flood Control & Water Conservation District (Flood Control) requirements for post-development peak stormwater flows and Best Management Practices, and maintenance requirements described in the Neighborhood Stormwater Control Plans to avoid and/or minimize flooding impacts and impacts to on-site and off-site drainage. Compliance with Flood Control rules and regulations and local General Plan policies in addition to implementation of Mitigation Measures WF-1(a) and WF-1(b) would minimize the potential for adverse wildfire impacts to result from buildout of the 2026 RTP/SCS. Furthermore, reasonably foreseeable development facilitated by the proposed 2026 RTP/SCS would be required to implement additional mitigation if project-specific analysis identifies the potential for wildfire impacts. Therefore, impacts would be less than significant with mitigation incorporated.

Mitigation Measures

Transportation project sponsor agencies can and should implement, the following mitigation measures for applicable transportation projects that would result in wildfire impacts. The County and cities in the SJCOG region can and should implement these measures, where relevant to land use projects implementing the proposed 2026 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

WF-1(a) Wildfire Risk Reduction

See Impact WF-1 for Mitigation Measure WF-1(a).

WF-1(b) Fire Protection Plan

See Impact WFR1 for Mitigation Measure WF-1(b).

Significance After Mitigation

With implementation of Mitigation Measures WF-1(a) and WF-1(b), the risk of loss of structures and transportation infrastructure and the risk of injury or death due to wildfires would be reduced. These measures would make structures and transportation infrastructure more fire resistant and less vulnerable to loss in the event of a wildfire. These measures would also reduce the potential for construction of proposed 2026 RTP/SCS projects to inadvertently ignite a wildfire.

Compliance with local, State, and federal rules and regulations and local General Plan policies in addition to implementation of Mitigation Measures WF-1(a) and WF-1(b) would minimize the potential for adverse wildfire impacts to result from buildout of the proposed 2026 RTP/SCS. Furthermore, reasonably foreseeable development facilitated by the proposed 2026 RTP/SCS would be required to implement additional mitigation if project-specific analysis identifies the potential for wildfire impacts. Therefore, impacts would be less than significant with mitigation incorporated.

4.16.4 Cumulative Impacts

The cumulative impact analysis area for wildfires consists of the SJCOG region and adjoining counties. Information regarding these adjoining counties can be found in Chapter 3, *Environmental Setting,* Table 3-1. The analysis in this section examines wildfire impacts of proposed 2026 RTP/SCS transportation projects and land use scenario throughout the SJCOG region that are cumulative in nature. Land use development within the SJCOG region combined with the growth in the adjoining counties could potentially contribute to a cumulatively considerable increase in wildfire risk as portions of the SJCOG region and adjoining counties are in SRA high fire hazard severity zones.

The proposed 2026 RTP/SCS is not expected to substantially increase wildfires, but the occurrence of wildfires always exists within the SJCOG region and transportation and land use projects under the proposed 2026 RTP/SCS could place people and structures within or less than two miles from or near SRAs or lands classified as very high fire hazard severity zones. Construction and operation of projects would risk exacerbating these existing fire hazards by creating additional potential sources of fire ignition.

During construction and operation of proposed 2026 RTP/SCS projects, if one of these cumulative projects were to simultaneously result in a wildland fire ignition during construction, they could combine and increase the frequency of wildland fires beyond existing conditions. The combination

of these projects being constructed concurrently could substantially increase the frequency of fire in the area above natural conditions. Cumulative impacts would be significant.

The land use scenario envisioned by the proposed 2026 RTP/SCS would include areas located within or less than two miles from or near SRAs or lands classified as very high fire hazard severity zones. Those areas would have potentially significant wildfire impacts as existing codes and regulations cannot fully prevent wildfires from being generated and damaging structures or populations. These projects would increase the potential to ignite fires and therefore risk exacerbating the potential for loss or damage from wildfires. This added risk could start wildfires that could spread outside the SJCOG region impacting adjacent counties and communities. As a result, the proposed 2026 RTP/SCS could result in a cumulatively considerable increase in wildfire risk. Mitigation measures and adherence to State regulations described earlier in this section would minimize the contribution to this cumulative impact to a less-than-cumulatively-considerable level.

4.17 Effects Considered Less Than Significant

Section 15128 of the California Environmental Quality Act (CEQA) Guidelines requires an EIR briefly describe any possible effects that were determined not to be significant. The environmental factors discussed below are in response to the checklist questions listed in Appendix G of the *CEQA Guidelines* that were not discussed in the impact sections of the DEIR.

4.17.1 Mineral Resources

1) *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

2) *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

The proposed 2026 RTP/SCS primarily involves modifications to existing roadways, including improvements related to highway, local street, active transportation, and transit investments. In addition, future infill and transit oriented development would be located within existing urbanized areas. The San Joaquin County General Plan DEIR concluded that there are significant amounts of sand and gravel in the region, which are designated by California Geologic Survey as Mineral Resource Zones (MRZ). Projects included in the proposed 2026 RTP/SCS have the potential to be located on sites with known mineral resources or locally important mineral resources. All projects in the proposed 2026 RTP/SCS would be required to adhere to the relevant policies and programs listed in the San Joaquin County General Plan that pertain to mineral resources. Policy NCR-4.1: Mineral Resource Protection states that the County shall require mineral deposits of significant quantity, value, or quality, as identified and updated by the State Division of Mines and Geology reports as MRZ-2 Mineral Resource Zones, to remain in agricultural or open space uses until resources are extracted, unless the immediate area has been committed to other uses. The proposed 2026 RTP/SCS would not change land use designations and would adhere to the requirements of Policy NCR-4.1. The San Joaquin 2035 General Plan EIR also adds Mitigation Measure 4.O-1, NCR-NEW1, that states the County shall discourage the development of incompatible land uses, as defined by the State Mining and Geology Board, within or immediately adjacent to existing and potential mineral resources sites, including existing and new MRZ-2 (Mineral Resources Zone 2) identified by Surface Mining and reclamation Act (SMARA) and locally important mineral resource sites as they are identified in the future such that development would impede or preclude mineral extraction or processing. Any projects located within a MRZ would be identified during the planning review for project-specific impacts pertaining to mineral resources. In addition, the project would be required to adhere to Policy NCR-4.2, Discretionary Permit to Protect Mineral Resources. This policy states that the County shall require all new development in areas of significant sand and gravel deposits, as identified by the State Division of Mines and Geology, to obtain a discretionary permit, conditioned to protect the resources. If any projects in the proposed 2026 RTP/SCS are located in areas of significant gravel deposits, they would be required to obtain a discretionary permit that adhere to Policy NCR-4.2.

There are no projects included in the proposed 2026 RTP/SCS that would directly result in the extraction, exploration, or digging for mineral resources, or prevent such activities. Therefore, the proposed 2026 RTP/SCS would not result in the loss of a known mineral resource that would be of value to the region and the residents of the State or result in the loss of availability of a locally

important mineral resource recovery site. Impacts pertaining to mineral resources would be less than significant.

4.17.2 Noise

4) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Thresholds 1, 2, and 3 are discussed in Section 4.13, *Noise*.

The 2026 RTP/SCS does not include any airport improvement projects or programs that would directly or indirectly increase aircraft operations at public, public use, or private airports within the SJCOG region. The 2026 RTP/SCS would not alter airport facilities, capacity, or flight activity nor contribute to increased ambient noise levels associated with aircraft operations. As airport operations would remain unchanged, implementation of the 2026 RTP/SCS would not introduce new airport related noise exposure for people residing or working near airports. In addition, any future land development facilitated by the 2026 RTP/SCS that is located within an adopted airport land use plan zone or within an applicable airport noise contour would remain subject to specific Airport Land Use Commission policies and noise exposure standards. These mandatory compatibility requirements would ensure that proposed land uses incorporate appropriate noise attenuation or design features to avoid exposure to excessive aircraft related noise. Any transportation projects near an airport would only cause a temporary exposure to increased noise from an airport. This would be ambient noise that would not exceed the direct construction noise at the project site. Adherence to OSHA standards for noise exposure would reduce any noise impacts to less than significant. Therefore, the 2026 RTP/SCS would not increase aircraft operations and future development would continue to comply with Airport Land Use Commission noise compatibility policies, the 2026 RTP/SCS would not expose people residing or working in the project area to excessive noise levels associated with airport operations. No impacts related to aircraft noise would occur.

4.17.3 Population and Housing

1) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

2) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Improvements associated with the proposed 2026 RTP/SCS would not result in direct population growth beyond anticipated growth in the region. The growth projections used in the RTP/SCS are based on long range demographic, housing, and employment forecasts prepared through the regional forecasting process and the adopted or draft general plans of the jurisdictions within the region. Projects under the proposed 2026 RTP/SCS are designed to fully support the transportation needs of the growing population while implementing the infill development approach outlined in the proposed 2026 RTP/SCS. As a result, the 2026 RTP/SCS is designed to accommodate forecasted growth, not generate new unplanned development. The SCS is designed to accommodate growth by encouraging infill development in already urbanized areas, avoiding expansion into undeveloped areas where a transportation plan might induce unplanned population growth. Transportation improvements included in the 2026 RTP/SCS are growth accommodating infrastructure

enhancements, intended and designed to support the land use patterns, projected population and employment levels, and to improve mobility within the existing transportation network. These projects reinforce the SCS land use strategy by supporting compact, walkable, and transit served communities.

Government Code Section 65080(b)(2)(B)(ii) requires that an RTP/SCS must accommodate all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan. In compliance with the requirements, the proposed 2026 RTP/SCS includes strategies to accommodate new housing units through 2049. The housing strategies would continue the SJCOG region's commitment to growth in infill areas but are also intended to protect current residents from displacement, preserve existing affordable housing, and produce new housing to secure long-term affordability for lower income populations. Because the 2026 RTP/SCS uses established growth forecasts, relies on local general plans and Housing Elements, and does not propose new development areas or infrastructure extensions that could induce unplanned growth, the proposed 2026 RTP/SCS would be consistent with projected and planned growth. All transportation projects included in the 2026 RTP/SCS were developed in coordination with local jurisdictions and are consistent with the land use and housing assumptions in the San Joaquin County 2035 General Plan. Implementation of the 2026 RTP/SCS would not induce substantial unplanned population growth, nor would it conflict with planned land use patterns or housing obligations. Therefore, population and housing growth impacts would be less than significant.

Growth inducing impacts are further discussed in Chapter 5, *Other CEQA, Section 5.1*.

4.17.4 Public Services

1) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: fire protection; police protection; schools; parks; other public facilities?*

Transportation projects under the proposed 2026 RTP/SCS would not generate demand for police or fire services, schools, parks, or other public facilities. The proposed 2026 RTP projects involve roadway operations, safety, and maintenance activities on state and local networks, as well as investments in bus transit operations and capital improvements such as vehicle replacements and transit facilities, rail corridor upgrades, active transportation projects that improve pedestrian and bicycle connectivity, and a limited number of targeted interchange and regional roadway capacity projects. These project types generally modify or improve existing transportation facilities and services. Some projects do involve new infrastructure, such as Valley rail stations and track extensions, new roadway segments and interchanges, and the construction of a new terminal at Tracy Municipal Airport. These projects similarly aim to improve existing transportation services in the SJCOG region. As such, they would not increase demand on public services such as fire and police protection, schools, parks, or other public facilities.

Future land use growth and development may increase demand for public services; however, demand is not expected to exceed that already anticipated within the general plans and regional growth forecasts prepared for each respective area in which proposed SCS development would be located. As discussed in Section 4.17.3, *Population and Housing*, growth in the SJCOG region would not be a result of the proposed 2026 RTP/SCS. The proposed 2026 RTP/SCS is designed to

accommodate the people, households, and jobs identified in regional growth forecasts. While growth would occur, the proposed 2026 RTP/SCS distributes this growth consistent with adopted plans and would not induce population growth beyond what has been previously anticipated. Additionally, the proposed 2026 RTP/SCS includes land use strategies that would allow for denser, more compact development in identified infill development areas, and therefore service areas for existing providers are not anticipated to expand. The San Joaquin County General Plan includes policies and implementation programs to ensure adequate public services are maintained in the Public Facilities and Services Element. Policy 1.5 states that the County shall base the expansion of public facilities and services on current needs and planned or projected development patterns (San Joaquin County 2016). Policy 2.6 of the Land Use Element states that the County shall encourage infill development to maximize existing infrastructure with the capacity to serve new development (San Joaquin County 2016). Cities have similar general plan policies. The SJCOG region has planned for growth that would be accommodated by the proposed 2026 RTP/SCS, and thus the proposed 2026 RTP/SCS would be consistent with Policy 1.5 and 2.6. Planning for growth will continue to occur throughout implementation of the proposed 2026 RTP/SCS, and individual jurisdictions would increase services as necessary and planned.

