

**2022 Regional Transportation Plan &
Sustainable Communities Strategy**

Draft Program Environmental Impact Report

Release June 29, 2022



Your Madera
2046



2022 Regional Transportation Plan/ Sustainable Communities Strategy Draft Program Environmental Impact Report



June 29, 2022

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1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that a Draft Environmental Impact Report (EIR) be prepared and distributed for review by regulatory and other affected agencies and persons, prior to preparation of the Final EIR. The Draft EIR provides the opportunity for comments on the proposed project and the Draft EIR. Once comments are received following the review period, comments will be considered and responses will be incorporated in the Final EIR to address any changes or additions necessary to clarify and/or supplement the information contained in the document. This Draft EIR, therefore, represents the culmination of all environmentally related issues raised during review of the Notice of Preparation (NOP) (reference Appendix A) and during development of the Madera County Transportation Commission (MCTC) 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

The EIR prepared for the 2022 RTP/SCS is a “Program” EIR (PEIR). In accordance with Section 15168(a) of the CEQA Guidelines: “A PEIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically; (2) as logical parts in a chain of contemplated actions; (3) in connection with issuance of rules, regulations, plans, or other general criteria, to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.”

For purposes of reviewing the environmental impacts associated with the MCTC 2022 RTP/SCS, this Draft PEIR has been prepared because MCTC cannot know all the details or have all the information it would need regarding each and every transportation improvement project identified in the RTP, or the detailed information regarding the specific type of future land use development that will occur in each local jurisdiction between 2019 (base year), 2022 current year, and the year 2046 (horizon year). MCTC’s role as the Regional Transportation Planning Agency (RTPA) for the Madera region is to prepare a long-range RTP/SCS that reflects consistency with federal and state mandates, including Senate Bill (SB) 375. As an RTPA, MCTC does not have any land use authority. This right is held by the local agencies that make up the membership of the MCTC Policy Board, which include the County of Madera and the two incorporated cities within the County and are commonly referred to as MCTC’s “member agencies”.

MCTC works in partnership with its member agencies, Caltrans, and other agencies with land use authority to plan the future transportation system, taking into consideration future growth estimates and potential development and land use patterns outlined in each of the adopted or draft general plans prepared by these agencies. Throughout this document, the term “implementing agency” is used to refer to MCTC’s partnership agencies that have land use authority, and/or legal standing to plan, design, implement, build,

operate and maintain transportation infrastructure, including those projects referred to in the RTP/SCS. The agencies most associated with implementing the transportation improvement projects and approving future land use developments reflected in the 2022 RTP/SCS will be the MCTC member agencies. Caltrans, as the owner/operator of the state highway system, will also have a major role in implementing transportation improvement projects along highways throughout the Madera region. It will be these and other implementing agencies that will plan for, approve, design, construct, and implement the transportation improvement projects referenced in the RTP/SCS. These agencies will also plan for, review and approve the individual land use developments proposed within their individual jurisdictions over the duration of the planning period that were considered to develop the RTP/SCS.

This Draft PEIR is considered the “first tier” CEQA document for future second-tier CEQA documents (commonly referred to as project-level analysis) reflective of the various transportation improvement projects and future land use development projects represented in the 2022 RTP/SCS. The SCS only shows how future growth and development would be allocated to planned growth areas consistent with the general plans of the cities and the County of Madera together with the planned transportation system. As growth and development occurs, it will be the cities and the County that review and approve development proposals and also determine consistency with their plans, programs, and policies - not MCTC.

This Draft PEIR presents a “regional” review and analysis of impacts associated with the 2022 RTP/SCS. While some of the transportation improvement projects are reflected in current federal and regional transportation improvement programs over the short-term or within the next four to five years, the majority of transportation improvement projects are not defined to a level that would allow for “project-level” analysis. As such, it is understood that the RTP transportation improvement projects and future land use development projects will be implemented by implementing agencies such as Caltrans, each of the two cities, the County of Madera, transit agencies, Native American Tribes, and other agencies responsible for the construction and/or operation of transportation facilities, land use development, and other services.

Implementing agencies will prepare the “project-level” environmental documents for the individual transportation improvement projects and future land use developments included in or consistent with the 2022 RTP/SCS. According to Section 15161 of the CEQA Guidelines, a “project-level” environmental document is the most common type of EIR and examines the environmental impacts of a specific improvement project or development project. This type of EIR should focus primarily on the changes in the environment that would result from the project and examine all phases of the project including planning, construction, and operation.

The implementing agencies would also prepare “project-level” environmental documents that incorporate by reference the appropriate information from this Draft PEIR regarding secondary effects, cumulative impacts, project alternatives, and other relevant factors. Where subsequent environmental

review is required, such review would focus on project-specific significant effects specific to the project, or its site, that have not been considered in this Draft PEIR.

MCTC does not have the legal authority to force implementing agencies to adopt and implement mitigation measures listed in Chapters 3 and 5 of this PEIR. MCTC cannot guarantee that local agencies will comply with the mitigation measures but will encourage local agencies and Caltrans or other affected and responsible agencies to design and construct transportation improvement projects and future land use developments included in the RTP/SCS.

1.2 FORMAT AND SCOPE

The purpose of this Draft PEIR is to provide local decision-makers and the public with an objective analysis of the potential environmental consequences of implementation of the regional transportation system outlined in the Draft MCTC 2022 RTP/SCS. The information presented in this document is intended to provide a full disclosure of the potential impacts and to increase public awareness and participation in the regional transportation planning process.

The 2022 RTP is the second RTP to include an SCS, which is intended to show how integrated land use and transportation planning can lead to lower greenhouse gas (GHG) emissions from autos and light trucks (see Chapter 3 of the 2022 RTP for the MCTC SCS Development Process, incorporated by reference). The entire MCTC 2022 RTP/SCS can be found at the following link and is incorporated by reference:

<https://www.maderactc.org/transportation/page/your-madera-2046-rtpscs>.

The SCS encourages changes to the urban form that improve accessibility to transit, and create more compact development, thereby yielding a number of transportation and air quality benefits to the region. These include reductions in travel time, vehicle miles traveled (VMT), vehicle hours traveled (VHT), vehicle hours of delay, and a resulting reduction in transportation-related air quality emissions. Concurrently, the plan yields increased transit use and an increase in other modes of transportation such as walking and biking, all of which can lead to both mobility and air quality improvements. The SCS only shows how future growth and development could be allocated to planned growth areas consistent with the general plans of the cities and the County of Madera.

As growth and development occurs, it will be the cities and the County that review and approve development proposals and determine consistency with their plans, programs, and policies through the appropriate environmental process; not MCTC. MCTC has no land use authority to approve future growth and development as it occurs over the life of the RTP/SCS (Year 2046).

CEQA requires that a Draft EIR be prepared and distributed for review by regulatory and other affected agencies and persons, prior to preparation of the Final EIR. The Draft EIR provides the opportunity for

comments on the proposed project and the Draft EIR. Once comments are received following the review period, comments will be considered and responses will be incorporated in the Final EIR to address any changes or additions necessary to clarify and/or supplement the information contained in the document. This Draft EIR, therefore, represents the culmination of all environmentally related issues raised during review of the NOP (reference Appendix A) and during development of the MCTC 2022 RTP.

This document has been prepared to address written comments received from interested individuals and agencies regarding the NOP prepared for the RTP and to comply with requirements of CEQA. Typically, a 45-day public review period is associated with an EIR of this nature. However, the SCS carries a requirement that this portion of the plan have a public review period of 55 days. As such, this Draft PEIR review and comment period will begin on June 29, 2022 and will end on August 13, 2022.

1.3 PROJECT DESCRIPTION

The Project, as defined by CEQA Statutes, Section 21065, is the preparation of the 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). This document may also be known or referenced as the 2022 RTP, RTP or RTP and SCS. MCTC has prepared the RTP/SCS as required by Section 65080 et seq., of Chapter 2.5 of the California Government Code as well as federal guidelines pursuant to the requirements of the 2021 Bipartisan Infrastructure Law (BIL), Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act. These acts require that RTPs include only those projects which can actually be delivered with funds expected to be available (i.e., financially constrained), and that those projects will help attain and maintain air quality standards consistent with the Clean Air Act Amendments of 1991 and other federal mandates noted below. The RTP must also meet Transportation Conformity for the Air Quality Attainment Plan per 40 CFR Part 51 and 40 CFR Part 93. The conformity regulation applies nationwide to "all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan" (40 CFR 93.102). In addition, the RTP must address requirements set forth in Assembly Bill 32, the California Global Warming Solutions Act of 2006. The California Transportation Commission (CTC) has prepared guidelines (adopted by the Commission on January 18, 2017) to assist in the preparation of RTPs pursuant to Section 14522 of the Government Code.

According to CTC RTP Guidelines, "Every Metropolitan Planning Organization (MPO) is required by law to conduct long range planning to ensure that the region's vision and goals are clearly identified and to ensure effective decision making in furtherance of the vision and goals. The long range plan, known as the Regional Transportation Plan (RTP), is an important policy document that is based on the unique needs and characteristics of a region, helps shape the region's economy, environment and social future, and communicates regional and vision to the state and federal government. As fundamental building blocks of the State's transportation system, the RTP should also support state goals for transportation, environmental quality, economic growth, and social equity (California Government Code Section

65041.1). The California Transportation Commission (Commission or CTC) is authorized to develop guidelines by Government Code Section 14522, which reads: In cooperation with the regional transportation planning agencies, the commission may prescribe study areas for analysis and evaluation by such agencies and guidelines for the preparation of the regional transportation plans.”

Currently, the San Joaquin Valley (or portions thereof) is designated as nonattainment with respect to Federal air quality standards for ozone, and particulate matter under 2.5 microns in diameter (PM_{2.5}); and has a maintenance plan for particulate matter under 10 microns in diameter (PM₁₀). The urbanized/metropolitan areas of Kern, Madera, Stanislaus and San Joaquin Counties have attained the CO standard and maintained attainment for 20 years, thus conformity requirements for CO no longer apply. In addition, the RTP must address requirements set forth in Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 and SB 375, which introduced the Sustainable Communities Strategy concept into the RTP process. Finally, the California Transportation Commission has prepared guidelines (most recently adopted by the Commission in 2017 to assist in the preparation of RTPs pursuant to Section 14522 of the Government Code.

As the designated RTPA, MCTC is mandated by state and federal law to update the RTP every four (4) years. The last comprehensive EIR on the RTP/SCS was certified in 2018, which addressed transportation improvement projects, programs, and funding reflected in the 2022 RTP together with additional funding from the proposed (now approved) ½ Cent Sales Tax Measure Extension (Measure T). Measure T did receive the 2/3^{ds} voter approval required in order to pass in the November 2006 election. The 2022 revision to the RTP has been prepared to address possible environmental impacts resulting from its implementation and sources of funding that are available for programming.

The RTP is used to guide the development of the MCTC prepares and maintains the Federal Transportation Improvement Program (FTIP). The program includes a listing of all transportation-related projects requiring federal funding or other approval by the federal transportation agencies. The FTIP also lists non-federal, regionally significant projects for information and air quality modeling purposes. Projects included in the FTIP are consistent with the RTP and are part of the area’s overall strategy for providing mobility, congestion relief and reduction of transportation-related air pollution in support of efforts to attain federal air quality standards for the region.

The RTP is also used to guide development of the Regional Transportation Improvement Program (RTIP). The RTIP is the programming document used to plan the construction of regional transportation projects and requires State Department of Transportation (Caltrans) approval as part of the State Transportation Improvement Program (STIP). The STIP is comprised of two components, the Regional Improvement Program (RIP) for projects nominated by regional agencies in California, such as MCTC and the Interregional Improvement Program (IIP) for projects nominated by Caltrans. The STIP is adopted by the California Transportation Commission (CTC).

The RTP is also used as a transportation planning document by each of the three (3) member jurisdictions of MCTC. The members include the County of Madera and the cities of Chowchilla and Madera.

The RTP identifies the region's transportation needs and issues, sets forth an action plan of projects and programs to address the needs consistent with the adopted policies, and documents the financial resources needed to implement the plan. Additional areas of emphasis and policy initiatives in the 2022 RTP/SCS include Environmental Justice planning, the Sustainable Communities Strategy, and public participation. In addition, the 2022 RTP/SCS includes updated project lists and performance measures.

The RTP/SCS consists of required elements referenced in the enabling legislation and is organized into various sections. A description of each section follows.

Chapter 1 Introduction – Introduces the setting and purpose of the RTP/SCS, the key guiding regulations, previous regional milestones, and preview of the plan contents.

Chapter 2 Policy Element – a comprehensive listing of goals, objectives, and strategies that identifies the necessary steps to implement the RTP/SCS.

Chapter 3 Sustainable Communities Strategy – A detailing of the collaborative process behind the creation of a planning scenario able to achieve the goals of SB 375 for the Madera region.

Chapter 4 Action Element – Describes the regional assumption, transportation system and how needs are addressed across various modes.

Chapter 5 Financial Element – Outlines the projected revenues for the region and expenditures to implement the RTP/CS.

Appendices – A collection of documents providing supporting information for the contents of the plan.

1.4 PROJECT ALTERNATIVES

The following four (4) Project alternatives have been determined to represent a reasonable range of alternatives, which have the potential to feasibly attain most of the basic objectives of the Project but, which may avoid or substantially lessen any of the significant effects of the Project. These alternatives include the **No-Project**, **Scenario 1 Continued Trends**, **Scenario 2 Moderate Shift**, and **Scenario 3 Conservation and Mobility**. The MCTC Policy Board selected **Scenario 3 Conservation and Mobility** as the preferred SCS scenario for the Madera County region. As a result, the 2022 RTP/SCS and this Draft PEIR contains and reflects **Scenario 3** as the preferred SCS scenario for planning purposes. As such, this PEIR describes the Project as the 2022 RTP/SCS (**Scenario 3 Conservation and Mobility**) reflective of the

planned transportation system described in the RTP document and the SCS, which is documented in Chapter 4 of the RTP/SCS and are incorporated in this Draft PEIR by reference.

Each of these alternatives are further defined in Chapter 4 of this PEIR, which compares each of the alternatives in tables provided. It should be noted that there are other environmental issues that were considered to compare and select the Preferred Project Alternative, including environmental issue areas referenced in Chapter 3 of this PEIR and further documented in Chapter 4. Key aspects of each of the Alternatives (with the exception of the No Project Alternative) are provide below. The No Project Alternative is defined in Chapter 4 of this PEIR.

- ✓ **Scenario 1 Continued Trends** – Assumes growth and housing development like what we see existing in our region today. Maintains a road-centric investment strategy with gradual increases towards multi-modal strategies.
 - Assumes County-wide growth based on previously observed trends with no new land-use strategies
 - Invests in public transit based on existing trends
 - Invests in active transportation consistent with existing trends
 - Focuses on addressing roadway travel conditions related to congestion, maintenance, and accessibility
 - Is compliant with local jurisdiction General Plans
 - Consumes 4,642 acres of Farmland
 - Project 21.4% of housing within a ¼ mile of fixed route public transit
 - Produces the highest vehicle miles traveled (VMT) per capita of the three scenarios
 - Achieves the least GHG reduction per capita of the three scenarios

- ✓ **Scenario 2 Moderate Shift** – Moderately increases densities of housing and development in urbanized areas with slight increases to densities in the remainder of the county. Conservative shift in investment towards zero-emission vehicle infrastructure, public transit, shared ride options, micromobility, and non-motorized transportation strategies.
 - Applies focused land-use strategies by sub-region
 - City of Madera
 - South SR 41 Growth Area
 - City of Chowchilla
 - Rural Valley
 - Rural Mountain/Foothill
 - Moderate change growths parameters in urban areas
 - Higher density new development in urban areas
 - Lower densities in rural areas
 - Is compliant with local jurisdiction General Plans
 - Invests more in public transit and active transportation

- Focuses on addressing roadway travel conditions related to congestion, maintenance, and accessibility
 - Explores moderate investment towards additional transportation strategies
 - Vanpooling
 - Telecommuting
 - Electric vehicles and infrastructure
 - Employer programs
 - Travel demand strategies
 - Bike and car sharing services
 - Consumes 3,835 acres of Farmland
 - Project 24.8% of housing within a ¼ mile of fixed route public transit
- ✓ **Scenario 3 Conservation and Mobility** – Prioritized development in infill and redevelopment zones, assumes more compact lot sizes in core urban areas, moderate increases to densities in urban areas and slight increases to densities in the remainder of the county, outside of urban cores. Accelerates investment shift towards zero-emission vehicle infrastructure, public transit, shared ride options, micromobility, and non-motorized transportation strategies.
- Applies focused land-use strategies by sub-region
 - City of Madera
 - South SR 41 Growth Area
 - City of Chowchilla
 - Rural Valley
 - Rural Mountain/Foothill
 - Moderate change growths parameters in urban areas
 - Higher density new development in urban areas
 - Lower densities in rural areas
 - High focus on infill and urban core development
 - Is compliant with local jurisdiction General Plans
 - Invests more in public transit and active transportation
 - Focuses on addressing roadway travel conditions related to congestion, maintenance, and accessibility
 - Explores aggressive investment towards additional transportation strategies
 - Vanpooling
 - Telecommuting
 - Electric vehicles and infrastructure
 - Employer programs
 - Travel demand strategies
 - Bike and car sharing services
 - Consumes 3,664 acres of Farmland
 - Project 26.9% of housing within a ¼ mile of fixed route public transit

- **Produces the lowest vehicle miles traveled (VMT) per capita of the three scenarios**
- **Achieves the most GHG reduction per capita of the three scenarios**

1.5 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

Section 15123 of the CEQA Guidelines requires that an EIR identify areas of controversy and issues to be resolved, which are known to the Lead Agency, including issues raised by other agencies and the public. Potential areas of controversy and issues to be resolved by the MCTC’s decision-makers include those environmental issue areas where the potential for a significant unavoidable impact has been identified and/or an area where regional concerns elevate the Project’s perceived effects beyond reasonable threshold criteria. Areas of controversy associated with the Project are made known through comments received during the Notice of Preparation (“NOP”) process (reference Appendix A, as well as input solicited during the public scoping meeting and an understanding of the regional issues in the Project area. Areas of known controversy, including issues raised by some members of the community are: traffic generation and congestion, loss of open space and recreation, cultural and tribal cultural impacts, climate change impacts, agricultural and forestry related impacts, dust and air quality impacts, water quality of urban runoff and water supply, land use impacts, social and economic impacts, noise impacts, population increase and effect on public services and utility systems, impacts to wildlife habitats, impacts on historical resources, and impacts to neighborhood character and density. The areas of known controversy noted above are analyzed, either directly or as indirect (secondary) effects, in Chapter 3 of this PEIR.

1.6 SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVEL OF SIGNIFICANCE

As stated in the State CEQA Guidelines §15123(a), “[a]n EIR shall contain a brief summary of the proposed actions and its consequences. The language of the summary should be as clear and simple as reasonably practical.” State CEQA Guidelines §15123(b) states, “[t]he summary shall identify: (1) each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; (2) areas of controversy known to the Lead Agency, including issues raised by agencies and the public; and (3) issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.” Accordingly, this summary includes a brief synopsis of the proposed project and project alternatives, environmental impacts and mitigation, areas of known controversy, and issues to be resolved during environmental review. Table 1-1 (at the end of this section) presents the summary of potential environmental impacts, their level of significance without mitigation measures, mitigation measures, and levels of significance with mitigation measures.

Chapter 3 of this Draft PEIR provides further detail regarding the impacts, mitigation measures, and the environmental determination associated with each of the environmental areas included in the NOP. The NOP determined that a PEIR is required for the RTP or “Project” because it could result in significant environmental impacts.

This Draft PEIR analyzes the RTP’s effects on the following environmental issue areas:

- ✓ Aesthetics
- ✓ Agricultural Resources
- ✓ Air Quality
- ✓ Biotic Resources
- ✓ Climate Change
- ✓ Cultural and Tribal Cultural Resources
- ✓ Energy and Energy Conservation
- ✓ Geology/Soils/Mineral Resources
- ✓ Hazards & Hazardous Materials
- ✓ Hydrology & Water Resources
- ✓ Land Use, Planning, and Recreational Resources
- ✓ Noise
- ✓ Population, Housing & Employment
- ✓ Public Utilities, Other Utilities & Services Systems
- ✓ Social and Economic Effects
- ✓ Transportation/Traffic
- ✓ Wildfire

After review of the NOP responses, it was determined that this Draft PEIR should focus on the same environmental issues referenced in the NOP and listed above.

To assist in the understanding of this report and Table 1-1 below, which summarizes the impacts of the project, presents the identified mitigation measures, and the level of significance after mitigation, the following descriptions, as found in Article 20 of the State CEQA Guidelines, are provided:

- ✓ **Project** means the whole of an action, which has the potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment directly or ultimately.
- ✓ **Significant effect on the environment** 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. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.
- ✓ **Environment** means the physical conditions that exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects

would occur either directly or indirectly as a result of the project. The “environment” includes both natural and man-made conditions.

- ✓ **Effects and impacts** as used in these Guidelines are synonymous. Effects include direct or primary effects that are caused by the project and occur at the same time and place, and indirect or secondary effects that are caused by the project and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems. Effects analyzed under CEQA must be related to a physical change.
- ✓ **Mitigation** includes: 1) avoiding the impact altogether by not taking a certain action or parts of an action; 2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; 3) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; 4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and 5) compensating for the impact by replacing or providing substitute resources or environments.
- ✓ **Cumulative impacts** refers to two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts.
- ✓ A **less-than-significant impact** is an impact that is adverse but that does not exceed the defined standards of significance. Less-than-significant impacts do not require mitigation.
- ✓ A **potentially significant impact** is an impact for which there is not enough information to make a finding of less-than-significant impact; however, for the purpose of this Draft EIR, the impact is considered significant. A potentially significant impact is equivalent to a significant impact and requires the identification of feasible mitigation measures or alternatives.
- ✓ A **significant impact** is an impact that exceeds the defined standards of significance and would or could cause a substantial adverse change in the environment. Mitigation measures are recommended to eliminate the impact or reduce it to a less-than-significant level.
- ✓ A **significant and unavoidable impact** is an impact that exceeds the defined standards of significance and cannot be eliminated or reduced to a less-than-significant level through the implementation of mitigation measures.

Based on findings identified in Chapter 4 of this Draft PEIR, the Moderate Growth SCS Scenario is reflected in the 2022 RTP/SCS as the Preferred Project Alternative. This alternative was analyzed considering congestion levels and historical growth rates in vehicle miles traveled (VMT) and vehicle trips (VT), as well

as anticipated growth in the use of other forms of transportation such as transit, rail, aviation, and non-motorized.

Improvement projects evaluated and identified under this alternative are "financially constrained" in accordance with 2021 Bipartisan Infrastructure Law (BIL), Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act and air quality conformity requirements. Further, this alternative focuses on the designation of planned growth and development consistent with established land use density policies. This includes the designation of urban and rural development consistent with adopted local agency General Plans.

Table 1-1 below summarizes impacts, mitigation measures, and levels of significance for each of the environmental issue areas listed above.

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
AESTHETICS		
<p>AE 3.2.1 Have a substantial adverse effect on a scenic vista.</p>	<ul style="list-style-type: none"> ✓ AE 3.2.1-1 Implement design guidelines, local policies, and programs aimed at protecting views of scenic corridors and avoiding visual intrusions. ✓ AE 3.2.1-2 To the extent feasible, noise barriers that will not degrade or obstruct a scenic view will be constructed. Noise barriers will be well landscaped, complement the natural landscape and be graffiti-resistant. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant aesthetic impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>AE 3.2.2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.</p>	<ul style="list-style-type: none"> ✓ AE 3.2.2-1 Avoid construction of transportation facilities and new development in state and locally designated scenic highways and vista points. ✓ AE 3.2.2-2 If transportation facilities and new development are constructed in state and locally designated scenic highways and/or vista points, design, construction, and/or operation of the transportation facility or new development will be consistent with applicable guidelines and regulations for the preservation of scenic resources along the designated scenic highway. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant scenic resources impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>AE 3.2.3 Substantially degrade the existing visual character or quality of the site and its surroundings.</p>	<ul style="list-style-type: none"> ✓ AE 3.2.3-1 Where appropriate, encourage the development of design guidelines for each type of transportation facility and land use that make elements of proposed projects visually compatible with surrounding areas. Visual guidelines will, at a minimum, include setback buffers, landscaping, color, texture, signage, and lighting criteria. The following methods will be employed whenever possible: <ul style="list-style-type: none"> ➤ Transportation systems and new development will be designed in a manner where the surrounding landscape dominates. ➤ Transportation systems and new development will be developed to be compatible with the surrounding environment (i.e., colors and materials of construction material). ➤ If exotic vegetation is used, it will be used as screening and landscaping that blends in and complements the natural landscape. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant visual resources impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ➤ Trees bordering highways will remain or be replaced so that clear cutting is not evident. ➤ Grading will blend with the adjacent landforms and topography. ➤ Lighting devices will be employed such as downward facing light, light shields, and amber lumens. ✓ AE 3.2.3-2 Project implementation agencies should design transportation and new development projects to minimize contrasts in scale and massing between the project and surrounding natural forms and development. Project implementation agencies should design projects to minimize their intrusion into important view sheds and use contour grading to better match surrounding terrain. To the maximum extent feasible, landscaping along highway corridors should be designed to add significant natural elements and visual interest to soften the hard-edged, linear travel experience that would otherwise occur. ✓ AE 3.2.3-3 Project implementation agencies should use natural landscaping to minimize contrasts between the Project (RTP/SCS) and surrounding areas. Wherever possible, interchanges and transit lines should be designed at the grade of the surrounding land to limit view blockage. Edges of major cut and-fill slopes should be contoured to provide a more natural looking finished profile. Project implementation agencies should replace and renew landscaping to the greatest extent possible along corridors with road widenings, interchange projects, and related improvements. New corridor landscaping should be designed to respect existing natural and man-made features and to complement the dominant landscaping of surrounding areas. ✓ AE 3.2.3-4 Project implementation agencies should construct sound walls of materials whose color and texture complements the surrounding landscape and development and to the maximum extent feasible, use color, texture, and alternating facades to “break up” large facades and provide visual interest. Where there is room, project sponsors should landscape the sound walls with plants that screen the sound wall, preferably with either native vegetation or landscaping that complements the dominant landscaping of surrounding areas. 	
<p>AE 3.2.4 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.</p>	<ul style="list-style-type: none"> ✓ AE 3.2.4-1 Where appropriate, encourage the development of design guidelines for each type of transportation facility and land use development that make light elements of proposed facilities visually compatible with surrounding areas. The following methods will be employed whenever possible: <ul style="list-style-type: none"> ➤ Transportation systems and new development areas will be designed in a manner where the surrounding landscape dominates. ➤ Transportation systems and new development areas will be developed to be compatible with the surrounding environment. ➤ Lighting devices will be employed such as downward facing light, light shields, and amber lumens. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant new light and glare impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation Caltrans

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
AGRICULTURAL RESOURCES		
<p>AR 3.3.1 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 non-agricultural use.</p>	<ul style="list-style-type: none"> ✓ AR 3.3.1-1 MCTC shall work with its member agencies and Caltrans as they implement projects to commit to mitigate at a 1:1 ratio any loss of farmland or natural lands due to projects funded by MCTC. ✓ AR 3.3.1-2 Implementing agencies should encourage in-fill development, in place of development in rural and environmentally sensitive areas. Agencies should seek funding to prepare specific plans and related environmental documents to facilitate mixed-use development, and to allow these areas to serve as receiver sites for transfer of development rights away from environmentally sensitive lands and rural areas outside established urban growth boundaries. ✓ AR 3.3.1-3 Implementing agencies should consider agricultural resource lands when considering project designs. Prior to the design approval of RTP/SCS projects, the implementing agency should assess the project area for agriculture and forestry resources and constraints. For federally funded projects, implementing and local agencies are required to follow the rules and regulations of Farmland Protection Policy Act including determining the impact by completing the Farmland Conversion Impact Rating form (AD-1006). For non-federally funded projects, implementing and local agencies should assess projects for the presence of important farmlands (prime farmland, unique farmland, farmland of statewide importance), and if present, perform a Land Assessment and Site Evaluation (LESA). ✓ AR 3.3.1-4 Implementing agencies should consider agriculture and forestry resources in all projects and seek to avoid or minimize the encroachment and/or impact on these areas. Agencies should consider measures such as, but not limited to, relocation or redesign of site features, reduction of the project footprint, or compensation and/or preservation activities to lessen the overall impact on resource lands. Prior to final approval of each individual transportation improvement project, the implementing agency should consider inclusion into a conservation easement program or arrange for the enrollment of agricultural lands into the Williamson Act program. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant farmland conversion impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>AR 3.3.2 Conflict with Existing Zoning for Agriculture Use, or a Williamson Act Contract.</p>	<ul style="list-style-type: none"> ✓ AR 3.3.2-1 Mitigation Measures referenced in Section 3.3.1, above are also included by reference. ✓ AR 3.3.2-2 Individual projects will be consistent with federal, state, and local policies that preserve agricultural lands and support the economic viability of agricultural activities, as well as policies that provide compensation for property owners if preservation is not feasible. ✓ AR 3.3.2-3 For projects in agricultural areas, project implementation agencies should contact the California Department of Conservation and the Agricultural Commissioner’s office to identify the location of prime farmlands and lands that support crops considered valuable to the local or regional economy. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ✓ AR 3.3.2-4 Prior to final approval of each individual improvement project, the implementing agency should avoid impacts to prime farmlands or farmlands that support crops considered valuable to the local or regional economy. 	<p>appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>AR 3.3.3 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)).</p>	<ul style="list-style-type: none"> ✓ AR 3.3.3-1 Mitigation Measures referenced in Impact 3.3.1, above are also included by reference. ✓ AR 3.3.3-2 Individual projects will be consistent with federal, state, and local zoning policies that preserve timber or forest lands and support the economic viability of forest activities, as well as policies that provide compensation for property owners if preservation is not feasible. ✓ AR 3.3.3-3 For projects in timber or forest areas, project implementation agencies should contact the California Department of Forestry and Fire Protection (CAL FIRE) and the U.S. Forest Service to identify the location of timber and forest lands to address applicable zoning regulations and processes. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
<p>AR 3.3.4 Result in the loss of forest land or conversion of forest land to non-forest use.</p>	<ul style="list-style-type: none"> ✓ AR 3.3.4-1 Mitigation Measures referenced in Impact 3.3.1, above are also included by reference. ✓ AR 3.3.4-2 Individual projects will be consistent with federal, state, and local policies that preserve forest lands and support the economic viability of forest activities, as well as policies that provide compensation for property owners if preservation is not feasible. ✓ AR 3.3.4-3 For projects in forest areas, project implementation agencies should contact the California Department of Forestry and Fire Protection (CAL FIRE) and the U.S. Forest Service to identify the location of forest lands and address applicable regulations and processes. ✓ AR 3.3.4-4 Prior to final approval of each individual improvement project, the implementing agency should avoid impacts forest lands. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
<p>AR 3.3.5 Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.</p>	<ul style="list-style-type: none"> ✓ AR 3.3.5-1 Reference the mitigation measure reflected in Impacts 3.3.1 through 3.3.5. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
AIR QUALITY		
AQ 3.4.1 Conflict with or obstruct implementation of an applicable air quality plan.	✓ None required	✓ Not applicable
AQ 3.4.2 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors).	✓ AQ 3.4.2-1 None required	✓ Not applicable
AQ 3.4.3 Expose sensitive receptors to substantial pollutant concentrations.	✓ AQ 3.4.3-1 As air toxics research continues, implementing agencies should utilize the tools and techniques that are developed for assessing health outcomes as a result of lifetime MSAT exposure. The potential health risks posed by MSAT exposure should continue to be factored into project-level decision making in the context of environmental review. Specifically, at the project level, implementing agencies shall require or perform air toxic risk assessments to determine mobile source air toxic impacts.	✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>AQ 3.4.4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.</p>	<p>✓ AQ 3.4.4-1 Implementing agencies should require assessment of new and existing odor sources for transportation improvement projects and future land use development projects to determine whether sensitive receptors would be exposed to objectionable odors and apply recommended applicable mitigation measures as defined by the applicable local air district and best practices.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce objectionable odor impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategy intended to avoid or reduce the significant impacts identified.</p>
BIOTIC RESOURCES		
<p>BR 3.5.1 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.</p>	<p>✓ BR 3.5.1-1 Each proposed individual transportation improvement project and future land use development will consider the displacement of sensitive habitat, sensitive species, and non-native habitat.</p> <p>✓ BR 3.5.1-2 When avoidance of native vegetation removal is not possible, each transportation improvement project and future land use development shall replant disturbed areas with commensurate native vegetation of high habitat value adjacent to the project (i.e., as opposed to ornamental vegetation with relatively less habitat value).</p> <p>✓ BR 3.5.1-3 Focused sensitive plant and wildlife species and non-native habitat surveys will be conducted within suitable habitat to determine the distribution of sensitive species within the biological impact area of each transportation improvement project and future land use development. Sensitive plant and non-native habitat surveys will be conducted during the appropriate flowering season for sensitive plant species with the potential to occur within the individual transportation improvement project or future land use development area. In all cases, impacts on special-status species and/or their habitat shall be avoided during construction to the extent feasible.</p> <p>✓ BR 3.5.1-4 If sensitive plant or wildlife species and non-native habitat are identified within the biological impact area, a Biological Resource Management Plan (BRMP) will be developed to address appropriate avoidance and minimization measures. These measures may include seed collection and salvage measures for sensitive plant species and non-native habitat, silt fencing, exclusion fencing and/or appropriate compensation where impacts cannot be fully avoided.</p> <p>✓ BR 3.5.1-5 Individual transportation improvement projects and future land use developments shall include offsite habitat enhancement or restoration to compensate for unavoidable habitat losses from the project site.</p>	<p>✓ This impact would likely be significant if the proposed individual improvement project occurs within or near known populations of sensitive plant and wildlife species, or within designated critical habitat for federal-or State-listed species. These mitigation measures would require implementing agencies to avoid or mitigate impacts to sensitive plant and wildlife species. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the impacts to sensitive plant and wildlife species, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ✓ BR 3.5.1-6 Locations of sensitive species, sensitive habitat, and non-native habitat will be mapped and shown on construction drawings and identified as Environmentally Sensitive Areas (ESAs). Prior to construction, these areas will be flagged and/or fenced to prevent unnecessary impacts from machinery and foot traffic. ✓ BR 3.5.1-7 Temporary access roads and staging areas will not be located within areas containing sensitive plant, sensitive wildlife species or non-native habitat wherever feasible, so as to avoid or minimize impacts to these species. ✓ BR 3.5.1-8 Construction activities will be scheduled, as appropriate and feasible, to avoid sensitive times that have a greater likelihood to affect significant resources such as spawning periods for fish, nesting season for birds and/or the rainy season for riparian habitat and sediment/erosion control. ✓ BR 3.5.1-9 All vegetation (including tall grasses) will be removed between August 16th and February 14th, if possible, to avoid potential conflicts with nesting birds. If it is not possible to remove vegetation during that time frame, a nest clearance survey will be completed prior to vegetation clearing. Any detected nests will be mapped and provided with an appropriate buffer as recommended by a qualified biologist. Construction activities within the buffer area will not be allowed until after September 15 or until fledglings have abandoned the nest. ✓ BR 3.5.1-10 A Worker Awareness Program (environmental education) shall be developed and implemented to inform project workers of their responsibilities in regard to avoiding and minimizing impacts on sensitive biological resources. ✓ BR 3.5.1-11 An Environmental Inspector shall be appointed to serve as a contact for issues that may arise concerning implementation of mitigation measures, and to document and report on adherence to these measures. ✓ BR 3.5.1-12 A qualified wetland scientist shall review construction drawings as part of each project-specific environmental analysis to determine whether wetlands will be impacted, and if necessary, perform a formal wetland delineation. Appropriate State and federal permits shall be obtained, but each project EIR will contain language clearly stating the provisions of such permits, including avoidance measures, restoration procedures, and in the case of permanent impacts compensatory creation or enhancement measures to ensure a no net loss of wetland extent or function and values. ✓ BR 3.5.1-13 Sensitive habitats (native vegetative communities identified as rare and/or sensitive by the CDFW) and special-status plant species (including vernal pools) impacted by projects shall be restored and augmented, if impacts are temporary, at a 1.1:1 ratio (compensation acres to impacted acres). Permanent 	

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<p>impacts shall be compensated for by creating or restoring habitats at a 3:1 ratio as close as possible to the site of the impact.</p> <ul style="list-style-type: none"> ✓ BR 3.5.1-14 When work is conducted in identified sensitive habitat areas and/or areas of intact native vegetation, construction protocols shall require the salvage of perennial plants and the salvage and stockpile of topsoil (the surface material from 6 to 12 inches deep) and shall be used in restoring native vegetation to all areas of temporary disturbance within the project area. ✓ BR 3.5.1-15 If specific project area trees are designated as “Landmark Trees” or “Heritage Trees”, then approval for removals shall be obtained through the appropriate entity, and appropriate mitigation measures shall be developed at that time, to ensure that the trees are replaced. Due to the close proximity of these areas to sensitive wildlife habitats, all mitigation trees will use only locally collected native species. ✓ BR 3.5.1-16 The height, spacing, number and type of light fixtures will be selected and installed to minimize intrusive light escaping from the physical boundaries of the site. ✓ BR 3.5.1-17 The height, spacing, number and type of light fixtures will be selected and installed to minimize intrusive light escaping from the physical boundaries of the site. In addition, road noise minimization using appropriate and effective noise reduction strategies or noise abatement applications shall be applied by implementing agencies as required to minimize highway noise. ✓ BR 3.5.1-18 A qualified biologist shall conduct a habitat assessment, well in advance of implementation of individual subsequent projects, to determine if individual project areas or their immediate vicinity contain habitat suitable to support special-status plant or animal species, including, but not limited to, those mentioned above. ✓ BR 3.5.1-19 It is recommended that the lead or responsible agency assess the presence/absence of special-status species by conducting surveys following recommended protocols or protocol-equivalent surveys. ✓ BR 3.5.1-20 If special-status plant or animal species within or in the vicinity of tiered project areas are detected, consultation with CDFW to discuss how to implement ground-disturbing activities and avoid take shall be undertaken. ✓ BR 3.5.1-21 In the case of the detection of State-listed species, consultation with CDFW shall be undertaken to discuss how to avoid take, or if avoidance is not feasible, to acquire an Incidental Take Permit (ITP) prior to ground-disturbing activities, pursuant to Fish and Game Code§ 2081 (b). 	

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ✓ BR 3.5.1-22 Implementing agencies should consult with the USFWS on potential impacts to federally listed species implementing agencies should consult with the USFWS in order to comply with Federal Endangered Species Act (FESA) well in advance of any ground-disturbing activities. A take under FESA includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. ✓ BR 3.5.1-23 Implementing agencies are encouraged to report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp. ✓ BR 3.5.1-24 If it is determined that tiered projects have the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & Game Code, § 711.4; Pub. Resources Code, § 21089). 	
<p>BR 3.5.2 Have a substantial adverse effect on any riparian habitat or 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.</p>	<ul style="list-style-type: none"> ✓ BR 3.5.2-1 When applicable to federally funded projects, responsible and implementing agencies should commit to improved interagency coordination and integration of the National Environmental Policy Act (NEPA) and the Clean Water Act Section 404 procedures during three stages: transportation planning, project programming, and project implementation. Affected State and local agencies should commit to ensuring the earliest possible consideration of environmental concerns pertaining to U.S. water bodies, including wetlands, at each of the three stages identified above. In addition, the agencies should place a high priority on the avoidance of adverse impacts to waters of the U.S. and associated sensitive species, including threatened and endangered species. Implementation of NEPA-404 requirements will expedite construction of necessary transportation projects, with benefits to mobility and the economy at large. The process will also enable more street and highway projects to proceed on budget and on schedule. Finally, the process will improve cooperation and efficiency of governmental operations at all levels, thereby better serving the public. ✓ BR 3.5.2-2 Construction and operational Best Management Practices (BMPs) will be identified, installed and maintained by implementing agencies in order to prevent silt and other pollutants from entering 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the impacts to sensitive habitats, including jurisdictional waters and wetlands, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<p>jurisdictional waters and wetlands thereby degrading or destroying wildlife and/or natural habitat. BMPs may include straw bales and/or mats, temporary sedimentation basins, silt fence, sandbag check dams, dry season construction, etc.</p> <ul style="list-style-type: none"> ✓ BR 3.5.2-3 Native soils in construction areas will be removed, stockpiled separately, and replaced by implementing agencies in those areas where onsite revegetation of the native habitat is planned. ✓ BR 3.5.2-4 Any disturbed natural areas will be replanted by implementing agencies with appropriate native vegetation following the completion of construction activities. ✓ BR 3.5.2-5 During the individual improvement or future land use development project design phase, impacts to jurisdictional waters and wetlands will be minimized by implementing agencies to the greatest extent feasible. ✓ BR 3.5.2-6 Implementing agencies will obtain and comply with appropriate regulatory requirements prior to construction. ✓ BR 3.5.2-7 It is recommended that a qualified biologist conduct a habitat assessment in advance of project implementation, to determine if individual project areas or their immediate vicinity support freshwater marsh, wetland, vernal pool, and/or riparian communities. ✓ BR 3.5.2-8 Where applicable, it is recommended that a formal wetland delineation be conducted by a qualified biologist to determine the location and extent of wetlands and waterways on parcels slated for development. Please note that, while there is overlap, State and Federal definitions of wetlands, as well as which activities require notification pursuant to Fish and Game Code § 1602, differ. ✓ BR 3.5.2-9 Project-related activities that have the potential to change the bed, bank, and channel of streams and other waterways, may be subject to CDFW's regulatory authority pursuant to Fish and Game Code §1600 et seq., therefore notification is recommended. Fish & Game Code §1602 requires an entity to notify CDFW prior to commencing any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake (including the removal of riparian vegetation); (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. "Any river, stream, or lake" includes those that are ephemeral or intermittent as well as those that are perennial. CDFW is required to comply with CEQA in the issuance of a Lake and Streambed Alteration Agreement. For additional information on notification requirements, please contact our staff in the Lake and Streambed Alteration Program at (559) 243-4593. 	

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>BR 3.5.3 Have a substantial adverse effect on 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.</p>	<p>✓ BR 3.5.3-1 For Individual transportation and future land use development projects near water resources, implementing agencies shall prepare an aquatic resources delineation, in accordance with the “Minimum Standards for Acceptance of Preliminary Aquatic Resource Delineations” and “Final Map and Drawing Standards for the South Pacific Division Regulatory Program” under “Jurisdiction” on the U.S. Army Corps of Engineers website (www.spk.usace.army.mil/missions/regulatory.aspx), and submit it to the U.S. Army Corps of Engineers, Regulatory Division, California South Branch, 1325 J Street, Room 1350, Sacramento, California 95814, for verification. A list of consultants that prepare wetland delineations and permit application documents is also available on our website at the same location.</p> <p>✓ BR 3.5.3-2 For Individual transportation and future land use development projects near water resources, implementing agencies shall include alternatives that avoid impacts to wetlands or other waters of the United States. Every effort should be made to avoid project features which require the discharge of dredged or fill material into waters of the United States. In the event it can be clearly demonstrated there are no practicable alternatives to filling waters of the United States, mitigation plans should be developed to compensate for the unavoidable losses resulting from project implementation.</p>	<p>✓ The responsibility to mitigate siltation impacts rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the siltation impacts, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>BR 3.5.4 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.</p>	<p>✓ BR 3.5.4-1 During final design, implementing agencies will design, construct, and maintain terrestrial wildlife crossings in order to minimize barrier effects and habitat fragmentation created by individual transportation projects and future land use developments.</p> <p>✓ BR 3.5.4-2 During final design, implementing agencies will design, construct, and maintain any structure/culvert placed within a stream where endangered or threatened fish occur/may occur. The structure/culvert will not constitute a barrier to upstream or downstream movement of aquatic life or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth for fish migration.</p> <p>✓</p>	<p>✓ These mitigation measures would require implementing agencies responsible for review, design and implementation of transportation projects and future land use developments to avoid or mitigate impacts to wildlife movement. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the impacts to temporary and permanent impacts to terrestrial and aquatic wildlife movement, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>BR 3.5.5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.</p>	<p>✓ BR 3.5.5-1 Implementing agencies should require project applicants to prepare biological resources assessments for specific projects proposed in areas containing, or likely to contain, protected trees or other locally protected biological resources. The assessment should be conducted by appropriately trained professionals pursuant to adopted protocols, and standards in the industry. Mitigation should be implemented when significance thresholds are exceeded. Mitigation should be consistent with the requirements of CEQA and/or follow applicable plans promulgated to protect species/habitat.</p>	<p>✓ The responsibility to mitigate siltation impacts rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce conflicts with any local policies or ordinances protecting biological resources, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ✓ BRI 3.5.5-2 Implementing agencies should design projects such that they avoid and minimize direct and indirect impacts to protected trees and other locally protected resources where feasible, defined in section 15364 of the CEQA Guidelines. ✓ BR 3.5.5-3 As part of project-level environmental review, implementing agencies will ensure that projects comply with the most recent general plans, policies, and ordinances, and conservation plans. Review of these documents and compliance with their requirements will be demonstrated in project-level environmental documentation. Review of these documents and compliance with their requirements should be demonstrated in project-level environmental documentation. 	<p>level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>BR 3.5.6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.</p>	<ul style="list-style-type: none"> ✓ BR 3.5.6-1 Consult with federal, state, and/or local agencies that handle administration of HCPs and NCCPs ✓ BR 3.5.6-2 When feasible, the project will be designed in such a way that lands preserved under HCPs or NCCPs are avoided. ✓ BR 3.5.6-3 Sufficient conservation measures to fulfil the HCPs or NCCPs requirements be taken when avoidance is determined to be infeasible. 	<p>✓ The responsibility to mitigate siltation impacts rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. Implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce conflicts with any HCPs, NCCPs, and other approved conservation plans. It is anticipated that the Projects presented in the RTP/SCS will be required to be in compliance with existing conservation plans, therefore the mitigation measures listed will be sufficient to ensure impacts remain below a significant level.</p>
CLIMATE CHANGE		
<p>CC 3.6.1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.</p>	<ul style="list-style-type: none"> ✓ CC 3.6.1-1 MCTC shall update future Regional Transportation Plans (including Sustainable Community Strategies) to incorporate policies and measures that will lead to further reduced GHG emissions. Such policies and measures may be derived from the General Plans, local jurisdictions' Climate Action Plans (CAPs), and other adopted policies and plans of its member agencies that include GHG mitigation and adaptation measures or other sources. ✓ CC 3.6.1-2 Local governments should adopt policies and develop practices that lead to GHG emission reductions. These activities will include, but are not limited to, providing technical assistance and information sharing on developing local Climate Action Plans. ✓ CC 3.6.1-3 Implementing and local agencies should adopt and implement Climate Action Plans (CAPs, also known as Plans for the Reduction of Greenhouse Gas Emissions as described in State CEQA Guidelines Section 15183.5 Tiering and Streamlining the Analysis of Greenhouse Gas Emissions) that do the following: <ul style="list-style-type: none"> ➤ Quantify GHG emissions, both existing and projected over a specified period, resulting from activities within each agency's jurisdiction; ➤ Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable; 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce increased transportation GHG emissions on climate change, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p> <p>Madera County is estimated to grow in population by an estimated 49,352 persons between 2019 and 2046. MCTC has used the best available information to determine whether the 2022 RTP/SCS is consistent with the State's achievement of the AB 32 GHG emission reductions and addresses SB 375 mandates. Implementation of the mitigation measures described above will assist in the reduction of per capita VMT levels throughout Madera</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ➤ Identify and analyze the GHG emissions resulting for specific actions or categories of actions anticipated within their respective jurisdictions; ➤ Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level; ➤ Establish a mechanism to monitor the plan’s progress toward achieving that level and to require amendment if the plan is not achieving specified levels; and ➤ Be adopted in a public process following environmental review. <p>CAPs should, when appropriate, incorporate planning and land use measures from the California Attorney General’s latest list of example policies to address climate change at both the plan and project level. Specifically, at the plan level, land use plans can and should, when appropriate, incorporate planning and land use measures from the California Attorney General’s latest list of example policies to address climate change, including, but not limited to policies from that web page such as:</p> <ul style="list-style-type: none"> ➤ Smart growth, jobs/housing balance, transit-oriented development, and infill development through land use designations, incentives and fees, zoning, and public private partnerships. ➤ Create transit, bicycle, and pedestrian connections through planning, funding, development requirements, incentives and regional cooperation, and create disincentives for auto use. ➤ Energy and water-efficient buildings and landscaping through ordinances, development fees, incentives, project timing, prioritization, and other implementing tools. ➤ In addition, implementing and local agencies should incorporate, as appropriate, policies to encourage implementation of the Attorney General’s list of project-specific mitigation measures. <p>In addition, CAPs should also incorporate analysis of climate change adaptation, in recognition of the likely and potential effects of climate change in the future regardless of the level of mitigation and in conjunction with Executive Order S-13-08, which seeks to enhance the state’s management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of state’s first climate adaptation strategy.</p> <ul style="list-style-type: none"> ✓ CC 3.6.1-4 MCTC shall prepare an alternative planning strategy that show a future land use and transportation scenario which meets the reduction targets. The alternative planning strategy does not need to be consistent with financial constraint requirements or realistic latest planning assumptions for land use. ✓ CC 3.6.1-5 MCTC shall continue to work closely with its member agencies to help them participate in the statewide Active Transportation Program (ATP). 	<p>County, which will assist in meeting the stated goals of AB 32 and requirements set forth in SB 375. The 2022 RTP/SCS has included numerous projects, action items, funding priorities, a land use allocation to support an active transportation system, and programs to develop and improve alternative modes of transportation throughout the County. MCTC will continue to coordinate with local land use agencies to assist in the development of plans and policies aimed at reducing VMT.</p> <p>GHG emissions for 2020 and 2035 with the Project are between 17.8% (2020) and 22.1% (2035) lower than the GHG emissions level of 2005, as indicated above. As a result, the RTP would meet ARB per capita emission targets set pursuant to SB 375. Mitigation measures that are presented above help reduce GHG emissions even further to the extent feasible considering requirements set forth in AB 32 and requirements set forth in SB 375. Such measures will also assist in the promotion and implementation of Smart Growth and sustainable planning practices by the cities and the County consistent with the SCS.</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<p>✓ CC 3.6.1-6 MCTC shall prepare an alternative planning strategy that show a future land use and transportation scenario which meets the reduction targets. The alternative planning strategy does not need to be consistent with financial constraint requirements or realistic latest planning assumptions for land use.</p> <p>✓ CC 3.6.1-7 Project Level Environmental Documents</p> <p>Project level environmental documents shall analyze construction and maintenance and land use development project Greenhouse Gas (GHG) emissions.</p> <p>✓ CC 3.6.1-8 Off-Model Reduction Strategies</p> <p>MCTC will work with other affected and responsible agencies to implement the following strategies that are quantified “off-model”:</p> <ul style="list-style-type: none"> ➤ Regional electric vehicle (EV) charging infrastructure programs. ➤ Active transportation projects. ➤ Vanpool program expansion. ➤ Rideshare programs. ➤ Rule 9410 Employer Trip Reductions. ➤ ITS and other TSM projects. <p>✓ CC 3.6.1-9 Short-Range Improvement Plan - <i>Air Quality Measures</i></p> <p>The Short-Range Improvement Plan provides actions that will reduce air emissions between 2022 and 2026. As indicated in the needs assessment sections of the RTP/SCS, the majority of short-term measures improving air quality are related to system, demand, and control management strategies. Local governments, MCTC, and other regional, state, and federal agencies should take the following actions to facilitate the implementation of strategies necessary to ensure that air quality standards are met:</p> <ul style="list-style-type: none"> ➤ MCTC will continue to consult and coordinate with the other seven Valley MPOs and the SJVAPCD in providing focused/unified transportation/air quality planning. ➤ MCTC and the SJVAPCD will continue to coordinate/consult in activities aimed at achieving both federal and California air quality standards ➤ Designated responsible governments and agencies will identify and consider Transportation Demand Measures and Transportation Control Measures during State Implementation Plan (SIP) development and carried out where appropriate. 	

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ➤ MCTC will continue to support the SJVAPCD’s efforts to integrate appropriate policies and implementation measures identified in the Air Quality Guidelines for General Plans into local general plans. ➤ MCTC, Madera County and its cities will encourage land-use patterns that reduce automobile dependency, energy consumption and support transit and other alternative modes. ➤ MCTC will encourage local transit agencies to replace aging fleets with alternative-fueled buses. ➤ MCTC and local transit agencies will support greater funding flexibility for bus purchases to promote the most energy-efficient models. ➤ MCTC, in cooperation with Caltrans, will promote park-and-ride lots and parking management strategies where appropriate. ➤ MCTC, Caltrans, cities and the county support alternate fuel strategies to reduce petroleum fuels. Alternative fuel technology can have a significant impact on reducing petroleum-based fuel consumption. <p>✓ CC 3.6.1-10 San Joaquin Valley Clean Transportation Center</p> <p>The San Joaquin Valley Clean Transportation Center, which opened in January 2016, provided an additional advancement in clean energy education and incorporation into both residential and business fleets. The Center provides a new regional resource in helping to improve air quality and reduce vehicle emissions. The Center has strong connections and relations with a national network of manufacturers, suppliers and fleets to help improve the regional transportation system. Funding is provided by a California Energy Commission grant through CALSTART.</p>	
<p>CC 3.6.2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.</p>	<p>✓ CC 3.6.2-1 See Mitigation Measures for Impact 3.6.1.</p>	<p>The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce increased transportation GHG emissions on climate change, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p> <p>Madera County is estimated to grow in population by an estimated 49,352 persons between 2019 and 2046. MCTC has used the best available information to determine whether the 2022 RTP/SCS is consistent with the State’s achievement of the AB 32 GHG emission reductions and addresses SB 375 mandates. Implementation of the mitigation measures</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
		<p>described above will assist in the reduction of per capita VMT levels throughout Madera County, which will assist in meeting the stated goals of AB 32 and requirements set forth in SB 375. The 2022 RTP/SCS has included numerous projects, action items, funding priorities, a land use allocation to support an active transportation system, and programs to develop and improve alternative modes of transportation throughout the County. MCTC will continue to coordinate with local land use agencies to assist in the development of plans and policies aimed at reducing VMT.</p> <p>GHG emissions for 2020 and 2035 with the Project are between 17.8% (2020) and 22.1% (2035) lower than the GHG emissions level of 2005, as indicated above. As a result, the RTP would meet ARB per capita emission targets set pursuant to SB 375. Mitigation measures that are presented above help reduce GHG emissions even further to the extent feasible considering requirements set forth in AB 32 and requirements set forth in SB 375. Such measures will also assist in the promotion and implementation of Smart Growth and sustainable planning practices by the cities and the County consistent with the SCS.</p>
CULTURAL AND TRIBAL RESOURCES		
<p>CTR 3.7.1 Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5.</p>	<ul style="list-style-type: none"> ✓ CTR 3.7.1-1 As part of the appropriate environmental review of individual projects, the project implementation agencies will identify potential impacts to historic resources considering requirements set forth in Assembly Bill 52 (Gallo, Chapter 532 of 2014) and Senate Bill 18. If the project is also subject to the federal National Environmental Policy Act (NEPA), the tribal requirements of Section 106 of the National Historic Preservation Act of 1966 may also apply. ✓ CTR 3.7.1-2 As part of the appropriate environmental review of individual projects, the project implementation agencies will identify potential impacts to historic resources. A record search at the appropriate Information Center will be conducted to determine whether the individual transportation improvement project or future land use development area has been previously surveyed and whether resources were identified. ✓ CTR 3.7.1-3 As necessary, prior to construction activities, the implementing agencies will obtain a qualified architectural historian to conduct historic architectural surveys as recommended by the Archaeological Information Center. In the event the records indicate that no previous survey has been conducted, the Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the individual transportation improvement project or future land use development area for cultural resources. ✓ CTR 3.7.1-4 Implementing agencies will comply with Section 106 of the National Historic Preservation Act if federal funding or approval is required. This law requires federal agencies to evaluate the impact of their actions on resources included in or eligible for listing in the National Register of Historic Places. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce significant impacts on historic resources identified above, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<p>Federal agencies must coordinate with the State Historic Preservation Officer in evaluating impacts and developing mitigation. These mitigation measures may include, but are not limited to the following:</p> <ul style="list-style-type: none"> ➤ Carry out the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, relocation, or reconstruction of any impacted historic resource, which will be conducted in a manner consistent with the Secretary of the Interior’s Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. <p>✓ CTR 3.7.1-5 In some instances, the following mitigation measure may be appropriate in lieu of the previous mitigation measure:</p> <ul style="list-style-type: none"> ➤ Secure a qualified environmental agency and/or architectural historian, or other such qualified person to document any significant historical resource(s), by way of historic narrative, photographs, or architectural drawings, as mitigation for the effects of demolition of a resource will not mitigate the effects to a point where clearly no significant effect on the environment would occur. 	
<p>CTR 3.7.2 Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.</p>	<p>✓ CTR 3.7.2-1 As part of the appropriate environmental review of individual projects, the project implementation agencies will identify potential impacts to historic resources considering requirements set forth in Assembly Bill 52 (Gallo, Chapter 532 of 2014) and Senate Bill 18. If the project is also subject to the federal National Environmental Policy Act (NEPA), the tribal requirements of Section 106 of the National Historic Preservation Act of 1966 may also apply [reference Appendix B, Notice of Preparation (NOP) Comment Letters from the Native American Heritage Commission, dated April 28, 2017].</p> <p>✓ CTR 3.7.2-2 As part of the appropriate environmental review of individual projects, the implementation agencies will consult with the Native American Heritage Commission to determine whether known sacred sites are in the project area and identify the Native American(s) to contact to obtain information about the project site.</p> <p>✓ CTR 3.7.2-3 Prior to construction activities and as necessary, the implementation agencies will obtain a qualified archaeologist to conduct a record search at the appropriate Information Center of the California Archaeological Inventory to determine whether the project area has been previously surveyed and whether resources were identified.</p> <p>✓ CTR 3.7.2-4 As necessary prior to construction activities, the implementation agencies will obtain a qualified archaeologist or architectural historian (depending on applicability) to conduct archaeological and/or historic architectural surveys as recommended by the Information Center. In the event the records indicate that no previous survey has been conducted, the Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for cultural resources.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce significant construction impacts on archeological resources identified above, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ✓ CTR 3.7.2-5 If the record search indicates that the project is located in an area rich with cultural materials, the implementing agencies will retain a qualified archaeologist to monitor any subsurface operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property. ✓ CTR 3.7.2-6 Construction activities and excavation will be conducted to avoid cultural resources (if found). If avoidance is not feasible, further work may need to be done to determine the importance of a resource. The implementation agencies will obtain a qualified archaeologist familiar with the local archaeology, and/or an architectural historian should make recommendations regarding the work necessary to determine importance. If the cultural resource is determined to be important under State or federal guidelines, impacts on the cultural resource will be mitigated. ✓ CTR 3.7.2-7 The project implementation agencies will stop construction activities and excavation in the area where cultural resources are found until a qualified archaeologist can determine the importance of these resources. 	
<p>CTR 3.7.3 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p>	<ul style="list-style-type: none"> ✓ CTR 3.7.3-1 The project sponsor of a 2022 RTP/SCS project involving ground disturbing activities (including grading, trenching, foundation work, and other excavations) shall 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, the following measures shall apply: <ul style="list-style-type: none"> • Paleontological Mitigation and Monitoring Program. A qualified paleontologist shall prepare a Paleontological Mitigation and Monitoring Program to be implemented during ground disturbance activity. This program shall outline the procedures for construction staff Worker Environmental Awareness Program (WEAP) training, paleontological monitoring extent and duration (i.e., in what locations and at what depths paleontological monitoring shall be required), salvage and preparation of fossils, the final mitigation and monitoring report, and paleontological staff qualifications. • Paleontological Worker Environmental Awareness Program (WEAP). Prior to the start of ground disturbance activity greater than two feet below existing grade, construction personnel shall be informed on the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce significant impacts on human remains identified above, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> • Paleontological Monitoring. Ground disturbing activity with the potential to disturbed geologic units with high paleontological sensitivity 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 to weekly spot-checking under the discretion of the qualified paleontologist. Monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources. • Salvage of Fossils. 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 mitigation and monitoring. 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. ✓ CTR 3.7.3-2 As part of the appropriate environmental review of individual projects, the project implementation agencies will obtain a qualified paleontologist to identify and evaluate paleontological resources where potential impacts are considered high; the paleontologist will also conduct a field survey in these areas. ✓ CTR 3.7.3-3 Construction activities will avoid known paleontological resources, especially if the resources in a particular lithic unit formation have been determined through detailed investigation to be unique. If avoidance is not feasible, paleontological resources will be excavated by the qualified paleontologist and given to a local agency, State University, or other applicable institution, where they can be displayed. 	
<p>CTR 3.7.4 – Disturb any human remains, including those interred outside of formal cemeteries.</p>	<p>✓ CTR 3.7.4-1 As part of the appropriate environmental review of individual projects, the project implementation agencies will identify potential impacts to historic resources considering requirements set forth in Assembly Bill 52 (Gallo, Chapter 532 of 2014) and Senate Bill 18. If the project is also subject to the federal National Environmental Policy Act (NEPA), the tribal requirements of Section 106 of the National Historic Preservation Act of 1966 may also apply.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ✓ CTR 3.7.4-2 If the remains are of Native American origin, the coroner will contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner will make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains. ✓ CTR 3.7.4-3 If the Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission, in which case: <ul style="list-style-type: none"> ➤ The landowner or his authorized representative will obtain a Native American monitor - and an archaeologist, if recommended by the Native American monitor - and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance where the following conditions occur: <ul style="list-style-type: none"> ▪ The Native American Heritage Commission is unable to identify a descendent. ▪ The descendant identified fails to make a recommendation. ▪ The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. 	<p>direction to avoid or reduce significant impacts on human remains identified above, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>CTR 3.7.5 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:</p> <p>a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of</p>	<ul style="list-style-type: none"> ✓ CTR 3.7.5-1 Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes: <ol style="list-style-type: none"> a. A brief description of the project. b. The lead agency contact information. c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code§ 21080.3.1 (d)). d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code§ 21073). ✓ CTR 3.7.5-2 Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce significant construction impacts on archeological resources identified above, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>historical resources as defined in Public Resources Code section 5020.1(k), or</p> <p>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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>	<p>California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code§ 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).</p> <p>a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code§ 21080.3.1 (b)).</p> <p>✓ CTR 3.7.5-3 Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:</p> <p>a. Alternatives to the project.</p> <p>b. Recommended mitigation measures.</p> <p>c. Significant effects. (Pub. Resources Code§ 21080.3.2 (a)).</p> <p>✓ CTR 3.7.5-4 Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:</p> <p>a. Type of environmental review necessary.</p> <p>b. Significance of the tribal cultural resources.</p> <p>c. Significance of the project's impacts on tribal cultural resources.</p> <p>d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code§ 21080.3.2 (a)).</p> <p>✓ CTR 3.7.5-5 Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code§ 21082.3(c)(1)).</p> <p>✓ CTR 3.7.5-6 Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:</p> <p>a. Whether the proposed project has a significant impact on an identified tribal cultural resource.</p> <p>b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code§ 21082.3 (b)).</p>	

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ✓ CTR 3.7.5-7 Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs: <ul style="list-style-type: none"> a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code§ 21080.3.2 (b)).2 ✓ CTR 3.7.5-8 Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code§ 21082.3 (a)). ✓ CTR 3.7.5-9 Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource,' the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code§ 21082.3 (e)). ✓ CTR 3.7.5-10 Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources: <ul style="list-style-type: none"> a. Avoidance and preservation of the resources in place, including, but not limited to: <ul style="list-style-type: none"> i. Planning and construction to avoid the resources and protect the cultural and natural context. ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria. b. 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: <ul style="list-style-type: none"> i. Protecting the cultural character and integrity of the resource. ii. Protecting the traditional use of the resource. iii. Protecting the confidentiality of the resource. c. 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. d. Protecting the resource. (Pub. Resource Code§ 21084.3 (b)). e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a 	

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<p>California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code§ 815.3 (c)).</p> <p>f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code§ 5097.991).</p> <p>✓ CTR 3.7.5-11 Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:</p> <ol style="list-style-type: none"> a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2. b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process. c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code§ 21082.3 (d)). <p>➤ All mitigation measures will be included in project-level analysis, as appropriate. The implementing agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.</p> <p>➤ Implementation of the following mitigation measures for tribal cultural resources is recommended to reduce impacts to a less-than-significant level. Implementing agencies will require the following measures as part of the individual transportation improvement project or future land use development review process:</p> <ul style="list-style-type: none"> ▪ As part of the appropriate environmental review of individual projects, the project implementation agencies will identify potential impacts to tribal cultural resources considering requirements set forth in AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments noted above in items 1 through 11 and referenced in Appendix B, Notice of Preparation (NOP) Comment Letter dated April 28, 2017. ▪ As part of the appropriate environmental review of individual projects, the implementation agencies will consult with the NAHC and affected Native American Tribes to determine whether known sacred sites are in the project area and identify the Native American(s) to contact to obtain information about the project site. 	
ENERGY AND ENERGY CONSERVATION		

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>EN 3.8.1 Energy Consumption and Conservation Impacts.</p>	<ul style="list-style-type: none"> ✓ EN 3.8.1-1 Implementing agencies shall review energy impacts as part of any CEQA-required project-level environmental analysis and specify appropriate mitigation measures for any identified energy impacts. ✓ EN 3.8.1-2 During the design and approval of transportation improvements and future land use development projects, the following energy efficiency measures shall be incorporated when applicable: <ul style="list-style-type: none"> ➤ The design or purchase of any lighting fixtures shall achieve energy reductions beyond an estimated baseline energy use for such lighting. ➤ LED technology shall be used for all new or replaced traffic lights, rail signals, and other new development lighting features compatible with LED technology. ✓ EN 3.8.1-3 Implementing agencies should consider various best practices and technological improvements that can reduce the consumption of fossil fuels such as: <ul style="list-style-type: none"> ➤ Expanding light-duty vehicle retirement programs. ➤ Increasing commercial vehicle fleet modernization. ➤ Implementing driver training modules on fuel consumption. ➤ Replacing gasoline powered mowers with electric mowers. ➤ Reducing idling from construction equipment. ➤ Incentivizing alternative fuel vehicles and equipment ➤ Developing infrastructure for alternative fueled vehicles. ➤ Implementing truck idling rules, devices, and truck-stop electrification ➤ Requiring electric truck refrigerator units. ➤ Reducing locomotives fuel use. ➤ Modernizing older off-road engines and equipment. ➤ Encouraging freight mode shift. ➤ Limit use and develop fleet rules for construction equipment. ➤ Requiring zero-emission forklifts. ✓ EN 3.8.1-4 Implementing agencies should include energy analyses in environmental documentation and general plans with the goal of conserving energy through the wise and efficient use of energy. For any identified energy impacts, appropriate mitigation measures should be developed and monitored. MCTC recommends the use of Appendix F, Energy Conservation, of the <i>CEQA Guidelines</i>. ✓ EN 3.8.1-5 Project and land use development implementing agencies should streamline permitting and provide public information to facilitate accelerated construction of solar and wind power. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts on energy and energy resources, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ✓ EN 3.8.1-6 Project and land use development implementing agencies should adopt a “Green Building Program” to promote green building standards. Green buildings can reduce local environmental impacts, regional air pollutant emissions and global greenhouse gas emissions. Green building standards involve everything from energy efficiency, usage of renewable resources and reduced waste generation and water usage. For example, water-related energy use in 2017 consumed 20 percent of the state’s electricity. The residential sector accounts for 48 percent of both the electricity and natural gas consumption associated with urban water use. While interest in green buildings has been growing for some time, cost has been a main consideration as it may cost more up front to provide energy-efficient building components and systems. Initial costs can be a hurdle even when the installed systems will save money over the life of the building. Energy efficiency measures can reduce initial costs, for example, by reducing the need for over-sized air conditioners to keep buildings comfortable. Undertaking a more comprehensive design approach to building sustainability can also save initial costs through reuse of building materials and other means. ✓ EN 3.8.1-7 Where identified, local governments should alter zoning to improve jobs/housing balance, create communities where people live closer to work, and bike, walk, and take transit as a substitute for personal auto travel consistent and in support of the SCS. Creating walkable, transit-oriented modes would generally reduce energy use and greenhouse gas emissions. Residential energy use (electricity and natural gas) accounts for less than 10 percent of California’s greenhouse gas emissions. Furthermore, studies have shown that the type of housing (such as multi-family) and the size of a house have strong relationships to residential energy use. Residents of single-family detached housing consume over 20 percent more primary energy than those of multifamily housing and 9 percent more than those of single-family attached housing. ✓ EN 3.8.1-8 Project and land use development implementing agencies should increase the number of AFVs (i.e., vehicles not powered strictly by gasoline or diesel fuel) both in publicly owned vehicles, as well as those owned by franchisees of these agencies, such as trash haulers, green waste haulers, street sweepers, and curbside recyclable haulers. ✓ EN 3.8.1-9 Bid solicitations for construction of projects should preference the use of alternative formulations of cement and asphalt with reduced GHG emissions to the extent that such cement and asphalt formulations are available at a reasonable cost in the marketplace. Solicitations should also preference the recycling of construction waste and debris if market conditions permit. ✓ EN 3.8.1-10 All mitigation measures listed in Chapter 3, Section 3.6 (Climate Change) of this EIR, are incorporated by reference and shall be implemented by implementing agencies to address energy conservation impacts. 	

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>EN 3.8.2 - Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.</p>	<p>✓ EN 3.8.2-1 See Mitigation Measures for Impact 3.8.1.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts on energy and energy resources, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>GEOLOGY/SOILS/MINERAL RESOURCES</p>		
<p>GSM 3.9.1 Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <ul style="list-style-type: none"> 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. iv) Landslides. 	<p>✓ GSM 3.9.1-1 Implementing agencies will be responsible for ensuring that transportation improvement projects and future land use development projects are built to the seismic standards contained in the most recent edition of the Uniform Building Code (UBC).</p> <p>✓ GSM 3.9.1-2 implementing agencies will ensure that transportation improvement projects and future land use development projects located within or across active fault zones comply with design requirements, published by the CGS, as well as local, regional, state, and federal design criteria for construction of projects in seismic areas.</p> <p>✓ GSM 3.9.1-3 Implementing agencies will guarantee that geotechnical analysis is conducted within construction areas to establish soil types and local faulting prior to the construction of transportation improvements and future land use developments is subject to geotechnical analysis.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce damaged transportation infrastructure and other land use development structures from seismic activity, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>GSM 3.9.2 Result in substantial soil erosion or the loss of topsoil.</p>	<ul style="list-style-type: none"> ✓ GSM 3.9.2-1 Implementing agencies will ensure that individual transportation improvement projects and future land use developments provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion. ✓ GSM 3.9.2-2 Transportation improvement project and future land use development design features will include measures to reduce erosion from storm water. ✓ GSM 3.9.2-3 Road cuts will be designed to maximize the potential for revegetation. ✓ GSM 3.9.2-4 Implementing agencies will ensure that transportation improvement projects and future land use developments avoid landslide areas and potentially unstable slopes wherever feasible. ✓ GSM 3.9.2-5 Where practicable, transportation improvement project and future land use development designs that would permanently alter unique geologic features will be avoided. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce slope failure and erosion due to project construction, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>GSM 3.9.3 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.</p>	<ul style="list-style-type: none"> ✓ GSM 3.9.3-1 Implementing agencies will ensure that geotechnical investigations are conducted by a qualified geologist to identify the potential for subsidence and expansive soils. ✓ GSM 3.9.3-2 Implementing agencies should take corrective measures, such as structural reinforcement and replacing soil with engineered fill, will be implemented in individual transportation improvement project and future land use development site designs, where applicable. ✓ GSM 3.9.3-3 Implementing agencies will ensure that, prior to preparing individual transportation improvement project and future land use development site designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts to property and public safety due to the presence of expansive soils, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>GSM 3.9.4 Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.</p>	<ul style="list-style-type: none"> ✓ GSM 3.9.4-1 Implementing agencies will ensure that geotechnical investigations are conducted by a qualified geologist to identify the potential for subsidence and expansive soils. ✓ GSM 3.9.4-2 Implementing agencies should take corrective measures, such as structural reinforcement and replacing soil with engineered fill, will be implemented in individual transportation improvement project and future land use development site designs, where applicable. ✓ GSM 3.9.4-3 Implementing agencies will ensure that, prior to preparing individual transportation improvement project and future land use development site designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to determine whether on-site soils would be suitable for an on-site wastewater treatment system, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>GSM 3.9.5 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where</p>	<ul style="list-style-type: none"> ✓ GSM 3.9.5-1 Implementing agencies shall conduct a geotechnical investigation and a geotechnical report shall be prepared. The geotechnical report shall include a quantitative analysis to determine whether on-site soils would be suitable for an on-site wastewater treatment system. If it is determined that the soil could not support a conventional on-site treatment system, non-conventional systems shall be analyzed. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
sewers are not available for the disposal of waste water.	In many cases, these types of systems can reduce significant wastewater impacts to less-than-significant levels. Implementation of these measures would reduce the significance of having soils incapable of supporting the use of traditional septic systems where sewers are not available for the disposal of wastewater. In some cases, it will not be feasible to provide alternative wastewater disposal systems due to space constraints, lack of a service provider, and/or cost. Implementation and enforcement of conventional and non-conventional system measures would be within the responsibility and jurisdiction of the implementing agencies. For these reasons, wastewater disposal impacts would remain significant.	monitoring of the above mitigation measures will provide the framework and direction to determine whether on-site soils would be suitable for an on-site wastewater treatment system, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
GSM 3.9.6 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.	<ul style="list-style-type: none"> ✓ GSM 3.9.6-1 The implementing agency should protect against the loss of availability of a designated mineral resource through identification of locations with designated mineral resources and adoption and implementation of policies to conserve land that is most suitable for mineral resource extraction from development of incompatible uses. ✓ GSM 3.9.6-2 Where possible, transportation improvement project and future land use development sites will be designed by responsible agencies to limit potential impacts on mineral resource lands. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the mineral resource impacts, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
Impact 3.9.7 - 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.	<ul style="list-style-type: none"> ✓ GSM 3.9.7-1 The implementing agency should protect against the loss of availability of a locally-important mineral resource recovery site through policies incorporated into general plans, specific plans, and other land use plans. Such policies would provide protection of mineral resource production and extraction activities. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce 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, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
HAZARDS AND HAZARDOUS MATERIALS		
HM 3.10.1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	<ul style="list-style-type: none"> ✓ HM 3.10.1-1 The implementation agency and project sponsors shall comply with all applicable laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers to the routine transport, use, and disposal of hazardous materials does not create a significant hazard to the public or the environment. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>HM 3.10.2 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.</p>	<ul style="list-style-type: none"> ✓ HM 3.10.2-1 Implementing agencies shall encourage the USDOT, the Office of Emergency Services, and Caltrans to continue to conduct driver safety training programs and encourage the private sector to continue conducting driver safety training. ✓ HM 3.10.2-2 Implementing agencies shall encourage the USDOT and the CHP to continue to enforce speed limits and existing regulations governing goods movement and hazardous materials transportation. ✓ HM 3.10.2-3 The implementing agencies and project sponsors shall comply with all applicable laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers to the routine transport, use, and disposal of hazardous materials does not create a significant hazard to the public or the environment. 	<p>projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p> <p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the creation of 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, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>HM 3.10.3 Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.</p>	<ul style="list-style-type: none"> ✓ HM 3.10.3-1 The implementing agencies shall comply with all applicable laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers to the routine transport, use, and disposal of hazardous materials does not create a significant hazard to the public or the environment. 	<p>✓ The mitigation measure would assure appropriate steps taken to minimize any hazard to the public or the environment. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the emission of hazardous materials within one-quarter mile of a school, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>HM 3.10.4 Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant</p>	<ul style="list-style-type: none"> ✓ HM 3.10.4-1 Prior to approval of any improvement project or future land use development project, the project implementation agency shall consult all known databases of contaminated sites and undertake a standard Phase 1 Environmental Site Assessment in the process of planning, environmental clearance, and construction for projects included in the 2022 RTP/SCS. If contamination is found the implementing agency shall coordinate clean up and/or maintenance activities. 	<p>✓ The mitigation measure would assure that contaminated properties are identified, and appropriate steps taken to minimize human exposure and prevent any further environmental contamination. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
hazard to the public or environment.	<ul style="list-style-type: none"> ✓ HM 3.10.4-2 Where contaminated sites are identified, the project implementation agency shall develop appropriate mitigation measures to assure that worker and public exposure is minimized to an acceptable level and to prevent any further environmental contamination as a result of construction. ✓ HM 3.10.4-3 Local agencies should contact the Chevron Environmental Management Company (CEMC) to determine whether an improvement or future land use development project may be in the vicinity of the Tidewater Oil Company or Standard Oil Company historical pipeline alignments. 	provide the framework and direction to avoid or reduce the disturbance of contaminated property during the construction of new transportation or future land use developments or the expansion of existing transportation facilities or land use developments, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
HM 3.10.5 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 for people residing or working in the project area.	<ul style="list-style-type: none"> ✓ HM 3.10.5-1 Implementing agencies should comply with ALUC plans as a part of their land use approval authority through policies incorporated into general plans, specific plans, and other land use plans. Such policies would provide protection 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 for people residing or working in the project area. 	<ul style="list-style-type: none"> ✓ If implementing agencies adopt this mitigation measure, impacts resulting in 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 for people residing or working in the project area would be reduced to less than a significant level. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce safety hazards for people residing or working in the project area 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, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
HM 3.10.6 For a project located within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.	<ul style="list-style-type: none"> ✓ HM 3.10.6-1 Implementing agencies should analyze and adhere to all safety and compatibility issues as a part of their land use approval authority through policies incorporated into general plans, specific plans, and other land use plans. Such policies would provide protection 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 for people residing or working in the project area. 	<ul style="list-style-type: none"> ✓ If implementing agencies adopt this mitigation measure, impacts resulting in a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area would be reduced to less than a significant level. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce safety hazards for people residing or working in the project area for a project located within the vicinity of a private airstrip, it is probable that such impacts

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>HM 3.10.7 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.</p>	<p>✓ HM 3.10.7-1 Implementing agencies should adhere to all emergency plans as a part of their land use approval authority through policies incorporated into general plans, specific plans, and other land use plans. Such policies would provide protection for a project to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.</p>	<p>could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p> <p>✓ If implementing agencies adopt this mitigation measure, impacts resulting in a project to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan would be reduced to less than a significant level. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impaired implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>HM 3.10.8 Expose people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands.</p>	<p>✓ HM 3.10.8-1 Implementing agencies should analyze and adhere to all safety and compatibility issues as a part of their design and construction of transportation facilities and their land use approval authority through policies incorporated into general plans, specific plans, and other land use plans. Such policies would provide protection for a project located within wildland areas.</p>	<p>✓ If the implementing agency adopts this mitigation measure, impacts resulting in a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area would be reduced to less than a significant level. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the exposure of people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>

HYDROLOGY & WATER RESOURCES



TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>HW 3.11.1 Violate any water quality standards or waste discharge requirements.</p>	<ul style="list-style-type: none"> ✓ HW 3.11.1-1 Improvement projects and new development will include upgrades to storm water drainage facilities to accommodate increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce velocity. ✓ HW 3.11.1-2 Transportation network improvements and future land use developments will comply with local, state and federal floodplain regulations. Proposed transportation improvements and applicable new developments will be engineered by responsible agencies to accommodate storm drainage flow. ✓ HW 3.11.1-3 Responsible agencies should ensure that operational best management practices for street cleaning, litter control, and catch basin cleaning are provided to prevent water quality degradation. Responsible agencies implementing projects requiring continual water removal facilities should provide monitoring systems including long-term administrative procedures to ensure proper operations for the life of the Project. ✓ HW 3.11.1-4 Responsible agencies should ensure that new facilities include water quality control features such as drainage channels, detention basins, and vegetated buffers to prevent pollution of adjacent water resources by runoff. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>HW 3.11.2 Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).</p>	<ul style="list-style-type: none"> ✓ HW 3.11.2-1 Transportation network improvements and future land use developments will comply with local, state and federal floodplain regulations. Proposed transportation improvements and applicable new developments will be engineered by responsible agencies to accommodate storm drainage flow. Responsible agencies should ensure that operational best management practices for street cleaning, litter control, and catch basin cleaning are provided to prevent water quality degradation. Responsible agencies implementing projects requiring continual water removal facilities should provide monitoring systems including long-term administrative procedures to ensure proper operations for the life of the Project. ✓ HW 3.11.2-2 Local agencies shall form Groundwater Sustainability Agencies (GSAs) in accordance with the collection of State legislation [AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley)] known as the Sustainable Groundwater Management Act (SGMA), as applicable, to manage high and medium priority basin sustainably and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>HW 3.11.3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.</p>	<p>✓ HW 3.11.3-1 Prior to construction within the vicinity of a watercourse, the project sponsor can and should obtain all necessary regulatory permits and authorizations from the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), California Coastal Commission, and local jurisdictions, and should comply with all conditions issued by applicable agencies. Required permit approvals and certifications may include, but not be limited to the following:</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual</p>

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	<ul style="list-style-type: none"> ➤ U.S. Army Corps of Engineers (Corps): Section 404. Permit approval from the Corps should be obtained for the placement of dredge or fill material in Waters of the U.S., if any, within the interior of the project site, pursuant to Section 404 of the federal Clean Water Act. ➤ Regional Water Quality Control Board (RWQCB): Section 401 Water Quality Certification. Certification that the project will not violate state water quality standards is required before the Corps can issue a 404 permit, above. ➤ California Department of Fish and Wildlife (CDFW): Section 1602 Lake and Streambed Alteration Agreement. Work that will alter the bed or bank of a stream requires authorization from CDFW. <p>A qualified environmental consultant can and should be retained and paid for by the project sponsor to make site visits as necessary; and as a follow-up, submit to the Lead Agency a letter certifying that all required conditions have been instituted during the grading activities.</p> <ul style="list-style-type: none"> ✓ HW 3.11.3-2 Project sponsors can and should comply with the State-wide construction storm water discharge permit requirements including preparation of Storm Water Pollution Prevention Plans for transportation improvement construction projects. Roadway construction projects can and should comply with the Caltrans storm water discharge permit. BMPs can and should be identified and implemented to manage site erosion, wash water runoff, and spill control. ✓ HW 3.11.3-3 Project sponsors can and should implement BMPs to reduce erosion, sedimentation, and water quality impacts during construction to the maximum extent practicable. Plans demonstrating BMPs should be submitted for review and approval by the lead agency. At a minimum, the project sponsor can and should provide filter materials deemed acceptable to the lead agency at nearby catch basins to prevent any debris and dirt from flowing into the local storm drain system and creeks. ✓ HW 3.11.3-4 Project sponsors can and should submit an erosion and sedimentation control plan for review and approval by the appropriate government agency. All work should incorporate all applicable BMPs for the construction industry, including BMPs for dust, erosion and water quality. The measures should include, but are not limited to, the following: <ul style="list-style-type: none"> ➤ On sloped properties, the downhill end of the construction area must be protected with silt fencing (such as sandbags, filter fabric, silt curtains, etc.) and hay bales oriented parallel to the contours of the slope (at a constant elevation) to prevent erosion into the street, gutters, storm drains. ➤ In accordance with an approved erosion control plan, the project sponsor should implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent degradable erosion control fabric should be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas should be temporarily protected from 	<p>projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>

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	<p>erosion by seeding with fast growing annual species. All bare slopes must be covered with staked tarps when rain is occurring or is expected.</p> <ul style="list-style-type: none"> ➤ Minimize the removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanting of the area with native vegetation as soon as possible. ➤ Install filter materials acceptable to the appropriate agency at the storm drain inlets nearest to the project site prior to the start of the wet weather season; site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in order to retain any debris flowing into the storm drain system. Filter materials should be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding. ➤ Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into water courses, street gutters, or storm drains. ➤ Direct and locate tool and equipment cleaning so that wash water does not discharge into the street, gutters, or storm drains. ➤ Create a contained and covered area on the site for storage of bags of cement, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the storm drain system by the wind or in the event of a material spill. No hazardous waste material should be stored on-site. ➤ Gather all construction debris on a regular basis and place them in a dumpster or other container which is emptied or removed on a weekly (or other interval approved by the lead agency) basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution. ➤ Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work. ➤ As appropriate, broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt should be scraped from these areas before sweeping. At the end of each workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to the street, gutter, and/or storm drains. ➤ All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management should be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the RWQCB. ➤ All erosion and sedimentation control measures should be monitored regularly by the project sponsor. If measures are insufficient to control sedimentation and erosion, then the project sponsor should develop and implement additional and more effective measures immediately. 	

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<p>HW 3.11.4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.</p>	<ul style="list-style-type: none"> ✓ HW 3.11.4-1 Prior to construction, and when a potential drainage issue is known, a drainage study should be conducted by responsible agencies for new capacity-increasing projects and new land use developments, where applicable. Drainage systems should be designed to maximize the use of detention basins, vegetated areas, and velocity dissipaters to reduce peak flows where possible. Transportation and new development improvements will comply with federal, state and local regulations regarding storm water management. State-owned freeways must comply with Storm Water Discharge NPDES permit for Caltrans facilities. ✓ HW 3.11.4-2 Responsible agencies should ensure that new facilities include water quality control features such as drainage channels, detention basins, and vegetated buffers to prevent pollution of adjacent water resources by runoff. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
<p>HW 3.11.5 Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.</p>	<ul style="list-style-type: none"> ✓ HW 3.11.5-1 Project sponsors can and should ensure that new facilities include structural water quality control features such as drainage channels, detention basins, oil and grease traps, filter systems, and vegetated buffers to prevent pollution of adjacent water resources by polluted runoff where required by applicable urban storm water runoff discharge permits. ✓ HW 3.11.5-2 Drainage of roadway runoff can and should comply with Caltrans' storm water discharge permit. Wherever possible, roadways can and should be designed to convey storm water through vegetated median strips that provide detention capacity and allow for infiltration before reaching culverts. ✓ HW 3.11.5-3 Project sponsors can and should assure projects mitigate for changes to the volume of runoff, where any downstream receiving water body has not been designed and maintained to accommodate the increase in flow velocity, rate, and volume without impacting the water's beneficial uses. Pre-project flow velocities, rates, and volumes must not be exceeded. This applies not only to increases in storm water runoff from the project site, but also to hydrologic changes induced by flood plain encroachment. Projects should not cause or contribute to conditions that degrade the physical integrity or ecological function of any downstream receiving waters. ✓ HW 3.11.5-4 Impacts can and should be reduced to the extent possible by providing culverts and facilities that do not increase the flow velocity, rate, or volume and/or acquiring sufficient storm drain easements that accommodate an appropriately vegetated earthen drainage channel. ✓ HW 3.11.5-5 Project sponsors of improvement projects on existing facilities can and should include upgrades to stormwater drainage facilities to accommodate any increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce flow velocities, including expansion and restoration of wetlands and riparian buffer areas. System designs can and should be completed to eliminate increases in peak flow rates from current levels. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

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Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ✓ HW 3.11.5-6 Local jurisdictions can and should encourage Low Impact Development and incorporation of natural spaces that reduce, treat, infiltrate and manage storm water runoff flows in all new developments, where practical and feasible. 	
<p>HW 3.11.6 Otherwise substantially degrade water quality.</p>	<ul style="list-style-type: none"> ✓ HW 3.11.6-1 Improvement projects along existing facilities and future land use developments will include upgrades to storm water drainage facilities to accommodate increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce velocity. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
<p>HW 3.11.7 Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.</p>	<ul style="list-style-type: none"> ✓ HW 3.11.7-1 Prior to construction, and when a potential drainage issue is known, a drainage study should be conducted by responsible agencies for new capacity-increasing projects and new land use developments, where applicable. Drainage systems should be designed to maximize the use of detention basins, vegetated areas, and velocity dissipaters to reduce peak flows where possible. ✓ HW 3.11.7-2 Transportation and new development improvements will comply with federal, state and local regulations regarding storm water management. State-owned freeways must comply with Storm Water Discharge NPDES permit for Caltrans facilities. ✓ HW 3.11.7-3 Responsible agencies should ensure that new facilities include water quality control features such as drainage channels, detention basins, and vegetated buffers to prevent pollution of adjacent water resources by runoff. ✓ HW 3.11.7-4 Letters of Map Revision (LOMR) will be prepared and submitted to FEMA (when applicable) by responsible agencies where construction would occur within 100-year floodplains. The LOMR will include revised local base flood elevations for projects constructed within flood-prone areas. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
<p>HW 3.11.8 Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.</p>	<ul style="list-style-type: none"> ✓ HW 3.11.8-1 MCTC will encourage implementing and local agencies to conduct or require project-specific hydrology studies for projects proposed to be constructed within floodplains to demonstrate compliance with applicable federal, state, and local agency flood-control regulations. These studies should identify project design features or mitigation measures that reduce impacts to either floodplains or flood flows such that the project is consistent with federal, state, and local regulations and laws related to development in the floodplain. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual

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	<ul style="list-style-type: none"> ✓ HW 3.11.8-2 MCTC will encourage implementing and local agencies to, the extent feasible and appropriate, prevent development in flood hazard areas that do not have appropriate protections. 	<p>projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>HW 3.11.9 Place within a 100-year flood hazard area structures which would impede or redirect flood flows.</p>	<ul style="list-style-type: none"> ✓ HW 3.11.9-1 MCTC will encourage implementing and local agencies to conduct or require project-specific hydrology studies for projects proposed to be constructed within floodplains to demonstrate compliance with applicable federal, state, and local agency flood-control regulations. These studies should identify project design features or mitigation measures that reduce impacts to either floodplains or flood flows such that the project is consistent with federal, state, and local regulations and laws related to development in the floodplain. ✓ HW 3.11.9-2 MCTC will encourage implementing and local agencies to, the extent feasible and appropriate, prevent development in flood hazard areas that do not have appropriate protections. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
<p>HW 3.11.10 Inundation by seiche, tsunami, or mudflow</p>	<ul style="list-style-type: none"> ✓ Not applicable. 	<ul style="list-style-type: none"> ✓ Not applicable.
LAND USE & PLANNING & RECREATION		
<p>LPR 3.12.1 Physically Divide an Established Community.</p>	<ul style="list-style-type: none"> ✓ LPR 3.12.1-1 Individual transportation and future land use development projects will be consistent with local transportation system and land use plans and policies that designate areas for urban land use and transportation improvements, as identified by the agency with jurisdiction over said land(s). ✓ LPR 3.12.1-2 Prior to final approval of each individual transportation improvement project and future land use development project, the implementing agency will conduct the appropriate transportation improvement project-specific and future land use development-specific environmental review, to address impacts from land use and transportation system projects that may physically divide a community. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
<p>LPR 3.12.2 Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the projects (Including, but not limited to the</p>	<ul style="list-style-type: none"> ✓ LPR 3.12.2-1 Individual transportation and future land use development projects will be consistent with local land use plans and policies that designate areas for urban and rural land use and preserve recreational, open space, and other lands. ✓ LPR 3.12.2-2 Prior to final approval of each individual improvement project and future land use development project, the implementing agency will conduct the appropriate transportation improvement 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and

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<p>general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.</p>	<p>project specific and future land use development-specific environmental review, including consideration of potential land use impacts.</p>	<p>direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>LPR 3.12.3 Conflict with any applicable habitat conservation plan or natural community conservation plan.</p>	<p>✓ LPR 3.12.3-1 Consult with federal, state, and/or local agencies that handle administration of HCPs and NCCPs</p> <p>✓ LPR 3.12.3-2 When feasible, the project will be designed in such a way that lands preserved under HCPs or NCCPs are avoided.</p> <p>✓ LPR 3.12.3-3 Sufficient conservation measures to fulfil the HCPs or NCCPs requirements be taken when avoidance is determined to be infeasible.</p>	<p>✓ Implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce conflicts with any HCPs, NCCPs, and other approved conservation plans. It is anticipated that the Projects presented in the RTP/SCS will be required to be in compliance with existing conservation plans, therefore the mitigation measures listed will be sufficient to ensure impacts remain below a significant level.</p>
<p>LPR 3.12.4 – 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.</p>	<p>✓ LPR 3.12.4-1 Reference Mitigation Measures for Impacts LPR 3.12.2-1 and -2.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>LPR 3.12.5 – 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.</p>	<p>✓ LPR 3.12.5-1 Reference Mitigation Measures for Impacts LPR 3.12.2-1 and -2.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-</p>

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notated mitigation strategies intended to avoid or reduce the significant impacts identified.		
NOISE		
<p>N 3.13.1 Generation of 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.</p>	<ul style="list-style-type: none"> ✓ N 3.13.1-1 As part of the implementing agency’s appropriate environmental review of each project, a project specific noise evaluation shall be conducted, and appropriate mitigation identified and implemented. ✓ N 3.13.1-2 Implementing agencies should employ, where their jurisdictional authority permits, land use planning measures, such as zoning, restrictions on development, site design, and use of buffers to ensure that future development is compatible with adjacent transportation facilities and other noise generating land uses. ✓ N 3.13.1-3 Implementing agencies shall, to the extent feasible and practicable, maximize the distance between noise-sensitive land uses and new roadway lanes, roadways, rail lines, transit centers, park-and-ride lots, and other future noise generating facilities. ✓ N 3.13.1-4 Implementing agencies should construct sound reducing barriers between noise sources and noise-sensitive land uses. Sound barriers can be in the form of earth-berms or soundwalls. Constructing roadways so as appropriate and feasible that they are depressed below-grade of the existing sensitive land uses also creates an effective barrier between the roadway and sensitive receptors. ✓ N 3.13.1-5 Implementing agencies shall, to the extent feasible and practicable, improve the acoustical insulation of dwelling units where setbacks and sound barriers do not sufficiently reduce noise. ✓ N 3.13.1-6 Implementing agencies shall implement, to the extent feasible and practicable, speed limits and limits on hours of operation of rail and transit systems, where such limits may reduce noise impacts. ✓ N 3.13.1-7 Passenger stations, central maintenance facilities, decentralized maintenance facilities, and electric substations should be located away from sensitive receptors. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
<p>N 3.13.2 Generation of excessive ground-borne vibration or ground-borne noise levels.</p>	<ul style="list-style-type: none"> ✓ N 3.13.2-1 Mitigation measures identified to address Impact 3.13.1 shall be applied to address impacts associated with Impact 3.13.2. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible.

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<p>N 3.13.3 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.</p>	<p>✓ N 3.13.3-1 Compliance with Occupational Safety and Health Administration’s (OSHA) hearing conservation amendment. The Permissible Exposure Level (PEL) is defined as an 8-hour time-weighted average sound level of 90 dBA integrating all sound levels from at least 90 dBA to at least 140 dBA. Project implementing agencies will comply with all local sound control and noise level rules, regulations, and ordinances.</p>	<p>Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p> <p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>POPULATION, HOUSING & EMPLOYMENT</p>		
<p>PHE 3.14.1 Induce substantial 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).</p>	<p>✓ PHE 3.14.1-1 Local agencies will be encouraged to update general, area, community and specific plans to reflect projects included in the 2022 RTP and future land use allocations reflected in the SCS.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>PHE 3.14.2 Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.</p>	<p>✓ PHE 3.14.2-1 Local agencies will be encouraged to update general, area, community and specific plans to reflect projects included in the 2022 RTP and future land use allocations reflected in the SCS.</p> <p>✓ PHE 3.14.2-2 For projects with the potential to displace homes or businesses, project and future development implementation agencies will evaluate alternate route alignments and transportation facilities that minimize the displacement of homes and businesses. An iterative design and impact analysis</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level</p>

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Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<p>would help where impacts to persons or businesses are involved. Potential impacts will be minimized to the extent feasible.</p> <ul style="list-style-type: none"> ✓ PHE 3.14.2-3 Project implementation agencies should identify businesses and residences to be displaced. As required by law, relocation and assistance will be provided to displaced residents and businesses, in accordance with the federal Uniform Relocation and Real Property Acquisition Policies Act of 1970 and the State of California Relocation Assistance Act, as well as any applicable City and County policies. ✓ PHE 3.14.2-4 Project implementation agencies will develop a construction schedule that minimizes potential neighborhood deterioration from protracted waiting periods. 	<p>document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>PHE 3.14.3 Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.</p>	<ul style="list-style-type: none"> ✓ PHE 3.14.3-1 Project implementation agencies will design new transportation facilities that protect access to existing community facilities. During the design phase of the individual improvement project, community amenities and facilities should be identified and access to them considered in the design of the individual improvement project. ✓ PHE 3.14.3-2 Project implementation agencies will design roadway improvements, in a manner that minimizes barriers to pedestrians and bicyclists. During the design phase, pedestrian and bicycle routes will be determined that permit easy connections to community facilities nearby in order not to divide the communities. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
PUBLIC UTILITIES, OTHER UTILITIES & SERVICES SYSTEMS		
<p>PU 3.15.1 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,</p>	<ul style="list-style-type: none"> ✓ PU 3.15.1-1 Prior to construction, the project implementation agency will ensure that all necessary local and state permits are obtained. The project implementation agency also will comply with all applicable conditions of approval. As deemed necessary by the governing jurisdiction, road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Traffic control plans should include the following requirements: <ul style="list-style-type: none"> ➤ Identify all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow. ➤ Develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone. ➤ Schedule truck trips outside of peak morning and evening commute hours. ➤ Limit lane closures during peak hours to the extent possible. ➤ Use haul routes, minimizing truck traffic on local roadways, to the extent possible. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

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Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>police protection, schools, parks, and other public facilities.</p>	<ul style="list-style-type: none"> ➤ Include detours for bicycles and pedestrians in all areas potentially affected by individual improvement project construction. ➤ Install traffic control devices as specified in the Caltrans Manual of Traffic Controls for Construction and Maintenance Work Zones. ➤ Develop and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. Access plans will be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions will be asked to identify detours for emergency vehicles, which will then be posted by the contractor. The facility owner or operator will be notified in advance of the timing, location, and duration of construction activities and the locations of detours and lane closures. ➤ Store construction materials only in designated areas. ➤ Coordinate with local transit agencies for temporary relocation of routes or bus stops in work zones, as necessary. <p>✓ PU 3.15.1-2 Transportation and future land use development projects requiring police protection, fire service, and emergency medical service will coordinate with the local fire department and police department to ensure that the existing public services and utilities would be able to handle the increase in demand for their services. If the current levels of service at the individual improvement project or future land use development site are found to be inadequate, infrastructure improvements and personnel requirements for the appropriate public service will be identified in each individual improvement project’s CEQA documentation.</p> <p>✓ PU 3.15.1-3 The growth inducing potential of individual transportation and future land use development projects will be carefully evaluated so that the full implications of the 2022 RTP/SCS are understood. Individual environmental documents will quantify indirect impacts (growth that could be facilitated or induced) on public services and utilities. Lead and responsible agencies should then make any necessary adjustments to the applicable general plan.</p> <p>✓ PU 3.15.1-4 As part of transportation project-specific or future land use development project-specific environmental review, implementing agencies will evaluate the impacts resulting from the potential for severing underground utility lines during construction activities. Appropriate mitigation measures will be identified for all impacts. The implementing agencies will be responsible for ensuring adherence to mitigation measures. MCTC will be provided with documentation indicating compliance with mitigation measures.</p> <p>✓ PU 3.15.1-5 Prior to construction, the implementing agency or contractor will identify the locations of existing utility lines. All known utility lines will be avoided during construction.</p>	
<p>PU 3.15.2 Exceed wastewater treatment requirements of the</p>	<p>✓ PU 3.15.2-1 During the CEQA review process for individual facilities, implementing agencies should apply necessary mitigation measures to reduce significant environmental impacts associated with the</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>applicable Regional Water Quality Control Board.</p>	<p>construction or expansion of such facilities. The environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities.</p>	<p>construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>PU 3.15.3 Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.</p>	<ul style="list-style-type: none"> ✓ PU 3.15.3-1 Projects requiring wastewater service, solid waste collection, or potable water service will coordinate with the local agencies to ensure that the existing public services and utilities would be able to handle the increase. If the current infrastructure servicing the individual transportation improvement or future land use development project sites is found to be inadequate, infrastructure improvements for the appropriate public service utility will be identified in each individual transportation improvement or future land use development project’s CEQA documentation. ✓ PU 3.15.3-2 Reclaimed water will be used for landscaping purposes instead of potable water wherever feasible. ✓ PU 3.15.3-3 Each of the proposed transportation improvement projects or future land use developments will comply with applicable regulations related to solid waste disposal. ✓ PU 3.15.3-4 The construction contractor will work with Recycling Coordinators to ensure that source reduction techniques and recycling measures are incorporated into individual transportation improvement or future land use development project construction. ✓ PU 3.15.3-5 The amount of solid waste generated during construction will be estimated prior to construction, and appropriate disposal sites will be identified and utilized. 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>PU 3.15.4 Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.</p>	<ul style="list-style-type: none"> ✓ PU 3.15.4-1 During the CEQA review process for individual RTP/SCS projects, implementing agencies with responsibility for the construction of new storm water drainage facilities or the expansion of existing facilities to adequately meet projected capacity needs should apply necessary mitigation measures, including actions set forth in regional watershed management plans, to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities. ✓ PU 3.15.4-2 As part of transportation project-specific and future land use development project-specific environmental review, implementing agencies will evaluate the impacts resulting from soil accumulation 	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-</p>

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Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<p>during construction of the transportation projects and future land use developments. Appropriate mitigation measures will be identified for all impacts. The implementing agencies will be responsible for ensuring adherence to the mitigation measures. MCTC will be provided with documentation indicating compliance with mitigation measures.</p> <p>✓ PU 3.15.4-3 Implementing agencies should implement appropriate measures, such as the washing of construction vehicles undercarriages before leaving the construction site or increasing the use of street cleaning machines, to reduce the amount of soil on local roadways as a result of construction.</p>	<p>notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>PU 3.15.5 Have sufficient water supplies available to serve the project from existing entitlements and resources, or the need for new or expanded entitlements.</p>	<p>✓ PU 3.15.5-1 Projects requiring potable water service will coordinate with the local agencies to ensure that the existing public services and utilities would be able to handle the increase. If the current infrastructure servicing the individual transportation improvement or future land use development project sites is found to be inadequate, infrastructure improvements for the appropriate public service utility will be identified in each individual transportation improvement or future land use development project’s CEQA documentation.</p> <p>✓ PU 3.15.5-2 Reclaimed water will be used for landscaping purposes instead of potable water wherever feasible.</p> <p>✓ PU 3.15.5-3 In January 2014 the Governor declared an emergency drought declaration for the State. Long-term water supply documents anticipate that drought (including severe single-year drought) are regular occurrences within the State. Because the 2022 RTP and SCS do not propose or approve any development of any water demand projects, the Governor’s drought declaration does not indicate that there is a significant water supply impact associated with the RTP and SCS.</p> <p>✓ PU 3.15.5-4 Local agencies shall form <u>Groundwater Sustainability Agencies (GSAs)</u> in accordance with the collection of State legislation [AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley)] known as the <u>Sustainable Groundwater Management Act (SGMA)</u>, as applicable, to manage high and medium priority basin sustainably and requires those GSAs to adopt <u>Groundwater Sustainability Plans (GSPs)</u> for crucial groundwater basins in California.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p>
<p>PU 3.15.6 Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments.</p>	<p>✓ PU 3.15.6-1 Projects requiring wastewater service will coordinate with the local agencies to ensure that the existing public services and utilities would be able to handle the increase. If the current infrastructure servicing the individual transportation improvement or future land use development project sites is found to be inadequate, infrastructure improvements for the appropriate public service utility will be identified in each individual transportation improvement or future land use development project’s CEQA documentation.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>PU 3.15.7 Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.</p>	<ul style="list-style-type: none"> ✓ PU 3.15.7-1 Projects requiring solid waste collection will coordinate with the local agencies to ensure that the existing public services and utilities would be able to handle the increase. If the current infrastructure servicing the individual transportation improvement or future land use development project sites is found to be inadequate, infrastructure improvements for the appropriate public service utility will be identified in each individual transportation improvement or future land use development project's CEQA documentation. ✓ PU 3.15.7-2 Each of the proposed transportation improvement projects or future land use developments will comply with applicable regulations related to solid waste disposal. ✓ PU 3.15.7-3 The construction contractor will work with Recycling Coordinators to ensure that source reduction techniques and recycling measures are incorporated into individual transportation improvement or future land use development project construction. ✓ PU 3.15.7-4 The amount of solid waste generated during construction will be estimated prior to construction, and appropriate disposal sites will be identified and utilized. 	<p>notated mitigation strategies intended to avoid or reduce the significant impacts identified.</p> <ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
<p>PU 3.15.8 Comply with federal, state, and local statutes and regulations related to solid waste.</p>	<ul style="list-style-type: none"> ✓ PU 3.15.8-1 During the CEQA review process for individual facilities, implementing agencies should apply necessary mitigation measures to reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities. 	<ul style="list-style-type: none"> ✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.
SOCIAL & ECONOMIC EFFECTS		
<p>SE 3.16.1 Construction Impacts on Minority and Low-Income Populations.</p>	<ul style="list-style-type: none"> ✓ Impact is considered less-than-significant; no mitigation is required. 	<ul style="list-style-type: none"> ✓ Not applicable
<p>SE 3.16.2 Operational Impacts on Low-Income and Minority Populations.</p>	<ul style="list-style-type: none"> ✓ Impact is considered less-than-significant; no mitigation is required. 	<ul style="list-style-type: none"> ✓ Not applicable

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Impact(s)	Mitigation Measure (s)	Significance after Mitigation
TRANSPORTATION/TRAFFIC		
<p>TT 3.17.1 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities transit.</p>	<p>✓ Not applicable.</p>	<p>✓ Not applicable.</p>
<p>TT 3.17.2 Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).</p>	<p>✓ TT 3.17.2-1 Measures intended to reduce VMT are part of the RTP/SCS. These include increasing rideshare and work-at-home opportunities to reduce demand on the transportation system, investments in non-motorized transportation, maximizing the benefits of the land use/transportation connection through increased densities and mixed uses, other Travel Demand Management measures described in the RTP and in local agency General Plans.</p> <p>✓ TT 3.17.2-2 MCTC will continue to secure funding programs considering a project’s ability to enhance complete streets objectives where it is feasible.</p> <p>✓ TT 3.17.2-3 Beyond the currently financially and institutionally feasible measures included in the 2022 RTP/SCS, MCTC will identify further reduction in VMT, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs, additional vanpools, and additional bicycle/pedestrian programs.</p> <p>✓ TT 3.17.2-4 Transportation Planning: MCTC will assist local jurisdictions to encourage new developments to incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation.</p> <p>✓ TT 3.17.2-5 Local jurisdictions are encouraged to promote ride sharing programs e.g., by designating a certain percentage of parking spaces for high-occupancy vehicles, providing larger parking spaces to accommodate vans used for ridesharing, and designating adequate passenger loading and unloading and waiting areas.</p> <p>✓ TT 3.17.2-6 Local jurisdictions are encouraged to support the use of public transit systems by enhancing safety and cleanliness on vehicles and in and around stations, providing shuttle service to public transit, offering public transit incentives, and providing public education and publicity about public transportation services.</p> <p>✓ TT 3.17.2-7 Local jurisdictions are encouraged to support bicycling and walking by incorporating bicycle lanes into street systems in regional transportation plans, new subdivisions, and large developments, creating bicycle lanes and walking paths directed to the location of schools and other logical points of</p>	<p>✓ The mitigation measures would require implementing agencies to avoid or mitigate impacts to all types of transportation facilities (multi-modal). Although the VMT reduction that could be achieved by implementation of the recommended mitigation measures is unknown and would be difficult to calculate, it is clear that MCTC does not have land use authority, nor does it have the ability to design and construct transportation improvement projects and future land use developments included in the 2022 RTP/SCS or require local implementing agencies to adopt the above mitigation measures. The responsibility to determine and adopt mitigation and approve land use development rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies. Therefore, for the purposes of this program-level review, the impact is considered significant and unavoidable.</p>

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Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<p>destination and provide adequate bicycle parking, and encouraging commercial projects to include facilities on-site to encourage employees to bicycle or walk to work.</p> <ul style="list-style-type: none"> ✓ TT 3.17.2-8 Transit agencies are encouraged to support bicycling to transit facilities by providing additional bicycle parking, locker facilities, and bike lane access to transit facilities when feasible. ✓ TT 3.17.2-9 Project sponsors are encouraged to build or fund a major transit stop within or near the development. ✓ TT 3.17.2-10 Local jurisdictions and transit agencies are encouraged to continue to provide public transit incentives such as free or low-cost monthly transit passes to employees, or free ride areas to residents and customers. ✓ TT 3.17.2-11 Local jurisdictions and project sponsors are encouraged to incorporate bicycle lanes, routes and facilities into street systems, new subdivisions, and large developments. ✓ TT 3.17.2-12 Local jurisdictions are encouraged to require amenities for non-motorized transportation, such as secure and convenient bicycle parking. ✓ TT 3.17.2-13 Local jurisdictions are encouraged to ensure that the project enhances, and does not disrupt or create barriers to, non-motorized transportation. ✓ TT 3.17.2-14 Local jurisdictions are encouraged to connect parks and open space through shared pedestrian/bike paths and trails to encourage walking and bicycling. ✓ TT 3.17.2-15 Local jurisdictions are encouraged to create bicycle lanes and walking paths directed to the location of schools, parks, and other destination points. ✓ TT 3.17.2-16 Local jurisdictions are encouraged to work with the school districts to improve pedestrian and bike access to schools and to restore or expand school bus service using lower-emitting vehicles. ✓ TT 3.17.2-17 Local jurisdictions and transit agencies are encouraged to provide information on alternative transportation options for consumers, residents, tenants, and employees to reduce transportation-related emissions. ✓ TT 3.17.2-18 Local jurisdictions are encouraged to educate consumers, residents, tenants, and the public about options for reducing motor vehicle-related greenhouse gas emissions. Include information on trip 	

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Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<p>reduction; trip linking; vehicle performance and efficiency (e.g., keeping tires inflated); and low or zero-emission vehicles.</p> <ul style="list-style-type: none"> ✓ TT 3.17.2-19 Project Selection: Local jurisdictions are encouraged to give priority to transportation projects that would contribute to a reduction in vehicle miles traveled per capita, while maintaining economic vitality and sustainability. ✓ TT 3.17.2-20 System Interconnectivity: Local jurisdictions are encouraged to create an interconnected transportation system that allows a shift in travel from private passenger vehicles to alternative modes, including public transit, ride sharing, car sharing, bicycling, and walking, by incorporating the following: <ul style="list-style-type: none"> ➤ Provide transportation centers that are multi-modal to allow transportation modes to intersect; ➤ Provide adequate and affordable public transportation choices, including expanded bus routes and service, as well as other transit choices such as shuttles; ➤ To the extent feasible, extend service and hours of operation to underserved arterials and population centers or destinations such as colleges; ➤ Focus transit resources on high-volume corridors and high-boarding destinations such as colleges, employment centers and regional destinations; ➤ Coordinate schedules and routes across service lines with neighboring transit authorities; ➤ Support programs to provide “station cars” for short trips to and from transit nodes (e.g., neighborhood electric vehicles); ➤ Employ transit-preferential measures, such as signal priority and bypass lanes. Where compatible with adjacent land use designations, right-of-way acquisition or parking removal may occur to accommodate transit-preferential measures or improve access to transit. The use of access management should be considered where needed to reduce conflicts between transit vehicles and other vehicles; ➤ Provide safe and convenient access for pedestrians and bicyclists to, across, and along major transit priority streets; ➤ Use park-and-ride facilities to access transit stations only at ends of regional transitways or where adequate feeder bus service is not feasible. ✓ TT 3.17.2-21 Transit System Infrastructure: Local jurisdictions are encouraged to upgrade and maintain transit system infrastructure to enhance public use, including: <ul style="list-style-type: none"> ➤ Provide transit stops and bus lanes that are safe, convenient, clean, and efficient; ➤ Provide transit stops that have clearly marked street-level designation, and are accessible; ➤ Provide transit stops that are safe, sheltered, benches are clean, and lighting is adequate; ➤ Place transit stations along transit corridors within mixed-use or transit-oriented development areas at intervals of three to four blocks, or no less than one-half mile. 	

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Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ✓ TT 3.17.2-1 Customer Service: Transit agencies are encouraged to enhance customer service and system ease-of-use, including: <ul style="list-style-type: none"> ➤ Continue to develop the Regional Pass system to reduce the number of different passes and tickets required of system users; ➤ Expand “Smart Bus” technology, using GPS and electronic displays at transit stops to provide customers with “real-time” arrival and departure time information (and to allow the system operator to respond more quickly and effectively to disruptions in service); ➤ Investigate the feasibility of an on-line trip-planning program. ➤ Before funding transportation improvements that increase roadway capacity and VMT, evaluate the feasibility and effectiveness of funding projects that support alternative modes of transportation and reduce VMT, including transit, and bicycle and pedestrian access. ✓ TT 3.17.2-22 System Monitoring: Local jurisdictions are encouraged to monitor traffic and congestion to determine when and where new transportation facilities are needed in order to increase access and efficiency. ✓ TT 3.17.2-23 Arterial Traffic Management: Local jurisdictions are encouraged to modify arterial roadways to allow more efficient bus operation, including bus lanes and signal priority/preemption where necessary. ✓ TT 3.17.2-24 HOV Lanes: Local jurisdictions are encouraged to support the construction of high-occupancy vehicle (HOV) lanes or similar mechanisms whenever necessary to relieve congestion and reduce emissions. ✓ TT 3.17.2-25 Ride-Share Programs: MCTC will continue to support regional ridesharing efforts, and local jurisdictions are encouraged to promote ride sharing programs as well, including: <ul style="list-style-type: none"> ➤ Designate a certain percentage of parking spaces for ride-sharing vehicles; ➤ Designate adequate passenger loading, unloading, and waiting areas for ride-sharing vehicles; ➤ Provide a web site or message board for coordinating shared rides; ➤ Encourage private, for-profit community car-sharing, including parking spaces for car share vehicles at convenient locations accessible by public transit; ➤ Hire or designate a rideshare coordinator to develop and implement ridesharing programs. ✓ TT 3.17.2-26 Employer-based Trip Reduction: The San Joaquin Valley Air Pollution Control District’s Rule 9410 requires large employers (100-plus) to adopt Employer Trip Reduction Implementation Plan (eTRIP) to encourage employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. Local jurisdictions are encouraged to support voluntary, employer-based trip reduction programs, including: 	

TABLE 1-1

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	<ul style="list-style-type: none"> ➤ Provide assistance to regional and local ridesharing organizations; ➤ Advocate for legislation to maintain and expand incentives for employer ridesharing programs; ➤ Require the development of Transportation Management Associations for large employers and commercial/ industrial complexes; ➤ Provide public recognition of effective programs through awards, top ten lists, and other mechanisms. <ul style="list-style-type: none"> ✓ TT 3.17.2-27 Ride Home Programs: Local jurisdictions are encouraged to implement a “guaranteed ride home” program for those who commute by public transit, ride-sharing, or other modes of transportation, and encourage employers to subscribe to or support the program. ✓ TT 3.17.2-28 Local Area Shuttles: Transit agencies are encouraged to utilize shuttles to serve neighborhoods, employment centers and major destinations. ✓ TT 3.17.2-29 Local jurisdictions and transit agencies are encouraged to create a free or low-cost local area shuttle system that includes a fixed route to popular tourist destinations or shopping and business centers. ✓ TT 3.17.2-30 Local jurisdictions are encouraged to work with existing shuttle service providers to coordinate their services. ✓ TT 3.17.2-31 Low- and No-Travel Employment Opportunities: Local jurisdictions are encouraged to facilitate employment opportunities that minimize the need for private vehicle trips, including: <ul style="list-style-type: none"> ➤ Amend zoning ordinances and the Development Code to include live/work sites and satellite work centers in appropriate locations; ➤ Encourage telecommuting options with new and existing employers, through project review and incentives, as appropriate. ✓ TT 3.17.2-32 Local jurisdictions are encouraged to support bicycle use as a mode of transportation by enhancing infrastructure to accommodate bicycles and riders and providing incentives. ✓ TT 3.17.2-33 Development Standards for Bicycles: Local jurisdictions are encouraged to establish standards for new development and redevelopment projects to support bicycle use, including: <ul style="list-style-type: none"> ➤ Amending the Development Code to include standards for safe pedestrian and bicyclist accommodations, by incorporating the following: <ul style="list-style-type: none"> ▪ “Complete Streets” policies that foster equal access by all users in the roadway design, wherever feasible; ▪ Bicycle and pedestrian access internally and in connection to other areas through easements; ▪ Safe access to public transportation and other non-motorized uses through construction of dedicated paths; 	

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ▪ Safe road crossings at major intersections, especially for school children and seniors; ▪ Adequate, convenient, and secure bike parking at public and private facilities and destinations in all urban areas; ▪ Street standards will include provisions for bicycle parking within the public right of way. <p>✓ TT 3.17.2-34 Local jurisdictions are encouraged to incorporate bicycle facilities, as appropriate in the new land use, including:</p> <ul style="list-style-type: none"> ➤ Construction of weatherproof bicycle facilities where feasible, and at a minimum, bicycle racks or covered, secure parking near the building entrances; ➤ Provision and maintenance of changing rooms, lockers, and showers at large employers or employment centers. ➤ Prohibit projects that impede bicycle and pedestrian access, such as large parking areas that cannot be safely crossed by non-motorized vehicles, and developments that block through access on existing or potential bicycle and pedestrian routes; ➤ Encourage the development of bicycle stations at intermodal hubs, with attended or “valet” bicycle parking, and other amenities such as bicycle rental and repair, and changing areas with lockers and showers; ➤ Conduct a connectivity analysis of the existing bikeway network to identify gaps and prioritize bikeway development where gaps exist. <p>✓ TT 3.17.2-35 Bicycle and Pedestrian Trails: Local jurisdictions are encouraged to establish a network of multi-use trails to facilitate safe and direct off-street bicycle and pedestrian travel and will provide bike racks along these trails at secure, lighted locations.</p> <p>✓ TT 3.17.2-36 Bicycle Safety Program: Local jurisdictions are encouraged to develop and implement a bicycle safety educational program to teach drivers and riders the laws, riding protocols, routes, safety tips, and emergency maneuvers.</p> <p>✓ TT 3.17.2-37 Bicycle and Pedestrian Project Funding: Local jurisdictions are encouraged to pursue and provide enhanced funding for bicycle and pedestrian facilities and access projects, including, as appropriate:</p> <ul style="list-style-type: none"> ➤ Apply for regional, State, and federal grants for bicycle and pedestrian infrastructure projects; ➤ Establish development exactions and impact fees to fund bicycle and pedestrian facilities; ➤ Use existing revenues, such as State gas tax subventions, sales tax funds, and general fund monies for projects to enhance bicycle use and walking for transportation. 	

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
	<ul style="list-style-type: none"> ✓ TT 3.17.2-38 Bicycle Parking: Local jurisdictions are encouraged to adopt bicycle parking standards that ensure bicycle parking sufficient to accommodate 5 to 10 percent of projected use at all public and commercial facilities, and at a rate of at least one per residential unit in multiple-family developments. ✓ TT 3.17.2-39 Local jurisdictions are encouraged to implement measures to reduce employee vehicle trips and to mitigate emissions impacts from municipal travel. ✓ TT 3.17.2-40 Pedestrian and Bicycle Promotion: Local jurisdictions are encouraged to work with local community groups and downtown business associations to organize and publicize walking tours and bicycle events, and to encourage pedestrian and bicycle modes of transportation. ✓ TT 3.17.2-41 Trip Reduction Program: Local jurisdictions are encouraged to implement a program to reduce vehicle trips by employees, including: <ul style="list-style-type: none"> ➤ Providing incentives and infrastructure for vanpooling and carpooling, such as pool vehicles, preferred parking, and a website or bulletin board to facilitate ridesharing; ➤ Providing subsidized passes for mass transit; ➤ Offering compressed work hours, off-peak work hours, and telecommuting, where appropriate; ➤ Offer a guaranteed ride home for employees who use alternative modes of transportation to commute. ✓ TT 3.17.2-42 Bicycle Transportation Support: Local jurisdictions are encouraged to promote and support the use of bicycles as transportation, including: <ul style="list-style-type: none"> ➤ Providing bicycle stations with secure, covered parking, changing areas with storage lockers and showers, as well as a central facility where minor repairs can be made; ➤ Providing bicycles, including electric bikes, for employees to use for short trips during business hours; ➤ Implementing a police-on-bicycles program; ➤ Providing a bicycle safety program, and information about safe routes to work. ✓ TT 3.17.2-43 Transit Access to Municipal Facilities: Local jurisdiction and agency facilities are encouraged to be located on major transit corridors, unless their use is plainly incompatible with other uses located along major transit corridors. ✓ TT 3.17.2-44 Local jurisdictions are encouraged to implement Intelligent Transportation Systems improvements, where feasible, that will: <ul style="list-style-type: none"> ➤ Use technology to improve traffic signal timing in order to optimize traffic flow and transit service ➤ Involve new equipment to improve on-time transit performance and provide real-time transit information at stops and stations. 	

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>TT 3.17.3 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).</p>	<p>✓ TT 3.17.3-1 Implementing agencies should consider safety an objective in the design of RTP projects, and should plan to avoid, improve, or mitigate safety impacts in the course of project-level environmental review.</p> <p>✓ TT 3.17.3-2 MCTC shall conduct a forum where policymakers can be educated and can develop consensus on regional transportation safety and security policies.</p> <p>✓ TT 3.17.3-3 MCTC shall work with local officials to assist with implementation of regional transportation safety and security policies.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts that substantially increase hazards due to a design feature or incompatible uses, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce impacts identified.</p>
<p>TT 3.17.4 Result in inadequate emergency access.</p>	<p>✓ TT 3.17.4-1 MCTC shall support local agencies with the rapid repair of transportation infrastructure in the event of an emergency. This will be accomplished by MCTC, in cooperation with local and State agencies, identifying critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. In addition, MCTC shall establish transportation infrastructure practices that promote and enhance security.</p>	<p>✓ The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts that result in inadequate emergency access, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce impacts identified.</p>
<p>WF 3.17.1 – Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?</p> <p>WF 3.17.2 – 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 wildfire?</p> <p>WF 3.17.3 – Require the installation or maintenance of</p>	<p>✓ WF 3.18.1 If an individual transportation or land use project included in the 2022 RTP/SCS is located within or less than 2 miles from an SRA or very high fire hazard severity zones, the implementing agency shall require appropriate mitigation to reduce the risk. Examples of mitigation to reduce risk of loss, injury or death from wildfire include, but are not limited to:</p> <ul style="list-style-type: none"> • Require adherence to the local hazards 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. • Encourage the use of fire-resistant vegetation native to Madera County and/or the local microclimate of the project site and discourage the use of fire-prone species especially nonnative, 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. 	<p>✓ With implementation of this mitigation, 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 2022 RTP/SCS projects to inadvertently ignite a wildfire. However, it is not possible to prevent a significant risk of wildfires or fully protect people and structures from the risks of wildfires, despite implementation of mitigation. Thus, these impacts would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.</p>

TABLE 1-1

Impact(s)	Mitigation Measure (s)	Significance after Mitigation
<p>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?</p> <p>WF 3.17.4 – 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?</p>	<ul style="list-style-type: none"> • 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. 	

SECTION 2.0 INTRODUCTION / PROJECT DESCRIPTION

An EIR is required to provide a detailed project description. This description is to consist of:

- ✓ *The project's location.*
- ✓ *EIR objectives including an underlying project purpose, characteristics, and scope.*
- ✓ *A statement of the EIR's intended uses.*

See CEQA Guidelines, Section 15124.

2.1 PURPOSE

The purpose of this Draft Program Environmental Impact Report (Draft PEIR or PEIR) is to provide local decision-makers and the public with an objective program-level analysis of the potential environmental consequences of implementation of regional transportation system outlined in the Draft Madera County Transportation Commission (MCTC) 2022 Regional Transportation Plan (RTP) and the Sustainable Communities Strategy (SCS). The information presented in this document is intended to provide a program-level disclosure of the potential impacts and to increase public awareness and participation in the regional transportation planning process.

Requirement to Prepare a Program EIR

According to State CEQA Guidelines Section 15168, a Program EIR is an EIR, which may be prepared on a series of actions that can be characterized as one large project and are related either:

1. Geographically.
2. As logical parts in the chain of contemplated actions.
3. In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program.
4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

Use of a Program EIR can provide the following advantages. The Program EIR can:

- ✓ Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action.
- ✓ Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis.
- ✓ Avoid duplicative reconsideration of basic policy considerations.

- ✓ Allow the lead agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts.
- ✓ Allow reduction in paperwork.

Subsequent activities in the program must be examined in the light of the Program EIR to determine whether an additional environmental document must be prepared.

- ✓ If a later activity would have effects that were not examined in the Program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.
- ✓ If the agency finds that pursuant to Section 15162, no new effects could occur, or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the Program EIR, and no new environmental document would be required.
- ✓ An agency shall incorporate feasible mitigation measures and alternatives developed in the Program EIR into subsequent actions in the program.
- ✓ Where the subsequent activities involve site specific considerations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the Program EIR.
- ✓ A Program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the Program EIR, and no further environmental documents would be required.

A Program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The Program EIR can:

- ✓ Provide the basis in an Initial Study for determining whether the later activity may have any significant effects.
- ✓ Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.
- ✓ Focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before.

It should be noted that the RTP transportation improvement projects and future land use development projects will be implemented by implementing agencies such as Caltrans, each of the cities, the County of Madera, transit agencies, Native American Tribes, and other agencies responsible for the construction and/or operation of transportation facilities, land use development, and other services. For purposes of reviewing the environmental impacts associated with the MCTC 2022 RTP/SCS, this Draft PEIR has been prepared because MCTC does not have the detailed information that would be required to provide a project-level analysis regarding the transportation improvement projects identified in the RTP or the specific information regarding the specific type of land use development that will occur in each local

jurisdiction between 2019 (base year), 2022 (current year), and 2046 (horizon year). The design of each transportation improvement project, as well as the sources and availability of funding are unknown. In addition, the specific impacts to resources such as biological resources and land use will vary widely from project to project if (and when) they are approved.

It will be the implementing agencies (referenced above) that will approve, design, and implement the transportation improvement projects referenced in the RTP/SCS and that will approve the individual land use developments proposed over the duration of the planning period. These implementing agencies would be able to prepare subsequent environmental documents that incorporate by reference the appropriate information from this Program Draft EIR regarding secondary effects, cumulative impacts, project alternatives, and other relevant factors. If the lead agency for any particular implementing project finds that implementation of a later activity would have no new effects and that no new mitigation measures would be required, then that lead agency may determine that the activity would not require additional CEQA review. Where subsequent environmental review is required, such review would focus on project-specific significant effects specific to the project, or its site, that have not been considered in this Draft PEIR.

Furthermore, MCTC does not have the detailed information to prepare sub-regional analysis of the RTP/SCS. The MCTC traffic model provides a regional analysis of the existing and future transportation system and is not able to analyze specific geographic sub-regions in Madera County due to model limitations. The traffic model was last validated and calibrated in 2021; however, the base year for purposes of the analysis contained in this PEIR is for the year 2019 due to COVID-19. Furthermore, the traffic model base year is 2018. However, other data has been included for years where such data is available. Furthermore, MCTC uses EMFAC (Emissions Factoring Model) to prepare its air quality conformity findings and to evaluate the impacts on air quality and global warming resulting from the RTP/SCS. EMFAC is only available from the California Air Resources Board (CARB) at the “county level” or for all of Madera County, not for individual sub-regions within the County. MCTC is a planning agency only responsible for the planning and programming of projects included in the 2022 RTP/SCS. Finally, the 2022 RTP contains the SCS, which is intended to show how integrated land use and transportation planning can lead to lower greenhouse gas (GHG) emissions from autos and light trucks (see RTP Chapter 3 – Sustainable Communities Strategy).

The SCS encourages changes to the urban form that improve accessibility to transit, and create more compact development, thereby yielding a number of transportation benefits to the region. These include reductions in travel time, vehicle miles traveled (VMT), vehicle hours traveled (VHT), and vehicle hours of delay. Concurrently, the plan yielded increased transit use and mode share, all of which lead to both mobility and air quality improvements. The SCS only shows how future growth and development could be allocated to planned growth areas consistent with the general plans of the cities and the County of Madera. As growth and development occurs, it will be the cities and the County that review and approve development proposals and determine consistency with their plans, programs, and policies; not MCTC.

MCTC has no land use authority to approve future growth development as it occurs over the life of the RTP/SCS (Year 2046).

For purposes of reviewing the environmental impacts associated with the 2022 RTP/SCS, this Draft PEIR has been prepared because MCTC cannot know all the details or have all the information it would need regarding each and every transportation improvement project identified in the RTP/SCS, or the detailed information regarding the specific type of future land use development that will occur in each local jurisdiction between 2019 (Base Year), 2021 (Notice of Preparation - NOP release – reference Appendix A of this PEIR) and the year 2046. MCTC’s role as the Regional Transportation Planning Agency (RTPA) for the Madera region is to prepare a long-range RTP/SCS that reflects consistency with federal and state mandates, including SB 375. As an RTPA, MCTC does not have any land use authority. That right is held by the local agencies that make up the membership of the MCTC Policy Board, which include the County of Madera and the two (2) incorporated cities within the County and are commonly referred to as MCTC’s “member agencies”.

MCTC works in partnership with its member agencies, Caltrans, and other agencies with land use authority to plan the future transportation system, taking into consideration future growth estimates and potential development and land use patterns outlined in each of the adopted or draft general plans prepared by these agencies. Throughout this document, the term “implementing agency” is used to refer to MCTC’s partnership agencies that have land use authority, and/or legal standing to plan, design, implement, build, operate and maintain transportation infrastructure, including those projects referred to in the RTP/SCS.

The agencies most associated with implementing the transportation improvement projects and approving future land use developments reflected in the 2022 RTP/SCS will be the MCTC member agencies. Caltrans, as the owner/operator of the state highway system, will also have a major role in implementing transportation improvement projects along highways throughout the Madera region. It will be these and other implementing agencies that will plan for, approve, design, construct, and implement the transportation improvement projects referenced in the RTP/SCS. These agencies will also plan for, review and approve the individual land use developments proposed within their individual jurisdictions over the duration of the planning period that were considered to develop the RTP/SCS. This Draft PEIR is considered the “first tier” CEQA document for future second-tier CEQA documents (commonly referred to as project-level analysis) reflective of the various transportation improvement projects and future land use development projects represented in the 2022 RTP/SCS. The SCS only shows how future growth and development would be allocated to planned growth areas consistent with the general plans of the cities and the County of Madera together with the planned transportation system. As growth and development occurs, it will be the cities and the County that review and approve development proposals and also determine consistency with their plans, programs, and policies - not MCTC.

This Draft PEIR presents a “regional” review and analysis of impacts associated with the 2022 RTP/SCS. While some of the transportation improvement projects are reflected in current federal and regional transportation improvement programs over the short-term or within the next four to five years, the

majority of transportation improvement projects are not defined to a level that would allow for “project-level” analysis. As such, it is understood that the RTP transportation improvement projects and future land use development projects will be implemented by implementing agencies such as Caltrans, each of the two (2) cities, the County of Madera, transit agencies, Native American Tribes, and other agencies responsible for the construction and/or operation of transportation facilities, land use development, and other services. Implementing agencies will prepare the “project-level” environmental documents for the individual transportation improvement projects and future land use developments included in or consistent with the 2022 RTP/SCS. According to Section 15161 of CEQA, a “project-level” environmental document is the most common type of EIR and examines the environmental impacts of a specific improvement project or development project. This type of EIR should focus primarily on the changes in the environment that would result from the project and examine all phases of the project including planning, construction, and operation.

The implementing agencies would also prepare “project-level” environmental documents that incorporate by reference the appropriate information from this Draft PEIR regarding secondary effects, cumulative impacts, project alternatives, and other relevant factors. Where subsequent environmental review is required, such review would focus on project-specific significant effects specific to the project, or its site, that have not been considered in this Draft PEIR.

2.2 PROJECT LOCATION

Madera County (County) is located in California’s Central San Joaquin Valley (reference Figure 2-1). Figure 2-2 shows the boundaries of the Project or RTP/SCS per CEQA Guidelines Section 15124. Encompassing 2,153 square miles, the County is situated near the geographic center of the State along State Route (SR) 99, approximately 160 miles south of San Francisco. The County has an altitude near Madera of 200 feet above sea level to 12,989 feet above sea level in the Sierra Nevada. The population of Madera County in 2019 (EIR Base Year) was approximately 157,686 in 2019.

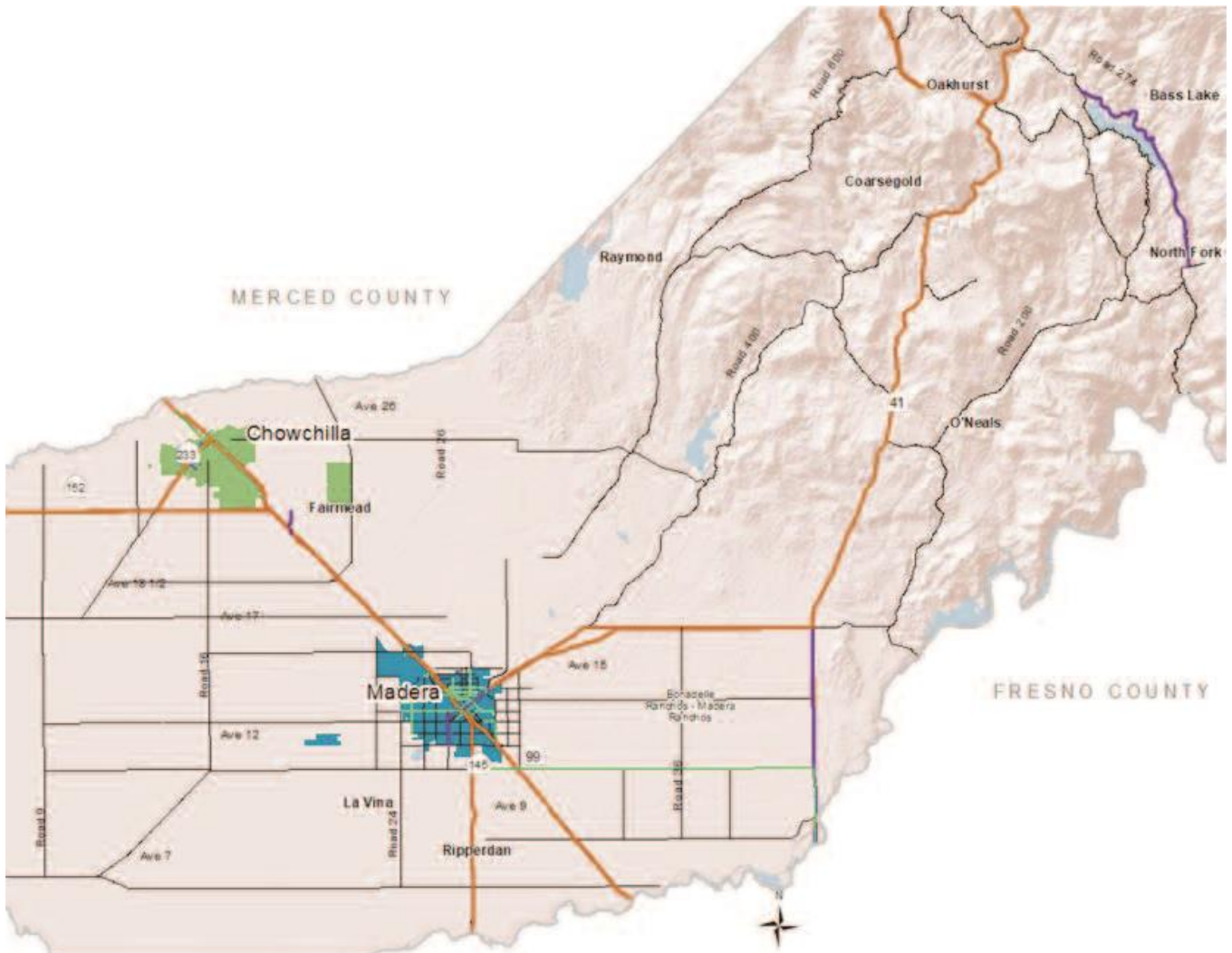
2.3 EIR OBJECTIVES

The RTP/SCS identifies the region’s transportation needs and issues, sets forth an action plan of projects and programs to address the needs consistent with the adopted policies, and documents the financial resources needed to implement the plan. Additional areas of emphasis and policy initiatives in the 2022 RTP include references to the Congestion Management Process, Environmental Justice, and Goods Movement Planning. In addition, the 2022 RTP/SCS includes updated project lists and updated performance measures. The 2022 RTP is the third to contain an SCS as required by California Senate Bill (SB) 375. SB 375, enacted in 2008, requires that each Metropolitan Planning Organization (MPO) include an SCS that provides an integrated land use and transportation plan for meeting emission reduction targets set forth by the California Air Resources Board (CARB).

FIGURE 2-1
Location of Madera County in California



FIGURE 2-2
Project Boundaries



The goals included in the 2022 RTP/SCS in Chapter 2 titled: Goals, Objectives and Strategies, have been established for the Proposed Project and will aid decision makers in the review of the Project and associated environmental impacts. The 2022 RTP goals seek to identify the RTP and SCS goals that meet the regional needs. Chapter 2 also includes a number of objectives and strategies aimed at achieving the goals of the 20122 RTP/SCS.

The following four goals guide the RTP/SCS as it ventures to achieve its vision and improve the overall quality of life in Madera County through an integrated multimodal transportation system and supportive land use footprint:

- 1. Improve Quality of Life** - MCTC's plans, programs, and policies will work to improve the quality of life in the Madera County region by integrating transportation systems that promote access to affordable housing, education resources, jobs, and recreational facilities.
- 2. Raise Economic Prosperity** - MCTC's plans, programs, and policies will facilitate enhanced economic viability of the region by increasing access to education and new job opportunities. A more educated population combined with a low cost of living can attract new investment in the Madera region.
- 3. Cultural Diversity** - MCTC's plans, programs, and policies will respect the region's wide variety of cultures and subcultures (each having unique needs and perspectives) by facilitating a range of transportation modes and housing choices designed to benefit the County's diverse population.
- 4. Promote Public Health and a Cleaner Environment** - MCTC's plans, programs, and policies will give preference to new development and economic prosperity in ways that ensure the health of its citizens, maintain and enhance the surrounding environment (cultural and socioeconomic resources), and those ways that enhance the regions financial stability over time.

2.4 PROJECT CHARACTERISTICS

The Regional Transportation Plan

The project, as defined pursuant to Public Resources Code, Section 21065, is the preparation of the 2022 RTP/SCS. MCTC is in the process of preparing the RTP/SCS as required by Section 65080 et seq., of Chapter 2.5 of the California Government Code, federal guidelines pursuant to new requirements established in the federal surface transportation reauthorization, Bipartisan Infrastructure Law (BIL), "Moving Ahead for Progress in the 21st Century" (MAP-21), and the Fixing America's Surface Transportation (FAST) Acts, Transportation Conformity for the Air Quality Attainment Plan per 40 CFR Part 51 and 40 CFR Part 93, and requirements set forth in *Assembly Bill 32, The California Global Warming Solutions Act of 2006*, and *Senate Bill 375 The Sustainable Communities and Climate Protection Act of 2008*. Finally, the California Transportation Commission (CTC) has prepared guidelines (most recently adopted by the CTC on January 18, 2017) to assist in the preparation of the RTP/SCS. The last comprehensive EIR on the RTP/SCS was completed and certified in August 2018, which addressed transportation improvement projects, programs, and funding sources.

The 2022 RTP/SCS addresses all transportation modes including motor vehicles, transit (commuter and local), rail (commuter and interregional), goods movement (rail freight and trucking), bicycle and pedestrian facilities, aviation systems, and transportation systems management (TSM) programs and projects considering the horizon year of 2046. In addition, the 2022 RTP/SCS:

- ✓ Identifies the region’s transportation goals and policies.
- ✓ Includes the SCS, which demonstrates how the region will meet its GHG reduction targets (currently being discussed by the California Air Resources Board and the eight San Joaquin Valley Regional Transportation Planning Agencies) through integrated land use, and housing and transportation planning. *Once adopted by MCTC, the SCS becomes an integral part of the RTP.*
- ✓ Documents the financial resources needed to implement the plan.
- ✓ Reflects results of the Transportation Conformity Analysis.
- ✓ Highlights the 2022 RTP/SCS EIR process and results.
- ✓ Details the RTP/SCS public outreach process.
- ✓ Includes the Environmental Justice analysis process.
- ✓ Sets forth an action plan of projects and programs to address the needs consistent with the Policy Element such as:
 - Allocating growth along transportation corridors in support of high-capacity transit systems.
 - Facilitating the development of mixed land use districts, which promote living, working, shopping and recreation accessible by foot or bicycle, and which are served by centrally located transit routes.
 - Maintaining and improving the regional street system, connecting local jurisdictions within the County, and connecting Madera County to adjacent counties, consistent with Measure T and its re-authorization.
 - Enhancing and maintaining existing transit systems and the frequency of current services.
 - Developing connecting bikeway systems and facilitating and encouraging their use.
 - Improving connectivity between highways, streets and roads, transit and rail, transit, and air travel, cycling and transit, etc.
 - Reservation of future “park and ride” opportunities.
 - An organized public education effort.
 - Appropriate financing, including both operations and capital investment.

The 2022 RTP is an update of the 2018 RTP, which expires in December 2022. This RTP will be in effect upon its adoption, which is scheduled for August 2022. The 2022 RTP is similar to the 2018 RTP in that it includes the Sustainable Communities Strategy (SCS) as required by Senate Bill 375 – the Sustainable Communities and Climate Protection Act of 2008 and also contains updates to planned improvement projects. As the designated Regional Transportation Planning Agency (RTPA), MCTC is mandated by state and federal law to update the RTP every four (4) years.

The Draft PEIR for the 2022 RTP/SCS has been prepared to focus on the evaluation of the environmental effects of the SCS, the newly required element of the RTP. In addition, the PEIR is also intended to address cumulative and growth inducing impacts and other issues resulting from the RTP and the SCS as required by CEQA. The SCS, found in Chapter 3 of the RTP, is further described below, and is incorporated by reference and is provided at the following link: <https://www.maderactc.org/transportation/page/your-madera-2046-rtpscs>.

The RTP is used to guide the development of the Regional Transportation Improvement Program (RTIP). The RTIP is the programming document used to plan the construction of regional transportation projects and requires State Department of Transportation (Caltrans) approval. No project-level assessments of environmental impacts are feasible in this Draft PEIR due to the absence of site-specific information and the inability to predict when and if particular projects will receive funding or approval. The RTP is also used as a transportation planning document by each of the 16-member jurisdictions of MCTC. The members include the County of Madera and the cities of Madera and Chowchilla.

The RTP/SCS identifies the region's transportation needs and issues, sets forth an action plan of projects and programs to address the needs consistent with the adopted policies, and documents the financial resources needed to implement the plan. Additional areas of emphasis and policy initiatives in the 2022 RTP include references to Environmental Justice and Goods Movement Planning. In addition, the 2022 RTP/SCS includes updated project lists and updated performance measures.

The 2022 RTP is the third RTP to contain an SCS as required by California Senate Bill (SB) 375. SB 375, enacted in 2008, requires that each Metropolitan Planning Organization (MPO) include an SCS that provides an integrated land use and transportation plan for meeting emission reduction targets set forth by the California Air Resources Board (CARB). For MCTC, those greenhouse gas reduction targets are as set forth in Chapter 3 of the RTP/SCS.

Chapter 4 of the RTP sets forth plans of action for the region to pursue and meet identified transportation needs and issues. Planned investments must be consistent with the goals and policies of the RTP/SCS and must be financially constrained (meaning that funding is available and has been committed by the appropriate agencies to implement the project). These projects are listed in the Constrained Program of Projects (reference Appendix B of this EIR). Results of the modeling process are provided in the Appendix of the 2022 RTP/SCS, as well as the Air Quality Conformity Analysis¹.

Forecasting methods in the RTP/SCS primarily use the "market-based approach" based on demographic data and economic trends. For best results, the RTP also uses the "build out" method, providing the best

¹ The Air Quality Conformity Analysis is required by the Clean Air Act and U.S. Environmental Protection Agency transportation conformity regulations for all nonattainment and maintenance areas for transportation-related criteria pollutants. The Conformity Analysis is used to demonstrate that predicted emissions for the RTP pass both the emissions budget and interim emission tests.

estimates for growth in all areas of the County through the year 2046. Within each element of the RTP, assumptions are made that guide the goals, policies, and actions. Those assumptions include demographic projections, land use forecasts, air quality models, performance indicators, capital and operations costs, cost of alternatives, timeframe (short- and long-term), environmental resources and methodology.

Alternative scenarios are briefly discussed in the SCS; they are also addressed and analyzed for their feasibility in this PEIR, as required by California Environmental Quality Act (State CEQA Guidelines, §§15126(d), 15125.6(a)). The 2022 RTP/SCS only recommends one alternative scenario, which is the preferred alternative. The 2022 RTP/SCS promotes a “balanced” multi-modal transportation system. It calls for increased investments in alternative transportation modes, while accommodating a necessary amount of new highway capacity. The following section of this Introduction includes references to modal plans and constrained projects and a list of all constrained projects by mode is referenced in Chapter 5 “Financial Element” of the 2022 RTP/SCS, which is incorporated by reference and available at the following link: <https://www.maderactc.org/transportation/page/your-madera-2046-rtpscs>.

The Unconstrained Program of Projects (or projects submitted by Caltrans and the local agencies to MCTC for incorporation into the RTP/SCS, but which were not funded due to lack of available funding) incorporates the region’s unbudgeted “vision.” These projects represent alternatives that could be moved to the constrained program if support for an individual project remains strong and if project funding is identified. Status as an unconstrained project does not imply that the project is not needed; rather, it simply cannot be accomplished given the fiscal constraints facing Madera County. MCTC will be vigilant in its search for funding to support these projects.

Unconstrained projects are not included in the air quality conformity analysis and are not analyzed as part of this PEIR. In the future, as the funding picture changes and community values and priorities for transportation projects become redefined and honed, unconstrained projects may be moved to the constrained program. Should this occur, the 2022 RTP/SCS would be amended and a new assessment of the RTP/SCS’s conformity with state and federal air quality rules and standards would be undertaken. Only funded transportation improvement projects can be reflected in the RTP/SCS and analyzed in the associated conformity finding. Each element in the RTP addresses proposed actions to implement goals and policies identified in Chapter 2 “Policy Element” of the RTP/SCS. These actions outline specifically how the goals of the RTP/SCS will be accomplished.

2.5 2022 RTP PROVISIONS

Each mode available for the movement of people and goods in and through Madera County is addressed in the 2022 RTP/SCS along with transportation/air quality strategies, as listed below. The 2022 RTP/SCS is incorporated by reference. Each mode of transportation is presented in the 2022 RTP, which includes an inventory of the existing system, accomplishments, an assessment of needs, and proposed actions.

Highlights of these sections are also included in this Chapter by mode. Proposed actions will be based upon projected travel demand and appropriate policy. The short-range measures will ultimately form the basis for the Regional Transportation Improvement Program (RTIP) and the Federal Transportation Improvement Program (FTIP).

Federal transportation legislation requires that long-range transportation plans must include only those projects which have a “reasonably available” source of funding. This financially “constrained” list will define those projects, which are programmed during the first two (2) years of the current TIP. The RTP/SCS also defines projects which are deemed necessary, but do not have identified funding sources, in order to show a complete picture of transportation systems which are needed for the future vitality of the region. Applicable legislation follows:

- ✓ **Sustainable Communities and Climate Protection Act of 2008 (SB 375).** SB 375 requires that California’s 18 MPOs, including MCTC, include an integrated Sustainable Communities Strategy (SCS) as part of the RTP/SCS. In essence, SB 375 requires the alignment of three major components within the regional transportation planning process – land use planning, transportation planning and funding, and State housing mandates – to reduce greenhouse gas (GHG) emissions from cars and light trucks. An SCS must be based on realistic planning assumptions; consider adopted general plans and spheres of influence; and consider natural resources and farmland. It must be internally consistent with the transportation and financing elements of the RTP and consistent with the adopted Regional Housing Needs Allocation. Finally, an SCS must be able to achieve the GHG reduction target established by the California Air Resources Board.
- ✓ **California Global Warming Solutions Act of 2006 (AB 32 and SB 32).** AB 32 requires that GHG emissions within California must be at 1990 levels by the year 2020. AB 32 identifies GHGs as specific air pollutants that are responsible for global warming and climate change, and it directs the California Air Resources Board (ARB) to implement the regulatory and market mechanisms necessary to achieve the specified reductions in GHG emissions.

These efforts include reducing emissions through land use and transportation planning. SB 32 extends the reductions of GHG emissions required by AB 32 by specifying a GHG reduction of at least 40 percent below 1990 levels by the year 2030. SB 32 also authorizes ARB to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. ARB is directed to carry out the process to achieve GHG emissions reductions in a manner that benefits the state’s most disadvantaged communities.

- ✓ **Title VI of the Civil Rights Act of 1964.** This law prohibits discrimination on the basis of race, color or national origin by recipients of federal funds such as state and local government agencies. Additionally, Title VI imposes obligations on recipients of federal funds to take affirmative action to assure, among other things, “that no person is excluded from participation in or denied the benefits of the program or activity on the grounds of race, color, or national origin.” These prohibitions against

discrimination were later supported by additional state and federal actions including Presidential Executive Order 12898 on environmental justice (EJ), which requires that federal agencies and recipients of federal funding “identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations.”

- ✓ **The California Complete Streets Act of 2008.** This law requires cities and counties to include complete streets policies as part of their general plans so that roadways are designed to safely accommodate all users, including bicyclists, pedestrians, transit riders, children, older people, and disabled people, as well as motorists. It complements existing State policy, which directs Caltrans to “fully consider the needs of non-motorized travelers (including pedestrians, bicyclists and persons with disabilities) in all programming, planning, maintenance, construction, operations and project development activities and products.”

- ✓ **Measure T.** Measure T was passed by voters in November 2006 to implement a 20-year ½ cent transportation sales tax in Madera County. Funds were provided for streets and highways, transit, and non-motorized modes of transportation. Measure T was originally estimated to generate approximately \$11 million per year based on the ½ cent sales tax for an estimated total of \$212 million over the course of the measure’s lifetime. Current estimates indicate that Measure T will generate \$213 million over the 20-year life of the Measure. The Measure T Renewal process was initiated in 2021 and as of the date of this PEIR a Draft Measure T Renewal Investment Plan and associated Implementing Guidelines have been posted for public review and comment. The Measure Renewal would take effect in 2027 if approved by the voters during the November 2022 general election.

- ✓ **Clean Air Act Amendments (1990).** Pursuant to Section 176 (c)(4) of the 1990 Federal Clean Air Act Amendments (CAAA), Metropolitan Planning Organizations (MPO) such as MCTC must demonstrate that the RTP/SCS conforms to the applicable State Implementation Plan (SIP). This process is described in the Federal Transportation-Air Quality Conformity Rule. The purpose of conformity is to ensure that regional transportation planning and programming remain consistent with state and local air quality planning efforts to expeditiously achieve and/or maintain the health-based National Ambient Air Quality Standards (NAAQS). Specifically, the following activities/tests are required to be documented when making conformity determinations of regional transportation plans in Madera County:
 - Expedient Implementation of Transportation Control Measures Test (Conformity Regulation, Section 93.113)
 - Emission Budget Test (Conformity Regulation, Section 93.118)
 - Transportation Plan is financially constrained (Section 93.108)
 - Interagency Consultation and Public Participation Procedures (Section 93.110)

Transportation Conformity with the Clean Air Act Amendments of 1990

The Federal Clean Air Act (FCAA) requires states to improve coordination between transportation and air quality planning and set a firm schedule for attainment of air quality standards. Federal transportation legislation strengthens the reforms of the Federal Clean Air Act Amendments (FCAAA) by requiring that local and state plans in nonattainment areas, such as in the San Joaquin Valley, be consistent with, or conform to, the State Implementation Plans (SIP) for clean air. The financially constrained projects listed in the RTP, have been analyzed to assure that their implementation will contribute to the attainment of improved air quality consistent with adopted SIPs.

The 2022 Regional Transportation Plan’s goals, objectives and policies are reflected in Chapter 2 of the RTP, as well as below and have been developed to serve as the foundation for both short and long-term planning. For purposes of the RTP/SCS the following definitions will apply.

Sustainable Communities Strategy

MCTC updates its Regional Transportation Plan (RTP) every four years. Senate Bill 375 (SB 375), which went into effect in 2009, added statutes to the California Government Code to encourage planning practices that create sustainable communities. It calls for each Regional Transportation Planning Agency (RTPA) to prepare an SCS as an integrated element of the RTP. The SCS is intended to show how integrated land use and transportation planning can lead to lower greenhouse gas (GHG) emissions from autos and light trucks. MCTC is including the SCS for the second time in its 2022 RTP. Reference Chapter 3 of the 2022 RTP for a thorough description of the MCTC SCS development process.

✓ Demographics

Three demographic measures form the primary SCS or future year 2022 through 2050 forecasts: household population, housing units, and employment. The forecasts are shown in Tables 2-1 through 2-3. It is important to note that the population and employment forecasts were held constant for each SCS scenario and were the basis for the spatial distribution of land use in each scenario.

TABLE 2-1
Demographic Forecasts - Madera County Years 2022 – 2046
2022 RTP/SCS (Project) - Population

Madera County DOF 2020 Projection	Projections						
	2022	2025	2030	2035	2040	2046	2050
Population	162,722	168,293	178,070	187,842	197,025	207,038	213,456
Percent Increase from 2022		3.42%	9.43%	15.44%	21.08%	27.23%	31.18%
Total Growth from 2022		5,571	15,348	25,120	34,303	44,316	50,734

TABLE 2-2
 Demographic Forecasts - Madera County Years 2022 – 2046
 2022 RTP/SCS (Project) - Employment

Employment							
Jurisdiction	2022	2025	2030	2035	2040	2046	2050
City of Chowchilla	18,196	20,195	21,368	22,541	23,643	24,845	25,615
City of Madera	65,415	69,000	73,009	77,015	80,780	84,886	87,517
Madera County	77,706	79,098	83,693	88,286	92,602	97,308	100,324
TOTAL	162,722	168,293	178,070	187,842	197,025	207,038	213,456

TABLE 2-3
 Demographic Forecasts - Madera County Years 2022 – 2046
 2022 RTP/SCS (Project) – Employment and Housing

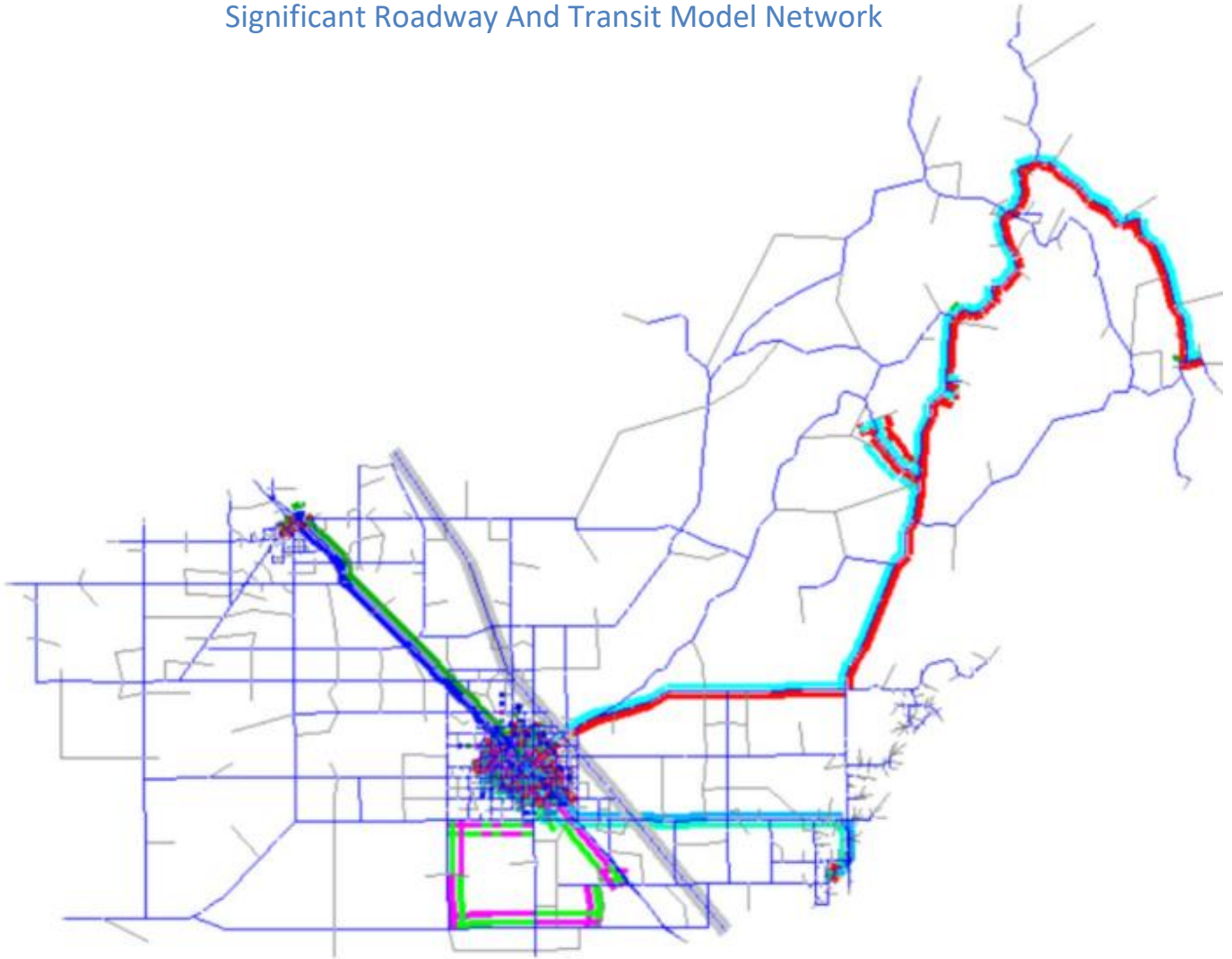
Employment and Households					
		Jurisdiction			Total
		City of Chowchilla	City of Madera	Madera County	
Employment	2022	3,211	15,643	30,342	51,218
	2035	4,367	20,104	34,933	61,439
	2046	5,055	22,786	37,595	67,482
Households	2022	4,418	18,060	26,257	50,757
	2035	5,098	20,932	32,827	60,892
	2046	5,488	22,608	36,743	66,885

✓ **Travel Modeling**

MCTC maintains and runs a regional travel demand forecast model or transportation model for the Madera County region. The Madera County travel model is a conventional travel demand forecasting model. It uses land use, socioeconomic, and road network data to estimate travel patterns, roadway traffic volumes and performance measures. The transportation model is also important in determining conformity to both state and federal air quality requirements. The model is used to identify segments of roads that have high automobile volumes and potentially adverse impacts as a result. The Madera County Travel Demand Model was updated in 2019. A new 2018 base year was developed to support upcoming RTP/SCS and Conformity analysis activities.

Detailed reviews of the 2018 highway network were conducted for accuracy and a 2018 transit network was developed to better represent transit level of service (LOS) for mode choice model. A new transit network consists of Madera County Connection (MCC) and Madera Area Express (MAX), and Amtrak rail service fixed routes are shown with the significant roadway network in Figure 2-3.

FIGURE 2-3
Significant Roadway And Transit Model Network



The model parameters related to travel behaviors, such as trip generation rates, auto ownership, mode shares, and trip length distribution were re-calibrated based on 2010 Census and the latest Census Transportation Planning Products (CTPP) data product which is based on 2012 – 2016 5-year American Community Survey (ACS) data.

The 2018 residential data was developed based on the 2010 Census information by census block and block group and incorporating the latest 2013-2017 ACS 5-year estimates and CA Department of Finance population and households estimates data.

The 2018 employment numbers and locations in the 2018 RTP MCTC Model was updated using CA Employment Development Department (EDD) Industry Employment & Labor Force Annual Average data for Madera Metropolitan Statistical Area.

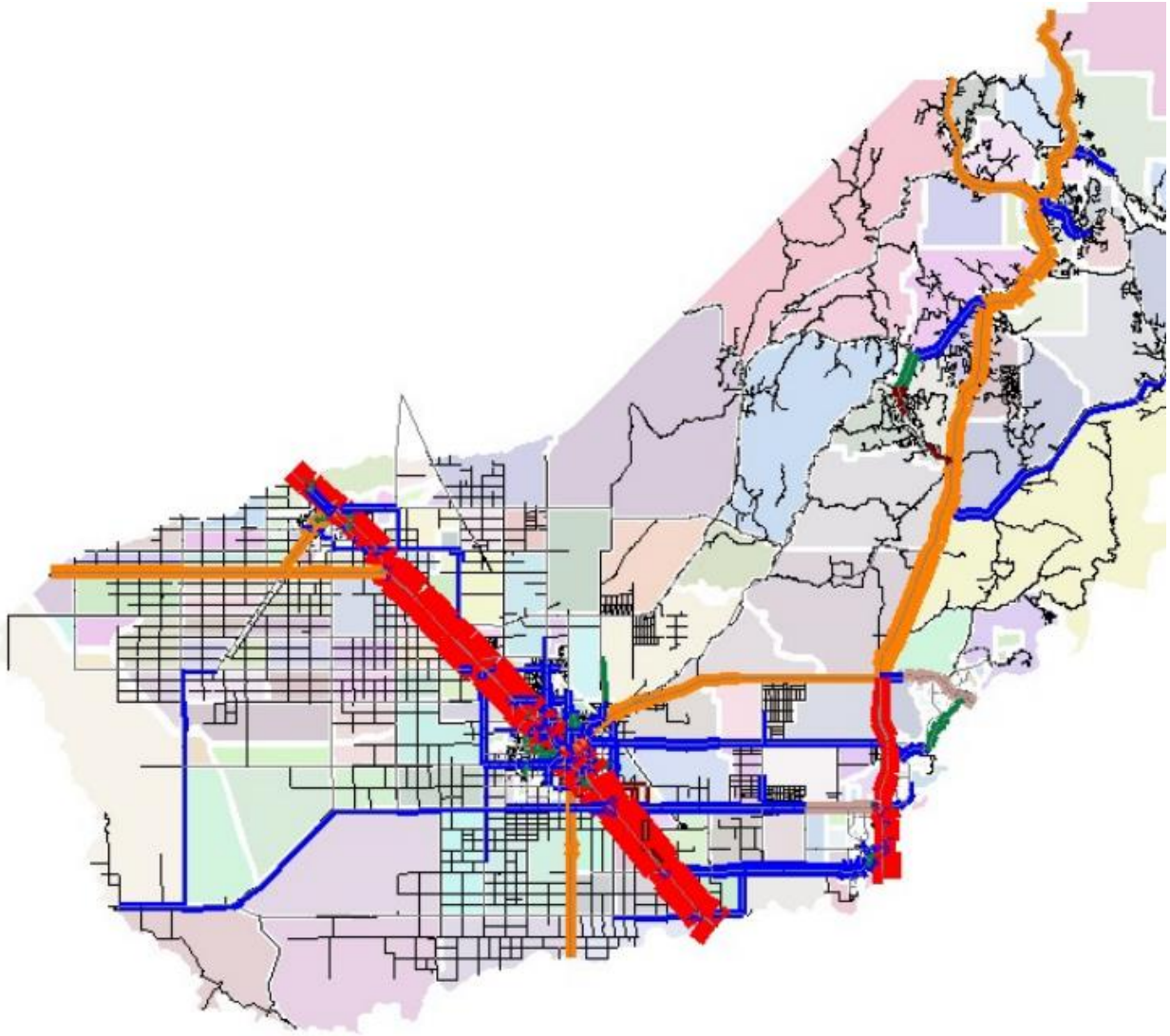
Since a transit trip can be counted as more than one boarding if one or more transfers are made on the route. Total daily transit trips were estimated by dividing ridership by (1+ average number of transfers). Three different daily transit trips were estimated using different average number of transfers assumptions, as a reference.

The average trip length of the segment of trips that are in adjacent Merced and Fresno counties were calculated using its county travel demand model, respectively. The trip length of internal-external/external-internal (IXXI) trips were updated by including the average trip length of the segment of trips that are in an adjacent county. Figure 2-4 provides an example of model forecast volumes along the major street, roads and highways within Madera County.

This updated IXXI trip length will be used in calculating SB 743 Vehicle Miles Traveled (VMT). A detailed process to compare model performance to observed data was undertaken in the development process. Observed traffic count sources utilized include FY 2018 Hourly Counts, Historical Average Annual Daily Traffic (AADT) (2004-2018) (overlapped with FY 2018 Hourly Counts), FY 2017 AADT (HPMS), FY 2015 AADT (HPMS), 2018 AADT (PeMS), Caltrans 2017 AADT, and the Madera Traffic Monitoring Program Counts.