The number, location, physical sizes, and designs of future new and expanded fire and police protection facilities are unknown. As a result, specific environmental impacts associated with specific development cannot be speculated. However, if an individual jurisdiction chooses to increase fire or police protection facilities, the expansion of existing or development of new facilities would be subject to project-specific environmental review under CEQA whereby environmental impacts would be identified and mitigated accordingly. As mentioned above, growth that would be distributed by the proposed 2026 RTP/SCS has been accounted for within general plans and other regional growth forecasts. As such, any increased demand for fire or police protection facilities has been anticipated, and therefore the proposed 2026 RTP/SCS would not induce growth such that increased fire or police protection facilities would be necessary beyond what has already been determined by individual jurisdictions. Future project sponsors are required by law to pay development impact fees for schools at the time building permits are issued. The fees are used by a school district to mitigate impacts associated with long-term operation and maintenance of school facilities. Pursuant to Section 65996 of the California Government Code, payment of these fees fulfils complete mitigation of environmental impacts. Through regulatory compliance, adequate parkland acreages would be maintained throughout the SJCOG region. For a full discussion of parks, refer to 4.17.5, *Recreation*, below. Based on the above discussion, impacts related to public services would be less than significant.

4.17.5 Recreation

1) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

2) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

As discussed in Section 4.17.3, *Population and Housing,* the proposed 2026 RTP/SCS would accommodate the people, households, and jobs identified within the SJCOG's regional growth forecast. Transportation projects identified within the proposed 2026 RTP would not generate demand for parks or recreation resources. However, the overall growth resulting from the land use

pattern established by the proposed 2026 SCS would result in an increased demand for services including recreational facilities.

Development of the individual land use projects in the proposed 2026 RTP/SCS would be required on a project-by-project basis to pay development fees towards the applicable jurisdiction. Since the passage of the 1975 Quimby Act, cities and counties have been authorized to adopt ordinances requiring that developers set aside land, donate conservation easements, or pay fees that can be used for the purpose of acquiring parkland to maintain identified parkland acreage ratio of three acres per 1,000 in population. In accordance with the Quimby Act, the County of San Joaquin requires three net acres of developed neighborhood parks per 1,000 residents and 10 acres of regional parks per 1,000 residents through land dedication and development (San Joaquin County 2016). Cities throughout the SJCOG region have similar requirements implemented into their General Plans. All future development under the proposed 2026 RTP/SCS would be required to comply with these regulations. The payment of fees or provision of parkland would go toward maintaining parks or providing new park space, which would also reduce use of existing recreational facilities. Reduced use of existing facilities would result in a corresponding decrease in deterioration of existing recreational facilities. Therefore, impacts related to recreation would be less than significant.

4.17.6 Utilities and Service Systems

1) *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*
2) *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable development during normal, dry and multiple dry years?*
3) *Would the project result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's demand in addition to the provider's existing commitments?*
4) *Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*
5) *Would the project comply with federal, state, and local management and reduction statutes related to solid waste?*

Future infill and development projects envisioned by the proposed 2026 RTP/SCS would occur in urbanized areas and would connect to existing utilities. However, the proposed 2026 RTP/SCS does not induce a population beyond what is generally projected and accounted for in local and regional plans. The proposed 2026 RTP/SCS is not inducing population growth, but rather establishing a framework to accommodate anticipated growth. As such, any growth facilitated by the proposed 2026 RTP/SCS would not require new utilities facilities beyond what is already anticipated in regional growth forecasts, Capital Improvement Programs, and general plans.

Urban Water Management Plans (UWMPs) for the SJCOG region estimate and pursue the efficient use of available water supplies identifying short-term and long-term water demand management measures. UWMPs are generally updated every five years to account for water demand resulting from the growth envisioned in general plan updates and updated population growth forecasts

(California Department of Water Resources 2025). Therefore, the current UWMPs applicable to the SJCOG region generally account for the land development envisioned within the proposed 2026 RTP/SCS because it is largely consistent with relevant planning documents, such as general plans. Furthermore, Groundwater Sustainability Plans prepared under the Groundwater Sustainability Act are implemented in order to protect groundwater in the SJCOG area. The proposed 2026 RTP/SCS would adhere to the water conservation requirements set forth within these plans. Regional growth forecasted within the proposed 2026 RTP/SCS, general plans, and other documents are accounted for in UWMPs and Groundwater Sustainability Plans, and any growth facilitated by the proposed 2026 RTP/SCS would not be in excess of anticipated growth forecasts. Thus, the proposed 2026 RTP/SCS would not result in insufficient water supplies or a determination by a wastewater treatment provider that inadequate capacity exists to serve the anticipated demand.

Transportation and land use development projects implementing the proposed 2026 RTP/SCS would be required to comply with the California Green Building Code and Senate Bill 1016, which require that construction operations recycle a minimum of 50 percent of waste generated. Similarly, land use projects would also be required to comply with federal and State regulations related to solid waste, including Subtitle D of the Resource Conservation and Recovery Act and Title 40 of the Code of Federal Regulations, which establish criteria for municipal solid waste landfills, as well as Assembly Bill 939, which mandates a 50 percent waste diversion rate, and Assembly Bill 341, which establishes a statewide goal of 75 percent waste diversion. In addition, projects implemented by the proposed 2026 RTP/SCS would be subject to local jurisdiction goals and policies for recycling and diversion of solid waste, such as Goal PHS-6.5 in the San Joaquin County General Plan, which establishes a Countywide goal of achieving a waste diversion rate of 90 percent by 2035 (San Joaquin County 2016). Compliance with these requirements would ensure that solid waste generated from land use development would be minimized to the extent practical, and that diversion rates would increase into the future, as development included in the proposed 2026 RTP/SCS is built out. Non-diverted waste generated by transportation and land use development projects included in the proposed 2026 RTP/SCS would be disposed in the Foothill Sanitary Landfill, and multiple transfer stations within the SJCOG region (San Joaquin County 2025). These landfills are adequate for handling existing solid waste and future waste generated through 2090 (San Joaquin County 2025). Therefore, the proposed 2026 RTP/SCS would not generate solid waste in excess of State or local standards or conflict with federal, State, and local management and reduction statutes. Therefore, impacts related to utilities would be less than significant.

5 Other CEQA Required Discussions

This section discusses growth-inducing impacts, irreversible environmental impacts, and significant and unavoidable impacts that would be caused from implementation of the proposed 2026 RTP/SCS.

5.1 Growth-Inducing Impacts

Section 15126.2(e) of the *CEQA Guidelines* requires a discussion of a project's potential to induce growth. Specifically, an EIR must discuss the ways in which the proposed project could foster economic or population growth. Included in this category are projects that would remove obstacles to population growth. In addition, the EIR must discuss how the project may encourage and/or facilitate other activities that could significantly affect the environment. It cannot be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. Economic and population growth does not necessarily create significant and direct physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant environmental effects. A project's growth inducing potential is considered significant if growth generated by the project could result in significant effects to one or more environmental issue areas.

Growth-Facilitation Mechanisms.

The 2026 RTP/SCS includes investments that expand highway and arterial capacity, including lane additions, new interchange construction, and new road segments identified in Section 2, Project Characteristics, Action Element, Table 2-1. Transportation capacity improvements can facilitate growth through several interrelated mechanisms:

Induced Demand and Extended Commute Range.

New lane capacity reduces congestion and travel times along affected corridors. Reduced travel time extends the geographic distance from which workers can realistically commute to employment centers, which in turn makes land development economically viable at greater distances from urban cores than would otherwise be the case. This mechanism — commonly referred to as induced demand — generates additional vehicle travel that would not occur in the absence of the new capacity. To the extent that induced demand enables development at the urban fringe that would otherwise not be economically feasible, transportation capacity expansion indirectly facilitates that development.

San Joaquin County's travel characteristics are a critical consideration in interpreting induced VMT results and selecting an appropriate analytical approach (SJCOG 2026 RTP/SCS Induced VMT Assessment, Appendix F). The County is predominantly suburban and rural in nature, with relatively low levels of recurring congestion and, therefore, correspondingly lower levels of suppressed (latent) travel demand compared to major metropolitan regions. Under these conditions, induced travel effects are expected to be more limited, as increases in roadway capacity are unlikely to generate the substantial travel time savings needed to significantly alter travel behavior, as highlighted in recent research, including the Rural Induced Demand Study[3].

Accordingly, in San Joaquin County, there is limited potential for substantial increases in new trips, longer trip lengths, or major shifts in travel patterns resulting solely from roadway capacity increases. Instead, observed changes in VMT are more likely to reflect underlying regional growth, demographic trends, and land-use patterns than to be attributable to capacity expansion alone.

Accessibility and Urban Fringe Development.

New road segments and interchange improvements extend the effective radius of serviceable land by improving access to parcels that are currently constrained by poor connectivity. Where a new or improved interchange serves undeveloped or underutilized land at the urban fringe, the improvement removes a constraint on that land's development potential. This effect is distinct from induced demand: it operates not by altering commute economics but by physically enabling access to land that was previously difficult or costly to serve.

Land Value Effects.

Transportation investments improve access to affected areas and, as a consequence, increase land values along improved corridors and near new interchanges. Higher land values can accelerate the pace of private development decisions by improving the economics of development projects that were previously marginal. This effect can advance development in the timing dimension — causing growth that would eventually occur anyway to occur sooner — and in the location dimension — directing investment toward improved corridors rather than elsewhere in the region.

Bounding Factors: Why Plan-Level Growth Effects Are Contained.

Although the mechanisms described above are real, the growth-facilitating effects of the 2026 RTP/SCS are bounded by the following factors at the program level:

Regional Demographic Controls.

SJCOG's growth projections are derived from the Sustainable Communities Strategy land use scenario, which in turn is grounded in SJCOG's most recent population projections prepared by the Center for Business and Policy Research at the University of the Pacific, and coordinated planning by member agencies. San Joaquin County's population growth is a function of regional and statewide demographic trends that operate independently of any specific transportation investment. The 2026 RTP/SCS responds to projected growth — investing in infrastructure to serve anticipated population increases — rather than generating growth beyond what is independently forecast. A regional transportation plan's capacity to induce net new population growth beyond what would occur in its absence is, at the program level, constrained by these demographic controls.

The SCS Land Use Pattern and Local Agency Discretion.

The 2026 RTP/SCS includes a Sustainable Communities Strategy that concentrates projected growth in infill locations served by transit and existing infrastructure. To the extent growth occurs consistent with the SCS pattern, its environmental effects are addressed in the plan's impact analyses. However, local agencies retain discretion over land use decisions and are not required under state law to implement the SCS land use pattern. (Gov. Code, § 65080(b)(2)(K).) If growth occurs outside SCS-designated locations — particularly at the urban fringe along improved highway corridors — the growth-facilitation mechanisms described above would direct a greater share of regional growth toward those corridors than the SCS contemplates. This dynamic does not generate net new population growth; it affects the location of growth within the region. Its environmental

consequences — including increased vehicle miles traveled, reduced proximity to transit, and conversion of agricultural and open space land — are reflected in the significant and unavoidable air quality and greenhouse gas impacts identified in Chapters 4.2 and 4.9, which represent the envelope of impact under a range of land use scenarios.

No Project Alternative Context.

The region will experience population and employment growth regardless of whether the 2026 RTP/SCS is adopted. The No Project Alternative does not eliminate growth; it accommodates that growth through a different investment pattern. The question is not whether transportation investment is associated with growth — it is — but whether adoption of the 2026 RTP/SCS generates growth materially beyond what would occur under any regional transportation plan. At the program level, the plan does not generate net new population or employment beyond regional demographic forecasts.

Significance Finding.

The 2026 RTP/SCS is not anticipated to directly induce population or employment growth beyond the regional demographic forecasts on which the plan is based. However, by expanding highway and arterial capacity, the plan could facilitate the timing and location of growth in ways that deviate from the SCS land use pattern — directing development toward improved highway corridors rather than transit-served infill locations. This growth-facilitation effect is an inherent feature of regional transportation planning and is not independently significant at the program level because it does not generate net new growth beyond adopted forecasts.

The environmental consequences of growth location — including increased VMT, agricultural and open space land conversion, and localized air quality and GHG emissions from auto-dependent development — are accounted for in the plan's resource-specific impact analyses. The significant and unavoidable air quality and greenhouse gas impacts identified in Chapters 4.2 and 4.9 reflect in part the growth-facilitation dynamic described above. No additional program-level mitigation is available to redirect the location of growth because SJCOG does not hold land use authority over the cities or the County. The measures identified in Chapters 4.2 and 4.9 represent the mitigation available within SJCOG's authority. Residual impacts are addressed in the Statement of Overriding Considerations.

5.1.1 Employment, Household, and Population Growth

University of the Pacific Center for Business and Policy Research completed a regional growth forecast for SJCOG in February 2025. The purpose of the regional growth forecast is to provide a consistent economic and population growth forecast to the year 2050 for use in long-range comprehensive planning. The forecast served as an input towards the development of the proposed 2026 RTP/SCS. SJCOG does not hold land use authority and cannot directly affect population growth, as development would be facilitated through implementation of the RTP/SCS, rather than proposing individual growth inducing projects. SJCOG growth forecasts are projections used to plan for public infrastructure, housing, and employment throughout the region. The proposed 2026 RTP/SCS net increase in households and employment opportunities, according to the 2025 regional forecast, is shown in Table 5-1.