With updated input data and revised model scripts, the non-highway assignment portions of the 2018 MCTC model were re-calibrated/re-validated based on targets generated from 2010 Census and 2012 California Household Travel Survey data. The calibration and validation criteria included trip generation, person trips per household, mode split by purpose, trip purpose by mode, VMT, transit, and travel time, and highway average daily traffic, among others. The updated model performs well within these criteria' established modeling thresholds

FIGURE 2-4
Example Forecast Volume Map



✓ **Performance Measures**

The Moving Ahead for Progress in the 21st Century Act (MAP-21) is the Federal transportation funding bill signed into law in 2012. A key feature of MAP-21 is the establishment of a performance- and outcome-based program, known as “Performance Based Planning,” with the objective to invest in projects that will make progress toward the achievement of the national goals for the transportation. The most recent Federal transportation bill, Fixing America’s Surface Transportation Act of 2016 (FAST Act), carries forward the same performance management framework. These acts established new performance management requirements to ensure that state Departments of Transportation and MPOs improve project decision-making through performance-based planning and programming to choose the most efficient investments for Federal transportation funds and beginning in 2018 its required that state departments of transportation and MPOs implement federally defined transportation system performance measures.

The performance measures (PM) for the Federal highway programs include:

- PM 1: HSIP and Safety Performance.
- PM 2: Pavement and Bridge Condition Performance.
- PM3: System Performance/Freight/CMAQ Performance.
- The performance measures for the Federal Transit Administration include:
 - Transit Asset Management
 - Transit Agency Safety Plan

Since the last RTP/SCS cycle, all measures have been adopted in the Madera Region.

✓ **Project Evaluation**

In 2021 MCTC utilized Senate Bill (SB) 1 planning funding to develop the Madera County Project Prioritization Study in partnership with the City of Madera, City of Chowchilla, County of Madera, and Caltrans. The outcome of the Study is a prioritization process for projects and programs to address traffic congestion, facilities maintenance, transit needs, aviation improvements, and active transportation (bicycle and pedestrian infrastructure and programs) to be implemented in the Madera County Region.

The Project Prioritization Study is a variable tool that will be frequently revisited by MCTC, Madera County, City of Chowchilla, City of Madera, and Caltrans staff as projects, funding assumptions, goals, and other attributes change from plan to plan, study to study, and year to year.

The Study is a key tool to track and assess project priority for the RTP/SCS, and other project implementation plans in the region.

The goals of the Project Prioritization Study were to identify and prioritize transportation projects that serve the region and help MCTC meet various goals related to Greenhouse Gas (as mandated by Senate Bill (SB) 375) reduction, reducing vehicle miles traveled (as mandated by both SB 375 and SB 743), better accommodating diverse modal choice, increasing traffic safety, supporting economic vitality, and decreasing adverse health effects related to travel throughout the Madera Region. The overall process also was designed to advance MCTC's overarching goal of further promoting social equity in transportation project delivery.

The main objectives of the Study were to:

- Develop a comprehensive database of transportation improvement projects by mode to address needs, including project prioritization and a cost estimation tool.
- Develop a comprehensive set of performance/evaluation criteria that are important to enhancing the quality of life in Madera County.
- Recognize the importance of prioritizing investment in underserved communities.
- Identify viable and available funding sources to enable multimodal project delivery.

Another objective of the Study was to enhance the capability of transportation agencies serving the Madera County region to address key transportation issues. These issues include traffic congestion, traffic safety, transportation facility maintenance, transit needs, and accommodating vehicle alternatives, such as bicycle and pedestrian travel.

✓ **SCS Development Process**

The MCTC 2022 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) details how the region will reduce greenhouse gas (GHG) emissions to state-mandated levels over time. The inclusion of the SCS is required by Senate Bill 375 and stresses the importance of meeting GHG per capita emission reduction targets set by the California Air Resources Board (CARB). MCTC has approached development of the SCS as an "opportunity" to enhance the integration of transportation, land use and the environment in the Madera region.

To meet the reduction targets for SB 375, Madera County must reduce GHG emission per capita by 10% in 2020 and 16% by 2035 compared to 2005 GHG per capita. Achieving this is done through an array of transportation and land use strategies contained within a defined planning scenario.

SB 375 requires the integration of transportation, land use, and housing planning with the next updates of the RTPs and Regional Housing Needs Assessment (RHNA). The goal of the SCS is to plan for more sustainable communities that will result in transportation modes that reduce the use of single occupant vehicles. Transportation strategies contained in the RTP, including Transportation System Management (TSM), Transportation Control Measures (TCM) and multi-modal transportation system improvements, are major components of the SCS, along with the preferred land use scenario.

Transportation and land use integrated together results in less vehicle trip making, especially resulting from increased density, mixed-use, and land use intensity. The SCS must:

- Identify existing and future land use patterns
- Identify transportation needs and the planned transportation network
- Consider statutory housing goals and objectives
- Identify areas to accommodate short- and long-term housing needs
- Consider resource and farmland areas

In addition to the new requirements listed above, preparation of the RTP is the same as it has been in previous updates and must include:

- A long-range growth forecast of at least 20 years
- Estimate where growth and development will realistically occur consistent with market demand within the region
- Develop a list of multi-modal transportation improvements considering projected revenues
- Address federal Clean Air Act requirements resulting from the air quality conformity analysis of the list of improvement projects

Scenarios

MCTC developed three new planning scenarios for the 2022 RTP/SCS. They were distinct from one another in its approach to land use growth and transportation strategies. Scenario 3 was selected as the preferred scenario.

Blueprint Background Data

In 2006, the eight regional planning agencies in the San Joaquin Valley came together in an unprecedented effort to develop a coordinated valley vision – the San Joaquin Valley Regional Blueprint. This eight-county venture was conducted in each county and was ultimately integrated to form a preferred vision for future development throughout the Valley to the year 2050.

On April 1, 2009, the San Joaquin Valley Regional Policy Council adopted a preferred growth scenario for the Valley along with 12 Smart Growth Principles to guide development and promote the livable and sustainable communities mentioned above.

Through the Blueprint process, extensive spatial datasets were developed and created using existing development information from the Madera County Assessor's rolls at the parcel level; generalizing and standardizing all land use policy information for jurisdictions within the county; and other physical and environmental constraints. The processing of the datasets resulted in the creation of new data that identified land available for development under the different Blueprint Scenarios. The Blueprint

Study developed four scenarios that were modeled for future growth until the horizon year of 2050. The scenarios were defined as Status Quo, Low Change, Moderate Change, and Major Change. The 2014 and 2018 Madera County RTP/SCS alternative scenarios are based upon the original Blueprint parameters with slight revisions, highlighting the demographic shares, land use intensities, and spatial location preferences; however, the parameters have been revised slightly to increase housing and employment densities for the three alternative scenarios considered for the 2018 RTP/SCS.

MCTC has picked up where the 2018 RTP/SCS preferred scenario left off to start the land-use scenario planning element for the 2022 RTP/SCS with the intent being for greater GHG emission under the framework of the Madera Blueprint process, but to also ensure meaningful progress is sustained. MCTC have modified the previous Blueprint parameters to be responsive to outreach feedback received and new, more stringent GHG reduction targets. These modifications are gradual in their escalation.

The scenarios apply different standards by area type in Madera County. The four area types are:

1. City of Madera – Larger, urbanized city.
2. City of Chowchilla – Smaller, moderately urbanized city.
3. Urban Unincorporated – Developing into Large urbanized area (confined to southeastern Madera County).
4. Rural Unincorporated – Small rural communities in the valley, foothills, and mountains.

MCTC has prepared three scenarios for the 2022 RTP/SCS development. The scenarios are:

Scenario 1 Continued Trends – Assumes growth and housing development like what we see existing in our region today. Maintains a road-centric investment strategy with gradual increases towards multi-modal strategies.

- Assumes County-wide growth based on previously observed trends with no new land-use strategies
- Invests in public transit based on existing trends
- Invests in active transportation consistent with existing trends
- Focuses on addressing roadway travel conditions related to congestion, maintenance, and accessibility
- Is compliant with local jurisdiction General Plans
- Consumes 4,642 acres of Farmland
- Project 21.4% of housing within a ¼ mile of fixed route public transit
- Produces the highest vehicle miles traveled (VMT) per capita of the three scenarios
- Achieves the least GHG reduction per capita of the three scenarios

Scenario 2 Moderate Shift – Moderately increases densities of housing and development in urbanized areas with slight increases to densities in the remainder of the county. Conservative shift in investment towards zero-emission vehicle infrastructure, public transit, shared ride options, micromobility, and non-motorized transportation strategies.

- Applies focused land-use strategies by sub-region
 - City of Madera
 - South SR 41 Growth Area
 - City of Chowchilla
 - Rural Valley
 - Rural Mountain/Foothill
- Moderate change growths parameters in urban areas
 - Higher density new development in urban areas
 - Lower densities in rural areas
- Is compliant with local jurisdiction General Plans
- Invests more in public transit and active transportation
- Focuses on addressing roadway travel conditions related to congestion, maintenance, and accessibility
- Explores moderate investment towards additional transportation strategies
 - Vanpooling
 - Telecommuting
 - Electric vehicles and infrastructure
 - Employer programs
 - Travel demand strategies
 - Bike and car sharing services
- Consumes 3,835 acres of Farmland
- Project 24.8% of housing within a ¼ mile of fixed route public transit

Scenario 3 Conservation and Mobility – Prioritized development in infill and redevelopment zones, assumes more compact lot sizes in core urban areas, moderate increases to densities in urban areas and slight increases to densities in the remainder of the county, outside of urban cores. Accelerates investment shift towards zero-emission vehicle infrastructure, public transit, shared ride options, micromobility, and non-motorized transportation strategies.

- Applies focused land-use strategies by sub-region
 - City of Madera
 - South SR 41 Growth Area
 - City of Chowchilla
 - Rural Valley
 - Rural Mountain/Foothill

- Moderate change growths parameters in urban areas
 - Higher density new development in urban areas
 - Lower densities in rural areas
- High focus on infill and urban core development
- Is compliant with local jurisdiction General Plans
- Invests more in public transit and active transportation
- Focuses on addressing roadway travel conditions related to congestion, maintenance, and accessibility
- Explores aggressive investment towards additional transportation strategies
 - Vanpooling
 - Telecommuting
 - Electric vehicles and infrastructure
 - Employer programs
 - Travel demand strategies
 - Bike and car sharing services
- Consumes 3,664 acres of Farmland
- Project 26.9% of housing within a ¼ mile of fixed route public transit
- **Produces the lowest vehicle miles traveled (VMT) per capita of the three scenarios**
- **Achieves the most GHG reduction per capita of the three scenarios**

Land Use Allocation

Land use categories from the Madera Travel Demand Model have been translated into a standardized land use category set to be used by the UPlan software. UPlan is a rule based urban growth model intended for regional or county level modeling. The needed space for each land use type is calculated from simple demographics and assigned based on the net attractiveness of locations to that land use (based on user input), locations unsuitable for any development and a general plan that determines where specific types of development are permitted.

The Uplan parameters were based off outreach inputs received from outreach, then applied through a combination of local land use plans to ensure allocation would occur in a manner not inconsistent with locally approved planning and guidance documents.

This process established the contents of the land use parameters in place for the SCS scenarios. These can then be input into the Madera County Travel demand model. They will generate travel activity depending on where the various land uses are distributed in the region. The parameters of the scenarios were as follows:

- *Scenario 1 Continued Trends* – Allocate growth in a manner consistent with past trends with slight increases to density or housing density share.

- *Scenario 2 Moderate Shift* – Allocate growth toward established growth and urban area, moderate increases to lot sizes and housing density share.
- *Scenario 3 Conservation and Mobility* – Allocate growth towards established growth and urban area, prioritize infill, further increase lot sizes and housing density share.

Table 2-4 depicts variances in lot size between area type for three scenarios. Table 2-5 depicts demographic shift in housing density type

TABLE 2-4
Scenario Lot Size Shift

Scenario 1	City of Chowchilla	City of Madera	Rural County	Urban County
Very Low and Very Low	6.75%	1.80%	56.00%	4.70%
Medium	80.00%	71.00%	42.00%	74.75%
Medium High	12.50%	20.00%	2.00%	18.20%
High	0.75%	7.20%	0.00%	2.80%
Scenario 2	City of Chowchilla	City of Madera	Rural County	Urban County
Very Low and Very Low	6.50%	1.00%	56.00%	3.05%
Medium	79.00%	65.00%	42.00%	70.75%
Medium High	13.00%	22.00%	2.00%	20.20%
High	0.75%	12.00%	0.00%	6.00%
Scenario 3	City of Chowchilla	City of Madera	Rural County	Urban County
Very Low and Very Low	6.50%	1.00%	53.00%	3.00%
Medium	79.00%	65.00%	42.00%	70.75%
Medium High	13.00%	22.00%	2.00%	20.25%
High	0.75%	12.00%	0.00%	6.00%

Modelling Roadway Projects

MCTC utilizes the travel demand model to forecast Travel condition that result from trips being generated from various land uses throughout the county. The model uses land use, socioeconomic, and road network data to estimate travel patterns, roadway traffic volumes and performance measures.

The roadway network used in the traffic model is where projects that influence auto travel capacity are cumulatively assessed by the impact, they cause by travel generated from land uses.

Roadway improvements added to the model are systematically identified by location, project limits, the nature of the improvement, and the projected opening year. MCTC has developed a list of roadway projects through consultation with local agencies responsible for implementing the projects and from feedback received from stakeholders. MCTC assesses each project with a criteria process outlined in the MCTC Project Prioritization Study (Appendix G).

The goals of the Project Prioritization Study were to identify and prioritize transportation projects that serve the region and help MCTC meet various goals related to Greenhouse Gas (as mandated by Senate Bill (SB) 375) reduction, reducing vehicle miles traveled (as mandated by both SB 375 and SB 743), better accommodating diverse modal choice, increasing traffic safety, supporting economic vitality, and decreasing adverse health effects related to travel throughout the Madera Region. The overall process also was designed to advance MCTC’s overarching goal of further promoting social equity in transportation project delivery. A complete listing of all modal projects in the RTP/SCS can be viewed in *Appendix B Project Listing*.

Table 2-4 depicts variances in lot size between area type for three scenarios. Table 2-5 depicts demographic shift in housing density type.

TABLE 2-5
Shift in Housing Density Type

Scenario 1	City of Chowchilla	City of Madera	Rural County	Urban County
Very Low and Very Low	6.75%	1.80%	56.00%	4.70%
Medium	80.00%	71.00%	42.00%	74.75%
Medium High	12.50%	20.00%	2.00%	18.20%
High	0.75%	7.20%	0.00%	2.80%
Scenario 2	City of Chowchilla	City of Madera	Rural County	Urban County
Very Low and Very Low	6.50%	1.00%	56.00%	3.05%
Medium	79.00%	65.00%	42.00%	70.75%
Medium High	13.00%	22.00%	2.00%	20.20%
High	0.75%	12.00%	0.00%	6.00%
Scenario 3	City of Chowchilla	City of Madera	Rural County	Urban County
Very Low and Very Low	6.50%	1.00%	53.00%	3.00%
Medium	79.00%	65.00%	42.00%	70.75%
Medium High	13.00%	22.00%	2.00%	20.25%
High	0.75%	12.00%	0.00%	6.00%

Scenario Transportation Objectives

Each scenario takes a different approach towards transportation strategies. The degree and aggressiveness of these strategies correlate to degree of aggressiveness to the land use aspects of the scenarios. The additional travel strategies include the following;

- *Scenario 1 Continued Trends* – Only moderate increases in alternative modes to autos, such as transit, bike, and pedestrian.
- *Scenario 2 Moderate Shift* - Conservative shift in investment towards zero-emission vehicle infrastructure, public transit, shared ride options, micromobility and non-motorized transportation strategies.
- *Scenario 3 Conservation and Mobility* - Accelerated investment shift towards active transportation, zero-emission vehicle infrastructure, public transit, shared ride options, micromobility and other alternative transportation strategies.

In Chapter 5, Financial Element, funding allocations for transportation highlight significant investment towards active transportation, public transit and road repair and rehabilitation. These investments align with the feedback stakeholders provided and the regions preferred scenario.

As part of the outreach effort, engagement participants were asked what other modal options they would consider viable for themselves and their neighborhood or communities. These options were specifically called out as transportation strategies that could help shift the single-occupancy vehicle transportation paradigm. These strategies ranged from already utilized investments such as public transit to strategies not yet applied in the Madera region such as transportation pricing. The strategies asked about include the following:

- *Transit Improvements*
 - Enhancing existing services or create new public transit connections.
 - Restructure of existing services
 - Fares
 - Frequencies
 - Routes
 - Improving accommodations
 - Building shelters
 - More accessible schedules
 - Rider phone apps
- *Bicycle and Pedestrian Investment*
 - Making improvements to the active transportation networks in communities, making non-motorized transportation a more viable choice.
 - Maintaining current facilities

- Constructing new facilities
- Safety signage, painting, and wayfinding
- *Car Sharing*
 - Creating mobility opportunities in rural or underserved communities through shared vehicle services.
- *Parking Management*
 - Parking management able to respond to peak demands within core urban areas.
- *Zero Emission Vehicles and Electric Vehicle Charging Infrastructure*
 - Integrating new vehicle technology, transition away from internal combustion engines to battery electric powered vehicles.
- *E-Scooter/Bike Share*
 - Moving people in urban areas using clean, micromobility options.
- *Telecommuting/ Virtual Instruction*
 - Understanding how communication has changed the past two years, where can we continue to benefit from that change.
 - Expanding reliable broadband internet access in rural and remote communities.
- *Transportation System Management and Intelligent Transportation Systems*
 - Strategies to optimize the performance of existing infrastructure. Implementing multimodal and intermodal systems. Combining various technologies to improve the operating capabilities of the transportation system.
- *Van Pools*
 - Shared ride vanpool programs designed to get people to their place of employment whether close or far.

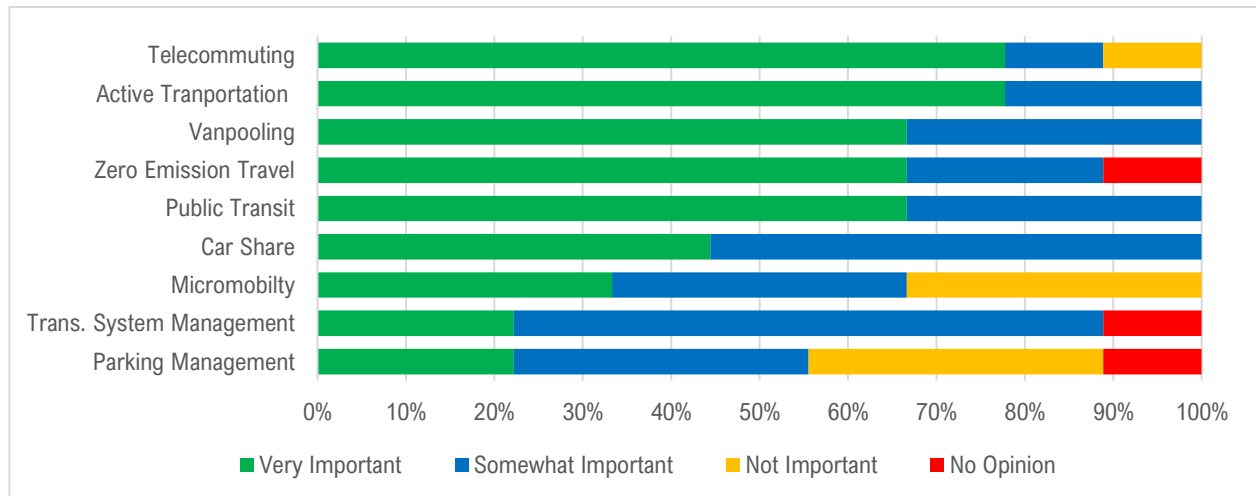
There was general interest in all the strategies, however community feedback indicated preferred options participants believed would be viable for helping meet the objectives of the RTP/SCS. A summary of interest in the strategies is shown in Figure 2-5.

Off-Model GHG Reductions

The Madera County travel demand model is primarily used to project the behavior of vehicle travel. The behavior it outputs can be used to inform the EMFAC2014 model to then model emission factors produced because of modeled vehicle behavior. There are additional transportation strategies able to bare positive GHG impacts the travel demand model and EMFAC2014 model are not able to account for. The off-model strategies include:

- *San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 9410 eTRIP Program* – The eTRIP Rule (Rule 9410, Employer Based Trip Reduction), was adopted by the District Governing Board on December 17, 2009. The eTRIP Rule requires larger employers to establish an Employer Trip Reduction Implementation Plan (eTRIP) to encourage employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes.

FIGURE 2-5
 Additional Transportation Strategies to Reduce GHG Emissions



- **Bike & Pedestrian Infrastructure Program** – In the 2022 RTP/SCS, Madera County plans an increase in bicycle lane mile of nearly 66% by 2035. The ability to access new bicycle facilities and entice modal shift away from vehicle travel is not captured in the Madera County Travel Demand Model.
- **Vanpooling** – CalVans is a major provider of vanpooling service in Madera County. Several vanpools currently provide service to the Chowchilla state prison complex. These vanpools are not included due to not double counting with Rule 9410 or counting state funded services. MCTC has worked with CalVans staff to project conservative private employer vanpool growth in the Madera region not captured by the Madera County Travel Demand Model.
- **Transit Enhancement** – Madera transit systems will expand service and routes to meet new demand in the future. The enhancement of existing or expansion of new services and the resulting ridership increases are not captured by the Madera County Travel Demand Model.
- **Bike Share** – A bike share program operated by the Madera Police Department was initiated in the City of Madera as part of the Esperanza Village development complete in 2022. Bike share strategy is not captured by the Madera County Travel Demand Model.

In reflecting the public engagement feedback received regard additional or new transportation strategies for the region to pursue, the above listed off-model strategies are applied to the *Scenario 1 Continued Trends, Scenario 2 Moderate Shift and Scenario 3 Conservation and Mobility* RTP/SCS alternative. They well with the key objectives of the preferred RTP/SCS scenario, *Scenario 3 Conservation and Mobility: accelerate investment shift towards zero-emission vehicle infrastructure, public transit, shared ride options, micromobility, and non-motorized transportation strategies.*

Induced Demand

Induced demand analysis is required by CARB for SB 375 analysis of CO₂ emissions. In order to reflect VMT resulting from new roadway capacity, additional calculation is required to augment results generated in the travel demand modeling process for the RTP/SCS. The California Induced Travel Calculator developed by the National Center for Sustainable Transportation was utilized to calculate the impact of roadway capacity changes to roadway facilities with Federal Highway Administration (FHWA) functional classifications of 1, 2 or 3, the being interstate, freeways, and highways/major arterials.

Madera County has no FHWA class 1 facilities. Over the course of the plan there are several projects with changes to capacity on FHWA class 2 and 3 facilities. An elasticity of 0.75 is used for lane additions to class 2 or 3 facilities. Elasticity represents the increase in VMT from a given increase in roadway capacity. Induced demand research has indicated a 10% increase in roadway capacity is likely to increase network wide VMT by 6 to 10 percent equating to an elasticity of 0.6 to 1.0 with higher elasticity for expansions of major highways (interstates) than for capacity increases on other class 2 or 3 facilities.

The research the California Induced Travel Calculator is built from is not necessarily reflective of the Madera region in that much of it is derived from much larger, more urban metropolitan areas. However, the calculator applies an elasticity range from 0.75 to 1.0. The elasticity in Madera would not necessarily be this high based on the rural, low population and congestion nature of much of the region.

In the assessment of CO₂ emissions for Sb 375, the California Induced Travel Calculator VMT data output because of changes to lane miles on class 2 and 3 facilities added to the travel demand model VMT total before emissions analysis using EMFAC2014 begin so CO₂ assessment.

Scenarios Performance and Emissions Modeling

Upon completion of scenario modeling using the travel demand model, the modeled outputs are prepared for emissions analysis using the EMFAC2014 model developed by CARB. The results of the emissions modeling process indicate the potential progress the region may make if the RTP/SCS is effectively implemented. Table 2-6 shows the performance of the preferred scenario as it relates to meeting the GHG reduction targets.

TABLE 2-6
 Scenario 3 Conservation and Mobility GHG Reduction from 2005

	Target	Result
Reduction in CO2 per capita from 2005 to 2020	10%	-18%
Reduction in CO2 per capita from 2005 to 2035	16%	-22%

Table 2-7 Shows how the scenarios perform in 2035 in GHG and VMT reduction.

TABLE 2-7
 2035 Future VMT and GHG Reduction Per

	Scenario 1	Scenario 2	Scenario 3
Reduction in CO2 per capita from 2005 to 2035	-21.60%	-22.05%	-22.12%
Reduction in VMT2 per capita from 2005 to 2035	-18.22%	-18.73%	-18.78%

Table 2-8 indicates a shift in modal activity away from single occupancy vehicles and towards other modes, especially for the preferred scenario.

Multimodal Transportation System

✓ Highways and Arterials

Regional access to Madera County is provided by six state highways -- State Routes (SR) 41, 49, 99, 145, 152 and 233, with SR 41 and SR 99 carrying the bulk of North-South travel.

Madera County's street network generally consists of a series of freeways, expressways, arterials, and collectors including Roads 4, 9, 16, 23, 26, 36, 200, 223, 274, 400, 415, 600, Avenues 7, 7 ½, 9, 12, 14, 18 ½, 21, and 26, and Firebaugh and Children's Boulevards.

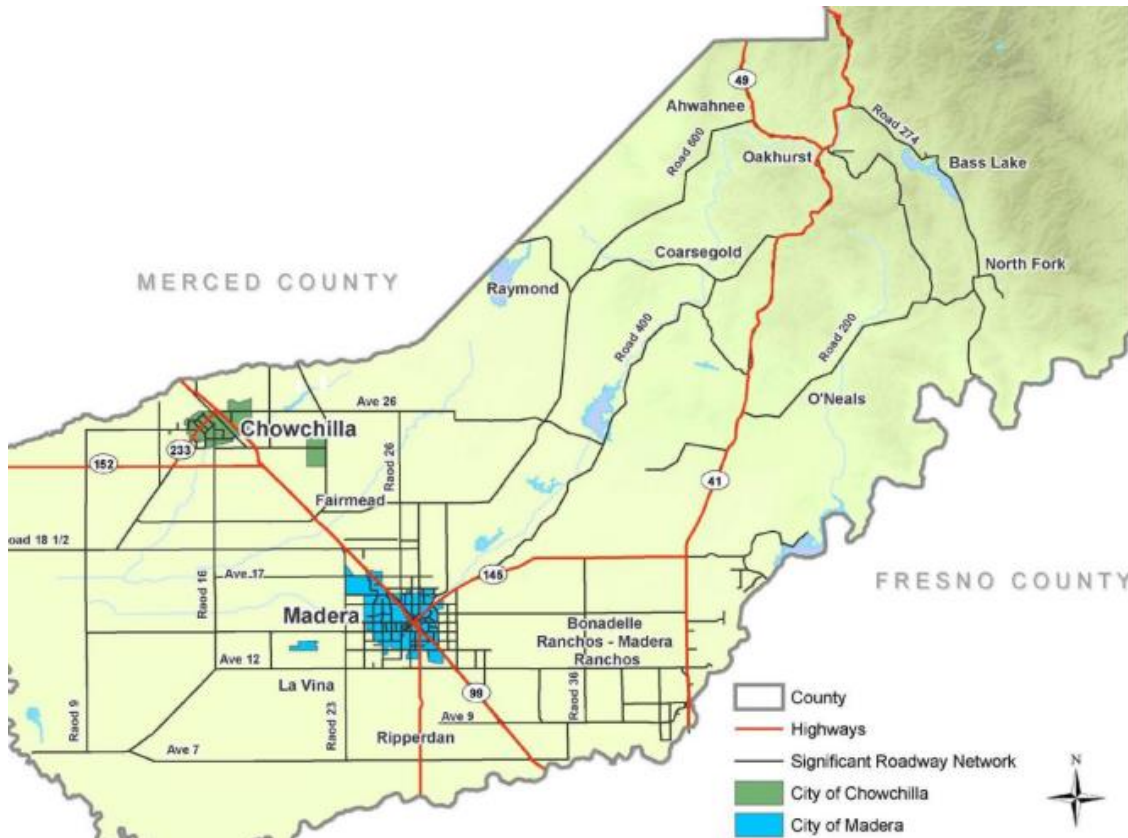
The City of Chowchilla is in north-central Madera County primarily along the west side of SR 99, straddling SR 233 (Robertson Boulevard). The City of Madera is in central Madera County and straddles both sides of SR 99 and SR 145 (Madera, Gateway, and Yosemite Avenues). Other major arterials in the City of Madera include Avenue 12, Avenue 14 (Howard Road and Olive Avenue), Cleveland Avenue, Road 23, and other sections of Gateway Drive.

In addition, SR 41 provides access to the communities of Coarsegold and Oakhurst, leading into the Sierra Nevada Mountains towards Yosemite National Park. SR 49 branches off SR 41 in Oakhurst providing access to the community of Ahwahnee. Each of these major streets and highways, in addition to others depicted on Figure 2-6, are part of the Madera County Regionally Significant Road System.

TABLE 2-8
 2035 and 2046 Modal Shift

	2020	2035	2046
Mode			
Drive alone	297,804	339,988	367,699
Two-person shared ride	128,958	150,052	164,429
Three-plus person shared ride	172,383	203,168	224,931
Transit	2,411	2,791	3,059
Walk	6,250	7,933	9,118
Bike	87,117	107,502	121,703
Home to work average trip distance (miles)	9.37	8.67	8.26
Home to work trip average time (minutes)	15.24	15.24	14.20
Mode Split			
Drive alone	42.9%	41.9%	41.3%
Two-person shared ride	18.6%	18.5%	18.5%
Three-plus person shared ride	24.8%	25.0%	25.2%
Transit	0.3%	0.3%	0.3%
Walk	0.9%	1.0%	1.0%
Bike	12.5%	13.2%	13.7%

FIGURE 2-6
Significant Communities and Roadways



✓ **Regionally Significant Roads System**

MCTC, in conjunction with its member agencies and Caltrans, has developed the "Regionally Significant Road System" for transportation modeling purposes based on the FHWA Functional Classifications System of Streets and Highways. In general, the classification systems used by local agencies coincide with the FHWA Functional Classification System. However, design standards and geometrics for particular streets within local jurisdictions, are subject to specific design criteria of the local agency.

There is a significant distinction between the Regionally Significant Road System and the Countywide Network. Regionally significant projects are statutorily required to be treated separately for air quality reasons.

Functional Classification System is the process by which streets and highways are grouped into classes according to the type of service they are intended to provide. Fundamental to this process is the recognition that individual streets and roads do not serve travel independently in any major way. Functional classifications define the channelization process by defining the area that a particular road or street should service through a highway network.

✓ **State Highways**

SR 99: A four-lane freeway from the Fresno County Line to Avenue 21 and from SR 152 to the Merced County Line. The segment between Avenue 21 and SR 152 was widened to a six-lane freeway. SR 99 is the primary inter-regional corridor within the San Joaquin Valley. It provides a critical linkage for shipment of agricultural goods to markets outside of the Valley; provides for through traffic between major metropolitan areas of California; and during the summer months has significant recreational access function.

SR 41: A four-lane freeway between the Fresno County Line and Avenue 10 and extends in a north/south direction through eastern Madera County to the Mariposa County Line as a two-lane highway with the exception of a four-lane section within the Community of Oakhurst. SR 41 has regional and national importance as an access to Yosemite National Park and the recreational areas of the east county. With residential growth in the SR 41 corridor, most notably in the Oakhurst, Coarsegold, Yosemite Lakes, and the Ranchos area, this route is becoming increasingly important as a commuter link to the Fresno-Clovis Metropolitan Area (FCMA).

SR 49: A two- to four-lane highway in eastern Madera County extending 9 miles north and west from its intersection with SR 41 in Oakhurst. This facility provides local circulation within the general Oakhurst/Ahwahnee area and regional access to the California “Gold Country” and Yosemite National Park.

SR 145: A two- and four-lane highway extending north/south from the Fresno County Line to the City of Madera, then east/west to its intersection with SR 41, SR 145 provides a secondary access to Yosemite National Park via SR 41 and provides an important linkage to both SR 99 and Interstate 5 (I-5) for farm to market shipping.

SR 152: A four-lane divided expressway extending east/west from the Merced County Line to SR 99. SR 152 is a primary access route from the central San Joaquin Valley to Monterey and Santa Clara Counties. It is an important agricultural, commercial, and recreational access route.

SR 233: A two- and four-lane highway extending four miles northeasterly from its intersection with SR 152 to the interchange with SR 99. This route serves primarily to provide for northbound traffic movement from SR 152 and SR 99, as well as local access to Chowchilla.

✓ **Goods Movement**

The San Joaquin Valley is a key trade and transportation gateway, vital for Madera County's local economy. The San Joaquin Valley generates more than \$35 billion every year. Agriculture plays a major role in the national and international distribution of processed foods and energy products and has created a burgeoning logistics and distribution industry. The agriculture industry in Madera County alone had a value of \$1.95 billion in 2020. Approximately half of the goods moving through the San Joaquin Valley passes through to ports, major urban centers, and/or out of state. The San Joaquin Valley is California's fastest-growing region, with a population of over 4 million that is anticipated to grow to more than 6 million by 2035. State Route 99 is one of the two main corridors providing the bulk of the capacity for this goods movement flow that primarily benefits the rest of the state while greatly impacting the Valley's air emissions. Figure 2-7 shows project truck volumes in the San Joaquin Valley.

The San Joaquin Valley is expected to experience significant growth in the form of goods movement (intraregional movements, outbound tonnage) and residents. The valley is expected to almost double the traffic along its major corridors, including SR 99, during the next couple of decades, which could exacerbate the existing issues.

Goods movement by trucking is the most used mode, followed by rail then air. Trucks can utilize a wider network within the region than rail or air, providing direct access to goods for transport from farms, processing and distribution centers, product deliveries, and other transport modes. A significant portion of trucks operating in Madera County filter onto the state highway system, with SR 99 having a heavier share of truck volumes. Caltrans Average Annual Daily Traffic Counts show segments of SR 99 that see as many as 85,000 vehicle trips per day. As much as 25% of those volumes are from trucks.

➤ **State Route 99 Business Plan**

In 2005, Caltrans published the SR 99 Business Plan, which outlined a strategic approach to transforming SR 99 into a safe and efficient trade corridor. The plan solidified Caltrans' long-term goals for the route and a corresponding list of projects to achieve those goals, thereby streamlining funding decisions for corridor improvements. A key priority for this work was completing widening projects necessary for SR 99 to be a six-lane corridor.

FIGURE 2-7
Project Truck Volumes in San Joaquin Valley



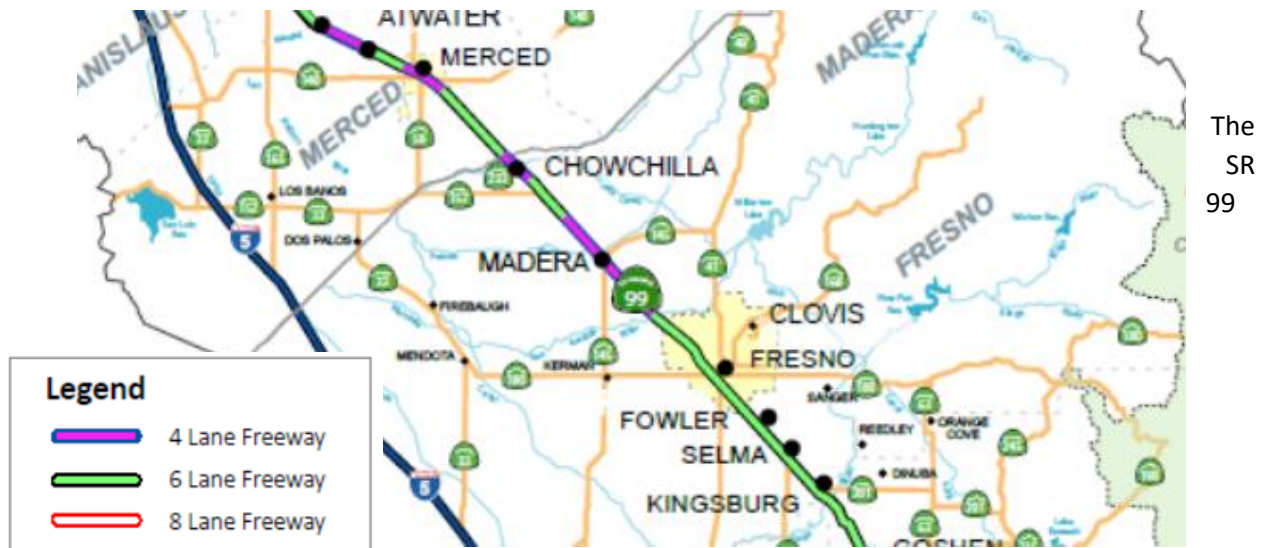
Today, the goal established in the Business Plan of widening SR 99 from 4 to 6 lanes from Kern County to San Joaquin County, remains unfinished. As a result, the corridor is needlessly congested and unsafe, hampering economic activity, negatively impacting the quality of life in the San Joaquin Valley, and adversely impacting air quality and the environment.

Currently, SR 99 in Madera County is a mix of 4-lane to 6-lane segments (three 4-lane segments and two 6-lane segments). Figure 2-8 highlights the back and forth from 4-lanes to 6-lanes in Madera County. From the Merced/Madera County line to the SR 152 interchange, from Avenue 21.5 to Avenue 17, and from Avenue 12 to the Madera/Fresno County line are currently 4-lanes. This creates four bottleneck points in Madera County which are the cause of frequent congestion and collisions creating serious risks to public safety and health.

These problems are exacerbated by the high levels of truck volume currently utilizing SR 99.

Business Plan was last updated in 2020. Finishing SR 99 throughout the San Joaquin Valley is a Priority of the Plan. A minimum width six-lane SR 99 corridor is essential to support jobs, the economy, goods movement, farm-to-market needs, reduce air quality and climate impacts. While the primary goal of projects to achieve a 6-lane SR 99 corridor is to meet travel demand, there are also safety benefits as well as enhancements of freight movement through the corridor.

FIGURE 2-8
2020 SR 99 Existing Facilities



The
SR
99

Projects in this category include capacity-increasing such as 4-lane to 6-lane /managed lanes to reduce recurring congestions, relieves bottlenecks, and improve travel time reliability for freight movements. Figure 2-9 highlights the 2035 concept facility design in Madera County from the SR 99 Business Plan.

FIGURE 2-9
2035 SR 99 Existing Facilities



Finishing SR 99 continues to be a priority in the Madera region and San Joaquin Valley for economic, safety and environmental reasons. Projects to close gaps and improve SR 99 have been support by local Measure T funds, State Transportation Improvement Program funding, Interregional Transportation Improvement Program (ITIP), and awarded Trade Corridor Enhancement Program grant funding. Priority SR 99 Goods Movement projects include:

- **Avenue 7 to Avenue 12 Gap Closure** – Near-term project, scheduled for completion in 2026. ITIP funding awarded for construction and is pending State Highway and Operation Protection (SHOPP) award. This Project will increase capacity, improve safety, reduce congestion, increase connectivity, improve travel-time reliability of time-sensitive goods, and preserve acceptable facility operation on SR 99. The 2020 annual daily truck traffic is 21% of total traffic and the number of truck trips is expected to nearly double within 20 years. Traffic projections indicate current capacity will be exceeded within 15 years, resulting in greater delay, congestion, and safety issues.
- **Avenue 17 to Avenue 21 1/2 Gap Closure** – Currently accruing funding for environmental review and planning, specifications, and estimates. This Project will increase capacity which will increase safety, reduce congestion, increase connectivity, improve travel-time reliability of time-sensitive goods, and preserve acceptable facility operation on SR 99. The 2020 annual daily truck traffic is 22% of total traffic and the number of truck trips is expected to nearly

double within 20 years. Traffic projections indicate current capacity will be exceeded within 15 years, resulting in greater delay, congestion, and safety issues.

- **Merced/Madera County Line to State Route 152 Gap Closure** – This Project will increase capacity which will increase safety, reduce congestion, increase connectivity, improve travel-time reliability of time-sensitive goods, and preserve acceptable facility operation on SR 99. The 2020 annual daily truck traffic is 25% of total traffic and the number of truck trips is expected to nearly double within 20 years. Traffic projections indicate current capacity will be exceeded within 15 years, resulting in greater delay, congestion, and safety issues. The project would complete the SR 99 mainline corridor through the County of Madera.

- **State Route 233 Interchange Roundabouts**

MCTC has worked closely with the City of Chowchilla and Caltrans to improve the Robertson's Boulevard/SR 233 at SR 99 interchange. A plan is in place to construct northbound and southbound on and off ramps. The project is part of the Madera County Measure T Regional Program as a Tier 1 project.

The project will reduce congestion that is occurring and is projected to worsen, provide ADA access, and install pedestrian and bicycle infrastructure that are currently absent. The SR 99/SR 233 Improvement Project is currently in the environmental document preparation phase and pursuing Local Partnership Program funding. Caltrans is the lead agency on the environmental design. The project is planned to begin in 2025.

This segment is incredibly important to the residents of Chowchilla as it is the primary connector between the east and west sides of town. The largest grocery store in the city and the 3rd - 4th grade school is on the east side of town. As a result, residents have expressed concern with safety for all methods of travel over this section. Another important element of the SR 233/99 interchange is goods movement. SR 233 primarily serves as a connection for SR 152. As there currently is no northbound connection directly from SR 152 to SR 99, SR 233 helps to facilitate the movement of goods from western regions to northern parts of the State.

- ✓ **Interregional Corridor Planning**

Madera and Fresno Counties have long shared a significant number of interregional travelers utilizing the SR 41 corridor connecting the Clovis and north Fresno metro areas to locations in the City of Madera and foothill and mountain communities in eastern Madera County. Avenue 9 connecting SR41 to SR 99 has also seen significant increase in traffic volumes the past decade. This has increased congestion and collisions on both facilities.

In 2020 MCTC joined with Fresno Council of Governments to prepare the State Route 41/Avenue 9 Sustainable Corridor Study. The study was prepared to identify future mobility improvements in the State SR 41 and Avenue 9 corridors in Fresno and Madera Counties. These two corridors play a central role in the region’s mobility network, connecting commuters to several national parks, as well as supporting local and regional employment and education centers. The region is also expected to change significantly once the new California High-Speed Rail project is completed, bringing new mobility options to workers throughout California. The SR 41/Avenue 9 Sustainable Corridors Study looks at existing and future transportation projects in the region, as well as existing and future land uses, setting in place sustainable mobility strategies that will seamlessly integrate transportation infrastructure within the local fabric and support resiliency over time. Together, these strategies will help Fresno and Madera Counties achieve their ambitious air quality goals and support a healthy, sustainable, and equitable mobility environment for residents.

✓ **Public Transit**

Across Madera County, transit agencies are implementing changes for the near future that will create a more efficient and accessible public transportation experience. These changes include streamlining and reorganizing routes, implementing more fixed-route services, and improving user accessibility with new online resources.

Work is also ongoing for coordinating schedules to provide seamless service between transit agencies within and beyond Madera County. Infrastructure improvements are also planned, ranging from new bus shelters to replacing fleets with electric vehicles.

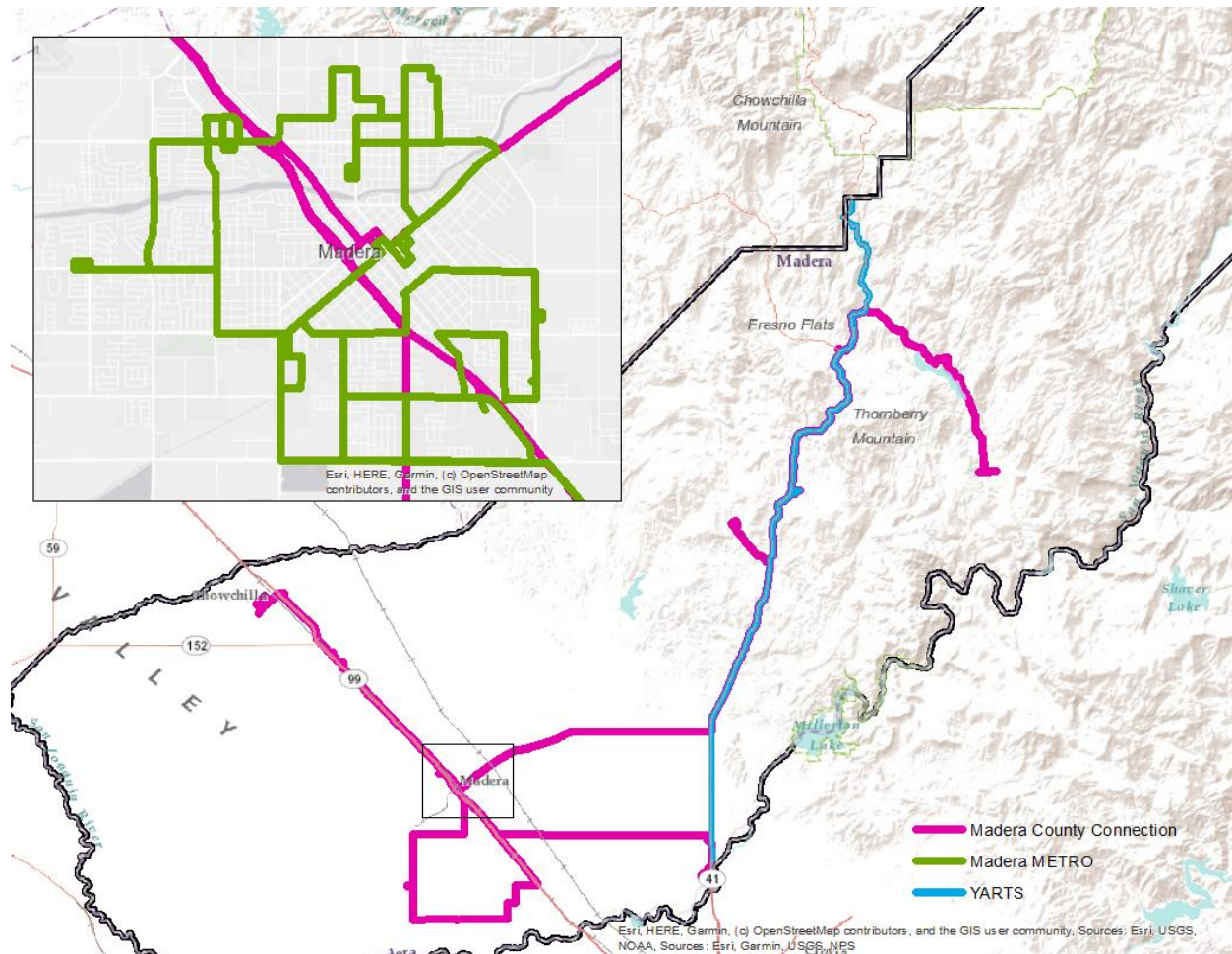
➤ **Fixed Route Services** – Serving all residents in core population areas and major corridors (Figure 2-10)

Madera County currently has three public fixed-route operators operating throughout the county: Madera Metro, Madera County Connection, and Yosemite Area Regional Transportation System.

Madera Metro – Madera Metro operates in the City of Madera on three routes with access to Madera Community College, Madera Community Hospital, and the Madera Intermodal Center.

Madera County Connection (MCC) – Madera County Connection operates across Madera County, connecting the City of Chowchilla, and the communities of Bass Lake, Coarsegold, Eastin Arcola, Fairmead, La Vina, Madera Ranchos, North Fork, Oakhurst, Yosemite Lakes Park, and Valley Children’s Hospital to the City of Madera

FIGURE 2-10
Fixed-Route Transit

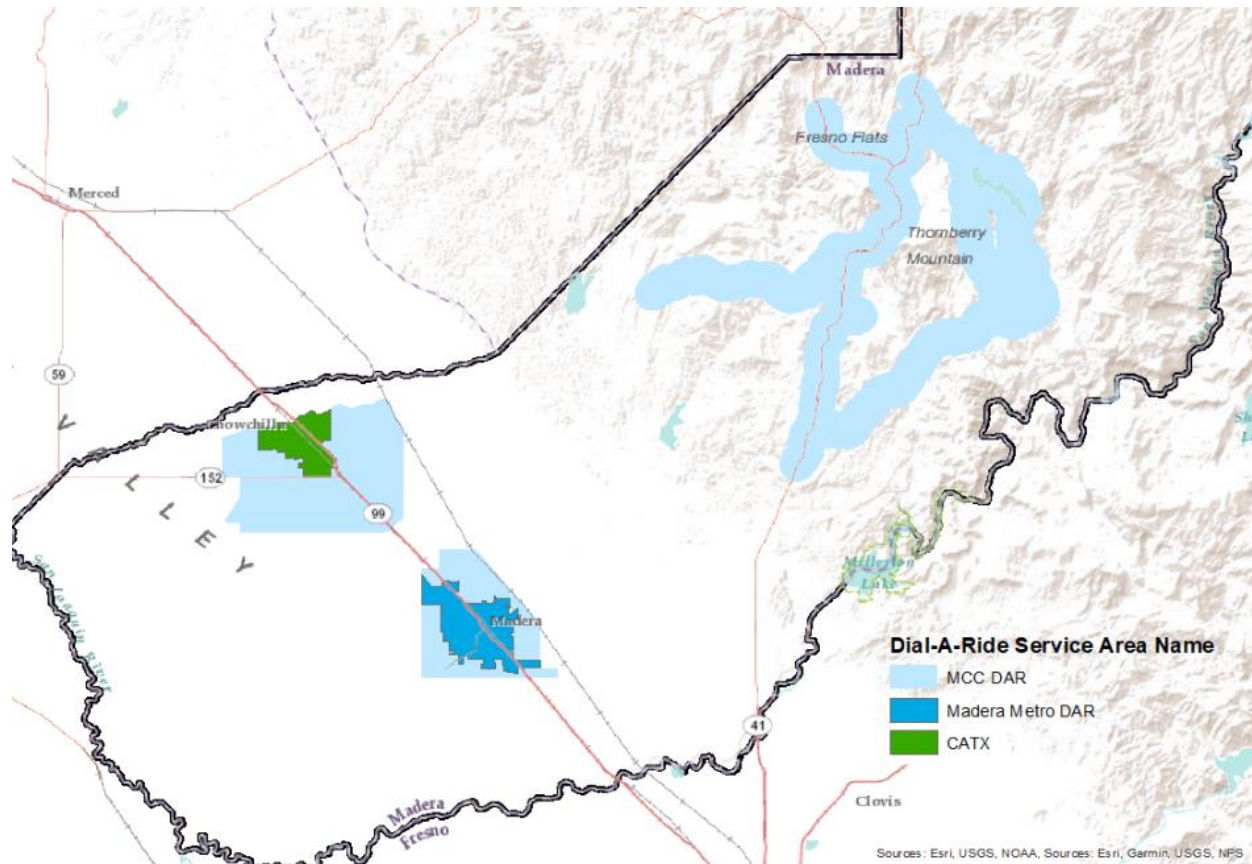


Yosemite Area Regional Transportation System – YARTS provides public transit in the Yosemite region, with buses entering Yosemite Valley from Merced, Mammoth Lakes, Sonora, and Fresno – as well as many different towns along the way.

- **Demand Response Services** – Serving elderly, disabled and hard to reach communities (Figure 2-11)

Due to the low density of much of the County’s population, multiple demand response services are operated that provide point-to-point travel to residents in locations at the periphery of core population areas. Within the County of Madera are six demand-response operators. Each is specialized to service different geographic and demographic areas.

FIGURE 2-11
Demand Response Transit



Madera Dial-A-Ride (DAR) – a general public system primarily serving the elderly and disabled operating weekdays from 7:00 am to 6:30 pm and Sundays from 8:30 am to 2:30 pm within the Madera urban area covering a five-mile radius from the downtown area.

Chowchilla Area Transit Express (CATX) – a general public service in the City of Chowchilla offered weekdays from 7:30 am to 5:00 pm. The City of Chowchilla is considering initiation of fixed-route service in the near future.

MCC Madera Dial-A-Ride – general public service to County areas surrounding the City of Madera on weekdays from 7:00 am to 6:30 pm, Saturday from 9:00 am to 4:00 pm, and Sunday from 8:30 am to 2:30 pm.

MCC Chowchilla Dial-A-Ride – general public service to County areas surrounding the City of Chowchilla on weekdays from 8:30 am to 3:30 pm Eastern Madera County Senior Bus – a service for Eastern Madera County seniors 60 years or older and disabled residents operating weekdays (except holidays) from 9:00 am to 4:00 pm.

Medical Escort Program – a general public transportation service providing transportation to medical-related appointments in Madera and Fresno Counties serving Eastern Madera County residents with an emphasis on serving senior residents 60 years and older and the disabled.

- ***Accommodating Riders from Near and Far: Yosemite Area Regional Transportation System – Improving mountain/foothill transit access and accommodating international travel to Yosemite National Park.***

The Yosemite Area Regional Transportation System (YARTS) provides public transit in the Yosemite region, with buses entering Yosemite Valley from Merced, Mammoth Lakes, Sonora, and Fresno – as well as many different towns along the way. YARTS began service in May 2000, and now provides an alternative to driving. YARTS is managed by the Merced County Association of Governments. YARTS offers rides to all visitors to Yosemite.

YARTS fares vary based on distance; all fares to the park include the entrance fee to Yosemite National Park. Round trip fares for the Highway 41 route range from \$5.00 to \$34.00. YARTS service on Highway 41 is seasonal providing service through the summer months.

- ***Madera Metro Transit Center***

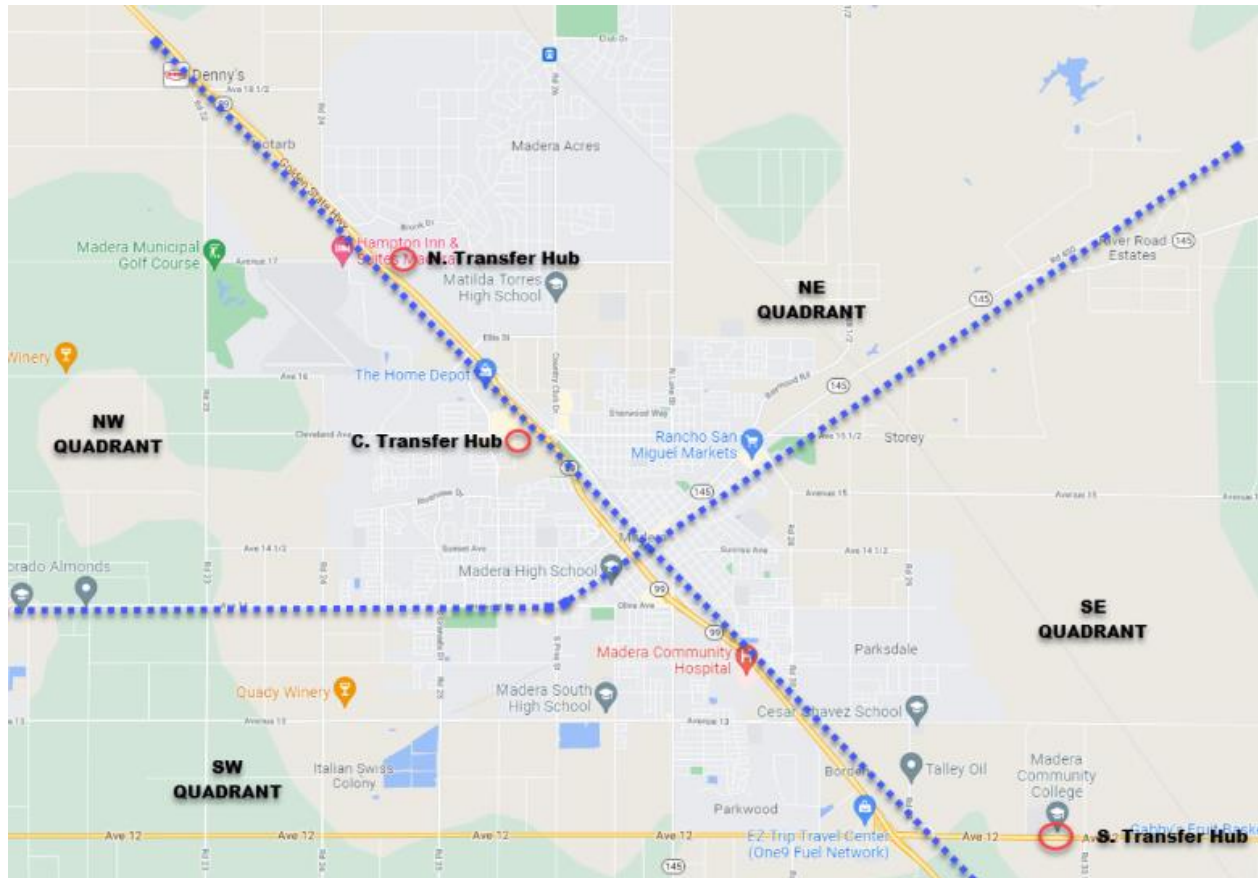
In the Fall of 2020, the City of Madera opened the new Madera Transit Center. The facility provides facilities for fueling, washing, maintenance, parking, and administrative functions. Additionally, the facility was designed for the eventual installation of electric vehicle charging infrastructure. In the coming years, the Madera Metro fleet, currently running on gas, CNG, and diesel fuels, will be phased out and replaced with electric vehicles in accordance with Executive Order N-79-20 to have all buses in the State of California be zero-emission vehicles by 2045. To meet this goal, the Transit Center was designed in order to satisfy present needs as well as anticipate the needs of the near future.

- ***Madera Metro Mobility Hubs***

In the spring of 2022, Madera Metro completed Phase 1 of the Madera Transit Plan. This plan looks to reorganize and streamline the existing fixed-route bus system by removing some bus stops and changing the routes buses travel on. Once Phase 1 is implemented for a trial period of 1 year, the changes will be assessed and incorporated into Phase 2. Phase 2 will continue to refine and optimize the system or take another attempt at redesigning the fixed-route systems.

Additionally, Phase 2 aims to incorporate local mobility hubs across the City of Madera (Figure 2-12).

FIGURE 2-12
Madera Transit Hubs



The purpose of these mobility hubs is to tie together the four designated quadrants of the City of Madera, divided by CA-99, Yosemite Ave, and Howard Road. Currently, transfer hubs are planned at SR-99 and Avenue 17, Schnoor Ave and Cleveland Ave, and Madera Community College. These hubs will offer transfers to other Metro routes, MCC routes, and other fixed-route services, allowing additional transfer points to traverse the city outside of downtown.

➤ **Transition to Zero Emission Transit**

With the signing of Executive Order N-79-20 in 2020, all buses sold and operated in the State of California are to be zero-emission vehicles by the year 2045. In accordance with this objective, agencies are beginning work today to prepare for the transition to a fully zero-emission fleet. By replacing the current fossil-fuel dependent fleet with clean zero-emission vehicles, residents

of Madera County will receive benefits with cleaner and quieter buses operating around their neighborhoods.

➤ **Fleet Conversion Planning**

Over the next decade as older buses are phased out and once the infrastructure to accommodate them are built, new electric buses will be procured to operate for agencies throughout the county.

➤ **Charging Infrastructure**

Before zero-emission vehicles can be procured, fueling infrastructure to support them must be implemented. Both Madera Metro and CATX have plans for installing EV Infrastructure within the next 5 years. With the construction of the Transit Center, Metro is expected to install EV infrastructure with ease by designing the facility to accommodate it in the near future

➤ ***Madera Metro Shelter Expansion – ongoing investment in City of Madera Transit Investments***

Continual investments in infrastructure are critical to creating a transit network that is comprehensive and efficient. New shelters with reflective signage are continually being added.

➤ ***Madera County Connection – ongoing investment in Madera County Transit Infrastructure***

Madera County Connection has procured new buses for fixed-route, Senior Bus, and Escort Services. New signage has been installed at multiple bus stops.

➤ ***Madera Transit on Mobile Apps – ease in plotting trips across the region***

Usability is an important concern to ensure passengers are fully utilizing available transit networks. MCC Fixed Route is available on Transit, and both MCC Fixed Route and Madera Metro Fixed Route are available on Apple Maps and Google Maps.

✓ **Active Transportation**

➤ ***Biking***

The City of Madera has a limited number of dedicated bike facilities on 6th Street, eastbound Olive Avenue, and southbound Tozer Street. On-Street bike lanes are striped along Cleveland Avenue, Sunset Avenue, and southbound Lake Street. While many streets may have lower volumes and be comfortable, they are not consistently striped or signed to indicate such streets as the preferred bike routes.

Many of the existing bike facilities are in the northern part of the city while the southern part has limited connectivity.

The City of Chowchilla does not have bikeway facilities within the downtown or surrounding neighborhood areas. A small portion of Avenue 26 to the east of SR-99 has on-street bike lanes. While neighborhood streets have relatively lower volumes and speeds, allowing cyclists to feel comfortable, preferred routes are generally not signed or striped to indicate where cyclists should travel.

Bike facilities vary between unincorporated communities. Yosemite Lakes does not have designated bike facilities and preferred routes are not signed or striped to indicate where cyclists should travel. Bike and pedestrian facilities in Oakhurst are almost entirely absent in residential areas, although the Oakhurst River Parkway trail has been extended from the community park near SR-41 and Road 426. Cyclists in the Oakhurst area primarily consist of long-distance recreational riders who are used to sharing the road with traffic or use wide shoulders where available. Bike facilities are entirely absent in the communities of Coarsegold, Raymond, North Fork, and Bass Lake.

➤ **Pedestrian**

Major downtown intersections in the City of Madera experience heavy traffic volumes and are surrounded by commercial and office uses. This area is generally more pedestrian accessible. Outside of the core downtown area, marked crosswalks become spaced farther apart on Yosemite Avenue, and crossings are not signalized. Sidewalk gaps begin to appear on SR-145 and East Yosemite Avenue, especially toward outer lying rural areas. Select intersections in the northwest retail portion of Madera have visible brick-colored crosswalks.

The City of Chowchilla's SR-233 generally has difficult crossings and lacks high visibility crosswalks, pedestrian refuge islands, and overhead street name signs at unsignalized intersections. Lighting is provided along SR-233, but not consistently in surrounding neighborhoods. Signalized intersections have push-to-walk buttons, and many crosswalk lines are fading or are no longer visible.

Unincorporated valley floor communities of Madera Ranchos-Bonadelle Ranchos, Fairmead, Rolling Hills, and La Vina all feature similar gaps in pedestrian infrastructure. Unincorporated foothill communities of Yosemite Lakes, Oakhurst, Coarsegold, Raymond, Bass Lake, and North Fork all feature similar pedestrian infrastructure due to natural terrain and lower densities. With a main thoroughfare through each community, sidewalks are normally minimally present.

- **Fresno River Trail** – a scenic and practical crosstown connection along the Fresno River. The Vern McCullough Fresno River Trail (reference Figure 2-13) is a recognized feature of the city and provides recreation, access and mobility opportunities for pedestrians, runners, and bicyclists. It runs along the dry river in Madera and is approximately 3.5 miles long. The trail was once divided in two by active railroad tracks and Gateway Drive, but the city has recently completed a new undercrossing to bridge the gap.

FIGURE 2-13
Fresno River Trail at SR 99 Bridge



All bike routes in the City of Madera are illustrated in Figure 2-14 with solid lines with Purple denoting Class I bikeways, Blue denoting Class II bikeways, and Green denoting Class III bikeways. Proposed bikeways are denoted in dotted lines with Orange denoting Class II B, Yellow denoting Class III B, and Pink denoting Class IV.

- **Chowchilla Bike Map** – all bike routes in the City of Chowchilla illustrated by class of facility

All bike routes in the City of Chowchilla are illustrated in Figure 2-15 with solid lines with Purple denoting Class I bikeways, Blue denoting Class II bikeways, and Green denoting Class III bikeways. Proposed bikeways are denoted in dotted lines with Orange denoting Class II B, Yellow denoting Class III B, and Pink denoting Class IV.

- **Active Transportation Plan**

Finished in 2018, the Active Transportation Plan supports the Madera County Complete Streets Policy by providing a vision for a cohesive network of bicycle and pedestrian facilities across the country. The Active Transportation Plan supports the Complete Streets Policy's goals of creating a more equitable, healthy, and safe environment for Madera County residents and visitors.

FIGURE 2-14
City of Madera Bike Network

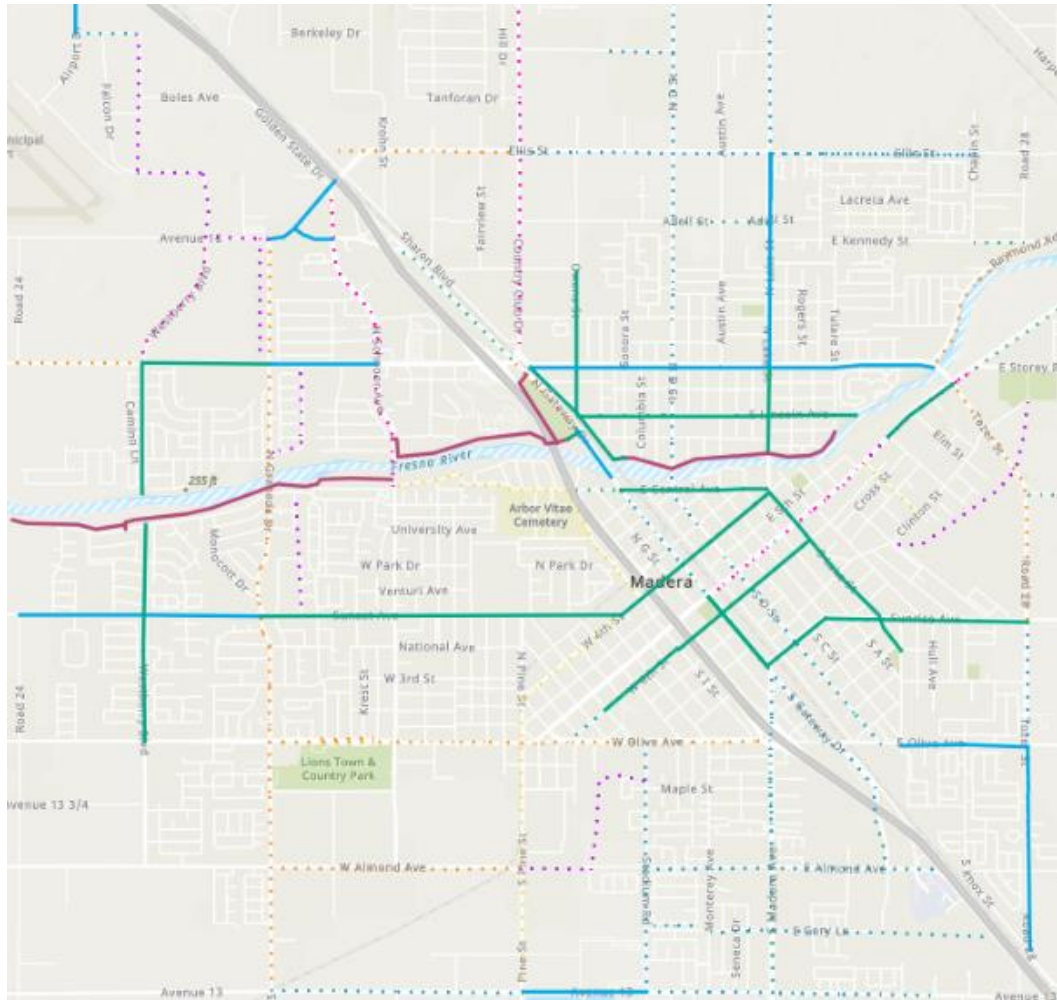
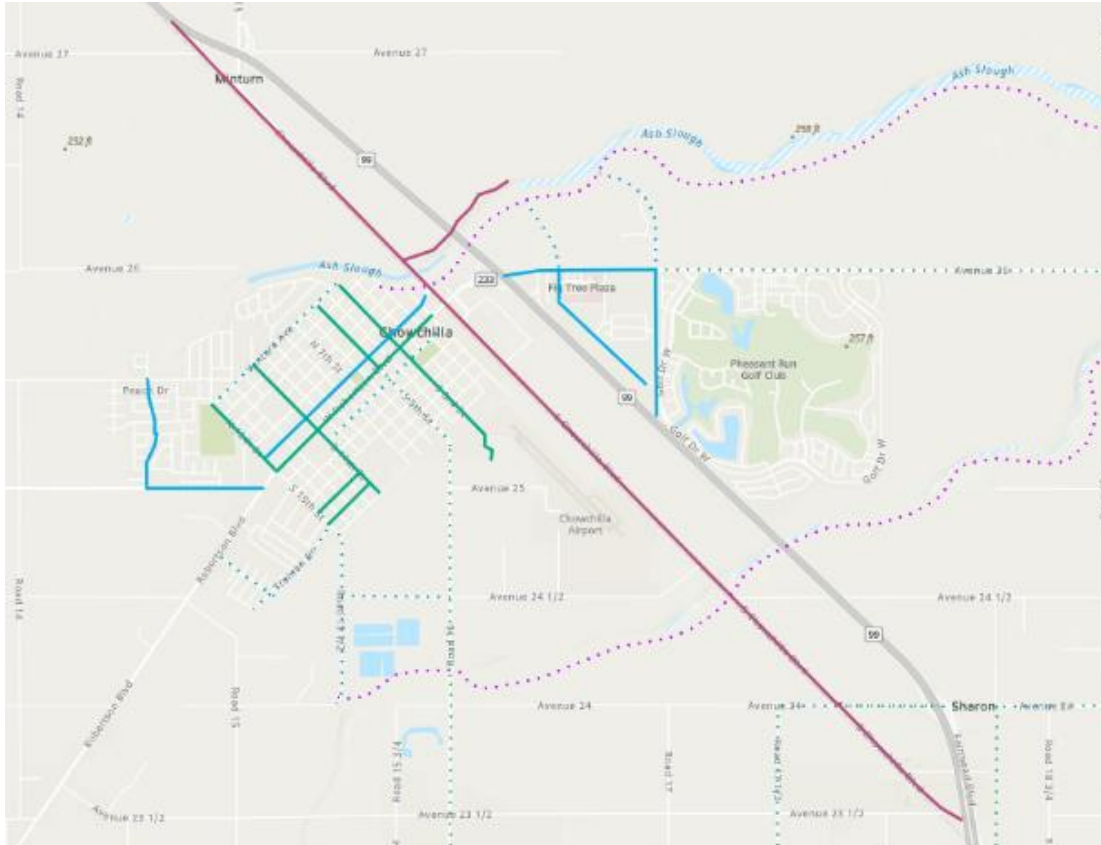


FIGURE 2-15
City of Chowchilla Bike Network



To implement the vision of the all ages and abilities network and address the barriers to access formed by the high-stress arterials and rural roads, the ATP proposes a network of bicycle facilities that creates a unified countywide network while enhancing local connectivity.

The goals of the Active Transportation Plan are:

- Expand pedestrian and bicycle access throughout Madera County for both visitors and residents
- Improve and maintain existing bicycle and pedestrian facilities across Madera County
- Increase walking and bicycling in Madera County
- Improve safety and accessibility across Madera County through active transportation facilities
- Increase awareness and appreciation of active transportation through public engagement

➤ **SR 233/Robertson Boulevard Study** – redesigning Robertson for residents

Finished in 2021, the SR 233/Robertson Boulevard Corridor Planning Study and Downtown Master Plan was intended to analyze existing conditions for all modes of transportation, and to develop a plan to implement appropriate improvements that benefit all roadway users, residents, and businesses along the corridor. The study aimed to increase safety for all modes of transportation and mitigate adverse truck traffic impacts, while improving traffic operations, along the corridor.

The goals and objectives of the study were:

- Improve bicycle, pedestrian, and transit facilities along the study corridor
- Recommend traffic calming solutions to enhance safety for all modes of transportation
- Encourage the use of active transportation
- Improve traffic operations and reduce congestion along the corridor
- Address the transportation needs of the community
- Improve public health and enhance community livability

➤ **Central Valley Passage Bicycle Route**

Proposed by the California Bicycle Coalition, or CalBike, the Central Valley Passage envisions a long-distance bicycle route connecting large and small cities across the Central Valley from Bakersfield to Merced. This bikeway aims to be an essential car-free connection in the Central Valley and an economic engine by connecting to popular destinations. The plan aims to connect the bikeway to the California High-Speed Rail at every station along the route from Merced to Bakersfield. Once all segments are complete, it will include approximately 250 miles of connected, low-stress bikeways. Figure 2-16 highlights the Central Valley Passage bicycle corridor.

Phase I of this project includes building the route through what CalBike has deemed “high-priority” areas, particularly those near large city centers with a significant number of bicycle riders. These cities include:

- | | |
|-------------|---------------|
| ▪ Madera | ▪ McFarland |
| ▪ Fresno | ▪ Wasco |
| ▪ Delano | ▪ Shafter |
| ▪ Richgrove | ▪ Bakersfield |

FIGURE 2-16
Central Valley Passage Bicycle Route



Phase 2 includes building in the central area of the proposed Phase I of the High-Speed Rail Projects. Because distances between services in this phase are greater than the distances between services in Phase I of the project, Phase II is more focused on developing long-distance bike tourism. Cities include:

- Porterville
- Exeter
- Visalia
- Hanford
- Reedley

Phase 3 contains segments key to completing a contiguous long-distance route. Based on the smaller population in these areas, fewer services, and lower frequency of inter-city travel, this segment is a lower priority. The cities include:

- Richgrove
- Reedley
- Merced

➤ **La Vina Mobility**

Madera County commissioned a mobility study of the La Vina and Parkwood communities to develop solutions able to improve community mobility, access, and safety.

The community identified improvement areas, including the intersection at Road 24 and Avenue 9, Avenue 9 itself, and the route to La Vina Elementary School. For Avenue 9 and Road 24, the objectives are to improve safety at the intersection, increase accessibility to commercial corner, and shorten the crossing distance. The proposed design concept would extend the sidewalk to the intersection, add bulb-outs, adding painted bicycle lanes, and install a protective curb to the parking lot.

For Avenue 9, the objectives are to have a safer pedestrian crossing, safer bike routes, and protected parking. The proposed design concepts would repave, restripe, and add painted bike lanes, add pedestrian signage, elevated crosswalks, and blinking crossing lights to intersections along Avenue 9, add bulb-outs and sidewalk extensions, install speed limit signage, and potentially remove dumpster-style trash bins from right-of-way.

For La Vina Elementary, the objectives are to create a safer route to school, encourage walking and cycling, and prevent vehicular/pedestrian conflicts. The proposed design concept would add an 8' wide gravel multi-use path along Avenue 9 and Road 23, install bollards at the intersection, construct raised crosswalks with flashing lights and pedestrian signage at the school entrance, and add a sidewalk extension to the front of the school.

These priority improvements are designed to align with the goals of the State’s Active Transportation Program as well as 2022 RTP/SCS. This is done by promoting safety for residents, increasing pedestrian visibility, and quality of life by reducing GHG. Implementation of the projects in the La Vina Mobility Study will foster safe and accessible community mobility, reduce transportation barriers for disadvantaged communities, reduce the cost of transportation, and better maintaining facilities by refurbishing infrastructure.

✓ **Commuter Rail**

Commuter rail service is transforming how residents of Madera County travel for work and leisure. Currently, the Amtrak San Joaquins Service is the only commuter rail service provider to Madera County. In the coming months and years, many new improvements are planned that will transform commuter rail for residents of Madera and the wider region. The Amtrak San Joaquin Service will be upgrading its rolling stock, a new Madera Amtrak station will be built, and the new California High-Speed Rail service is set to be inaugurated. These future improvements are planned to advance transit-oriented development in the region and provide the necessary infrastructure and services to get rail passengers to their destinations with ease.

➤ **San Joaquin Joint Powers Authority**

With the passage of Assembly Bill 1779 in 2012, regional government agencies were enabled to form the San Joaquin Joint Powers Authority (SJJPA) to take over the administration and management of the existing Amtrak San Joaquin Rail Service from the state. The SJJPA was established in 2013 and is comprised of ten member agencies including the San Joaquin Regional Rail Commission, Madera County Transportation Commission, Sacramento Regional Transit, Stanislaus Council of Governments, Merced County Association of Governments, Alameda County, Fresno Council of Governments, and Kings County Association of Governments. An Interagency Transfer Agreement between the SJJPA and the State was signed in 2015.

Under the provisions of AB 1779, the state will continue to provide the funding necessary for service operations, administration, and marketing. Furthermore, Caltrans Division of Rail and Mass Transit will remain responsible for the development of the Statewide Rail Plan and the coordination and integration between the three state-supported interagency passenger rail services. AB 1779 was sponsored by the San Joaquin Regional Rail Commission (SJRRC), Sacramento Regional Transit, the Central Valley Rail Working Group, and the San Joaquin Valley Regional Policy Council.

➤ **Amtrak San Joaquins**

The San Joaquins is an Amtrak commuter rail service operated by the SJPA that contracts with the San Joaquin Regional Rail Commission (SJRRC). This service provides 2 daily roundtrips between Bakersfield and Sacramento and 5 daily roundtrips between Bakersfield and Oakland (reference Figure 2-17). As of 2022, this service carries nearly 400,000 annual riders. This is the second highest state supported rail service in California and the fourth highest in the United States. While the line terminates at Bakersfield, Oakland, and Sacramento, the San Joaquins service is unique in the state and country because of its extensive network of dedicated Amtrak thruway bus routes that are critical to the performance of the service. Amtrak Thruway routes are timed to meet trains and offer connections to points in Southern California, San Francisco, the Central Coast, the North Coast, Las Vegas, Redding, Reno, and Yosemite Valley.

➤ **ACE Railway Expansion**

The Altamont Corridor Express (ACE) is a commuter rail service that currently connects Stockton and San Jose operated by the San Joaquin Regional Rail Commission, the managers that the San Joaquin Joint Powers Authority contracts with. In 2018, ACE was awarded \$500 million for expanded service to Ceres and Sacramento. At the end of 2021, the San Joaquin Regional Rail Commission approved the ACE Ceres-Merced Extension Project. This project aims to turn Merced into an intermodal hub for rail services in the Central Valley with Amtrak, ACE, and High-Speed Rail services (reference Figure 2-18). Once the first operational segment of California High-Speed Rail is opened, Amtrak San Joaquins service will be truncated at Merced, and California High-Speed Rail will become Madera's main and only regional rail service.

FIGURE 2-17
Amtrak San Joaquins System Area



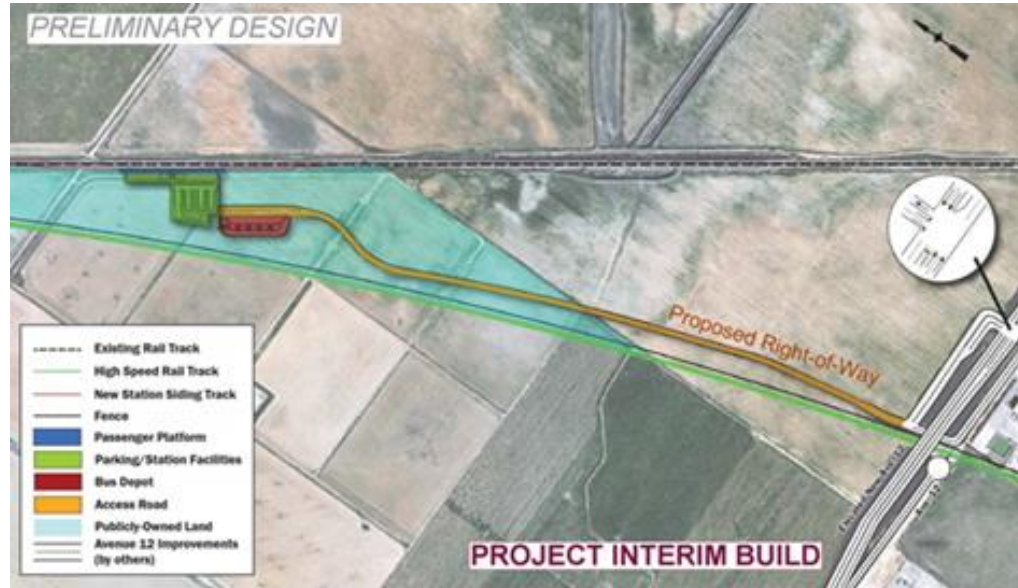
FIGURE 2-18
 ACE Expansion and System Area



➤ **New Amtrak Station**

Madera County is on track to have a major improvement to its commuter rail service in the coming years with the construction of a new Amtrak Station. In 2021, the San Joaquin Joint Powers Authority voted to begin engineering for the new Amtrak station to be built north of Avenue 12, an important cross-county route, and to the east of SR 99, the most utilized regional route. This location will ensure that the station is accessible with adequate infrastructure for people across the county to reach. This station will replace the current Amtrak Station off Road 26 in Madera Acres. Funding was secured from the Transit and Intercity Rail Capital Program (TIRCP). This new station will be located near Madera Community College and is part of the College Area Master Plan for multimodal and commuter rail connectivity (reference Figure 2-19).

FIGURE 2-19
Madera Station Relocation Interim Design



The new station location is currently served by both City of Madera and Madera County fixed route transit services, lies on the region's busiest east-west regional corridor utilized by local and interregional travelers, is bound by SR 99 and the City of Madera to the east and SR 41 and burgeoning southern Madera County communities and northern Fresno and Clovis metros, and adjacent to the growing Madera College Campus.

The new station will initially provide Amtrak service and future service for the California High Speed Train. The high-speed rail segment from south of Fresno to north of Madera, Construction Package 1, is estimated to be completed December 2023. The Merced to Bakersfield segment of California High-Speed Rail is expected to be operational by 2029. The Merced station is designed to be a regional intermodal center with connections to ACE Valley Rail, Amtrak San Joaquins, and state bus services. As a busy facility for connecting Fresno/Clovis metro travelers to northbound SR 99, the new station location is in a prime location to attract riders for those with long range destinations in the northern San Joaquin Valley, Sacramento, and Bay Area. Figure 2-20 highlights the High-Speed Rail alignment and segment status.

FIGURE 2-20
California High Speed Rail Status



➤ **TOD Station Area Planning Grant**

In preparation for the new Amtrak Station and future commuter rail developments, the County was awarded a Caltrans Sustainable Planning Grant. This grant will assist in the preparation of community development plans that will shape future land use developments near the station to properly accommodate transit and active transportation access. This is done so the station will have adequate utility to the immediate surrounding neighborhoods such the area in the vicinity of the Madera College Campus. The objective is to enact smart growth design principles which will create livable places, healthy people, and shared prosperity into these new developments. Madera County will be the lead agency in a collaborative effort between Madera County, the City of Madera, Caltrans, the SJJPA, the California High Speed Rail Authority (CHSRA), CalSTA and MCTC.

➤ **Fairmead Community Planning**

The alignment of the Merced to Madera High-speed Rail system passes through the Fairmead area. The residents of Fairmead, Fairmead Community and Friends, worked with the CHSRA to ensure the project would help improve the community rather than harm it. These efforts yielded commitments from CHSRA to address improvement priorities identified by Fairmead residents.