Table 5-1 Net Increase in Households and Employment by Jurisdiction

	2025		2035		2045		2050	
Jurisdiction	**HH's**	**Emp.**	**HH's**	**Emp**	**HH's**	**Emp**	**HH's**	**Emp**
Escalon	2,557	2,653	2,735	2,677	2,897	2,705	2,983	2,731
Lathrop	9,776	16,045	13,337	17,356	16,903	18,714	18,686	19,437
Lodi	23,880	35,247	25,591	37,263	27,139	39,168	27,967	40,183
Manteca	29,117	26,372	31,642	28,611	33,957	31,045	35,208	32,478
Ripon	5,379	6,375	5,789	6,773	6,162	7,056	6,363	7,204
Stockton	96,692	165,940	100,172	175,359	103,648	184,146	105,390	188,836
Tracy	28,682	58,014	30,875	64,375	32,866	71,271	33,935	75,310
Mountain House	8,229	857	10,277	922	12,327	975	13,352	1,004
Unincorporated	40,668	74,843	43,831	78,375	45,932	81,849	47,424	83,670
County Total	**244,979**	**386,345**	**264,249**	**411,710**	**281,832**	**436,928**	**291,307**	**450,851**
Increase*	**--**	**--**	**10.4%**	**6.6%**	**15.0%**	**13.1%**	**18.9%**	**16.7%**

Source: SJCOG 2025 Regional Growth Forecast

HH = Households; Emp. = Employment

*Increase refers to the percent increase from 2025

The land use scenario envisioned by the proposed 2026 RTP/SCS would facilitate the development of infill and TOD projects within existing urbanized areas and therefore redistribute growth patterns. As discussed in Section 4.12, *Land Use and Planning*, and Section 4.17, *Effects Considered Less than Significant,* the proposed 2026 RTP/SCS identifies areas within the region sufficient to house all the forecast population of the region to the plan horizon year as well as identified housing needs under RHNA.

As discussed in Section 4.12, *Land Use and Planning*, the land use scenario envisioned in the proposed 2026 RTP/SCS was developed in close coordination with SJCOG member agency planning staff and also builds on local general plans and general plan updates currently in process or completed. Central to the SCS is a land use plan identifying the general location of uses, residential densities, and building intensities within the region. Starting with land uses allowed by existing adopted local General Plans, the land use plan envisioned by the proposed 2026 RTP/SCS provides for intensification of residential and commercial land uses in urban areas proximate to existing transit, aligning with existing and future transit priority areas (TPAs). The proposed 2026 RTP/SCS accounts for existing county land uses including the significant proportion of its land area that is in agricultural uses. the proposed 2026 RTP/SCS accounts for the land uses of the eight incorporated cities and 15 County rural community plans. The proposed 2026 RTP/SCS is consistent with local agencies' adopted General Plans and relies principally on available land use capacity in these plans. The proposed 2026 RTP/SCS would not require or promote any unplanned growth to meet its goals and is consistent with the RHNA allocation and projected housing needs.

Implementation of the proposed 2026 RTP/SCS would create short-term economic growth in the region as a result of construction-related job opportunities for the construction of transportation and land use projects. Implementation of the proposed 2026 RTP/SCS would also generate additional employment opportunities for roadway, vehicle, and landscape maintenance and transportation facility clean-up. The employment increase may subsequently increase the demand for support services and utilities, which could generate secondary employment opportunities. This additional economic growth would likely raise the existing revenue base within the region. Although

such growth may incrementally increase economic activity in the county, significant physical effects are not likely to result from economic growth generated by the proposed 2026 RTP/SCS.

Furthermore, while development envisioned as part of the proposed 2026 RTP/SCS could result in additional commerce, industry, recreation, public services, and infrastructure throughout the region, this economic activity would be consistent with the regional growth forecast and local general plans. Forecasted growth would be accommodated under the proposed 2026 RTP/SCS; therefore, the plan would not be growth inducing, but rather it reflects the regulatory mandate to house the forecasted population and be based on the latest planning assumptions.

The proposed 2026 RTP/SCS was developed to integrate forecasted population increases, employment opportunities, and housing needs within the SJCOG region. Therefore, the proposed 2026 RTP/SCS is designed to accommodate growth that would occur with or without its adoption; it is not designed, nor is it anticipated to, induce population growth beyond the levels forecasted.

5.1.2 Removal of Obstacles to Growth

The proposed 2026 RTP/SCS transportation improvement projects are primarily located in existing urbanized areas and transit corridors in the cities of Stockton, Manteca, Lodi, and Tracy; however, projects are also located in rural or semi-rural areas of the County (ex. bridge replacement/retrofitting or roadside facilities). Such transportation improvements can be perceived as removing an obstacle to growth by either creating additional traffic capacity (in the case of a roadway widening) or providing new or easily facilitated access to undeveloped areas (in the case of a road extension). New infrastructure may also serve to accelerate or shift planned growth or encourage and intensify unplanned growth. These transportation network improvements would remove obstacles to growth in some areas of the region, which would support additional housing, population and economic growth, and could therefore be considered growth inducing.

The proposed 2026 RTP/SCS transportation improvements are designed to fully support infill development along existing transit corridors seen in high quality transit areas mapping in Appendix W of the SCS and fully support the complementary transportation needs of the growing population. As a result, the proposed 2026 RTP/SCS would not induce growth beyond that anticipated by 2046; rather, it is intended to accommodate it by encouraging infill and TOD development within existing urban areas. Therefore, the proposed 2026 RTP/SCS is consistent with projected and planned growth. Further, all transportation improvement projects are anticipated by the general plans of the applicable local jurisdictions of the planning area, as all improvements have been coordinated with the applicable local jurisdiction.

5.2 Irreversible Effects

Section 15126.2(c) of the *CEQA Guidelines* requires a discussion of significant irreversible environmental changes that would occur as a result of a proposed project. These may include current or future uses of nonrenewable resources and secondary or growth-inducing impacts that commit future generations to similar uses. CEQA requires that irretrievable commitments of resources be evaluated to ensure that such current consumption is justified.

Although the proposed 2026 RTP/SCS forecasts to a horizon year of 2050, transportation improvement projects would have an indefinite life span, assuming regular maintenance of the proposed improvements and long-term occupancy of infill and TOD projects. The proposed improvements would be located primarily in areas where transportation facilities already exist,

where transportation facilities are already planned, or where transportation facilities are needed to support the new land use patterns identified in the SCS. Therefore, most proposed transportation projects are not generally expected to dramatically alter development patterns in the County and projects would support planned future development patterns. the proposed 2026 RTP/SCS would provide a foundation for local, regional, and State officials in making decisions aimed at achieving a coordinated and balanced transportation system.

Many of the adverse impacts that could occur from implementation of the proposed 2026 RTP/SCS are short-term in nature resulting primarily from construction of the proposed transportation projects, urban infill, and TOD projects along existing corridors. Typical construction-related impacts can involve the following issues: noise, air quality, aesthetics and construction-related erosion and associated water quality impacts. In addition, as discussed in detail Section 4.5, *Energy*, though such materials would not be used in a wasteful manner, all construction activity would involve the use of non-renewable energy sources, potable water and building materials. The use of these resources during construction would increase demand and impact supplies across the SJCOG region.

Long-term irreversible environmental impacts are associated with increased asphalt or concrete paving and related direct and cumulative impacts to geology/soils, biological and cultural resources (historic resources); traffic circulation; and hydrology/water quality, as discussed in their respective sections of this DEIR. In addition, as discussed in Section 4.1, *Aesthetics*, the proposed 2026 RTP/SCS would contribute to an overall increase in the urbanized character of the region. This shift would incrementally increase demand for potable water, electricity and other resources. The supply versus demand for these resources is evaluated by service/utility providers; thus, impacts would be determined during project specific review and as part of the overall planning process addressing regional growth. Although mitigation measures have been prescribed in their respective environmental issue areas to minimize identified significant but mitigable impacts, in certain instances, as discussed in Section 5.3 below, some issues could remain significant with implementation of mitigation measures.

5.3 List of Significant and Unavoidable Impacts

As discussed in Sections 4.1 through 4.16 of the DEIR, implementation of the proposed 2026 RTP/SCS would result in the following significant and unavoidable impacts.

- Impact AES-1: adverse effect on a scenic vista, scenic resources within a state scenic highway
- Impact AES-2: degradation of existing visual character (non-urbanized areas)
- Impact AES-3: generation of new sources of light and glare
- Cumulative – Aesthetics (adverse effect on night sky lighting and changes in the visual environment)
- Impact AG-1: Conversion of important farmland to nonagricultural use, and/or conflict with existing zoning for agriculture. This would be a significant and unavoidable impact.
- Impact AQ-2: net increase in criteria pollutants for which the project region is non-attainment under federal or state ambient air quality standards from construction activities
- Impact AQ-3: net increase in criteria pollutants for which the project region is non-attainment under federal or state ambient air quality standards from operational activities
- Impact AQ-4: expose sensitive receptors to substantial particulate matter pollutant concentrations

- Impact AQ-5: exposure of sensitive receptors to substantial hazardous air pollutant concentrations
- Cumulative – Air Quality (fugitive dust and ozone precursor emissions during construction and exposure to substantial air pollutant concentrations/odors)
- Impact BIO-3: interference with wildlife movement
- Cumulative – Biological Resources (special-status species and their habitats and wildlife movement)
- Impact CUL-1: disturbance of known or unknown historical resources
- Impact CUL-2: disturbance of known and unknown archeological resources
- Cumulative – Cultural Resources (historical and archaeological resources)
- Cumulative – cumulative conversion of agricultural land to non-agricultural uses.
- Impact GEO-5: disturbance of known and unknown paleontological resources
- Cumulative – Geology and Soils (paleontological resources)
- Impact GHG-1: Generate GHG emissions that may have a significant impact on the environment
- Impact GHG-2: Net increase in GHG emissions by 2046 compared to the existing baseline conditions and would therefore have a significant impact on the environment
- Impact GHG-4: conflict with the State's ability to achieve SB 32 and AB 1279, and applicable local GHG reduction plan targets and goals
- Cumulative- Transport of hazards and hazardous materials
- Impact HYD-2: Decrease groundwater supplies and interfere with groundwater recharge
- Cumulative – Hydrology and Water Quality (groundwater supplies)
- Impact NOI-1: Temporary increase in ambient noise levels and noise increases related to construction activities
- Impact NOI-2: Permanent increase in noise levels and noise increase
- Impact NOI-3: Excessive ground borne vibration levels from construction activities
- Impact NOI-4: Placement of sensitive receptors in areas with unacceptable noise levels
- Cumulative – Noise (exposure to excessive operational noise)
- Impact TRA-2: Increase in VMT per capita
- Cumulative – Transportation (increase in VMT)
- Cumulative – Wildfire (construction and operation of proposed 2026 RTP/SCS projects)

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6 Alternatives

As required by Section 15126(d) of the *CEQA Guidelines*, this EIR examines a reasonable range of alternatives to the proposed 2026 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Section 15126.6 of the *CEQA Guidelines* requires that an EIR "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives."

In addition, the *CEQA Guidelines* state the following:

- An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The range of potential alternatives to the proposed 2026 RTP/SCS shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly discuss the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are (i) failure to meet most of the basic project objectives, (ii), infeasibility, or (iii) inability to avoid significant environmental impacts. (*CEQA Guidelines* Section 15126.6(a)(c).)
- "Feasible" means capable of being accomplished within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. (*CEQA Guidelines* Section 15364.)

The primary objective of the RTP/SCS is to comply with applicable regulatory requirements, including California Transportation Commission Guidelines and Senate Bill 375 regional greenhouse gas (GHG) reduction targets. SJCOG's specific objectives for the proposed 2026 RTP/SCS are to additionally ensure that the transportation system planned for the SJCOG region accomplishes the following:

- Serves regional goals, objectives, policies and plans.
- Responds to community and regional transportation needs.
- Promotes energy efficient, environmentally sound modes of travel and facilities and services.
- Promotes equity and efficiency in the distribution of transportation projects and services.

More specific goals and objectives of the proposed 2026 RTP/SCS are listed in Section 2.2 in Chapter 2, *Project Description*.

Each scenario analyzed during the RTP/SCS process was developed according to a theme to help ensure that choices regarding land use and transportation investments were consistent with one another. Land use choices in each scenario included development patterns, such as where to locate new housing, new job centers, and new mixed-use areas relative to existing communities (e.g., infill vs. converted farmland or open space). They also considered the density of new development, which dictates the relative proportion of large-lot single-family housing to small-lot single-family housing and multifamily housing, and complementary uses, such as locating new housing near

services and employment centers. Transportation investment choices in a scenario included decisions about spending levels on new roadway capacity, roadway maintenance, transit, and alternative modes of travel (e.g., bike and pedestrian). The alternative land use and transportation scenarios modeled and analyzed by SJCOG are described in Appendix O of the proposed 2026 RTP/SCS and the preferred scenario (proposed project) is described in detail within Chapter 1, *Introduction,* Chapter 2, *Public Engagement*, and Chapter 3, *Policies and Strategies* of the proposed 2026 RTP/SCS, as well as Chapter 2, *Project Description,* of this EIR.