CHSRA will fund the following identified improvements:

- Construction of a Fairmead Community Center, Library and Park. Madera County will own and operate the facilities and be responsible for providing community access.
- Extension of sewer line from the City of Chowchilla to Fairmead with payment of Fairmead resident's sewer bills for 10 years.
- Improvements to the stability of Fairmead's water system, including forgiveness of customers water depts up to March 31, 2021.
- Repair to Fairmead roads, installation of sidewalks and storm drainage, landscaping, and other beautification elements.
- Support for the development of new quality affordable housing in Fairmead.

The Fairmead Community Area Plan is currently being updated to help effectively plan for the implementation of these various improvements. MCTC will support Fairmead, the City of Chowchilla, Madera County and the CHSRA as the community of Fairmead moves forward with these important improvements.

✓ **Zero Emission Travel and Infrastructure**

➤ **Executive Order N-79-20**

In September of 2020, the Governor signed Executive Order N-79-20 that stipulates that 100% of in-state sales of new passenger cars and light-duty trucks will be zero-emission by 2035 and 100% of medium- and heavy-duty vehicles sales must be zero emission by 2045 where feasible. Providing appropriate infrastructure is crucial for residents to not encounter significant inconvenience due to the order. Zero Emission Vehicle (ZEV) infrastructure includes electric vehicle chargers for Battery Electric Vehicles and hydrogen fueling stations for Fuel Cell Electric Vehicles.

➤ **Planning for ZEV and ZEV Infrastructure**

MCTC is proactively planning for the region's transition to zero-emission travel. In 2021 the development of the Madera County ZEV Readiness and Implementation Plan was initiated. The plan has several objectives to address the region's shift to zero emission:

- Assess existing ZEV infrastructure environment.
- Identify key community challenges and barriers to advancement.
- Recommend infrastructure improvements and investments.
- Identify implementation strategies and policies to promote ZEV infrastructure adoption.
- Provide stakeholders with tools to procure, site and install ZEV infrastructure.

The Madera County ZEV Readiness and Implementation Plan is scheduled to be adopted in the Fall of 2022.

Madera County Transit Providers are currently developing Zero Emission Bus Rollout Plans. The Innovative Clean Transit (ICT) regulation requires each transit agency to submit a complete Zero-Emission Bus Rollout Plan, approved by its governing body, showing how it plans to achieve a full transition to zero-emission buses (ZEBs). The ZEB Rollout Plans will be completed in 2023 and submitted to CARB.

MCTC is currently working with The California Energy Commission (CEC) and Caltrans as part of a working group for the California State Electric Vehicle Infrastructure Deployment Plan, a plan required by the National Electric Vehicle Infrastructure Formula Funding Program (NEVI). In November 2021, the Investment and Jobs Act (IIJA) allocated up to \$7.5 billion over five years for states to enhance their Electric Vehicle charging infrastructure through the NEVI Program. The electric vehicle infrastructure funding will help EV drivers to have regular access to charging stations to help avoid a situation where a driver could be stranded without

services. Additionally, the added infrastructure will bolster tourism as EV vehicles become more popular nationwide.

California has Identified SR 99 and an Alternative Fuel Corridor able to make use of state funding through the NEVI Program.

✓ **Vanpool and Rideshare**

An important segment of reducing VMT and emissions and vehicle traffic is rideshare and vanpool services. These services are utilized when passengers share the same vehicle while traveling to the same destination. Each passenger that shares a trip with another potentially removes a vehicle from the roadway; one vehicle with multiple passengers can theoretically eliminate multiple vehicles from the road, reducing emissions and congestion.

MCTC supports the California Vanpool Authority (CalVans) and is represented on their Board of Directors. CalVans is a service that provides vanpooling vehicles to people who work in various places where public transit may not go, such as to agricultural field working locations. CalVans currently serves the County of Madera as well as the Counties of Fresno, Imperial, Kern, Kings, Merced, Monterey, Riverside, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Santa Cruz, Stanislaus, Tulare, and Ventura. Madera residents utilize CalVans to access employment within the region as well as outside it to other San Joaquin Valley and Central California Coastal counties.

✓ **Intelligent Transportation Systems and Emerging Technologies**

In addition to planning for specific modes of transportation that will serve the needs of existing and future residents, the integration of advanced transportation technologies is also important. The use of Intelligent Transportation Systems (ITS) and new or emerging technologies will allow maximum use of the transportation infrastructure including streets, highways, and transit. Further, the need for traveler information is critical to lessen the impacts of accidents and other events in the region. Realtime traveler information can make traveling in Madera County more enjoyable and reduce delay and congestion.

ITS represents a means of applying new technological breakthroughs in detection, communications, computing, and control technologies to improve safety and performance of the surface transportation system. This can be done by using the technologies to manage the transportation system to respond to changing operating conditions, congestion, or accidents. ITS technology can be applied to arterials, freeways, transit, trucks, and private vehicles. ITS includes Advanced Traffic Management Systems (ATMS), Advanced Vehicle Control Systems (AVCS) and Commercial Vehicle Operations (CVO).

✓ **Aviation**

The City of Madera owns and operates the Madera County Municipal Airport, which provides aviation services to approximately 88 fixed-base operators. The City of Chowchilla operates the Chowchilla Municipal Airport with 18 fixed-base operators. Fresno Yosemite International Airport (FYI or FAT) in Fresno County is the primary passenger airport facility in the region.

Increased air service demand will continue to occur in Madera County. This projected demand will increase the need for airport improvements. A number of these improvements are identified in the RTP including land acquisition for future improvements, runway and taxiway renovations and extensions, etc. These Improvements have been identified to address aviation system needs described in the Regional Aviation System Plan. A full listing of anticipated Aviation investments is included in the RTP/SCS in Appendix B – Project Listings.

Finance Plan

Chapter 5 of the RTP/SCS - Financial Element, describes how the RTP/SCS projects will be financed between years 2022 and 20462. The Financial Element is an invaluable tool in understanding and implementing the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), which guides transportation policies and investments for Madera County. This section provides a long-range view of the proposed transportation infrastructure within Madera County and its economic impacts and opportunities.

The Financial Element specifically identifies current and anticipated revenue and strategies to fund transportation projects described in Chapter 4 of the RTP/SCS – “*Action Element.*” Primary transportation modes addressed are highways, local streets and highways, public transit, active transportation or non-motorized systems (bicycle and pedestrian), rail projects and others. The main focus of this financial analysis is to forecast the County’s transportation system capital, operating, maintenance and rehabilitation needs and costs relative to reasonably available forecasted revenue and to optimize transportation investments in Madera County. This effort ultimately reveals the magnitude of transportation network needs and projected funding gap that must be bridged or backfilled to address identified needs. The overall economic outlook will be a major determinant in the availability of funding over the planning horizon.

Key components addressed in this section are:

- ✓ Summary of costs to operate and maintain the current transportation system.
- ✓ Projections of costs and revenue to implement projects in Chapter 4 – Action Element.
- ✓ Existing and potential transportation funding sources.
- ✓ Consideration of the unconstrained list of candidate projects if funding becomes available.

- ✓ Potential funding shortfalls.
- ✓ Consistency between the improvement projects listed in Chapter 4, the Interregional Transportation Improvement Program (ITIP), and the Regional Transportation Improvement Program (RTIP).
- ✓ Addresses the specific financial strategies required to ensure Transportation Control Measures (TCM) from the State Implementation Plan (SIP) can be implemented.

Projections of potential federal, State, and local funding are reflected, along with projected costs of proposed transportation projects through 2046. Extensive public participation outreach efforts undertaken during development of this RTP/SCS provide a firm basis for reflecting projects consistent with the desires of the community. As a result, this section was developed collaboratively with Madera County jurisdictions ensuring that the selection of transportation projects by the region is reflective of public input.

Maintenance and rehabilitation of Madera County's multi-modal transportation system will be an ongoing effort throughout the planning horizon of this Plan. While the significant emphasis is placed on sustainable communities' strategies; maintaining, rehabilitating, and operating the County's existing transportation modes will be vital to ensure ongoing connectivity and a balanced and diverse transportation network.

Revenue Assumptions

The RTP's estimated revenues assume an inflation rate for each source and are reported in expenditure year dollars. MCTC also relied on the following assumptions for revenue and cost projections:

- ✓ Availability of historical revenue through 2046 for all transportation modes and systems.
- ✓ Bipartisan Infrastructure law (BIL) reauthorization with historical program revenue allocations.
- ✓ Extension of Madera County's Local ½ Percent Sales Tax (Measure T) beyond the year 2027 to 2046.
- ✓ Availability of projected County-wide impact fees.
- ✓ Projected state and federal highway revenues reflect the average amounts programmed in the State Transportation Improvement Program (STIP), which is a combination of the Regional Transportation Improvement Program (RTIP) and the Interregional Transportation Improvement Program (ITIP). These projected revenues are consistent with the CTC-adopted, five-year STIP fund estimate.

Table 2-9 shows the cumulative available transportation revenue in constant dollars for all modes by funding source. \$2.64 billion is projected for the planning period (year 2022 through 2046). \$2.229 billion or 84.43 percent of projected revenue through the year 2046 will be expended on streets and highways which includes \$1.197 billion or 45.32 percent for maintenance projects and \$1.032 billion or 39.11 percent for capacity increasing projects; \$250.76 million or 9.5 percent allocated to public transit; and \$160 million or 6.07 percent to be expended on active transportation or non-motorized systems.

TABLE 2-9
Projected Revenues

	Projected Revenue 2022-2046	Bicycle & Pedestrian	Streets & Roads Capacity	Streets & Roads Maint & Operations	Transit
Federal					
CMAQ	\$ 54,263,325	\$ 8,139,499		\$ 40,697,494	\$ 5,426,333
Carbon Reduction	\$ 4,470,741	\$ 4,470,741			
Section 5307	\$ 70,825,635				\$ 70,825,635
Section 5311	\$ 14,120,462				\$ 14,120,462
Section 5339	\$ 4,943,056				\$ 4,943,056
Subtotal	\$ 148,623,219	\$ 12,610,240	\$ -	\$ 40,697,494	\$ 95,315,486
State					
STIP - Regional	\$ 43,200,090		\$ 43,200,090		
ITIP	\$ 113,500,000		\$ 113,500,000		
RSTP Exchange	\$ 57,130,882		\$ 15,311,076	\$ 41,819,806	
LCTOP	\$ 2,371,948				\$ 2,371,948
SHOPP	\$ 289,153,067			\$ 289,153,067	
LPP Formula	\$ 7,344,000			\$ 7,344,000	
LPP Competitive	\$ 31,000,000	\$ 6,200,000	\$ 24,800,000		
STA	\$ 41,112,604				\$ 41,112,604
SGR	\$ 6,384,565				\$ 6,384,565
LTF	\$ 187,295,725	\$ 3,745,915	\$ 14,983,658	\$ 88,028,991	\$ 80,537,162
Subtotal	\$ 778,492,881	\$ 9,945,915	\$ 211,794,824	\$ 426,345,863	\$ 130,406,279
Local					
Impact Fees	\$ 793,243,868	\$ 79,324,387	\$ 594,932,901	\$ 118,986,580	
Measure T	\$ 80,824,593	\$ 808,246	\$ 47,888,571	\$ 30,511,284	\$ 1,616,492
Measure Extension	\$ 468,490,521	\$ 21,082,073	\$ 178,026,398	\$ 245,957,524	\$ 23,424,526
Other	\$ 4,615,194			\$ 4,615,194	
RMRA	\$ 236,357,918	\$ 23,635,792		\$ 212,722,126	
HUTA	\$ 129,860,566	\$ 12,986,057		\$ 116,874,509	
Subtotal	\$ 1,713,392,660	\$ 137,836,555	\$ 820,847,870	\$ 729,667,217	\$ 25,041,018
Total	\$ 2,640,508,760	\$ 160,392,709	\$ 1,032,642,695	\$ 1,196,710,574	\$ 250,762,782
Percent of Total		6.07%	39.11%	45.32%	9.50%

Local funds, including developer fees and fair share contributions, will be the greatest source of transportation funding for Madera County at \$793 million or 30% of total. These funds are collected to address impacts to the countywide transportation system and specific project-related impacts caused by new development.

State funds will be the second greatest at \$778 million or 29%, while federal funds are projected at \$148 million or 5.6% of total revenues.

Projected Expenditures

Key assumptions used in projecting expenditures include the following:

- ✓ The current level of street and highway operating, maintenance, and rehabilitation costs will continue through 2046.
- ✓ Transit expansion is initiated when a threshold or increment of 5,000 households is reached in a core.
- ✓ Growth area. Transit operating and capital improvements reflect on-going costs, including vehicle replacements and additional vehicles with transit enhancements.
- ✓ Bipartisan Infrastructure Law (BIL) reauthorization with historical program revenue allocations and availability of State revenues will continue through year 2046.
- ✓ Madera County's Local ½ percent sales tax for transportation - Measure T, will continue beyond year 2027 to 2046.
- ✓ MCTC support to provide funding through the year 2046 to further "complete street" and "active transportation" concepts for aesthetic streetscapes, pedestrian walkability, and bicycle projects, etc.
- ✓ Major street and highway improvements that include facilities for active transportation systems as appropriate and feasible.

Table 2-10 provides an expenditure summary by mode. Appendix B of the 2022 RTP/SCS (incorporated by reference) contains project lists for each category of project and/or mode:

- ✓ Table B-1 shows the delivery schedule applied to develop the constrained capacity increasing street and highway improvement projects.
- ✓ Table B-2 shows the Operations and Safety projects.
- ✓ Table B-3 shows a list of maintenance projects.
- ✓ Table B-4 lists the bicycle and pedestrian projects.
- ✓ Table B-5 shows the public transit projects.
- ✓ Table B-6 lists the commuter rail projects.
- ✓ Table B-7 lists the aviation projects.
- ✓ Table B-8 shows a list of Intelligent Transportation Systems (ITS) projects.

Table 2-10
Expenditure by Mode

	Total	Percent of Total
Bicycle & Pedestrian	\$ 160,392,709	6.07%
Streets & Roads Capacity	\$ 1,032,342,695	39.11%
Streets & Roads Maintenance & Operations	\$ 1,196,710,574	45.32%
Transit	\$ 250,762,782	9.50%
	\$ 2,640,508,760	

Impact of Measure T Extension

The largest mode expenditures occur in the streets and highways category, with the majority for maintenance, operations, and safety projects. If Measure T is not renewed by the year 2027, a potential shortfall of \$468 million will occur. The shortfall is comprised of future Measure T funds designated for transportation projects. Although other funds earmarked to match Measure T funds would help fund other non-Measure T projects, the impact will be negligible compared to the magnitude of funding offered by Measure T.

This potential shortfall signifies the challenges that lie ahead in ensuring renewal of Measure T through the year 2046 to meet the projected growth and increased demands on Madera County’s multi-modal transportation systems. The potential revenue shortfall also points to the need for efficient and timely project implementation to maximize forecasted revenue and to be well positioned to receive potential future federal and State funds. Clearly, the goal of achieving a fully implemented RTP/SCS that will vastly improve the quality of life in Madera County, will be a significant challenge without the infusion of increased revenues from existing and other new funding sources.

Public Engagement

MCTC initiated an aggressive effort to meaningfully engage with stakeholders across the region to inform about the RTP/SCS and hear participants input on the region’s future. Feedback received from engagement was important to establish the Goals, Objectives and Strategies in the Financial Element, as well as providing insight on what issues matter regarding scenario development.

Outreach efforts included many different strategies; therefore, those who were interested in participating had an array of different opportunities to do so. All engagements, whether in person or online, were available in English or Spanish. MCTC worked with outreach specialists to implement the following engagement strategies:

- ✓ Online workshops
- ✓ Neighbor and Community in-person workshops and meetings
- ✓ Online surveying
- ✓ E-newsletters
- ✓ Social media posts
- ✓ Community event engagements
- ✓ Distribution through partner agencies networks
- ✓ Direct Email and telephone correspondence
- ✓ PC and Mobile phone feedback applications
- ✓ A project website

Several workshops were conducted in disadvantaged communities to allow for an inclusive process to hear the communities' concerns and feedback about their needs. Outreach efforts revealed several common themes:

- ✓ Maintenance and repair of infrastructure was a concern across the region.
- ✓ Improved access to employment, education, and shopping for persons of limited means in rural communities or outlying areas.
- ✓ Ensuring the multi-modal system is safe and reliable for all users.
- ✓ Ensuring local investments are made to uplift existing neighborhoods and communities.
- ✓ Improving environmental conditions of the region.

Stakeholders also provided their thoughts on growth and future land use development types they thought should be pursued. Direct feedback and online surveying on growth and development revealed the following:

- ✓ A desire to see higher densities for new development.
- ✓ Development should be more focused on designated growth areas around urban corridors.
- ✓ There should be great housing variety.

The feedback received was ultimately reflected in the preferred SCS scenario for the region, offering the highest degree of suitability to the comments received.

Appendix C, Draft Outreach Summary Report, contains a detailed outline of the comprehensive engagement process.

Public outreach and education strategies applied during development of the 2022 RTP/SCS also included the following:

- ✓ **A Notice of Preparation (NOP)** for the 2022 RTP/SCS Program Environmental Impact Report (PEIR) was prepared and distributed in March 2021 to the appropriate regulatory agencies for consultation and comment. A Scoping Meeting was held to discuss the environmental review process on March 9, 2021. The NOP and received comment letters are provided in Appendix A in this Draft PEIR.
- ✓ Following completion of the mandatory 55-day review of the Draft RTP/SCS, and 45-day review of the Draft PEIR document by stakeholders and the public, MCTC staff will prepare the Final RTP/SCS and PEIR and submit the documents to the MCTC Board for approval. The Policy Board will hold a public hearing prior to any action being taken.

Transportation Performance Management

The Federal Highway Administration defines Transportation Performance Management (TPM) as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals. TPM's key characteristics can be summarized as follows:

- ✓ Is systematically applied; a regular, ongoing process.
- ✓ Is systematically applied; a regular, ongoing process
- ✓ Provides key information to help decision makers, allowing them to understand the consequences of investment decisions across transportation assets and modes
- ✓ Improving communications among decision makers, stakeholders and the traveling public
Ensuring targets and measures are developed in cooperative partnerships.

The performance measures (PM) for the Federal highway programs include:

- ✓ PM 1: HSIP and Safety Performance
- ✓ PM 2: Pavement and Bridge Condition Performance
- ✓ PM 3: System Performance/Freight/CMAQ Performance

The performance measures for the Federal Transit Administration include:

- ✓ Transit Asset Management
- ✓ Transit Agency Safety Plan

Since the last RTP cycle, all measures have been adopted in the Madera Region. The next section describes the regional targets that have been adopted in the Madera Region.

✓ **Performance Measure 1: Safety**

FHWA issued the Safety Performance Management Final Rule (Safety PM) as an implementation of the Highway Safety Improvement Program (HSIP), effective April 14, 2016. The Safety PM identified the core Federal safety goal “to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.” The Safety PM Final Rule supports the data-driven performance focus of the HSIP and establishes five performance measures to carry out the HSIP, the five-year rolling averages for:

- Number of Fatalities.
- Rate of Fatalities per 100 million VMT.
- Number of Serious Injuries.
- Rate of Serious Injuries per 100 million VMT.
- Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries.

These safety performance measures are applicable to all public roads regardless of ownership or functional classification. The Safety PM Final Rule also establishes a common national definition for serious injuries to ensure a consistent, coordinated, and comparable serious injury data system. States are required to comply with the new definition by April 15th, 2019.

In early 2022, both the federal government and the state of California adopted safety goals to support the goal of zero fatalities on the roadway. On January 27, 2022, the USDOT released the National Roadway Safety Strategy (NRSS) to support the reduction of fatalities and serious injuries along roadways.

The NRSS sets a long-term goal of zero fatalities. Following the release of the NRSS, on February 15, 2022, Caltrans released a new Road Safety Policy, also known Director’s Policy 36 (DP-36), that sets the goal of zero roadway fatalities and serious injuries in California by 2050. Both Director’s Policy 36 and the NRSS employ a Safe System Approach to achieve long-term goal of zero injuries and fatalities.

MCTC targets were reported to Caltrans, which must be able to provide the targets to FHWA, upon request.

✓ **Performance Measure 2: Transportation Asset Management**

The second category of performance measures developed by FHWA in response to the requirements of MAP-21 is known as PM 2: Transportation Asset Management.

The objective of this set of performance measures is to assess the overall health of the transportation system and identify investments to maintain highways, roadways, and bridges in a state of good repair.

The benefits of a properly maintained transportation system include multiple direct and indirect effects on safety, economic vitality, and quality of life:

- Increased safety, as poor roadways can lead to higher accident rate.
- A reduction in incident-related congestion leading to greater travel time reliability.
- Reduced maintenance costs over time. Since roadways become increasingly more expensive to repair as the condition deteriorates, investing in continual maintenance is the best approach for long-term fiscal health.
- Less wear and tear on vehicles, resulting in economic benefits for roadway users.
- Indirect reductions in other environmental impacts including polluted run-off, GHG emissions (due to lower congestion and improved MPG for vehicles, and noise.

The Bridge and Pavement Performance Management Final Federal Rule established six performance measures related to the performance of the Interstate and non-Interstate NHS for the purpose of carrying out the National Highway Performance Program (NHPP) to assess pavement and bridge condition. The specific performance measures are:

- Pavement Performance of the NHS
 - Percentage of Interstate pavements in Good condition
 - Percentage of Interstate pavements in Poor condition
 - Percentage of non-Interstate pavements in Good condition
 - Percentage of non-Interstate pavements in Poor condition
- Bridge Performance of the NHS
 - Percentage of NHS bridges in Good condition
 - Percentage of NHS bridges in Poor Condition

✓ **National Highway System (NHS) Pavement & Bridge Condition (PM 2)**

Madera County has 3.8 lane miles of locally maintained NHS and zero (0) bridges on the NHS. The local NHS segment is within the jurisdiction of the City of Madera. Of the 3.8 locally owned NHS lane miles: 81.1% miles were reported in Fair condition and 18.9% in Poor condition as of the latest draft CA

Transportation Asset Management Plan (TAMP). The baseline condition for the locally owned NHS in Madera County is Fair and will continue in that category for the target's 4-year cycle. Fair condition is not reported in the targets. There are no NHS bridges in the Madera Planning Region that need to be reported.

MCTC, as well as all other MPOs in California worked with Caltrans to develop the Transportation Asset Management Plan (TAMP) and reported anticipated financial information for pavement. This information was paired with statewide deterioration rates and statewide unit costs to develop estimated targets that fit each region's needs. These 4- and 10-year targets were developed in 2021.

✓ **Performance Measure 3: System Reliability**

Seven performance measures related to the performance of the Interstate and non-Interstate National Highway System were also established for the purpose of carrying out the National Highway Performance Program (NHPP); to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. The measures are:

- Performance of the NHS:
 - Percent of the person-miles traveled on the Interstate that are reliable (referred to as the Interstate Travel Time Reliability measure),
 - Percent of person-miles traveled on the non-interstate NHS that are reliable (referred to as the Non-Interstate Travel Time Reliability measure).
 - Percent change in tailpipe CO2 emissions on the NHS compared to the calendar year 2017 level (referred to as the Greenhouse Gas (GHG) measure).
- Freight Movement on the Interstate System:
 - Truck Travel Time Reliability (TTTR) Index (referred to as the Freight Reliability measure);
- CMAQ Program Traffic Congestion:
 - Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita (PHED measure).
 - Percent of Non-Single Occupancy Vehicle (SOV) Travel.
- CMAQ On-Road Mobile Source Emissions:
 - Total Emissions Reduction.

The measure's applicability and reporting requirement depend on each MPA location and size.

✓ **PM3 Targets**

PM3 statewide targets were adopted as the MCTC targets in 2018. The state and MPOs are going to work on the next cycle PM3 target this year.

- Rolling stock: % of revenue vehicles exceeding useful life benchmark (ULB).
- Equipment: % of nonrevenue service vehicles (by type) exceeding ULB.
- Facilities: % of facilities (by group) rated under 3.0 on the Transit Economic Requirements Model (TERM) scale.
- Infrastructure: % of track segments (by mode) under performance restriction.

MCTC developed the 2018 regional TAM targets by weighing the targets set by the local transit providers, which are the Madera Metro, Dial-A-Ride, Chowchilla Area Transit Express (CATX), Madera County Connection (MCC), and the Eastern Madera County Transit.

✓ **Public Transportation Agency Safety Plans (PTASP)**

Transit safety targets must be set every four years and be included in the MCTC Regional Transportation Plan (RTP). The goals, objectives, performance measures, and targets from the transit providers' safety plans must also be integrated into the RTP, either directly or by reference.

The National Public Transportation Safety Plan identifies four performance measures that must be included: fatalities, injuries, safety events, and system reliability. Definitions for transit safety performance measures are as described in the NTD Safety and Security Manual.

The only transit provider required to set performance targets in this planning region is the City of Madera. MCTC reached out and provided technical assistance when needed. Table 5 shows the targets for the Madera Metro.

Healthy Communities and Environmental Justice

Transportation systems play a vital role in advancing the safety, economy, and quality of life for residents of Madera County. Each day, transportation facilitates the movement of goods and people, providing mobility to Madera's residents, visitors, and businesses. Transportation systems are quite diverse, including roadways, public transportation, bicycle and pedestrian facilities, airports, and railroads and like any system, maintenance and improvements are crucial to its success. Madera is committed to maintaining the existing infrastructure and to create and implement changes, which would add to the system's efficiency and safety.

Investment in the transportation system creates measurable benefits but may also result in unintended consequences if not planned correctly. Projects may generate disproportionate negative impacts to minority or low-income communities by either denying them their "fair-share" of transportation projects or subjecting them to an unequal share of the negative externalities.

To prevent such an event from occurring, MCTC is committed to employing an environmental justice program that will help ensure early and continued public involvement, and an equal distribution of transportation projects, paying close attention to the needs of low income and minority populations.

Environmental Justice (EJ) is a public policy goal of promoting the fair treatment and meaningful involvement of all people in the decision-making process for transportation. Satisfying this goal means ensuring that low-income and minority communities receive an equitable distribution of the benefits of transportation activities without suffering disproportionate adverse impacts. Achieving EJ requires both analytical techniques as well as the full and fair participation by all potentially affected communities in the transportation decision-making process.

MCTC will continue to consult and coordinate with the various Native American Tribes within Madera County. It is crucial that MCTC and these organizations work together to identify transportation needs including the provision of transit services, necessary highway and road improvements, and improvements that address known safety issues. MCTC will examine the future necessity of forming an Environmental Justice Committee to further build upon current community collaboration to enhance anticipated planning efforts.

A comprehensive EJ analysis is located in Chapter 6 of the RTP/SCS – Environmental Justice.

2.6 RELATIONSHIP TO OTHER PLANS AND PROGRAMS

The RTP/SCS is a planning guide containing transportation policy and projects through Fiscal Year 2045/46). The Plan includes programs and policies for transportation management, transit, bicycles and pedestrians, roadways, passenger rail, freight, and finances. The RTP's primary use is as a regional long-range plan for federally funded transportation projects. It also serves as a comprehensive, coordinated transportation plan for all governmental jurisdictions within the region. Numerous jurisdictions have different transportation implementation responsibilities under the Plan, including Caltrans, Madera County, and each of the cities within the County. RTPs are planning documents developed by RTPAs and Metropolitan Planning Organizations (MPOs) in cooperation with Caltrans and other stakeholders. The plans are developed to provide a clear vision of regional transportation goals, policies, objectives and strategies. Specifically, the Madera County RTP/SCS has been developed to address the following:

- ✓ Assessment of current modes of transportation and the potential of new travel options within the region.
- ✓ Prediction of future needs for travel and goods movement.
- ✓ Identification and documentation of specific actions necessary to address the region's mobility and accessibility needs.

- ✓ Identification of guidance and documentation of public policy decisions by local, regional, state and federal officials regarding transportation expenditures and financing.
- ✓ Identification of needed transportation improvements.
- ✓ Promotion of consistency between the California Transportation Plan, the regional transportation plan, and other transportation plans developed by cities, counties, districts, private organizations, tribal governments, and state and federal agencies in responding to statewide and interregional transportation issues and needs.
- ✓ Providing a forum for participation and cooperation and facilitating partnerships that reconcile transportation issues which transcend regional boundaries.
- ✓ Involvement of the public, federal, state and local agencies, 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.

Further, the RTP/SCS address the effects of planned growth and development on the existing and planned transportation system. The resultant analysis documents existing and future year (Year 2046) multimodal transportation system conditions. Modes studied include highways and arterials, public transit, nonmotorized systems, passenger and freight rail, and aviation. The analysis conducted as part of this PEIR considers the effects of projects and programs outlined in the 2022 RTP/SCS.

2.7 STREAMLINING THE CEQA PROCESS

Under SB 375, general consistency with a CARB-approved SCS allows projects to qualify for two types of CEQA streamlining:

- ✓ **Projects consistent with the SCS or APS.** A residential or mixed-use project consistent with the density and policies in an SCS is not required to discuss (1) growth-inducing impacts; or (2) project specific or cumulative impacts from cars and light-duty truck trips on global warming or the regional transportation network if the project incorporates the mitigation measures required by an applicable prior environmental document (Pub. Res. Code, § 21159.28, subd. (a) and (b); Gov. Code, § 65080, subd. (b)(2)(I).
- ✓ **Three Types of Streamlining for Transit Priority Projects.** A “transit priority project” (TPP) is created by SB 375 that must meet three requirements: (1) contain at least 50% residential use; (2) have a minimum net density of 20 units per acre; and (3) be located within one-half mile of a major transit stop or high quality transit corridor included in an RTP (Pub. Res. Code, § 21155, subd. (b).

A TPP is exempt from CEQA if it is not more than 200 units on not more than 8 acres; can be served by existing utilities; does not affect historical resources; buildings are 15% more energy efficient than required and the project is designed to achieve 25 percent less water usage; and the project provides either a minimum of 5 acres/ 1,000 residents of open space, or housing for moderate, low, or very low income residents (Pub. Res. Code, § 21155.2, subd. (b)). A TPP that does not qualify for an exemption may qualify for a sustainable community environmental assessment (SCEA) if the project incorporates mitigation measures, performance standards, or criteria from prior applicable environmental impact reports. A SCEA is similar to a negative declaration under CEQA.

SB 375 also authorizes the adoption of specific traffic mitigation measures that apply to TPPs to include requirements for traffic control improvements, street or road improvements, transit passes, or other measures that will mitigate traffic impacts of transit priority projects. A TPP does not need to comply with any additional mitigation measures for the traffic impacts of that project if traffic mitigation measures have been adopted. However, it is widely believed that very few development projects in Madera County could qualify as Transit Priority Project, at least in the near future. TPPs are designed for more urban locations with higher development concentrations such as the Bay Area and the Southern California region. Local jurisdictions maintain the discretion and will be solely responsible for determining consistency of any future project with the SCS. MCTC staff may provide a lead agency at the time of its request readily available data and documentation to help support its finding upon request.

2.8 EIR BASELINE TO DETERMINE SIGNIFICANCE

As previously noted, significant impacts are defined as a “substantial or potentially substantial, adverse change in the environment” (Public Resources Code § 21068). The Program EIR must identify significant impacts that would be expected to result from implementation of the 2022 RTP/SCS. Significant impacts must be determined by applying significance criteria to compare the future Plan conditions to the existing environmental setting (CEQA Guidelines § 15126.2(a)). The existing setting and the criteria for determining significance for each environmental resource issue is described in detail in Chapter 3 of this EIR, and represents the most recent, reliable, and representative data to describe current regional conditions. CEQA Guidelines provide that the existing physical conditions at the time the Notice of Preparation (“NOP”) is published will “normally” constitute the baseline (Cal. Code Regs., tit. 14, § 15125 “CEQA Guidelines”). While the NOP was released in 2021, the PEIR baseline is considered to be 2019 since 2020 and 2021 were impacted by the COVID-19 pandemic.

2.9 CRITERIA FOR SIGNIFICANCE

CEQA gives the lead agency the responsibility to determine whether an adverse environmental effect identified in an EIR should be classified as “significant” or “less than significant.” (CEQA Guidelines § 15064(b).) Under Section 15064(b), “the significance of an activity may vary with the setting” and, as a result, an inflexible definition of what constitutes a significant effect is not always possible. The lead agency has discretion to set its own significance criteria, which requires the lead agency to make a policy judgment about how to distinguish impacts which are adverse, but significant, from impacts which are adverse, but not significant. (*Eureka Citizens for Responsible Gov’t v City of Eureka (2007) 147 Cal.App.4th 357*). A lead agency may select a standard of significance based on its judgment about an appropriate standard of significance (*Sierra Club v. City of Orange (2008) 163 Cal.App.4th 523, 541*). The standards of significance used in an EIR may also rely upon policies adopted and implemented by the lead agency (*Mira Mar Mobile Community v. City of Oceanside (2004) 119 Cal.App.4th 477*).

2.10 PROJECT ALTERNATIVES

Urbanization in the region will increase significantly by 2046, regardless of whether or not the 2022 RTP/SCS are implemented. As a result, Chapter 4 of this Draft PEIR includes a comparison between the expected future conditions with implementation of the RTP/SCS and the expected future conditions assuming the 2022 RTP/SCS were not adopted (or a comparison to the No Project Alternative). This evaluation is not included in the determination of significant impacts in the remaining sections of the Draft PEIR; but provides a perspective regarding the effects of implementing the 202 RTP/SCS. In addition, Chapter 4 provides a comparison of two (2) additional RTP/SCS land use and transportation scenarios developed during preparation of the SCS through an open and engaging public process. The alternative SCS scenarios were designed to:

- ✓ Explore and clearly convey the impact of where the region grows over the next 13 years (Year 2035).
- ✓ To what extent growth is focused within existing cities and towns.
- ✓ How growth occurs or the shape and style of the neighborhoods and transportation systems that will shape growth over the period between 2022 and 2035.

The MCTC Policy Board selected **Scenario 3 Conservation and Mobility** as the preferred SCS scenario for the Madera County region. As a result, the 2022 RTP/SCS and this Draft PEIR contains and reflects **Scenario 3** as the preferred SCS scenario for planning purposes. As such, this PEIR describes the Project as the 2022 RTP/SCS (**Scenario 3 Conservation and Mobility**) reflective of the planned transportation system described in the RTP document and the SCS, which is documented in Chapter 4 of the RTP/SCS and

are incorporated in this Draft PEIR by reference. For purposes of this Draft PEIR, **Scenario 1 Continued Trends and Scenario 2 Moderate Shift** were identified as Project Alternatives to the Preferred Project Alternative [2022 RTP/SCS (**Scenario 3 Conservation and Mobility**)]. Each of these alternatives along with the No Project Alternative have been reviewed and findings are included in Chapter 4 of this Draft PEIR.

2.11 EIR AND REGIONAL TRANSPORTATION PLAN APPROVAL PROCESS

The process to approve the RTP, SCS, and associated PEIR includes (1) assessing Madera County's transportation needs, identifying RTP projects to address the needs, and addressing air quality conformity requirements in the Draft and Final PEIR; (2) seeking comments on the PEIR and approval of the RTP/SCS from the local agencies including the County and each of the two (2) cities; (3) approval of resolutions passed by MCTC certifying the PEIR associated with the RTP/SCS, and (4) approval of a resolution passed by MCTC approving the RTP/SCS. Public involvement will be encouraged throughout the process.

2.12 CONTENTS OF THE RTP

The RTP/SCS is used to guide the development of the Regional Transportation Improvement Program (RTIP). The RTIP is the programming document used to plan the construction of regional transportation projects and requires State Department of Transportation (Caltrans) approval. No project-level assessments of environmental impacts will be addressed by this PEIR. The RTP/SCS is also used as a transportation planning document by each of the three (3) member jurisdictions of MCTC. The RTP/SCS identifies the region's transportation needs and issues, sets forth an action plan of projects and programs to address the needs consistent with the adopted policies, and documents the financial resources needed to implement the plan. The RTP/SCS consists of required elements referenced in the enabling legislation and is organized into various sections. A description of each section follows.

Chapter 1 Introduction – Introduces the setting and purpose of the RTP/SCS, the key guiding regulations, previous regional milestones, and preview of the plan contents.

Chapter 2 Policy Element – a comprehensive listing of goals, objectives, and strategies that identifies the necessary steps to implement the RTP/SCS.

Chapter 3 Sustainable Communities Strategy – A detailing of the collaborative process behind the creation of a planning scenario able to achieve the goals of SB 375 for the Madera region.

Chapter 4 Action Element – Describes the regional assumption, transportation system and how needs are addressed across various modes.

Chapter 5 Financial Element – Outlines the projected revenues for the region and expenditures to implement the RTP/CS.

Appendices – A collection of documents providing supporting information for the contents of the plan.

2.13 INTENDED EIR USES

As a Program EIR, which is a type of first-tier document (CEQA Guidelines Sec. 15152, 15168), this document is prepared for an agency program or series of actions that can be characterized as one large project. Typically, such a project involves actions that are closely related geographically and are logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program with generally similar environmental effects and mitigation measures. When a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine whether an additional CEQA document needs to be prepared. When subsequent activities involve site-specific issues, the Lead Agency should use a written checklist to document its determination that:

- ✓ Environmental effects of the subsequent project were covered in the Program EIR and found to be within the scope of the Program EIR – no additional environmental review is required.
- ✓ A subsequent activity would have effects not within the scope of the Program EIR. The Lead Agency must prepare a new Initial Study leading to either a Negative Declaration, Mitigated Negative Declaration, or an EIR.

This Draft PEIR was prepared as a ‘tiered’ document. The tiering concept is a multi-level approach to streamline subsequent environmental reviews. The first-tier Program EIR is an analysis of general matters (i.e., in this case –projects contained in the RTP/SCS and related impacts). Subsequent tiers (later EIRs and Negative Declarations) include analyses of narrower, subsequent projects by “incorporating by reference” the general discussions from the broader first-tier EIR. Second-tier environmental reviews focus on the impacts of individual improvement projects that implement the Plan, program, or policy.

The environmental areas addressed in this Draft PEIR were identified from the Notice of Preparation (NOP), which is included as Appendix A of this PEIR. Appendix A also includes the NOP comment letters submitted by responsible and other agencies during or following the NOP 30-day review period.

The scope of first-tier EIRs is limited to a description of those impacts and mitigation measures related to project implementation without being highly speculative. Each improvement project will be subsequently reviewed for potential environmental effects. MCTC, Madera County, the cities, Caltrans, and other responsible and trustee agencies will use this PEIR² for:

- ✓ Regional Transportation Plan Updates.
- ✓ Transportation Improvement Programs.
- ✓ Grants and other funding source projects.
- ✓ Project Study Reports.
- ✓ Design Studies.
- ✓ Corridor Studies.
- ✓ Transit Plans and Studies.
- ✓ Non-Motorized Plans and Studies.
- ✓ Aviation Plans and Studies.
- ✓ Passenger and Freight Rail Plans and Studies.
- ✓ Other Plans and Studies including those for Transportation Demand Management (TDM) and Intelligent Transportation Systems (ITS) Improvement Projects.
- ✓ General Plan Amendments.
- ✓ Review of transportation and land use development projects.
- ✓ Capital Improvement Program budgeting and project priorities.
- ✓ Encroachment Permits.

The following responsible and trustee agencies will use this PEIR for the potential permits/actions:

- ✓ California Dept. of Fish and Wildlife -- *Improvement projects involving Stream Alteration Permits and California Endangered Species Act*
- ✓ California Dept. of Transportation -- *Local Assistance Projects, Transportation Improvement Program, and development permits/encroachment permits on State highways*
- ✓ Cities -- *regional transportation planning, Capital Improvement Program budgeting and project priorities, review of transportation and land use development projects, General Plan Amendments, and encroachment permits.*
- ✓ Madera County (public, Board of Supervisors, Planning Commission, Airport Land Use Commission, and County staff) -- *regional transportation planning, Capital Improvement Program budgeting and*

² For the purposes of CEQA, the term “responsible agency” includes all public agencies other than the Lead Agency, which have discretionary approval power over the project (CEQA Guidelines Sec. 15381). A “trustee agency” means a State agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of California. Trustee agencies include the California Dept. of Fish and Game, the State Lands Commission, and the State Dept. of Parks & Recreation (CEQA Guidelines Sec. 15386).

project priorities, review of transportation and land use development projects, General Plan Amendments, and encroachment permits.

- ✓ Local water departments, Districts and regional irrigation districts/companies -- *Improvement projects involving waterway crossings, channel re-alignments, piping, etc.*
- ✓ San Joaquin Valley Air Pollution Control District (SJVAPCD) -- *air quality attainment plan consistency and air quality mitigation measures for improvement projects.*
- ✓ Madera County Transportation Commission (MCTC) -- *Development of the Regional Transportation Improvement Program and other regional transportation planning documents, tracking of progress in implementing RTP/SCS strategies, monitoring of progress made by other entities, and development and implementation of the Expenditure Plan*
- ✓ School Districts -- *Improvement projects adjacent to or in the vicinity of public schools.*
- ✓ Federal agencies such as the Federal Highway Administration, Federal Transit Agency, Fish and Wildlife Service, Housing and Urban Development (Community Development Block Grant program), etc. – *RTP and funding review and subsequent improvement projects funding and U.S. Endangered Species Act.*

2.14 APPROVALS REQUIRED TO IMPLEMENT THE PROJECT

MCTC will consider this PEIR prior to the consideration of the 2022 RTP/SCS. Before the RTP/SCS can be implemented, federal review and approval of the 2022 RTP/SCS is required. That approval will follow consideration and potential approval of the RTP/SCS in August 2022.

2.15 EIR DEVELOPMENT/APPROVAL PROCESS

- | | |
|---|-----------------|
| ✓ Draft PEIR submitted to MCTC for distribution | June 29, 2022 |
| ✓ Draft PEIR Notice of Completion submitted to the State Clearinghouse for distribution to state agencies | June 29, 2022 |
| ✓ Draft PEIR emailed to organizations, agencies and individuals for review and comment | June 29, 2022 |
| ✓ Availability of Draft PEIR for public review published in local newspapers and on MCTC website | June 29, 2022 |
| ✓ Draft PEIR available at MCTC offices | June 29, 2022 |
| ✓ Draft 55-day public comment period closed | August 13, 2022 |
| ✓ Draft RTP/SCS and PEIR Presentation to MCTC Policy Board | July 20, 2022 |

- | | |
|--|-------------------|
| ✓ DEIR Public Hearing at MCTC Policy Board | August 31, 2022 |
| ✓ Notice of Determination filed with State Clearinghouse | September 5, 2022 |

2.16 ORGANIZATION OF THE EIR

This PEIR consists of the following six sections and two appendices. Each one of these begins with an overview of general EIR terminology and/or requirements specific to each of these sections. *These overviews are in italic typeface.*

- 1.0 Executive Summary
- 2.0 Introduction/Project Description
- 3.0 Environmental Setting, Impacts, Mitigation Measures, and Level of Significance
- 4.0 Project Alternatives
- 5.0 Cumulative Effects
- 6.0 List of Preparers, Organization, and Agencies Referenced or Consulted

Appendices

- A Notice of Preparation (NOP) and Comment Letters
- B RTP/SCS Project Listing
- C Noise Assessment Worksheets

Table 2-11 compares the required contents of an EIR to this Draft PEIR. When the required EIR elements are not separated into distinct sections, the document must include a statement where each element is discussed.

TABLE 2-11
 Required Contents of an EIR

<u>Required (CEQA Guidelines 15120)</u>	<u>Environmental Impact Report</u>
Table of Contents or Index (CEQA Guidelines 15122)	Table of Contents
Summary (CEQA Guidelines 15123)	Executive Summary
Project Description (CEQA Guidelines 15124)	Introduction/Project Description
Environmental Setting (CEQA Guidelines 15125)	Setting, Impacts, Mitigation & Level of Significance
Effects Not Found to be Significant	Setting, Impacts, Mitigation & Level of Significance
Significant Environmental Impacts (CEQA Guidelines 15126 & 15126.2)	Setting, Impacts, Mitigation & Level of Significance
Areas of Known Controversy	Setting, Impacts, Mitigation & Level of Significance
Alternatives (CEQA Guidelines 15126.6)	Project Alternatives
Mitigation Measures (CEQA Guidelines 15126.4)	Setting, Impacts, Mitigation & Level of Significance
Growth-inducing Impacts (CEQA Guidelines 15126.2(d))	Cumulative Effects
Significant Irreversible Changes (CEQA Guidelines 15126.2(c))	Cumulative Effects
Cumulative Impacts	Cumulative Effects
Organizations and Persons Consulted	List of Preparers, Organizations, and Agencies Referenced or Consulted

2.17 EIR AND 2022 RTP/SCS AVAILABILITY

The RTP/SCS and this environmental review document are available at:

Madera County Transportation Commission (MCTC)
2001 Howard Road, Suite 201
Madera, CA 93637
www.maderactc.com

The 2022 RTP/SCS and associated Draft PEIR are located at:

<https://www.maderactc.org/transportation/page/your-madera-2046-rtpscs>

Comments and questions should be made to:

Dylan Stone, Principal Regional Planner
Ph: (559) 675-0721, Ext. 3
FAX: (559) 675-9328
Email: dylan@maderactc.org

3.0 ENVIRONMENTAL SETTING, IMPACTS, MITIGATION MEASURES, & LEVEL OF SIGNIFICANCE

3.1 INTRODUCTION

An EIR is required to:

- ✓ *Provide a description of the physical environmental conditions in the vicinity of the project (local and regional perspectives). Each environmental condition includes an introduction, which introduces the topic and provides an overview of the impacts to be evaluated. In addition, this section includes a regulatory setting (as appropriate) or a discussion of the various regulations and regulatory agencies pertinent to each impact category. Finally, this section includes the environmental setting, which normally constitutes the baseline physical conditions, and a discussion of the policy and technical background by which a lead agency determines whether an impact is significant.*

The environmental setting section is to be no longer than is necessary to get an understanding of the significant effects of the proposed project and its alternatives. The “environment” (CEQA Guidelines 15360) refers the physical conditions which exist within the area that will be affected by a proposed project. The area involved shall be the area in which significant effects would occur either directly or indirectly because of the project. The environment includes both natural and man-made conditions.

- ✓ *Examine changes to the physical environment in the affected area by identifying direct and indirect significant effects as well as considering long- and short-term effects. This includes a description of significant impacts including those that can be mitigated – but not reduced to a level of insignificance. A “significant effect on the environment” (CEQA Guidelines 15382) means a substantial, or potentially substantial, adverse change in any of the physical conditions within an 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. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.*

This section must contain a methodology, or a description of the methods applied to determine environmental impacts. In addition, this section must include criteria for significance or a description of the criteria used to evaluate the significance of potential environmental impacts. This results in an analysis of the beneficial and adverse effects of the proposed project relative to the criteria for significance. The individual projects will still be required to comply with the requirements of CEQA. Detailed analysis of the projects proposed in the Plan would be the responsibility of the agencies approving those projects.

The CEQA Guidelines recommend tools for determining the potential for significant environmental effects including:

- Initial Study checklist (see the Notice of Preparation (NOP), Appendix A)
- CEQA's Mandatory Findings of Significance (see the NOP, Appendix A)
- Consultation with other agencies (See NOP Comment Letters, Appendix A)
- Particular agency thresholds of significance

The NOP determined that a Program Environmental Impact Report (PEIR) is required for the Regional Transportation Plan (RTP) or "Project" because it could result in significant environmental impacts considering the following environmental issue areas:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biotic Resources
- Climate Change
- Cultural and Tribal Cultural Resources
- Energy and Energy Conservation
- Geology/Soils/Mineral Resources
- Hazards & Hazardous Materials
- Hydrology & Water Resources
- Land Use & Planning & Recreational Resources
- Noise
- Population, Housing & Employment
- Public Utilities, Other Utilities, & Services Systems
- Social & Economic Effects
- Transportation
- Wildfire

After review of the NOP comments, it was determined that this Program EIR should focus on the same environmental issues referenced in the NOP and listed above.

Preferred Project Alternative – 2022 RTP and the Preferred SCS Alternative (Conservation and Mobility Scenario 3)

Based on findings identified in this Section of the Draft EIR, the preferred Project is the 2022 RTP/SCS including transportation improvement projects and future growth and development allocated in accordance with the preferred SCS alternative (Conservation and Mobility Scenario 3) contained in Chapter 3 of the 2022 RTP/SCS.

- ✓ Development types and densities followed as closely as possible each city's and the County's current general plan, or each community's specific plan—or their most current preferred land use alternative at the time of scenario development.
- ✓ In general, and where possible, infill development and growth closer to city/community centers was preferred to sprawl development.
- ✓ In general, and where consistent with local planning visions, mixed-use development was preferred to traditional residential or commercial development.

Improvement projects evaluated and identified under this alternative are "financially constrained" in accordance with by Section 65080 et seq., of Chapter 2.5 of the California Government Code, federal guidelines pursuant to new requirements established in the federal surface transportation reauthorization, Bipartisan Infrastructure Law (BIL), "Moving Ahead for Progress in the 21st Century" (MAP-21), and the Fixing America's Surface Transportation (FAST) Acts, Transportation Conformity for the Air Quality Attainment Plan per 40 CFR Part 51 and 40 CFR Part 93, and requirements set forth in *Assembly Bill 32, The California Global Warming Solutions Act of 2006*, and *Senate Bill 375 The Sustainable Communities and Climate Protection Act of 2008*. Major features and benefits of the Conservation and Mobility Scenario 3 include:

Being based on the 2022 RTP/SCS, the Conservation and Mobility Scenario 3:

- ✓ Represents accelerated investment shift towards active transportation, zero-emission vehicle infrastructure, public transit, shared ride options, micromobility and other alternative transportation strategies.
- ✓ Meets the greenhouse gas reduction targets set by CARB (10% by 2020 and 16% by 2035 from 2005).

The designation of planned growth and development is consistent with established land use plans and policies. This includes the designation of urban and rural development consistent with adopted local agency General Plans.

Chapter 3 Contents

- ✓ **Regulatory Setting**

Section 15125(d) of the CEQA Guidelines requires the EIR to discuss "any inconsistencies between the proposed project and applicable general plans and regional plans." This EIR analyzes adoption of a regional transportation plan; therefore, consistency with lower level document like general plans and project plans are not applicable at this programmatic level. Consistency with applicable general plans will be considered as projects are carried forward for project-specific review. Implementing agencies will also be required to comply with any applicable consultation requirements such as those established by Government Code section 65402 in evaluating conformity with applicable general

plans. Consistency with air quality attainment plans is addressed in this Chapter, Section 3.4. Regulatory mandates, legislation, and other requirements are provided for federal, state and local, or other agencies to address transportation, air quality, and climate change requirements, as well as to inform readers of the regulations that may be applicable to address impacts to be assessed in “project level” environmental review; especially by the implementing agencies.

✓ **Environmental Setting**

The environmental setting of each environmental resource or issue area is included to provide an overview or background of existing or baseline conditions in the Project area.

✓ **Methodology**

This section focuses on the information and analysis applied to determine impacts related to each environmental issue area contained in this Chapter.

✓ **Environmental Impacts, Mitigation Measures, and Significance After Mitigation**

Each section of this Chapter contains a section that identifies significance criteria consistent with CEQA Appendix G Thresholds and other applicable significance criteria (criteria for determining the level of significance and environmental impact); impacts associated with the Project considering the significance criteria or thresholds of significance; feasible mitigation measures that would minimize significant adverse impacts; and significance after mitigation intended to identify impacts found not to be significant, impacts found to be significant, and impacts found to be significant and unavoidable.

Other Considerations

It should be noted that the RTP transportation improvement projects and future land use development projects will be implemented by *implementing agencies* such as Caltrans, each of the cities, the County of Madera, transit agencies, Native American Tribes, and other agencies responsible for the construction and/or operation of transportation facilities, land use development, and other services. For purposes of reviewing the environmental impacts associated with the MCTC 2022 RTP, this Draft Program EIR has been prepared because MCTC does not know all the details or have all the information it would need regarding each and every transportation improvement project identified in the RTP or the specific information regarding the specific type of land use development that will occur in each local jurisdiction between 2022 and 2046.

It will be the implementing agencies (referenced above) that will approve, design, and implement the transportation improvement projects referenced in the RTP and that will approve the individual land use developments proposed over the duration of the planning period. These implementing agencies would be able to prepare subsequent environmental documents that incorporate by reference the appropriate

information from this Draft Program EIR regarding secondary effects, cumulative impacts, project alternatives, and other relevant factors. If the lead agency finds that implementation of a later activity would have no new effects and that no new mitigation measures would be required, that activity would not require additional CEQA review. Where subsequent environmental review is required, such review would focus on project-specific significant effects specific to the project, or its site, that have not been considered in this Draft Program EIR.

MCTC is a planning agency only responsible for the planning and programming of projects included in the 2022 RTP. Further, the 2022 RTP contains the SCS, which is intended to show how integrated land use and transportation planning can lead to lower greenhouse gas (GHG) emissions from autos and light trucks (see Chapter 3 of the 2022 RTP for the MCTC SCS Development Process incorporated by reference and can be found at the following link: <https://www.maderactc.org/transportation/page/your-madera-2046-rtpscs>).

The SCS encourages changes to the urban form that improve accessibility to transit, and create more compact development, thereby yielding a number of transportation benefits to the region. These include reductions in travel time, vehicle miles traveled (VMT), vehicle hours traveled (VHT), and vehicle hours of delay. Concurrently, the plan yielded increased transit use and mode share, and all of these effects lead to both mobility and air quality improvements. The SCS only shows how future growth and development would be allocated to planned growth areas consistent with the general plans of the cities and the County of Madera. The merits of the 2022 RTP and SCS (reflected in the Moderate Growth SCS Scenario chosen as the preferred project scenario) are summarized as follows:

- ✓ An ambitious sustainability plan with significant advancements over Scenario 1 Continued Trends .
- ✓ A growth plan that acknowledges current planning assumptions and local land use authority.
- ✓ On track to meet the San Joaquin Valley Blueprint's goals.
- ✓ Meets SB 375 requirements.
- ✓ A realistic and feasible growth scenario that allows the Madera County region to grow at its own pace and retain its own character.

As growth and development occurs, it will be the cities and the County that review and approve development proposals and determine consistency with their plans, programs, and policies; not MCTC. MCTC has no land use authority to approve future growth development as it occurs over the life of the RTP (Year 2046).

3.2 AESTHETICS

Issues related to visual and aesthetic quality including the character, condition, and quality of a scenic landscape or other visual resource are addressed in this section. Also included are aesthetic impacts results from the 2022 RTP/SCS, and a list of associated mitigation measures intended to reduce impacts.

Regulatory Setting

A number of federal, state, and local agencies establish policies and programs relative to visual resources and impacts on those resources, as follows:

Federal Highway Administration (FHWA) – National Scenic Byways Program - The FHWA National Scenic Byways Program designates selected highways as “All American Road” (a roadway that is a destination unto itself) or “National Scenic Byway” (a roadway that possesses outstanding qualities that exemplify regional characteristics).

United States Bureau of Land Management (BLM) – Scenic Areas - The BLM designates some of its holdings as Scenic Areas and some roadways in remote areas as Back Country Byways.

United States Forest Service (USFS) – National Scenic Byways Program - The USFS also has a National Scenic Byways Program, independent from the BLM program, to indicate roadways of scenic importance that pass through national forests.

National Environmental Policy Act (NEPA) - Provides information on potential impacts to the environment, including aesthetic resources (Section 101 [b]). NEPA is implemented by regulations included in the Code of Federal Regulations (40CFR6), which require careful consideration of the harmful effects of federal actions or plans, including projects that receive federal funds, if they may have a significant adverse effect on the environment. Impacts on scenic resources (40CFR6, Section 6.108 [f]) and conflicts with state, regional, or local plans and policies (4040CFR6, Section 6.108 [b]) are among the considerations included in the regulations. While NEPA compliance is not required for the Project, NEPA compliance will be required for transportation improvement projects that will be financed using federal funds. The regulations also require projects requiring NEPA review seek to avoid or minimize adverse effects of proposed actions and restore and enhance environmental quality as much as possible.

The Wild and Scenic Rivers Act - The Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§ 1271-1287), as set forth herein, consists of Public Law 90-542 (October 2, 1968) and amendments thereto. The Act established a method for providing federal protection for certain of the country’s remaining free-flowing

rivers, preserving them and their immediate environments for the use and enjoyment of present and future generations. Eligible rivers can be designated as Wild River Areas, Scenic River Areas, or Recreational River Areas. Recreational River Areas are “those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.”

United States Department of Transportation Act, Section 4(f) - Section 4(f) of the Department of Transportation Act (DOT Act) of 1966 (49 U.S.C. § 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 Federal Highway Administration, Federal Transit Administration, and Federal Aviation Administration that involve the use-or interference with use-of the following types of land:

- ✓ Public park lands.
- ✓ Recreation areas.
- ✓ Wildlife and waterfowl refuges.
- ✓ 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.
- ✓ If there is a feasible and prudent alternative, a proposed project using Section 4(f) lands cannot be approved by the 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 of 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.

Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for

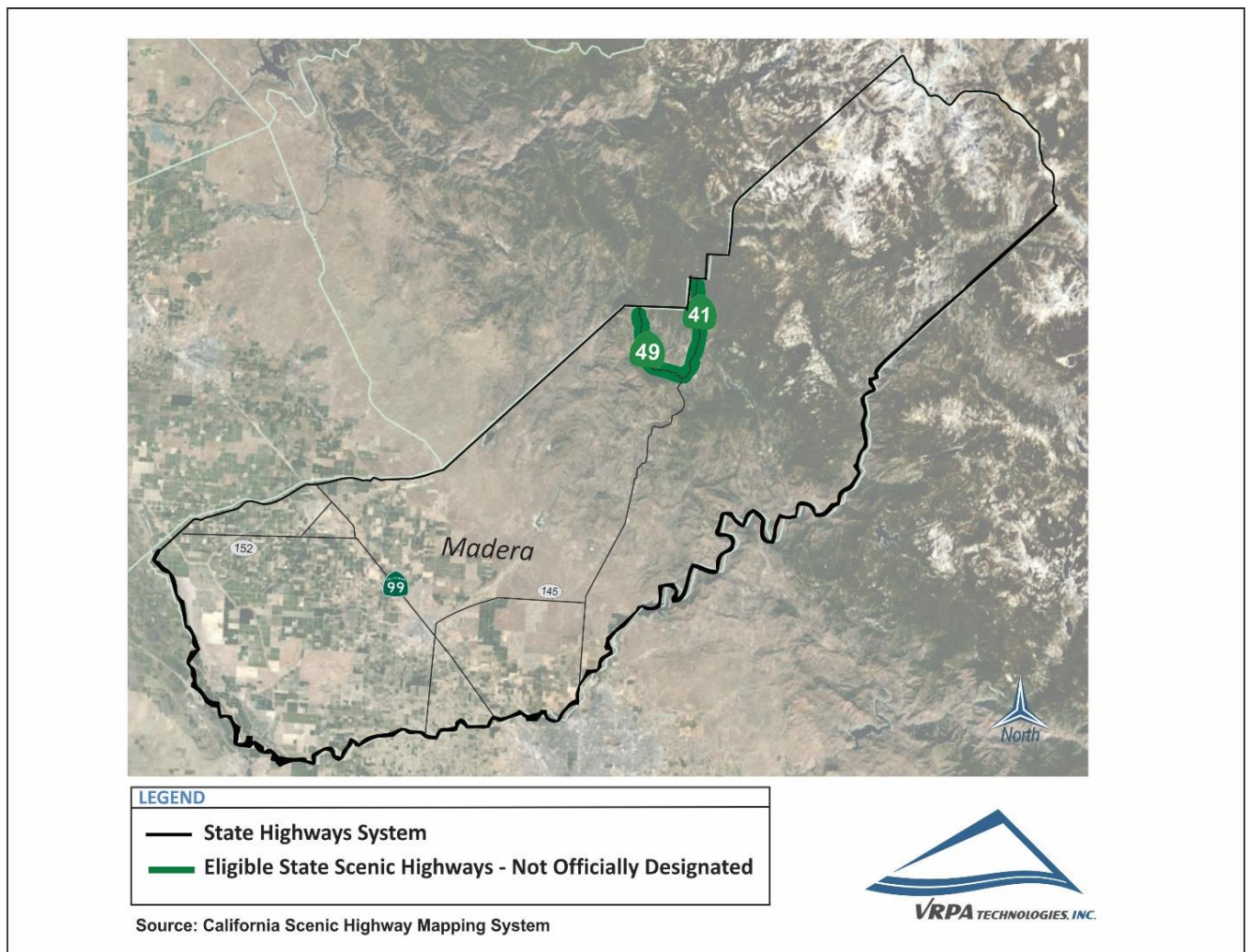
Users - In August 2005, Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU; 23 CFR 774) amended existing Section 4(f) at both Title 49 USC Section 303 and Title 23 USC Section 138 to simplify the process and approval of projects that have only de minimis impacts on lands impacted by Section 4(f). Under the revised provisions, once the U.S. DOT determines that a transportation use of Section 4(f) property results in a de minimis impact, analysis of avoidance alternatives are not required and the Section 4(f) evaluation process is complete. Section 6009 also required the U.S. DOT to issue regulations that clarify the factors to be considered and the standards to be applied when determining if an alternative for avoiding the use of a Section 4(f) property is feasible and prudent. On March 12, 2008, the FHWA issued a Final Rule on Section 4(f), which clarified the 4(f) approval process, simplified its regulatory requirements, and moved the Section 4(f) regulation to 23 CFR 774.

California Environmental Quality Act (CEQA) - Similar to NEPA, CEQA affords protection for the environment, including aesthetic resources. The CEQA Guidelines provide four criteria that may be used to evaluate the significance of visual quality impacts: negative effects on a scenic vista, damage to scenic resources within a State scenic highway, degradation of the visual character or quality of a site and its surroundings, and creation of a new source of substantial light or glare affecting views.

California Department of Transportation (Caltrans) - The State Legislature created the California Scenic Highways Program in 1963 to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. To be included in the State program, the highways proposed for designation must meet Caltrans' eligibility requirements and have visual merit. According to the Caltrans California Scenic Highway Mapping System, there are no designated State Scenic Highways in Madera County, two (2) State Route (SR) 49 are eligible for destination. The portion of the highways is shown in Figure 3-1 and listed below.

- ✓ SR 41: from SR 49 near Oakhurst to near fish Camp.
- ✓ SR 49: from SR 41 near Oakhurst to near Windsong Way.

FIGURE 3-1
Eligible Scenic Highways



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 2-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.

California Code of Regulations Title 24 Part 6 - The California Energy Code (CEC) (Cal. Code Regs., tit. 24 § 6) was created as part of the California Building Standards Code by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy consumption. California's Building Energy Efficiency Standards are updated on an approximately three-year cycle; It was last updated in 2019, which went into effect on January 1, 2020. These standards include mandatory requirements for efficiency and design of lighting control devices and mandatory requirements for indoor and outdoor lighting systems in residential and non-residential buildings, and hotel or motel buildings. On August 11, 2021 the CEC adopted the 2022 Energy Code which is approved by California Building Standards Commission for inclusion into the California Building Standards Code. The 2022 Energy code includes efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards. Building permits after January 1 2023, must comply with the 2022 Energy code.

County and City Controls - Most local planning guidelines to preserve and enhance visual quality and aesthetic resources of urban and natural areas are established in a jurisdiction's General Plan. The value attributed to a visual resource generally is based on the characteristics and distinctiveness of the resource and the number of persons who view it. Vistas of undisturbed natural areas, unique or unusual features forming an important or dominant portion of a view shed, and distant vistas offering relief from less attractive nearby features are often considered scenic resources. In some instances, a case-by-case determination of scenic value may be needed, but often there is agreement within the relevant community about which features are valued as scenic resources.

In addition to federal and State designations, counties and cities have their own scenic highway designations, which are intended to preserve and enhance existing scenic resources. Criteria for designation are commonly included in the conservation/open space element of the city or county general plan.

Cities and counties can use open space easements as a mechanism to preserve scenic resources, if they have adopted open-space plans, as provided by the Open Space Easement Act of 1974 and codified in California Government Code (Section 51070 et seq.). According to the Act, a city may acquire or approve an open-space easement through a variety of means, including use of public money.

Environmental Setting

The aesthetic quality of the Madera County regional transportation system is comparable to other transportation systems in the San Joaquin Valley. The County is relatively flat within the Valley region. The Valley areas are bounded on the east and west by foothill and mountain ranges and are dominated

by the agricultural landscape. The majority of cities and communities in Madera County are located in the Valley area. Valley communities and cities include Bonadelle Ranchos-Madera Ranchos, Chowchilla, Fairmead, Madera and Madera Acres.

The Valley areas are met in the east and west by foothill and mountain ranges such as the Sierra Nevada foothills, the High Sierra Nevada Mountain Range, and the Inner South Coast Range. Eastern Sierra Nevada foothill areas generally include gently rolling grass-covered hills sprinkled with oak trees, occasional water features, and rock formations. Agriculture and range animals may or may not be included. Eastern foothill communities include Daulton, Hildreth, Indian Springs, O'Neals, Raymond, and Yosemite Lakes. Western foothill areas within the Inner South Coastal Range are similar to eastern foothills but are much drier and contain significantly fewer trees. Mountain areas in the northeast Sierra Nevada Foothills and the High Sierra Nevada Mountain Range usually include numerous pine trees, some rock formations and changing elevation. Mountain communities include Ahwahnee, Bass Lake, Coarsegold, Oakhurst, and Wishon.

Various forms of transportation have affected the aesthetic quality of the County. As a result, the existing and planned multi-modal transportation system is considered to have a significant impact on the aesthetic quality in the County. The aesthetic appearance of the Madera County urban and rural area is a function of both the natural landscape and man-made elements that create an urban and rural character and design. Because transportation facilities can have a major influence on human perception of the visual environment, this section of the PEIR addresses the general aesthetic landscape of the Madera region and assesses the potential impacts from region-wide construction of at- and above-grade facilities.

Definitions

- ✓ View shed: A view shed is the area within the field of view of an observer and is commonly used to describe the extent of a scenic resource. A number of intervening elements, including trees and other vegetation, built structures, or topography, such as hills and mountains, can limit the extent of a view shed.
- ✓ Various jurisdictions within the Madera region, such as cities, counties or federal or regional agencies, provide the guidelines regarding the preservation and enhancement of visual quality in their plans or regulations. Because of the size and diversity of Madera County, there are no uniform standards that apply to all areas of the region. The analysis does utilize the State CEQA Guidelines Appendix G thresholds to evaluate impacts.

Transportation systems have a major influence on human perception of the visual environment. In urban areas, roadway rights-of-way comprise 20-30 percent of the total land area. As most vehicular movement occurs along transportation corridors, their placement largely determines what parts of the area will be

seen. Even for people not using the transportation system at a particular time, or who never use certain modes of travel, transportation systems are usually a dominant element of the visual environment.

View sheds and visual quality are affected by air quality and more specifically, visibility. In Madera County, high pollutant emissions – combined with poor natural ventilation in the San Joaquin Valley Air Basin – result in degraded visibility. Of particular note is photochemical smog and airborne particulates, finely divided solids or liquids, such as soot, dust, aerosols, and mists that absorb sunlight, producing haze and reducing visibility.

Aesthetically Significant Resources

Aesthetically significant features occur in a diverse array of environments within the region, ranging in character from urban centers to rural agricultural lands to natural woodlands. The mixture of climate topography affords the extraordinary range of visual features in the region and flora and fauna found in the natural environment, and the diversity of style, composition, and distribution of the built environment.

Natural features include land and open spaces such as park and open space areas, mountain areas, beaches, and natural water sources. Included, as natural features, are elements of the visual environment, which have been constructed to resemble natural features, such as man-made lakes. The loss of natural aesthetic features, reduction of vistas, or the introduction of contrasting urban features may diminish the value of natural resources in the region.

From a regional perspective, views of the various mountain ranges from locations in the region are considered valuable visual resources. Other natural features that may contain visual significance include the numerous rivers such as the San Joaquin and Chowchilla Rivers, streams, creeks, lakes such as Millerton, Bass, Eastman, and Hensley Lakes and reservoirs located within the region. Features of the built environment that may have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, or a location where an historic event occurred.

Designated State and Local Scenic Highways

While there are no official designated State Scenic Highways in Madera County, according to the Caltrans California Scenic Highway Mapping System, there are two (2) highways eligible for designation including SR 41, and SR 49. Figure 3-1 depicts the location of these eligible highways. These designations represent

recognition of the high scenic and visual qualities of these corridors. Specific design guidelines are required by local regulation for all designated highways, and the state-designated corridors must be reviewed when improvements are proposed to determine if the highway will remain eligible for designation as a scenic corridor. The remainder is locally designated highways or streets of which several are scenic drives that make their way through the High Sierra Nevada and the Sierra Nevada Foothill areas.

Light and Glare

General sources of light can be categorized as follows:

- ✓ Man-made interior lighting that can be seen from the exterior of a building.
- ✓ Man-made exterior lighting such as lampposts, signs, or headlights.
- ✓ Naturally occurring light such as sunlight or moonlight.
- ✓ Indirect light that is reflected from a direct source of light.

Examples of direct light associated with transportation systems can include highway signs, car headlights, and street/highway lights, as well as illumination from the interior of transit facilities. An example of indirect light can include the reflection of sunlight from a new lightly colored road surface or highly reflective noise wall.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Potential impacts to scenic resources and vista points were based on available data on state-designated highways and vista points. This analysis discusses and assesses potential impacts to designated scenic resources, including scenic highways or vista points that may be generated from projects proposed in the RTP and SCS, as well as other projects contained in the RTP financially constrained project lists. This analysis also discusses the potential impact of additional light and glare from proposed improvement projects within the RTP and new development planned within the SCS. Mitigation measures are provided if the impact has been identified as being potentially significant.

Generally, greater changes from existing conditions result in impacts that are more significant. For example, the construction of a new roadway generally has a greater impact on scenic resources than the widening of an existing one. Road widening, however, can have significant local impacts especially when requiring the removal of trees and other important landscape buffers, or when construction of noise barriers or other visual impediments are necessary. New land use development can also result in significant changes and impacts to the existing landscape and view shed.

Criteria for Significance

The following significance criteria were used to determine the level of significance of impacts on scenic resources resulting from the proposed Project. Significance criteria were developed based on Appendix G of the State CEQA Guidelines and on professional judgment. In general, an individual improvement project and new development project contained within the RTP and SCS would result in a significant visual impact if it:

- ✓ Have a substantial adverse effect on a scenic vista.
- ✓ Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state or county designated scenic highway or county designated scenic road.
- ✓ Substantially degrade the existing visual character or quality of the site and its surroundings, which are open to public view
- ✓ Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Generally, proposed projects are of the following two types:

- ✓ New Systems (new highway and transit facilities).
- ✓ Modifications to Existing Systems (widening roads, addition of carpool lanes, grade crossings, intelligent transportation systems, maintenance, and service alterations).

Methodology

Impacts to aesthetic resources resulting from these proposed Project would depend on several factors such as the type of individual improvement or land use development project proposed for the given area, scenic resources in the given area, and duration of the proposed construction activities.

In general, scenic resources could be significantly impacted by transportation improvement projects or future land use development projects proposing new systems. Specifically, construction and operation of transportation improvement projects and future land use development proposed within the RTP and SCS could significantly impact aesthetic resources located in the vicinities of these “new or future” transportation improvement or land use development projects.

Impact AE 3.2.1 – Have a substantial adverse effect on a scenic vista.

Construction and implementation of individual transportation improvement projects and future land use development projects could potentially impede, or block views of scenic resources as seen from the transportation facility or from the surrounding area. This could be a potentially significant impact.

Construction of new facilities or development of previously undisturbed sites for transportation improvements or future land use development could potentially block or impede views of scenic resources in a given area. For example, construction of highways or new residential areas could block or impede views of area mountains such as the Sierra Nevada Mountain Range and other scenic resources. Grade separated facilities could block or impede views of surrounding scenic resources during and after construction. Moreover, the elevation and scale of the proposed grade separated facilities or high-rise development could be visually intrusive to surrounding areas (depending on the degree of visibility of the transportation facility).

Construction of transportation facilities that involve modifications like widening or upgrading existing roadways would involve lesser changes to the visual environment. These “modification projects” would most likely occur within existing roadway facilities and/or could require acquisition of right-of-way property. However, such changes may not block or impede views of scenic resources to a greater extent than at present.

Implementation of the proposed RTP and SCS will result in more compact development than existing conditions. By developing more compactly, the RTP and SCS directs more growth to the areas that are already urbanized and potentially lessens the amount of undeveloped land or lands with aesthetic resources from being converted or lost to urban uses. Focusing growth in areas that are already developed limits the amount of growth that takes place at the urban edge, adjacent to aesthetic resources.

Mitigation Measures

The specific impacts on obstruction of views will be evaluated as part of the implementation agencies’ project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **AE 3.2.1-1** Implement design guidelines, local policies, and programs aimed at protecting views of scenic corridors and avoiding visual intrusions.
- ✓ **AE 3.2.1-2** To the extent feasible, noise barriers that will not degrade or obstruct a scenic view will be constructed. Noise barriers will be well landscaped, complement the natural landscape and be graffiti-resistant.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact AE 3.2.2 – Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Construction and implementation of the projects and new development could alter the appearance of scenic resources along or near eligible scenic highways such as along SR 41 or SR 49 near the Oakhurst area. This could be a potentially significant impact.

The State Legislature created California Department of Transportation's (Caltrans) State Scenic Highway Program in 1963 to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are stated in the California Streets and Highways Code, Section 260.

The State Scenic Highway System includes a list of highways that have been designated by Caltrans as scenic highways or are eligible for designation as scenic highways. These highways are designated in Section 263 of the Streets and Highways Code. Scenic highway designation can offer the following benefits.

- ✓ Protection of the scenic values of an area.
- ✓ Enhancement of community identity and pride, encouraging citizen commitment to preserving community values.
- ✓ Preservation of scenic resources to enhance land values and make the area more attractive.
- ✓ Promotion of local tourism that is consistent with the community's scenic values.

According to Caltrans, a scenic corridor is the land generally adjacent to and visible from the highway. A scenic corridor is identified using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. Caltrans outlines the following minimum requirements for scenic corridor protection: regulation of land use and density of development; detailed land and site planning; control of outdoor advertising; careful attention to, and control of, earthmoving and landscaping; and careful attention to design and appearance of structures and equipment.

Some of the proposed projects in the RTP include countywide improvements to highways, arterials and transit systems. These improvements could potentially fall within a designated eligible state scenic highway. There are no designated scenic highways in Madera County. The highways eligible for designation as a state scenic highway are referenced in Figure 3-1.

Mitigation Measures

The specific impacts on altered appearance of scenic resources will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **AE 3.2.2-1** Avoid construction of transportation facilities and new development in state and locally designated scenic highways and vista points.
- ✓ **AE 3.2.2-2** If transportation facilities and new development are constructed in state and locally designated scenic highways and/or vista points, design, construction, and/or operation of the transportation facility or new development will be consistent with applicable guidelines and regulations for the preservation of scenic resources along the designated scenic highway.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact AE 3.2.3 – Substantially degrade the existing visual character or quality of the site and its surroundings.

Construction and implementation of improvement projects or new development could create significant contrasts with the overall visual character of the existing landscape setting. This could be a potentially significant impact.

There is an extraordinary range of urban characteristics and urban-natural environmental contrasts throughout the proposed RTP Project area. Given the size and diversity of the region, there are no standards that apply to all areas. Therefore, local planning guidelines regarding visual quality of urban areas must be researched and adhered to. A component of the urban environment is the transportation infrastructure and areas designated for new development by local general plans. Many roads have been built throughout the region, which connect urban concentrations with natural areas found in the rural area. Transportation systems have a major effect on the visual environment. As most vehicular movement occurs along transportation corridors, their placement largely determines what parts of the region will be seen. Arterials and freeways comprise a major component of the existing visual environment in the region. In addition, new land use development consistent with the SCS could impact visual resources by obstructing existing view sheds.

Development of previously undeveloped sites could result in impacts to visual resources. Construction of a new transportation system or new land use development could result in land use changes that could also result in impacts to visual resources. For example, the extension of a highway through an urban area could require some acquisition of residential, commercial or industrial property, thereby changing the land use, and consequently, visual quality of the given area. “Modification projects” that involve the widening or upgrading of existing roadways can be designed to complement the existing system, and

therefore, would involve lesser changes to the visual character of the existing landscape setting. Therefore, impacts from “modification projects” would be less-than-significant.

Mitigation Measures

The specific impacts on development of previously undeveloped sites with visual qualities will be evaluated as part of the implementation agencies’ project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **AE 3.2.3-1** Where appropriate, encourage the development of design guidelines for each type of transportation facility and land use that make elements of proposed projects visually compatible with surrounding areas. Visual guidelines will, at a minimum, include setback buffers, landscaping, color, texture, signage, and lighting criteria. The following methods will be employed whenever possible:
 - Transportation systems and new development will be designed in a manner where the surrounding landscape dominates.
 - Transportation systems and new development will be developed to be compatible with the surrounding environment (i.e., colors and materials of construction material).
 - If exotic vegetation is used, it will be used as screening and landscaping that blends in and complements the natural landscape.
 - Trees bordering highways will remain or be replaced so that clear cutting is not evident.
 - Grading will blend with the adjacent landforms and topography.

- ✓ **AE 3.2.3-2** Project implementation agencies should design transportation and new development projects to minimize contrasts in scale and massing between the project and surrounding natural forms and development. Project implementation agencies should design projects to minimize their intrusion into important viewsheds and use contour grading to better match surrounding terrain. To the maximum extent feasible, landscaping along highway corridors should be designed to add significant natural elements and visual interest to soften the hard-edged, linear travel experience that would otherwise occur.

- ✓ **AE 3.2.3-3** Project implementation agencies should use natural landscaping to minimize contrasts between the Project (RTP and SCS) and surrounding areas. Wherever possible, interchanges and

transit lines should be designed at the grade of the surrounding land to limit view blockage. Edges of major cut-and-fill slopes should be contoured to provide a more natural looking finished profile. Project implementation agencies should replace and renew landscaping to the greatest extent possible along corridors with road widenings, interchange projects, and related improvements. New corridor landscaping should be designed to respect existing natural and man-made features and to complement the dominant landscaping of surrounding areas.

- ✓ **AE 3.2.3-4** Project implementation agencies should construct sound walls of materials whose color and texture complements the surrounding landscape and development and to the maximum extent feasible, use color, texture, and alternating facades to “break up” large facades and provide visual interest. Where there is room, project sponsors should landscape the sound walls with plants that screen the sound wall, preferably with either native vegetation or landscaping that complements the dominant landscaping of surrounding areas.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact AE 3.2.4 – Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Construction and implementation of individual transportation and land use development projects could potentially create a new source of substantial light or glare that would affect day or nighttime views of scenic resources as seen from the transportation facility or from the surrounding area. This could be a potentially significant impact.

There is an extraordinary range of urban characteristics and urban-natural environmental contrasts throughout the proposed Project area. Given the size and diversity of the region, there are no standards that apply to all areas. Therefore, local planning guidelines regarding visual quality of urban areas must

be researched and adhered to. Urban areas, due to numerous buildings in a concentrated space, experience significant light from all light source categories. Madera County includes large, medium, and small sized cities, and vast rural areas that are either located in the Valley region or are mountainous. The rural areas are primarily used for agricultural purposes. In smaller communities and in rural areas of the County, where urban development is less dense, light and glare impacts are not as frequent.

Mitigation Measures

The specific impacts on new sources of light and glare will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **AE 3.2.4-1** Where appropriate, encourage the development of design guidelines for each type of transportation facility and land use development that make light elements of proposed facilities visually compatible with surrounding areas. The following methods will be employed whenever possible:
 - Transportation systems and new development areas will be designed in a manner where the surrounding landscape dominates.
 - Transportation systems and new development areas will be developed to be compatible with the surrounding environment.
 - Lighting devices will be employed such as downward facing light, light shields, and amber lumens.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

3.3 AGRICULTURE AND FORESTRY RESOURCES

This section provides information about the impacts of RTP/SCS improvement projects and future planned land use development on agriculture and forestry resources. The methodology and the criteria used to evaluate the significance of agriculture and forestry related impacts as well as mitigation measures are discussed.

Regulatory Setting

Federal Agencies and Regulations

- ✓ **The Environmental Protection Agency (EPA) implements NEPA** - NEPA provides information on expected environmental effects of federally funded projects. Impacts on land uses and conflicts with state, regional, or local plans and policies are among the considerations included in the regulations. The regulations also require that projects requiring NEPA review seek to avoid or minimize adverse effects of proposed actions and restore and enhance environmental quality as much as possible.
- ✓ **U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS)** - The NRCS maps soils and farmland uses to provide comprehensive information necessary for understanding, managing, conserving and sustaining the nation's limited soil resources. The NRCS manages the Farmland Protection Program, which provides funds to help purchase development rights to keep productive farmland in agricultural uses.
- ✓ **United States Bureau of Land Management (BLM)** - The California Desert Conservation Area Plan is used to manage BLM controlled areas. The BLM also implements biological resource management policies through its designation of Areas of Critical Environmental Concern.
- ✓ **United States Fish and Wildlife Service (USFWS)** - The USFWS administers the Federal Endangered Species Act (FESA) and designates critical habitat for endangered species. The USFWS also manages the National Wildlife Refuges
- ✓ **United States Army Corps of Engineers (USACE)** - Among its responsibilities, the USACE administers Section 404 of the Clean Water Act (CWA), which governs specified activities in waters of the United States, including wetlands. In this role, the USACE requires that a permit be obtained if a project would place structures, including dredged or filled materials, within navigable waters or wetlands, or result in alteration of such areas.

- ✓ **Federal Farm and Ranchland Protection Program (FRPP)** - The FRPP, also referred to as the Farmland Protection Program (FPP), is a voluntary easement purchase program that helps farmers and ranchers keep their land in agriculture. Pursuant to the Farmland Protection Policy Act (FPPA) of 1981 Sections 1539-1549, the Secretary of Agriculture is directed to establish and carry out a program to "minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to the extent practicable, will be compatible with state, unit of local government, and private programs and policies to protect farmland." (7 USC 4201-4209 & 7 USC 658).

The program provides matching funds to state, tribal, or local governments and nongovernmental organizations with existing farmland protection programs to purchase conservation easements or other interests in land. FPP is reauthorized in the Farm Security and Rural Investment Act of 2002 (Farm Bill). The NRCS manages the program. Technical Committee, awards funds to qualified entities to conduct their farmland protection programs. Although a minimum of 30 years is required for conservation easements, priority is given to applications with perpetual easements.

- ✓ **Federal Environmental Quality Incentives Program (EQIP)** - EQIP is a voluntary program that provides assistance to farmers and ranchers who face threats to soil, water, air, and related natural resources on their land.
- ✓ **Federal Forest Legacy Program (FLP)** - The FLP (16 U.S.C. § 2103c) was part of the 1990 Federal Farm Bill. The FLP's purpose is to protect environmentally important forestland under private ownership from conversion to non-forest uses, such as residential or commercial development. The FLP promotes the use of voluntary conservation easements on these properties. Participating landowners may sell or transfer particular rights, while retaining ownership of the property and the right to use it in any way consistent with the terms of the easement.

The easement holder is responsible for managing the rights it acquires and for monitoring compliance by the landowner. Forest management activities, such as timber harvesting, hunting, fishing, and hiking are encouraged, provided they are consistent with the program's purpose.

- ✓ **Department of Transportation Act, Section 4(f)** - Section 4(f) of the Department of Transportation Act, as amended (49 USC 303), "policy on lands, wildlife and waterfowl refuges, and historic sites" indicates:
 - It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.

- The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the states, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities.
- The Secretary may approve a transportation program or project (other than any project for a park road or parkway under Section 204 of Title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:
 1. There is no prudent and feasible alternative to using that land; and
 2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Agricultural Act of 2014 - Every five years, Congress passes a Farm Bill to establish national agriculture, nutrition, conservation, and forestry policy. The current farm law, the Agriculture Improvement Act of 2018 (2018 Farm Act), was signed on December 20, 2018, and will remain in force through 2023, although some provisions extend beyond 2023. The 2018 Farm Act makes few major changes in agricultural and food policy. Nutrition policy, particularly the Supplemental Nutrition Assistance Program (SNAP), will continue with minor changes. Crop insurance options and agricultural commodity programs will exist much as under the 2014 Farm Act. All major conservation programs are continued, although some are modified significantly. Programs are expanded for trade, research and extension, energy, specialty crops, organic agriculture, local and regional foods, and beginning/socially disadvantaged/veteran farmers and ranchers.

The 2018 Farm Act increases FY2019-FY2023 spending by \$1.8 billion (less than 1 percent) above the level projected for a continuation of the previous farm act. The Congressional Budget Office projects that 76 percent of outlays under the 2018 Farm Act will fund nutrition programs, 9 percent will fund crop insurance programs, 7 percent will fund conservation programs, 7 percent will fund commodity programs, and the remaining 1 percent will fund all other programs, including trade, credit, rural development, research and extension, forestry, horticulture, and miscellaneous programs.

State Agencies and Regulations

- ✓ **California Department of Conservation** - In 1982, the State of California created the Farmland Mapping and Monitoring Program within the California Department of Conservation to carry on the

mapping activity from the NRCS on a Conservation Act of 1965, also known as the Williamson Act, for the conservation of farmland and other resource-oriented laws.

- ✓ **California Department of Transportation (Caltrans)** - The Caltrans jurisdiction includes rights-of-way of state and interstate routes within California. Any work within the right-of-way of a federal or state transportation corridor is subject to Caltrans regulations governing allowable actions and modifications to the right-of-way. Caltrans includes the Division of Aeronautics, which is responsible for airport permitting and establishing a county Airport Land Use Commission (ALUC) for each county with one or more public airports. ALUCs are responsible for the preparation of land use plans for areas near aviation facilities.
- ✓ **California Department of Forestry and Fire Protection (CAL FIRE)** - Cal Fire reviews and approves plans for timber harvesting on private lands. In addition, through its responsibility for fighting wildland fires, Cal Fire plays a role in planning development in forested areas.
- ✓ **California Department of Parks and Recreation (CDPR)** - The CDPR manages and provides sites for a variety of recreational and outdoor activities. The CDPR is a trustee agency that owns and operates all state parks and participates in land use planning that affects state parkland.
- ✓ **California Department of Fish and Wildlife (CDFW)** - The land use mandate of the CDFW is to protect rare, threatened, and endangered species by managing habitat in legally designated ecological reserves or wildlife areas.
- ✓ **Farmland Mapping and Monitoring Program (FMMP)** - In 1982, the State of California created the Farmland Mapping and Monitoring Program (FMMP) within the Department of Conservation to carry on the mapping activity from the NRCS on a continuing basis. The FMMP is a non-regulatory program that provides consistent and impartial analysis of agricultural land use and land use changes throughout California for use by decision-makers in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. The FMMP produces Important Farmland Maps, which are a hybrid of resource quality (soils) and land use information. Information from the FMMP was used to identify agricultural resources within Madera County. The FMMP is the primary system by which the extent, distribution, and quality of farmland is evaluated and monitored. Maps of Important Farmland are prepared approximately every two years by the FMMP for most of the state's agricultural regions, based on soil survey information and land inventory and monitoring criteria developed by the NRCS.

The classification system employed by FMMP consists of eight mapping categories: five categories of agricultural lands and three categories of nonagricultural lands. The characteristics of these eight categories are summarized below.

- Prime Farmland. Prime farmlands are lands with the combination of physical and chemical features best able to sustain long-term production of agricultural crops. The land must be supported by a developed water supply that is dependable and of adequate quality during the growing season. It must also have been used for the production of irrigated crops at some time during the four years before the mapping data were collected.
- Farmland of Statewide Importance. Farmland of statewide importance are lands with agricultural land use characteristics, irrigation water supplies, and physical characteristics similar to prime farmland but with minor shortcomings, such as steeper slopes or less ability to hold and store moisture.
- Unique Farmland. Unique farmlands are lands with lesser quality soils used for the production of California's leading agricultural cash crops. These lands are usually irrigated but may include non-irrigated orchards or vineyards as found in some of the state's climatic zones.
- Farmland of Local Importance. Farmlands of local importance are important to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.
- Grazing Land. Grazing lands are lands on which the existing vegetation is suited to the grazing of livestock.
- Urban and Built-Up Land. This category describes land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a ten-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- Other Land. This category encompasses land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; vacant and nonagricultural land surrounded on all sides by urban development; confined livestock, poultry, or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than 40 acres.
- Water. This category describes perennial bodies of water with an extent of at least 40 acres.

Table 3-1 provides the FMMP acres listing of existing important farmland by type and the amount of grazing land within Madera County. Figure 3-2 depicts areas devoted to prime farmland, unique farmland, farmland of statewide importance, and farmland of local importance (California Department of Conservation, 2014).

- ✓ **Oak Woodlands Conservation Act of 2004** - The Act (Senate Bill 1334) supports the conservation and protection of the State of California’s oak woodlands, requiring counties to determine whether a project may result in loss of oak woodlands with significant effect on the environment and implement one or more specified mitigation alternatives in compliance with CEQA and its provisions.
- ✓ **California Forest Legacy** - Similar to the Federal Forest Legacy Program, the California Forest Legacy Act of 2007 (Pub. Resources Code, § 12220(G)) is a program of the California Department of Forestry and Fire Protection (CAL FIRE) to promote conservation easements in environmentally sensitive forest areas. Money to fund the Program is obtained from gifts, donations, federal grants and loans, other appropriate funding sources, and from the sale of bonds pursuant to Proposition 12, the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act (The Villaraigosa-Kelley Act) of 2000 (Pub. Resources Code, div. 5, ch. 1.692).

This act defines “forest land” as “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” (California Department of Forestry and Fire Protection, 2011).

- ✓ **The Right to Farm Act of 1981** - The Right to Farm Act of 1981 (Civ. Code, § 3482.5) is designed to protect commercial agricultural operations from nuisance complaints that may arise when an agricultural operation is conducting business in a “manner consistent with proper and accepted customs.” The code specifies that established operations that have been in business for three or more years that were not nuisances at the time they began shall not be considered a nuisance as a result of new land use.
- ✓ **California Farmland Conservancy Program Act** - The California Farmland Conservancy Program Act of 2010 (Pub. Resources Code, § 10200 *et seq.*), also known as Sen. Bill No. 1142 (Stats. 2010, ch. 323) (SB 1142), established the California Farmland Conservancy Program (CFCP), which provides grants for agricultural conservation easements. An agricultural conservation easement aims to maintain agricultural land in active production by removing the development pressures from the land. Such an easement prohibits practices that would damage or interfere with the agricultural use of the land. Because the easement is a restriction on the deed of the property, the easement remains in effect even when the land changes ownership. Agricultural conservation easements are created specifically to support agriculture and prevent development on the subject parcels. While other benefits may accrue because the land is not developed (scenic and habitat values, for example), the primary use of the land is agricultural. Easements funded by the CFCP must be of a size and nature suitable for viable commercial agriculture.

- ✓ **Open Space Subvention Act** - The Open Space Subvention Act (OSSA) of 1972 (Gov. Code, § 16140 *et seq.*) was enacted on January 1, 1972 to provide for the partial replacement of local property tax revenue foregone as a result of participation in the Williamson Act and other enforceable open space restriction programs. Participating local governments receive annual payment on the basis of the quantity (number of acres), quality (soil type and agricultural productivity), and, for Farmland Security Zone contracts, location (proximity to a city) of land enrolled under eligible, enforceable open space restrictions.

- ✓ **The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000** - The Cortese-Knox-Hertzberg Local Government Reorganization Act (Cortese-Knox-Hertzberg Act) of 2000 (Gov. Code, § 56000 *et seq.*) established 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 shall 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.

- ✓ **Z'berg-Nejedly Forest Practice Act of 1973** - The Z'berg-Nejedly Forest Practice Act (Forest Practice Act) of 1973 (Pub. Resource Code, div. 4, ch. 8) established a nine member Board of Forestry whose mandate is to assure the best economic and environmental practices in timber production in California. The Board requires that a Registered Professional Forester (RPF) prepare a Timber Harvest Plan (THP) before harvesting timber on most nonfederal forestland. The goal of the THP is to assure that the continual productivity of timberlands is sustained and enhanced by the timber harvesting that takes place on the site, and that related resources are protected to the extent feasible, including watersheds, fisheries, wildlife, recreation, aesthetics, and employment in the region.

- ✓ **California Timberland Productivity Act of 1982** - The California Timberland Productivity Act (CTPA) of 1982 (Gov. Code, §§ 51100–51104) describes the powers and duties of local government in protecting timberlands. The law is designed to maintain an optimum amount of timberland, ensuring its current and continued availability by establishing Timberland Preserve Zones (TPZ) on all qualifying timberland, which restrict land use to growing and harvesting timber and other compatible uses. The Act discourages premature or unnecessary conversion of timberland to urban or uses and expansion of urban services into timberland and encourages investment in timberlands based on reasonable expectation of harvest. The CTPA also provides that timber operations conducted in accordance with California forest practice rules shall not be restricted or prohibited due to land uses in or around the location of the timber operations

- ✓ **Oak Woodlands Conservation Act of 2004** - The Act (Senate Bill 1334) supports the conservation and protection of the State of California’s oak woodlands, requiring counties to determine whether a project may result in loss of oak woodlands with significant effect on the environment and implement one or more specified mitigation alternatives in compliance with CEQA and its provisions.
- ✓ **California Forest Legacy Act of 2007** - The California Forest Legacy Act (Pub. Resources Code, § 12220(G)) establishes the program to promote the conservation of environmentally sensitive forest areas. Under the California Department of Forestry and Fire Protection (CAL FIRE) this act defines “forest land” as “land that can support ten-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” (California Department of Forestry and Fire Protection, 2012).

Public Agencies

Public agencies are entrusted with compliance with CEQA and its provisions are enforced, as necessary, through litigation and the threat thereof. CEQA defines a significant effect on the environment as a substantial, or potentially substantial, adverse change in the physical conditions within the area affected by the project. Agriculture and Forestry resources is a required impact assessment category under CEQA.

- ✓ **California Land Conservation Act of 1965 (Williamson Act)** - The Williamson Act is the only established program that directly involves state government in an administrative or fiscal capacity. The Act creates an arrangement (contract) whereby private landowners voluntarily restrict their land to agricultural and compatible open space uses under a rolling ten-year contract. In return parcels are assessed for property tax purpose at a rate consistent with their actual use, rather than potential market value.
- ✓ **Farmland Security Zone** - August of 1998, the Legislature enhanced the Williamson Act with the farmland security zone (FSZ) provisions. The FSZ provisions offer landowners greater property tax reduction in return for a minimum rolling contract term of 20 years.
- ✓ **California Farmland Conservancy Program (CFCP)** - The CFCP seeks to encourage the long-term, private stewardship of agricultural lands through the voluntary use of agricultural conservation easements. The CFCP provides grant funding for projects which use and support agricultural conservation easements for protection of agricultural lands. As of December 2016, the CFCP has funded more than 130 easement projects in California, including nearly 58,000 acres in more than a dozen counties. CFCP has also funded a number of planning grants, including some with regional or statewide value.

Table 3-1 provides the 2016 FMMP acres listing of existing important farmland by type and the amount of grazing land within Madera County. Figure 3-2 depicts areas devoted to farmland including, prime farmland, unique farmland, farmland of statewide importance, and farmland of local importance.

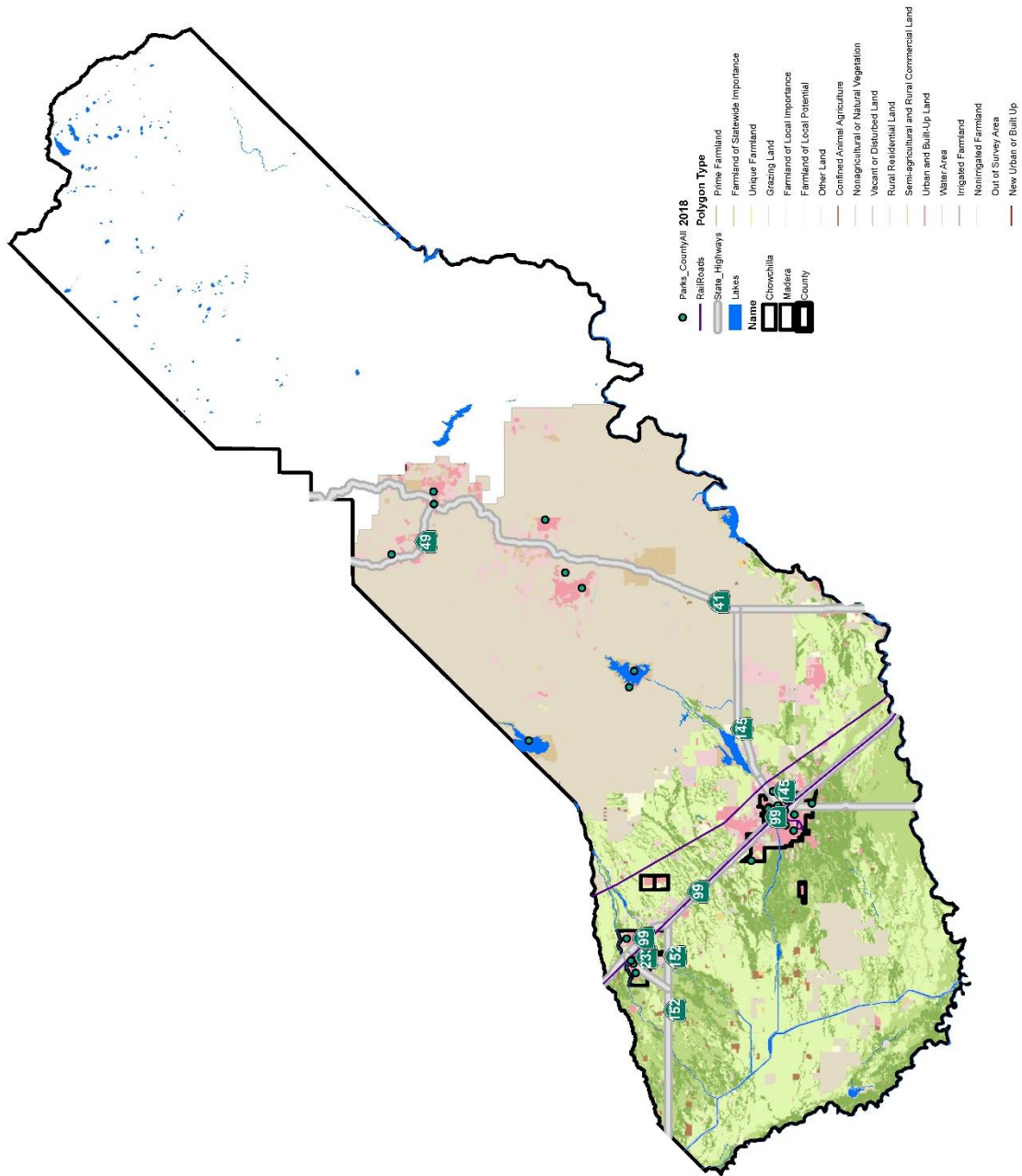
Local Agencies and Regulations

- ✓ **Land Conservation Trust** - Land conservation trust is another type of organization devoted to protecting open space, agricultural lands, wildlife habitats, and natural resource lands. A land trust is a nonprofit organization that, as all or part of its mission, actively works to conserve land by undertaking or assisting in land or conservation easement acquisition, or by its stewardship of such land or easements. There are approximately 150 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 Agency Formation Commissions** - The local agency formation commission (LAFCO) is the agency that has the responsibility to create orderly local government boundaries, with the goal of encouraging "planned, well-ordered, efficient urban development patterns," the preservation of open-space lands, and the discouragement of urban sprawl. While LAFCO has no direct land use authority, its actions determine which local government will be responsible for planning new areas. LAFCO addresses a wide range of boundary actions, including creation of spheres of influence for cities, adjustments to boundaries of special districts, annexations, incorporations, detachments of areas from cities, and dissolution of cities.

TABLE 3-1
Important Farmland by Type in Madera County

Important Farmland Type	Acres
Prime	98,500
Statewide Importance	85,206
Unique	180,291
Local Importance	8,751
Grazing	386,729
TOTAL	759,477

FIGURE 3-2
 Agricultural Land



- ✓ **General Plans** - The most comprehensive land use planning in the Madera region is provided by city and county general plans, which local governments are required by state law to prepare as a guide for future development. The general plan contains goals and policies concerning topics that are mandated by state law or which the jurisdiction has chosen to include. Required topics are land use, circulation, housing, conservation, open space, noise, and safety. Other topics that local governments frequently choose to address are public facilities, parks and recreation, community design, and growth management, among others. The Cities' and the County's general plans must be consistent with each other. The County's general plan must cover areas not included by city general plans (i.e., unincorporated areas). A few representative agricultural policies from general plans for the County of Madera (rural area and rural unincorporated communities) and the City of Madera (small urban area) are provided below to highlight the commitment to agricultural, Williamson Act contract lands, and forest/timber lands. This sampling of policies highlight's Madera's support for the preservation of these lands, while at the same time respecting and understanding the local jurisdictions' land use authority and process. These local agricultural policies also provide the greatest mitigation potential that can be applied given each local agency's land use authority.

- **Madera County**

- Policy 5.A.1 - The County shall maintain agriculturally-designated areas for agriculture uses and direct urban uses to designated new growth areas, existing communities, and/or cities.
- Policy 5.A.2 - The County shall discourage the conversion of prime agricultural land to urban uses unless an immediate and clear need can be demonstrated that indicates a lack of land for non-agricultural uses.
- Policy 5.A.3 - The County shall seek to ensure that new development and public works projects do not encourage further expansion of urban uses into designated agricultural areas.
- Policy 5.A.4 - The County will maintain large-parcel agricultural zoning and prohibit the subdivision of agricultural lands into parcels smaller than permitted by the zoning.
- Policy 5.A.5 - The County shall allow the conversion of existing agricultural land to urban uses only within designated urban and rural residential areas, new growth areas, and within city spheres of influence where designated for urban development on the General Plan Land Use Diagram.
- Policy 5.A.6 - The County shall encourage continued and, where possible, increased agricultural activities on lands designated for agricultural uses.
- Policy 5.A.7 - The County shall encourage agricultural soil conservation practices such as crop rotation, cover crops, and coordinated disking times to reduce wind erosion. The County shall encourage farmers and ranchers to develop farm and ranch plans with the appreciate Natural Resources Conservation Service district office (previously named the U.S. Soil Conservation Service).

- City of Madera
 - Policy CON-15 – The City will seek to protect land in the Planning Area which is designated for Agricultural and Resource Conservation and will encourage the County of Madera to do the same. Measures the City will use (and encourage the County to use) include:
 - Maintaining parcels large enough to sustain agricultural production (preferably a minimum of 20 acres);
 - Preventing the premature conversion of agricultural uses; and
 - Prohibiting uses that are incompatible with long term agricultural production.
 - Policy CON-16 – The City will facilitate and support agricultural conservation easements, farmland security zone contracts, and land conservation programs when used to preserve agricultural lands and resources.
 - Policy CON-17 – The City supports the protection of agricultural operations by requiring that buffers be established between urban residential areas and areas planned to remain in agricultural use. The buffers shall be designed to address the physical effects of agricultural practices on urban uses, such as chemical spraying, noise, etc.
 - Policy CON-18 – The City recognizes that some agricultural soils in the city and the Planning Area are proposed for future urban development; in these cases, the following apply:
 - Agriculture use should be allowed to continue as long as possible.
 - The purchase of fee interest, easements, or other measures which would have the effect of permanently precluding the planned conversion to urban uses consistent with the Land Use Map of this General Plan should be avoided.
- City of Chowchilla
 - Policy LU 17.1- The City supports the Madera County General Plan objectives and policies that:
 - Direct new industrial and commercial development to cities;
 - Require new residential development to be contiguous to urban development and to annex to the City; and
 - Maintain limited agriculture land use designations within the City's General Plan Planning Area boundary.
 - Policy LU 17.2 - The City supports the Madera County General Plan objectives and policies which protect agricultural lands by:
 - Maintaining large parcel sizes and preventing the development of incompatible urban uses;
 - Specifically maintaining large parcels adjacent to urban areas prior to conversion to urban uses; and
 - Preventing the division of parcels less than ten acres in size within the City's General Plan Planning Area.

- Policy LU 17.3 - The City does not support Madera County’s agricultural residential designation. Parcels less than 20 acres in size are not considered adequate for agriculture.
 - Policy LU 17.4 - The City will seek an agreement with Madera County to control and regulate growth east of the Planning Area boundary at Road 19 and SR 99 to maintain an agricultural buffer of at least ½ mile between the community of Fairmead and the City. In no circumstances shall public utilities or services be extended beyond the eastern Planning Area boundary that will promote or allow urban growth in the buffer area unless a reasonable position can be taken that such infrastructure is necessary to support only the HSR Heavy Maintenance Facility, extension of major road facilities that provide improved access to the State system, or another major job producing industry.
 - Policy LU 17.5 - The City prefers contiguous urban development within the General Plan Planning Area; however, this may not always be feasible or possible given short-term ownership and development financial constraints. Development farther than one half mile from existing urban uses shall be discouraged.
 - Policy LU 17.6 - Urban development shall only occur within the City. Any urban development requiring basic City services shall occur within the incorporated City and within the Planning Area, subject to findings that the development is not a premature use of agricultural land.
 - Policy LU 17.7 - Land designated on the Land Use Map as “Urban Reserve” and in agricultural production should not be converted to urban uses until all the following findings are made:
 - The subject land is in the Secondary Planning Area and a master plan has been prepared acceptable to the City and that there is a compelling reason why adequate growth within the Planning Area cannot accommodate the planned growth in the City, or the growth is reasonably necessary to serve the needs of the HSR Heavy Maintenance Facility, extension of major road facilities that provide improved access to the State system, or another major job producing industry.
 - That the development of the land will contribute to the establishment of a stable urban limit and represents contiguous urban development;
 - The land is needed to fill next ten year’s projected growth;
 - More than 50 percent of the land designated in the City for urban uses has been developed or is under a tentative map;
 - The land is necessary to maintain 150% of projected urban need;
 - Annexation would not otherwise create substantial infrastructure limitations.
- ✓ **Specific and Master Plans** - A city or the County may also provide land use planning by developing community or specific plans for smaller, more specific areas within their jurisdiction. These more localized plans provide for focused guidance for developing a specific area, with development standards tailored to the area, as well as systematic implementation of the general plan.

- ✓ **Zoning** - The city or county zoning code is the set of detailed requirements that implement the general plan policies at the level of the individual parcel. The zoning code presents standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction. Since 1971, state law has required a city or county zoning code to be consistent with a jurisdiction's general plan.

Environmental Setting

Madera County is home to over 653,000 acres of the world's most productive farmland. Near year-round sun and rich, productive soil has kept Madera one of the nation's top agricultural counties since 1949.

Agricultural Land

Madera County is located in the center of California's San Joaquin Valley, the richest agricultural area in the world. The County's 653,000 acres of farmland cover nearly half of the County's entire land base of 1.37 million acres. Over one thousand five hundred (1,500) farmers contribute more than \$2 billion a year to the California economy. Many of the County's crops are not grown commercially outside California. Based on the Madera County Agricultural Crop and Livestock Report, Madera County leads the state in the following categories:

- ✓ Highest in Fig production
- ✓ Fourth in Raisin Grape production
- ✓ Fourth in Pistachio production

Despite the low precipitation in the area, and the County's dependence upon the availability of irrigation water, agriculture remains one of the primary industries in the County, with much of the level and moderately sloping land used for the production of agricultural crops. The foothills and mountain areas are used for livestock grazing. Madera County's 10 leading crops included: almonds, milk, grapes, pistachios, cattle & calves, pollination, replacement heifers, nursery stock, tomatoes and oranges. These top ten crops had a value of over \$2 billion.

Williamson Act Lands

Madera County currently contains over 468,200 acres of prime and nonprime agricultural land under Williamson Act preserve status. Prime agricultural land is defined as those lands containing the best combination of physical and chemical characteristics for the production of crops. Table 3-2 illustrates the type and amount of agricultural land enrolled in Williamson Act Land contracts within Madera County.

The Madera County Planning Department has Williamson Act files for each contract in force. The files are incorporated by reference.

TABLE 3-2
 Lands Enrolled in Williamson Act Preserve

Description		Acres
Land Conservation Act	Prime	198,582
	Non-prime	269,634
Farmland Security Zone	Urban Prime	11,358
	Urban Non-prime	302
	Non-urban Prime	56,849
	Non-urban Non-prime	1,287
Total		538,012

Source: Division of Land Resource Protection, Williamson Act Status Report 2016, Appendix A

Forest/Timber Lands

Timber lands are defined as land available for timber production and capable of growing at least 20 cubic feet of industrial quality wood per acre per year. Almost all of the timberlands in Madera County lie within the eastern part of the Sierra National Forest. The National Forest system falls within the jurisdiction of the U.S. Forest Service (USFS) under the U.S. Department of Agriculture. The boundaries of the Sierra National Forest include portions of Fresno, Inyo, Madera, Mariposa, and Mono counties. Few acres in the County have been zoned as Timberland Preserve Zone. There is no timber production in the incorporated communities in the East Valley or West Valley. Yields within the Sierra National Forest have a rolling average timber volume sold of 12,510 thousand board feet between 2008 and 2012.

Private timberlands in California are governed by the Forest Taxation Reform Act of 1976. The Act created the Timberland Production Zone (TPZ) to preserve forest lands from encroachment by other incompatible land uses. The Act identifies five compatible uses: management for watershed, management for fish and wildlife, or hunting and fishing; uses related to the growing, harvesting, processing of forest products; construction, alteration, or maintenance of utility facilities; and grazing.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Criteria for Significance

- ✓ 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 non-agricultural use.
- ✓ Conflict with existing zoning for agriculture use, or a Williamson Act contract.
- ✓ Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code, § 12220(G)), timberland (as defined by Public Resources Code, § 4526), or timberland zoned Timberland Production (as defined by Gov. Code, § 51104(G)).
- ✓ Result in the loss of “Forest Land” as defined in the California Forest Legacy Act of 2007 (Pub. Resources Code, § 12220(G)) or conversion of Forest Land into non-forest use.
- ✓ Involve other changes in the existing environment, which due to their location or nature could result in the conversion of Farmland, to non-agricultural use or the conversion of forest land to non-forest use.

Methodology

Impacts are assessed in terms of both land use and transportation impacts. By the horizon year, implementation of the proposed RTP/SCS will result in a land use pattern and transportation network that is different from existing conditions. Unless otherwise stated, "existing conditions" in the proposed RTP/SCS refers to conditions in the baseline year. The proposed RTP/SCS uses 2014 because it is the most recent year for which comprehensive land use, demographic, traffic count, and VMT data are available for the MCTC region. Chapter 2 of this Draft EIR – Introduction includes a more detailed discussion of the baseline for the proposed RTP/SCS. Data sources used to analyze the agriculture environment included the California Department of Conservation’s Farmland Monitoring and Mapping Program (FMMP) data to analyze impacts to agricultural resources. These data classify agricultural resources into a number of categories. For purposes of this analysis Prime Farmland, Unique Farmland, and Farmland of Statewide Importance were considered.

In addition, the California Department of Conservation’s Williamson Act data were used to analyze agriculture impacts. This data includes any lands that are currently enrolled under a California Land Conservation Act contract. This analysis does not include lands that are in a nonrenewal status. In addition, general plan data from each of the jurisdictions were used to analyze lands designated for agriculture and forest uses.

Impact AR 3.3.1 – 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 non-agricultural use.

Strategies aimed at addressing transportation needs and future growth patterns were considered during development of the proposed RTP/SCS. The RTP promotes a preferred land use scenario and alternative transportation system to the automobile through enhanced funding for transit and other alternative modes of transportation such as bicycle facilities, trails, airport improvements, and others. Implementation of strategies proposed in the RTP/SCS could result in positive changes to land uses and reduced impacts on important farmland or Forest/Timber Lands. Reducing the footprint of new development as reflected in the 2022 RTP/SCS protects farmland, Williamson Act contract land, forest/timber land, and other open space lands in the Madera region.

Figure 3-2 (above) depicts important farmland region-wide. Approximately 445 acres of prime farmland will be converted by transportation and new land use development projects for the RTP/SCS preferred scenario. Conversion of Williamson Act lands would be included in that total. While CEQA requires all agricultural land consumption to be analyzed, SB 375 only requires MCTC to assess the amount of important farmland consumed by or converted to urban uses outside of the recorded-year 2014 spheres of influence of each of the local jurisdictions or agencies with the County as defined by SB 375.

Based upon results of the land use modeling process, an estimated 142 acres of important farmland, affected by the SCS will be converted or consumed by new growth and development within the spheres of influence. Important farmland affected by the SCS is slight when acreage converted or consumed by new growth and development within the spheres of influence is removed from the total consumed or converted to other land uses throughout the region.

Approximately 200 acres in the County have been zoned as Timberland Preserve Zone. It is not expected that the RTP/SCS will significantly impact lands designated for forest land or timber production since the growth allocations provided by the SCS encourage focused growth and development consistent with the general, community, and specific plans of the cities and the County of Madera. Forest and timber lands are located primarily in the easternmost portion of Madera County. Growth allocations and transportation improvement projects included in the 2022 RTP/SCS are primarily located in the Valley areas of the Madera region. While there are mountain communities within the forest and timber areas, the County's general, community and specific plans identify the extent of lands that are currently planned for future growth and development. Growth and development outside of those planned growth areas would not be consistent with the goals and policies of the Madera County General Plan.

Implementation of transportation improvements included in the RTP could influence land use patterns throughout the region as shown in the SCS and result in the conversion of important agricultural lands. Land use and transportation policies are emphasized in the RTP in order to address automobile traffic and air quality concerns. Growth patterns that promote alternatives to the automobile by creating mixed-use developments, which would include residences, shops, parks, and civic institutions, linked to pedestrian- and-bicycle friendly public transportation centers, are also discussed in the RTP and in the SCS. Implementation of enhanced alternative modes as provided by the RTP could result in more balanced land use conditions throughout the region, as the mixed-use developments would result in a concentration of jobs and residences in close proximity to one another. This could result in the reduction of the footprint of new development as reflected in the 2022 RTP/SCS protects farmland, Williamson Act contract land, forest/timber land, and other open space lands in the Madera region. There are a number of key factors that must be considered in order to make such a calculation including, but not limited to the following:

- ✓ Amount of Right-of-way (ROW already acquired by the affected local agency or Caltrans
- ✓ Amount of ROW impacting agricultural operations vs. vacant of any use
- ✓ How wide the expanded or new facility will be
- ✓ Pedestrian and streetscape improvements
- ✓ Provision for parking and type of parking
- ✓ Need for bus turnouts
- ✓ Staging area requirements
- ✓ Location of utility easements and relocation
- ✓ Road alignment
- ✓ The need for roundabouts now required along Caltrans facilities where warranted – require more ROW
- ✓ Whether traveler safety is an issue that would require wider lanes, shoulders or median treatments
- ✓ The need for truck acceleration and deceleration lanes
- ✓ Extent of intersection improvements
- ✓ Bike lane requirements, lane type and width
- ✓ The need for passing lanes
- ✓ The need for continuous left turn lanes
- ✓ Other turn lanes
- ✓ The extent of drainage facilities and culverts
- ✓ Bridge requirements and footprint
- ✓ Overcrossing and undercrossing requirements and footprint
- ✓ Other considerations

While other MPOs may have estimated the impact of new facilities on agricultural operations, the estimates are rough considering the above. The exact extent of agricultural land impact by type of farmland can only be known once design plans and environmental review of each individual transportation improvement project is complete. It is not possible at the regional scale of the MCTC 2022 RTP/SCS EIR. As such, mitigation measures to be carried out by those agencies responsible for implementing RTP/SCS transportation improvement projects are included in the Draft PEIR and will reduce the severity of potential significant impacts if they are carried out in accordance with the measures noted. The extent to which the measures will be effective can only be determined as environmental documents

are prepared for individual improvement projects. Growth and development outside of those planned growth areas would not be consistent with the goals and policies of the Madera County General Plan.

Mitigation Measures

The specific impacts on conversion of important farmlands or forest/timber lands will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **AR 3.3.1-1** MCTC shall work with its member agencies and Caltrans as they implement projects to commit to mitigate at a 1:1 ratio any loss of farmland or natural lands due to projects funded by MCTC.
- ✓ **AR 3.3.1-2** Implementing agencies should encourage in-fill development, in place of development in rural and environmentally sensitive areas. Agencies should seek funding to prepare specific plans and related environmental documents to facilitate mixed-use development, and to allow these areas to serve as receiver sites for transfer of development rights away from environmentally sensitive lands and rural areas outside established urban growth boundaries.
- ✓ **AR 3.3.1-3** Implementing agencies should consider agricultural resource lands when considering project designs. Prior to the design approval of RTP/SCS projects, the implementing agency should assess the project area for agriculture and forestry resources and constraints. For federally funded projects, implementing and local agencies are required to follow the rules and regulations of Farmland Protection Policy Act including determining the impact by completing the Farmland Conversion Impact Rating form (AD-1006). For non-federally funded projects, implementing and local agencies should assess projects for the presence of important farmlands (prime farmland, unique farmland, farmland of statewide importance), and if present, perform a Land Assessment and Site Evaluation (LESA).
- ✓ **AR 3.3.1-4** Implementing agencies should consider agriculture and forestry resources in all projects and seek to avoid or minimize the encroachment and/or impact on these areas. Agencies should consider measures such as, but not limited to, relocation or redesign of site features, reduction of the project footprint, or compensation and/or preservation activities to lessen the overall impact on resource lands. Prior to final approval of each individual transportation improvement project, the implementing agency should consider inclusion into a conservation easement program or arrange for the enrollment of agricultural lands into the Williamson Act program.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation resulting mitigation strategies intended to avoid or reduce the significant impacts on identified.

Impact AR 3.3.2 – Conflict with existing zoning for agriculture use, Williamson Act Contract.

Transportation improvement projects and future land use development projects have the potential to impact agricultural uses zoned for agricultural uses noted in Table 3-2, Williamson Act contract lands and forest/timberlands. The amount of agricultural and forest/timber zoned lands impacted by the 2022 RTP/SCS is not available but would be consistent with the lands quantified and reflected in Table 3-2. The amount of Williamson Act contract lands that could potentially be impacted by the Project are included in the total acreage. Conversion of forest and timberland is not anticipated since the growth within rural areas of the County has been allocated to existing communities and cities in the rural areas consistent with adopted or draft general plans for the County of Madera and each of the affected cities. The amount of important farmland, Williamson Act contract lands or forest/timber lands impacted by transportation improvement projects cannot be fully estimated since the actual design and extent of improvements for projects contained in the RTP/SCS is not known. As a result, development of the proposed Project could potentially result in the disturbance or loss of some of these designated areas. Specifically, new transportation and future land use development projects involving construction would be most likely to result in impacts to these areas.

Mitigation Measures

The specific impacts on conflict with existing zoning for agriculture use, or a Williamson Act contract will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **AR 3.3.2-1** Mitigation Measures referenced in Section 3.3.1, above are also included by reference.
- ✓ **AR 3.3.2-2** Individual projects will be consistent with federal, state, and local policies that preserve agricultural lands and support the economic viability of agricultural activities, as well as policies that provide compensation for property owners if preservation is not feasible.
- ✓ **AR 3.3.2-3** For projects in agricultural areas, project implementation agencies should contact the California Department of Conservation and the Agricultural Commissioner's office to identify the location of prime farmlands and lands that support crops considered valuable to the local or regional economy.
- ✓ **AR 3.3.2-4** Prior to final approval of each individual improvement project, the implementing agency should avoid impacts to prime farmlands or farmlands that support crops considered valuable to the local or regional economy.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact AR 3.3.3 - 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)).

Transportation improvement projects and future land use development projects have the potential to impact or conflict with existing zoning for or cause the rezoning of timberland and forest lands. The amount of timber or forest lands potentially impacted by or in conflict with existing zoning by the 2022 RTP/SCS is not available; however, significant rezoning of forest and timberland is not anticipated since the growth within rural areas of the County has been allocated to existing communities and cities in the rural areas consistent with adopted or draft general plans for the County of Madera and each of the affected cities. The amount of forest/timber lands that could be potentially rezoned by transportation improvement projects cannot be fully estimated since the actual design and extent of improvements for

projects contained in the RTP/SCS is not known. As a result, development of the proposed Project could potentially result in the rezoning of some of these designated areas.

Mitigation Measures

The specific impacts to, or conflict with existing zoning related to timber or forest lands will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **AR 3.3.3-1** Mitigation Measures referenced in Impact 3.3.1, above are also included by reference.
- ✓ **AR 3.3.3-2** Individual projects will be consistent with federal, state, and local zoning policies that preserve timber or forest lands and support the economic viability of forest activities, as well as policies that provide compensation for property owners if preservation is not feasible.
- ✓ **AR 3.3.3-3** For projects in timber or forest areas, project implementation agencies should contact the California Department of Forestry and Fire Protection (CAL FIRE) and the U.S. Forest Service to identify the location of timber and forest lands to address applicable zoning regulations and processes.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact AR 3.3.4 - Result in the loss of forest land or conversion of forest land to non-forest use.

Transportation improvement projects and future land use development projects have the potential to convert forest lands to non-forest uses. The amount of forest lands potentially impacted by the 2022

RTP/SCS is not available; however, significant loss or conversion of forest land is not anticipated since the growth within rural areas of the County has been allocated to existing communities and cities in the rural areas consistent with adopted or draft general plans for the County of Madera and each of the affected cities. The amount of forest lands potentially impacted by transportation improvement projects cannot be fully estimated since the actual design and extent of improvements for projects contained in the RTP/SCS is not known. As a result, development of the proposed Project could potentially result in the loss or conversion of forest lands. Specifically, new transportation and future land use development projects involving construction would be most likely to result in impacts to these areas.

Mitigation Measures

The specific impacts related to the loss or conversion of forest lands to non-forest use will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **AR 3.3.4-1** Mitigation Measures referenced in Impact 3.3.1, above are also included by reference.
- ✓ **AR 3.3.4-2** Individual projects will be consistent with federal, state, and local policies that preserve forest lands and support the economic viability of forest activities, as well as policies that provide compensation for property owners if preservation is not feasible.
- ✓ **AR 3.3.4-3** For projects in forest areas, project implementation agencies should contact the California Department of Forestry and Fire Protection (CAL FIRE) and the U.S. Forest Service to identify the location of forest lands and address applicable regulations and processes.
- ✓ **AR 3.3.4-4** Prior to final approval of each individual improvement project, the implementing agency should avoid impacts forest lands.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the significant impacts identified, it is probable that such impacts could

remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact AR 3.3.5 - Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

Implementation of the proposed RTP/SCS will result in more compact development than existing conditions. By developing more compactly, the RTP/SCS directs more growth to the areas that are already urbanized and prevents undeveloped land from being converted to urban uses. Focusing growth in areas that are already developed limits the amount of growth that takes place at the urban edge, adjacent to agricultural areas. As discussed in Impact sections 3.3.1 through 3.3.4, implementation of the Project will result in the conversion of important farmland, lands under Williamson Act contracts, and timber and forest lands. Lands that remain agricultural or forest lands but are located near to lands that will be converted to urban uses, may feel pressure to develop, as nearby land values increase or as nuisances from urban development spread to agricultural or forest lands. As a result, indirect impacts to forest or agricultural lands from this development pressure are considered potentially significant.

The region will see numerous multi-modal transportation improvements implemented over the RTP/SCS planning period. While much of this transportation infrastructure will serve urban uses in urbanized areas of the region, it is likely that implementation of transportation improvements at the urban edge could increase urban traffic patterns on roads that serve urban development and agricultural and forest lands. Increased urban traffic on roads at the urban edge can lead to increased conflict between uses, which could result in the conversion of additional agricultural or forest lands. As noted above, the proposed RTP/SCS will result in more compact development than existing conditions. The RTP/SCS is designed to improve transportation options and increase capacity within urbanized areas. Enhanced transportation adjacent to forest or agricultural uses may improve opportunities by creating better access and increasing the viability of activities such as farm-to-market retail. However, owners of forest or agricultural lands nearest to urbanized areas may feel pressure to develop as transportation improvements within proximity of these lands are improved or implemented. Pressure may also increase as land uses surrounding these properties continue to urbanize. As a result, the impacts on forest or farmland related to transportation improvements from implementation of the proposed RTP/SCS are considered potentially significant.

Mitigation Measures

The specific impacts regarding other changes to the existing environment will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction.

- ✓ **AR 3.3.5-1** Reference the mitigation measures reflected in Impacts 3.3.1 through 3.3.5.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

3.4 AIR QUALITY

This section describes the environmental and regulatory setting for air quality in the Madera County region and analyzes the potential air quality impacts resulting from the implementation of MCTC's 2022 RTP/SCS. This section portrays the existing air quality conditions in the Madera County region, related air quality regulations, the air quality impacts of project construction and operation, and where necessary and feasible, identification of any mitigation measures required to reduce impacts.

Regulatory Setting

Air quality within the Madera County area is addressed through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies primarily responsible for improving the air quality within Madera County are discussed below along with their individual responsibilities.

Federal Agencies

- ✓ **U.S. Environmental Protection Agency (EPA) and Federal Clean Air Act (CAA)** - The Federal Clean Air Bill first adopted in 1967 and periodically amended since then, established federal ambient air quality standards. A 1987 amendment to the Bill set a deadline for the attainment of these standards. That deadline has since passed. The other CAA Bill Amendments, passed in 1990, share responsibility with the State in reducing emissions from mobile sources. The U.S. Environmental Protection Agency (EPA) is responsible for enforcing the 1990 amendments.

The CAA and the national ambient air quality standards identify levels of air quality for six “criteria” pollutants, which are considered the maximum levels of ambient air pollutants considered safe, with an adequate margin of safety, to protect public health and welfare. The six criteria pollutants include ozone, carbon monoxide (CO), nitrogen dioxide, sulfur dioxide, particulate matter, and lead.

CAA Section 176(c) (42 U.S.C. 7506(c)) and EPA transportation conformity regulations (40 CFR 93 Subpart A) require that each new RTP and Transportation Improvement Program (TIP) be demonstrated to conform to the State Implementation Plan (SIP) before the RTP and TIP are approved by the Metropolitan planning organization (MPO) or accepted by the U.S. Department of Transportation (DOT). The conformity analysis is a federal requirement designed to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS). However, because the State Implementation Plan (SIP) for particulate matter 10 microns or less in diameter (PM₁₀), particulate matter 2.5 microns or less in diameter (PM_{2.5}), and Ozone address attainment of both the State and federal standards, for these pollutants, demonstrating conformity to the federal standards is also an

indication of progress toward attainment of the State standards. Compliance with the State air quality standards is provided on the pages following this federal conformity discussion.

The EPA approved San Joaquin Valley reclassification of the ozone (8-hour) designation to extreme nonattainment in the Federal Register on May 5, 2010, even though the San Joaquin Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard. In accordance with the CAA, EPA uses the design value at the time of standard promulgation to assign nonattainment areas to one of several classes that reflect the severity of the nonattainment problem; classifications range from marginal nonattainment to extreme nonattainment. In the Federal Register on October 26, 2015, the EPA revised the primary and secondary standard to 0.070 parts per million (ppm) to provide increased public health protection against health effects associated with long- and short-term exposures. The previous ozone standard was set in 2010 at 0.075 ppm.

Madera County is located in a nonattainment area for the 8-hour ozone standard, 1997, 2006 and 2012 PM_{2.5} standards, and has a maintenance plan for PM₁₀ standard.

Federal Regulations

- ✓ **National Environmental Policy Act (NEPA)** - NEPA provides general information on the effects of federally funded projects. The Act was implemented by regulations included in the Code of Federal Regulations (40CFR6). The code requires careful consideration concerning environmental impacts of federal actions or plans, including projects that receive federal funds. The regulations address impacts on land uses and conflicts with state, regional, or local plans and policies, among others. They also require that projects requiring NEPA review seek to avoid or minimize adverse effects of proposed actions and to restore and enhance environmental quality as much as possible.
- ✓ **State Implementation Plan (SIP)/ Air Quality Management Plans (AQMPs)** - To ensure compliance with the NAAQS, EPA requires states to adopt SIP aimed at improving air quality in areas of nonattainment or a Maintenance Plan aimed at maintaining air quality in areas that have attained a given standard. New and previously submitted plans, programs, district rules, state regulations, and federal controls are included in the SIPs. Amendments made in 1990 to the federal CAA established deadlines for attainment based on an area's current air pollution levels. States must enact additional regulatory programs for nonattainment's areas in order to adhere with the CAA Section 172. In California, the SIPs must adhere to both the NAAQS and the California Ambient Air Quality Standards (CAAQS).

To ensure that State and federal air quality regulations are being met, Air Quality Management Plans (AQMPs) are required. AQMPs present scientific information and use analytical tools to identify a pathway towards attainment of NAAQS and CAAQS. The San Joaquin Valley Air Pollution Control District (SJVAPCD) develops the AQMPs for the region where the MCTC operates. The regional air

districts begin the SIP process by submitting their AQMPs to the California Air Resources Board (CARB). CARB is responsible for revising the SIP and submitting it to EPA for approval. EPA then acts on the SIP in the Federal Register. The items included in the California SIP are listed in the Code of Federal Regulations Title 40, Chapter 1, Part 52, Subpart 7, Section 52.220.

- ✓ **Transportation Conformity Requirements** - The Federal transportation conformity regulations (40 Code of Federal Regulations Parts 51 and 93) specify criteria and procedures for conformity determinations for transportation plans, programs, and projects and their respective amendments. The Federal transportation conformity regulation was first promulgated in 1993 by EPA, following the passage of amendments to the CAA in 1990. The Federal transportation conformity regulation has been revised several times since its initial release to reflect both EPA rule changes and court opinions.

On March 14, 2012, EPA published the Transportation Conformity Rule Restructuring Amendments, effective April 13, 2012 (EPA, 2012). The amendments restructure several sections of the rule so that they apply to any new or revised National Ambient Air Quality Standards. In addition, several clarifications to improve implementation of the rule were finalized.

The conformity regulation applies nationwide to “all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan” (40 CFR 93.102). Currently, the San Joaquin Valley (or portions thereof) is designated as nonattainment with respect to federal air quality standards for ozone, and PM_{2.5}; and has a maintenance plan for PM₁₀. The urbanized/metropolitan areas of Kern, Fresno, Stanislaus and San Joaquin Counties have attained the CO standard and maintained attainment for 20 years, thus conformity requirements for CO no longer apply. Transportation plans, programs and projects for the Madera County non-attainment area must satisfy the requirements of the Federal transportation conformity regulations.

Under the transportation conformity regulation, the principal criteria for a determination of conformity for transportation plans and programs are:

- The TIP and RTP must pass an emissions budget test using a budget that has been found to be adequate by EPA for transportation conformity purposes, or an interim emission test.
- The latest planning assumptions and emission models specified for use in conformity determinations must be employed.
- The TIP and RTP must provide for the timely implementation of transportation control measures (TCMs) specified in the applicable air quality implementation plans.
- Interagency and public consultation.

On-going interagency consultation is conducted through the San Joaquin Valley Interagency Consultation Group to ensure Valley-wide coordination, communication and compliance with CAA and California Clean Air Act (CCAA) requirements. Each of the eight Valley MPOs and the SJVAPCD are represented. The Federal Highway Administration (FHWA), Federal Transit Administration (FTA), the U.S. EPA, CARB and Caltrans are also represented on the committee. The final determination of conformity for the TIP and RTP is the responsibility of FHWA, and FTA within the U.S. DOT.

- ✓ **Transportation Control Measures** - One particular aspect of the SIP development process is the assessment of available transportation control measures (TCMs) as a part of making progress towards clean air goals. TCMs are defined in Section 108(f)(1) of the CAA and are strategies designed to reduce vehicle miles traveled, vehicle idling, and associated air pollution. These goals are generally achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.
- ✓ **Energy Policy Act of 1992 (EPAct)** - The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of alternative fueled vehicles (AFVs). States are also required by the act to consider a variety of incentive programs to help promote AFVs.
- ✓ **Mobile Source Air Toxics (MSAT)** - Several mobile source emissions control programs were adopted by the U.S. EPA. These include:
 - Control of Hazardous Air Pollutants from Mobile Sources – This rule was finalized in February 2007. It aims to reduce hazardous air pollutants from mobile sources by limiting the benzene content of gasoline and reducing the toxic emissions allowable from gas cans and passenger vehicles. The EPA predicts that total emissions from mobile sources will be reduced by 330,000 tons and the volatile organic compounds (VOC) emissions will be reduced by over 1 million tons by 2030 as a result of the implementation of this rule.
 - Heavy-Duty Onboard Diagnostic Rule (74 FR 8310) – This rule, finalized in 2009, requires that advanced emissions controls systems be monitored for malfunctions with an onboard diagnostic system (OBD). It requires manufacturers to install OBD systems to monitor the function of components of the emissions control systems and notify the user when an emission related repair is necessary.

- Small SI and Marine SI Engine Rule (73 FR 25098) – These exhaust emissions standards went into effect in 2010 regulating new marine spark-ignition engines. This rule included the first EPA standards for sterndrive and inboard engines. In 2011 and 2012, exhaust emission standards were applied to new land based, spark ignition engines at or below 19 kilowatts (kW). The majority of these small engines are used in lawn and garden applications. This rule is anticipated to reduce 604,000 tons of volatile organic hydrocarbon emissions, 132,200 tons of nitrogen oxide (NOx) emissions, and 5,500 tons of directly emitted particulate matter emissions annually.
- Locomotive and Commercial Marine Rule (66 FR 5002) – This rule applies to all locomotives, including line-haul, switch, passenger, and all types of marine diesel engines below 30 liters per cylinder displacement, including commercial and recreational, propulsion, and auxiliary. Enacted in 2009, the near-term program establishes new emissions limits for existing locomotives and marine diesel engines. This emission limits apply when the engine was manufactured and take effect as soon as remanufacture systems become available. Application of high-efficiency catalytic after treatment technology are the basis of long term emission standards for new locomotives and marine diesel engines.
- Clean Air Nonroad Diesel Rule (65 FR 6698) – This comprehensive national program was established in 2004. It regulates nonroad diesel engines and diesel fuel as a system. The new engine standards began phasing into the industry in the 2008 model year. The use of advanced exhaust emission control devices is the basis for these standards.
- Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements (66 FR 5002) – These requirements, established in 2001, regulate heavy-duty vehicles and its fuel as a single system. In model year 2007, new emission standards took effect that apply to heavy-duty engines and vehicles. The use of advanced exhaust emission control devices is the basis for these standards.
- New Source Performance Standards (NSPS) for Stationary Engines. – Diesel engines used for nonroad purposes, like construction equipment, agricultural equipment, airport ground service equipment, or utility equipment, are subject to several Tiers of regulation as a result of these regulations. Tier 1 was published in 1996 and established the first set of emission regulations for these engines. Tier 4 required all manufactures to produce new engines with advanced emission control systems and began phasing into effect for all engines in 2017.

State Agencies

- ✓ **California Air Resources Board (CARB)** – CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing its own air quality legislation called the CCAA, adopted in 1988. CARB was created in 1967 from the merging of the California Motor Vehicle Pollution Control Board and the Bureau of Air Sanitation and its Laboratory.

CARB has primary responsibility in California to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the EPA. Whereas CARB has primary responsibility and produces a major part of the SIP for pollution sources that are statewide in scope, it relies on the local air districts to provide additional strategies for sources under their jurisdiction. CARB combines its data with all local district data and submits the completed SIP to the EPA. The SIP consists of the emissions standards for vehicular sources and consumer products set by CARB, and attainment plans adopted by the Air Pollution Control Districts (APCDs) and Air Quality Management District's (AQMDs) and approved by CARB.

States may establish their own standards, provided the State standards are at least as stringent as the NAAQS. California has established California Ambient Air Quality Standards (CAAQS) pursuant to California Health and Safety Code (CH&SC) [§39606(b)] and its predecessor statutes.

The CH&SC [§39608] requires CARB to “identify” and “classify” each air basin in the State on a pollutant-by-pollutant basis. Subsequently, CARB designated areas in California as nonattainment based on violations of the CAAQSs. Designations and classifications specific to the San Joaquin Valley Air Basin (SJVAB) can be found in the next section of this document. Areas in the State were also classified based on severity of air pollution problems. For each nonattainment class, the CCAA specifies air quality management strategies that must be adopted. For all nonattainment categories, attainment plans are required to demonstrate a five-percent-per-year reduction in nonattainment air pollutants or their precursors, averaged every consecutive three-year period, unless an approved alternative measure of progress is developed. In addition, air districts in violation of CAAQS are required to prepare an Air Quality Attainment Plan (AQAP) that lays out a program to attain and maintain the CCAA mandates.

Other CARB duties include monitoring air quality. CARB has established and maintains, in conjunction with local APCDs and AQMDs, a network of sampling stations (called the State and Local Air Monitoring [SLAMS] network), which monitor the present pollutant levels in the ambient air.

Madera County is in the CARB-designated, SJVAB. A map of the SJVAB is provided in Figure 3-3. In addition to Madera County, the SJVAB includes Fresno, Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare Counties. Federal and State standards for criteria pollutants are provided in Table 3-3.

FIGURE 3-3
California Air Basins

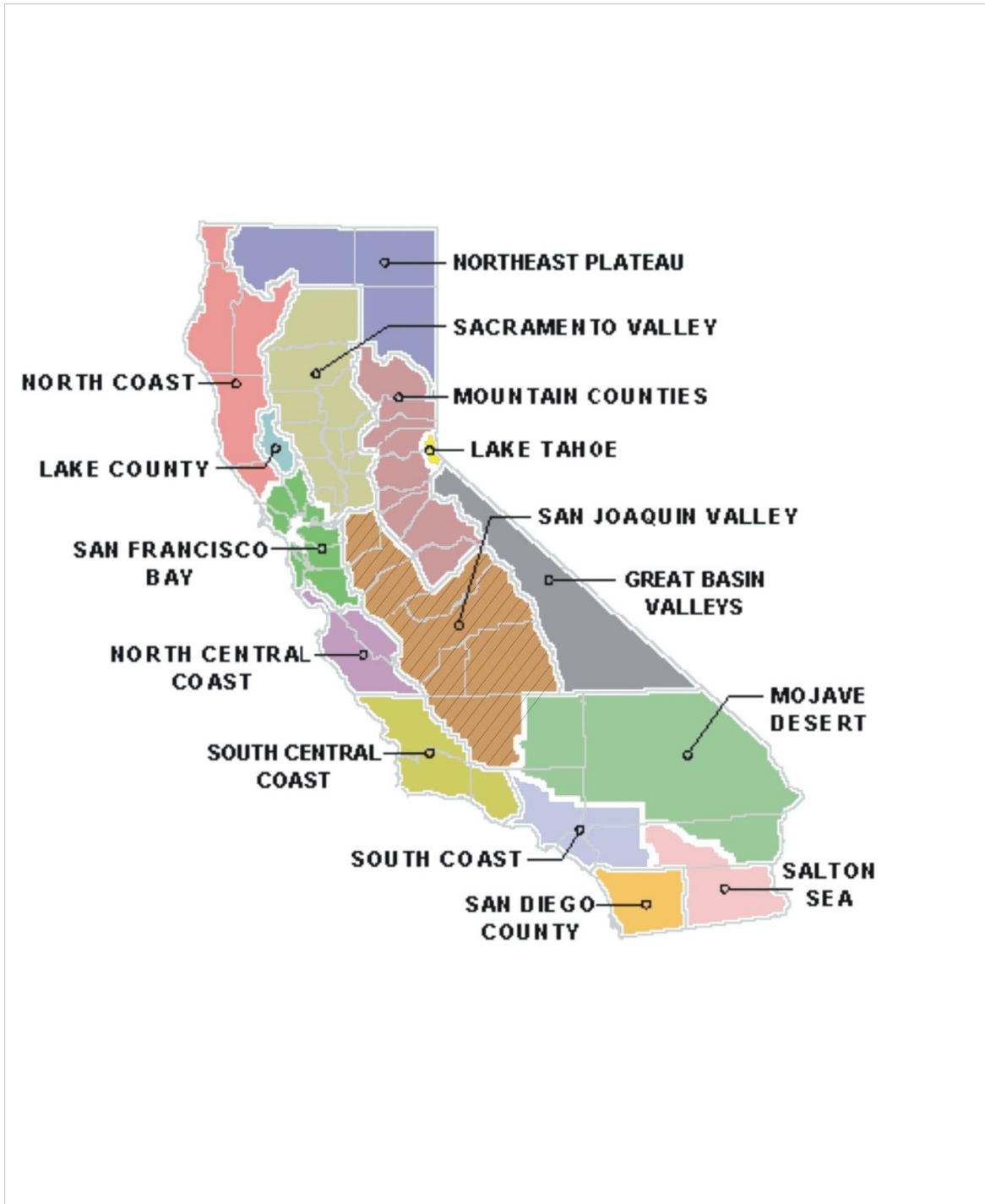


TABLE 3-3
 Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		--		
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	--	--	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	--	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	--	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		--	--	
Nitrogen Dioxide (NO ₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	--	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	--	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	--		--	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹¹	--	
	Annual Arithmetic Mean	--		0.030 ppm (for certain areas) ¹¹	--	
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m ³ (for certain areas) ¹¹	Same as Primary Standard	
	Rolling 3-Month Average	--		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes on next page ...

Footnotes:

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
 2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
 3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
 4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
 5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
 6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
 7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
 8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
 9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
 10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
 11. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
- Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
 13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
 14. 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.

State Regulations

- ✓ **CARB Mobile-Source Regulation** - The State of California is responsible for controlling emissions from the operation of motor vehicles in the State. Rather than mandating the use of specific technology or the reliance on a specific fuel, CARB's motor vehicle standards specify the allowable grams of pollutant per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved.

- ✓ **California Clean Air Act** - The CCAA was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CCAA establishes more stringent ambient air quality standards than those included in the Federal CAA. CARB is the agency responsible for administering the CCAA. CARB established ambient air quality standards pursuant to the CH&SC [§39606(b)], which are similar to the federal standards. The SJVAPCD is one of 35 AQMDs that have prepared air quality management plans to accomplish a five percent (5%) annual reduction in emissions documenting progress toward the State ambient air quality standards.

- ✓ **Tanner Air Toxics Act** - California regulates Toxic Air Contaminants (TACs) primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted EPA's list of Hazardous Air Pollutants (HAPs) as TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology (BACT) to minimize emissions.

AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

These rules and standards provide for:

- More stringent emission standards for some new urban bus engines, beginning with 2002 model year engines.

- Zero-emission bus demonstration and purchase requirements applicable to transit agencies
- Reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule.

- ✓ **California Environmental Quality Act (CEQA)** - CEQA defines a significant impact on the environment as a substantial, or potentially substantial, adverse change in the physical conditions within the area affected by the project. Land use is a required impact assessment category under CEQA. CEQA documents generally evaluate land use in terms of compatibility with the existing land uses and consistency with local general plans and other local land use controls (zoning, specific plans, etc.).

- ✓ **Mulford-Carrell Act of 1967** - CARB was established by the State Legislature through the Mulford-Carrell Act in 1967 (Health & Safe Code, § 39011, 39301), which combined the Bureau of Air Sanitation and the Motor Vehicle Pollution Control Board within the Department of Health. The State of California is responsible for developing programs and strategies to reduce the emission of smog-forming pollutants and toxics by mobile sources. CARB develops air quality regulations at the State level, which mirror federal regulations by establishing industry-specific pollution controls for criteria, toxic, and nuisance pollutants. CARB is responsible for setting standards and regulations to attain the maximum degree of emissions reduction possible from vehicular and other mobile sources. California also requires areas to develop plans and strategies for attaining the CAAQS as specified in the CCAA. In more recent development, CARB has increased efforts in the implementation and development of standards for greenhouse gas emissions associated with climate changes.

- ✓ **Assembly Bill No.1807 (AB 1807), 1983 – TAC Regulations** - AB 1807 (Stats. 1983, Ch. 1047) (Health & Safe Code, § 39650 et seq.; Food & Ag. Code, § 14021 et seq.) establishes a procedure to identify and control TACs in California. The Air Toxics Hot Spots Information and Assessment Act, also known as AB 2588 (Stats. 1987, Ch. 1257), supplements the AB 1807 program, by mandating a statewide TAC inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. Senate Bill (SB) 1731 amends the “Hot Spots” Program and requires OEHHA to adopt risk assessment guidelines for the program.

The Air Toxics Hot Spots Program Guidance Manual was revised to include finding in the use of age-sensitivity factors for estimating cancer risk, breathing rates, and the fraction of time residents spend at home; changes to the duration of exposure for residents and workers; and the incorporation of uncertainty factors into reference exposure levels. Approved by the EPA, the update also included the release of the Hot Spots Analysis and Reporting Program, Version 2 (HARP 2) software package, which includes the AERMOD air pollutant dispersion model and as a result, emission sources can detect a substantially higher health risk for residential uses and other sensitive receptors. Additionally, SB 352; Stats. 2003, Ch. 668) (Ed. Code, § 17213; Pub. Resources Code, § 21151.8) demands that any school

site located within 500 feet of the edge of the closest travel lane of a freeway or other busy traffic corridor be reviewed for potential short-term and long-term health risks.

In the last ten years of the analysis of relevant data, a considerable link to adverse health effects with traffic-generated TACs has been identified. As a response, publication such as the CARB Handbook was developed to provide guidance on land use compatibility with sources of TACs (CARB, 2005). The CARB Handbook is not a law or adopted policy but offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities, to protect children and other sensitive populations. Together, the Guidance Manual and CARB Handbook are important tools for planning healthy communities because they assist in assessing and identifying the risks from toxic air emissions and reducing future exposure risk through careful consideration of sensitive land uses.

- ✓ **Executive Order (EO) B-32-15, Sustainable Freight Transport Initiative** – Governor Brown signed Executive order B-32-15 on July 17, 2015 to require the Secretary of the California State Transportation Agency, the Secretary of Cal/EPA, and the Secretary of the Natural Resources Agency to lead other relevant State departments including the CARB, the Caltrans, the California Energy Commission (CEC), and the Governor’s office of Business and Economic Development to improve freight efficiency, transition to zero-emission technologies, and increase competition of the State’s freight system.
- ✓ **California Wellness Plan** – The California Department of Public Health published a statewide Wellness Plan in 2014. The Plan takes into consideration the factor that contribute to an individual’s health. These factors include the physical environment (housing, neighborhood, healthy food access and environment), educational attainment an employment economic status, social norms and attitudes, culture, literacy, race/ethnicity. The physical environment is also an indicator of exposure to toxins and transportation where individuals are affected on a daily basis by the air quality of their surroundings.
- ✓ **Senate Bill No. 44 (SB 44) Mobile Source Strategy** – SB 44 requires CARB to update the 2016 mobile source strategy no later than January 1, 2021, and at least every 5 years thereafter. CARB is also required to include a comprehensive strategy addressing emissions from medium- and heavy-duty vehicles in addition to recommending reasonable and achievable goals for reducing emissions from medium- and heavy-duty vehicles by 2030 and 2050, respectively. CARB will also be required to submit the updated Mobile Source Strategy to the relevant policy and fiscal committees of the Legislature.

- ✓ **Senate Bill No. 210 (SB 210) Heavy-Duty Vehicle Inspection and Maintenance Program** – SB 210 directs CARB to develop and implement a Heavy-Duty Vehicle Inspection and Maintenance Program for non-gasoline heavy duty on road motor vehicles with a gross vehicle weight rating of more than 14,000 pounds. CARB is required, within four years following the full implementation of the program, to provide two biennial reports on its internet website which include enforcement, operational downtime, and an estimate of emissions reduced and cost effectiveness.

- ✓ **CARB Air Quality and Land Use Handbook** – CARB published the Air Quality and Land Use Handbook in April 2005. The Handbook is an informational and advisory guide to evaluate and reduce air pollution impacts associated with new projects that go through the land use decision-making process. Studies indicate that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for a large fraction of the overall cancer risk from airborne toxics in the State. This document highlights the potential health impacts associated with proximity to air pollution sources and aligns with CARB’s public health priorities to reduce diesel PM emissions each year.

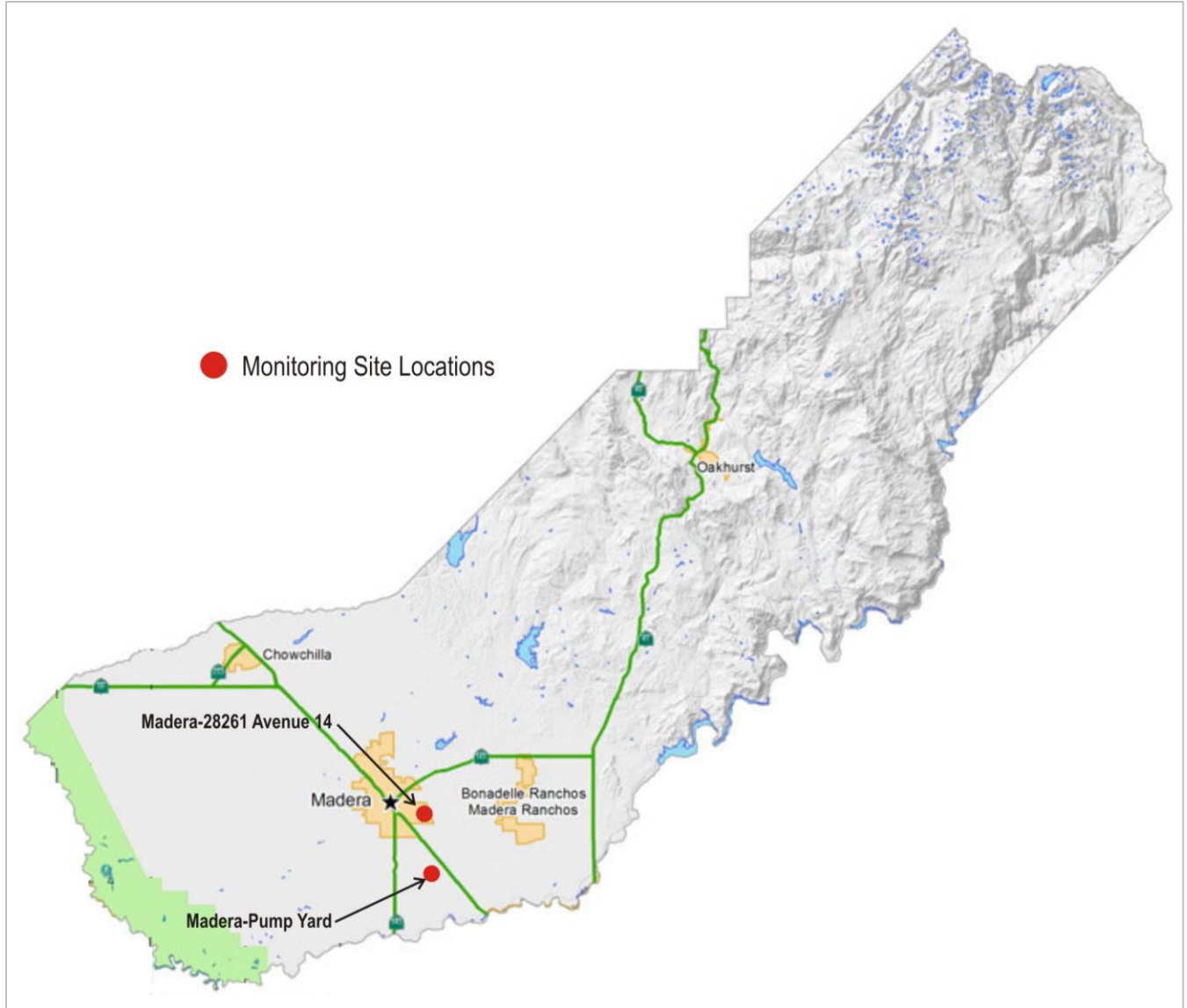
Regional Agencies

- ✓ **San Joaquin Valley Air Pollution Control District** - The SJVAPCD is the agency responsible for monitoring and regulating air pollutant emissions from stationary, area, and indirect sources within Madera County and throughout the SJVAB. The District also has responsibility for monitoring air quality and setting and enforcing limits for source emissions. CARB is the agency with the legal responsibility for regulating mobile source emissions. The District is precluded from such activities under State law.

The District was formed in mid-1991 and prepared and adopted the San Joaquin Valley Air Quality Attainment Plan (AQAP), dated January 30, 1992, in response to the requirements of the State CCAA. The CCAA requires each non-attainment district to reduce pertinent air contaminants by at least five percent (5%) per year until new, more stringent, 1988 State air quality standards are met. There are two (2) air quality-monitoring sites located throughout Madera County, which are shown below and illustrated in Figure 3-4:

- Madera’s- 28261 Avenue 14
- Madera’s- Pump Yard

FIGURE 3-4
Air Quality Monitoring Sites



Activities of the SJVAPCD include the preparation of AQMPs, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the Federal CAA and CCAA.

The SJVAPCD has prepared the following State Implementation Plans to address ozone, PM-10 and PM_{2.5} that currently apply to Madera non-attainment area:

- The 2016 Ozone Plan (2008 standard) was adopted by SJVAPCD on June 16, 2016 and subsequently adopted by ARB on July 21, 2016.
- 2013 1-Hour Ozone Plan (revoked 1997 standard) was adopted by the SJVAPCD on September 19, 2013. EPA withdrew its approval of the plan due to litigation. The District plans to submit a “redesignation substitute” to EPA to maintain its attainment status for this revoked ozone standard.
- The 2007 PM-10 Maintenance Plan (as revised in 2015) was approved by EPA on July 8, 2016 (effective September 30, 2016).
- The 2008 PM_{2.5} Plan (1997 Standard), as revised in 2011, was approved by EPA on November 9, 2011 (effective January 9, 2012).
- The 2012 PM_{2.5} Plan (as revised in 2015) was approved by EPA on August 16, 2016 (effective September 30, 2016).

In addition, the SJVAPCD is currently working on a 2017 PM_{2.5} SIP to address the 1997 annual PM_{2.5}, 2006 24-hour PM_{2.5}, and the new 2012 PM_{2.5} annual standards (12 ug/m³). On December 22, 2017, EPA released a response to state recommendations outlining draft areas designations for the new 2015 ozone standard of 70 ppb. The SJVAPCD is currently in the process of developing a new attainment plan, as mandated under federal Clean Air Act requirements, addressing the 2015 ozone standard.

The SJVAPCD also prepared the Guide for Assessing and Mitigation Air Quality Impacts (GAMAQI), dated March 19, 2015. The GAMAQI is an advisory document that provides Lead Agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality impacts in environmental documents. Local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts.

All SIPs for the SJV contain statewide technology controls mandated by CARB. A summary of the CARB mandated control measures applicable to the 2022 RTP/SCS can be found in the applicable SIPs as described in the Draft Conformity Analysis for the 2023 Federal Transportation Improvement Program and 2022 Regional Transportation Plan (Conformity Analysis), which is available at the MCTC RTP/SCS site.

The SJV SIPs identified above provide a pathway to achieve both State and federal air quality standards. The regulations and incentives contained in these documents must be legally enforceable and permanent. For this EIR, only on-road mobile sources are considered as the 2022 RTP/SCS does not impact the implementation of any SJVAPCD regulations or incentives for other emissions source categories.

During the development of each SIP, CARB in consultation with SJVAPCD and SJV MPOs, sets transportation conformity budgets for measuring progress toward achieving attainment of the national air quality standard. A "budget" is, in effect, an emissions "threshold" or "not to exceed value" for specific years in which progress toward attainment of the standard must be measured. These specific years known as "budget years" are established to ensure that the 2022 RTP/SCS and 2023 FTIP "conform" to the air quality goals of the region, as well as demonstrate continued progress toward attainment of the NAAQS. The term "base year" also reflects a "threshold" or "not to exceed" value against which future emissions from the 2022 RTP/SCS are measured.

Given that each NAAQS has different attainment milestones, each SJVAPCD plan contains different "conformity budget years" in which progress must be made toward achievement of the federal standards. These years are listed below for each applicable standard. The emissions budgets in Tables 3-4 through 3-7 below reflect "thresholds" or "not to exceed" values for the applicable "budget years" for the identified pollutants. Note that the urbanized/metropolitan areas Madera County has attained the CO standard and maintained attainment for 20 years. In accordance with Section 93.102(b)(4), conformity requirements for the CO standard stop applying 20 years after EPA approves an attainment redesignation request or as of June 1, 2018. Therefore, the conformity analysis for the 2023 FTIP and 2022 RTP no longer includes a CO conformity demonstration.

TABLE 3-4
 On-Road Motor Vehicle 2008 Ozone Emissions Budgets
 (Summer tons/day)

County	2023		2026		2029		2031	
	ROG	NOx	ROG	NOx	ROG	NOx	ROG	NOx
Madera	1.1	2.7	1.0	2.5	0.9	2.4	0.8	2.3

Source: MCTC, 2022

TABLE 3-5
 On-Road Motor Vehicle PM-10 Emissions Budgets
 (Tons per average annual day)

County	2020	
	PM10	NOx
Madera	2.5	4.7

Source: SJVAPCD 2007 PM10 Maintenance Plan

TABLE 3-6
 On-Road Motor Vehicle 1997 and 2012 PM-2.5 Emissions Budgets
 (Tons per average annual day)

County	2020		2023	
	PM2.5	NOx	PM2.5	NOx
Madera	0.2	4.2	0.2	2.5

Source: SJVAPCD 2018 PM2.5 Plan

TABLE 3-7
 On-Road Motor Vehicle 2006 24-Hour PM-2.5 Emissions Budgets
 (Tons per average winter day)

County	2020		2023		2024	
	PM2.5	NOx	PM2.5	NOx	PM2.5	NOx
Madera	0.2	4.4	0.2	2.6	0.2	2.5

Source: SJVAPCD 2018 PM2.5 Plan

Regional Regulations

The SJVAPCD has adopted numerous rules and regulations to implement its air quality plans. Following, are significant rules that apply to the Madera County area.

- ✓ **Regulation VIII – Fugitive PM₁₀ Prohibitions** - Regulation VIII is comprised of District Rules 8011 through 8081, which are designed to reduce PM₁₀ emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc. Regulation VIII control measures are provided below:
 - 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 on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
 - All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & 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.
 - All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.
 - 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.
- Within urban areas, track out shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.
- ✓ **Rule 8021 – Construction, Demolition, Excavation, and Other Earthmoving Activities** - District Rule 8021 requires owners or operators of construction projects to submit a Dust Control Plan to the District if at any time the project involves non-residential developments of five or more acres of disturbed surface area or moving, depositing, or relocating of more than 2,500 cubic yards per day of bulk materials on at least three days of the project. The proposed project will meet these criteria and will be required to submit a Dust Control Plan to the District in order to comply with this rule.
 - ✓ **Rule 4641 – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations** - If asphalt paving will be used, then paving operations of the proposed project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.
 - ✓ **Rule 9120 – Transportation Conformity** – The Transportation Conformity Rule provides policy, criteria, and procedures for demonstrating and assuring conformity of transportation plans, programs, and projects. This rule applies to projects that are developed, funded, or approved by the DOT and MPO's, or other recipients of funds under title 23 U.S.C or the Federal Transit Act (49 U.S.C. 1601 et seq.).
 - ✓ **Rule 9410 – Employer Based Trip Reduction** – The Employer Based Trip Reduction Rule requires larger employers to establish an Employer Trip Reduction Implementation Plan (eTRIP) to encourage employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. This rule was adopted by the District Governing Board on December 17, 2009.
 - ✓ **Rule 9510 – Indirect Source Review (ISR)** - The purpose of this rule is to fulfill the District's emission reduction commitments in the PM₁₀ and Ozone Attainment Plans, achieve emission reductions from construction activities, and to provide a mechanism for reducing emissions from the construction of and use of development projects through off-site measures. The proposed Project will be required to comply with this regulation.

Environmental Setting

This section describes existing air quality within the SJVAB and in Madera County, including the identification of air pollutant standards, meteorological and topological conditions affecting air quality, and current air quality conditions. Air quality is described in relation to ambient air quality standards for criteria pollutants such as, ozone, carbon monoxide, and particulate matter. Air quality can be directly affected by the type and density of land use change and population growth in urban and rural areas.

Geographic Location

The SJVAB is comprised of eight counties: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare. Encompassing 24,840 square miles, the San Joaquin Valley is the second largest air basin in California. Cumulatively, counties within the Air Basin represent approximately 16 percent of the State's geographic area. The Air Basin is bordered by the Sierra Nevada Mountains on the east (8,000 to 14,492 feet in elevation), the Coastal Range on the west (4,500 feet in elevation), and the Tehachapi Mountains on the south (9,000 feet elevation). The San Joaquin Valley is open to the north extending to the Sacramento Valley Air Basin.

Topographic Conditions

Madera County is located within the SJVAB as determined by CARB. Air basins are geographic areas sharing a common "air shed." A description of the Air Basin in the County, as designated by CARB, is provided below. Air pollution is directly related to the region's topographic features, which impact air movement within the Basin.

Wind patterns within the SJVAB result from marine air that generally flows into the Basin from the San Joaquin River Delta. The Coastal Range hinders wind access into the Valley from the west, the Tehachapis prevent southerly passage of airflow, and the high Sierra Nevada Mountain Range provides a significant barrier to the east. These topographic features result in weak airflow that becomes restricted vertically by high barometric pressure over the Valley. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500-3,000 feet).

Climatic Conditions

Madera County is located in one of the most polluted air basins in the country, the SJVAB. The surrounding topography includes foothills and mountains to the east and west. These mountain ranges direct air circulation and dispersion patterns. Temperature inversions can trap air within the Valley, thereby

preventing the vertical dispersal of air pollutants. In addition to topographic conditions, the local climate can also contribute to air quality problems. Climate in Madera County is classified as Mediterranean, with moist cool winters and dry warm summers.

Ozone, classified as a “regional” pollutant, often afflicts areas downwind of the original source of precursor emissions. Ozone can be easily transported by winds from a source area. Peak ozone levels tend to be higher in the southern portion of the Valley, as the prevailing summer winds sweep precursors downwind of northern source areas before concentrations peak. The separate designations reflect the fact that ozone precursor transport depends on daily meteorological conditions.

Other primary pollutants, CO, for example, may form high concentrations when wind speed is low. During the winter, Madera County experiences cold temperatures and calm conditions that increase the likelihood of a climate conducive to high CO concentrations.

Precipitation and fog tend to reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog block the required radiation. CO is slightly water-soluble, so precipitation and fog tends to “reduce” CO concentrations in the atmosphere. PM₁₀ is somewhat “washed” from the atmosphere with precipitation. Precipitation in the San Joaquin Valley is strongly influenced by the position of the semi-permanent subtropical high-pressure belt located off the Pacific coast. In the winter, this high-pressure system moves southward, allowing Pacific storms to move through the San Joaquin Valley. These storms bring in moist, maritime air that produces considerable precipitation on the western, upslope side of the Coast Ranges. Significant precipitation also occurs on the western side of the Sierra Nevada. On the Valley floor, however, there is some down slope flow from the Coast Ranges and the resultant evaporation of moisture from associated warming results in a minimum of precipitation. Nevertheless, the majority of the precipitation falling in the San Joaquin Valley is produced by those storms during the winter. Precipitation during the summer months is in the form of convective rain showers and is rare. It is usually associated with an influx of moisture into the San Joaquin Valley through the San Francisco area during an anomalous flow pattern in the lower layers of the atmosphere. Although the hourly rates of precipitation from these storms may be high, their rarity keeps monthly totals low.

Precipitation on the San Joaquin Valley floor and in the Sierra Nevada decreases from north to south. Stockton in the north receives about 20 inches of precipitation per year, Fresno in the center, receives about 10 inches per year, and Bakersfield at the southern end of the valley receives less than 6 inches per year. This is primarily because the Pacific storm track often passes through the northern part of the State while the southern part of the State remains protected by the Pacific High. Precipitation in the SJVAB is confined primarily to the winter months with some also occurring in late summer and fall. Average annual rainfall for the entire San Joaquin Valley is approximately 5 to 16 inches. Snowstorms, hailstorms, and ice storms occur infrequently in the San Joaquin Valley and severe occurrences of any of these are very rare.

The winds and unstable air conditions experienced during the passage of storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the San Joaquin Valley floor. This creates strong low-level temperature inversions and very stable air conditions. This situation leads to the San Joaquin Valley's famous Tule Fog. The formation of natural fog is caused by local cooling of the atmosphere until it is saturated (dew point temperature). This type of fog, known as radiation fog is more likely to occur inland. Cooling may also be accomplished by heat radiation losses or by horizontal movement of a mass of air over a colder surface. This second type of fog, known as advection fog, generally occurs along the coast.

Conditions favorable to fog formation are also conditions favorable to high concentrations of CO and PM₁₀. Ozone levels are low during these periods because of the lack of sunlight to drive the photochemical reaction. Maximum CO concentrations tend to occur on clear, cold nights when a strong surface inversion is present and large numbers of fireplaces are in use. A secondary peak in CO concentrations occurs during morning commute hours when a large number of motorists are on the road and the surface inversion has not yet broken.

The water droplets in fog, however, can act as a sink for CO and NO_x, lowering pollutant concentrations. At the same time, fog could help in the formation of secondary particulates such as ammonium sulfate. These secondary particulates are believed to be a significant contributor of winter season violations of the PM₁₀ and PM_{2.5} standards.