6.1 Alternatives Development and Screening Process

During the development of the proposed 2026 RTP/SCS, SJCOG developed and evaluated scenarios that included various land use assumptions to see how each scenario could achieve the GHG targets established by CARB for the SJCOG region as well as other performance measures based on the proposed transportation system improvements and investments in the RTP. Extensive outreach with partner agencies, local jurisdictions, key stakeholders, and the public was ongoing throughout the proposed 2026 RTP/SCS planning process. Four scenarios were evaluated by SJCOG. The proposed 2026 RTP/SCS evaluated throughout this EIR is Scenario E. Alternative 1 is Scenario A, Alternative 2 is Scenario B, and Alternative 3 is Scenario D. Scenario C is discussed under Section 6.2, *Alternatives Considered but Rejected.*

This alternatives analysis herein include the following:

- **Alternative 1: No Project Alternative** (SCS Scenario A: Stay the Course). In this scenario, the region does not change course and makes investments based on the last regional plan. Growth occurs primarily in new growth areas identified in the region's General or Specific Plans. The prioritized land use strategies include the following:
  - Emphasize projects that make more efficient use of existing road network
  - Include new roadway network expansion and improvement
  - Improve access to safe and convenient walking and biking options
  - Promote a broader range of housing types
  - Continue development and expansion of a regional trust fund dedicated to addressing housing issues
  - Prioritize inclusion of "complete street" projects throughout the region

  Transportation investments are focused on managed lanes, ACE Rail, and enhanced bus rapid transit. Only transportation projects included in the 2022 RTP and currently in the Federal Transportation Improvement Program (FTIP) would be constructed.

- **Alternative 2: Accelerate Infill** (SCS Scenario B: Accelerate Infill). In this scenario, traditional employment centers and aging commercial corridors are remade into residentially focused, walkable neighborhoods. Growth is directed to downtowns, urban corridors, existing neighborhoods, and job centers, maximizing the use of existing infrastructure while enabling more people to live close to jobs, transit, and daily needs. The prioritized land use strategies and policies include the following:
  - Encourage and support infill development, including investment in infrastructure readiness
  - Support small and local businesses in revitalizing corridors and centers
  - Advance anti-displacement and housing preservation strategies

- Establish a vehicle miles traveled (VMT) mitigation bank

Investments prioritize transit, active transportation, and corridor improvements to support infill development along existing arterials and within established communities. Improvements focus on enhancing access and mobility while supporting new development patterns. The prioritized transportation strategies include the following:

- Prioritize inclusion of "complete streets" projects throughout the region
- Expand and enhance the transit network
- Increase prioritization of projects that improve and expand access to public transit

- **Alternative 3: Regional Connections** (SCS Scenario D: Regional Connections). In this scenario, new development is concentrated around high-quality transit access, including rail stations, bus rapid transit corridors, and frequent bus lines. Growth is focused in transit-rich areas to support compact, mixed-use, and walkable communities where some daily trips can be made without relying on a car. This approach emphasizes strengthening the connection between land use and transportation to reduce vehicle dependence and improve regional mobility. The prioritized land use strategies and policies include the following:
  - Encourage transit-oriented development (TOD) near major transit stops and corridors
  - Encourage reform of local zoning to allow for diverse housing options and increased residential densities in transit-accessible areas
  - Support small and local businesses within transit-oriented communities
  - Promote mixed-use development patterns that integrate housing, jobs, and services

  Investments prioritize major transit infrastructure and supportive mobility systems to improve access, connectivity, and ridership. Improvements focus on expanding high-capacity transit options and enhancing first- and last-mile connections to make transit a convenient and viable alternative to driving. The prioritized transportation strategies include the following:

  - Expand and enhance passenger rail service
  - Supplement federal transportation funding to advance major transit projects
  - Develop mobility hubs to improve multimodal connections and first/last-mile access
  - Improve transit service along key corridors, including bus rapid transit and frequent bus networks

Each alternative is described and analyzed below to determine whether environmental impacts would be similar to, less than, or greater than those of the preferred scenario in the proposed 2026 RTP/SCS. As required by CEQA, this section also includes a discussion of the "environmentally superior alternative" among those studied.

6.2 Alternatives Considered but Rejected

The *CEQA Guidelines* state that an EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination (*CEQA Guidelines* Section 15126.2(c)). Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are (i) failure to meet most of the basic project objectives, (ii), infeasibility, or (iii) inability to avoid significant environmental impacts (*CEQA Guidelines* Section 15126.6(c)). In addition, an EIR need not

examine every permutation of the alternatives as long as a reasonable range of alternatives is examined. (See *Saltonstall v. City of Sacramento* (2015) 234 Cal. App. 4th 549, 577.) Also, although an EIR must discuss alternatives to a project in its entirety, it need not necessarily discuss alternatives to each particular component of a project. (See *California Oak Foundation v. Regents of University of California* (2010) 188 Cal. App. 4th 227, 276–277.)

For this EIR, three alternatives were considered by SJCOG and rejected as infeasible. These alternatives and the reasons for elimination are described below.

6.2.1 15-Minute Communities

The 15-Minute Communities Alternative (SCS Scenario C: 15-Minute Communities) considers development of new neighborhoods outside of existing city limits, where residents can meet most of their daily needs within a short walk, bike ride, or transit trip. These areas would include a mix of dense housing and employment uses and would be designed to provide a broader range of daily destinations close to home. The alternative prioritizes transportation investments in transit and bicycle/pedestrian facilities to support internal circulation within these newly developed communities, along with strategies such as promoting 15-minute communities, expanding active transportation networks, enhancing transit service, developing mobility hubs, and supporting workforce training and high-speed infrastructure.

As this alternative would encourage the development of new neighborhoods outside existing city limits, it would result in the conversion of undeveloped and agricultural lands outside existing urban areas, leading to greater impacts on farmland and open space compared to the proposed project. It would also require substantial new infrastructure and service extensions into previously undeveloped areas, increasing costs and the potential for environmental disturbance. In addition, due to its location outside established urban centers, the alternative would be more likely to generate higher VMT compared to the proposed 2026 RTP/SCS, limiting its effectiveness in reducing vehicle dependence. As a result, it would not substantially reduce criteria air pollutants or GHG emissions relative to the proposed 2026 RTP/SCS. Therefore, this alternative was rejected because it would not avoid or lessen key environmental impacts and would not be environmentally superior to the proposed project.

6.2.2 Aggressive VMT Reduction Alternative

Due to the nature of the SJCOG region, certain aggressive VMT reducing measures are infeasible. For example, the region has a high variability in residential density and has a large rural component, with substantially longer trip lengths and therefore higher VMT for those in rural areas and commuting outside the region. These commuter trips are not easily replaced by transit, as longer transit trip lengths typically require multiple stops and/or transfers, making commuting via transit less attractive. These industries require a high level of in-person work and are therefore not conducive to telecommuting.

There are also significant agriculture activities from farm workers making seasonal transient (field-to-field) trips and agriculture goods movements. These trips are not conducive to transit and often generate longer trip lengths and thus higher VMT. The VMT generated by these activities does not respond to VMT reduction strategies such as increased transit or telecommuting.

Other measures such as higher parking fees as well as tolling highway travel are only feasible in highly urbanized areas where increased transit services are available as an alternative mode. Therefore, an aggressive VMT reduction alternative was not considered as an alternative for detailed consideration in this EIR.

6.3 Alternative 1: No Project (Stay the Course)

6.3.1 Description

- Alternative 1 is the No Project Alternative, based on the Stay the Course Scenario from the SCS. It represents the region moving forward only building out using funded transportation projects within the four-year period of the Federal Transportation Improvement Program. This means the alternative only includes transportation projects that would be completed by 2030. As it relates to land use, Alternative 1 reflects growth that matches current general plans and/or area plans prepared since 2022. In this scenario, the region does not change course and makes investments based on the last regional plans. Growth occurs more heavily in new growth areas identified in the region's General or Specific Plans and transportation investments are focused on managed lanes, ACE Rail, enhanced bus rapid transit. This scenario includes only funded transportation projects within the four-year period of the Federal Transportation Improvement Program, meaning only transportation projects that would be completed by the year 2030.

Alternative 1 allocates 63 percent of its growth in new growth areas, 18 percent in established neighborhoods and employment areas, 11 percent in urban arterials, and 8 percent in high-quality transit areas. This approach prioritizes land uses that rely on the existing road network, provide access to public transit and active transportation options, and provide access to employment centers.

6.3.2 Impact Analysis

a. Visual Resources

Implementation of this alternative would result in fewer visual impacts as compared to the proposed 2026 RTP/SCS, because many of the proposed interchange improvements, auxiliary and transition lanes, new roadways and overcrossings, and road extensions would not be constructed. Nevertheless, many transportation projects would still be constructed under this alternative with the potential to impact scenic vistas on designated scenic highways. This alternative would consume approximately 1,000 more acres of land than the proposed 2026 RTP/SCS, which could result in greater impacts to scenic resources in the less developed portions of the SJCOG region (Appendix H). Thus, impacts related to visual character would be significant and unavoidable for this alternative, as they would be with the proposed 2026 RTP/SCS. The overall level of impact resulting from combined transportation improvement and land use projects would be similar when compared to the proposed 2026 RTP/SCS with some impacts greater and other impacts less, but overall impacts would remain significant and unavoidable.

b. Air Quality

Implementation of this alternative would reduce short-term air quality impacts from construction activity, as fewer transportation projects would be implemented and therefore less construction activity would occur. Because operational emissions are directly correlated with VMT, it can be

reasonably assumed that emissions for all pollutants would be higher under the No Project Alternative compared to the proposed 2026 RTP/SCS as it has a slightly higher total VMT and per capita VMT compared to the proposed project (Appendix H). The land use scenario in the No Project Alternative would contribute to more new growth in undeveloped areas compared to that of the proposed RTP/SCS. Alternative 1 would likely result in more land development construction related air quality impacts related to dust and particulate matter with construction on undeveloped lands compared to the proposed 2026 RTP/SCS since the proposed project would emphasize denser infill development and therefore impact less land and currently undeveloped land.

Future land use development under this alternative would not be infill or TOD-focused. As such, the No Project Alternative would not concentrate population adjacent to high quality transit areas and other transportation facilities that could result in more people being exposed to elevated health risks from Toxic Air Contaminants (TACs). Accordingly, impacts related to TAC exposure to sensitive receptors would be less under this alternative than under the proposed 2026 RTP/SCS but would remain significant and unavoidable.

Overall air quality impacts would be similar under this alternative when compared to the proposed 2026 RTP/SCS because VMT would be slightly higher under this alternative. Under this alternative, TACs would be reduced due to reduced development near transit and transportation facilities, but emissions would increase due to higher VMT. Long term operational impacts related to exposure of sensitive receptors to substantial hazardous air pollutant concentrations and objectionable odors would be less with overall emissions higher and both would remain significant and unavoidable, as they would be for the proposed 2026 RTP/SCS. Overall impacts would be similar.

c. Biological Resources

Future transportation projects developed under this alternative would result in fewer impacts to biological resources, as fewer roadway extensions, widening projects, and creek crossings would occur under this alternative. However, because this alternative would continue growth trends under the 2022 RTP rather than further emphasizing an infill approach to land use and housing, more development would be expected to occur outside of existing urbanized areas, including in areas providing habitat for special status plant and animal species. Overall impacts to special status plants, animals, wetlands and/or riparian habitat and wildlife movement outside developed urban areas would therefore be greater compared to the 2026 RTP/SCS. Impacts would remain significant and unavoidable, as they would be for the proposed 2026 RTP/SCS.

d. Cultural Resources

As described in Section 4.4, *Cultural Resources,* some of the proposed 2026 RTP/SCS projects may be located in proximity to historical resources or include repair or replacement of potentially historical structures (e.g., bridges). Because fewer transportation projects would be developed under the No Project Alternative, these impacts would be reduced. In addition, because less infill development would occur under this alternative, fewer impacts involving redevelopment or demolition of existing structures resulting from land use development would occur. Impacts to historic resources would therefore be reduced when compared to the proposed 2026 RTP/SCS. However, project specific impacts may still be significant, as they are for the proposed 2026 RTP/SCS.

Implementation of this alternative would involve less ground disturbance associated with transportation improvements than would occur under the proposed 2026 RTP/SCS. However, because more land use development could occur outside of existing urbanized areas, more ground disturbance would be expected to occur in previously undeveloped areas. As such, the potential for

uncovering known or unknown archaeological resources would increase under this alternative for new development but decrease for transportation projects. The overall level of impact resulting from combined transportation improvement and land use projects would be similar when compared to the proposed 2026 RTP/SCS assuming relative equalization between the historic and archaeologic impacts between the proposed 2026 RTP/SCS and Alternative 1. Impacts to archaeological resources would remain significant and unavoidable, as they are for the proposed 2026 RTP/SCS.

e. Energy

Because this alternative would result in less construction of transportation infrastructure, overall energy use associated with construction activities would be reduced when compared to the proposed 2026 RTP/SCS. However, this alternative would not include many of the capital improvements envisioned under the proposed 2026 RTP/SCS that would improve transportation efficiency and reduce regional energy demand, such as active transportation projects. Energy use will increase over time as the result of regional socioeconomic (population and employment) growth, regardless of implementation of the proposed 2026 RTP/SCS. The No Project Alternative would result in similar total and per capita energy use as compared to the proposed 2026 RTP/SCS as both would follow energy regulations to increase. As discussed in Section 4.5, *Energy,* the proposed 2026 RTP/SCS would not result in inefficient, unnecessary, or wasteful direct or indirect consumption of energy, and would be consistent with applicable energy conservation policies. Because the No Project Alternative would be similar in both total and per capita energy use, impacts would be similar when compared to the proposed 2026 RTP/SCS and impacts related to inefficient, unnecessary, or wasteful direct or indirect energy consumption would be less than significant, as they are for the proposed 2026 RTP/SCS.

f. Agriculture and Forestry Resources

This alternative would result in fewer transportation projects being constructed, including roadway widening and other projects that could directly convert agricultural land to non-agricultural use. However, because this alternative would continue current growth trends rather than emphasizing an infill approach to land use and housing, more development would be expected to occur outside of existing urbanized areas, including within areas currently used for agricultural production. Given this land use trend and the extent of Important Farmland in the SJCOG region, impacts related to converting Important Farmland to non-agricultural use, conflicts between urban and agricultural land uses, and conflicts with existing agricultural zoning and/or Williamson Act contracts would be worse under this alternative than for the proposed 2026 RTP/SCS.