Other Air Quality Determinants

In addition to climatic conditions (wind, lack of rain, etc.), air pollution can be caused by human/socioeconomic conditions. Air pollution in the SJVAB can be directly attributed to human activities, which cause air pollutant emissions. Human causes of air pollution in the Valley consist of population growth, urbanization (gas-fired appliances, residential wood heaters, etc.), mobile sources (i.e., cars, trucks, airplanes, trains, etc.), oil production, and agriculture. These are called anthropogenic, or human-caused, sources of emissions. The most significant factors, which are accelerating the decline of air quality in the SJVAB, are the Valley's rapid population growth and its associated increases in traffic, urbanization, and industrial activity.

CO emissions overwhelmingly come from mobile sources in the San Joaquin Valley; on-road vehicles contributed 33 percent, while other mobile vehicles, such as trains, planes, and off-road vehicles, contribute another 41 percent in 2017 according to emission projections from CARB. Motor vehicles account for significant portions of regional gaseous and particulate emissions. Local large employers such as industrial plants can also generate substantial regional gaseous and particulate emissions. In addition,

construction and agricultural activities can generate significant temporary gaseous and particulate emissions (dust, ash, smoke, etc.).

Ozone is the result of a photochemical reaction between NO_x and Reactive Organic Gases (ROG). Mobile sources contribute 84 percent of all NO_x emitted from anthropogenic sources based on data provided in Appendix B of the Air District's 2016 *Ozone Plan* and 2017 emission projections from CARB. In addition, mobile sources contribute 24 percent (2017 emission projections) of all the ROG emitted from sources within the San Joaquin Valley.

The principal factors that affect air quality in and around Madera County are:

- ✓ The sink effect, climatic subsidence and temperature inversions and low wind speeds.
- ✓ Automobile and truck travel.
- ✓ Increases in mobile and stationary pollutants generated by local urban growth.

Automobiles, trucks, buses and other vehicles using hydrocarbon fuels release exhaust products into the air. Each vehicle by itself does not release large quantities; however, when considered as a group, the cumulative effect is significant.

Other sources may not seem to fit into any one of the major categories or they may seem to fit in a number of them. These could include agricultural uses, dirt roads, animal shelters; animal feed lots, chemical plants and industrial waste disposal, which may be a source of dust, odors, or other pollutants. In Madera County, this category includes several agriculturally related activities, such as plowing, harvesting, dusting with herbicides and pesticides and other related activities. Finally, industrial contaminants and their potential to produce various effects depend on the size and type of industry, pollution controls, local topography, and meteorological conditions. Major sources of industrial emissions in Madera County consist of agricultural production and processing operations, wine production, and marketing operations.

The primary contributors of PM₁₀ emissions in the San Joaquin Valley are farming activities (32%) and road dust, both paved and unpaved (26%) in 2017 according to emission projections from CARB. Fugitive windblown dust from "open" fields contributed 16 percent of the PM₁₀.

Air Pollution Sources

The four major sources of air pollutant emissions in the SJVAB include industrial plants, motor vehicles, construction activities, and agricultural activities. Industrial plants account for significant portions of regional gaseous and particulate emissions. Motor vehicles, including those from large employers, generate substantial regional gaseous and particulate emissions. Finally, construction and agricultural

activities can generate significant temporary gaseous and particulate emissions (dust, ash, smoke, etc.). In addition to these primary sources of air pollution, urban areas upwind from Madera County, including areas north and west of the San Joaquin Valley, can cause or generate emissions that are transported into Madera County. All four of the major pollutant sources affect ambient air quality throughout the Air Basin.

✓ **Motor Vehicles**

Automobiles, trucks, buses and other vehicles using hydrocarbon fuels release exhaust products into the air. Each vehicle by itself does not release large quantities; however, when considered as a group, the cumulative effect is significant.

✓ **Construction Activities**

Fugitive dust is emitted both during construction activity and as a result of wind erosion over exposed earth surfaces. Clearing and earth moving activities do comprise major sources of construction dust emissions, but traffic and general disturbances of soil surfaces also generate significant dust emissions. Further, dust generation is dependent on soil type and soil moisture. Exhaust pollutants are the non-useable gaseous waste products produced during the combustion process. Engine exhaust contains CO, HC, and NO_x pollutants which are harmful to the environment.

✓ **Agricultural and Other Miscellaneous Activities**

Other sources may not seem to fit into any one of the major categories or they may seem to fit in a number of them. These could include agricultural uses, dirt roads, animal shelters, animal feed lots, chemical plants and industrial waste disposal, which may be a source of dust, odors, or other pollutants. For Madera County, this category includes several agriculturally related activities, such as plowing, harvesting, dusting with herbicides and pesticides and other related activities.

✓ **Industrial Plants**

Industrial contaminants and their potential to produce various effects depend on the size and type of industry, pollution controls, local topography, and meteorological conditions. Major sources of industrial emissions in Madera County consist of agricultural production and processing operations, wine production, and marketing operations.

San Joaquin Valley Air Basin Monitoring

The SJVAB consists of eight counties, from San Joaquin County in the north to Kern County in the south. The SJVAPCD and CARB maintain numerous air quality monitoring sites throughout each County in the Air Basin to measure ozone, PM_{2.5}, and PM₁₀. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for transportation conformity purposes. Data obtained from the monitoring sites throughout the SJVAB between 2016 and 2020 is summarized in Tables 3-8 through 3-10. Tables 3-11 and 3-12 reflect the ambient air quality classifications for monitoring sites in Madera County. Table 3-13 identifies Madera County’s attainment status. As indicated, Madera County is nonattainment for Ozone (8 hour) and PM_{2.5} and has a maintenance plan for PM₁₀. In accordance with the Federal CAA, EPA uses the design value at the time of standard promulgation to assign nonattainment areas to one of several classes that reflect the severity of the nonattainment problem; classifications range from marginal nonattainment to extreme nonattainment. The Federal CAA contains provisions for changing the classifications using factors such as clean air progress rates and requests from States to move areas to a higher classification.

TABLE 3-8
 SJVAB Ambient Air Quality Monitoring Data Summary - Ozone 2016-2020

Year	Days > Standard				1-Hour Observations			8-Hour Observations					
	State		National		Max.	State	Nat'l	State		National		Coverage	
	1-Hr	8-Hr	1-Hr	8-Hr		D.V. ¹	D.V. ²	Max.	D.V. ¹	Max.	D.V. ²	Min	Max
2020	35	88	2.1	86	0.142	0.12	0.121	0.114	0.104	0.114	0.093	0	100
2019	13	60	0.0	59	0.110	0.11	0.116	0.094	0.096	0.093	0.088	81	99
2018	27	87	1.0	82	0.129	0.12	0.120	0.102	0.101	0.101	0.090	86	100
2017	21	87	1.1	85	0.143	0.12	0.120	0.113	0.102	0.112	0.092	84	100
2016	28	91	1.0	87	0.131	0.12	0.117	0.101	0.103	0.101	0.094	93	100

Notes:

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour standard are shown in italics.

D.V.¹ = State Designation Value.

D.V.² = National Design Value.

Source: California Air Resources Board (ADAM) Air Pollution Summaries.

TABLE 3-9

SJVAB Ambient Air Quality Monitoring Data Summary – PM-2.5 2016-2020

Year	Est. Days > Nat'l Std.	Annual Average		Nat'l Ann. Std. D.V. ¹	State Annual D.V. ²	Nat'l Std. 98th Percentile	Nat'l 24-Hr Std. D.V. ¹	High 24-Hour Average		Year Coverage	
		Nat'l	State					Nat'l	State	Min	Max
2020	52.0	20.3	20.3	17.6	20	99.5	72	199.7	219.4	89	100
2019	21.0	13.0	13.0	16.9	19	46.7	64	83.7	83.7	75	100
2018	42.3	19.4	18.6	17.8	19	100.4	65	189.8	257.5	79	100
2017	33.8	18.2	16.8	17.3	18	74.6	72	113.4	113.4	82	100
2016	25.5	15.9	16.0	18.4	19	51.4	72	66.4	66.4	86	100

Notes:

All average concentrations expressed in micrograms per cubic meter.

State and national statistics may differ for the following reasons:

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

D.V.¹ = National Design Value.

D.V.² = State Designation Value.

Source: California Air Resources Board (ADAM) Air Pollution Summaries.

TABLE 3-10
 SJVAB Ambient Air Quality Monitoring Data Summary – PM-10 2016-2020

Year	Est. Days > Std.		Annual Average		3-Year Average		High 24-Hr Average		Year
	Nat'l	State	Nat'l	State	Nat'l	State	Nat'l	State	Coverage
2020	38.7	157.0	64.5	60.5	56	61	517.2	359.0	0 - 100
2019	16.2	129.7	55.6	55.6	52	56	652.2	664.2	0 - 100
2018	9.6	164.4	54.5	53.0	50	53	250.2	250.4	0 - 100
2017	7.7	145.5	55.3	48.4	46	48	298.4	210.0	0 - 100
2016	0.0	157.9	50.0	47.3	46	48	152.2	132.5	0 - 100

Notes:

All average concentrations expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics*.

An exceedence of a standard is not necessarily related to a violation of the standard.

State and national statistics may differ for the following reasons:

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

State statistics for 1998 and later are based on *local* conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on *local* conditions). National statistics are based on *standard* conditions.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Source: California Air Resources Board (ADAM) Air Pollution Summaries.

TABLE 3-11
Maximum Pollutant Levels at Madera's
28261 Avenue 14 Monitoring Station

Pollutant	Time Averaging	2018	2019	2020	Standards	
		Maximums	Maximums	Maximums	National	State
Ozone (O ₃)	1 hour	0.097 ppm	0.091 ppm	0.113 ppm	-	0.09 ppm
Ozone (O ₃)	8 hour	0.082 ppm	0.082 ppm	0.095 ppm	0.070 ppm	0.070 ppm
Nitrogen Dioxide (NO ₂) ^a	1 hour	46.0 ppb	31.05 ppb	47.0 ppb	100 ppb	0.18 ppm
Nitrogen Dioxide (NO ₂) ^a	Annual Average	6.0 ppb	6.0 ppb	6.0 ppb	0.053 ppm	0.030 ppm
Particulates (PM ₁₀)	24 hour	*	*	373.5 µg/m ³	150 µg/m ³	50 µg/m ³
Particulates (PM ₁₀)	Federal Annual Arithmetic Mean	*	*	49.8 µg/m ³	-	20 µg/m ³
Particulates (PM _{2.5})	24 hour	80.0 µg/m ³	33.2 µg/m ³	199.7 µg/m ³	35 µg/m ³	-
Particulates (PM _{2.5})	Federal Annual Arithmetic Mean	13.9 µg/m ³	9.6 µg/m ³	16.8 µg/m ³	12 µg/m ³	12 µg/m ³

Source: California Air Resources Board (ADAM) Air Pollution Summaries

a: Data from Pump Yard Monitoring Station

* Means there was insufficient data available to determine the value.

TABLE 3-12
Maximum Pollutant Levels at Madera's
Pump Yard Monitoring Station

Pollutant	Time Averaging	2018	2019	2020	Standards	
		Maximums	Maximums	Maximums	National	State
Ozone (O ₃)	1 hour	0.090 ppm	0.095 ppm	0.107 ppm	-	0.09 ppm
Ozone (O ₃)	8 hour	0.078 ppm	0.080 ppm	0.092 ppm	0.070 ppm	0.070 ppm
Nitrogen Dioxide (NO ₂)	1 hour	46.0 ppb	31.05 ppb	47.0 ppb	100 ppb	0.18 ppm
Nitrogen Dioxide (NO ₂)	Annual Average	6.0 ppb	6.0 ppb	6.0 ppb	0.053 ppm	0.030 ppm
Particulates (PM ₁₀) ^a	24 hour	*	*	373.5 µg/m ³	150 µg/m ³	50 µg/m ³
Particulates (PM ₁₀) ^a	Federal Annual Arithmetic Mean	*	*	49.8 µg/m ³	-	20 µg/m ³
Particulates (PM _{2.5}) ^a	24 hour	80.0 µg/m ³	33.2 µg/m ³	199.7 µg/m ³	35 µg/m ³	-
Particulates (PM _{2.5}) ^a	Federal Annual Arithmetic Mean	13.9 µg/m ³	9.6 µg/m ³	16.8 µg/m ³	12 µg/m ³	12 µg/m ³

Source: California Air Resources Board (ADAM) Air Pollution Summaries

a: Data from 28261 Avenue 14 Monitoring Station

* Means there was insufficient data available to determine the value.

TABLE 3-13
 Madera County Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone - 1 Hour	Revoked in 2005	Nonattainment/Severe
Ozone - 8 Hour	Nonattainment/Extreme ^a	No State Standard
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Nonattainment
Carbon Monoxide	Unclassified/Attainment	Unclassified
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Lead (Particulate)	Unclassified/Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

Source: ARB Website, 2022

a. Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

Notes:

National Designation Categories

Non-Attainment Area: Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.

Unclassified/Attainment Area: Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant or meets the national primary or secondary ambient air quality standard for the pollutant.

State Designation Categories

Unclassified: A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or non-attainment.

Attainment: A pollutant is designated attainment if the State standard for that pollutant was not violated at any site in the area during a three-year period.

Non-attainment: A pollutant is designated non-attainment if there was at least one violation of a State standard for that pollutant in the area.

Non-Attainment/Transitional: A subcategory of the non-attainment designation. An area is designated non-attainment/transitional to signify that the area is close to attaining the standard for the pollutant.

Air Quality Standards

The Federal CAA, first adopted in 1963, and periodically amended since then, established the NAAQS. A set of 1977 amendments determined a deadline for the attainment of these standards. That deadline has since passed. Other Federal CAA amendments, passed in 1990, share responsibility with the State in reducing emissions from mobile sources.

In 1988, the State of California passed the CCAA (State 1988 Statutes, Chapter 568), which set forth a program for achieving more stringent CAAQS. CARB implements State ambient air quality standards, as required in the CCAA, and cooperates with the federal government in implementing pertinent sections of the Federal CAA Amendments (FCAAA). Further, CARB regulates vehicular emissions throughout the State. The SJVAPCD regulates stationary sources, as well as some mobile sources. Attainment of the more stringent State PM₁₀ Air Quality Standards is not currently required.

The EPA uses six "criteria pollutants" as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called the NAAQS. The SJVAPCD operates regional air quality monitoring networks that provide information on average concentrations of pollutants for which State or federal agencies have established ambient air quality standards. Descriptions of the six criteria pollutants as well as other pollutants of importance in Madera County are as follows.

✓ Ozone (O3)

The most severe air quality problem in the Air Basin is the high level of ozone. Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. Here, ground level, or "bad" ozone, is an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles up, where it meets the second layer, the stratosphere. The stratospheric, or "good" ozone layer, extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" ozone is what is known as a photochemical pollutant. It needs reactive organic gases (ROG), NO_x, and sunlight. ROG and NO_x are emitted from various sources throughout Madera County. In order to reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Significant ozone formation generally requires an adequate number of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

Ozone is a regional air pollutant. It is generated over a large area and is transported and spread by wind. Ozone, the primary constituent of smog, is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, ozone is not emitted directly into the air by specific sources. Ozone is created by sunlight acting on other air pollutants (called precursors), specifically NO_x and ROG. Sources of precursor gases to the photochemical reaction that form ozone number in the thousands. Common sources include consumer products, gasoline vapors, chemical solvents, and combustion products of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins. Approximately 50 million people lived in counties with air quality levels above the EPA's health-based national air quality standard in 1994. The highest levels of ozone were recorded in Los Angeles, closely followed by the San Joaquin Valley. High levels also persist in other heavily populated areas, including the Texas Gulf Coast and much of the Northeast.

While the ozone in the upper atmosphere absorbs harmful ultraviolet light, ground-level ozone is damaging to the tissues of plants, animals, and humans, as well as to a wide variety of inanimate materials such as plastics, metals, fabrics, rubber, and paints. Societal costs from ozone damage include increased medical costs, the loss of human and animal life, accelerated replacement of industrial equipment, and reduced crop yields.

Health Effects

While ozone in the upper atmosphere protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone can adversely affect the human respiratory system. Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. Ozone also damages natural ecosystems, such as: forests and foothill communities; agricultural crops; and some man-made materials, such as rubber, paint, and plastic. High levels of ozone may negatively affect immune systems, making people more susceptible to respiratory illnesses, including bronchitis and pneumonia. Ozone accelerates aging and exacerbates pre-existing asthma and bronchitis and, in cases with high concentrations, can lead to the development of asthma in active children. Active people, both children and adults, appear to be more at risk from ozone exposure than those with a low level of activity. Additionally, the elderly and those with respiratory disease are also considered sensitive populations for ozone.

People who work or play outdoors are at a greater risk for harmful health effects from ozone. Children and adolescents are also at greater risk because they are more likely than adults to spend time

engaged in vigorous activities. Research indicates that children under 12 years of age spend nearly twice as much time outdoors daily than adults. Teenagers spend at least twice as much time as adults in active sports and outdoor activities. In addition, children inhale more air per pound of body weight than adults, and they breathe more rapidly than adults. Children are less likely than adults to notice their own symptoms and avoid harmful exposures.

Ozone is a powerful oxidant—it can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Ozone can damage the respiratory tract, causing inflammation and irritation, and it can induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. Exposure to levels of ozone above the current ambient air quality standard leads to lung inflammation, lung tissue damage, and a reduction in the amount of air inhaled into the lungs.

CARB found ozone standards in Madera County nonattainment of Federal and State standards.

✓ **Suspended PM (PM₁₀ and PM_{2.5})**

Particulate matter pollution consists of very small liquid and solid particles that remain suspended in the air for long periods. Some particles are large or concentrated enough to be seen as soot or smoke. Others are so small they can be detected only with an electron microscope. Particulate matter is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. Particulate matter is emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. PM₁₀ refers to particles less than or equal to 10 microns in aerodynamic diameter. PM_{2.5} refers to particles less than or equal to 2.5 microns in aerodynamic diameter and are a subset of PM₁₀. Particulates of concern are those that are 10 microns or less in diameter. These are small enough to be inhaled, pass through the respiratory system and lodge in the lungs, possibly leading to adverse health effects.

In the western United States, there are sources of PM₁₀ in both urban and rural areas. Because particles originate from a variety of sources, their chemical and physical compositions vary widely. The composition of PM₁₀ and PM_{2.5} can also vary greatly with time, location, the sources of the material and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM₁₀ and PM_{2.5}. In addition to those listed previously, secondary particles can also be formed as precipitates from chemical and photochemical reactions of gaseous sulfur dioxide (SO₂) and NO_x in the atmosphere to create sulfates (SO₄) and

nitrites (NO₂). Secondary particles are of greatest concern during the winter months where low inversion layers tend to trap the precursors of secondary particulates.

Health Effects

PM₁₀ and PM_{2.5} particles are small enough—about one-seventh the thickness of a human hair, or smaller—to be inhaled and lodged in the deepest parts of the lung where they evade the respiratory system’s natural defenses. Health problems begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. Non-health-related effects include reduced visibility and soiling of buildings. PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body’s ability to fight infections. PM₁₀ and PM_{2.5} can aggravate respiratory disease and cause lung damage, cancer, and premature death.

Although particulate matter can cause health problems for everyone, certain people are especially vulnerable to adverse health effects of PM₁₀. These “sensitive populations” include children, the elderly, exercising adults, and those suffering from chronic lung disease such as asthma or bronchitis. Of greatest concern are recent studies that link PM₁₀ exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM₁₀ can also damage manmade materials and is a major cause of reduced visibility in many parts of the United States.

CARB found PM₁₀ standards in Madera County in attainment of Federal standards and nonattainment for State standards. The ARB found PM_{2.5} standards in Madera County nonattainment of Federal and State standards.

✓ **Carbon Monoxide (CO)**

Carbon monoxide (CO) is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive. CO is a byproduct of motor vehicle exhaust, contributes more than two thirds of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO.

Health Effects

CO enters the bloodstream and binds more readily to hemoglobin than oxygen, reducing the oxygen-carrying capacity of blood and thus reducing oxygen delivery to organs and tissues. The health threat from CO is most serious for those who suffer from cardiovascular disease. Healthy individuals are also affected but only at higher levels of exposure. At high concentrations, CO can cause heart difficulties in people with chronic diseases and can impair mental abilities. Exposure to elevated CO levels is associated with visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, difficulty performing complex tasks, and in prolonged, enclosed exposure, death.

The adverse health effects associated with exposure to ambient and indoor concentrations of CO are related to the concentration of carboxyhemoglobin (COHb) in the blood. Health effects observed may include an early onset of cardiovascular disease; behavioral impairment; decreased exercise performance of young, healthy men; reduced birth weight; sudden infant death syndrome (SIDS); and increased daily mortality rate.

Most of the studies evaluating adverse health effects of CO on the central nervous system examine high-level poisoning. Such poisoning results in symptoms ranging from common flu and cold symptoms (shortness of breath on mild exertion, mild headaches, and nausea) to unconsciousness and death.

CARB found CO standards in Madera County as unclassified/attainment of Federal standards and unclassified for State standards.

✓ **Nitrogen Dioxide (NO₂)**

NO_x is a family of highly reactive gases that are primary precursors to the formation of ground-level ozone and react in the atmosphere to form acid rain. NO_x is emitted from combustion processes in which fuel is burned at high temperatures, principally from motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. A brownish gas, NO_x is a strong oxidizing agent that reacts in the air to form corrosive nitric acid, as well as toxic organic nitrates.

Health Effects

NO_x is an ozone precursor that combines with Reactive Organic Gases (ROG) to form ozone. See the ozone section above for a discussion of the health effects of ozone.

Direct inhalation of NO_x can also cause a wide range of health effects. NO_x can irritate the lungs, cause lung damage, and lower resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of nitrogen dioxide (NO₂) may lead to changes in airway responsiveness and lung function in individuals with preexisting respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO₂ may lead to increased susceptibility to respiratory infection and may cause irreversible alterations in lung structure. Other health effects associated with NO_x are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO₂ may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. NO_x can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to production of particulate nitrates. Airborne NO_x can also impair visibility. NO_x is a major component of acid deposition in California. NO_x may affect both terrestrial and aquatic ecosystems. NO_x in the air is a potentially significant contributor to a number of environmental effects such as acid rain and eutrophication in coastal waters. Eutrophication occurs when a body of water suffers an increase in nutrients that reduce the amount of oxygen in the water, producing an environment that is destructive to fish and other animal life.

NO₂ is toxic to various animals as well as to humans. Its toxicity relates to its ability to combine with water to form nitric acid in the eye, lung, mucus membranes, and skin. Studies of the health impacts of NO₂ include experimental studies on animals, controlled laboratory studies on humans, and observational studies.

In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, lowering their resistance to such diseases as pneumonia and influenza. Laboratory studies show susceptible humans, such as asthmatics, exposed to high concentrations of NO₂, can suffer lung irritation and, potentially, lung damage. Epidemiological studies have also shown associations between NO₂ concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

NO_x contributes to a wide range of environmental effects both directly and when combined with other precursors in acid rain and ozone. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters can lead to eutrophication as discussed above. Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates conditions of low pH and levels of aluminum that are toxic to fish and other aquatic organisms.

CARB found NO₂ standards in Madera County as unclassified/attainment of Federal standards and attainment for State standards.

✓ **Sulfur Dioxide (SO₂)**

The major source of sulfur dioxide (SO₂) is the combustion of high-sulfur fuels for electricity generation, petroleum refining and shipping. High concentrations of SO₂ can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Short-term exposures of asthmatic individuals to elevated SO₂ levels during moderate activity may result in breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other effects that have been associated with longer-term exposures to high concentrations of SO₂, in conjunction with high levels of PM, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs' defenses. SO₂ also is a major precursor to PM_{2.5}, which is a significant health concern and a main contributor to poor visibility. In humid atmospheres, sulfur oxides can react with vapor to produce sulfuric acid, a component of acid rain.

CARB found SO₂ standards in the Madera County as unclassified for Federal standards and attainment for State standards.

✓ **Lead (Pb)**

Lead, a naturally occurring metal, can be a constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. Lead was used until recently to increase the octane rating in automobile fuel. Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels; however, the use of leaded fuel has been mostly phased out. Since this has occurred the ambient concentrations of lead have dropped dramatically.

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children. Effects on the nervous systems of children are one of the primary health risk concerns from lead. In high concentrations, children can even suffer irreversible brain damage and death. Children 6 years old and under are most at risk, because their bodies are growing quickly.

CARB found Lead standards in Madera County as unclassified/attainment of Federal standards and attainment for State standards.

✓ **Toxic Air Contaminants (TAC)**

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TAC) are another group of pollutants of concern. TAC are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TAC is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TAC are regulated on the basis of risk rather than specification of safe levels of contamination. The ten (10) TAC are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM). Caltrans' guidance for transportation studies references the FHWA memorandum titled "Interim Guidance on Air Toxic Analysis in NEPA Documents" which discusses emissions quantification of six "priority" compounds of 21 Mobile Source Air Toxics (MSAT) identified by EPA. The six-diesel exhaust (particulate matter and organic gases), benzene, 1,3-butadiene, acetaldehyde, formaldehyde, and acrolein.

Some studies indicate that DPM poses the greatest health risk among the TAC listed above. A 10-year research program (California Air Resources Board 1998) demonstrated that diesel PM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TAC in that it is not a single substance but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TAC, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. CARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the CARB emissions inventory's PM₁₀ database, ambient PM₁₀ monitoring data, and the results from several studies to estimate concentrations of DPM. Table 3-14 depicts the CARB Handbook's recommended buffer distances associated with various types of common sources.

TABLE 3-14
**Recommendations on Siting New Sensitive Land Uses Such as Residences,
 Schools, Daycare Centers, Playgrounds, or Medical Facilities***

SOURCE CATEGORY	ADVISORY RECOMMENDATIONS
Freeways and High-Traffic Roads ¹	- Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	- Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). - Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	- Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. - Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	- Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	- Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	- Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	- Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. - Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	- Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

1: The recommendation to avoid siting new sensitive land uses within 500 feet of a freeway was identified in CARB's Air Quality and Land Use Handbook published in 2005. CARB recently published a technical advisory to the Air Quality and Land Use Handbook indicating that new research has demonstrated promising strategies to reduce pollution exposure along transportation corridors.

*Notes:

- These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.
- Recommendations are based primarily on data showing that the air pollution exposures addressed here (i.e., localized) can be reduced as much as 80% with the recommended separation.
- The relative risk for these categories varies greatly (see Table 1-2). To determine the actual risk near a particular facility, a site-specific analysis would be required. Risk from diesel PM will decrease over time as cleaner technology phases in.
- These recommendations are designed to fill a gap where information about existing facilities may not be readily available and are not designed to substitute for more specific information if it exists. The recommended distances take into account other factors in addition to available health risk data (see individual category descriptions).
- Site-specific project design improvements may help reduce air pollution exposures and should also be considered when siting new sensitive land uses.
- This table does not imply that mixed residential and commercial development in general is incompatible. Rather it focuses on known problems like dry cleaners using perchloroethylene that can be addressed with reasonable preventative actions.
- A summary of the basis for the distance recommendations can be found in the ARB Handbook: Air Quality and Land Use Handbook: A Community Health Perspective.

Source: SJVAPCD 2022

It should be noted that the recommendation to avoid siting new sensitive land uses within 500 feet of a freeway was identified in CARB's Air Quality and Land Use Handbook published in 2005. CARB recently published a technical advisory to the Air Quality and Land Use Handbook indicating that new research has demonstrated promising strategies to reduce pollution exposure along transportation corridors.

Existing air quality concerns within Madera County and the entire SJVAB are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

✓ **Odors**

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor.

Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition

of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

The intensity of an odor source’s operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJVAB. The types of facilities that are known to produce odors are shown in Table 3-15 along with a reasonable distance from the source within which, the degree of odors could possibly be significant. Information presented in Table 3-15 will be used as a screening level of analysis for potential odor sources for the proposed project.

TABLE 3-15
Screening Levels for Potential Odor Sources

Type of Facility	Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Compositing Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g. auto body shops)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: SJVAPCD 2022

✓ **Naturally Occurring Asbestos (NOA)**

Asbestos is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. Asbestos is commonly found in ultramafic rock and near fault zones. The amount of asbestos that is typically present in these rocks ranges from less than 1% up to approximately 25% and sometimes more. It is released from ultramafic rock when it is broken or crushed. This can happen when cars drive over unpaved roads or driveways, which are surfaced with these rocks, when land is graded for building purposes, or at quarrying operations. Asbestos is also released naturally through

weathering and erosion. Once released from the rock, asbestos can become airborne and may stay in the air for long periods of time. Asbestos is hazardous and can cause lung disease and cancer dependent upon the level of exposure. The longer a person is exposed to asbestos and the greater the intensity of the exposure, the greater the chances for a health problem.

The construction phase of the projects listed in the 2022 RTP/SCS may cause asbestos to become airborne due to the construction activities that will occur on site. The listed projects would be required to submit a Dust Control Plan under the SJVAPCD's Rule 8021.

Existing TCMs and Air Quality Mitigation

The Federal CAA defines a TCM as including, but not limited to: programs for improved public transit; high occupancy vehicle lanes; employer-based transportation management plans; trip reduction ordinances; traffic flow improvements; park-a-ride lots; programs to restrict vehicle use during peak periods; rideshare services; bicycle and pedestrian programs; programs to control vehicle idling; flexible work schedules; programs and ordinances to facilitate non-automobile travel; and programs to encourage the voluntary removal of pre-1980 light duty vehicles and trucks.

A description of the applicable TCMs that have been incorporated into the applicable SIPs and is included in the MCTC Draft Conformity Analysis for 2022 RTP/SCS and 2023 FTIP.

Madera County and its two incorporated cities, private business, and government offices implement some of these programs including traffic flow improvements, public transit, park and ride lots, bicycling programs, and alternate work schedules.

Air Quality Management

Until the passage of the CCAA, the primary role of air districts in California was the control of stationary sources of pollution such as industrial processes and equipment. With the passage of the Federal CAA and CCAA, air districts were encouraged to coordinate with RTPAs on TCM implementation and to adopt indirect source control programs to reduce mobile source emissions. These mandates created the necessity for the SJVAPCD to work closely with cities and counties and with Regional Transportation Planning Agencies (RTPAs) to develop new programs.

Responsibility for managing air quality in California is becoming increasingly regionalized. Air districts have the primary responsibility to control air pollution from all sources other than emissions directly from motor vehicles, which are the responsibility of CARB. Air districts regulate air quality through their permit authority for most types of stationary emission sources and through their planning and review activities

for other sources. Further, air districts adopt and enforce rules and regulations to achieve State and federal ambient air quality standards and enforce applicable State and federal law. The CCAA requires each nonattainment district to reduce pertinent air contaminants by at least five percent per year until State Air Quality Standards are met.

Environmental Impacts, Mitigation Measures and Significance After Mitigation

Methodology

This section analyzes the air quality impacts associated with the implementation of MCTC's 2022 RTP/SCS. This analysis evaluates each significance criterion individually, assessing how implementation of MCTC's 2022 RTP/SCS, including changes to the land use pattern and transportation network, may impact the air quality in the Madera County region. The analysis for each significance criteria includes a discussion of program-level impacts for the RTP/SCS planning horizon year of 2046. Appropriate mitigation measures are applied where a significant impact has been determined.

Criteria for Significance

According to CEQA, an impact is considered significant if one or more of the following conditions occur from implementation of MCTC's 2022 RTP/SCS:

- ✓ Conflict with or obstruct implementation of the applicable air quality plan.
- ✓ 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.
- ✓ Expose sensitive receptors to substantial pollutant concentrations.
- ✓ Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Impact 3.4.1 - Conflict with or obstruct implementation of the applicable air quality plan

The following analysis is a summary of the Conformity Analysis for the 2022 RTP/SCS and 2023 FTIP. The complete Air Quality Conformity Analysis is available on MCTC's website.

✓ **Madera County Conformity Tests**

The conformity tests specified in the Federal transportation conformity regulations are: (1) the emissions budget test, and (2) the interim emission test. For the emissions budget test, predicted emissions for the FTIP/RTP must be less than or equal to the motor vehicle emissions budget specified

in the approved air quality implementation plan or the emissions budget found to be adequate for transportation conformity purposes. If there is no approved air quality plan for a pollutant for which the region is in nonattainment or no emission budget has been found to be adequate for transportation conformity purposes, the interim emission test applies. The Air Quality Conformity summarizes the applicable air quality implementation plans and conformity tests for ozone, PM₁₀, and PM_{2.5}.

During the development of each SIP, CARB in consultation with SJVAPCD and SJV MPOs, sets transportation conformity budgets for measuring progress toward achieving attainment of the national air quality standard. A "budget" is, in effect, an emissions "threshold" or "not to exceed value" for specific years in which progress toward attainment of the standard must be measured. These specific years known as "budget years" are established to ensure that the 2022 RTP/SCS and 2023 FTIP "conform" to the air quality goals of the region, as well as demonstrate continued progress toward attainment of the NAAQS. The term "base year" also reflects a "threshold" or "not to exceed" value against which future emissions from the 2022 RTP/SCS are measured.

The conformity regulation (Section 93.118[b] and [d]) requires documentation of the "budget years" for which consistency with motor vehicle emission "budgets" must be determined. In addition, any interpolation performed to meet tests for "budget years" in which specific analysis is not required need to be documented. For the selection of the analysis years, the conformity regulation requires: (1) that if the attainment year is in the time span of the transportation plan, it must be modeled; (2) the last year forecast in the transportation plan must be an analysis year; and (3) analysis years may not be more than ten years apart. In addition, the conformity regulation requires that conformity must be demonstrated for each "budget year." It is important to note, that although the conformity regulation requires modeling of several analysis years in addition to the "budget years," those additional analysis years must demonstrate that emissions in those years are less than the applicable motor vehicle emissions "budget." For example, the 2022 RTP/2023 FTIP conformity analysis models Ozone motor vehicle emissions for the years 2020, 2023, 2026, 2029, 2031, 2037 and 2046. As Table 3-16 below shows 2020, 2022, 2023, 2026, and 2029 are "budget years" and 2031 and 2037 are the years of attainment. As described above, Ozone emissions for the 2031, 2037, and 2046 analysis years must be less than or equal to the 2029 "budget" to demonstrate compliance with the SJVAPCD 2008 Ozone Plan.

TABLE 3-16
 San Joaquin Valley Conformity Analysis Years

Pollutant	Budget Years ¹	Attainment/ Maintenance	Intermediate Years	RTP Horizon Year
2008 and 2015 Ozone	2020/2023/2026/ 2029	2031/2037 ²	NA	2046
PM10	N/A	2020	2022/2029/2037	2046
1997 24-hour PM2.5	N/A	2020	2023/2029/2037	2046
1997 Annual PM2.5	N/A	2023	2029/2037	2046
2006 24-hour PM2.5	2020/2023	2024	2031/2037	2046
2012 Annual PM2.5	2022	2025	2029/2037	2046

¹ Budget years that are not in the time frame of the transportation plan/conformity analysis are not included as analysis years (e.g., 2020), although they may be used to demonstrate conformity. Some of the early RFP year budgets were not acted on by EPA since they were not applicable.

² 2031 is the attainment year for the 2008 ozone standard. 2037 is the attainment year for the 2015 ozone standard.

Section 93.118(b)(2) clarifies that when a maintenance plan has been submitted, conformity must be demonstrated for the last year of the maintenance plan and any other years for which the maintenance plan establishes budgets in the time frame of the transportation plan. Section 93.118(d)(2) indicates that a regional emissions analysis may be performed for any years, the attainment year, and the last year of the plan’s forecast. Other years may be determined by interpolating between the years for which the regional emissions analysis is performed.

Section 93.118(d)(2) indicates that the regional emissions analysis may be performed for any years in the time frame of the transportation plan provided they are not more than ten years apart and provided the analysis is performed for the attainment year (if it is in the time frame of the transportation plan) and the last year of the plan’s forecast period. Emissions in years for which consistency with motor vehicle emissions budgets must be demonstrated, as required in paragraph (b) of this section (i.e., each budget year), may be determined by interpolating between the years for which the regional emissions analysis is performed.

The FCAA requires all states to attain the 1997 PM_{2.5} standards as expeditiously as practicable beginning in 2010, but by no later than April 5, 2010 unless EPA approves an attainment date

extension. States must identify their attainment dates based on the rate of reductions from their control strategies and the severity of the PM_{2.5} problem. On February 9, 2016 EPA released its proposed *Approval and Disapproval of California Air Plan; San Joaquin Valley Serious Area Plan and Attainment Date Extension for the 1997 PM_{2.5} NAAQS*. No final EPA action has been taken on the plan. As a result, the proposed SIP budgets are assumed to be unavailable for use and the 2008 PM_{2.5} Plan conformity budgets are the only budgets applicable at this time for the 1997 PM_{2.5} standard.

On January 20, 2016, EPA finalized reclassification of the San Joaquin Valley to Serious nonattainment for the 2006 24-hour PM_{2.5} Standard. On August 16, 2016, the 2012 PM_{2.5} Plan was approved by EPA, effective September 30, 2016, inclusive of new conformity budgets and trading mechanism for the 2006 24-hour PM_{2.5} standard with a requirement to attain the standard as expeditiously as practicable and no later than December 31, 2019. In 2019, CARB submitted an attainment deadline extension request as part of the 2018 PM_{2.5} Plan. On March 27, EPA published a proposed rule approving portions of the 2018 PM_{2.5} Plan, including the 2006 PM_{2.5} standard attainment deadline extension, as well as conformity budgets and trading mechanism.

On April 15, 2015, EPA classified the San Joaquin Valley as Moderate nonattainment for the 2012 PM_{2.5} Standards. On November 26, 2021, EPA issued final rule approving of the Moderate Area 2016 PM_{2.5} Plan, portions of the 2018 PM_{2.5} SIP pertaining to moderate nonattainment of the 2012 PM_{2.5} standards, and the reclassification request to serious nonattainment. The San Joaquin Valley 2018 PM_{2.5} Plan includes serious area budgets for the 2012 PM_{2.5} standards with an attainment deadline of 2025; therefore, the attainment year 2025 must be modeled.

➤ **Ozone Precursors**

The regional emissions analysis and forecasts for ozone precursors (ROG and NO_x) are summarized in Table 3-17. The summary of emissions forecasts is derived from outputs of the EMFAC 2014 model performed by MCTC staff during the preparation of the Air Quality Conformity Analysis. As indicated above, the words "budget" refers to the emissions "threshold" or "not to exceed value" for "budget years" in order demonstrate continued progress toward attainment of the state air quality standard.

➤ **Particulate Matter**

The regional emissions analysis and forecasts for particulate matter (PM₁₀ and PM_{2.5}) are summarized in Table 3-17. The summary of emissions forecasts is derived from outputs of the EMFAC 2014 model performed by MCTC staff during the preparation of the Air Quality Conformity Analysis.

TABLE 3-17
Conformity Results for RTP Projects
2022 Conformity Results Summary – Madera

Standard	Analysis Year	Emissions Total		DID YOU PASS?	
		ROG (tons/day)	NOx (tons/day)	ROG	NOx
2008 and 2015 Ozone	2023 Budget	1.1	2.7		
	2023	1.0	2.0	YES	YES
	2026 Budget	1.0	2.5		
	2026	0.8	1.7	YES	YES
	2029 Budget	0.9	2.4		
	2029	0.7	1.5	YES	YES
	2031 Budget	0.8	2.3		
	2031	0.7	1.4	YES	YES
	2037	0.5	1.3	YES	YES
	2046	0.5	1.2	YES	YES
Standard	Analysis Year	Emissions Total		DID YOU PASS?	
PM-10		PM-10 (tons/day)	NOx (tons/day)	PM-10	NOx
	2020 Budget	2.5	4.7		
	2022	1.6	2.9	YES	YES
	2020 Budget	2.5	4.7		
	2029	1.8	1.5	YES	YES
	2020 Budget	2.5	4.7		
	2037	1.9	1.3	YES	YES
	2020 Budget	2.5	4.7		
	2046	1.6	1.2	YES	YES
	Standard	Analysis Year	Emissions Total		DID YOU PASS?
1997 24-Hour PM2.5 Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2020 Budget	0.2	4.2		
	2021	0.2	2.1	YES	YES
	2020 Budget	0.2	4.2		
	2029	0.2	1.5	YES	YES
	2020 Budget	0.2	4.2		
	2037	0.2	1.3	YES	YES
	2020 Budget	0.2	4.2		
	2046	0.2	1.2	YES	YES

TABLE 3-17 (Cont'd)
 Conformity Results for RTP Projects
 2022 Conformity Results Summary – Madera

	Analysis Year	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
1997 Annual PM2.5 Standard	2023 Budget	0.2	2.5		
	2021	0.2	2.1	YES	YES
	2023 Budget	0.2	2.5		
	2029	0.2	1.5	YES	YES
	2023 Budget	0.2	2.5		
	2037	0.2	1.3	YES	YES
	2023 Budget	0.2	2.5		
	2046	0.2	1.2	YES	YES
Standard	Analysis Year	Emissions Total		DID YOU PASS?	
2006 PM2.5 Winter 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2023 Budget	0.2	2.6		
	2023	0.2	2.2	YES	YES
	2024 Budget	0.2	2.5		
	2024	0.2	2.0	YES	YES
	2024 Budget	0.2	2.5		
	2031	0.2	1.5	YES	YES
	2024 Budget	0.2	2.5		
	2037	0.2	1.3	YES	YES
	2024 Budget	0.2	2.5		
2046	0.2	1.2	YES	YES	
Standard	Analysis Year	Emissions Total		DID YOU PASS?	
2012 Annual PM2.5 Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2022 Budget	0.2	3.5		
	2022	0.2	2.9	YES	YES
	2025 Budget	0.2	2.3		
	2025	0.2	1.9	YES	YES
	2025 Budget	0.2	2.3		
	2029	0.2	1.5	YES	YES
	2025 Budget	0.2	2.3		
	2037	0.2	1.3	YES	YES
	2025 Budget	0.2	2.3		
2046	0.2	1.2	YES	YES	

Results of the Conformity Analysis

A regional emissions analysis was conducted for the years 2023, 2026, 2029, 2031, 2037, and 2046 for each applicable pollutant. All analyses were conducted using the latest planning assumptions and emissions models. The major conclusions of the MCTC Conformity Analysis are:

- For ozone, the total regional on-road vehicle-related emissions (ROG and NO_x) associated with implementation of the 2023 FTIP and the 2022 RTP for all years tested are projected to be less than the adequate emissions budgets specified in the *2016 Ozone Plan*. The conformity tests for ozone are therefore satisfied.
- For PM-10, the total regional vehicle-related emissions (PM-10 and NO_x) associated with implementation of the 2023 FTIP and the 2022 RTP for all years tested are either (1) projected to be less than the approved emissions budgets, or (2) less than the emission budgets using the approved PM-10 and NO_x trading mechanism for transportation conformity purposes from the *2007 PM-10 Maintenance Plan (as revised in 2015)*. The conformity tests for PM-10 are therefore satisfied.
- For the 1997 annual and 24-hour and 2012 annual PM_{2.5} standards, the total regional on-road vehicle-related emissions associated with implementation of the 2023 FTIP and the 2022 RTP for the analysis years are either (1) projected to be less than the approved emission budgets, or (2) less than the emission budgets using the approved PM_{2.5} and NO_x trading mechanism for transportation conformity purposes from the *2008 PM_{2.5} Plan (as revised in 2011)*. The conformity tests for PM_{2.5} for the 1997 and 2012 standards are therefore satisfied.
- For the 2006 24-hour PM_{2.5} standard, the total regional on-road vehicle-related emissions associated with implementation of the 2023 FTIP and the 2022 RTP for the analysis years are either (1) projected to be less than the approved emission budgets, or (2) less than the emission budgets using the approved PM_{2.5} and NO_x trading mechanism for transportation conformity purposes from the *2012 PM_{2.5} Plan (as revised in 2015)*. The conformity tests for PM_{2.5} for the 2006 standard are therefore satisfied.
- The 2023 FTIP and the 2022 RTP will not impede and will support timely implementation of the TCMs that have been adopted as part of applicable air quality implementation plans.

Based on the conformity analysis, the 2023 FTIP and the 2022 RTP conform to the applicable SIP and all applicable sections of the EPA's Transportation Conformity Rule.

The EPA is required by the CAA to set NAAQS for air pollutants to protect public health. The law also requires the EPA to establish air quality control regions and designate them as "attainment" for areas that comply with the NAAQS, and "nonattainment" for areas that don't. EPA's 2008 Ozone air quality standard SIP Requirements Rule established implementation requirements for the 2008 ozone NAAQS

and revoked the 1997 ozone standard and established regulatory requirements flowing from that revocation. There are 27 areas that were designated nonattainment for the 2008 ozone NAAQS that were also nonattainment for the 1997 ozone NAAQS.

The United States Court of Appeals for the District of Columbia (D.C.) Circuit issued an opinion on February 16, 2018 invalidating major components of EPA's 2008 Ozone air quality standard. The D.C. Circuit ruled that the EPA unlawfully waived statutory attainment deadlines associated with the EPA's 1997 ozone NAAQS, which the agency revoked in the 2015 rule. At the time of preparation of this Draft EIR, guidance related to the D.C. Circuit court ruling had not been issued by EPA. As a result, Conformity for the 2022 RTP/SCS does not reflect the 1997 ozone NAAQS. However, the conformity analysis will address EPA's response to the court ruling. It should be noted that significant impacts under the 1997 ozone NAAQS are not expected for the 2022 RTP/SCS since the 2008 ozone requirements are more stringent. Please note that the Conformity Finding for the 2022 RTP/SCS, and any future modifications made by MCTC once guidance is available, are incorporated herein.

MCTC and the SJVAPCD continue to make reasonable further progress, using reasonably available control technology (RACT), best available control measures (BACM), and best available retrofit technology (BARCT). Since the SJVAPCD was designated nonattainment for the 1997 ozone standard at the time of revocation, they are subject to an array of anti-backsliding requirements. As a result, the SJVAPCD remains obligated to continue to implement the emissions controls as adopted in the 2007 Ozone Plan. The SJVAPCD has adopted numerous control measures that contribute to the Valley's progress towards clean air including:

- Rule 4103 Open Burning
- Rule 4601 Architectural Coatings
- Rule 4661 Organic Solvents
- Rule 9610 State Implementation Plan Credit for Emission Reductions Generated Through Incentive Programs

✓ **State Air Quality Standards**

The SJVAPCD is one of 35 air quality management districts that have prepared air quality management plans to accomplish a five percent (5%) annual reduction in emissions documenting progress toward achievement of the State ambient air quality standards.

The SJVAPCD air quality management plans document required emissions reductions from all emissions sources, mobile and stationary. For this analysis, only on-road mobile source emissions are considered, as the 2022 RTP does not impact the implementation of any SJVAPCD regulations or

incentives on other emissions source categories. As such, this analysis will not show the entire five percent reductions required by each of the SJVAPCD plans (for each applicable pollutant), but, will show the on-road mobile source share of the five percent (5%) per year reductions resulting from each of the SJVAPCD Plans. Required reductions from all other emissions sources can be found in the applicable SJVAPCD Plan.

The 2022 RTP demonstrates compliance with the list of comprehensive regulatory and incentive-based measures contained in each plan by demonstrating that motor vehicle emissions resulting from the 2022 RTP are less than specified motor vehicle emissions “budgets” contained in the applicable SJV SIPs. To document compliance with the State air quality standards, each of these SJVAPCD plans identifies specific years in which progress toward attainment of the standard must be measured as shown in Table 3-16. These years are described as “budget years”, because each SIP identifies motor vehicle emission “budgets” that motor vehicle emissions resulting from 2022 RTP/SCS implementation cannot exceed in order to ensure continued progress toward attainment of the state standard. For on-road mobile sources, the SJVAPCD identifies the same emissions reduction strategies for both state and federal standards. Conformity demonstration with the federal standards satisfies state air quality requirements.

Documentation of this can be found in the Draft Conformity Analysis for the 2023 FTIP and 2022 RTP, which was released for public comment concurrent to the 2022 RTP and 2022 RTP EIR.

Similar to the analysis documenting compliance with federal standards, the term “budget” after scenario year represents a not to exceed value. The term base year after a scenario year in the tables below also reflects a not to exceed value against which future emissions from the 2022 RTP are measured.

For this analysis, only on-road mobile sources are considered as the 2022 RTP does not impact the implementation of any SJVAPCD regulations or incentives on other emissions source categories.

➤ **Results of the Analysis**

As shown in Tables 3-18 through 3-23, the total emissions in each scenario year for each pollutant is less than the emissions “budget” as established in the applicable SJVAPCD Plan. As previously noted, the emissions “budget” for each criteria pollutant is a “threshold” or “not to exceed” value for emissions. These tables demonstrate that the 2022 RTP contributes to positive progress toward the attainment of state ambient air quality standards. These tables also demonstrate that the 2022 RTP is consistent with the SJVAPCD plans, including their regulations and incentives relative to motor vehicle emissions budgets.

TABLE 3-18
Ozone, ROG, and NO_x Emissions Test (Summer Tons per Day)

	Emissions (Tons/Day)		% Below Budget		% Reduction/Year	
	ROG	NOX	ROG	NOX	ROG	NOX
2023 Budget	1.10	2.70	N/A	N/A	N/A	N/A
2023	1.00	2.00	9.1%	25.9%	N/A	N/A
2026 Budget	1.00	2.50	N/A	N/A	N/A	N/A
2026	0.80	1.70	20.0%	32.0%	8.3%	5.9%
2029 Budget	0.90	2.40	N/A	N/A	N/A	N/A
2029	0.70	1.50	22.2%	37.5%	4.8%	4.4%
2031 Budget	0.80	2.30	N/A	N/A	N/A	N/A
2031	0.70	1.40	12.5%	39.1%	0.0%	3.6%
2037	0.50	1.30	37.5%	43.5%	6.7%	1.3%
2046	0.50	1.20	37.5%	47.8%	0.0%	0.9%

Source: MCTC, 2022

Table 3-19 (PM₁₀) document that PM₁₀ emissions grow in 2029 and 2037. It should be noted that PM₁₀ emissions in 2029 and 2037 still remain below the motor vehicle emissions thresholds (i.e. “budget year” and “base year”); therefore, the emissions comply with the SJVAPCD plan to reduce PM₁₀ emissions. This demonstrates compliance with the state ambient air quality standards for PM₁₀.

TABLE 3-19
PM₁₀ Emissions (Annual Tons per Day)

	Emissions (Tons/Day)		% Below Budget		% Reduction/Year	
	PM10	NOX	PM10	NOX	PM10	NOX
2020 Budget	2.50	4.70	N/A	N/A	N/A	N/A
2022	1.60	2.90	36.0%	38.3%	N/A	N/A
2020 Budget	2.50	4.70	N/A	N/A	N/A	N/A
2029	1.80	1.50	28.0%	68.1%	-1.6%	13.3%
2020 Budget	2.50	4.70	N/A	N/A	N/A	N/A
2037	1.90	1.30	24.0%	72.3%	-0.7%	1.9%
2020 Budget	2.50	4.70	N/A	N/A	N/A	N/A
2046	1.60	1.20	36.0%	74.5%	2.1%	0.9%

Source: MCTC, 2022

TABLE 3-20
PM_{2.5} Emissions
1997 24-Hour Standards (Tons per Day)

	Emissions (Tons/Day)		% Below Budget		% Reduction/Year	
	PM2.5	NOX	PM2.5	NOX	PM2.5	NOX
2020 Budget	0.20	4.20	N/A	N/A	N/A	N/A
2021	0.20	2.10	0.0%	50.0%	N/A	N/A
2029	0.20	1.50	0.0%	64.3%	0.0%	6.7%
2037	0.20	1.30	0.0%	69.0%	0.0%	1.9%
2046	0.20	1.20	0.0%	71.4%	0.0%	0.9%

Source: MCTC, 2022

TABLE 3-21
PM_{2.5} Emissions
1997 Annual Standards (Tons per Day)

	Emissions (Tons/Day)		% Below Budget		% Reduction/Year	
	PM2.5	NOX	PM2.5	NOX	PM2.5	NOX
2023 Budget	0.20	2.50	N/A	N/A	N/A	N/A
2021	0.20	2.10	0.0%	16.0%	N/A	N/A
2029	0.20	1.50	0.0%	40.0%	0.0%	6.7%
2037	0.20	1.30	0.0%	48.0%	0.0%	1.9%
2046	0.20	1.20	0.0%	52.0%	0.0%	0.9%

Source: MCTC, 2022

TABLE 3-22
PM_{2.5} Emissions
2012 Annual Standards (Tons per Day)

	Emissions (Tons/Day)		% Below Budget		% Reduction/Year	
	PM2.5	NOX	PM2.5	NOX	PM2.5	NOX
2022 Budget	0.20	3.50	N/A	N/A	N/A	N/A
2022	0.20	2.90	0.0%	17.1%	N/A	N/A
2025 Budget	0.20	2.30	N/A	N/A	N/A	N/A
2025	0.20	1.90	0.0%	17.4%	0.0%	17.5%
2025 Budget	0.20	2.30	N/A	N/A	N/A	N/A
2029	0.20	1.50	0.0%	34.8%	0.0%	6.7%
2025 Budget	0.20	2.30	N/A	N/A	N/A	N/A
2037	0.20	1.30	0.0%	43.5%	0.0%	1.9%
2025 Budget	0.20	2.30	N/A	N/A	N/A	N/A
2046	0.20	1.20	0.0%	47.8%	0.0%	0.9%

Source: MCTC, 2022

TABLE 3-23
PM_{2.5} Emissions
2006 Winter 24-Hour Standards (Tons per Day)

	Emissions (Tons/Day)		% Below Budget		% Reduction/Year	
	PM2.5	NOX	PM2.5	NOX	PM2.5	NOX
2023 Budget	0.20	2.60	N/A	N/A	N/A	N/A
2023	0.20	2.20	0.0%	15.4%	N/A	N/A
2024 Budget	0.20	2.50	N/A	N/A	N/A	N/A
2024	0.20	2.00	0.0%	20.0%	0.0%	10.0%
2031	0.20	1.50	0.0%	40.0%	0.0%	4.8%
2037	0.20	1.30	0.0%	48.0%	0.0%	2.6%
2046	0.20	1.20	0.0%	52.0%	0.0%	0.9%

Source: MCTC, 2022

Emissions for criteria pollutants as a result of mobile sources from implementation of the 2022 RTP/SCS were quantified for the Year 2019, 2037, and the Year 2046 with the Project. The emissions shown in Table 3-24 account for all mobile sources within Madera County. Results of the analysis show that emissions for criteria pollutants for the Year 2046 with the Project scenario will be less than the Year 2019 scenario despite recording higher VMT. Emissions for ROG, CO, and NOX exhibit a substantial reduction of more than 50%. Emissions reductions for PM₁₀ are 7% when compared to the Year 2019 Scenario. PM_{2.5} emission reductions were determined to be 21%.

The project will result in beneficial effects of system-wide improvement in traffic flows and reduced congestion, which would reduce the potential for increased air emissions. The SJVAPCD Ozone, PM_{2.5} and PM₁₀ plans all document the SJVAPCD’s plans to achieve the State ambient air quality standards, and as such, compliance with the regulations and incentives contained in the SJVAPCD plans results in compliance with the State ambient air quality standards. Based on the air quality analysis, the 2022 RTP conforms to the applicable SIPs and demonstrates progress toward attainment with the state ambient air quality standards for PM₁₀, PM_{2.5} and Ozone. As a result, implementation of the 2022 RTP would result in a less than significant impact to PM₁₀, PM_{2.5}, and Ozone and wouldn’t impede the above referenced plans and regulations.

TABLE 3-24
 2022 RTP Criteria Pollutant Emissions

	2019	2037	2046 Build (2022 RTP/SCS Scenario 3)
VMT	4,481,373	4,547,368	4,710,390
ROG (tons/day)	1.17	0.43	0.36
CO (tons/day)	7.91	3.03	2.76
NOX (tons/day)	4.02	1.25	1.16
PM10 (tons/day)	0.30	0.27	0.28
PM2.5 (tons/day)	0.14	0.11	0.11

Source: MCTC, 2022.

Mitigation Measures

✓ **None required**

Significance After Mitigation

Not applicable.

Impact 3.4.2 - 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.

Madera County is nonattainment for Ozone (1 hour-State and 8 hour-Federal) and PM₁₀ (State) and PM_{2.5} (Federal and State). The project will result in beneficial effects of system-wide improvement in traffic flows and reduced congestion, which would reduce the potential for increased air emissions. The SJVAPCD 2016 and 2013 Ozone Plan, 2007 PM₁₀ Maintenance Plan, and the 2012 and 2018 PM_{2.5} Plan all document the SJVAPCD’s plans to achieve the State ambient air quality standards, and as such, compliance with the regulations and incentives contained in the SJVAPCD plans results in compliance with the State ambient

air quality standards. Based on the air quality analysis, the 2022 RTP conforms to the applicable SJVAPCD plans (2016 and 2013 Ozone Plan, 2007 PM₁₀ Maintenance Plan, and the 2012 and 2018 PM_{2.5} Plan) and demonstrates progress toward attainment with the State ambient air quality standards for PM₁₀, PM_{2.5} and Ozone. As a result, implementation of the 2022 RTP would result in a less than significant impact to PM₁₀, PM_{2.5}, and Ozone. While the 2022 RTP does contribute to an ongoing violation, it does not impede the above referenced plans and regulations.

Mitigation Measures

- ✓ **None required**

Significance After Mitigation

Not applicable.

Impact 3.4.3 - Expose sensitive receptors to substantial pollutant concentrations.

- ✓ **Mobile Source Air Toxics (MSAT) Background**

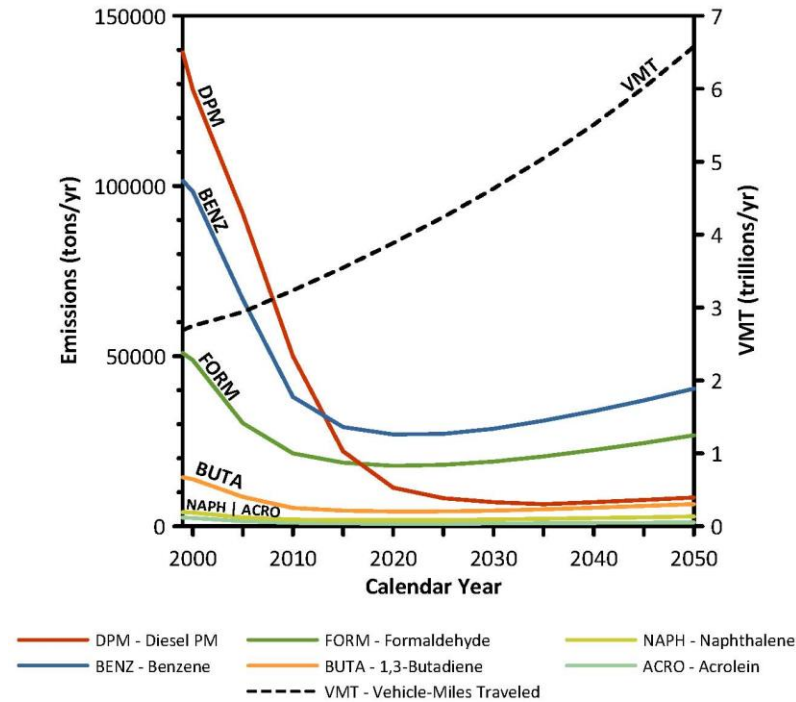
Controlling air toxic emissions became a national priority with the passage of the FCAA of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources. In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (DPM), formaldehyde, naphthalene, and polycyclic organic matter.

➤ National MSAT Trends

The 2007 EPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050, as shown in Figure 3-5 on the following page.

FIGURE 3-5

NATIONAL MSAT EMISSION TRENDS 1999 – 2050
 FOR VEHICLES OPERATING ON ROADWAYS
 USING EPA'S MOBILE6.2 MODEL



Note: (1) Annual emissions of polycyclic organic matter are projected to be 561 tons/yr for 1999, decreasing to 373 tons/yr for 2050.
 (2) Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors

➤ **Local MSAT Trends (Monitoring in Madera County)**

Estimation of Risk: CARB monitors toxics throughout California, including two sites in Fresno County: First Street and Garland Avenue. The First Street Site in Fresno County is the closest monitoring site to Madera County. Data obtained from these monitoring site between 1989 and 2005 or 2020 is shown in Tables 3-25 through 3-34. The estimated risks shown in CARB's annual toxics summaries in the tables below are estimated chronic cancer risk (acute risks and non-cancer risks are not shown) resulting from the inhalation pathway. These risks are expressed in terms of expected cancer cases per million population based on exposure to the annual mean concentration over 70 years. They are calculated using unit risk factors provided to the CARB by the California Office of Environmental Health Hazard Assessment. The data provided in the tables below show typical cancer risk levels for sensitive receptors not located near major freeways or expressways.

Based on monitoring results in Tables 3-25 through 3-34, toxic emissions are declining except for formaldehyde. To address this issue, a mitigation measure has been added to address project level impacts.

✓ **Diesel Particulate Matter (DPM) Emissions**

Vehicle DPM emissions were estimated using emission factors for particulate matter less than 10µm in diameter (PM₁₀) generated with the 2017 version of the Emission Factor model (EMFAC) developed by CARB. EMFAC 2017 is a mathematical model that was developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by CARB to project changes in future emissions from on-road mobile sources. The most recent EPA approved version of this model, EMFAC 2017, incorporates regional motor vehicle data, information and estimates regarding the distribution of vehicle miles traveled (VMT) by speed, and number of starts per day.

Several distinct emission processes are included in EMFAC 2017. Emission factors calculated using EMFAC 2017 are expressed in units of grams per vehicle miles traveled (g/VMT) or grams per idle-hour (g/idle-hr), depending on the emission process. The emission processes and corresponding emission factor units associated with diesel particulate exhaust for this Project are presented below.

For this Project, annual average PM₁₀ emission factors were generated by running EMFAC 2017 in EMFAC Mode for vehicles in Madera County. The EMFAC Model generates emission factors in terms of grams of pollutant emitted per vehicle activity and can calculate a matrix of emission factors at specific values of temperature, relative humidity, and vehicle speed. The model was run for speeds traveled along SR 41 and SR 145 within Madera County. The vehicle travel speeds for each segment was estimated to be 55 miles per hour.

PM₁₀ emissions were calculated at 20,000 and 25,000 ADT for the two segments discussed above. The highest truck percentage along each respective route was applied to the Average Daily Traffic (ADT) volumes and provides a conservative estimate for PM₁₀ emissions along any point along the route. The truck percentages were determined from Caltrans' count book. The highest truck percentages for SR 41 and SR 145 are 9% and 10%, respectively.

Tables 3-35 through 3-38 show the estimated emissions for the diesel operated vehicles that travel along SR 41 and SR 145, which are the highest volume roadways within the County. For purposes of this analysis, a half-mile segment of each freeway was evaluated for health risk impacts to sensitive receptors located 500 feet from the freeway segment. CARB recommends that new sensitive receptors should not be sited within 500 feet of a freeway.

TABLE 3-25
 City of Fresno – First Street Monitoring Site
 (1, 3, Butadiene Measurements)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan Dev.	Number of Observations	Detection Limit	Estimated Risk
2020 ^a	0.02	*	*	*	0.08	0.024	7	0.04	*
2019 ^a	0.02	0.02	0.040	0.11	0.13	0.037	29	0.04	43
2018 ^a	0.02	0.02	0.050	0.10	0.20	0.047	30	0.04	55
2017 ^a	0.02	0.02	0.055	0.10	0.22	0.052	30	0.04	59
2016 ^a	0.02	0.02	0.060	0.18	0.27	0.070	31	0.04	65
2015 ^a	0.02	0.02	0.057	0.13	0.26	0.061	30	0.04	62
2014 ^a	0.02	0.02	0.064	0.20	0.28	0.076	30	0.04	69
2013 ^a	0.02	0.02	0.092	0.20	0.37	0.093	31	0.04	100
2012 ^a	0.02	0.02	0.047	0.14	0.18	0.049	29	0.04	51
2011	0.02	0.02	0.072	0.20	0.25	0.075	30	0.04	78
2010	0.02	0.02	0.059	0.16	0.21	0.060	30	0.04	64
2009	0.02	0.02	0.084	0.26	0.34	0.097	32	0.04	91
2008	0.02	0.04	0.071	0.16	0.27	0.069	31	0.04	77
2007	0.02	0.02	0.086	0.26	0.35	0.105	29	0.04	93
2006	0.02	0.05	0.082	0.21	0.30	0.085	31	0.04	88
2005	0.02	0.07	0.101	0.29	0.47	0.117	34	0.04	109
2004	0.02	0.02	0.098	0.26	0.39	0.106	30	0.04	106
2003	0.02	0.06	0.127	0.30	0.58	0.151	31	0.04	137
2002	0.02	0.07	0.194	0.47	1.00	0.225	31	0.04	209
2001	0.02	0.10	0.182	0.42	0.90	0.226	30	0.04	197
2000	0.02	0.09	0.195	0.62	1.00	0.285	30	0.04	211
1999	0.02	0.15	0.214	0.46	0.84	0.225	31	0.04	232
1998	0.02	0.15	0.265	0.78	1.00	0.295	31	0.04	287
1997	0.02	0.14	0.233	0.71	1.00	0.268	31	0.04	252
1996	0.02	0.13	0.234	0.49	1.00	0.230	31	0.04	253
1995	0.02	0.17	0.300	0.78	1.40	0.340	30	0.04	325
1994	0.02	0.22	0.356	0.79	1.80	0.380	31	0.04	384
1993	0.02	0.20	0.342	0.84	1.40	0.347	30	0.04	370
1992	0.02	0.16	0.262	0.61	0.93	0.268	30	0.04	283
1991	0.02	0.19	0.459	1.21	1.70	0.509	30	0.04	496
1990	0.02	0.14	*	1.04	1.60	0.466	24	0.04	*
1989	*	*	*	*	*	*	0	*	*

Source: California Air Resources Board, 2022

^a Fresno's Garland Monitoring Station

* Means there was insufficient or no data available to determine the value

TABLE 3-26
 City of Fresno – First Street Monitoring Site
 (Benzene Measurements)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan Dev.	Number of Observations	Detection Limit	Estimated Risk
2020 ^a	0.10	*	*	*	0.4	0.099	7	0.05	*
2019 ^a	0.05	0.12	0.193	0.50	0.6	0.169	29	0.05	50
2018 ^a	0.06	0.18	0.266	0.53	1.5	0.285	31	0.05	69
2017 ^a	0.05	0.21	0.313	0.68	1.2	0.273	30	0.05	81
2016 ^a	0.03	0.17	0.279	0.64	0.9	0.238	31	0.05	73
2015 ^a	0.05	0.18	0.257	0.50	0.9	0.231	30	0.05	67
2014 ^a	0.03	0.16	0.270	0.59	0.9	0.237	30	0.05	70
2013 ^a	0.05	0.21	0.329	0.63	1.0	0.263	31	0.05	86
2012 ^a	0.08	0.20	0.260	0.53	0.8	0.184	29	0.05	68
2011	0.06	0.21	0.314	0.76	1.2	0.299	30	0.05	82
2010	0.05	0.23	0.260	0.58	0.7	0.195	30	0.05	68
2009	0.05	0.21	0.344	0.81	1.2	0.325	32	0.05	89
2008	0.09	0.24	0.356	0.72	1.0	0.265	31	0.05	93
2007	0.06	0.24	0.374	1.02	1.2	0.367	29	0.05	97
2006	0.05	0.27	0.387	1.00	1.4	0.342	31	0.05	101
2005	0.07	0.32	0.408	1.03	1.5	0.375	34	0.05	106
2004	0.07	0.22	0.403	0.78	1.4	0.350	30	0.05	105
2003	0.10	0.31	0.546	1.20	1.8	0.498	31	0.05	142
2002	0.08	0.27	0.631	1.50	2.2	0.574	31	0.05	164
2001	0.08	0.40	0.610	1.26	3.1	0.672	30	0.05	159
2000	0.10	0.50	0.730	1.90	3.1	0.860	30	0.20	191
1999	0.10	0.50	0.800	1.70	2.9	0.730	31	0.20	207
1998	0.10	0.50	0.830	2.30	2.8	0.830	31	0.20	215
1997	0.10	0.50	1.000	2.40	5.8	1.190	31	0.20	259
1996	0.25	0.25	0.790	1.50	3.1	0.700	33	0.50	206
1995	0.25	1.00	1.240	2.40	4.5	1.110	30	0.50	322
1994	0.25	1.00	1.440	3.10	7.6	1.550	31	0.50	375
1993	0.25	1.20	1.350	3.60	4.4	1.260	30	0.50	352
1992	0.25	1.00	1.340	2.80	3.8	1.050	30	0.50	347
1991	0.25	1.60	2.420	5.40	7.3	2.040	30	0.50	629
1990	0.25	1.30	*	5.20	5.4	1.780	24	0.50	*
1989	*	*	*	*	*	*	0	*	*

Source: California Air Resources Board, 2022

^a Fresno's Garland Monitoring Station

* Means there was insufficient or no data available to determine the value

TABLE 3-27
 City of Fresno – First Street Monitoring Site
 (Formaldehyde Measurements)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan Dev.	Number of Observations	Detection Limit	Estimated Risk
2020 ^a	0.50	*	*	*	3.8	1.13	7	0.1	*
2019 ^a	0.80	2.5	2.95	5.7	6.5	1.88	30	0.1	62
2018 ^a	0.80	3.0	3.72	6.2	9.6	2.26	32	0.1	78
2017 ^a	0.70	3.4	4.06	6.9	8.0	2.12	29	0.1	85
2016 ^a	1.20	2.9	3.58	5.9	7.4	1.69	33	0.1	75
2015 ^a	1.40	3.6	3.68	6.3	7.9	1.86	29	0.1	77
2014 ^a	0.70	3.9	3.65	5.8	7.7	1.79	30	0.1	77
2013 ^a	0.80	3.6	3.80	6.0	7.9	1.80	34	0.1	80
2012 ^a	0.70	2.9	3.34	6.4	9.2	2.30	30	0.1	70
2011	0.60	2.7	3.34	5.8	11.0	2.26	31	0.1	70
2010	0.30	2.5	3.01	5.7	9.7	2.23	29	0.1	63
2009	0.05	1.8	2.56	5.2	7.5	1.89	31	0.1	54
2008	0.70	2.9	3.13	5.1	6.8	1.65	30	0.1	66
2007	0.60	2.8	2.88	4.8	7.9	1.53	30	0.1	61
2006	0.60	3.2	3.41	5.5	8.8	1.90	31	0.1	72
2005	0.70	2.5	3.00	6.0	6.9	1.88	33	0.1	63
2004	1.00	2.2	2.57	3.9	5.0	1.15	31	0.1	54
2003	0.70	3.9	3.72	6.0	8.0	1.94	33	0.1	78
2002	1.10	3.5	4.16	5.6	18.0	3.20	32	0.1	87
2001	1.20	3.3	4.32	5.4	26.0	4.43	30	0.1	91
2000	0.90	2.6	3.56	6.4	7.9	1.92	28	0.1	75
1999	0.05	3.6	*	7.2	8.8	2.26	24	0.1	*
1998	0.05	3.4	3.42	5.9	7.2	1.91	27	0.1	72
1997	0.90	3.6	*	5.6	6.4	1.47	18	0.1	*
1996	0.50	3.4	*	7.8	8.4	2.26	22	0.1	*
1995	0.40	2.3	2.41	4.1	8.3	1.79	31	0.1	51
1994	0.20	1.8	2.01	4.0	7.4	1.61	31	0.1	42
1993	0.60	1.3	1.64	3.4	4.5	1.16	26	0.1	35
1992	0.50	1.5	*	4.3	5.3	1.57	21	0.1	*
1991	0.40	1.9	2.32	4.9	7.7	1.88	27	0.1	49
1990	0.05	1.3	*	5.4	9.0	2.32	23	0.1	*
1989	*	*	*	*	*	*	0	*	*

Source: California Air Resources Board, 2022

^a Fresno's Garland Monitoring Station

* Means there was insufficient or no data available to determine the value

TABLE 3-28
 City of Fresno – First Street Monitoring Site
 (Acrolein Measurements)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan Dev.	Number of Observations	Detection Limit
2020 ^a	0.15	*	*	*	0.4	0.14	5	0.3
2019 ^a	0.15	0.4	0.44	0.9	1.8	0.38	29	0.3
2018 ^a	0.15	0.4	0.31	0.4	0.6	0.13	31	0.3
2017 ^a	0.15	0.2	0.30	0.4	1.0	0.19	30	0.3
2016 ^a	0.15	0.4	*	0.5	0.6	0.15	27	0.3
2015 ^a	0.15	0.3	0.40	0.9	1.3	0.33	29	0.3
2014 ^a	0.15	0.6	0.81	2.0	3.1	0.71	29	0.3
2013 ^a	0.15	0.7	0.84	1.2	3.3	0.63	28	0.3
2012 ^a	0.30	0.6	0.77	1.1	2.7	0.54	28	0.3
2011	0.30	0.7	1.13	3.2	4.6	1.19	30	0.3
2010	0.15	0.6	0.64	0.8	3.5	0.57	30	0.3
2009	0.15	0.7	0.74	0.9	1.9	0.35	32	0.3
2008	0.40	0.5	0.57	0.8	1.1	0.18	31	0.3
2007	0.15	0.4	0.51	0.8	2.2	0.38	29	0.3
2006	0.15	0.5	0.49	0.8	1.1	0.23	31	0.3
2005	0.15	0.4	0.41	0.6	0.9	0.21	34	0.3
2004	0.15	0.5	0.54	0.8	1.6	0.29	29	0.3
2003	0.15	0.7	*	1.1	1.4	0.33	15	0.3

Source: California Air Resources Board, 2022

^a Fresno's Garland Monitoring Station

* Means there was insufficient or no data available to determine the value

TABLE 3-29
 City of Fresno – First Street Monitoring Site
 (Benzo(a)pyrene-10)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan Dev.	Number of Observations	Detection Limit	Estimated Risk
2005	0.130	*	*	*	0.63	0.198	5	0.05	*
2004	0.025	0.025	0.210	0.63	2.00	0.415	30	0.05	0.70
2003	0.025	0.025	0.414	1.20	2.90	0.795	31	0.05	1.00
2002	0.025	0.025	0.466	1.52	2.70	0.729	30	0.05	1.00
2001	0.025	0.110	0.501	1.00	4.30	1.100	31	0.05	2.00
2000	0.025	0.025	0.491	1.15	4.60	1.080	30	0.05	2.00
1999	0.025	0.025	0.533	2.02	4.10	1.100	30	0.05	2.00
1998	0.025	0.060	0.618	2.40	4.30	1.180	31	0.05	2.00
1997	0.025	0.060	0.562	1.59	4.60	1.040	30	0.05	2.00
1996	0.025	0.025	0.515	2.60	3.00	1.020	24	0.05	2.00
1995	0.025	0.100	0.533	1.21	3.60	0.964	24	0.05	2.00
1994	0.025	0.510	*	2.61	5.50	1.500	14	0.05	*
1993	0.025	0.100	1.240	4.17	6.20	1.930	24	0.05	4.00
1992	0.025	0.080	0.624	2.19	4.70	1.180	24	0.05	2.00
1991	0.025	0.180	0.885	3.81	4.80	1.530	24	0.05	3.00
1990	0.025	0.070	*	1.52	23.00	5.380	18	0.05	*
1989	*	*	*	*	*	*	0	*	*

Source: California Air Resources Board, 2022

* Means there was insufficient or no data available to determine the value

TABLE 3-30
 City of Fresno – First Street Monitoring Site
 (Benzo(b)fluoranthene-10)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan Dev.	Number of Observations	Detection Limit	Estimated Risk
2005	0.220	*	*	*	0.63	0.159	5	0.05	*
2004	0.025	0.025	0.258	0.81	2.30	0.469	30	0.05	0.03
2003	0.025	0.070	0.436	1.10	3.00	0.732	31	0.05	0.05
2002	0.025	0.025	0.508	1.31	3.00	0.774	30	0.05	0.06
2001	0.025	0.140	0.579	1.30	5.20	1.180	31	0.05	0.06
2000	0.025	0.080	0.551	1.27	4.50	1.150	30	0.05	0.06
1999	0.025	0.090	0.584	2.23	4.20	1.120	30	0.05	0.06
1998	0.025	0.120	0.621	2.40	3.80	1.010	31	0.05	0.07
1997	0.025	0.100	0.722	1.69	7.10	1.430	30	0.05	0.08
1996	0.025	0.090	0.489	2.06	2.80	0.877	24	0.05	0.05
1995	0.025	0.150	0.538	1.07	3.00	0.825	24	0.05	0.06
1994	0.100	0.770	*	3.10	5.50	1.510	14	0.05	*
1993	0.025	0.160	1.290	4.12	5.10	1.730	24	0.05	0.10
1992	0.025	0.140	0.718	2.41	5.20	1.260	24	0.05	0.08
1991	0.060	0.260	0.999	3.54	5.10	1.510	24	0.05	0.10
1990	0.050	0.150	*	1.77	22.00	5.120	18	0.05	*
1989	*	*	*	*	*	*	0	*	*

Source: California Air Resources Board, 2022

* Means there was insufficient or no data available to determine the value

TABLE 3-31
 City of Fresno – First Street Monitoring Site
 (Benzo(g, h, i)perylene-10)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan Dev.	Number of Observations	Detection Limit
2005	0.330	*	*	*	0.91	0.239	5	0.05
2004	0.025	0.11	0.442	1.11	3.90	0.812	30	0.05
2003	0.025	0.10	0.618	1.60	3.90	1.030	31	0.05
2002	0.025	0.11	0.629	1.92	2.80	0.815	30	0.05
2001	0.025	0.23	0.720	1.70	5.80	1.250	31	0.05
2000	0.025	0.16	0.738	1.77	5.30	1.340	30	0.05
1999	0.025	0.15	0.783	2.68	4.80	1.320	30	0.05
1998	0.025	0.26	0.718	2.20	4.10	1.110	31	0.05
1997	0.025	0.24	1.100	2.34	9.20	1.920	30	0.05
1996	0.025	0.21	0.657	2.28	3.70	1.020	24	0.05
1995	0.025	0.33	0.911	2.42	3.80	1.100	24	0.05
1994	0.270	1.40	*	4.52	6.00	1.780	14	0.05
1993	0.100	0.33	1.820	5.35	6.60	2.240	24	0.05
1992	0.025	0.23	0.904	2.75	5.20	1.360	24	0.05
1991	0.070	0.48	1.490	5.42	6.90	2.130	24	0.05
1990	0.110	*	*	*	15.00	4.960	8	0.05
1989	*	*	*	*	*	*	0	*

Source: California Air Resources Board, 2022

* Means there was insufficient or no data available to determine the value

TABLE 3-32
 City of Fresno – First Street Monitoring Site
 (Benzo(k)fluoranthene-10)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan Dev.	Number of Observations	Detection Limit	Estimated Risk
2005	0.100	*	*	*	0.26	0.065	5	0.05	*
2004	0.025	0.025	0.117	0.34	1.00	0.202	30	0.05	0.04
2003	0.025	0.025	0.209	0.50	1.50	0.354	31	0.05	0.07
2002	0.025	0.025	0.227	0.64	1.30	0.333	30	0.05	0.07
2001	0.025	0.060	0.249	0.49	2.10	0.495	31	0.05	0.08
2000	0.025	0.025	0.234	0.54	1.90	0.485	30	0.05	0.07
1999	0.025	0.025	0.250	0.95	1.80	0.481	30	0.05	0.08
1998	0.025	0.025	0.266	1.10	1.60	0.452	31	0.05	0.08
1997	0.025	0.025	0.270	0.69	2.20	0.482	30	0.05	0.09
1996	0.025	0.025	0.210	0.88	1.20	0.380	24	0.05	0.07
1995	0.025	0.060	0.251	0.52	1.50	0.402	24	0.05	0.08
1994	0.025	0.310	*	1.28	2.20	0.614	14	0.05	*
1993	0.025	0.070	0.563	1.74	2.40	0.789	24	0.05	0.20
1992	0.025	0.050	0.313	1.10	2.30	0.570	24	0.05	0.10
1991	0.025	0.100	0.395	1.42	2.30	0.658	24	0.05	0.10
1990	0.025	0.025	*	0.83	9.60	2.240	18	0.05	*
1989	*	*	*	*	*	*	0	*	*

Source: California Air Resources Board, 2022

* Means there was insufficient or no data available to determine the value

TABLE 3-33
 City of Fresno – First Street Monitoring Site
 (Dibenz(a, h)anthracene-10)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan Dev.	Number of Observations	Detection Limit	Estimated Risk
2005	0.025	*	*	*	0.11	0.035	5	0.05	*
2004	0.025	0.025	0.049	0.10	0.34	0.062	30	0.05	0.02
2003	0.025	0.025	0.075	0.23	0.41	0.104	31	0.05	0.03
2002	0.025	0.025	0.086	0.25	0.34	0.097	30	0.05	0.03
2001	0.025	0.025	0.080	0.23	0.58	0.136	31	0.05	0.03
2000	0.025	0.025	0.073	0.15	0.62	0.129	30	0.05	0.03
1999	0.025	0.025	0.078	0.25	0.73	0.145	30	0.05	0.03
1998	0.025	0.025	0.059	0.15	0.39	0.076	31	0.05	0.02
1997	0.025	0.025	0.066	0.13	0.52	0.101	30	0.05	0.03
1996	0.025	0.025	0.046	0.12	0.21	0.049	24	0.05	0.02
1995	0.025	0.025	0.045	0.07	0.21	0.051	24	0.05	0.02
1994	0.025	0.050	*	0.19	0.35	0.094	14	0.05	*
1993	0.025	0.025	0.119	0.34	0.43	0.135	24	0.05	0.05
1992	0.025	0.025	0.067	0.17	0.33	0.082	24	0.05	0.03
1991	0.025	0.025	0.133	0.36	0.72	0.179	24	0.05	0.05
1990	0.060	*	*	*	6.60	2.270	8	0.05	*
1989	*	*	*	*	*	*	0	*	*

Source: California Air Resources Board, 2022

* Means there was insufficient or no data available to determine the value

TABLE 3-34
 City of Fresno – First Street Monitoring Site
 (Indeno(1,2,3-cd)pyrene-10)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan Dev.	Number of Observations	Detection Limit	Estimated Risk
2005	0.250	*	*	*	0.75	0.196	5	0.05	*
2004	0.025	0.025	0.270	0.87	2.00	0.442	30	0.05	0.09
2003	0.025	0.060	0.430	1.20	2.60	0.665	31	0.05	0.10
2002	0.025	0.025	0.515	1.31	2.80	0.766	30	0.05	0.20
2001	0.025	0.210	0.625	1.50	4.90	1.180	31	0.05	0.20
2000	0.025	0.090	0.585	1.56	4.30	1.120	30	0.05	0.20
1999	0.025	0.110	0.619	2.50	4.10	1.120	30	0.05	0.20
1998	0.025	0.160	0.698	2.70	4.00	1.090	31	0.05	0.20
1997	0.025	0.110	0.697	1.78	6.20	1.270	30	0.05	0.20
1996	0.025	0.100	0.509	2.14	2.90	0.871	24	0.05	0.20
1995	0.025	0.180	0.618	1.47	3.10	0.857	24	0.05	0.20
1994	0.130	0.790	*	2.58	4.70	1.260	14	0.05	*
1993	0.060	0.170	1.240	3.77	4.90	1.640	24	0.05	0.40
1992	0.025	0.160	0.809	2.78	5.60	1.370	24	0.05	0.30
1991	0.050	0.400	1.100	3.53	4.80	1.500	24	0.05	0.40
1990	0.025	*	*	*	26.00	8.830	8	0.05	*
1989	*	*	*	*	*	*	0	*	*

Source: California Air Resources Board, 2022

* Means there was insufficient or no data available to determine the value

TABLE 3-35
2046 Build (2022 RTP/SCS) Mobile Source Emissions
SR 41 – 20,000 ADT

Pollutant	Vehicle Type	EMFAC Vehicle Class	Average Daily Trips (trips/day)	Total Annual Trips (trips/yr)	Trip Distance (miles)	Emission Factors ⁽¹⁾ (gms/mile)	Emission Factors (lbs/VMT)	Annual Emissions (lbs/mile/yr)	Maximum Daily Emission Estimate (lbs/day)	Annual Average Emission Estimate (tons/yr)
PM ₁₀ Exhaust	State Highway Trucks	T7	1,800	657,000	0.5	0.017	3.803E-05	50.0	0.034	0.0053
Total PM₁₀ Emissions								50.0	0.0342	0.0053

References:

(1) Emission Factors source: EMFAC2017 for Fresno County Year 2045, for speed distribution of 55 mph

TABLE 3-36
2046 Build (2022 RTP/SCS) Mobile Source Emissions
SR 41 – 25,000 ADT

Pollutant	Vehicle Type	EMFAC Vehicle Class	Average Daily Trips (trips/day)	Total Annual Trips (trips/yr)	Trip Distance (miles)	Emission Factors ⁽¹⁾ (gms/mile)	Emission Factors (lbs/VMT)	Annual Emissions (lbs/mile/yr)	Maximum Daily Emission Estimate (lbs/day)	Annual Average Emission Estimate (tons/yr)
PM ₁₀ Exhaust	State Highway Trucks	T7	2,250	821,250	0.5	0.017	3.803E-05	62.5	0.043	0.0067
Total PM₁₀ Emissions								62.5	0.0428	0.0067

References:

(1) Emission Factors source: EMFAC2017 for Fresno County Year 2045, for speed distribution of 55 mph

TABLE 3-37
2046 Build (2022 RTP/SCS) Mobile Source Emissions
SR 145 – 20,000 ADT

Pollutant	Vehicle Type	EMFAC Vehicle Class	Average Daily Trips (trips/day)	Total Annual Trips (trips/yr)	Trip Distance (miles)	Emission Factors ⁽¹⁾ (gms/mile)	Emission Factors (lbs/VMT)	Annual Emissions (lbs/mile/yr)	Maximum Daily Emission Estimate (lbs/day)	Annual Average Emission Estimate (tons/yr)
PM ₁₀ Exhaust	State Highway Trucks	T7	2,000	730,000	0.5	0.017	3.803E-05	55.5	0.038	0.0059
Total PM₁₀ Emissions								55.5	0.0380	0.0059

References:

(1) Emission Factors source: EMFAC2017 for Fresno County Year 2045, for speed distribution of 55 mph

TABLE 3-38
 2046 Build (2022 RTP/SCS) Mobile Source Emissions
 SR 145 – 25,000 ADT

Pollutant	Vehicle Type	EMFAC Vehicle Class	Average Daily Trips (trips/day)	Total Annual Trips (trips/yr)	Trip Distance (miles)	Emission Factors ⁽¹⁾ (gms/mile)	Emission Factors (lbs/VMT)	Annual Emissions (lbs/mile/yr)	Maximum Daily Emission Estimate (lbs/day)	Annual Average Emission Estimate (tons/yr)
PM ₁₀ Exhaust	State Highway Trucks	T7	2,500	912,500	0.5	0.017	3.803E-05	69.4	0.048	0.0074
Total PM₁₀ Emissions								69.4	0.0475	0.0074

References:

(1) Emission Factors source: EMFAC2017 for Fresno County Year 2045, for speed distribution of 55 mph

The modeling of emissions for this Project follows District draft guidance from the SJVAPCD. The AERMOD air dispersion model was used to estimate the dispersion of the TAC emissions from the project. Receptors of primary interest for this analysis are those that generate the highest risk as it relates to diesel truck traffic along SR 41 and SR 145, since these corridors are adjacent to densely populated areas in Madera County. A 10-year research program (California Air Resources Board 1998) demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

The meteorological data that was used in the analysis comes from the Madera station and is published by the District. The data from the Madera station, which is located near the Madera Municipal Airport, includes four years of data from 2012 through 2016. The data from the Madera station provides the best available data for the area.