Because there is no identified forestland in the SJCOG region, there is no impact to forest or timberlands.

The overall impact to agriculture resources resulting from the No Build Alternative would be greater than under the 2026 RTP/SCS.

g. Environmental Justice

This alternative would result in fewer transportation projects being constructed, including roadway widening and other projects and would not emphasize an infill approach to land use and housing that could potentially impact, displace or divide an EJ community compared to the project. However, because this alternative would continue current growth trends rather than emphasizing an infill approach to land use and housing, more development would be expected to occur outside of existing urbanized areas that are not near transit that EJ communities need for transportation.

Unlike the 2026 RTP/SCS, this alternative would only promote infill and mixed-use development to the extent it was included in the last plan. Infill and mixed use development would improve mobility for low income and minority populations and communities of concerns because housing and jobs would be located within closer proximity to public transit facilities. Therefore, without an increase in this type of development, Alternative 1 may result in a smaller percentage of EJ populations having convenient access to mobility. Performance measures developed by SJCOG indicate that fewer households in jobs-rich areas would be developed compared to the proposed 2026 RTP/SCS under Alternative 1, making access to jobs more difficult for EJ communities with limited transportation options.

Overall, implementation of Alternative 1 would result in fewer impacts on potential displacement but with less access to transit and housing near jobs, which is a greater impact. On balance, impacts related to environmental justice would be similar to the proposed 2026 RTP/SCS.

h. Geology and Soils

Impacts of this alternative related to erosion and loss of topsoil would be less than significant pursuant to compliance with existing regulations, similar to the proposed 2026 RTP/SCS. Because this alternative does not include as many new interchanges, roads and fixed facilities, there would be less exposure of new structures to hazardous geologic conditions, including expansive soils, landslides, ground-shaking, and flooding. Conversely, if inadequate structures are not replaced, the potential for these existing structures and people using these structures to be harmed by geologic hazards could be greater than under the proposed 2026 RTP/SCS. Implementation of this alternative would involve less ground disturbance associated with transportation improvements than would occur under the proposed 2026 RTP/SCS. However, because more land use development could occur outside of existing urbanized areas due to growth continuing under the existing land use pattern, more development would be expected to occur in previously undeveloped areas. While development under the No Project Alternative would also be required to comply with the California Building Code and requirements set forth by the Alquist Priolo Zone Act, the No Project Alternative would result in a greater area of land being converted from undeveloped to developed uses that could be located in areas with greater susceptibility to seismic related risks. Impacts related to susceptibility to seismic related risks would be less than significant, as under the proposed 2026 RTP/SCS.

Impacts to paleontological resources would be greater under this alternative compared to the proposed 2026 RTP/SCS, as greater amounts of ground disturbing activities would increase the potential for impacts that could result in significant and unavoidable impacts, greater than the proposed 2026 RTP/SCS.

Overall, impacts to geology and soils would be slightly greater compared to the proposed 2026 RTP/SCS with greater land disturbance but would remain less than significant. Impacts to paleontological resources would also be greater and would be significant and unavoidable.

i. Greenhouse Gas Emissions and Climate Change

The No Project Alternative would result in fewer impacts associated with GHG emissions during construction activities as fewer transportation infrastructure projects would be constructed compared to the proposed 2026 RTP/SCS. The No Project Alternative, with less active transportation and transit projects and less compact land use pattern, would promote less sustainable modes of travel and traffic operational improvements within the SJCOG region than the project. This alternative would result in slightly lower total CO_2 (GHG) emissions compared to the proposed 2026

RTP/SCS. It would be 0.6 percent lower than the RTP\SCS when including induced demand for the proposed project (Appendix F). The overall impact of this alternative would be less compared to the proposed project with slightly lower CO_2 operational emissions. The impact would remain significant and unavoidable.

j. Hazards and Hazardous Materials

This alternative would result in fewer infrastructure projects being constructed, thereby reducing hazardous material use, storage, and transportation resulting from construction of those projects. However, the volume of hazardous materials being transported to support land use development in the region would remain the same, as land use development would continue to occur under this alternative. Because future development under the No Project Alternative would be subject to applicable hazardous materials regulations and programs, impacts relating to routine transport, use, or disposal of hazardous materials; risk of upset and accident conditions; emissions within one-quarter mile of a school; and airport hazards would be less than significant, similar to the proposed 2026 RTP/SCS. Overall hazards and hazardous materials impacts would be slightly better under this alternative as under the proposed 2026 RTP/SCS.

k. Hydrology and Water Quality

This alternative would result in fewer transportation infrastructure projects being constructed. Therefore, this alternative would reduce water quality impacts resulting from construction-related erosion and sedimentation and would generate less water demand for dust suppression activities for transportation projects. These impacts would remain less than significant pursuant to compliance with existing regulations, as they are for the proposed 2026 RTP/SCS.

Because this alternative would continue current growth trends rather than emphasizing an infill approach to land use and housing, more development would be expected to occur outside of existing urbanized areas. As such, impervious surfaces would be expected to increase under this alternative. Because projects would be located in less developed areas, runoff would include fewer urban pollutants such as heavy metals from auto emissions, oil and grease than projects under the proposed 2026 RTP/SCS. However, because more development would occur in and therefore be adjacent to agricultural areas, runoff from those adjacent agricultural areas would contain more fertilizers and pesticides. While projects under this alternative may require more grading and vegetation removal, including in proximity to creeks, less infill development may result in less disturbance of soils on previously contaminated sites. As such, water quality in creeks may be more impacted, but water quality within urban areas may be less impacted. Because of these tradeoffs, the No Project Alternative would result in impacts to water quality that are overall comparable to the proposed 2026 RTP/SCS with some impacts greater while other impacts would be less; water quality impacts would remain less than significant, pursuant to compliance with existing regulations, as they are for the proposed 2026 RTP/SCS.

l. Land Use and Planning

As with the 2026 RTP/SCS, this alternative would not be anticipated to divide an established community. As noted in Section 4.12, *Land Use and Planning,* the 2026 RTP/SCS includes a list of planned and programmed projects including local and regional capital improvements, that have been anticipated or accounted for in local general plans and regional, statewide, and federal transportation improvement programs. In addition, the objective of the 2026 RTP/SCS is to provide for a comprehensive transportation system of facilities and services that meets public need for the

movement of people and goods, and that is consistent with the social, economic, and environmental goals and policies of the region. The No Project Alternative would not provide the same number of capital improvements anticipated within applicable general plans and transportation improvement programs, nor would it guide development to explicitly meet social, economic, and environmental goals and policies of the region as anticipated under the 2026 RTP/SCS. Due to the more dispersed land use pattern, the amount of undeveloped land impacted would be greater under this alternative.

Although the No Project Alternative would continue existing land use patterns and trends, it would increase the severity of several environmental impacts, as discussed herein. As such, it could result in conflicts with State and local policies and regulations adopted for the purpose of avoiding or mitigating environmental effects. Because environmental effects would generally increase under this alternative, the overall impacts on land use would be greater under this alternative when compared to the 2026 RTP/SCS but would remain less than significant.

m. Noise

From a programmatic perspective, fewer transportation infrastructure projects would result in less construction activity under the No Project Alternative. This would reduce temporary noise impacts throughout the SJCOG region. In addition, because the number of infill or TOD projects would be less under the No Project Alternative, construction-related noise impacts on adjacent sensitive receptors would also decrease. However, construction noise would still occur, and impacts would continue to be significant, as they are for the proposed 2026 RTP/SCS.

Although the number of transportation projects would be reduced as compared to the 2026 RTP/SCS, increased traffic volumes resulting from regional growth would continue to occur. Whether noise impacts would be greater or less than those anticipated under the 2026 RTP/SCS remains dependent on-site specific considerations that cannot currently be known. Mobile source noise levels resulting from traffic would therefore be similar under the No Project Alternative when compared to the proposed 2026 RTP/SCS and would remain significant and unavoidable. Overall, noise-related impacts across the region would be slightly better compared to the proposed 2026 RTP/SCS with less construction noise but would continue to be significant and unavoidable.

n. Transportation

This alternative would not include many of the projects envisioned under the proposed 2026 RTP/SCS as listed above, including new highway and intersection projects, new bikeway and pedestrian projects (active transportation), new railroad projects, new transit projects, new intelligent transportation system/transportation demand management projects and aviation projects. Many of these projects are intended to address VMT, and in many cases would serve as mitigation measures to reduce potential impacts associated with planned long-term development.

Overall, VMT within the SJCOG region would increase from the baseline 2023 VMT as a result of regional population growth, regardless of implementation of the 2026 RTP/SCS. Under the No Project Alternative, the 2049 VMT per capita (weekday) and total VMT in the SJCOG region would be higher annually compared to the proposed RTP/SCS (Appendix H).

Under the No Project Alternative, projects to increase bus capacity on congested facilities and the frequency of bus lines would not be implemented. Additionally, the proposed 2026 RTP/SCS projects that are intended to ensure a reliable bus fleet would not be implemented under the No Project Alternative. Without these types of projects, operation of public transit may be unreliable or

fail to meet the frequency and performance standards established by the transit agencies in the SJCOG region. Thus, compared to the proposed 2026 RTP/SCS, the No Project Alternative would have a greater adverse impact on transit service in the SJCOG region with less dense development and less transit projects being funded.

Overall, the No Project Alternative would result in increased daily VMT in the SJCOG region compared to the proposed 2026 RTP/SCS and have an adverse impact to transit service as projects to increase capacity on congested facilities and bus lines would not be implemented. Thus, overall, impacts to transportation would be greater under the No Project Alternative and would remain significant and unavoidable.

o. Tribal Cultural Resources

Implementation of this alternative would involve less ground disturbance associated with transportation improvements than would occur under the proposed 2026 RTP/SCS. However, because more land use development could occur outside of existing urbanized areas, more ground disturbance would be expected to occur in previously undeveloped or open space areas. As such, the potential to disturb tribal cultural resources, including ancestral remains and sacred sites, would increase under this alternative. Future projects would be required to comply with AB 52, which may require formal tribal consultation. Compliance with this requirement would reduce impacts to a less than significant level, similar to the proposed 2026 RTP/SCS. However, because of the increased potential to disturb tribal cultural resources from development outside of urbanized areas and no mitigation applicable to this alternative, the overall impact of the No Project Alternative would be greater than under the proposed 2026 RTP/SCS.

p. Wildfire

The No Project Alternative would allow more housing near wildlands and would increase the vulnerability of people and structures to wildland fire. Under the No Project Alternative land use development could occur outside of existing urbanized areas and extend into more wildland areas. This impact, which is significant and unavoidable for the proposed 2026 RTP/SCS, would be greater under the No Project Alternative and would remain significant and unavoidable.

6.4 Alternative 2: Accelerate Infill

6.4.1 Description

Under the Accelerate Infill Alternative, traditional employment centers and aging commercial corridors would be developed into residentially focused, walkable neighborhoods. Growth would be concentrated in downtowns, urban corridors, existing neighborhoods, and job centers, making efficient use of existing infrastructure and enabling more residents to live closer to jobs, transit, and daily needs. This more compact development pattern reduces overall land consumption from approximately 8,961 acres under the proposed project to 8,193 acres, along with a corresponding reduction in farmland conversion.

The Accelerate Infill Alternative supports this growth through policies that encourage infill development, including investments in infrastructure readiness, while also supporting small and local businesses, advancing anti-displacement and housing preservation efforts, and establishing a VMT mitigation bank.

Transportation investments emphasize improvements within existing communities, prioritizing transit, walking, and bicycling. As a result, transit ridership increases by approximately 5.5 percent (from 37,603 to 39,688 daily riders), and active transportation trips increase by about 5.5 percent (from 461,070 to 486,614 daily trips). These outcomes are supported by prioritizing complete streets projects, expanding and enhancing the transit network, and increasing emphasis on projects that improve access to public transit.

6.4.2 Impact Analysis

a. Visual Resources

Under the Accelerate Infill Alternative, increased development intensity would be concentrated within existing urban areas, including downtowns, urban corridors, and established neighborhoods. This pattern would result in localized changes to visual character, particularly along urban arterials, commercial corridors, and transit-accessible areas, where higher-density residential and mixed-use development could alter existing viewsheds and, in some cases, affect scenic vistas along designated scenic highways. However, because growth is directed inward and utilizes existing infrastructure, the overall footprint of development would be smaller compared to the proposed 2026 RTP/SCS, resulting in less land consumption and reduced conversion of farmland and open space. As a result, there would be fewer impacts to scenic resources in rural and undeveloped areas, and fewer locations where the visual character would change from rural to urban.

While visual changes would be more noticeable within already developed areas due to increased density and building intensity, the reduced extent of outward expansion would limit broader regional impacts to scenic resources. Overall, this alternative would result in fewer and more geographically concentrated impacts to visual resources compared to the proposed project. Similar to the proposed 2026 RTP/SCS, impacts related to visual character and scenic resources would remain significant and unavoidable.

b. Air Quality

Under this alternative, the land use development pattern would have higher densities in urban areas near transit. As such, it is likely that more sensitive receptors would be exposed to health risks from TACs during construction or operation with more infill development placing residents closer to TAC sources. As a result, exposure to substantial hazardous air pollutant concentrations and objectionable odors would increase compared to the proposed RTP/SCS and would remain significant and unavoidable, as under the proposed 2026 RTP/SCS.

This alternative would reduce VMT more than the proposed project. The proposed project would result in an estimated 22.545 VMT per capita per day and 7.82 billion annual VMT; the Accelerated Infill Alternative would result in an estimated 22.385 VMT per capita per day, and 7.76 billion annual VMT. Mobile sources, such as vehicles, are the leading producer of air pollutant emissions. Therefore, this alternative would commensurately reduce air pollutant emissions. Impacts would be less than the proposed 2026 RTP/SCS but would remain significant and unavoidable.

c. Biological Resources

This alternative would further emphasize an infill approach to land use and housing. As with the proposed 2026 RTP/SCS, development would primarily occur in already urbanized areas and would reduce development in areas that provide habitat for special status plant and animal species by directing development to urban areas. Overall impacts to special status plants, animals, wetlands

and/or riparian habitat and wildlife movement outside developed urban areas would therefore be reduced when compared the proposed 2026 RTP/SCS. However, impacts would remain significant and unavoidable.

d. Cultural Resources

As described in Section 4.4, *Cultural Resources,* some of the proposed 2026 RTP/SCS projects may be located in proximity to historical resources or include repair or replacement of potentially historical structures (e.g., bridges). Under this alternative, all of the transportation projects that would include repair or replacement of potentially historic resources would still occur. Impacts to historical resources would therefore be similar compared to the proposed 2026 RTP/SCS. Land use development impacts under this alternative could be greater as there is greater potential to redevelop and demolish historic structures in urbanized areas.

Land use development would be at a denser rate requiring less ground disturbance activities than under the proposed 2026 RTP/SCS. As such, the potential for uncovering known or unknown archaeological resources as a result of land use development would be reduced under this alternative. Although overall archaeological resources impacts would be reduced, the potential would remain for unearthing known or previously unidentified resources. This impact would remain significant and unavoidable.

Overall, this alternative would result in greater impacts to historic resources but reduced impacts to archaeological resources compared to the proposed 2026 RTP/SCS. On balance, cultural resource impacts would therefore be similar to the 2026 RTP/SCS.

e. Energy

Energy use will increase over time as the result of regional socioeconomic (population and employment) growth, regardless of implementation of the proposed 2026 RTP/SCS. As discussed in Section 4.5, *Energy,* the proposed 2026 RTP/SCS would not result in inefficient, unnecessary, or wasteful direct or indirect consumption of energy, and would be consistent with applicable energy conservation policies. Because this alternative would reduce vehicular travel as shown through reduced VMT, energy use would be reduced. Impacts related to inefficient, unnecessary, or wasteful direct or indirect energy consumption would be reduced when compared to the proposed 2026 RTP/SCS and would remain less than significant.

f. Agriculture and Forestry Resources

Land use development under this alternative would further concentrate higher density housing in transit and urban areas. Impacts from land use projects converting agricultural resources would have less impacts compared to the proposed 2026 RTP/SCS, as development would not extend into agricultural land to the same extent. As a result, Alternative 2 would convert 1,311 fewer acres of Prime Farmland than the proposed 2026 RTP/SCS, a decrease of 24 percent. This impact would be less than for the proposed 2026 RTP/SCS but would remain significant and unavoidable because some development on Prime Farmland could still occur.

g. Environmental Justice

The Accelerated Infill Alternative would include greater development intensities around transit and within urban centers. Higher density housing in transit areas and urban centers would have the potential to displace existing EJ communities where the new development would occur but also

provide an increased access to transit to EJ communities through higher density development along transportation corridors. This alternative would facilitate more housing and higher-density housing in jobs-rich areas, which would provide a greater mix of housing types and a wider range of options for all populations, including EJ populations, and offer a broader spectrum of housing affordability compared to the proposed project. Overall, implementation of the Accelerated Infill Alternative would reduce impacts related to environmental justice compared to the proposed 2026 RTP/SCS with better access to transit, affordable housing, and housing near jobs.

h. Geology and Soils

Similar to the proposed 2026 RTP/SCS, this alternative would replace inadequate existing structures, such as existing buildings and bridges, and would reduce the potential for these existing structures and people using these structures to be harmed by geologic hazards and would be the same as the proposed 2026 RTP/SCS. Development under the Accelerated Infill Alternative would also be required to comply with the California Building Code and requirements set forth by the Alquist Priolo Zone Act. Overall, seismic related impacts would be similar to the proposed 2026 RTP/SCS. Implementation of mitigation measures, as under the proposed 2026 RTP/SCS, would still be required and impacts would remain significant and unavoidable.

Impacts to paleontological resources would be less under this alternative compared to the proposed 2026 RTP/SCS as development outside of urbanized areas would be less, but would still result in significant and unavoidable impacts similar to the proposed 2026 RTP/SCS. Impacts to paleontological resources would remain significant and unavoidable but would be reduced under this alternative.

i. Greenhouse Gas Emissions and Climate Change

The Accelerated Infill Alternative would likely result in fewer impacts associated with GHG emissions during construction activities for transit projects as the scale of construction would be smaller. Additionally, operational GHG impacts would likely decrease because the increased housing density envisioned by this alternative would reduce the need for a personal vehicle and subsequently reduce VMT. This compact development would also increase the effectiveness of public transit and multimodal transportation networks, which could further reduce GHG emissions beyond the proposed 2026 RTP/SCS. This alternative would result in a 21.5 percent reduction in GHG emissions compared to 2005 baseline levels, which is greater than the 20.1 percent reduction anticipated under the proposed project. This alternative would also provide greater access to transit and active transportation projects, further reducing GHG emissions. Therefore, GHG impacts would be less as compared to the proposed 2026 RTP/SCS but would remain significant and unavoidable.

j. Hazards and Hazardous Materials

This alternative would result in fewer new infrastructure projects to support development in areas not adjacent to existing infrastructure, thereby resulting in similar reductions in hazardous materials use, storage, and transportation associated with construction. Because the Accelerated Infill Alternative would be subject to existing regulations and programs, impacts relating to routine transport, use, or disposal of hazardous materials; risk of upset and accident conditions; emissions within one-quarter mile of a school; airport hazards; and interference with emergency response and evacuation plans would be less than significant, similar to the proposed 2026 RTP/SCS. Overall hazards and hazardous materials impacts would be less under this alternative compared to the proposed 2026 RTP/SCS.

k. Hydrology and Water Quality

This alternative would further emphasize an infill approach to land use and housing. As such, land development would result in fewer impervious surfaces than would be expected under the proposed 2026 RTP/SCS. Although infill development would still generate runoff that would include urban pollutants such as heavy metals from auto emissions, oil, and grease, similar to projects under the proposed 2026 RTP/SCS, the overall volume would be less. Therefore, overall impacts to water quality would be less compared to the proposed 2026 RTP/SCS and impacts would remain significant and unavoidable.

l. Land Use and Planning

As noted in Section 4.12, *Land Use and Planning,* the proposed 2026 RTP/SCS includes a list of planned and programmed projects including local and regional capital improvements that have been anticipated or accounted for in local general plans and regional, statewide, and federal transportation improvement programs. Higher density housing in urbanized areas, primarily infill, would be anticipated to result in greater conflicts with local land use plans as this alternative would prioritize higher density beyond existing growth projections and would be inconsistent with growth projections of local General Plans and Specific Plans. It is anticipated that some infill development projects would require a General Plan Amendment and/or rezone to allow for development proposed at higher density than currently allowed. The approval of these discretionary actions would bring the projects in compliance with local planning.

Development under this alternative would be concentrated in urbanized areas and would consist of primarily infill projects. As such, the land use pattern under this alternative would not result in the physical division of communities and impacts would be similar to the proposed 2026 RTP/SCS.

Development under this alternative could conflict with land use plans, policies, and programs through the shifting of residential development into commercial urban areas and corridors requiring changes in zoning or land use designations. As such, implementation of this alternative could conflict with local land use policies and regulations in the local adopted general or specific plans developed to avoid or mitigate environmental effects based on the current approved land use.

Under this alternative, impacts related to physically dividing an established community would be similar and impacts due to a conflict with any land use plan, policy, or regulation would be greater and overall greater when compared to the proposed 2026 RTP/SCS, but would likely remain less than significant as required rezonings or land use changes would bring projects in compliance with local planning.

m. Noise

Land use development under this alternative would occur primarily in infill and TOD areas. As such, increased noise levels from increased transit and increased infill development approximate to the transit in the area would be greater than under the proposed 2026 RTP/SCS and would result in more sensitive receivers exposed to greater sound levels. Increased ambient noise levels for sensitive receivers in these areas would be significant and unavoidable under this alternative, as it is for the proposed 2026 RTP/SCS.

Although there may be greater impact in urban areas, overall noise would generally be the same compared to the proposed 2026 RTP/SCS, as cumulative regional traffic volumes would increase regardless of implementation of the proposed 2026 RTP/SCS or this alternative. Whether noise impacts would be greater or less than those anticipated under the proposed 2026 RTP/SCS remains

dependent on site specific considerations that cannot currently be known. Mobile source noise levels resulting from traffic would be slightly less under Alternative 2 than the proposed 2026 RTP/SCS as this alternative would result in less VMT.

Construction and operation of future development under this alternative could be located in close proximity to a public airport or private airstrip, as under the proposed 2026 RTP/SCS, and would result in exposure of people residing or working in the area to excessive noise levels. As under the proposed 2026 RTP/SCS, this alternative could result in the exposure of people residing or working near public airports or private airstrips to excessive noise levels. Mitigation measures identified in Section 4.13, *Noise,* would continue to be required under this alternative and impacts would be similar as under the proposed 2026 RTP/SCS and would remain significant and unavoidable. Overall, noise-related impacts across the region would be similar to the proposed 2026 RTP/SCS and would continue to be significant and unavoidable.

n. Transportation

This alternative incorporates less dispersed land use and development and a more compact growth footprint than the proposed 2026 RTP/SCS, and increased use of regional transit service to generate an increase in regional transit ridership and corresponding decrease in VMT. The Accelerated Infill Alternative would result in an average of 22.385 VMT per capita per day, which is reduced compared to the proposed project's average of 22.545 VMT per capita per day. Overall, this alternative would generate 60 million less total VMT in 2049 compared to the proposed project, a 1 percent decrease. Impacts related to conflicts with any program, plan, ordinance, or policy addressing the circulation system or inconsistency with CEQA Guidelines Section 15064.3, increasing a hazard, or regarding emergency access or emergency response plan, would be similar between Alternative 2 and the proposed project.

Overall, this alternative would reduce transportation related impacts compared to the proposed 2026 RTP/SCS. However, because VMT would still be above adopted thresholds, impacts would remain significant and unavoidable.

o. Tribal Cultural Resources

Under this alternative, land use development would occur in infill areas to a greater extent than the proposed 2026 RTP/SCS. Higher density development within already urbanized areas would reduce ground disturbance, as less disturbance would occur outside these areas. As such, the potential to disturb tribal cultural resources, including ancestral remains and sacred sites, would decrease under this alternative. Future projects would still be required to comply with AB 52, which would encourage tribal consultation with local California Native American tribes and require the identification of project specific substantial adverse effects on tribal cultural resources and appropriate project specific mitigation measures. If it is determined that a specific project would result a substantial adverse change in the significance of a tribal cultural resource, the impact would be significant. Therefore, impacts would be significant and unavoidable, as they would be for the proposed 2026 RTP/SCS but would be reduced compared to the proposed 2026 RTP/SCS due to the reduced level of ground disturbance outside of urban areas.

p. Wildfire

The land use pattern under this alternative would construct higher density housing in urban areas which would reduce the amount of land development within and near wildland urban interface areas. However, there is still the potential for development under this alternative to result in

exacerbated wildfire risk. Exacerbated wildfire risk would result in additional impacts related to flooding, landslides, and other associated hazards. Under this alternative, mitigation would still be required; however, impacts would still be significant and unavoidable, as under the proposed 2026 RTP/SCS.

By concentrating growth within urban areas compared to the proposed 2026 RTP/SCS, this alternative would reduce the extent to which new development encroaches into wildland and wildland-urban interface areas. As a result, the potential exposure of people and structures to wildland fire hazards would be reduced compared to the proposed 2026 RTP/SCS. Limiting outward expansion into undeveloped and fire-prone areas would decrease the likelihood of placing new development in high fire hazard severity zones and would reduce the need for extended emergency access and evacuation routes in these areas. Development of both land use and transportation structures under this alternative would still be required to comply with the California Fire Code, and mitigation would still be required, but impacts under this alternative would be less than the proposed RTP/SCS and remain significant and unavoidable as potential risks from wildfire cannot be feasibly reduced to less than significant. .