The assessment of mobile source DPM health risks followed an alternative procedure that uses AERMOD directly and bypasses HARP. The following procedure was used to assess risk for DPM:

- DPM emissions were modeled using AERMOD to determine annual average ground-level concentrations.
- Annual average DPM ground-level concentrations were then multiplied by the following factor:

$$\text{SlopeFactor} \times \frac{C_{\text{air}} \times \text{DBR} \times A \times \text{EF} \times \text{ED} \times 10^{-6}}{\text{AT}}$$

Where:

Slope Factor = 1.1

DBR = 393

A = 1

EF = 350 d/y

ED = 70 yr

10⁻⁶ = micrograms to milligrams conversion

AT = 25,550 days

- The resultant will be the cancer risk for each source and receptor combination modeled.

The maximum predicted lifetime excess cancer risk for the modeled sensitive receptor that produced the highest risk is shown in Table 3-39. As shown, the cancer risk values are below the significance threshold of 10 in one million for each segment with 25,000 ADT or less assuming that the highest truck percentage applies to the entire corridor. So, for corridors with segments greater than 25,000 ADT and 20% truck traffic, the cancer risk may be present. Sensitive receptors located within 500 feet of freeway segments that have a greater than 25,000 ADT are potentially at risk, as well as those segments with high truck volumes that may have less than a 25,000 ADT. It should be noted that current traffic within the City of Madera along SR 99 exceeds 80,000 ADT. Sensitive receptors located within 500 feet of SR 99 are presently at risk given the high percentage of truck traffic (26% of ADT).

TABLE 3-39

Maximum Human Health Risk Assessment Results

Scenario	Maximum Cancer Risk (in one million)	
	SR 41	SR 145
20,000 ADT	3.2	3.3
25,000 ADT	4.8	4.9

Bold denotes exceedance of significance threshold

Source: VRPA Technologies, 2022

Diesel Particulate emissions were quantified for the Madera County portions of SR 41, SR 99, SR 145, and SR 152 to determine the impacts of diesel particulate matter (PM₁₀ and PM_{2.5}) on the residents of Madera County. Future projected emissions were compared to existing baseline emissions to determine if diesel particulate emissions increase over time as a result of the 2022 RTP.

The highest average daily trip (ADT) volumes from Caltrans' 2020 counts and the highest ADT projections from the MCTC model for the year 2046 (2022 RTP/SCS) for each of the corridors was used to determine the daily VMT for the SR 41, SR 99, SR 145, and SR 152 corridors within Madera County for the year 2019 and 2046. To develop a "worst case" emissions estimate, the highest percentage of truck traffic along the SR 41, SR 99, SR 145, and SR 152, which was determined from Caltrans' 2020 counts, was then multiplied by the ADT volumes for the year 2019 and 2046. This yielded the average daily truck trips for the SR 41, SR 99, SR 145, and SR 152 corridors. The average daily truck trips for the year 2019 and 2046 were then multiplied by the total length of each corridor within Madera County (43 miles for SR 41, 29 miles for SR 99, 25 miles for SR 145, and 16 miles for SR 152). The resultant was the estimated daily VMT for trucks along the SR 41, SR 99, SR 145, and SR 152 corridors. This approach is deemed conservative, as all other SR 41, SR 99, SR 145, and SR 152 segments have truck volumes less than or equal to the highest segment respectively. This approach assumes the highest truck volumes occur across all segments of SR 41, SR 99, SR 145, and SR 152 in Madera County.

As all trucks are not diesel and do not emit diesel particulate, EMFAC2017 was utilized to determine the percentage of trucks that were diesel. EMFAC2017 emissions rates were then utilized to quantify diesel particulate running exhaust emissions on the SR 41, SR 99, SR 145, and SR 152 corridors for the years 2019 and the 2046. Table 3-40 shows the results of the analysis.

Results of the analysis show that PM₁₀ emissions for the Project (2022 RTP/SCS Scenario 3) are anticipated to be less than the PM₁₀ emissions for the Year 2019 despite the increase in average daily truck trips. Though average daily truck trips increase, diesel exhaust emissions are expected to decrease as new technologies become available.

Mitigation Measure

The specific impacts on air quality will be evaluated as part of the implementing agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

TABLE 3-40
 Running Emissions Summary

SR 41 Diesel Emissions (tons/day)		
	2019	2046
Diesel PM10	0.0113	0.0050
Diesel PM2.5	0.0108	0.0048
VMT per day	122,300	204,700
SR 99 Diesel Emissions (tons/day)		
Diesel PM10	0.0550	0.0244
Diesel PM2.5	0.0526	0.0233
VMT per day	595,700	996,800
SR 145 Diesel Emissions (tons/day)		
Diesel PM10	0.0036	0.0016
Diesel PM2.5	0.0034	0.0015
VMT per day	39,000	65,300
SR 152 Diesel Emissions (tons/day)		
Diesel PM10	0.0060	0.0026
Diesel PM2.5	0.0057	0.0025
VMT per day	64,500	107,900

Source: VRPA, 2022

- ✓ **AQ 3.4.3-1** As air toxics research continues, implementing agencies should utilize the tools and techniques that are developed for assessing health outcomes as a result of lifetime MSAT exposure. The potential health risks posed by MSAT exposure should continue to be factored into project-level decision-making in the context of environmental review. Specifically, at the project level, implementing agencies shall require or perform air toxic risk assessments to determine mobile source air toxic impacts.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce health risk impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategy intended to avoid or reduce the significant impacts identified.

Impact 3.4.4 - Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

Implementation of the RTP would not directly create or generate objectionable odors. Persons residing in the immediate vicinity of proposed transportation improvements and future land use developments may be subject to odors typically associated with roadway construction activities (diesel exhaust, hot asphalt, etc.), and odor-generating land uses. Any odors generated by construction activities would be minor and would be short and temporary in duration. However, objectionable odors generated by future land uses; especially land uses such as landfills, wastewater treatment plants, or industrial processing facilities, may occur. This potential impact is considered *significant* and unavoidable.

Mitigation Measure

- ✓ **AQ 3.4.4-1** Implementing agencies should require assessment of new and existing odor sources for transportation improvement projects and future land use development projects to determine whether sensitive receptors would be exposed to objectionable odors and apply recommended applicable mitigation measures as defined by the applicable local air district and best practices.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce objectionable odor impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific

circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategy intended to avoid or reduce the significant impacts identified.

3.5 BIOTIC RESOURCES

Madera County contains a wealth of biotic resources due to the county's varied topography and climatic conditions. Numerous government agencies are tasked with identifying and protecting those resources, which are described later. Because transportation facilities may have an impact on special-status animals, plants and habitats, this section addresses the current status of those biological resources and assesses the potential impacts from region-wide construction of transportation facilities.

Regulatory Setting

Federal Regulations

- ✓ **Clean Water Act (CWA)** - The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States. It gives the U.S. Environmental Protection Agency the authority to implement pollution control programs such as setting wastewater standards for industry. The CWA also contains requirements to set water quality standards for all contaminants in surface waters. The Act makes it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit is obtained under its provisions.

- ✓ **Federal Endangered Species Act (ESA)** -The Endangered Species Act provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The U.S. Fish and Wildlife Service (USFWS) maintains the list of endangered and threatened species.

- ✓ **National Environmental Policy Act (NEPA)** - The National Environmental Policy Act (NEPA) provides general information on effects of federally-funded projects. The Act was implemented by regulations included in the Code of Federal Regulations (40CFR6). The code requires careful consideration concerning environmental impacts of federal actions or plans, including projects that receive federal funds. The regulations address impacts on land uses and conflicts with State, regional, or local plans and policies, among others. They also require that projects requiring NEPA review seek to avoid or minimize adverse effects of proposed actions, and also to restore and enhance environmental quality as much as possible.

- ✓ **Migratory Bird Treaty Act (16 USC Section 703-711)** - The Migratory Bird Treaty Act (MBTA) of 1918, implemented by the USFWS, is an international treaty that makes it unlawful to take, possess, buy, sell, purchase, or barter, any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs or products, except as allowed by implementing regulations (50 CFR 21). The MBTA requires that project-related disturbance at active nesting territories be reduced (but does not

regulate impacts to the species' habitats) or eliminated during critical phases of the nesting cycle (February 1st to August 31st, annually).

- ✓ **Bald and Golden Eagle Protection Act (16 USC Section 668)** - The Bald and Golden Eagle Protection Act provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds. If compatible with the preservation of bald and golden eagles, the Secretary may permit the taking, possession and transportation of bald and golden eagles and nests for scientific or religious purposes, or for the protection of wildlife, agricultural or other interests. The Secretary of the Interior may authorize the taking of golden eagle nests, which interfere with resource development or recovery operations. Bald eagles may not be taken for any purpose unless the Secretary issues a permit prior to the taking.
- ✓ **Executive Order 11990, Protection of Wetlands (May 24, 1977)** - This Executive Order establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On projects with federal actions or approvals, impacts on wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm to those wetlands must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding in the final environmental document for a proposed individual improvement project.
- ✓ **Emergency Wetland Resources Act of 1986 (EWRA)** - This act promotes the conservation of wetlands. It mandates that the UUSFWS intensify cooperative efforts to manage, conserve, and protect wetlands.
- ✓ **Invasive Species – Executive Order No. 13112** – Executive Order 12112 was implemented in 1999. It prevents activities that promote the introduction and spread of invasive species. This executive order prohibits federal agencies from authorizing, funding, or carrying out actions that are likely to contribute to the introduction and spread of invasive species unless all feasible mitigation measures have been analyzed and considered.
- ✓ **Section 10 of the Rivers and Harbors Act (33 USC 401 et seq.)** - Section 10 of the Rivers and Harbors Act is administered by the ACOE. This Section requires permits in navigable waters of the United States for all structures such as riprap and activities such as dredging. Navigable waters are defined as those subject to the ebb and flow of the tide and susceptible to use in their natural condition or by reasonable improvements as means of interstate transport or foreign commerce. The ACOE grants or denies permits based on the effects on navigation. Most activities covered under this act are also covered under Section 404 of the CWA.

- ✓ **Fish and Wildlife Coordination Act (16 USC 661-666)** - The Fish and Wildlife Coordination Act (FWCA) applies to federal projects where the waters of any stream or other body of water are impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with the USFWS and the California Department of Fish and Wildlife (CDFW). These agencies prepare reports and recommendations that document project effects on wildlife and identify measures that may be adopted to prevent loss or damage to plant and animal resources. Provisions of the FWCA are implemented through the NEPA and Section 404 permit processes.
- ✓ **Section 401 of the Federal Clean Water Act (CWA) (1972)** - Section 401 requires that all activity that may result in discharges into the waters of the United States must be certified by the applicable Regional Water Quality Control Board (RWQCB) prior to receiving a federal permit or license. Madera County falls within the Central Valley's regional control board (Region 5).
- ✓ **Section 404 of the Federal CWA** - Section 404 regulates the discharge of dredged and fill materials into water of the United States. The U.S. Army Corps of Engineers (USACOE) has permits that can authorize activities in the waters of the United States that are in compliance with standard conditions. The USACOE is in charge of administering Section 404.

Federal Agencies

- ✓ **U.S. Bureau of Land Management (BLM)** - The U.S. Bureau of Land Management (BLM) manages large rural land areas, including land that is environmentally sensitive. The BLM governs uses that are allowed on land that it manages, striving to balance environmental protection and conservation goals with other uses such as recreation and grazing.
- ✓ **U.S. Forest Service (USFS)** - The U.S. Forest Service (USFS) is responsible for the management and conservation of large areas of National Forest land. National forests are primarily managed for outdoor recreation uses (such as camping, hiking, fishing, hunting, skiing, and nature interpretation, among others) and for resource preservation by the USFS.
- ✓ **U.S. Fish and Wildlife Service (USFWS)** - The U.S. Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (FESA), which designates critical habitat for endangered species. This enables USFWS to carry out its mission to conserve, protect, and enhance the nation's fish and wildlife and their habitats for the continuing benefit of people. Critical habitat areas cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The USFWS also manages a system of land and waters for the conservation of wildlife and associated ecosystems. These National Wildlife Refuges are primarily managed for the preservation and protection of unique or important resources and ecosystems.

- ✓ **U.S. Army Corps of Engineers (ACOE)** - The U.S. Army Corps of Engineers (ACOE) is responsible for administration of Section 404 of the Clean Water Act (CWA), which governs specified activities in waters of the United States, including wetlands. In this role, the ACOE requires that permits be obtained for projects whose plans would place structures, including dredged or filled materials, within navigable waters or wetlands, or result in alteration of such areas.
- ✓ **Council on Environmental Quality (CEQ) and U.S. Environmental Protection Agency (US EPA)** - NEPA mandates that the federal government shall give appropriate consideration to potential adverse environmental impacts of their major actions, including impacts to biological resources. The Council on Environmental Quality oversees NEPA, and the EPA carries out administrative aspects of the NEPA process.

State Regulations

- ✓ **California Environmental Quality Act (CEQA)** - CEQA defines a significant impact on the environment as a substantial, or potentially substantial, adverse change in the physical conditions within the area affected by the project.
- ✓ **Title 14 (460 of the California Code of Regulations)** – Title 14 establishes the regulations regarding the take of furbearing mammals. Under Title 14, take is prohibited for several fur bearing mammals including desert kit fox and red fox.
- ✓ **California Porter-Cologne Water Quality Control Act (1969)** – This act grants the State Water Resources Control Board ultimate control authority over water quality policies for California. The RWQCBs oversee water quality on local and regional levels and regulate discharges in bodies of water within the state.
- ✓ **California Wild and Scenic Rivers Act (1972)** – This act strives to preserve rivers possessing extraordinary scenic, reaction, fishery, or wildlife values. It provides protection from development that may prove harmful to the state’s most outstanding free flowing rivers.
- ✓ **California Desert Native Plant Act (1981)** – This act aims to preserve and enhance desert native plants by prohibiting unlawful harvesting of certain species on both private and public properties. The act specifies that no person shall harvest, transport, or possess certain native desert plants without authorization.
- ✓ **Natural Community Conservation Planning Act of 1991 (amended)** – This act was amended in 2003 and establishes the Natural Community Conservation Planning program with the purpose of

protecting and perpetuating the state's biological diversity. The act provides for the protection of plants, animals, and their habitats while allowing appropriate economic development.

- ✓ **State Senate Concurrent Resolution No. 17** – Relative to Oak Woodlands – the State Senate Concurrent Resolution No. 17 requires all state agencies that have land use planning responsibilities to assess the effects of their land use decisions within any oak woodlands containing blue oak, Engelmann oak, valley oak, or coast live oak. Oak woodlands are defined as a five-acre circular area containing five or more oak trees per acre. This act requires state agencies to protect the oak woodlands under their jurisdictions and provide replacement plantings where the specified species of oaks are removed from oak woodlands.

- ✓ **State Wildlife Action Plan (SWAP)** – California's SWAP provides comprehensive wildlife conservation strategies aimed at the preservation of the state's high level of biodiversity. The most current California SWAP (2015) focuses on conservation using an approach that is harmonious with the increasing human population and the shifting climate conditions. SWAP 2015 provides an outline of necessary actions to preserve California's aquatic, marine, and terrestrial resources.

- ✓ **California Fish and Game Code**
 - **Section 1600 (Lake and Streambed Alteration Agreement)**

Defines one of CDFW's responsibilities as protecting streams, water bodies, and riparian corridors through the Lake and Streambed Alteration Agreement (LSA) process under Section 1601 to 1606. These sections stipulate that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying the Department, incorporating necessary mitigation, and obtaining a LSA. CDFW's jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

 - **Section 1900-1913 (Native Plants)**

The Native Plant Protection Act (NPPA) directs the CDFW to preserve, protect, and enhance rare and endangered plants in California. The NPPA gives the CDFW Commission the power to designate native plants as "endangered" or "rare" and protects endangered and rare plants from take.

 - **Section 2050-2116 (California Endangered Species Act—CESA)**

CESA prohibits "take" of any species that the CDFW Commission determines to be an endangered species or a threatened species. Take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project-caused losses of listed species populations and their essential habitats.

- **Section 3503 (Birds of Prey)**
Prohibits the destruction of bird eggs and nests except as otherwise provided for in the Code. Section 3503.5 prohibits “take,” possession, or destruction of any raptor (bird of prey species in the orders Falconiformes and Strigiformes), including their nests or eggs. Violations of this law include destruction of active raptor nests as a result of tree removal and disturbance to nesting pairs by nearby human activity that causes nest abandonment and reproductive failure.

- **Section 3551, 4700, 5050, 5515, Fully Protected Species**
These sections severed at California’s initial effort to identify and provide additional support for animals that were identified as endangered and possibly facing extinction. Lists were created for fish, amphibians/ reptiles, birds, and mammals. These section state that species identified as fully protected may not be taken or possessed at any time without necessary permits for scientific research or relocation.

- **Section 2800 (Natural Community Conservation Planning Program—NCCP)**
The NCCP Program aims at protecting many species using an ecosystem approach to habitat preservation and protection.

- **Section 3513 (Migratory Birds)**
Prohibits the taking of migratory birds as designated in the USFWS MBTA (see above under Federal Regulations.)

State Agencies

- ✓ **California Department of Forestry and Fire Protection (CDF)** - The California Department of Forestry and Fire Protection (CDF) reviews and approves plans for timber harvesting on private lands. In addition, the CDF plays a role in planning development in forested areas as a part of its responsibility for fighting wild land fires.

- ✓ **California Department of Parks and Recreation (CDPR)** - The principal mission of the California Department of Parks and Recreation (CDPR) is to provide sites for a variety of recreational and outdoor activities to California residents and tourists. Natural resource management and protection is also a part of the mission of CDPR. Different park designations dictate the extent to which natural resources are a management priority; natural preserves, State parks, State reserves and State wilderness designations are terms which indicate that an area has outstanding natural features. The CDPR is a trustee agency that owns and operates all State parks and participates in land use planning affecting State park land.

- ✓ **California Department of Fish and Wildlife (CDFW)** - The California Department of Fish and Wildlife Service (CDFW) is mandated to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. In particular, CDFW is required under the California Endangered Species Act, the California Native Plant Protection Act, the California Environmental Quality Act, and the Natural Community Conservation Planning Act to conserve species through listing, habitat acquisition and protection, review of local land use planning, multi-species conservation planning, stewardship, recovery, research, and education. The CDFW protects rare, threatened and endangered species by managing habitats in legally designated ecological preserves or wildlife areas of the jurisdiction.

- ✓ **Regional Water Quality Control Board (RWQCB)** - The RWQCB is the primary agency responsible for protecting water quality in California under Section 401 of the Federal CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB defines “waters of the state” as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB’s jurisdiction includes waters of the U.S., which are considered a subset of waters of the state.

Environmental Setting

The CDFW maintains several databases on biotics, including the California Natural Diversity Database (CNDDDB) and the Wildlife Habitat Relationships (WHR) information systems. These databases will be discussed further in the section in which they are referenced. Both the CNDDDB and WHR are available for review and are hereby incorporated by reference.

Habitat

- ✓ **Habitat Areas**

A habitat is the physical environment in which a particular species lives and grows. The CDFW defines all habitats in the State of California in its Wildlife Habitat Relationships (WHR) information system. Three of the biotic regions, the Central Coast Range, the San Joaquin Valley Floor and the Central/Southern Sierra Nevada Foothills, share similar habitats, which are displayed below Table 3-41 and Figure 3-6.

- ✓ **Special Habitat Areas**

The number and area of freshwater marshes, riparian habitat, grassland and scrub habitats have diminished in recent years due to the combination of water diversion practices and development. Several sensitive habitats, as identified by the CNDDDB, are located within Madera County, including:

 - Big Tree Forest
 - Central Valley Drainage Hardhead/Squawfish Stream
 - Central Valley Drainage Rainbow Trout/Cyprinid Stream

FIGURE 3-6
Biotic Regions

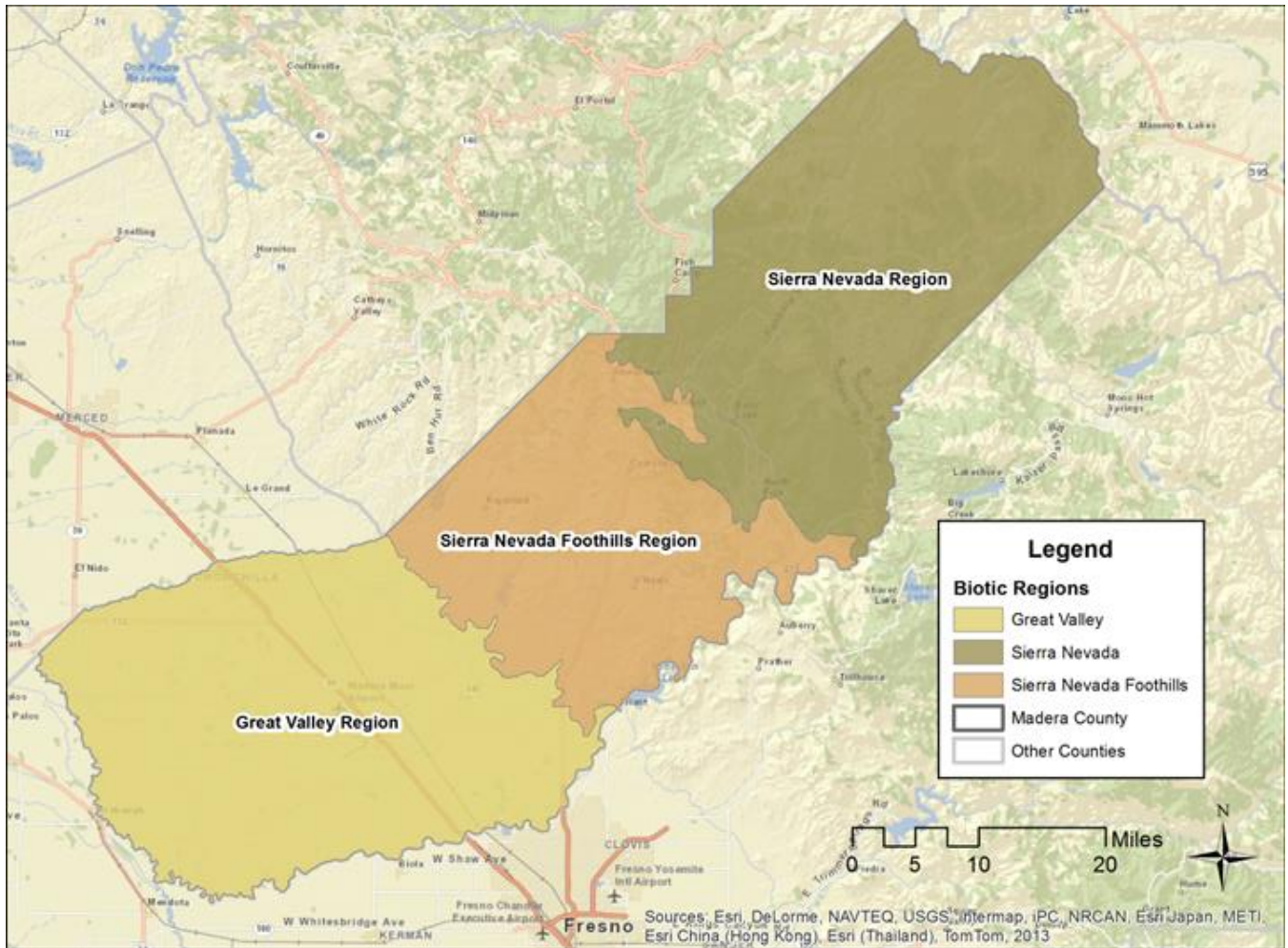


TABLE 3-41

Habitats in the Valley and Foothill Regions of Madera County

Habitat	Central Coast Range	San Joaquin Valley Floor	Central/Southern Sierra Nevada Foothills
Alkali Desert Scrub		X	
Annual/Ruderal Grassland	X	X	X
Barren	X	X	X
Blue Oak Woodland	X		X
Blue Oak-Foothill Pine Woodland	X		X
Chamise-Redshank Chaparral	X		X
Cropland	X	X	X
Eucalyptus	X	X	X
Fresh Emergent Wetland	X	X	X
Lacustrine	X	X	X
Mixed Chaparral	X		X
Orchard-Vineyard	X	X	X
Pasture	X	X	X
Riverine	X	X	X
Urban	X	X	X
Valley Oak Woodland	X		
Valley-Foothill Riparian	X	X	X
Vernal Pool		X	

- Central Valley Drainage Resident Rainbow Trout Stream
- Great Valley Mixed Riparian Forest
- Northern Claypan Vernal Pool
- Northern Hardpan Vernal Pool
- Valley Sacaton Grassland
- Valley Sink Scrub

Migratory Deer Herd. The Oakhurst Deer herd winters within the Oakhurst Basin and moves to higher elevations in eastern Madera County during the summer.

Waterways of Importance. The county's waterways represent the major remaining natural habitat of value for wildlife and plant species. The major waterways include:

Madera Canal	Redinger Lake	Sotcher Lake
Fresno River	Millerton Lake	Kerchoff Reservoir.
San Joaquin River	Bass Lake	Berenda Reservoir.
Coarsegold Creek	Hensley Lake	Madera Equalization Reservoir
Chowchilla River	Red Devil Lake	Lost Lake
Chowchilla Canal	Ash Slough River	Garnet Lake
Eastman Lake	North Fork Willow Creek	Washington Lake
South Fork Merced River	Harriot Lake	Willow Creek
Chiquito Creek	Chain Lake	Edna Lake

Plants

✓ **Plant Communities**

Madera County is an area of varied topography and diverse ecosystems. The highly varied climatic conditions and topography result in a great diversity of flora throughout Madera County. Agricultural use, timber harvesting, grazing, and conversion to urban uses have altered a significant amount of the natural vegetation contained in the county.

Within floristic regions of the county, vegetation can be grouped into several different plant communities. These plant associations are often difficult to physically define, due to subtle transitions. Conversely, plant communities may change abruptly, affected by differences in exposure, soil, or relative humidity.

✓ **Special Status and Special Concern Plants**

Special status plants are listed as, or candidates for, threatened, rare, or endangered by the USFWS, the CDFW and the California Native Plant Society (CNPS). The CNPS maintains an Inventory of Rare and Endangered Plants. Based on a search of the CNDDDB and CNPS's Inventory of Rare and Endangered Plants, there are over 35 plants with special status or special concern listing which are believed to exist within Madera County. Generally, plants with special status have been found to occur in the foothills and mountainous portions of the Sierra Nevada. These special plant species are summarized in Table 3-42.

TABLE 3-42
Special Status Plants Known or Suspected to Occur in Madera County
Current Listing Status - 2022

Plant Elements (scientific name)	Plant Elements (common name)	Global Ranking					State Ranking			CNPS		
		T	E	G1	G2	G3	G4	G5	S1	S2	S3	1B
<i>Allium abramsii</i>	Abrams' onion					◆					◆	◆
<i>Atriplex cordulata</i> Var. <i>cordulata</i>	heartscale					◆				◆		◆
<i>Atriplex minuscula</i>	lesser saltscale				◆					◆		◆
<i>Atriplex persistens</i>	vernal pool smallscale				◆					◆		◆
<i>Atriplex subtilis</i>	subtle orache			◆					◆			◆
<i>Boechera tularensis</i>	Tulare rockcross					◆					◆	◆
<i>Calycadenia hooveri</i>	Hoover's calycadenia				◆					◆		◆
<i>Calyptridium pulchellum</i>	mariposa pussypaws	◆		◆					◆			◆
<i>Camissonia sierrae</i> Ssp. <i>alticola</i>	Mono Hot Springs evening-primrose					◆				◆		◆
<i>Carpenteria californica</i>	tree-anemone	◆		◆					◆			◆
<i>Castilleja campestris</i> Var. <i>succulent</i>	succulent owl's-clover	◆	◆				◆			◆		◆
<i>Chloropyron palmatum</i>	palmate-bracted salty bird's-beak		◆	◆					◆			◆
<i>Clarkia australis</i>	small's southern clarkia				◆					◆		◆
<i>Clarkia rostrata</i>	beaked clarkia				◆	◆				◆	◆	◆
<i>Collomia rawsoniana</i>	Rawson's flaming trumpet				◆					◆		◆
<i>Cuscuta jepsonii</i>	Jepson's dodder					◆					◆	◆
<i>Delphinium recurvatum</i>	recurved larkspur				◆					◆		◆
<i>Eriophyllum nubigenum</i>	Yosemite woolly sunflower				◆					◆		◆
<i>Eryngium spinosepalum</i>	spiny-sepaled button-celery				◆					◆		◆
<i>Erythranthe gracilipes</i>	Slender-stalked monkey flower					◆					◆	◆
<i>Erythronium pluriflorum</i>	shuteye peak fawn lily				◆					◆		◆
<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop		◆		◆					◆		◆
<i>Hulsea brevifolia</i>	short-leaved hulsea					◆					◆	◆
<i>Layia munzii</i>	Munz's tidy-tips				◆					◆		◆
<i>Leptosiphon serrulatus</i>	Madera leptosiphon			◆					◆			◆
<i>Lewisia disepala</i>	Yosemite lewisia				◆					◆		◆
<i>Lupinus citrinus</i> Var. <i>citrinus</i>	orange lupine				◆					◆		◆
<i>Lupinus gracilentus</i>	slender lupine					◆					◆	◆
<i>Navarretia nigelliformis</i> Ssp. <i>radians</i>	shining navarretia						◆			◆		◆
<i>Orcuttia inaequalis</i>	San Joaquin Valley Orcutt grass	◆	◆	◆					◆			◆
<i>Orcuttia pilosa</i>	hairy Orcutt grass		◆	◆					◆			◆

Plant Elements (scientific name)	Plant Elements (common name)	Global Ranking					State Ranking			CNPS		
		T	E	G1	G2	G3	G4	G5	S1	S2	S3	1B
<i>Puccinellia simplex</i>	California alkali grass					◆				◆		◆
<i>Pseudobahia bahiifolia</i>	Hartweg's golden sunburst		◆	◆					◆			◆
<i>Sagittaria sanfordii</i>	Sanford's arrowhead					◆					◆	◆
<i>Trifolium bolanderi</i>	Bolander's clover					◆					◆	◆
<i>Tuctoria greenei</i>	Greene's tuctoria		◆	◆					◆			◆
<i>Viola pinetorum</i> Var. <i>grisea</i>	grey-leaved violet						◆	◆			◆	◆

Key:

Global Ranking

- E = Endangered Listed as "endangered" under Federal Endangered Species Act. Species faces possible extinction throughout all, or a significant portion of, its range.
- T = Threatened Although species is not presently at risk of extinction, it is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts.
- G1 = Critically Imperiled - Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres.
- G2 = Imperiled - 6-20 EOs OR 3,000-10,000 individuals OR 2,000-10,000 acres
- G3 = Vulnerable - 21-100 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres
- G4 = Apparently Secure - Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.
- G5 = Demonstrably Secure - Population or stand demonstrably secure to ineradicable due to being commonly found in the world.

State Ranking

- S1 = Critically Imperiled - Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres
- S2 = Imperiled - 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres
- S3 = Vulnerable - 21-100 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres

California Native Plant Society (CNPS, 1999)

1B = Plants Rare, Threatened, or Endangered in California and Elsewhere.

Source:

California Department of Fish and Wildlife. 2022. California Natural Diversity Data Base

California Native Plant Society (CNPS). 2022. Inventory of Rare and Endangered Plants, Rare Plant Scientific Advisory Committee.

United States Fish and Wildlife Service (USFWS). 2022. Federal Endangered and Threatened Species List, Sacramento Fish and Wildlife Office.

Wildlife

Madera County's wildlife is equally varied and unique due to the region's diversified habitats and topography. Although many native species and habitats have diminished in numbers and range in recent years, the County does contain varying amounts of deer range, black bear, waterfowl habitat, and special-status species habitat. Special status species include the San Joaquin kit fox (*Vulpes macrotis*), the giant kangaroo rat (*Dipodomys ingens*), the Fresno kangaroo rat (*Dipodomys nitratoides rxilis*), and the blunt nosed leopard lizard (*Gambelia sila*), all listed as Endangered by the USFWS.

✓ **Important Wildlife Areas**

- *Deer Ranges* - Key areas for summer and winter ranges provide deer herds with forage areas and protective cover generally located in the foothills and the median elevations of the Sierra Nevada. The nutritional level and overall quality of the deer range has been degraded in recent years by urban encroachment and fire suppression techniques that do not allow old growth to be replaced by younger, more nutritious food
- *Black Bear Habitat* - Black bear occur in the higher elevations of the County, generally in the mountain timber and brush areas
- *Waterfowl Habitat* - The low-lying marshy areas near the Mendota Wildlife Area, the riparian and marsh areas along the San Joaquin and Fresno Rivers, and numerous lakes and reservoirs located in Madera County provide excellent habitat for many waterfowl species
- *Birds of Prey Habitat* - Madera County contains nest sites for the golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), prairie falcon (*Falco mexicanus*), and swainson's hawk. The nest sites have not been mapped in detail on a countywide basis; however, they are expected to occur in the foothills of the Sierra Nevada along the northeast County boundary
- *Seasonal Wetlands* - Vernal pools of varying size are located within southeast Madera County. Vernal pools have been found to provide habitat for several species of fresh water shrimp including the conservancy fairy shrimp (*Branchinecta conservation*), the longhorn fairy shrimp (*Branchinecta longiantenna*), and the vernal pool tadpole shrimp (*Branchinecta lynchi*), all of which have been listed by the USFWS as Endangered

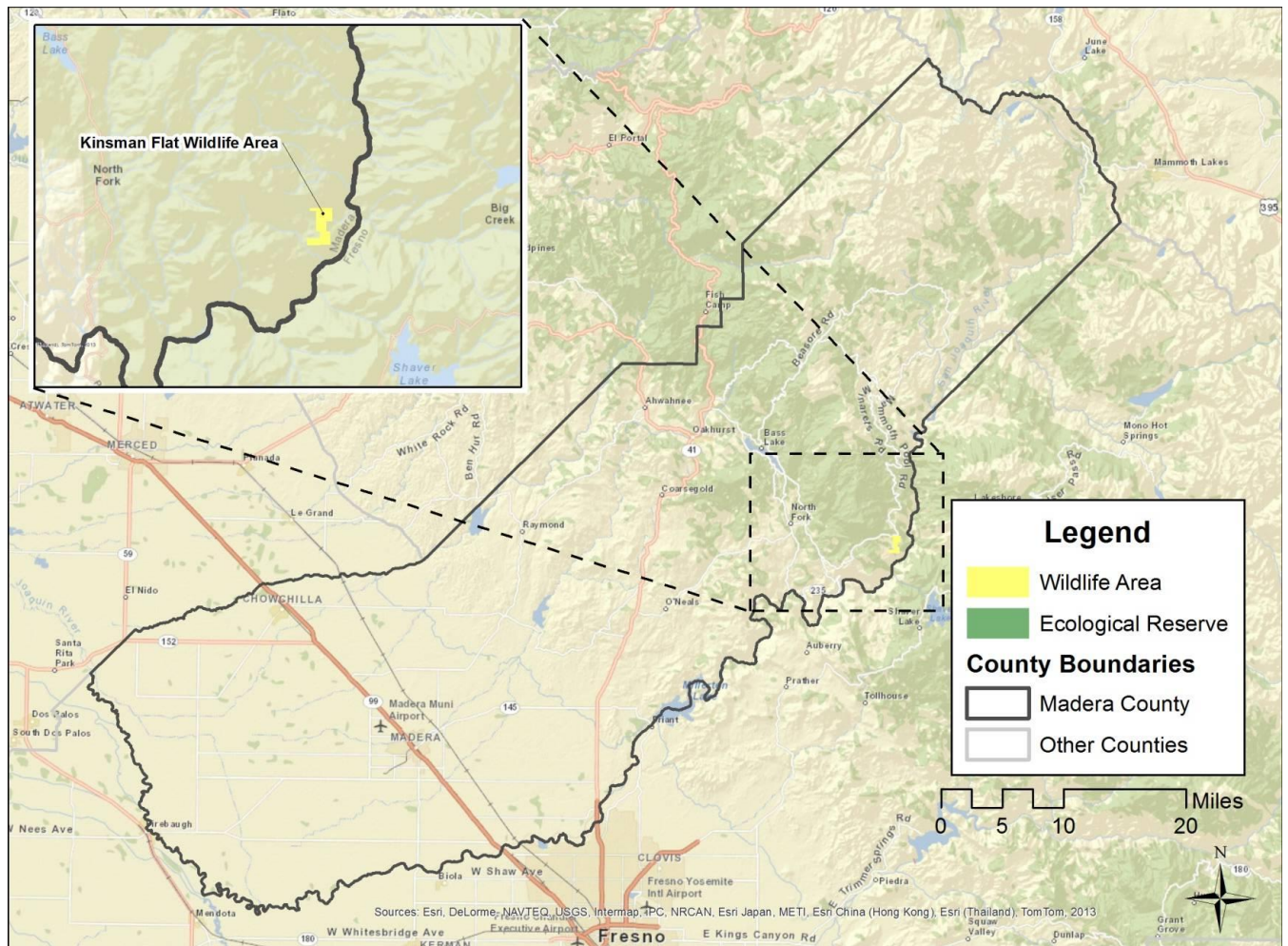
Madera County also has one (1) wildlife area and has no Ecological Reserves. Figure 3-7 illustrates the locations of these wildlife areas.

✓ **Special Status and Special Concern Animals**

Madera County contains a number of animals with special status. Although the location of these species or habitat areas has not been mapped in detail, generally the Sierra Nevada is considered of special importance. In addition, the Valley floor contains the Mendota Wildlife Area. It is also likely that habitats supporting the burrowing owl and the San Joaquin kit fox are located in the Valley. Historical occurrences of several animals with special-status listing have been recorded or are known to occur within Madera County according to the CNDDB. Special-status animals include:

- Those species, which are officially candidates for, or are officially designated as, rare, threatened, or endangered classification by the CDFW and USFWS

FIGURE 3-7
 Wildlife Areas and Ecological Reserves



- Those species which are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for State or federal status, such as those identified as animal species of special concern (SSC) by CDFW

Table 3-43 summarize the numerous animals of special status believed to exist within Madera County with special-status listings by either the USFWS or the CDFW.

TABLE 3-43
Special Status Animals Known or Suspected to Occur in Madera County
and Current Listing Status - 2022

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	State Rank	Global Rank
Invertebrates						
<i>Andrena macswaini</i>	andrenid bee	None	None	None	S2	G2
<i>Branchinecta conservation</i>	conservancy fairy shrimp	Endangered	None	None	S2	G2
<i>Branchinecta longiantenna</i>	longhorn fairy shrimp	Endangered	None	None	S1S2	G1
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Threatened	None	None	S3	G3
<i>Branchinecta mesovallensis</i>	midvalley fairy shrimp	None	None	None	S2S3	G2
<i>Calasellus longus</i>	an isopod	None	None	None	S1	G1
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	Threatened	None	None	S3	G3
<i>Efferia antiochi</i>	Antioch efferian robberfly	None	None	None	S1S2	G1G2
<i>Hydroporus leechi</i>	Leech's skyline diving beetle	None	None	None	S1	G1
<i>Lepidurus packardi</i>	vernal pool tadpole shrimp	Endangered	None	None	S3S4	G4
<i>Linderiella occidentalis</i>	California linderiella	None	None	None	S2S3	G2G3
<i>Lytta moesta</i>	Moestan blister beetle	None	None	None	S2	G2
<i>Lytta molesta</i>	Molestan blister beetle	None	None	None	S2	G2
<i>Neothremma genella</i>	golden-horned caddisfly	None	None	None	S1S2	G1G2
<i>Tetrix sierrana</i>	Sierra pygmy grasshopper	None	None	None	S1S2	G1G2
AVIANS (BIRDS)						
<i>Agelaius tricolor</i>	tricolored blackbird	MBTA	Threatened	SCS	S1S2	G1G2
<i>Athene cunicularia</i>	burrowing owl	MBTA	None	SCS	S3	G4
<i>Aquila chrysaetos</i>	golden eagle	BGEA	None	FP	S3	G5
<i>Buteo swainsoni</i>	Swainson's hawk	MBTA	Threatened	None	S3	G5
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	Threatened	Endangered	None	S1	G5
<i>Empidonax traillii</i>	willow flycatcher	MBTA	Endangered	None	S1S2	G5
<i>Eremophila alpestris actia</i>	California horned lark	MBTA	None	WL	S4	G5
<i>Falco mexicanus</i>	prairie falcon	MBTA	None	WL	S4	G5
<i>Haliaeetus leucocephalus</i>	bald eagle	BGEA	Endangered	FP	S3	G5
<i>Picoides arcticus</i>	black-backed woodpecker	MBTA	None	None	S2	G5
<i>Riparia</i>	bank swallow	MBTA	Threatened	None	S2	G5
<i>Strix nebulosa</i>	great gray owl	MBTA	Endangered	S	S1	G5
AMPHIBIANS						
<i>Ambystoma californiense</i>	California tiger salamander	Threatened	Threatened	WL	S3	G2G3
<i>Anaxyrus (bufo) canorus</i>	Yosemite toad	Endangered	None	SSC	S2	G2

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	State Rank	Global Rank
<i>Hydromantes platycephalus</i>	Mount Lyell salamander	None	None	FP	S4	G4
<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	S2S3	G3
<i>Rana draytonii</i>	California red-legged frog	Threatened	None	SSC	S2S3	G2G3
<i>Rana muscosa</i>	mountain yellow-legged frog	Endangered	Endangered	WL	S1	G1
<i>Rana sierrae</i>	Sierra Nevada yellow-legged frog	Candidate	Threatened	WL	S1	G1
<i>Spea hammondi</i>	western spadefoot	None	None	SSC	S3	G2G3
FISH						
<i>Hypomesus transpacificus</i>	delta smelt	Threatened	Endangered	None	S1	G1
<i>Mylopharodon conocephalus</i>	hardhead	None	None	SSC	S3	G3
<i>Oncorhynchus clarkii henshawi</i>	Lahontan cutthroat trout	None	None	SCS	S3	G5
<i>Oncorhynchus clarkii seleniris</i>	Paiute cutthroat trout	Threatened	None	None	S1	G5
<i>Oncorhynchus mykiss irideus</i>	steelhead - central valley dps	Threatened	None	SCS	S2	G5
REPTILES						
<i>Anniella pulchra</i>	silvery legless lizard	None	None	SSC	S3	G3G4
<i>Emys marmorata</i>	western pond turtle	None	None	SSC	S3	G3G4
<i>Gambelia sila</i>	blunt-nosed leopard lizard	Endangered	Endangered	FP	S1	G1
<i>Thamnophis gigas</i>	giant garter snake	Threatened	Threatened	None	S2S3	G2
<i>Phrynosoma blainvillii</i>	coast horned lizard	None	None	SSC	S3S4	G3G4
MAMMALS						
<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	S3	G4
<i>Dipodomys heermanni dixonii</i>	Merced kangaroo rat	None	None	None	S2S3	G4
<i>Dipodomys ingens</i>	giant kangaroo rat	Endangered	Endangered	None	S1S2	G2
<i>Dipodomys nitratooides exilis</i>	Fresno kangaroo rat	Endangered	Endangered	None	SH	G3
<i>Euderma maculatum</i>	spotted bat	None	None	SSC	S3	G4
<i>Eumops perotis californicus</i>	western mastiff bat	None	None	SSC	S4	G4G5
<i>Gulo</i>	California wolverine	None	Threatened	FP	S1	G4
<i>Lasionycteris noctivagans</i>	silver-haired bat	None	None	None	S3S4	G3G4
<i>Lasiurus cinereus</i>	hoary bat	None	None	None	S4	G3G4
<i>Martes caurina sierrae</i>	Sierra marten	None	None	None	S3	G4G5
<i>Myotis evotis</i>	long-eared myotis	None	None	None	S4	G5
<i>Myotis volans</i>	long-legged myotis	None	None	None	S4	G5
<i>Myotis yumanensis</i>	Yuma myotis	None	None	None	S4	G5
<i>Ochotona princeps schisticeps</i>	gray-headed pika	None	None	None	S2S4	G5
<i>Ovis canadensis sierrae</i>	Sierra Nevada bighorn sheep	Endangered	Endangered	FP	S2	G4
<i>Perognathus inornatus</i>	San Joaquin pocket mouse	None	None	None	S2S3	G2G3
<i>Taxidea taxus</i>	American badger	None	None	SSC	S3	G5
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	Endangered	Threatened	None	S2	G4

Scientific Name	Common Name	Federal Status	State Status	CDFW Status	State Rank	Global Rank
<i>Vulpes necator</i>	Sierra Nevada red fox	None	Threatened	None	S1	G5

Key:

Global Ranking

- Endangered Listed as "endangered" under Federal Endangered Species Act. Species faces possible extinction throughout all, or a significant portion of, its range.
- Threatened Although species is not presently at risk of extinction, it is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts.
- G1 = Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres.
- G2 = 6-20 EOs OR 3,000-10,000 individuals OR 2,000-10,000 acres
- G3 = 21-100 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres
- G4 = Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.
- G5 = Population or stand demonstrably secure to ineradicable due to being commonly found in the world.

State Ranking

- S1 = Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres
- S2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres
- S3 = 21-100 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres
- ? USFWS or CDFW does not have enough data to determine status.

Sources:

California Department of Fish and Wildlife. 2022. California Natural Diversity Data Base
 California Native Plant Society (CNPS). 2022. Inventory of Rare and Endangered Plants, Rare Plant Scientific Advisory Committee.
 United States Fish and Wildlife Service (USFWS). 2022. Federal Endangered and Threatened Species List, Sacramento Fish and Wildlife Office

Methodology

The impact assessment for biotics focuses on potential effects that the project might have on special-status plants, animals and habitats. The assessment is not site or project-specific but is a regional analysis.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Because biotic resources often redistribute themselves based on available habitat, water, food sources, development pressures, population growth, and other factors. A project-level evaluation of project impacts to biological resources is not feasible as it would require site-specific studies across all of Madera County. However, some general impacts can be identified, based on the nature of the individual transportation improvements. Projects located in special habitat, or habitat of special animals or plants, adjacent to impaired water bodies, or in flood hazard areas are most likely to affect water resources. Construction of the proposed projects and future land use developments could cause water quality

impacts, because a project would increase the area of paved surface. Water quality could be affected by storm water runoff that passes over paved surfaces before it reaches a major creek, river, or water body.

Floodplains are areas that are periodically inundated during high flows of nearby streams or high-water levels in ponds or lakes. Natural floodplains offer wildlife and plant habitat, open space, and groundwater recharge benefits. Project construction could affect these uses if not mitigated.

Criteria for Significance

The CEQA Guidelines establish that a significant impact would be expected to occur if the project would:

- ✓ 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?
- ✓ Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?
- ✓ Have a substantial adverse effect on 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?
- ✓ 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?
- ✓ Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact BR 3.5.1 – 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.

The RTP/SCS include projects that may result in direct impacts to plant and wildlife species that are identified in Tables 3-41 and 3-42 above, including rare, threatened and/or endangered species during construction and operation of the proposed transportation facilities and future land use developments through the removal or direct mortality as a result of construction equipment, operational traffic, etc. of native habitat.

The Project may result in indirect impacts to plant and wildlife species including rare, threatened and/or endangered species, during the construction and operation through edge effects such as noise, lighting and visual deterrents. Short-term and long-term indirect impacts on special-status species from the

construction and operation of transportation facilities and other future land use facilities include edge effects such as noise and lighting. These impacts may be less-than-significant for improvement projects on already-existing transportation facilities or in already developed areas because the types of operational impacts although potentially increased, would remain the same. Noise impacts will be most adverse during construction. However, these impacts are temporary (1 to 5 years) in nature and are generally considered not significant.

Mitigation Measures

The specific impacts on plant and wildlife species will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, lead agencies wanting to tier to this EIR for CEQA compliance on subsequent discretionary permits and approvals would be expected to include the mitigation measures referenced below (or a functional equivalent) as conditions of approval of their respective permits and approvals, as appropriate.

- ✓ **BR 3.5.1-1** Each proposed individual transportation improvement project and future land use development will consider the displacement of sensitive habitat, sensitive species, and non-native habitat.

- ✓ **BR 3.5.1-2** When avoidance of native vegetation removal is not possible, each transportation improvement project and future land use development shall replant disturbed areas with commensurate native vegetation of high habitat value adjacent to the project (i.e., as opposed to ornamental vegetation with relatively less habitat value).

- ✓ **BR 3.5.1-3** Focused sensitive plant and wildlife species and non-native habitat surveys will be conducted within suitable habitat to determine the distribution of sensitive species within the biological impact area of each transportation improvement project and future land use development. Sensitive plant and non-native habitat surveys will be conducted during the appropriate flowering season for sensitive plant species with the potential to occur within the individual transportation improvement project or future land use development area. In all cases, impacts on special-status species and/or their habitat shall be avoided during construction to the extent feasible.

- ✓ **BR 3.5.1-4** If sensitive plant or wildlife species and non-native habitat are identified within the biological impact area, a Biological Resource Management Plan (BRMP) will be developed to address appropriate avoidance and minimization measures. These measures may include seed collection and

salvage measures for sensitive plant species and non-native habitat, silt fencing, exclusion fencing and/or appropriate compensation where impacts cannot be fully avoided.

- ✓ **BR 3.5.1-5** Individual transportation improvement projects and future land use developments shall include offsite habitat enhancement or restoration to compensate for unavoidable habitat losses from the project site.
- ✓ **BR 3.5.1-6** Locations of sensitive species, sensitive habitat, and non-native habitat will be mapped and shown on construction drawings and identified as Environmentally Sensitive Areas (ESAs). Prior to construction, these areas will be flagged and/or fenced to prevent unnecessary impacts from machinery and foot traffic.
- ✓ **BR 3.5.1-7** Temporary access roads and staging areas will not be located within areas containing sensitive plant, sensitive wildlife species or non-native habitat wherever feasible, so as to avoid or minimize impacts to these species.
- ✓ **BR 3.5.1-8** Construction activities will be scheduled, as appropriate and feasible, to avoid sensitive times that have a greater likelihood to affect significant resources such as spawning periods for fish, nesting season for birds and/or the rainy season for riparian habitat and sediment/erosion control.
- ✓ **BR 3.5.1-9** All vegetation (including tall grasses) will be removed between August 16th and February 14th, if possible, to avoid potential conflicts with nesting birds. If it is not possible to remove vegetation during that time frame, a nest clearance survey will be completed prior to vegetation clearing. Any detected nests will be mapped and provided with an appropriate buffer as recommended by a qualified biologist. Construction activities within the buffer area will not be allowed until after September 15 or until fledglings have abandoned the nest.
- ✓ **BR 3.5.1-10** A Worker Awareness Program (environmental education) shall be developed and implemented to inform project workers of their responsibilities in regard to avoiding and minimizing impacts on sensitive biological resources.
- ✓ **BR 3.5.1-11** An Environmental Inspector shall be appointed to serve as a contact for issues that may arise concerning implementation of mitigation measures, and to document and report on adherence to these measures.
- ✓ **BR 3.5.1-12** A qualified wetland scientist shall review construction drawings as part of each project-specific environmental analysis to determine whether wetlands will be impacted, and if necessary, perform a formal wetland delineation. Appropriate State and federal permits shall be obtained, but each project EIR will contain language clearly stating the provisions of such permits, including

avoidance measures, restoration procedures, and in the case of permanent impacts compensatory creation or enhancement measures to ensure a no net loss of wetland extent or function and values.

- ✓ **BR 3.5.1-13** Sensitive habitats (native vegetative communities identified as rare and/or sensitive by the CDFW) and special-status plant species (including vernal pools) impacted by projects shall be restored and augmented, if impacts are temporary, at a 1.1:1 ratio (compensation acres to impacted acres). Permanent impacts shall be compensated for by creating or restoring habitats at a 3:1 ratio as close as possible to the site of the impact.
- ✓ **BR 3.5.1-14** When work is conducted in identified sensitive habitat areas and/or areas of intact native vegetation, construction protocols shall require the salvage of perennial plants and the salvage and stockpile of topsoil (the surface material from 6 to 12 inches deep) and shall be used in restoring native vegetation to all areas of temporary disturbance within the project area.
- ✓ **BR 3.5.1-15** If specific project area trees are designated as “Landmark Trees” or “Heritage Trees”, then approval for removals shall be obtained through the appropriate entity, and appropriate mitigation measures shall be developed at that time, to ensure that the trees are replaced. Due to the close proximity of these areas to sensitive wildlife habitats, all mitigation trees will use only locally collected native species.
- ✓ **BR 3.5.1-16** The height, spacing, number and type of light fixtures will be selected and installed to minimize intrusive light escaping from the physical boundaries of the site.
- ✓ **BR 3.5.1-17** The height, spacing, number and type of light fixtures will be selected and installed to minimize intrusive light escaping from the physical boundaries of the site. In addition, road noise minimization using appropriate and effective noise reduction strategies or noise abatement applications shall be applied by implementing agencies as required to minimize highway noise.
- ✓ **BR 3.5.1-18** A qualified biologist shall conduct a habitat assessment, well in advance of implementation of individual subsequent projects, to determine if individual project areas or their immediate vicinity contain habitat suitable to support special-status plant or animal species, including, but not limited to, those mentioned above.
- ✓ **BR 3.5.1-19** It is recommended that the lead or responsible agency assess the presence/absence of special-status species by conducting surveys following recommended protocols or protocol-equivalent surveys.
- ✓ **BR 3.5.1-20** If special-status plant or animal species within or in the vicinity of tiered project areas are detected, consultation with CDFW to discuss how to implement ground-disturbing activities and avoid take shall be undertaken.

- ✓ **BR 3.5.1-21** In the case of the detection of State-listed species, consultation with CDFW shall be undertaken to discuss how to avoid take, or if avoidance is not feasible, to acquire an Incidental Take Permit (ITP) prior to ground-disturbing activities, pursuant to Fish and Game Code § 2081 (b).
- ✓ **BR 3.5.1-22** Implementing agencies should consult with the USFWS on potential impacts to federally listed species implementing agencies should consult with the USFWS in order to comply with Federal Endangered Species Act (FESA) well in advance of any ground-disturbing activities. A take under FESA includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting.
- ✓ **BR 3.5.1-23** Implementing agencies are encouraged to report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link:

http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB_FieldSurveyForm.pdf.

The completed form can be mailed electronically to CNDDDB at the following email address:
CNDDDB@wildlife.ca.gov.

The types of information reported to CNDDDB can be found at the following link:
http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

- ✓ **BR 3.5.1-24** If it is determined that tiered projects have the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & Game Code, § 711.4; Pub. Resources Code, § 21089).

Significance After Mitigation

This impact would likely be significant if the proposed individual improvement project occurs within or near known populations of sensitive plant and wildlife species, or within designated critical habitat for federal-or State-listed species. These mitigation measures would require implementing agencies to avoid or mitigate impacts to sensitive plant and wildlife species. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or

reduce the impacts to sensitive plant and wildlife species, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact BR 3.5.2 - Have a substantial adverse effect on any riparian habitat or 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.

Direct impacts to biological resources involve the temporary or permanent physical loss of vegetation communities, wildlife habitat, and special interest plant and wildlife species resulting from site preparation activities such as clearing, grubbing, and grading.

Indirect impacts on vegetation communities include the potential for increased susceptibility of adjacent, native habitats to invasion by non-native plant species. The establishment of non-native vegetation leads to increased competition between native and non-native vegetation for available resources and results in decreased native species diversity in adjacent, native habitats. Fugitive dust created during project-related construction activities may settle on plants adjacent to the construction zone. This dust can at least temporarily result in reductions in plant photosynthesis, growth, and reproduction.

The RTP/SCS include projects that may result in direct removal or degradation of riparian habitat or other sensitive natural communities during construction activities such as grading and grubbing.

Mitigation Measures

The specific impacts on sensitive habitats, including jurisdictional waters and wetlands will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, lead agencies wanting to tier to this EIR for CEQA compliance on subsequent discretionary permits and approvals would be expected to include the mitigation measures referenced below (or a functional equivalent) as conditions of approval of their respective permits and approvals, as appropriate.

- ✓ **BR 3.5.2-1** When applicable to federally funded projects, responsible and implementing agencies should commit to improved interagency coordination and integration of the National Environmental Policy Act (NEPA) and the Clean Water Act Section 404 procedures during three stages: transportation

planning, project programming, and project implementation. Affected State and local agencies should commit to ensuring the earliest possible consideration of environmental concerns pertaining to U.S. water bodies, including wetlands, at each of the three stages identified above. In addition, the agencies should place a high priority on the avoidance of adverse impacts to waters of the U.S. and associated sensitive species, including threatened and endangered species. Implementation of NEPA-404 requirements will expedite construction of necessary transportation projects, with benefits to mobility and the economy at large. The process will also enable more street and highway projects to proceed on budget and on schedule. Finally, the process will improve cooperation and efficiency of governmental operations at all levels, thereby better serving the public.

- ✓ **BR 3.5.2-2** Construction and operational Best Management Practices (BMPs) will be identified, installed and maintained by implementing agencies in order to prevent silt and other pollutants from entering jurisdictional waters and wetlands thereby degrading or destroying wildlife and/or natural habitat. BMPs may include straw bales and/or mats, temporary sedimentation basins, silt fence, sandbag check dams, dry season construction, etc.
- ✓ **BR 3.5.2-3** Native soils in construction areas will be removed, stockpiled separately, and replaced by implementing agencies in those areas where onsite revegetation of the native habitat is planned.
- ✓ **BR 3.5.2-4** Any disturbed natural areas will be replanted by implementing agencies with appropriate native vegetation following the completion of construction activities.
- ✓ **BR 3.5.2-5** During the individual improvement or future land use development project design phase, impacts to jurisdictional waters and wetlands will be minimized by implementing agencies to the greatest extent feasible.
- ✓ **BR 3.5.2-6** Implementing agencies will obtain and comply with appropriate regulatory requirements prior to construction.
- ✓ **BR 3.5.2-7** It is recommended that a qualified biologist conduct a habitat assessment in advance of project implementation, to determine if individual project areas or their immediate vicinity support freshwater marsh, wetland, vernal pool, and/or riparian communities.
- ✓ **BR 3.5.2-8** Where applicable, it is recommended that a formal wetland delineation be conducted by a qualified biologist to determine the location and extent of wetlands and waterways on parcels slated for development. Please note that, while there is overlap, State and Federal definitions of wetlands, as well as which activities require notification pursuant to Fish and Game Code § 1602, differ.

- ✓ **BR 3.5.2-9** Project-related activities that have the potential to change the bed, bank, and channel of streams and other waterways, may be subject to CDFW's regulatory authority pursuant to Fish and Game Code §1600 et seq., therefore notification is recommended. Fish & Game Code §1602 requires an entity to notify CDFW prior to commencing any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake (including the removal of riparian vegetation); (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. "Any river, stream, or lake" includes those that are ephemeral or intermittent as well as those that are perennial. CDFW is required to comply with CEQA in the issuance of a Lake and Streambed Alteration Agreement. For additional information on notification requirements, please contact our staff in the Lake and Streambed Alteration Program at (559) 243-4593.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the impacts to sensitive habitats, including jurisdictional waters and wetlands, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact BR 3.5.3 – Have a substantial adverse effect on 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.

The Corps of Engineers' jurisdiction within the planned study area is under the authority of Section 404 of the Clean Water Act for the discharge of dredged or fill material into waters of the United States. Waters of the United States include, but are not limited to, rivers, streams, lakes, ponds, wetlands, vernal pools, marshes, wet meadow, and seeps. The RTP/SCS transportation improvements and future land use developments could potentially result in discharge of dredged or fill material into waters of the United States. Therefore, transportation and future land use impacts related to discharge of dredged or fill material into waters of the United States are considered potentially significant.

Mitigation Measures

The specific impacts on discharge of dredged or fill materials into waters of the United States will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, lead agencies wanting to tier to this EIR for CEQA compliance on subsequent discretionary permits and approvals would be expected to include the mitigation measures referenced below (or a functional equivalent) as conditions of approval of their respective permits and approvals, as appropriate.

- ✓ **BR 3.5.3-1** For Individual transportation and future land use development projects near water resources, implementing agencies shall prepare an aquatic resources delineation, in accordance with the "Minimum Standards for Acceptance of Preliminary Aquatic Resource Delineations" and "Final Map and Drawing Standards for the South Pacific Division Regulatory Program" under "Jurisdiction" on the U.S. Army Corps of Engineers website (www.spk.usace.army.mil/missions/regulatory.aspx), and submit it to the U.S. Army Corps of Engineers, Regulatory Division, California South Branch, 1325 J Street, Room 1350, Sacramento, California 95814, for verification. A list of consultants that prepare wetland delineations and permit application documents is also available on our website at the same location.

- ✓ **BR 3.5.3-2** For Individual transportation and future land use development projects near water resources, implementing agencies shall include alternatives that avoid impacts to wetlands or other waters of the United States. Every effort should be made to avoid project features which require the discharge of dredged or fill material into waters of the United States. In the event it can be clearly demonstrated there are no practicable alternatives to filling waters of the United States, mitigation plans should be developed to compensate for the unavoidable losses resulting from project implementation.

Significance After Mitigation

The responsibility to mitigate siltation impacts rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the siltation impacts, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will

encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact BR 3.5.4 – 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.

The RTP/SCS would result in temporary and permanent impacts to terrestrial and aquatic wildlife movement. The nature of transportation projects and future land use developments increases the potential extent and significance of impacts to wildlife movement. Transportation facilities pose barriers to wildlife crossings that may result in injury or death of wildlife attempting to traverse the facility. These barriers also result in fragmentation of natural habitat and increased impacts associated with edge effects from lighting, noise, human disturbance, exotic plant infestations, urban runoff, etc. Smaller fragments of habitat result in greater intensity of the edge effects. It is also important to maintain connections between populations of wildlife so that interbreeding, and/or that young have no ability to disperse to suitable habitats, does not occur. Impacts to wildlife movement would be greater along entirely new transportation facilities or future land use developments than with improvements to existing facilities, because the existing facility has already formed a barrier.

Mitigation Measures

The specific impacts on temporary and permanent impacts to terrestrial and aquatic wildlife movement will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, lead agencies wanting to tier to this EIR for CEQA compliance on subsequent discretionary permits and approvals would be expected to include the mitigation measures referenced below (or a functional equivalent) as conditions of approval of their respective permits and approvals, as appropriate.

- ✓ **BR 3.5.4-1** During final design, implementing agencies will design, construct, and maintain terrestrial wildlife crossings in order to minimize barrier effects and habitat fragmentation created by individual transportation projects and future land use developments.
- ✓ **BR 3.5.4-2** During final design, implementing agencies will design, construct, and maintain any structure/culvert placed within a stream where endangered or threatened fish occur/may occur. The structure/culvert will not constitute a barrier to upstream or downstream movement of aquatic life

or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth for fish migration.

Significance After Mitigation

These mitigation measures would require implementing agencies responsible for review, design and implementation of transportation projects and future land use developments to avoid or mitigate impacts to wildlife movement. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the impacts to temporary and permanent impacts to terrestrial and aquatic wildlife movement, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact BR 3.5.5 - Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The County and cities have local ordinances and policies in place that protect native trees as well as non-native trees in urban landscapes. These ordinances and policies have different definitions of protected trees (e.g., certain species, minimum diameter at breast height (dbh), trees that form riparian corridors). The RTP/SCS transportation improvements and future land use developments could result in removal of trees that are protected by local policies or ordinances. In addition, implementation of the proposed Project may also conflict with other local policies or ordinances that protect locally significant biological resources. Therefore, transportation and future land use impacts related to conflicts with local policies or ordinances protecting biological resources are considered potentially significant.

Mitigation Measures

The specific impacts related to conflicts with local ordinances and policies will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, lead agencies wanting to tier to this EIR for CEQA compliance on subsequent discretionary permits and

approvals would be expected to include the mitigation measures referenced below (or a functional equivalent) as conditions of approval of their respective permits and approvals, as appropriate.

- ✓ **BR 3.5.5-1** Implementing agencies should require project applicants to prepare biological resources assessments for specific projects proposed in areas containing, or likely to contain, protected trees or other locally protected biological resources. The assessment should be conducted by appropriately trained professionals pursuant to adopted protocols, and standards in the industry. Mitigation should be implemented when significance thresholds are exceeded. Mitigation should be consistent with the requirements of CEQA and/or follow applicable plans promulgated to protect species/habitat.
- ✓ **BRI 3.5.5-2** Implementing agencies should design projects such that they avoid and minimize direct and indirect impacts to protected trees and other locally protected resources where feasible, defined in section 15364 of the CEQA Guidelines.
- ✓ **BR 3.5.5-3** As part of project-level environmental review, implementing agencies will ensure that projects comply with the most recent general plans, policies, and ordinances, and conservation plans. Review of these documents and compliance with their requirements will be demonstrated in project-level environmental documentation. Review of these documents and compliance with their requirements should be demonstrated in project-level environmental documentation.

Significance After Mitigation

The responsibility to mitigate siltation impacts rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce conflicts with any local policies or ordinances protecting biological resources, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact BR 3.5.6 – Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

The 2022 RTP/SCS is not expected to conflict significantly with Habitat Conservation Plans (HCPs), Natural Community Conservation Plans (NCCPs), or any other approved local, regional or state habitat conservation plan because all of the transportation projects covered would be required to comply with existing HCPs, NCCPs, and other approved conservation plans. The RTP/SCS includes regional policies that

could impact growth throughout the region. The analysis in the PEIR considers gross regional impacts of the land development and transportation investments described in the RTP/SCS. The cumulative impacts on the biotic resources in Madera County resulting from the Projects presented in the RTP/SCS include fragmentation of existing habitats and incremental impact on biological resources requiring consideration of mitigation measures.

Mitigation Measures

The specific conflicts with existing HCPs, NCCPs, and other approved habitat conservation plans will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s).

Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, lead agencies wanting to tier to this EIR for CEQA compliance on subsequent discretionary permits and approvals would be expected to include the mitigation measures referenced below (or a functional equivalent) as conditions of approval of their respective permits and approvals, as appropriate.

- ✓ **BR 3.5.6-1** Consult with federal, state, and/or local agencies that handle administration of HCPs and NCCPs
- ✓ **BR 3.5.6-2** When feasible, the project will be designed in such a way that lands preserved under HCPs or NCCPs are avoided.
- ✓ **BR 3.5.6-3** Sufficient conservation measures to fulfil the HCPs or NCCPs requirements be taken when avoidance is determined to be infeasible.

Significance After Mitigation

The responsibility to mitigate siltation impacts rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. Implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce conflicts with any HCPs, NCCPs, and other approved conservation plans. It is anticipated that the Projects presented in the RTP/SCS will be required to be in compliance with existing conservation plans, therefore the mitigation measures listed will be sufficient to ensure impacts remain below a significant level.

3.6 CLIMATE CHANGE

This section includes a discussion of global climate change, its causes and the contribution of human activities, as well as a summary of existing greenhouse gas emissions. This section also describes the criteria for determining the significance of climate change impacts and estimates the likely greenhouse gas emissions that would result from vehicular traffic and other emission sources related to the project. Where appropriate, mitigation measures are recommended to reduce Project-related Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) impacts.

Regulatory Setting

Federal

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to assess the impacts of global warming and to develop strategies that nations could apply to curb global climate change. In 1992, the United States joined other countries around the world in signing the United Nations Framework Convention on Climate Change treaty with the goal of controlling greenhouse gas emissions.

As a result, the Climate Change Action Plan was developed to address reduction of greenhouse gases in the United States. The plan is comprised of more than 50 voluntary programs. Additionally, the Montreal Protocol was first signed in 1987 and considerably amended in 1990 and 1992. The Montreal Protocol instructs that the production and consumption of compounds that deplete ozone in the stratosphere--chlorofluorocarbons (CFCs), halons, carbon tetrachloride, and methyl chloroform--were to be phased out by 2000 (2005 for methyl chloroform).

In *Massachusetts v. EPA* (April 2, 2007), the U.S. Supreme Court held that greenhouse gases (GHGs) fall within the Clean Air Act's definition of an "air pollutant" and directed the U. S. Environmental Protection Agency (EPA) to deem whether GHGs are affecting climate change. The EPA must regulate GHG emissions from automobiles under the Federal Clean Air Act (FCAA) if it is determined GHGs do affect climate change. In addition, Congress has enlarged the corporate average fuel economy (CAFE) of the U.S. automotive fleet. In August of 2012, President Barack Obama finalized groundbreaking standards that increased fuel economy to the equivalent of 54.5 mpg for cars and light-duty trucks by Model Year 2025. This rise in CAFE standards will result in a significant reduction in GHG emissions from automobiles, the largest single emitting GHG group in California.

The United State Environmental Protection Agency (U.S. EPA) annually publishes the *Inventory of U.S. Greenhouse Gas Emissions and Sinks* for estimating sources of GHGs that is generally consistent with the IPCC methodology developed in its *Guidelines for National Greenhouse Gas Inventories*.

Federal Regulations

- ✓ **Energy Policy and Conservation Act** - The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. Pursuant to the Act, the National Highway Traffic and Safety Administration (NHTSA), as a part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon (mpg). Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. In September of 2011, U.S. EPA and NHTSA finalized rules to reduce greenhouse gas emissions and fuel consumption for on-road heavy-duty vehicles, which were created in response to President Obama's directive to take steps to produce a new generation of clean vehicles. NHTSA's final fuel consumption standards and U.S. EPA's final carbon dioxide (CO₂) emissions standards are designed for each of three regulatory categories of heavy-duty vehicles. For combination tractors the engine and vehicle standards begin in Model Year 2014 and achieve from 7 to 20% reduction in carbon dioxide (CO₂) emissions and fuel consumption by Model Year 2017 over the 2010 baselines. For heavy-duty pickup trucks and vans, the standards begin in Model Year 2014 and achieve up to a 10% reduction in CO₂ emissions and fuel consumption for gasoline vehicles and 15% reduction for diesel vehicles by Model Year 2018. For vocational vehicles, the engine and vehicle standards begin in Model Year 2014 and achieve up to a 10% reduction in fuel consumption and CO₂ emissions by Model Year 2017.

- ✓ **Energy Policy Act of 1992 (EPAct)** - The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of alternative fueled vehicles (AFVs). States are also required by the act to consider a variety of incentive programs to help promote AFVs.
- ✓ **Moving Ahead for Progress in the 21st Century (MAP-21)** - The bill alters the requirements and incentives for spending on sustainable transportation initiatives. More specifically, the bill demands MPOs to address performance measures in planning and project selection. Long-range plans are required to include performance targets, and transportation improvement programs must discuss the anticipated effects of selected projects toward achieving the performance targets. In addition, electric vehicle charging and natural gas fueling stations are expressly authorized uses of funding under Congestion Mitigation and Air Quality Program (CMAQ), surface transportation, and highway safety

programs. The bill is the first significant change to transportation funding since the passage of Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005.

- ✓ **Fixing America’s Surface Transportation (FAST) Act** - On December 4, 2015, President Obama signed the Fixing America’s Surface Transportation (FAST) Act (Pub. L. No. 114-94) into law—the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act authorizes \$305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act maintains our focus on safety, keeps intact the established structure of the various highway-related programs we manage, continues efforts to streamline project delivery and, for the first time, provides a dedicated source of federal dollars for freight projects. With the enactment of the FAST Act, states and local governments are now moving forward with critical transportation projects with the confidence that they will have a federal partner over the long term.
- ✓ **Energy Policy Act of 2005** - The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.
- ✓ **Energy Independence and Security Act of 2007** - Passed in 2007, the Energy Independence and Security Act of 2007 (EISA) (42 USC Section 17381 [2007]) includes provisions to increase the supply of renewable alternative fuel sources by setting a mandatory Renewable Fuel Standard. The standard mandates transportation fuel sold in the U.S. to contain a minimum of 36 billion gallons of renewable fuels annually by 2022. EISA also promotes grant programs to encourage the development of cellulosic biofuels, plug-in hybrid electric vehicles, and other emerging electric vehicle technologies. EISA codifies into law the energy reduction goals for federal agencies put forth in Executive Order 13423 (U.S. EPA 2007), and creates new requirements related to Corporate Average Fuel Economy Standards, the Renewable Fuel Standard, and efficiency standards for lighting and appliances.
- ✓ **Executive Order 13514** - The President signed Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance (3 CFR 13514), in October 2009. This Executive Order concentrates on improving the environmental, energy, and economic performance of federal agencies. Federal agencies are required to increase energy efficiency, reduce fleet petroleum consumption, conserve water, reduce waste, support sustainable communities, and leverage federal purchasing power to promote environmentally responsible products and technologies.

The Executive Order requires agencies to meet energy, water, and waste reduction targets, including:

- 30 percent reduction in vehicle fleet petroleum use by 2020.
 - 26 percent improvement in water efficiency by 2020.
 - 50 percent recycling and waste diversion by 2015.
 - 95 percent of all applicable contracts will meet sustainability requirements.
 - Implementation of the 2030 net-zero-energy building requirement.
- ✓ **Federal Climate Change Policy** - According to the U.S. EPA, “the United States government has established a comprehensive policy to address climate change” that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, “the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science.” The federal government’s goal is to reduce the GHG intensity (a measurement of GHG emissions per unit of economic activity) of the American economy by 18 percent over the 10-year period from 2002 to 2012. In addition, the U.S. EPA administers multiple programs that encourage voluntary GHG reductions, including “ENERGY STAR”, “Climate Leaders”, and Methane Voluntary Programs. In addition, there are other adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Federal Clean Air Act (FCAA):

- **Endangerment Finding:** The U.S. EPA Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)--in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The U.S. EPA Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite to finalizing the U.S. EPA's proposed greenhouse gas emission standards for light-duty vehicles. On May 7, 2010, the U.S. EPA and the Secretary of Transportation promulgated a joint final rule representing the first substantive federal action to limit emissions of greenhouse gases (“GHGs”). 75 Fed. Reg. 25324 (May 7, 2010). The rule (“GHG Mobile Source Rule”) establishes emissions standards for passenger cars and light trucks under section 202 of the FCAA, 42 U.S.C. § 7521, and corporate average fuel efficiency (“CAFE”) standards under the Energy Policy and Conservation Act. The standards apply to 2012 and later model year vehicles and will require that

fuel efficiency increase and GHG emissions decrease through 2016, by which time the projected combined car and truck fleet will need to achieve the equivalent of 35.5 miles per gallon.

- ✓ **Executive Order 13693** - President Obama signed Executive Order 13693, Planning for Federal Sustainability in the Next Decade, in March 2015. This Executive Order focuses on reducing GHG emissions from Federal agencies by 40 percent over the next 10-year period. Federal agencies are required to propose percentage reduction targets for GHG emissions by fiscal year end in 2025.

Various statewide and local initiatives to reduce California's contribution to GHG emissions (referenced below) have raised awareness that, even though the various contributors to, and consequences of, global climate change are not yet fully understood, global climate change is occurring. Every nation emits GHGs; therefore, global cooperation will be required to reduce the rate of GHG emissions. Currently, no state regulations have been adopted in California that establish ambient air quality standards for GHGs; however, California has passed legislation directing CARB to develop actions to reduce GHG emissions.

State Agencies

- ✓ **California Air Resources Board (CARB)** – CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing its own air quality legislation called the CCAA, adopted in 1988. CARB was created in 1967 from the merging of the California Motor Vehicle Pollution Control Board and the Bureau of Air Sanitation and its Laboratory.

CARB has primary responsibility in California to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the EPA. Whereas CARB has primary responsibility and produces a major part of the SIP for pollution sources that are statewide in scope, it relies on the local air districts to provide additional strategies for sources under their jurisdiction. CARB combines its data with all local district data and submits the completed SIP to the EPA. The SIP consists of the emissions standards for vehicular sources and consumer products set by CARB, and attainment plans adopted by the Air Pollution Control Districts (APCDs) and Air Quality Management District's (AQMDs) and approved by CARB.

State Regulations

- ✓ **California Strategy to Reduce Petroleum Dependence - Assembly Bill (AB 2076)** - The strategy, *Reducing California's Petroleum Dependence*, was adopted by the California Energy Commission (CEC) and the California Air Resources Board (CARB) in 2003. The strategy recommends that California reduce on-road gasoline and diesel fuel demand to 15 percent below 2003 demand levels by 2020 and maintain that level for the foreseeable future; the Governor and the Legislature work to establish

national fuel economy standards that double the fuel efficiency of new cars, light trucks, and sport utility vehicles (SUVs); and increase the use of non-petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

- ✓ **AB 1493 (Pavley)** - AB 1493 (Pavley) enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB would apply to 2009 and later model year vehicles. CARB estimated that the regulation would reduce climate change emissions from light duty passenger vehicles by an estimated 18 percent in 2020 and by 27 percent in 2030 [Association of Environmental Professionals (AEP) 2007]]. In 2005, the CARB requested a waiver from U.S. EPA to enforce the regulation, as required under the CAA. Despite the fact that no waiver had ever been denied over a 40-year period, the then Administrator of the EPA sent Governor Schwarzenegger a letter in December 2007, indicating he had denied the waiver. On March 6, 2008, the waiver denial was formally issued in the *Federal Register*. Governor Schwarzenegger and several other states immediately filed suit against the federal government to reverse that decision. On January 21, 2009, CARB requested that EPA reconsider denial of the waiver. EPA scheduled a re-hearing on March 5, 2009. On June 30, 2009, EPA granted a waiver of CAA preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year.

- ✓ **Energy: Planning and Forecasting, Senate Bill 1389 (SB 1389)** - Passed in 2002, SB 1389 requires the CEC to adopt and present to the Governor and Legislature a report of findings every two years. The Integrated Energy Policy Report make recommendations to increase California's energy supplies, reduce energy demand, broaden the range of alternatives to conventional energy sources, and improve the State's energy delivery infrastructure.