6.5 Alternative 3: Regional Connections

6.5.1 Description

Under the Regional Connections Alternative (SCS Scenario D), growth would be concentrated in areas with high-quality transit access, including rail stations, bus rapid transit corridors, and frequent bus lines. This pattern supports compact, mixed-use, and walkable communities and strengthens the connection between land use and transportation to reduce vehicle dependence and improve regional mobility.

This alternative emphasizes transit-oriented development, zoning reforms to allow higher densities and diverse housing in transit-accessible areas, and policies that support small businesses and mixed-use development integrating housing, jobs, and services. Compared to the proposed project, this alternative would reduce farmland conversion from approximately 8,961 acres to 8,373 acres (a 6.6 percent reduction) and increases daily active transportation trips from 461,070 to 487,356 (approximately 5.7 percent). It would also achieve slightly greater GHG reductions, reaching approximately 22.1 percent below 2005 levels, compared to 20.1 percent under the proposed project.

Transportation investments focus on expanding high-capacity transit, including passenger rail and bus rapid transit, advancing major transit projects, improving transit service along key corridors, and developing mobility hubs to enhance first- and last-mile connections. Together, these strategies would support a more connected, efficient, and transit-oriented regional system.

6.5.2 Impact Analysis

a. Visual Resources

Under the Regional Connections Alternative, increased development intensity would be focused in transit-rich areas, including rail corridors, major bus routes, and transit hubs. This pattern would result in localized changes to visual character in these areas, where higher-density, mixed-use development could alter existing viewsheds, introduce taller building forms, and, in some cases, affect scenic vistas along designated scenic highways and major transportation corridors.

Because growth is concentrated in already developed or urbanizing areas, the overall footprint of new development would be reduced compared to the proposed project, resulting in less outward expansion into rural landscapes. With lower levels of farmland conversion and reduced greenfield development, fewer scenic resources in undeveloped areas would be affected, and there would be fewer transitions from rural to urban visual character.

While visual changes would be more noticeable within transit-accessible corridors and centers due to increased density and building intensity, these effects would be more geographically concentrated and largely confined to existing urban contexts. Overall, this alternative would reduce the extent of regional visual impacts compared to the proposed project but would still result in significant and unavoidable impacts to visual character and scenic resources.

b. Air Quality

Under the Regional Connections Alternative, air quality impacts would generally improve relative to the proposed project due to a reduction in vehicle miles traveled and greater emphasis on transit use and compact development patterns. By concentrating growth in transit-accessible areas and strengthening the relationship between land use and transportation, this alternative would reduce reliance on automobiles and associated emissions of criteria pollutants and precursors.

Compared to the proposed project, total annual VMT would decrease from approximately 7.82 billion to 7.72 billion (a reduction of 1.3 percent), and per capita daily VMT would decrease from 22.545 to 22.278 (approximately 1.2 percent lower). These reductions reflect increased transit use, shorter trip lengths, and greater opportunities for walking and bicycling. As a result, regional emissions of ozone precursors and particulate matter would be incrementally lower than under the proposed project, contributing to improved regional air quality outcomes.

While the overall reduction in travel activity would lessen mobile-source emissions, localized increases in development intensity, particularly in transit corridors and urban centers, could result in concentrated construction and operational emissions in these areas. However, these effects would be similar in nature to the proposed project and would occur within already urbanized environments. Overall, this alternative would result in a modest improvement in regional air quality compared to the proposed project due to reduced VMT and associated emissions. Nevertheless, similar to the proposed 2026 RTP/SCS, impacts related to criteria pollutants and regional air quality standards would remain significant and unavoidable.

c. Biological Resources

This alternative would emphasize growth in transit-accessible and already urbanized areas. As with the proposed project, development would largely occur within existing communities and would generally avoid areas that provide habitat for special-status plant and animal species. By further focusing growth in transit-rich corridors and reducing overall land consumption, this alternative would lessen the extent of development in undeveloped and rural areas.

Overall, impacts to special-status species, wetlands and riparian habitat, and wildlife movement corridors outside developed areas would be reduced compared to the proposed project due to decreased farmland conversion and reduced greenfield development. However, localized impacts could still occur in urban and urban-fringe areas where infill and redevelopment take place. As a result, while impacts would be somewhat reduced, they would remain significant and unavoidable.

d. Cultural Resources

As described in Section 4.4, *Cultural Resources*, some projects under the proposed RTP/SCS may be located in proximity to historical resources or include repair or replacement of potentially historic structures (e.g., bridges). Under this alternative, transportation projects involving such activities would still occur, and impacts to historical resources from these projects would be similar to those under the proposed project. However, because this alternative concentrates growth in transit-accessible urban areas, there is an increased likelihood of redevelopment in established communities, which could result in the alteration or demolition of historic structures. As a result, impacts to historical resources from land use development could be somewhat greater than under the proposed project.

At the same time, the more compact development pattern would reduce the extent of ground disturbance overall compared to the proposed project, as less greenfield development would occur. This reduced footprint would lower the potential for disturbance of previously undisturbed areas and decrease the likelihood of uncovering unknown archaeological resources. Nevertheless, construction and redevelopment activities would still have the potential to affect known or previously unidentified archaeological resources. Overall, this alternative would result in greater impacts to historic resources but reduced impacts to archaeological resources compared to the proposed 2026 RTP/SCS. On balance, cultural resource impacts would therefore be similar to the 2026 RTP/SCS.

e. Energy

Energy use will increase over time as a result of regional population and employment growth, regardless of implementation of the RTP/SCS. As discussed in Section 4.5, *Energy*, the proposed project would not result in inefficient, unnecessary, or wasteful direct or indirect consumption of energy and would be consistent with applicable energy conservation policies. Because this alternative emphasizes compact, transit-oriented development and results in reduced VMT, overall transportation-related energy consumption would be incrementally lower compared to the proposed project. The reduction in both total and per capita VMT reflects decreased reliance on single-occupancy vehicles and greater use of transit and active transportation. As a result, impacts related to inefficient, unnecessary, or wasteful energy consumption would be reduced compared to the proposed project and would similarly remain less than significant.

f. Agriculture and Forestry Resources

Land use development under this alternative would further concentrate higher-density housing and mixed-use development in transit-accessible and urban areas. As a result, conversion of agricultural resources would be reduced compared to the proposed project, as development would extend into agricultural lands to a lesser extent. This alternative would convert approximately 8,373 acres of farmland compared to 8,961 acres under the proposed project, representing a reduction of about 588 acres, or approximately 6.6 percent. Although this reflects a meaningful reduction in impacts to agricultural resources, some conversion of farmland would still occur. Accordingly, impacts to agricultural resources would be less than under the proposed project but would remain significant and unavoidable.

g. Environmental Justice

The Regional Connections Alternative would concentrate higher-density development in transit-accessible areas and along major transportation corridors. This pattern could increase development pressure in existing communities, including areas with EJ populations, and may contribute to potential displacement risks where redevelopment and intensification occur. At the same time, focusing growth in transit-rich areas would improve access to high-quality transit, jobs, and services for EJ communities. By promoting compact, mixed-use development and expanding transit infrastructure, this alternative would enhance mobility options and reduce reliance on personal vehicles. Improved transit access, along with increased opportunities for walking and bicycling, would provide greater connectivity to employment, education, and essential services for EJ populations. In addition, the emphasis on diverse housing types and increased residential densities would broaden housing choices and support a wider range of affordability compared to the proposed project.

Overall, the Regional Connections Alternative would improve access to transit and jobs and provide expanded housing opportunities for EJ communities, thereby reducing environmental justice impacts compared to the proposed project. However, the potential for localized displacement and redevelopment-related effects would remain and impacts would remain significant and unavoidable.

h. Geology and Soils

Similar to the proposed project, this alternative would include replacement and improvement of existing infrastructure, such as buildings and bridges, which would reduce risks associated with aging or structurally deficient facilities and exposure to geologic hazards. All development would be required to comply with the California Building Code and applicable regulations, including the Alquist-Priolo Earthquake Fault Zoning Act. As a result, seismic and geologic hazard–related impacts would be similar to those under the proposed project. Implementation of regulatory requirements and mitigation measures would continue to reduce risk; however, impacts would remain significant and unavoidable.

Impacts to paleontological resources would be reduced compared to the proposed project due to the more compact development pattern and decreased extent of ground-disturbing activities in undeveloped areas. By concentrating growth in already urbanized and transit-accessible areas, this alternative would lessen the potential to disturb previously undisturbed soils that may contain paleontological resources. Nevertheless, construction activities would still have the potential to encounter previously unidentified resources. As such, impacts to paleontological resources would remain significant and unavoidable but would be reduced relative to the proposed project.

i. Greenhouse Gas Emissions and Climate Change

The Regional Connections Alternative would likely result in fewer GHG emissions associated with construction activities compared to the proposed project, as the overall development footprint and extent of greenfield expansion would be reduced. Concentrating growth in transit-accessible areas would support more efficient infrastructure use and reduce the need for extensive new roadway construction. Operational GHG emissions would also be reduced under this alternative due to lower VMT associated with compact, transit-oriented development. By increasing access to high-quality transit and promoting walking and bicycling, this alternative would reduce reliance on private

vehicles and improve the overall efficiency of the transportation system. These factors would contribute to greater emissions reductions compared to the proposed project.

This alternative would achieve approximately a 22.1 percent reduction in GHG emissions below 2005 levels, which exceeds the 20.1 percent reduction anticipated under the proposed project. Enhanced transit access and increased active transportation would further support these reductions by shifting travel behavior away from single-occupancy vehicle use. Overall, GHG impacts under this alternative would be less than those of the proposed project but would remain significant and unavoidable.

j. Hazards and Hazardous Materials

This alternative would result in a similar suite of transportation infrastructure projects, with comparable use, storage, and transport of hazardous materials during construction activities. However, because growth would be more concentrated in existing urban areas and less reliant on greenfield development, the overall volume of hazardous materials associated with land development would be incrementally reduced compared to the proposed project.

As with the proposed project, implementation of this alternative would be subject to existing federal, State, and local regulations governing hazardous materials. Impacts related to routine transport, use, and disposal of hazardous materials; accidental release; proximity to schools; airport-related hazards; and potential interference with emergency response or evacuation plans would remain less than significant. Overall, hazards and hazardous materials impacts under this alternative would be slightly less than those of the proposed project due to the reduced development footprint and concentration of growth in already urbanized areas.

k. Hydrology and Water Quality

Under this alternative, a stronger emphasis on infill development and redevelopment within existing urbanized areas would reduce the overall extent of new land disturbance and limit expansion into previously undeveloped areas. By concentrating growth in already developed locations, this approach would result in fewer new impervious surfaces compared to the proposed 2026 RTP/SCS, thereby reducing the overall increase in stormwater runoff volumes and associated hydrologic changes.

Similar to the proposed project, urban runoff generated under this alternative would contain typical pollutants associated with developed areas, including heavy metals, oil, grease, and other contaminants from transportation and urban activities. However, because the scale of new development, and thus the total area of impervious surface, would be lower, the overall pollutant load and runoff generation would be incrementally reduced relative to the proposed project.

Infill development would also be more likely to occur in areas already subject to existing stormwater management infrastructure and regulatory controls, which would help manage runoff and maintain water quality conditions. Nevertheless, these projects would continue to contribute incremental pollutant loads consistent with urban land uses. Overall, this alternative would result in reduced impacts to hydrology and water quality compared to the proposed 2026 RTP/SCS due to decreased land conversion and impervious surface expansion. Despite these reductions, impacts would remain significant and unavoidable, as urban runoff and associated pollutants would continue to be generated under future development conditions.

l. Land Use and Planning

As described in Section 4.12, *Land Use and Planning*, the proposed 2026 RTP/SCS incorporates planned and programmed transportation and capital improvement projects that are generally consistent with local General Plans, Specific Plans, and regional and statewide planning efforts. This alternative would further emphasize infill development within existing urbanized areas and prioritize higher-density residential and mixed-use development beyond levels currently anticipated in many local land use plans. It is anticipated that some infill development projects would require a General Plan Amendment and/or rezone to allow for development proposed at higher density than currently allowed. The approval of these discretionary actions would bring the projects in compliance with local planning.

Because this alternative would direct a greater share of growth into developed areas, it would increase the potential for inconsistencies with local land use designations, zoning ordinances, and adopted growth projections. In particular, accommodating additional housing units in commercial corridors and urban centers may require amendments to existing General Plans and zoning regulations, potentially resulting in conflicts with local land use policies adopted for the purpose of managing growth and avoiding environmental effects.

Similar to the proposed 2026 RTP/SCS, development under this alternative would be concentrated in infill locations and would not introduce substantial new infrastructure that would physically divide established communities. Therefore, impacts related to the division of existing neighborhoods would be comparable to those identified for the proposed project.

Overall, this alternative would result in greater potential for inconsistencies with adopted land use plans, policies, and regulations due to its emphasis on higher-density infill development exceeding locally planned growth. Impacts related to conflicts with applicable land use plans would be greater compared to the proposed 2026 RTP/SCS, while impacts related to the physical division of communities would remain similar. As with the proposed project, impacts would remain less than significant. It is anticipated that some infill development projects would require a General Plan Amendment and/or rezone to allow for development proposed at higher density than currently allowed. The approval of these discretionary actions would bring the projects in compliance with local planning.

m. Noise

As described in Section 4.13, *Noise*, the proposed 2026 RTP/SCS would result in increases in ambient noise levels associated with transportation improvements and new development, particularly in areas experiencing higher densities and increased activity. Under this alternative, land use development would be focused in infill and TOD areas, resulting in a greater concentration of sensitive receptors near transit facilities and along major corridors.

The more compact land use pattern would result in reduced VMT and shorter trip lengths. While these reductions could incrementally decrease mobile source noise at a regional scale, increased density and concentrated activity within urban areas could result in localized increases in traffic noise along certain corridors. Whether operational noise impacts would be greater or less than those anticipated under the proposed 2026 RTP/SCS would depend on site-specific conditions. Overall, regional traffic noise levels would be similar and would remain significant and unavoidable.

As with the proposed 2026 RTP/SCS, future development under this alternative could occur in areas near public airports or private airstrips, potentially exposing residents and workers to elevated aircraft noise levels. Implementation of applicable mitigation measures identified in Section 4.13,

Noise, would continue to be required to address these impacts. Localized increases in transit-related noise exposure would be greater under this alternative, with regional noise conditions remaining similar to the proposed 2026 RTP/SCS. Overall, noise impacts would be greater and continue to be significant and unavoidable.

n. Transportation

As described in Section 4.15, *Transportation*, the proposed 2026 RTP/SCS would result in increases in travel demand and associated VMT, while incorporating transportation investments intended to improve mobility and system performance. The Regional Connections Alternative would emphasize transit-oriented development patterns, expanded access to high-quality transit, and improved regional connectivity, resulting in a shift toward transit and other non-auto modes of travel.

Under this alternative, regional VMT would be reduced compared to the proposed 2026 RTP/SCS due to greater concentrations of development near transit corridors and increased transit ridership. Specifically, the Regional Connections Alternative would result in an average of approximately 22.278 VMT per capita per day, compared to 22.545 under the proposed project. In addition, total annual regional VMT would decrease from approximately 7.82 to 7.72 billion (a reduction of about 100 million, or roughly 1 percent). These reductions reflect improved land use and transportation integration and increased reliance on transit and active transportation modes.

Impacts related to conflicts with applicable plans, programs, ordinances, or policies addressing the circulation system, as well as impacts associated with transportation hazards, emergency access, and emergency response, would be similar between this alternative and the proposed 2026 RTP/SCS. This is because the overall transportation network and planned improvements would remain largely consistent, with modifications focused on expanding transit capacity and connectivity.

Overall, this alternative would reduce transportation-related impacts compared to the proposed 2026 RTP/SCS due to lower VMT and increased use of transit. However, because regional VMT would remain above adopted thresholds of significance, impacts would continue to be significant and unavoidable under the Regional Connections Alternative.

o. Tribal Cultural Resources

Under this alternative, land use development would be more heavily concentrated in infill and transit-accessible areas compared to the proposed 2026 RTP/SCS. By focusing growth within existing urbanized areas, this approach would reduce the extent of ground disturbance in previously undeveloped locations, thereby decreasing the likelihood of encountering tribal cultural resources, including ancestral remains, cultural landscapes, and sacred sites.

Although the potential for disturbance would be reduced overall, development within urban areas may still involve ground-disturbing activities that could affect previously unidentified tribal cultural resources. As with the proposed 2026 RTP/SCS, subsequent projects implemented under this alternative would be required to comply with AB 52, which mandates consultation with California Native American tribes and the identification and consideration of potential impacts on tribal cultural resources. This process would also require the incorporation of appropriate project-level mitigation measures where feasible.

If a future project were determined to cause a substantial adverse change in the significance of a tribal cultural resource, the impact would be considered significant. Therefore, while this alternative would reduce the overall potential for impacts due to decreased disturbance outside urbanized

areas, impacts to tribal cultural resources would remain significant and unavoidable, similar to the proposed 2026 RTP/SCS.

p. Wildfire

As described in Section 4.20, *Wildfire*, the proposed 2026 RTP/SCS would result in development patterns that could expose people and structures to wildfire risk, particularly in areas located within or adjacent to the wildland-urban interface. This alternative would emphasize higher-density development within existing urbanized areas, thereby reducing the overall amount of new development occurring in or near wildfire-prone areas.

By concentrating growth in infill locations, this alternative would decrease the extent of encroachment into WUI areas and reduce the number of new structures exposed to wildfire hazards compared to the proposed 2026 RTP/SCS. However, some development could still occur in areas subject to wildfire risk, and increased population densities may challenge emergency response efforts during wildfire events. In addition, wildfire conditions could contribute to secondary hazards such as flooding, erosion, and landslides, which would continue to pose risks under this alternative.

As with the proposed 2026 RTP/SCS, all new development would be required to comply with applicable regulations, including the California Fire Code and other local fire protection standards. Implementation of these requirements and associated mitigation measures would reduce potential impacts but would not eliminate wildfire risk. Overall, this alternative would reduce wildfire-related impacts compared to the proposed 2026 RTP/SCS due to decreased development in high-risk areas. Despite these reductions, the potential for exposure to wildfire and associated hazards would remain, and impacts would continue to be significant and unavoidable.

6.6 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6 requires that an EIR identify the environmentally superior alternative among the alternatives analyzed. Section 15126.6(d)(2) states that if the No Project Alternative is identified as the environmentally superior alternative, the EIR shall also identify an environmentally superior alternative from among the other alternatives analyzed. This section compares the impacts of the three alternatives under consideration to those of the proposed 2026 RTP/SCS in compliance with the *CEQA Guidelines*. Table 6-1 shows whether each alternative would have impacts that are less than, similar to, or greater than the proposed 2026 RTP/SCS for each of the issue areas studied.

Based on the analysis presented above and summarized in Table 6-1, Alternative 2 (Accelerated Infill) is identified as the environmentally superior alternative, assuming all resource areas are weighted equally. Under Alternative 2, growth would be concentrated in downtowns, urban corridors, existing neighborhoods, and job centers, facilitating a more compact, efficient land use pattern that maximizes the use of existing infrastructure and reduces outward expansion. This development pattern reduces overall land consumption from approximately 8,961 acres under the proposed project to 8,193 acres and correspondingly reduces farmland conversion.

The Accelerated Infill Alternative would result in higher-density, walkable, and transit-supportive communities, supported by policies that encourage infill development, infrastructure readiness, and reinvestment in existing areas. Transportation investments would prioritize transit, walking, and bicycling, resulting in increased transit ridership (approximately 5.5 percent) and active

transportation trips (approximately 5.5 percent). These changes would reduce reliance on personal vehicles and shorten trip lengths.

As a result of this compact development pattern and enhanced multimodal transportation system, Alternative 2 would reduce VMT more than the proposed 2026 RTP/SCS. This reduction in VMT would translate directly into lower emissions of criteria air pollutants and greenhouse gases, as well as decreased energy consumption associated with transportation. In addition, the reduced need for greenfield development would lessen impacts related to biological resources, agricultural land conversion, hydrology, and tribal cultural resources by limiting disturbance in previously undeveloped areas.

As reflected in Table 6-1, Alternative 2 would result in reduced impacts compared to the proposed 2026 RTP/SCS across numerous environmental issue areas, including air quality, biological resources, energy, agriculture and forestry resources, environmental justice, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, transportation (VMT), tribal cultural resources, and wildfire. While some impacts, such as those related to cultural resources and noise, would be similar to the proposed project, and land use impacts would be greater due to increased potential inconsistencies with local plans, the overall environmental footprint of Alternative 2 would be reduced.

The No Project Alternative (Alternative 1), by contrast, would maintain a more dispersed, lower-density development pattern consistent with existing trends. This would result in greater development outside of existing urbanized areas, increasing ground disturbance and leading to greater impacts on biological resources, agricultural land, geology and soils, land use, transportation, tribal cultural resources, and wildfire risk compared to the proposed 2026 RTP/SCS. Although Alternative 1 may reduce certain construction-related impacts it would increase VMT compared to the proposed project and would not achieve the same level of environmental benefit as Alternative 2., It also would not meet key project objectives related to compact development, multimodal transportation, and greenhouse gas reduction.

The proposed project was selected over Alternative 2 because it was determined to better balance environmental considerations with regional goals and implementation feasibility. Specifically, the proposed 2026 RTP/SCS more effectively meets identified objectives by serving regional transportation needs, aligning with local plans and policies, and promoting equitable distribution of transportation investments and services.

The Program EIR evaluated a range of alternatives and determined that Alternative 2 (Accelerate Infill) performs better than the Proposed Project across a broader set of environmental metrics when all resource areas are considered. Notwithstanding that determination, the Proposed Project is selected over Alternative 2 because Alternative 2 is infeasible within the meaning of CEQA Guidelines section 15364 for the reasons set forth below.

Economic and Funding Infeasibility. Alternative 2 depends on a substantially more transit-intensive land use pattern concentrated in existing and planned transit corridors throughout San Joaquin County. Achieving the level of ridership and mode shift necessary to realize Alternative 2's projected environmental benefits requires transit infrastructure investment materially beyond the financially constrained investment program of the 2026 RTP/SCS. The plan's financially constrained program totals approximately $14.9 billion through 2049, including $2.552 billion in Measure K revenues through 2036. The enhanced transit network and transit-supportive infrastructure required to achieve Alternative 2's land use concentrations at the scale and density the alternative contemplates are not fully funded within this program. No identified, committed funding source

exists to close that gap within the planning horizon. Implementing Alternative 2 would require either diverting funds from transportation investments serving existing adopted mobility commitments or identifying new revenue sources not currently programmed. Neither is financially feasible within the planning horizon. (CEQA Guidelines, Section 15364(a).)

Legal Infeasibility. Alternative 2's projected environmental benefits depend on local land use agencies the cities and the County of San Joaquin implementing land use patterns consistent with the more intensive infill development scenario that defines the alternative. SJCOG is a regional transportation planning agency. It does not hold land use authority over the cities or the County. Under Government Code section 65080(b)(2)(K), local agencies are not required to adopt land use policies that implement the Sustainable Communities Strategy. SJCOG cannot, as a legal matter, guarantee that member agencies will implement the land use concentrations necessary to achieve Alternative 2's projected GHG reductions, VMT performance, or land conversion outcomes. In the absence of that guarantee, the environmental benefits attributed to Alternative 2 depend on local land use decisions that are outside SJCOG's control, and the alternative is legally infeasible to the extent its environmental benefits are predicated on local implementation that SJCOG cannot compel. (CEQA Guidelines, Section 15364(b).)

Social and Environmental Justice Considerations. Alternative 2 concentrates projected growth in existing urbanized transit corridors in Stockton, Tracy, Manteca, and other established communities. Without specific affordability protections and anti-displacement policies which SJCOG does not have authority to mandate at the local level intensification of development in these corridors could impose displacement pressure on existing lower-income residents. This risk is particularly acute in Stockton and established neighborhoods in Tracy and Manteca where housing affordability is already constrained. To the extent Alternative 2's land use concentrations would exacerbate displacement without binding local mitigation, the social consequences of the alternative conflict with the plan's environmental justice objectives and constitute an additional basis for infeasibility. (CEQA Guidelines, Section 15364(c).)

For these reasons, the Proposed Project is selected over Alternative 2. This selection does not diminish SJCOG's commitment to the infill development and transit investment principles that underlie Alternative 2. The Proposed Project incorporates the Sustainable Communities Strategy land use pattern and prioritizes transit investments to the extent financially constrained resources and member agency cooperation permit. The significant and unavoidable impacts that the Proposed Project does not avoid are addressed separately in the Findings of Fact and the Statement of Overriding Considerations adopted by the SJCOG Board.

Table 6-1 Impact Comparison of Alternatives

Issue Area	Proposed 2026 RTP/SCS	Alternative 1: No Project	Alternative 2: Accelerate Infill	Alternative 3: Regional Connections
Visual Resources	SU	=	=	<
Air Quality	SU	=	<	<
Biology	SU	>	<	<
Cultural Resources	SU	=	=	=
Energy	LTS	=	<	<
Agriculture and Forestry	SU	>	<	<
Environmental Justice	SU	=	<	<

Issue Area	Proposed 2026 RTP/SCS	Alternative 1: No Project	Alternative 2: Accelerate Infill	Alternative 3: Regional Connections
Geology and Soils	SU	>	=	<
Greenhouse Gas Emissions and Climate Change	SU	<	<	<
Hazards and Hazardous Materials	LTS	<	<	<
Hydrology and Water Quality	SU	=	<	<
Land Use and Planning	LTS	>	>	>
Noise	SU	<	=	>
Transportation	SU	>	<	<
Tribal Cultural Resources	LTS	>	<	=
Wildfire	SU	>	<	<
Total		0 < 8 = 8 >	11 < 4 = 1 >	12 < 2 = 3 >

Note: Comparison of impacts is based on the overall impact of the alternative on the resource or issue.

< Alternative impacts would be less than those of the proposed 2026 RTP/SCS

= Alternative would result in impacts similar to the proposed 2026 RTP/SCS

> Alternative impacts would be greater than those of the proposed 2026 RTP/SCS

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Other CEQA Related Discussions

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