In the 2006 Integrated Energy Policy Report Update, the CEC states that California's population is expected to grow by 20 million people between 2000 and 2050 and that this growth will strain California's energy and infrastructure system. The report was updated in 2008, 2010, 2012, 2014 and again in 2016. The 2016 update focused on a variety of energy issues, including:

- The role of transportation in meeting state climate, air quality, and energy goals.
- Report status of statewide plug-in electric vehicle infrastructure.
- Obstacles and opportunities for electric vehicle infrastructure deployment.
- Marketing effort of Alternative and Renewable Fuel and Vehicle Technology Program investments.
- Connection with natural gas infrastructure and evaluation of methane emissions.
- The integration of environmental information in renewable energy planning processes.

- ✓ **Executive Order S-3-05** - Governor Schwarzenegger established Executive Order S-3-05 in 2005. This Executive Order set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The executive order directed the Secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The Secretary will also submit biannual reports to the Governor and Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the Cal/EPA Secretary created the Climate Action Team (CAT), made up of members from various State agencies and commissions. The team released its first report in March 2006, which proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

- ✓ **AB 32 (California Global Warming Solutions Act of 2006)** - California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599), which established regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and established a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions sufficient to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated

to significantly increase emissions. Under AB 32, CARB was required to adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 emission cap by 2020.

On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit.

- ✓ **California Global Warming Solutions Act of 2006: emissions limit, or SB 32** – SB 32 is a California Senate bill expanding upon AB 32 to reduce greenhouse gas (GHG) emissions. The lead author is Senator Fran Pavley and the principal co-author is Assembly member Eduardo Garcia. SB 32 was signed into law on September 8, 2016, by Governor Edmund Gerald “Jerry” Brown Jr. SB 32 sets into law the mandated reduction target in GHG emissions as written into Executive Order B-30-15. SB 32 requires that there be a reduction in GHG emissions to 40% below the 1990 levels by 2030. Greenhouse gas emissions include carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons. https://en.wikipedia.org/wiki/California_Senate_Bill_32_-_cite_note-GHG_overview-2 The California Air Resources Board (CARB) is responsible for ensuring that California meets this goal. The provisions of SB 32 were added to Section 38566 of the Health and Safety Code subsequent to the bill's approval. The bill went into effect January 1, 2017. SB 32 builds onto Assembly Bill (AB) 32 written by Senator Fran Pavley and Assembly Speaker Fabian Nunez passed into law on September 27, 2006. https://en.wikipedia.org/wiki/California_Senate_Bill_32_-_cite_note-AB_32_text-3 AB 32 required California to reduce greenhouse gas emissions to 1990 levels by 2020 and SB 32 continues that timeline to reach the targets set in Executive Order B-30-15. SB 32 provides another intermediate target between the 2020 and 2050 targets set in Executive Order S-3-05.
- ✓ **AB 1007** - AB 1007, (Pavley, Chapter 371, Statutes of 2005) directed the CEC to prepare a plan to increase the use of alternative fuels in California. As a result, the CEC prepared the State Alternative Fuels Plan in consultation with the 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 greenhouse gas emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.
- ✓ **Bioenergy Action Plan – Executive Order #S-06-06** - Executive Order #S-06-06 establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order establishes the following target to increase the production and use of bioenergy,

including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The executive order also calls for the state to meet a target for use of biomass electricity.

- ✓ **Executive Order S-1-07** - Executive Order S-1-07, which was signed by Governor Schwarzenegger in 2007, proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least ten percent by 2020. This order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure to meet the mandates in AB 32. On April 23, 2009, CARB approved the proposed regulation to implement the LCFS. The LCFS will reduce GHG emissions from the transportation sector in California by about 16 MMT in 2020, and is designed to reduce California's dependence on petroleum, create a lasting market for clean transportation technology, as well as stimulate the production and use of alternative, low-carbon fuels. The LCFS is designed to provide a durable framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. This framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. One standard is established for gasoline and the alternative fuels that can replace it. A second similar standard is set for diesel fuel and its replacements.

The standards are “back-loaded” meaning that more reductions are required in the last five years than the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the LCFS will be based on a combination of strategies involving lower carbon fuels and more efficient, advanced-technology vehicles.

- ✓ **Climate Action Program at Caltrans** - The California Department of Transportation, Business, Transportation, and Housing Agency, prepared a Climate Action Program in response to new regulatory directives. The goal of the Climate Action Program is to promote clean and energy efficient transportation, and provide guidance for mainstreaming energy and climate change issues into business operations. The overall approach to lower fuel consumption and CO₂ from transportation is twofold: (1) reduce congestion and improve efficiency of transportation systems through smart land use, operational improvements, and Intelligent Transportation Systems; and (2) institutionalize energy efficiency and GHG emission reduction measures and technology into planning, project development, operations, and maintenance of transportation facilities, fleets, buildings, and equipment.

The reasoning underlying the Climate Action Program is the conclusion that “the most effective approach to addressing GHG reduction, in the short-to-medium term, is strong technology policy and market mechanisms to encourage innovations. Rapid development and availability of alternative fuels

and vehicles, increased efficiency in new cars and trucks (light and heavy duty), and super clean fuels are the most direct approach to reducing GHG emissions from motor vehicles (emission performance standards and fuel or carbon performance standards).”

- ✓ **SB 97** - SB 97, signed August 2007 (Chapter 185, Statutes of 2007; PRC Sections 21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the Governor’s Office of Planning and Research (OPR) to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions (or the effects of GHG emissions), as required by CEQA, by July 1, 2009. The Resources Agency was required to certify and adopt those guidelines by January 1, 2010. SB 97 also removed, both retroactively and prospectively, the legitimacy of litigation alleging inadequate CEQA analysis of effects of GHG emissions in the environmental review of projects funded by the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006 or the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1B or 1E). This provision was repealed by operation of law on January 1, 2010; at that time, any such projects that remain unapproved would no longer be protected against litigation claims of failure to adequately address climate change issues. In the future, this bill will only protect a handful of public agencies from CEQA challenges on certain types of projects, and only for a few years’ time.

As set forth more fully below, in June 2008, the Office of Planning and Research (OPR) published a technical advisory recommending that CEQA lead agencies make a good-faith effort to estimate the quantity of GHG emissions that would be generated by a proposed project. Specifically, based on available information, CEQA lead agencies should estimate the emissions associated with project-related vehicular traffic, energy consumption, water usage, and construction activities to determine whether project-level or cumulative impacts could occur, and should mitigate the impacts where feasible (Governor's Office of Planning and Research, 2008). OPR requested CARB technical staff to recommend a method for setting CEQA thresholds of significance, as described in Section 15064.7 of *CEQA Guidelines* that will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

Senate Bill 97 (Chapter 185, 2007) required OPR to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. OPR prepared its recommended amendments to the State CEQA Guidelines to provide guidance to public agencies regarding the analysis and mitigation of greenhouse gas emissions and the effects of greenhouse gas emissions in draft CEQA documents. The Amendments became effective on March 18, 2010.

- ✓ **SB 375** - SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a SCS or alternative planning strategy (APS) that will prescribe land use allocation in that MPO’s Regional Transportation Plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs

emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects may not be eligible for funding.

This law also extends the minimum time period for the regional housing needs allocation cycle from five years to eight years for local governments located within an MPO that meets certain requirements. Provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

- ✓ **California Renewable Portfolios Standard (RPS), SB 1078** - SB 1078 (Stats. 2002, Ch. 516) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide 20 percent of their supply from renewable sources by 2017 but later moved forward by SB 1078 to require compliance by 2010. In addition, providers subject to the RPS must increase their renewable share by at least one percent each year. In 2011, Governor Brown signed the California Renewable Energy Resources Act of 2011, also known as Senate Bill 2 (Stats. 2011, 1st Ex. Sess., Ch. 1; SB X1-2) that applies renewable energy standards to all energy providers and requires a 33 percent renewable mix by 2020.
- ✓ **California Climate Action Registry General Reporting Protocol** - The California Climate Action Registry (CCAR) was established in 2001 by SB 1771 and SB 527 (Chapter 1018, Statutes of 2000, and Chapter 769, Statutes of 2001, respectively) as a nonprofit voluntary registry for GHG emissions. The purpose of the CCAR is to help companies and organizations with operations in the State to establish GHG emissions baselines against which any future GHG emissions reduction requirements may be applied. CCAR has developed a general protocol and additional industry-specific protocols that provide guidance on how to inventory GHG emissions for participation in the registry.

This protocol provides the principles, approach, methodology, and procedures required for participation in CCAR. It is designed to support the complete, transparent, and accurate reporting of an organization's GHG emissions inventory in a fashion that minimizes the reporting burden and maximizes the benefits associated with understanding the connection between fossil fuel consumption, electricity use, and GHG emissions in a quantifiable manner. The most updated version of this protocol was prepared in April 2008. All cabinet-level state agencies and departments have joined the CCAR. Membership in the CCAR means that all members of the Governor's Cabinet will be reporting their GHG emissions on a yearly basis.

- ✓ **California Code of Regulations Title 24** - Although not originally intended to reduce greenhouse gas emissions, California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for

Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The GHG emission inventory was based on Title 24 standards as of October 2005; however, Title 24 has been updated as of 2008. Energy efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in greenhouse gas emissions. Therefore, increased energy efficiency results in decreased greenhouse gas emissions.

- ✓ **CAPCOA January 2008 CEQA and Climate Change** - In January 2008, the California Air Pollution Control Officers Association (CAPCOA) issued a “white paper” on evaluating GHG emissions under CEQA. The CAPCOA white paper strategies are not guidelines and have not been adopted by any regulatory agency; rather, the paper is offered as a resource to assist lead agencies in considering climate change in environmental documents.

The CAPCOA white paper addresses what constitutes new emissions, how baseline emissions should be established, what should be considered cumulatively considerable under CEQA, what a business as usual (BAU) scenario means, and whether an analysis should include life-cycle emissions. The CAPCOA white paper also contains a Climate Change Significance Criteria Flow Chart that proposes a tiered approach to determining significance under CEQA. The flow chart would consider a proposed plan’s impact to be less than significant if a General Plan for the project area exists that is in compliance with AB 32 (showing that GHG emissions for 2020 would be less than 1990 emissions for the plan area). The flow chart would consider a proposed project’s impact to be significant unless one of the following can be demonstrated:

- The project is exempt under SB 97;
- The project is on the “Green List” (or a list of projects that are deemed a positive contribution to California efforts to reduce GHG emissions); A General Plan for the project area exists that is in compliance with AB 32; and/or
- GHG emissions are analyzed and mitigated to less-than-significant.

The CAPCOA white paper considers GHG impacts to be exclusively cumulative impacts.

- ✓ **CARB Climate Change Proposed Scoping Plan** - In accordance with AB 32, CARB developed the 2008 Scoping Plan to outline the State’s strategy to achieve 1990 level emissions by year 2020. To estimate the reductions necessary, CARB projected statewide 2020 BAU GHG emissions (i.e., GHG emissions in the absence of statewide emission reduction measures). CARB identified that the State as a whole would be required to reduce GHG emissions by 28.5 percent from year 2020 BAU to achieve the targets of AB 32. The GHG emissions forecast was updated as part of the First Update to the Scoping Plan. In the First Update to the Scoping Plan, CARB projected that statewide BAU emissions in 2020

would be approximately 509 million MTCO₂e. Therefore, to achieve the AB 32 target of 431 million MTCO₂e (i.e., 1990 emissions levels) by 2020, the State would need to reduce emissions by 78 million MTCO₂e compared to BAU conditions, a reduction of 15.3 percent from BAU in 2020. Several statewide strategies to reduce GHG emission are identified in the 2008 Scoping Plan and would ensure the State is on target to achieve the GHG emissions reduction goals of AB 32.

Statewide GHG emissions reduction measures that are being implemented would apply to future development and vehicle travel allowed under the updated Comp Plan and would therefore reduce the Region's future GHG emissions. As described in the 2014 First Update to the Scoping Plan, as California continues to build its climate policy framework, there is a need for local government climate action planning to adopt mid-term and long-term reduction targets that are consistent with scientific assessments and the statewide goal of reducing emissions 80 percent below 1990 levels by 2050.

CARB identifies that local government reduction targets should chart a reduction trajectory that is consistent with, or exceeds, the trajectory created by statewide goals. CARB has completed the 2030 Target Scoping Plan Update to address the new interim GHG reduction target for 2030 under SB 32 of 40 percent below 1990 levels (November 2017). The California Air Resources Board (CARB) is responsible for ensuring that California meets this goal. The bill went into effect January 1, 2017.

The 2030 Target Scoping Plan update focuses on statewide strategies to achieve the GHG reductions for year 2030 required under SB 32, which are a 40 percent reduction from 1990 levels. There is no legislative target or plans being prepared to address the GHG reductions needed to achieve the long-term GHG goal for 2050 identified in Executive Order S-03-05 because it is not a State legislative target. Consequently, consistency with statewide GHG reduction strategies focuses on consistency with plans adopted to achieve the legislative target for year 2020 established under AB 32 and outlined in the Scoping Plan.

- ✓ **2013 Zero Emission Vehicle Action Plan** - Governor Brown issued Executive Order B-16-2012 in 2012, which calls for the rapid commercialization of zero emission vehicles (ZEV). The goal of this Executive Order is to have 1.5 million ZEVs on California's roads by 2025. The order targets the transportation sector and calls for a reduction of GHG emissions to 80 percent below 1990 levels by 2020.
- ✓ **Senate Bill 743 (SB 743)** - On September 27, 2013, Governor Brown signed Senate Bill 743 (Steinberg, 2013). Among other things, SB 743 creates a process to change analysis of transportation impacts under CEQA. Currently, environmental review of transportation impacts focuses on the delay that vehicles experience at intersections and on roadway segments. That delay is measured using a metric known as "level of service," or LOS. Mitigation for increased delay often involves increasing capacity (i.e. the width of a roadway or size of an intersection), which may increase auto use and emissions and discourage alternative forms of transportation. Under SB 743, the focus of transportation analysis

will shift from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks and promotion of a mix of land uses.

Specifically, SB 743 requires the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines (Title 14 of the California Code of Regulations sections and following) to provide an alternative to LOS for evaluating transportation impacts. Particularly within areas served by transit, those alternative criteria must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses". Measurements of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated". OPR also has discretion to develop alternative criteria for areas that are not served by transit, if appropriate.

At the time of preparation of this Draft EIR, SB 743 has not yet been adopted into CEQA. In November 2017, OPR developed final guidelines for the implementation of SB 743 and sent them to the Natural Resources Agency for adoption. A formal adoption process is currently underway. OPR's guidelines recommend a target date of January 1, 2020 for statewide implementation of SB 743.

- ✓ **Senate Bill 350 (SB 350)** - SB 350, adopted in 2015, supports GHG emissions from the electric sector through various measures. These measures include a doubling statewide energy efficiency savings in electricity and natural gas by retail customers by 2030 and requiring a fifty percent renewables portfolio standard for electricity providers by the year 2030.
- ✓ **Executive Order B-30-15** - Executive Order B-30-15, which was signed by Governor Brown in 2016, establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPO's to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.
- ✓ **Senate Bill 1383 (SB 1383)** – SB 1383, adopted in 2016, requires approval and implementation of a comprehensive strategy to reduce emissions of short-lived climate pollutants by CARB. SB 1383 mandates the strategy set the following targets for the year 2030:
 - Methane – 40% below 2013 levels
 - Hydrofluorocarbons – 40% below 2013 levels
 - Anthropogenic black carbon – 50% below 2013 levels

SB 1383 also mandates that CalRecycle adopt regulations geared toward achieving the specified targets for the reduction of organic waste in landfills.

- ✓ **SB 1: Transportation Funding** - SB 1, the Road Repair and Accountability Act of 2017, was signed into law on April 28, 2017. This legislative package invests \$54 billion over the next decade to fix roads, freeways and bridges in communities across California and puts more dollars toward transit and safety. These funds will be split equally between state and local investments. Implementation: SB 1's investment in transportation is split equally between the state and cities and counties. The cities and counties will receive \$26 billion and the state highway system will also receive \$26 billion. Investing to Meet Needs: SB 1 provides support for state and local systems to meet four critical needs, those needs are: Congestion Relief, Trade Corridor Improvements, Improved Transit/Rail Travel, and Pedestrian/Cyclist Safety Projects. Transportation Future: By 2027, Caltrans will repair or replace 17,000 miles of pavement, 55,000 culverts or drains 7,700 signals, signs and sensors, and 500 bridges.

<http://rebuildingca.ca.gov/>

Regional

- ✓ **San Joaquin Valley Air Pollution Control District**

To assist Lead Agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific greenhouse gas emissions (GHG) on global climate change, the San Joaquin Valley Air Pollution Control District (SJVAPCD) has adopted the guidance: *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and the policy: *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The guidance and policy rely on the use of performance based standards, otherwise known as Best Performance Standards (BPS) to assess significance of project specific greenhouse gas emissions on global climate change during the environmental review process, as required by CEQA. Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual, is required to determine that a project would have a less than cumulatively significant impact. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project related impacts on global climate change.

Environmental Setting

Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Global Climate Change (GCC) means a shift in the climate of the earth as a whole that occurs naturally as in the case of the ice age. According to the California Air Resources Board (CARB), the climate change that is occurring today differs from previous climate changes in both time and scale.

Gases that catch heat in the atmosphere are regularly called greenhouse gases (GHGs). The Earth's surface temperature would be about 61 degrees Fahrenheit colder than it is currently if it were not for the innate heat trapping effect of GHGs. The buildup of these gases in the earth's atmosphere is considered the source of the observed increase in the earth's temperature (global warming). Some greenhouse gases such as carbon dioxide occur naturally in nature and are emitted to the atmosphere through natural processes and as well as through some anthropocentric activities. Other GHGs (e.g., fluorinated gases) are created and emitted solely through human activities.

Since the Industrial Revolution (circa 1750), global concentrations of carbon dioxide (CO₂) have risen about 36%, chiefly due to the burning of fossil fuels. Questions remain about the amount of warming that will occur, how rapidly it will occur, and how the warming will affect the rest of the climate system, including weather events.

The United Nations IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The IPCC concluded that a stabilization of GHGs at 400 to 450 parts per million (ppm) CO₂ equivalent concentration is required to keep global mean warming below 3.6° Fahrenheit (2° Celsius). This is presumed necessary to avoid dangerous climate change (Association of Environmental Professionals, 2007).

State law defines greenhouse gases as any of the following compounds: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆) (California Health and Safety Code Section 38505(g).) CO₂, followed by CH₄ and N₂O, are the most common GHGs that result from human activity. The characteristics of state defined GHGs are described below:

- ✓ **Carbon dioxide** – CO₂ results from fossil fuel combustion in stationary and mobile sources. It contributes to the greenhouse effect, but not to stratospheric ozone depletion. In 2019, CO₂ accounted for approximately 83 percent of total GHG emissions in the State (CARB, 2022);
- ✓ **Methane** – CH₄ can also be divided into anthropogenic (i.e., resulting from human activities and/or processes) and natural sources. Anthropogenic sources include rice agriculture, livestock, landfills, and waste treatment, some biomass burning, and fossil fuel combustion. Natural sources are wetlands, oceans, forests, fire, termites and geological sources. In 2019, CH₄ accounted for approximately 9 percent of total GHG emissions in the State (CARB, 2022); and
- ✓ **Other regulated GHGs include Nitrous Oxide (N₂O), Sulfur Hexafluoride (SF₆), Hydrofluorocarbons (HFC), and Perfluorocarbons (PFC)** - These gases all possess heat-trapping characteristics that are greater than CO₂. Emission sources of nitrous oxide gases include, but are not limited to, waste combustion, waste water treatment, fossil fuel combustion, and fertilizer production. Because the

volume of emissions is small, the net effect of nitrous oxide emissions relative to CO₂ or CH₄ is relatively small. SF₆, HFC, and PFC emissions occur at even lower rates.

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally-occurring GHGs such as CO₂, methane, and N₂O, some gases, like HFCs, PFCs, and SF₆ are completely new to the atmosphere.

Certain other gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change over the long-term. Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2°C (0.36° Fahrenheit) per decade is projected, and there are identifiable signs that global warming is taking place, including substantial ice loss in the Arctic.

It has become evident that human activities are continuing to impact the earth's energy budget. Observations of atmosphere, land, oceans, and cryosphere have provided evidence of climate change which is largely the result of human activities. The average global surface air temperatures over land and oceans have increased over the last 100 years as discussed in detail in numerous publications by the IPCC, namely "Climate Change 2013, The Physical Science Basis".

Climate change modeling shows that further warming could occur, which would induce additional changes in the global climate system during the current century. GHGs have the potential to affect the environment because such emissions are believed to contribute cumulatively to global climate change. Although GHG emissions from one single project will not by themselves cause global climate change, it is thought that GHG emissions from multiple projects, past, present and future throughout the world may collectively result in a cumulative impact with respect to global climate change. It is predicted that global climate change will contribute to increased average temperatures and more intense heat waves; rising sea levels, which can inundate low-lying areas; changes in precipitation patterns, which could affect water supply; increased risk of wildfire; affect habitat, and other biological resources, along with other unknown effects.

The consumption of nonrenewable energy (primarily gasoline and diesel fuel) associated with construction activities and the operation of passenger, public transit, and commercial vehicles results in

GHG emissions that cause global climate change. In addition, alternative fuels like natural gas including Compressed Natural Gas (CNG) and liquefied natural gas (LNG), ethanol, and electricity (unless derived from solar, wind, nuclear, or another energy source that does not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Changes in California's climate and ecosystems are occurring at a time when the State's population is expected to increase from 40 to 44 million by 2046, according to the California State Department of Finance. As such, the number of people potentially affected by climate change, as well as the amount of anthropogenic GHG emissions expected under a "business as usual" scenario, is expected to increase. Climate models indicate that temperatures in California may rise by 4.7°F to 10.5°F by the end of the century if GHG emissions continue to proceed at a medium or high rate (CEC, 2006). Lower emission rates would reduce the projected warming to 3.0°F to 5.6° Fahrenheit. Almost all climate scenarios include a continuing trend of warming through the end of the century given the amounts of GHGs already released, and the difficulties associated with reducing emissions to a level that would stabilize the climate. Total GHG emissions in California have been approximated by CARB, which found that 418.2 MMT of CO₂E GHG emissions were produced in California in 2019. CARB also found transportation to be the source of 41 percent of the State's GHG emissions, followed by industrial sources at 24 percent and electricity generation at 14 percent.

The IPCC was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information to further understand climate change, its potential impacts, and options for adaptation and mitigation. The IPCC predicts substantial increases in temperatures globally of between 1.1 to 6.4 degrees Celsius, depending on the scenario studied. This may impact California's natural environment in the following ways:

- ✓ Rising sea levels along the California coastline, particularly in the San Francisco Bay Area and within the San Joaquin Delta because of ocean expansion.
- ✓ Extreme-heat conditions, such as heat waves and very high temperatures, which could last longer and become more frequent.
- ✓ An increase in heat-related human deaths, infectious diseases, and a higher risk of respiratory problems caused by deteriorating air quality.
- ✓ Reduced snow pack and stream flow in the Sierra Nevada mountains, affecting winter recreation and water supplies.
- ✓ Potential increases in the severity of winter storms, affecting peak stream flows and flooding.

- ✓ Changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield.
- ✓ Changes in the distribution of plant and wildlife species because of changes in temperature, competition from colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects.
- ✓ Increases in the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas of Los Angeles and the San Joaquin Valley by the end of the 21st century.
- ✓ High potential for erosion of California’s coastlines and seawater intrusion into the Delta and levee systems due to the rise in sea level.

The State of California GHG Inventory performed by CARB compiled statewide human sources of GHG emissions. It includes estimates for carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons. The current inventory covers the years 2000, 2005, 2010, 2014 and 2015 and is summarized in Table 3-44. When accounting for GHGs, all types of GHG emissions are expressed in terms of CO₂ equivalents (CO₂E) and are typically quantified in metric tons (MT) or millions of metric tons (MMT). Data sources used to calculate this GHG inventory include California state and federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the IPCC. The 2000 emissions level is the sum total of sources from all sectors and categories in the inventory. The inventory is divided into six (6) broad sectors and categories. These sectors include agriculture, commercial, electricity power, industrial, residential, and transportation. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills, among other sources. Sinks of carbon dioxide include uptake by vegetation and dissolution into the ocean.

TABLE 3-44
State of California GHG Inventory (2000-2015)

Economic Sector	Greenhouse Gas Emissions (MMTCo ₂ e)								% of Total in 2000	% of Total in 2019	% Change in Emission	
	2000	2005	2010	2015	2016	2017	2018	2019			2000-2019	2018-2019
Agriculture & Forestry	30.97	33.70	33.68	33.53	33.29	32.49	32.75	31.75	6.6%	7.6%	2.5%	-3.1%
Commercial	14.12	15.79	20.09	22.03	23.19	23.40	23.90	24.17	3.0%	5.8%	71.2%	1.1%
Electricity Power	105.26	108.13	90.54	84.96	68.67	62.31	63.25	58.98	22.5%	14.1%	-44.0%	-6.8%
Industrial	104.60	104.76	101.26	101.33	100.28	100.27	100.81	99.91	22.4%	23.9%	-4.5%	-0.9%
Residential	31.73	30.29	32.13	27.95	29.28	30.39	30.48	33.02	6.8%	7.9%	4.1%	8.3%
Transportation	181.28	190.99	170.21	170.92	174.31	175.63	173.95	170.32	38.7%	40.7%	-6.0%	-2.1%
Total Emissions	468.0	483.7	447.9	440.7	429.0	424.5	425.1	418.2	--	--	-10.6%	-1.6%

Source: ARB California Greenhouse Gas Inventory for 2000-2019

Environmental Impacts, Mitigation Measures and Significance After Mitigation

Criteria for Significance

As with any environmental impact, lead agencies must determine what constitutes a significant impact. In the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a “significant impact”, individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice. The potential effects of a project may be individually limited but cumulatively significant. Lead agencies should not dismiss a proposed project’s direct and/or indirect climate change impacts without careful consideration, supported by substantial evidence. Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less than significant level as a means to avoid or substantially reduce the cumulative impact of a project, encourages reliance on other Environmental Impact Reports that discuss greenhouse gases, and tiering from them.

As described previously, the State Legislature and the global scientific community have found that global climate change poses significant adverse effects to the environment of California and the entire world. To mitigate these adverse effects the State Legislature enacted AB 32 and SB 32, which require statewide GHG reductions to 1990 levels by 2020 and 40 percent below 1990 levels by 2030.

AB 32, S-3-05, and SB 32 target the reduction of statewide emissions. It should be made clear that AB 32, S-3-05, and SB 32 do not specify that the emissions reductions should be achieved through uniform reduction by geographic location or by emission source characteristics. Consistency with AB 32, SB 32, and SB 375 will be used to assess significance with respect to greenhouse gas (GHG) emissions.

SB 375 requires that MCTC and other MPOs throughout California develop RTPs that include a preferred SCS scenario that achieves GHG emission targets set forth by CARB. The emission targets set for Madera County by CARB are to achieve a 10% reduction in GHG emissions between 2005 and 2020 and a 16% reduction in GHG emissions between 2005 and 2035. The CARB SB 375 Implementation in the San Joaquin Valley document can be obtained from the following link:

https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375_Updated_Final_Target_Staff_Report_2018.pdf

The following significance criteria were used to determine the level of significance of impacts of transportation improvement projects or land uses proposed by the Project. Significance criteria were developed based on Appendix G of the State CEQA Guidelines. In general, an individual improvement

project and new development project contained within the RTP/SCS would result in a significant GHG impact if the project would:

- ✓ Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- ✓ Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Methodology

Climate change is a significant global cumulative impact that could also have a substantial effect on the natural environment of California and Madera County. The potential contribution of the 2022 RTP to this cumulative impact is discussed below.

State action on climate change is mandated by AB 32 and SB 32. MCTC, along with other regional planning agencies throughout the State, will be monitoring the progress of State agencies in developing approaches to address GHG emissions. As agreed-upon approaches for project-level CEQA analysis and for transportation planning are established, MCTC expects that climate change will be a key environmental consideration in future regional transportation planning. Both MCTC and responsible agencies implementing projects and future land use objectives outlined in the 2022 RTP/SCS will be required to adhere to any future applicable mandatory regulations regarding global warming resulting from the passage of AB 32 and SB 32.

Although the MPOs do not have land use authority to implement more compact and energy efficient land use, or limit growth, the eight San Joaquin Valley Councils of Governments or County Transportation Commissions prepared the San Joaquin Valley Blueprint and have each prepared or are preparing a preferred SCS scenario for inclusion in their 2022 RTP. The Blueprint process led to a preferred land use scenario separate from the local government general plan process. The agencies also prepared a Blueprint Implementation Plan including a ToolKit that is available to local agencies throughout the Valley to use as they review development projects and prepare land use plans and policies.

The SJVAPCD provides a methodology for addressing Greenhouse Gas Emission for Stationary Sources and for Development projects in *Addressing Greenhouse Gas Emissions under the California Environmental Quality Act*. The methodology relies on the use of performance based standards that would be applicable to projects that result in increased GHG emissions. The SJVAPCD notes that the use of performance based standards is not a method of mitigating emissions, rather it is a method of determining significance of project specific GHG emission impacts using established specifications or project design elements: Best Performance Standards (BPS).

In the SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* it states that projects implementing Best Performance Standards in accordance with the guidance would be determined to have a less than significant individual and cumulative impact on global climate change and would not require project specific quantification of GHG emissions. Projects exempt from the requirements of CEQA, and projects complying with an approved GHG emission reduction plan or mitigation program would also be determined to have a less than significant individual or cumulative impact. Projects not implementing BPS would require quantification of project specific GHG emissions. To be determined to have a less than significant individual and cumulative impact on global climate changes, such projects must be determined to have reduced or mitigated GHG emissions by 29%, consistent with GHG emission reduction targets established in ARB's AB 32 Scoping Plan. Furthermore, quantification of GHG emissions would be expected for all projects for which the lead agency has determined that an Environmental Impact Report (EIR) is required, regardless of whether the project incorporates Best Performance Standards.

While this methodology is deemed appropriate for project-level analysis and could apply to the project-level analysis for individual RTP projects, it is not a methodology for program-level analysis. Instead, the analysis used for the 2022 RTP quantifies GHG emissions associated with the 2022 RTP/SCS. The 2022 EIR GHG analysis does not look at GHG emission sources that are non-transportation related (i.e. industrial, commercial, etc.). Neither CEQA nor the CEQA Guidelines mention or provide any methodology for analysis of "greenhouse gases," including CO₂, nor do they provide any numeric significance thresholds. However, the air quality model used to predict emissions rates of the criteria pollutants (EMFAC) is capable of modeling the emissions of CO₂. MCTC analyzed CO₂ emissions and fuel-consumption impacts from on-road travel resulting from the proposed 2022 RTP/SCS.

The impact assessment for GHG emissions focuses on potential effects the Project (2022 RTP/SCS) might have on GHG emissions within the Madera Region. The assessment is not site or individual improvement project-specific but is a "regional analysis".

Impact CC 3.6.1 - Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

The ultimate sources of increased transportation emissions in Madera County are population and employment growth, which will increase with or without projects referenced in the 2022 RTP and land use allocation represented in the SCS. MCTC does not implement land use policy in Madera County; rather, this is under the jurisdiction of the County and the various cities. Decisions about the place, pace, and scale of growth and development are reflected in the general plans and project approvals adopted by the local agencies. The 2022 RTP/SCS is designed to complement, rather than change, the plans adopted by the local agencies. Thus, the ultimate effect of the 2022 RTP/SCS on transportation emissions is not to increase the amount of travel per se, but rather to influence where and how travel occurs within and through the County.

MCTC's ability to address and mitigate climate change impacts is limited primarily to policy and funding decisions related to planned roadway and alternative transportation improvements. As described above, the combustion of fossil fuels during vehicle operations is one of the primary sources of GHG emissions in California. GHG emissions also result from the carbon dioxide, methane, and nitrous oxide that are released during the combustion of gasoline and diesel fuel in construction equipment, vehicles, buses, trucks, and trains; and the use of natural gas to power transit buses and other vehicles. As discussed previously, historical and current global GHG emissions are known by the State and the global scientific community to be causing global climate change, and future increases in GHG emissions associated with the proposed RTP/SCS could exacerbate climate change and contribute to the significant adverse environmental effects described previously. Furthermore, increased GHG emissions associated with the proposed RTP/SCS could impact implementation of the State's mandatory requirement under AB 32 and SB 32 to reduce statewide GHG emissions to 1990 levels by 2020 and 40 percent below 1990 levels by 2030.

✓ **CO2 Emissions**

Emissions associated with the 2022 RTP/SCS can be divided into two categories: passenger transportation associated with light duty trucks and automobiles (LDTA), and goods movement by truck. Consistency with AB 32 will be evaluated by reviewing the Scoping Plan¹ and evaluating whether the actions in the 2022 RTP/SCS will in any way impede implementation of the Scoping Plan. This will be done individually for the LDTA category and the Goods Movement category. The Goods Movement category within the 2022 RTP/SCS comprises emissions associated with goods movement in trucks. The Goods Movement category in the Scoping Plan also includes transportation of goods by vessels, but those categories are not impacted by the 2022 RTP/SCS.

✓ **Light Duty Trucks and Autos:** For LDTA, there are three measures listed in the Scoping Plan. They are:

1. Low Carbon Fuel Standard (LCFS).
2. Pavley Greenhouse Gas Vehicle Standards.
3. Regional Transportation-Related GHG Targets.

The 2022 RTP/SCS will not impact the implementation of the LCFS and the Pavley fuel efficiency standards. The Regional Transportation-Related GHG targets are implemented by SB 375, which establishes mechanisms for the development of regional targets for reducing LDTA greenhouse gas emissions. Through the SB 375 process, regions will work to integrate development patterns and the transportation network to achieve the reduction of greenhouse gas emissions while meeting housing needs and other regional planning objectives.

¹ http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf

SB 375 required CARB to develop, in consultation with MPOs, passenger vehicle greenhouse gas emissions reduction targets for 2020 and 2035. MCTC evaluated the 2022 RTP/SCS for consistency with SB 375 draft targets for the purposes of evaluating significance for GHG emissions. Updated SB 375 targets for each region were published by the CARB in February 2018. The GHG targets for MPOs within the San Joaquin Valley were set at 10% of the GHG emissions relative to 2005 for 2020 and 16% for 2035 exclusive of emission reductions expected from Pavley GHG Vehicle Standards and the LCFS. CO₂ emissions were projected for 2005, 2020, and 2035 using EMFAC2014 Version model. The 2022 RTP/SCS emissions modeling approach assumes the same 2005 base year CO₂ per capita estimate as for the 2018 RTP and adjusts 2020 and 2035 target performance downward to account for fleet mix and emission factor updates between EMFAC2011 used for the 2014 RTP/SCS and EMFAC2014. The EMFAC methodology requested by CARB for the development of the 2022 RTP/SCS is documented in RTP/SCS..

As shown in Table 3-45, the GHG emissions for 2020 and 2035 with Scenario 3 (Preferred Project Alternative) are between 17.8% (2020) and 22.1% (2035) lower than the GHG emissions level of 2005, exclusive of the savings expected from the Pavley GHG Vehicle Standards and the LCFS. As a result, the RTP would meet CARB per capita emission targets set pursuant to SB 375. Table 3-45 also shows that VMT decreases on a per capita basis by 16% in 2020 and 18.8% in 2035.

TABLE 3-45
Future VMT and GHG Emissions

Year	Pounds per Capita GHG Emissions ¹	% Change from 2005 EF11 adjusted	VMT Per Capita	% Change from 2005
2005	17.0	--	18.7	--
2020	14.0	-17.8%	15.7	-16.0%
2035	13.3	-22.1%	15.2	-18.8%

1: Total CO₂ Emissions
 Source: MCTC, 2014

Goods Movement: The Goods Movement category includes the following measures in the Scoping Plan:

1. Ship Electrification at Ports (not applicable in Madera County)
2. System-Wide Efficiency Improvements
3. Heavy-Duty Vehicle Greenhouse Gas Emission Reduction (Aerodynamic Efficiency)
4. Medium- and Heavy-Duty Vehicle Hybridization

Medium Duty and Heavy Duty on road goods movement emissions were quantified using the MCTC travel demand model and EMFAC2014. Total GHG emissions results for medium- and heavy-duty trucks can be found in Table 3-46.

TABLE 3-46
GHG Emissions¹ (Goods Movement)
(Tons/Day)

Year	Total Emissions
2019	1,035
2025	947
2029	946
2037	956
2046	952

1: Total CO2 Emissions
Source: MCTC 2022

Although GHG emissions appear to increase slightly from 2025 to 2046, these emissions calculations do not reflect emissions reductions attributable to the Goods Movement Emissions Reduction Plan or non-regulatory reductions achieved from the implementation of the Goods Movement portion of Proposition 1B (2006). While non-regulatory measures and measures not approved at the time of the release of EMFAC2014 cannot be accurately reflected in the emissions model, implementation of the Goods Movement Emissions Reduction Plan and the 2007 State Implementation Plan will lead to emissions reductions consistent with the AB 32 scoping plan for the goods movement sector. The 2022 RTP/SCS does not hinder the implementation of these plans, and therefore, emissions reductions are anticipated to be consistent with the goals of AB 32 and SB 32.

It is also important to note that emissions estimates contained within CARB's Goods Movement Emissions Reductions Plan from the goods movement sectors continue to grow in the future. As indicated in the Goods Movement Reductions Plan, regulatory actions are, and will remain the framework for emissions reductions. The 2022 RTP/SCS does not interfere with the implementation of CARB regulatory actions.

The Goods Movement Emissions Reduction Plan (required by Proposition 1B) and the 2007 State Implementation Plan contain numerous measures designed to reduce the public health impact of goods movement in California. The SJVAPCD has been awarded Prop 1B funding for heavy-duty truck

replacement and retrofit projects. Emissions reductions resulting from these projects are outside the scope of the RTP/SCS because the availability and extent of engine retrofits is a site- and project-specific issue and therefore MCTC has not assumed any reduction in potential RTP impacts as a result of potential project-level retrofits. Significant reductions as a result of this measure however, are not expected even at the project-level.

✓ **Population Growth**

Between 2010 and 2019, Madera County and its incorporated cities have experienced a wide range of development and population growth. Over the next 24 years, the Madera region will continue to grow rapidly. Between the Year 2019 and 2046, MCTC projects a total employment growth of 17,774 for Madera County. This will accompany an increase in population in the County of 49,352 persons between 2019 and 2046, an increase of 31 percent over the 27-year period. In 2046, the estimated total population for Madera County is 207,038 persons. Table 3-47 presents the population estimates and projections from 2019 through 2046.

GHG emissions associated with implementation of the proposed RTP/SCS are primarily related to a projected increase in Countywide VMT as a result of projected growth in the unincorporated areas of Madera County and the incorporated cities. As described previously, MCTC does not have land use authority within the County or the incorporated Cities. Therefore, MCTC’s ability to mitigate for climate change impacts in this EIR and the 2022 RTP update is largely limited to Smart Growth Incentives, a focus on the SCS for the 2022 RTP Update, and improvements in alternative modes of transportation that may result in decreases in VMT per capita throughout the County.

TABLE 3-47
Population of Madera County (2010 – 2042)
Project (Preferred Project Alternative)

Year	Population	Households	Employment
2019	157,686	49,212	49,708
2035	187,842	60,892	61,439
2046	207,038	66,885	67,482

Source: MCTC, 2022

The State of California GHG Inventory performed by CARB compiled statewide human sources of GHG emissions. It includes estimates for carbon dioxide, methane, nitrous oxide, sulfur hexafluoride,

hydrofluorocarbons, and perfluorocarbons. Current inventory covering the years 2000 to 2019 is summarized in Table 3-44 above. When accounting for GHGs, all types of GHG emissions are expressed in terms of CO₂ equivalents (CO₂E) and are typically quantified in metric tons (MT) or millions of metric tons (MMT). Data sources used to calculate this GHG inventory include California state and federal agencies, international organizations, and industry associations. There is no established methodology to estimate GHG emissions from planned use on a regional scale. However, using available resources, the estimated MMT of GHG emissions has been estimated in Table 3-48 for Madera County.

TABLE 3-48
 GHG Emissions by Sector

Economic Sector	Greenhouse Gas Emissions (MMT CO ₂ e)			
	2019	2020	2035	2042
Agriculture & Forestry	0.14	0.13	0.13	0.13
Commercial	0.08	0.08	0.08	0.08
Electricity Power	0.36	0.33	0.33	0.32
Industrial	0.40	0.40	0.39	0.38
Residential	0.12	0.13	0.13	0.13
Transportation	0.67	0.65	0.64	0.63

Source: VRPA, 2022

Mitigation Measures

The specific impacts on climate change will be evaluated as part of the implementing agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below. In addition, a number of mitigation measures are included in Section 3.4 of the Draft EIR to address criteria emissions.

- ✓ **CC 3.6.1-1 MCTC shall update future Regional Transportation Plans (including Sustainable Community Strategies) to incorporate policies and measures that will lead to further reduced GHG emissions. Such policies and measures may be derived from the General Plans, local jurisdictions'**

Climate Action Plans (CAPs), and other adopted policies and plans of its member agencies that include GHG mitigation and adaptation measures or other sources.

- ✓ **CC 3.6.1-2 Local governments should adopt policies and develop practices that lead to GHG emission reductions. These activities will include, but are not limited to, providing technical assistance and information sharing on developing local Climate Action Plans.**

- ✓ **CC 3.6.1-3 Implementing and local agencies should adopt and implement Climate Action Plans (CAPs, also known as Plans for the Reduction of Greenhouse Gas Emissions as described in State CEQA Guidelines Section 15183.5 Tiering and Streamlining the Analysis of Greenhouse Gas Emissions) that do the following:**
 - Quantify GHG emissions, both existing and projected over a specified period, resulting from activities within each agency’s jurisdiction;
 - Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
 - Identify and analyze the GHG emissions resulting for specific actions or categories of actions anticipated within their respective jurisdictions;
 - Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
 - Establish a mechanism to monitor the plan’s progress toward achieving that level and to require amendment if the plan is not achieving specified levels; and
 - Be adopted in a public process following environmental review.

CAPs should, when appropriate, incorporate planning and land use measures from the California Attorney General’s latest list of example policies to address climate change at both the plan and project level. Specifically, at the plan level, land use plans can and should, when appropriate, incorporate planning and land use measures from the California Attorney General’s latest list of example policies to address climate change, including, but not limited to policies from that web page such as:

- Smart growth, jobs/housing balance, transit-oriented development, and infill development through land use designations, incentives and fees, zoning, and public private partnerships.
- Create transit, bicycle, and pedestrian connections through planning, funding, development requirements, incentives and regional cooperation, and create disincentives for auto use.
- Energy and water-efficient buildings and landscaping through ordinances, development fees, incentives, project timing, prioritization, and other implementing tools.
- In addition, implementing and local agencies should incorporate, as appropriate, policies to encourage implementation of the Attorney General’s list of project-specific mitigation measures.

In addition, CAPs should also incorporate analysis of climate change adaptation, in recognition of the likely and potential effects of climate change in the future regardless of the level of mitigation and in conjunction with Executive Order S-13-08, which seeks to enhance the state’s management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of state’s first climate adaptation strategy.

- ✓ **CC 3.6.1-4** MCTC shall prepare an alternative planning strategy that show a future land use and transportation scenario which meets the reduction targets. The alternative planning strategy does not need to be consistent with financial constraint requirements or realistic latest planning assumptions for land use.

- ✓ **CC 3.6.1-5** MCTC shall continue to work closely with its member agencies to help them participate in the statewide Active Transportation Program (ATP).

- ✓ **CC 3.6.1-6** MCTC shall prepare an alternative planning strategy that show a future land use and transportation scenario which meets the reduction targets. The alternative planning strategy does not need to be consistent with financial constraint requirements or realistic latest planning assumptions for land use.

- ✓ **CC 3.6.1-7** Project Level Environmental Documents

Project level environmental documents shall analyze construction and maintenance and land use development project Greenhouse Gas (GHG) emissions.

- ✓ **CC 3.6.1-8** Off-Model Reduction Strategies

MCTC will work with other affected and responsible agencies to implement the following strategies that are quantified “off-model”:

- Regional electric vehicle (EV) charging infrastructure programs.
- Active transportation projects.
- Vanpool program expansion.
- Rideshare programs.
- Rule 9410 Employer Trip Reductions.
- ITS and other TSM projects.

- ✓ **CC 3.6.1-9** Short-Range Improvement Plan - *Air Quality Measures*

The Short-Range Improvement Plan provides actions that will reduce air emissions between 2022 and 2026. As indicated in the needs assessment sections of the RTP/SCS, the majority of short-term

measures improving air quality are related to system, demand, and control management strategies. Local governments, MCTC, and other regional, state, and federal agencies should take the following actions to facilitate the implementation of strategies necessary to ensure that air quality standards are met:

- MCTC will continue to consult and coordinate with the other seven Valley MPOs and the SJVAPCD in providing focused/unified transportation/air quality planning.
- MCTC and the SJVAPCD will continue to coordinate/consult in activities aimed at achieving both federal and California air quality standards
- Designated responsible governments and agencies will identify and consider Transportation Demand Measures and Transportation Control Measures during State Implementation Plan (SIP) development and carried out where appropriate.
- MCTC will continue to support the SJVAPCD's efforts to integrate appropriate policies and implementation measures identified in the Air Quality Guidelines for General Plans into local general plans.
- MCTC, Madera County and its cities will encourage land-use patterns that reduce automobile dependency, energy consumption and support transit and other alternative modes.
- MCTC will encourage local transit agencies to replace aging fleets with alternative-fueled buses.
- MCTC and local transit agencies will support greater funding flexibility for bus purchases to promote the most energy-efficient models.
- MCTC, in cooperation with Caltrans, will promote park-and-ride lots and parking management strategies where appropriate.
- MCTC, Caltrans, cities and the county support alternate fuel strategies to reduce petroleum fuels. Alternative fuel technology can have a significant impact on reducing petroleum-based fuel consumption.

✓ **CC 3.6.1-10 San Joaquin Valley Clean Transportation Center**

The San Joaquin Valley Clean Transportation Center, which opened in January 2016, provided an additional advancement in clean energy education and incorporation into both residential and business fleets. The Center provides a new regional resource in helping to improve air quality and reduce vehicle emissions. The Center has strong connections and relations with a national network of manufacturers, suppliers and fleets to help improve the regional transportation system. Funding is provided by a California Energy Commission grant through CALSTART.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project

area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce increased transportation GHG emissions on climate change, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Madera County is estimated to grow in population by an estimated 49,352 persons between 2019 and 2046. MCTC has used the best available information to determine whether the 2022 RTP/SCS is consistent with the State's achievement of the AB 32 GHG emission reductions and addresses SB 375 mandates. Implementation of the mitigation measures described above will assist in the reduction of per capita VMT levels throughout Madera County, which will assist in meeting the stated goals of AB 32 and requirements set forth in SB 375. The 2022 RTP/SCS has included numerous projects, action items, funding priorities, a land use allocation to support an active transportation system, and programs to develop and improve alternative modes of transportation throughout the County. MCTC will continue to coordinate with local land use agencies to assist in the development of plans and policies aimed at reducing VMT.

GHG emissions for 2020 and 2035 with the Project are between 17.8% (2020) and 22.1% (2035) lower than the GHG emissions level of 2005, as indicated above. As a result, the RTP would meet ARB per capita emission targets set pursuant to SB 375. Mitigation measures that are presented above help reduce GHG emissions even further to the extent feasible considering requirements set forth in AB 32 and requirements set forth in SB 375. Such measures will also assist in the promotion and implementation of Smart Growth and sustainable planning practices by the cities and the County consistent with the SCS.

Impact CC 3.6.2 - Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As noted previously, California passed the California Global Warming Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. Under AB 32, CARB must adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 emission cap by 2020. On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan.

In accordance with AB 32, CARB developed the 2008 Scoping Plan to outline the State's strategy to achieve 1990 level emissions by year 2020. To estimate the reductions necessary, CARB projected statewide 2020 BAU GHG emissions (i.e., GHG emissions in the absence of statewide emission reduction measures). CARB identified that the State as a whole would be required to reduce GHG emissions by 28.5 percent from year 2020 BAU to achieve the targets of AB 32. The GHG emissions forecast was updated as part of the First

Update to the Scoping Plan. In the First Update to the Scoping Plan, CARB projected that statewide BAU emissions in 2020 would be approximately 509 million MTCO_{2e}. Therefore, to achieve the AB 32 target of 431 million MTCO_{2e} (i.e., 1990 emissions levels) by 2020, the State would need to reduce emissions by 78 million MTCO_{2e} compared to BAU conditions, a reduction of 15.3 percent from BAU in 2020. Several statewide strategies to reduce GHG emission are identified in the 2008 Scoping Plan and would ensure the State is on target to achieve the GHG emissions reduction goals of AB 32.

Statewide GHG emissions reduction measures that are being implemented would apply to future development and vehicle travel allowed under the updated Comp Plan and would therefore reduce the Region's future GHG emissions. As described in the 2014 First Update to the Scoping Plan, as California continues to build its climate policy framework, there is a need for local government climate action planning to adopt mid-term and long-term reduction targets that are consistent with scientific assessments and the statewide goal of reducing emissions 80 percent below 1990 levels by 2050.

CARB identifies that local government reduction targets should chart a reduction trajectory that is consistent with, or exceeds, the trajectory created by statewide goals. CARB has completed the 2030 Target Scoping Plan Update to address the new interim GHG reduction target for 2030 under SB 32 of 40 percent below 1990 levels (November 2017). The California Air Resources Board (CARB) is responsible for ensuring that California meets this goal. The bill went into effect January 1, 2017.

The 2030 Target Scoping Plan update focuses on statewide strategies to achieve the GHG reductions for year 2030 required under SB 32, which are a 40 percent reduction from 1990 levels. There is no legislative target or plans being prepared to address the GHG reductions needed to achieve the long-term GHG goal for 2050 identified in Executive Order S-03-05 because it is not a State legislative target. Consequently, consistency with statewide GHG reduction strategies focuses on consistency with plans adopted to achieve the legislative target for year 2020 established under AB 32 and outlined in the Scoping Plan.

SB 375 requires MPOs to adopt a SCS or APS that will prescribe land use allocation in that MPO's regional transportation plan. For the MCTC region, CARB set targets at 10% per capita decrease in 2020 and a 16% per capita decrease in 2035 from a base year of 2005. As shown in Table 3-45 above, the GHG emissions for 2020 and 2035 with the Project are between 17.8% (2020) and 22.1% (2035) lower than the GHG emissions level of 2005, exclusive of the savings expected from the Pavley GHG Vehicle Standards and the LCFS. As a result, the RTP would meet ARB per capita emission targets set pursuant to SB 375.

Executive Order B-30-15 establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPO's to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.

✓ **Greenhouse Gas Reduction**

MCTC has used the best available information to determine whether the proposed RTP/SCS is consistent with the State's achievement of the AB 32 and SB 32 GHG emission reductions. In light of the uncertainty in the regulatory and technological environment, the 2022 RTP/SCS incorporates all feasible mitigation measures, which are identified below, to reduce the impacts of the proposed project on global climate change. This EIR also includes a requirement that RTP projects incorporate the SJVAPCD's Best Performance Standards for reducing GHG. The RTP has also incorporated numerous policies, action items and funding priorities to develop and improve alternative modes of transportation throughout the County and the incorporated cities in Madera County.

The measures included in the RTP are consistent with the GHG mitigation approaches outlined by the California Attorney General's Office in the May 21, 2008 report titled: *The California Environmental Quality Act, Addressing Global Warming Impacts at the Local Agency Level: Global Warming Measures*. The RTP incorporates measures such as smart growth, jobs/housing balance, and transit-oriented development, which are consistent with the Attorney General's recommendations. The mitigation measures outlined below, and the policies and action items included in the 2022 RTP update, such as the SCS and the analysis of GHG emissions from the Project, are also consistent with the 2017 Regional Transportation Plan Guidelines prepared by the California Transportation Commission, which address *SB 375 mandates*.

✓ **SJVAPCD Best Performance Standards (BPS)**

The SJVAPCD published *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* in December 2009. This guidance document defines Best Performance Standards (BPS) as the most effective achieved in-practice means of reducing or limiting GHG emissions from a GHG emissions source. The document includes BPSs for both traditional stationary source projects, and development projects. For stationary sources, BPSs includes equipment type, equipment design, and operational and maintenance practices for the identified service, operation, or emissions unit class and category. For development projects, BPS focuses on measures that improve energy efficiency and those that reduce vehicle miles traveled.

Mitigation Measures

- ✓ **CC 3.6.2-1** See Mitigation Measures for Impact 3.6.1.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce increased transportation GHG emissions on climate change, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Madera County is estimated to grow in population by an estimated 49,352 persons between 2019 and 2046. MCTC has used the best available information to determine whether the 2022 RTP/SCS is consistent with the State's achievement of the AB 32 GHG emission reductions and addresses SB 375 mandates. Implementation of the mitigation measures described above will assist in the reduction of per capita VMT levels throughout Madera County, which will assist in meeting the stated goals of AB 32 and requirements set forth in SB 375. The 2022 RTP/SCS has included numerous projects, action items, funding priorities, a land use allocation to support an active transportation system, and programs to develop and improve alternative modes of transportation throughout the County. MCTC will continue to coordinate with local land use agencies to assist in the development of plans and policies aimed at reducing VMT.

GHG emissions for 2020 and 2035 with the Project are between 17.8% (2020) and 22.1% (2035) lower than the GHG emissions level of 2005, as indicated above. As a result, the RTP would meet ARB per capita emission targets set pursuant to SB 375. Mitigation measures that are presented above help reduce GHG emissions even further to the extent feasible considering requirements set forth in AB 32 and requirements set forth in SB 375. Such measures will also assist in the promotion and implementation of Smart Growth and sustainable planning practices by the cities and the County consistent with the SCS.

3.7 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

The patterns of human occupation of the area now known as Madera County have left traces of their existence on the land. There are thousands of recorded archeological sites in the County, which are located in the foothills and mountains. Recorded prehistoric artifacts include village sites, campsites, bedrock milling stations, pictographs, petroglyphs, rock rings, sacred sites, and resource gathering areas.

Madera County also contains a significant number of potentially significant historical sites including homesteads and ranches, mining and logging sites and associated features (such as small camps, railroad beds, logging chutes and trash dumps).

This section describes the potential for significant archaeological and historic sites within Madera County and describe possible conflicts between these resources and the project. Data collected for this evaluation is derived from resource discussions from various project EIRs, and from the State Office of Historic Preservation.

Regulatory Setting

Federal Regulations

Various federal laws, regulations, and guidelines specify how cultural resources must be managed in the context of projects that are considered “federal undertakings” (per 36 CFR 800). These federal statutes and guidelines may be relevant to the proposed project if federal funding is used, federal permits or authorizations are required, or a project crosses land managed by a federal agency.

Among the most relevant federal laws and regulations are: the *National Historic Preservation Act of 1966* (NHPA), as amended; the *National Environmental Policy Act of 1969* (NEPA); the *Archaeological Resources Protection Act of 1979* (ARPA); the Advisory Council on Historic Preservation's regulations, *Protection of Historic Properties* (36 CFR 800), establishing procedures for compliance with Section 106 of the NHPA; the National Park Service (NPS) regulations, *National Register of Historic Places* (36 CFR 60); *Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (FR 190: 44716–44742); the *Native American Graves Protection and Repatriation Act of 1990* (PL 101–601, NAGPRA) and its implementing regulations (43 CFR 10); and the NPS regulations, *Curation of Federally-Owned and Administered Archaeological Collections* (36 CFR 79). Pertinent federal laws and regulations are summarized below.

- ✓ **National Historic Preservation Act of 1966** - Requires federal agencies to consider the preservation of historic and prehistoric resources. The Act authorizes the Secretary of the Interior to expand and

maintain a National Register of Historic Places (NRHP), and it establishes an Advisory Council on Historic Preservation (ACHP) as an independent federal entity. Section 106 of the Act requires federal agencies to take into account the effects of their undertakings on historic properties and afford the ACHP a reasonable opportunity to comment on the undertaking prior to licensing or approving the expenditure of funds on any undertaking that may affect properties listed, or eligible for listing, in the NRHP.

- ✓ **Archaeological Resources Protection Act of 1979 (16 USC 470aa–470ll)** - Requires a permit for any excavation or removal of archaeological resources from public lands or Native American lands. The statute provides both civil and criminal penalties for violation of permit requirements and for excavation or removal of protected resources without a permit.
- ✓ **Advisory Council Regulations, Protection of Historic Properties (36 CFR 800)** - Establishes procedures for compliance with Section 106 of the National Historic Preservation Act of 1966. These regulations define the Criteria of Adverse Effect, define the role of State Historic Preservation Officer (SHPO) in the Section 106 review process, set forth documentation requirements, and describe procedures to be followed if significant historic properties are discovered during implementation of an undertaking. Prehistoric and historic resources deemed significant (i.e., eligible for listing in the National Register of Historic Places, per 36 CFR 60.4) must be considered in project planning and construction. The responsible federal agency must submit any proposed undertaking that may affect NRHP-eligible properties to the SHPO for review and comment prior to project approval.
- ✓ **Archaeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines (FR 190:44716–44742)** - Offers non-regulatory technical advice about the identification, evaluation, documentation, study, and other treatment of cultural resources. Notable in these Guidelines are the “Standards for Archaeological Documentation” (p. 44734) and “Professional Qualifications Standards for Archaeology” (pp. 44740–44741).
- ✓ **Federal Department of Transportation Act, Section 4(f) Requirements** - Historic and cultural resources are also protected under regulations of the Federal Department of Transportation Act of 1966. Section 4(f) of the Transportation Act requires a comprehensive evaluation of all environmental impacts resulting from federal-aid transportation projects administered by the Federal Highway Administration, Federal Transit Administration, and Federal Aviation Administration that involve the use - or interference with use - of several types of land:
 - Public parklands.
 - Recreation areas.
 - Wildlife and waterfowl refuges.

- 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.

If there is a feasible and prudent alternative, a proposed project using Section 4(f) lands cannot be approved by the Secretary. 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 only required for project-level environmental assessments.

Applicable Policies and Regulations

- ✓ **Federal Antiquities Act of 1906** - Establishes national monuments and reservation of lands that have historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federal lands. It prohibits excavation or destruction of such antiquities unless a permit (Antiquities Permit) is obtained from the Secretary of the department which has the jurisdiction over those lands.
- ✓ **Historic Sites Act of 1935 (HSA)** - The HSA (*16 USC 461-467*) became law on August 21, 1935 and declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance." The NHPA expanded the scope to include important State and local resources. Provisions of NHPA established the National Register maintained by the National Park Service, advisory councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs. Section 106 of the NHPA requires all federal agencies to consult the Advisory Council before continuing any activity affecting a property listed on or eligible for listing on the National Register. The Advisory Council has developed regulations for Section 106 to encourage coordination of agency cultural resource compliance requirements under Executive Order 11593 and NEPA with those of Section 106.
- ✓ **National Environmental Policy Act (NEPA)** - The National Environmental Policy Act (NEPA) provides general information on effects of federally funded projects. The Act was implemented by regulations included in the Code of Federal Regulations (40CFR6). The code requires careful consideration concerning environmental impacts of federal actions or plans, including projects that receive federal

funds. The regulations address impacts on land uses and conflicts with State, regional or local plans and policies, among others. They also require that projects requiring NEPA seek review to avoid or minimize adverse effects of proposed actions, and to restore and enhance environmental quality as much as possible.

- ✓ **Native American Graves Protection and Repatriation Act** - This act assigns ownership and control of Native American cultural items, human remains, and associated funerary objects to Native Americans. It also establishes requirements for the treatment of Native American human remains and sacred or cultural objects found on Federal land. This act further provides for the protection, inventory, and repatriation of Native American cultural items, human remains, and associated funerary objects. Museums that receive public funds must consult with Native Americans regarding museum collections of human remains, grave goods, and sacred items.
- ✓ **American Indian Religious Freedom Act** - This act mandates that the U.S. Government respect and protect the rights of Indian tribes to exercise religious practices freely. This act has been interpreted by the courts to require agencies to consider the effects their actions will have on traditional religious practices.
- ✓ **Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68, 1995)** The Secretary of the Interior's Standards for the Treatment of Historic Properties is regulatory for NPS Grants-in-Aid programs and is composed of four standards: Preservation, Rehabilitation, Restoration, and Reconstruction. It is a revised version of the Secretary of the Interior's Standards for Rehabilitation (36 CFR Part 67, 1990). It provides general guidance for work on all historic properties and has been adopted at Federal, State, and local levels.
- ✓ **National Register of Historic Places** - The National Register of Historic Places (NRHP) is the official listing of properties worthy of preservation for historical purposes. These properties are considered to tell stories that are important to local communities, citizens of a specific state, or the nation.
- ✓ **National Landmarks Program** - The National Landmarks Program is administered by the National Park Service. National Historic Landmarks tell important historical stories of the nation. All properties that are designated as National Historic Landmarks are included in the NRHP.
- ✓ **Archaeological and Historic Preservation Act of 1974** - This act requires federal agencies to take the necessary steps to protect and preserve historical and archaeological data that could get lost or destroyed as the result of federally licensed activities and programs.

Federal Agencies

✓ **National Park Service (NPS)**

The National Park Service manages all National Park, many National Monuments, and other conservation and historical properties with various title designations. It also evaluates proposed historic sites and administers the National Register of Historic Places.

State Regulations

✓ **California Environmental Quality Act (CEQA)** - Under the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.; CEQA), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. A historical resource is a resource that is either listed or eligible for listing in the California Register of Historical Resources, listed in a local registry, or determined to be significant by the lead agency. (See Section 5024.1 and Section 21084 of the Public Resources Code.). A resource eligible for listing on the California Register of Historical Resources (PRC 5024.1, Title 14 CCR, Section 4852) is a resource that:

- Is associated with events or patterns of events that have made a significant contribution to the broad patterns of the history and cultural heritage of California and the United States.
- Is associated with the lives of persons important to the nation or to California's past.
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- Has yielded, or may be likely to yield, information important to the prehistory or history of the state and the nation.

The fact that a resource is not listed in - or determined to be eligible for listing - in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be a historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1. The CEQA *Statutes and Guidelines* direct public agencies to avoid damaging effects on historical resources whenever feasible. If avoidance is not feasible, the importance of the resource must be evaluated using the criteria outlined in the Guidelines. Resources deemed not important by CEQA criteria do not require further discussion in the CEQA process. If the project may damage an important historical resource, it may have a significant effect on the environment. Direct impacts may occur by:

- Physically damaging, destroying, or altering all or part of the resource.
- Altering characteristics of the surrounding environment that contribute to the resource's significance.
- Neglecting the resource to the extent that it deteriorates or is destroyed. Indirect impacts primarily result from the effects of project-induced population growth. Such growth can result in increased construction as well as increased recreational activities that can disturb or destroy cultural resources; or
- The incidental discovery of cultural resources without proper notification.

CEQA provides guidelines for mitigating impacts to archaeological and historical resources in Section 15126.4. Achieving CEQA compliance with regard to treatment of impacts to significant cultural resources requires that a mitigation plan be developed for the resource(s). Preservation in place is the preferred manner of mitigating impacts to significant historical resources. If human remains are discovered in any location other than a dedicated cemetery, Section 7050.5(b) of the California Health and Safety Code also must be followed. CEQA was recently amended setting forth new requirements to identify potential impacts to historic resources considering requirements set forth in Assembly Bill 52 (Gallo, Chapter 532 of 2014) and Senate Bill 18.

- ✓ **Senate Bill 18 (SB 18, 2004)** – As of March 1, 2005, Senate Bill 18 amended Section 815.3 of the Civil Code to determine that open space is included for the protection of California Native American historical, cultural, and sacred sites within the definition of “local open-space plan” for purposes of provisions governing the preparation of the open-space element of a city and county general plan. If a project involves adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, it is subjected to SB 18.
- ✓ **Public Resources Code Section 21080.3 (AB 52, 2014)** – Pursuant to Assembly Bill 52 (AB 52; codified at Public Resources Code Section 21080.3.1, et seq.), a lead agency, within 14 days of determining that an application is complete, must notify any California Native American Tribe in writing that has previously requested notification about the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of said notification to request formal consultation; tribal consultation is required only with those tribes that formally request consultation, in writing. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation for impacts to Tribal Cultural Resources or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.
- ✓ **California Health and Safety Code** - Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the

County coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. (Public Resources Code Section 5097.98 specifies the procedures to be followed in case of the discovery of human remains on non-Federal land. The disposition of Native American burials is within the jurisdiction of the Native American Heritage Commission.

- ✓ **California Implementation of Federally and State-Mandated Historic Preservation Program** -The California State Office of Historic Preservation (OHP) is responsible for administering historical preservation programs. The purpose of the OHP is to promote the preservation of California’s heritage resources by ensuring that federally or state sponsored programs comply with federal and state preservation laws. The OHP assist agencies in ensuring that adverse effects on historical heritage are minimized.
- ✓ **California Register of Historical Resources** - The California Register of Historical Resources is a listing that helps agencies identify existing historical resources that require protection from adverse change. This register includes the California Points of Historical Interest, the California properties that are listed in the National Register of Historical Places, and the California Registered Historical Landmarks from No. 0770 onward.
- ✓ **California Penal Code Section 622, Destruction of Historical Properties** - Section 622 of the California Penal Code makes it a misdemeanor for anyone, except the owner, to willingly injure or destroy anything of archaeological interest in both public and private places. Penalties for the damage or removal of cultural resources are set in Section 622.5.
- ✓ **California Public Resources Code, Sections 5024, 5024.5, 5025, 5097.5, 5097.9, and 5097.98-99** - Sections 5024 and 5024.5 of the PRC were enacted as part of an effort to establish a state program to preserve historical resources. They require state agencies to take specific actions to ensure the preservation of historical resources that are state owned and fall under their jurisdiction.

Section 5028 of the PRC protects any structure that is listed on the NRHP or on any local register of historic places from being destroyed, demolished, or significantly altered after incurring damage from a natural disaster. The structures may only be altered to restore and preserve its historical value or if it is determined to present imminent threat to the public of bodily harm or damage of adjacent property. The State Office of Historic Preservation has the power to determine is the structure may be demolished, destroyed, or significantly altered.

Section 5097.5 of the PRC identifies the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands as a misdemeanor.

Section 5097.9 of the PRC established the California NAHC. The NAHC makes recommendations encouraging private property owners to protect and preserve sacred places and allow access to Native Americas for ceremonial and spiritual purposes.

PRC sections 5097.98 and 5097.99 require NAHC is notified whenever Native American graves are found. It deems it illegal to take or possess remains or artifacts taken from Native American graves. All violations occurring after January 1, 1988 are considered felonies.

- ✓ **Executive Order B-10-11** - Executive Order B-10-11 states that every state agency and department subject to executive control is to encourage consultation with California Native American tribes. It establishes the Governor's Tribal Advisor in the Office of the Governor of California which effectively serves at the link between tribal governments and the Governor's Office.

State Agencies

- ✓ **California Department of Parks and Recreations (CDPR)** - The principal mission of California Department of Parks and Recreation is to preserve biological diversity, protect natural and cultural resources, and provide sites for a variety of recreational activities to California residents and tourists.
- ✓ **California Office of Historic Preservation (OHP)** - The California Office of Historic Preservation is responsible for administration of federally- and state-mandated historic preservation programs in California. The mission, in partnership with the people of California and governmental agencies, is to preserve and enhance California's irreplaceable historic heritage as a matter of public interest so that its vital legacy of cultural, educational, recreational, aesthetic, economic, social, and environmental benefits will be maintained and enriched for present and future generations.
- ✓ **California Historical Resources Commission (CHRC)** - California Historical Resources Commission (CHRC) is a nine-member board that reviews sites of potential statewide significance and administers the California Register of Historic Places.
- ✓ **California Native American Heritage Commission** - The California Native American Heritage Commission offers guidelines for obtaining information on, and issues recommendations for the documentation of, Native American heritage resources [reference Appendix B, Notice of Preparation (NOP) Comment Letters from the Native American Heritage Commission, dated April 28, 2017].
- ✓ **California Department of Transportation (Caltrans)** - Any project funded or permitted by Caltrans, either directly or through assistance to local governments, is subject to the requirements of federal and State historic preservation laws and regulations. Most Caltrans projects use federal funds or

require federal licenses or permits and are therefore subject to federal environmental laws and regulations. When projects have no federal involvement, only State laws and regulations apply. To meet these legal requirements, Caltrans has established detailed guidelines for cultural resources management that are outlined in the Caltrans *Environmental Handbook*, Volume 2. These guidelines set forth the policies and procedures to be followed in order to identify, evaluate, and treat project impacts on cultural resources that might be affected by Caltrans projects. The process outlined in the *Environmental Handbook* is designed to meet the requirements of both federal and State law.

Environmental Setting

Archaeological Resources

The patterns of human activity of the area now known as Madera County have left traces of their existence on the land. Madera County contains distinct geographic regions that have been evaluated for archaeological resources at varying levels of detail through individual research efforts. On a regional basis, however, the level of information is extremely general. Areas of potential impact include the following and are displayed in Figure 3-8.

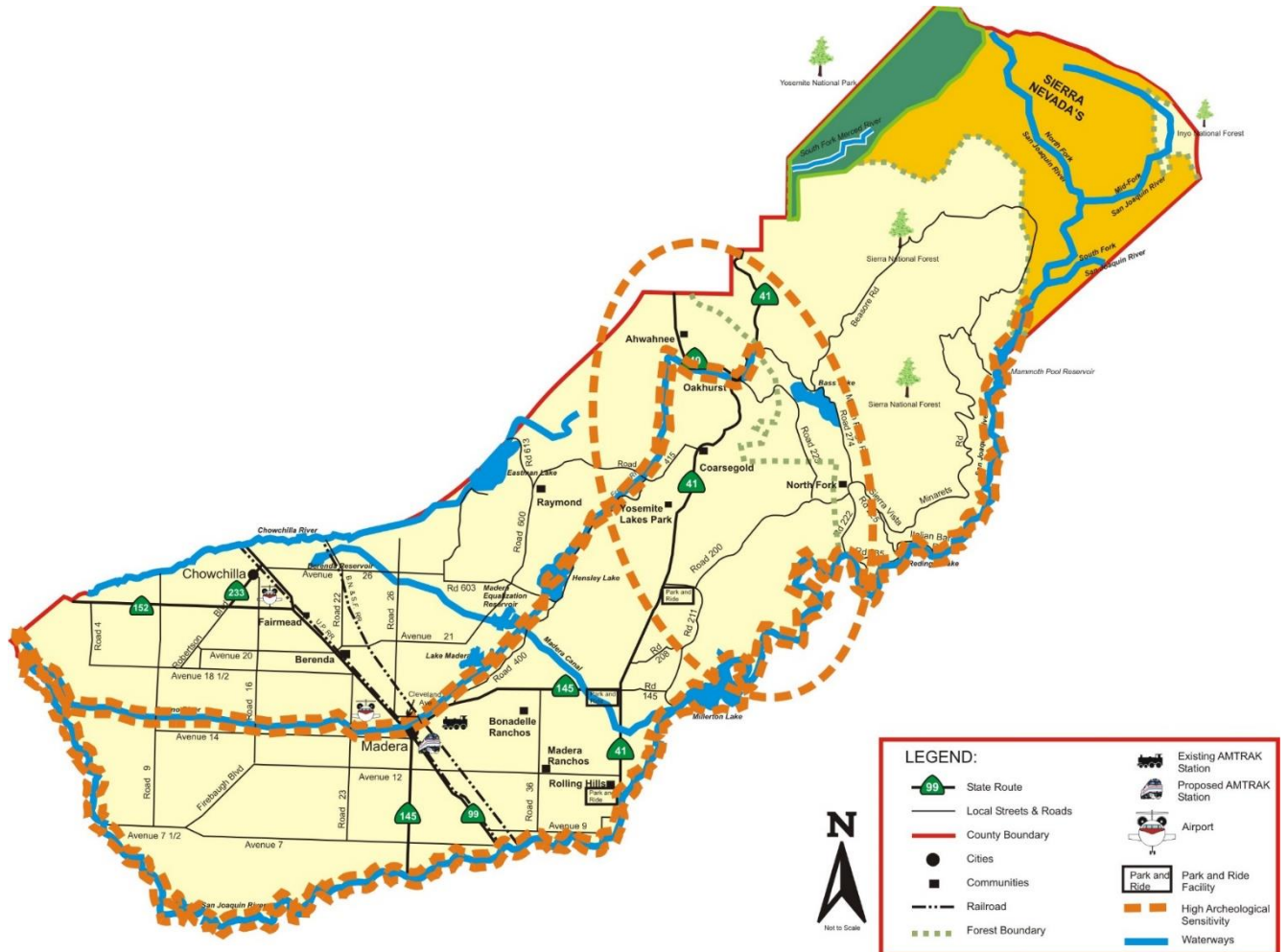
- ✓ **High Sensitivity** - General areas within the County that have the greatest likelihood of containing resources are located between the lower foothills and the 4,500-foot elevation level. Additionally, areas along the Fresno and San Joaquin Rivers are likely to contain important resources.
- ✓ **Moderate Sensitivity** - Foothill areas above 4,500 feet are considered to be of moderate sensitivity. It is believed that seasonal occupation by indigenous people was common due to discoveries of prehistoric trails and temporary trailside camps. In addition, the rim of the Valley is considered moderately sensitive, as well.
- ✓ **Low Sensitivity** - The Valley floor is considered to be of low sensitivity. Unfortunately, leveling of land for agricultural use, construction of dams, water transmission facilities, roads, and general urban development have likely damaged or destroyed many archaeological sites in this area.

Historic Resources

✓ **Settlement History**

Madera County, as an important agricultural center, was established in 1877 when the Town of Madera was founded by the lumber industry and served as a farm service center for developing agricultural lands in Madera County. Madera County was formed in 1893, with the City of Madera designated as the County Seat in 1896. The California Gold Rush declined in the late 1860s, and many of the prospectors relocated to San Joaquin Valley to pursue agricultural work, particularly in the growing town of Madera.

FIGURE 3-8
 Archeological Sensitivity in Madera County



The San Joaquin River was harnessed to provide a series of canals to irrigate crops and orchards on land that was previously swamp or considered non-productive desert. Most early farms consisted of family-worked operations of approximately 20 acres; larger farms produced alfalfa, cotton, wheat, and citrus fruit.

With such an emphasis on agricultural activities, communities within Madera County were growing rapidly by the turn of the century. In response to the Great Depression of the 1930's, there was a general reversal of growth in urban areas evident in the previous decade. After World War II, Madera County began to experience population growth as higher prices were earned for

farm products. As advances in technology were made in the late 1940's, the on-going trend of the declining farm population and increasing size of individual farms was firmly established.

✓ **Historic Preservation**

A complete list of historic sites, listed on the National Register and California Register, located in Madera County is identified on the National Register and the California Register as of 2016 can be found in Table 3-49 and 3-50. These sites are protected by state and federal legislation. The listings in the National Register and the California Register (updated regularly) of all recorded and potential historic objects, sites, buildings, and districts are available from the CHRC and the NPS.

Madera County contains a substantial number of potentially significant historical sites, including homesteads and ranches, mining and logging sites and associated features (such as small camps, railroad beds, logging chutes and trash dumps). These sites have not been included on the National or California Register. However, there are several museums in the County that may help to identify and preserve these resources (Table 3-51). In addition, California's Office of Historic Preservation has designated several historical landmarks in Madera County.

✓ **Ethnic Resources**

Places considered sacred to the Native American community in Madera County have been recorded in EIRs and research papers/studies, although a comprehensive resource study has not been conducted for a majority of the County. The Native American Heritage Commission (NAHC) offers guidelines to archaeologists to obtain information concerning cultural resources of Native American origin. A primary concern of the Native American community is the disturbance of hidden or unmarked sites, such as gravesites, that may not show surface evidence and may be known only to members of the tribe.

Native American burial grounds are of particular concern and are the most emotional of archaeological resource issues. Such sites are often on private land, and project development was, in the past, often approved before the local Native American community is consulted. NAHC has issued recommendations for the documentation of Native American heritage resources in order to assist agencies and individuals in complying with current environmental law. NAHC urges direct consultation with the local Native American community in the course of research conducted for the purpose of site-specific environmental documentation.

TABLE 3-49
 Historic Sites in Madera County

Resource	Location	Historic Significance	Area of Significance	Period
Big Creek Hydroelectric System Historic District (NR #16000468)	Fresno, Kern, Los Angeles, Madera, Tulare Counties	Engineering	Community Planning and Development; Hydroelectric	1909-1929
Buck Camp Patrol Cabin (NR #14000406)	Yosemite National Park	Architecture	Natural Resource Conservation, Science, Architecture	1931
Devils Postpile National Monument Cabin Site (NR #16000473)	Restricted Information	Not available	Not available	Not Available
Devils Postpile National Monument Ranger Cabin (NR #15000859)	Devils Postpile National Monument	Architecture	Natural Resource Conservation, National Park Planning	1930-1940s
Madera County Courthouse (NR #71000162)	210 W. Yosemite Ave., Madera, California	Architecture/Engineering	Architecture	1900-1924

TABLE 3-50
 Historical Landmarks in Madera County

Landmark	Significance	Location
California Native American Ceremonial Roundhouse (Thematic), Wassama Roundhouse	The roundhouse served as the focal point of spiritual and ceremonial life for many Native Californians. The Wassama Roundhouse continues to serve this purpose.	5.5 mi N of Oakhurst on Hwy 49 to Ahwahnee, then E .4 mi on Round House Rd
Charles Miller/Stationmaster's House (P296)	One-story residence initially constructed in 1886 by the Southern Pacific Railroad for the stationmaster. The first building constructed in Raymond during 19 th Century settlement	Town of Raymond; 22 miles north-northeast of Madera.
Fresno Flats Townsite (P845)	Farming town and supply center for lumber and mining founded in 1856. In 1912 town name was changed to Oakhurst.	Oakhurst
Jessie B. Ross Cabin (751) Jessie Ross Cabin (P752)	Built in 1860's, by one of Madera County's first settlers, who farmed wheat and pink beans. One of oldest standing log cabins in the area.	North Fork
Laramore House (P716)	Built in 1878 by merchant, Robert Laramore. It was the only two-story home in Fresno Flats. Home has unique construction methods.	Fresno Flats Historic Village; Oakhurst
Little Church on the Hill and Oakhill Cemetery (P797)	Cemetery in use from 1869 – 1964 by Fresno Flats residents	Highway 41, downtown Oakhurst
Madera County Courthouse (N108)	Built in 1900 using granite quarried within the county. First significant public building built in Madera County	210 W. Yosemite Ave., Madera
Madera Sugar Pine Logging Railroad Grade (P353)	Remaining grade for narrow gauge railroad track built in late 1800s to transport lumber for the Madera Sugar Pine Lumber Company	Near town of Fish Camp
Picayune Schoolhouse (C13)	One-room schoolhouse in use from 1913 to 1956. Elementary school for the Chukchansi Yokut Indians.	Coarsegold
Robertson Boulevard, State Highway 233 (P724)	Named after land speculator Orlando Allison Robertson who spearheaded the colonization of Chowchilla area beginning in 1912.	Chowchilla
Shay Locomotive #3315 (P352)	Built in 1928 for the Pickering Lumber Company and used in logging industry for Yosemite Sugar Pine Railroad	Operational and in use for tours, Swiss Melody Inn, Town of Fish Camp
Taylor Log House (P837)	Log house built in 1869 in Fresno Flats, by Margaret and William Taylor; cattle and hog farmers.	Oakhurst

TABLE 3-51
 Museums in Madera County

Name	Subject	Location
Coarsegold Historic Museum	History and artifacts of the Coarsegold region	Coarsegold
Children’s Museum of Sierra	Hands-on science discovery museum	Oakhurst
Fossil Discovery Center of Madera County	Fossils from the Middle-Pleistocene (780,000 years ago)	Chowchilla
Fresno Flats Historic Museum	19 th century life in Sierra Nevada foothills	Oakhurst
Madera County Historical Society & Museum	Local Madera history museum	Madera
Mariposa Grove Museum	A habitat and wildlife exhibit - part of the Yosemite Conservancy	Mariposa Grove Road
Raymond Museum	History and relics from Raymond, CA	
Sierra Mono Museum	History and artifacts of the Mono Tribe	North Fork
Wild Wonderful King Vintage	WWI, WWII, Civil War & Spanish American War Fashion and other memorabilia	Oakhurst

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Archaeologic and paleontologic resources are frequently not discovered until they are uncovered during construction of development projects, while historic resources are generally known before construction. Strict mitigation and protection measures are required whenever such resources are discovered and will be disturbed, destroyed or adversely affected by development. In practice, site specific a cultural resource surveys are conducted to support environmental analysis prepared prior to commencement of any action, development, or land use change subject to CEQA (or NEPA on lands subject to federal jurisdiction or for projects involving federal funds or actions), so that the nature and extent of impacts can be properly evaluated, and avoidance or mitigation can be appropriately determined.

To determine the actual potential for significant impacts on cultural resources resulting from implementation of transportation improvements, project-specific studies would be necessary. It is recognized that important cultural resources may be encountered during ground-disturbing construction work on any individual improvement project contained in the RTP/SCS, thus will prompt strict mitigation and protection measures to protect such resources. It is also recognized that projects associated with the operation and maintenance of the transportation system, such as signalization equipment replacement,

and pavement maintenance, would not directly affect cultural resources. Since the specific locations of cultural resources are not generally mapped, and since the extent of ground disturbance associated with various improvement projects is unknown at this time, it is not possible to assess the specific impacts on cultural resources based upon the location of these projects - many of whose specific alignments have not been established. Accordingly, no project-specific reviews or field studies have been undertaken for this EIR. The analysis of the impact on cultural resources potentially resulting from implementation of improvement projects under the 2022 RTP/SCS is, therefore, based upon cultural resource impacts that are generally associated with any activities that involve ground-disturbing activities.

Criteria for Significance – Cultural Resources

The CEQA Guidelines establish that a significant impact would be expected to occur if the project would:

- ✓ Cause a substantial adverse change in the significance of an historical resource.
- ✓ Cause a substantial adverse change in the significance of an archaeological resource.
- ✓ Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- ✓ Disturb any human remains, including those interred outside of formal cemeteries.

In addition, CEQA defines the need for evaluating the impacts that a project may have on a community, ethnic, or social group. A project will normally have a significant effect on the environment if it will cause one of the following, as defined in Appendix G of the CEQA Guidelines, Significant Effects:

- ✓ Significant effects to cultural resources in each planning area would occur if population increases occur in areas of historic districts and historic sites
- ✓ Significant effects to cultural resources would result if the improvement projects placed significant future populations in areas of potential or known archaeological and/or paleontological significance

All regions in the project area have the potential for yielding undiscovered archaeological and paleontological resources and human remains. The development of new transportation facilities may affect archaeological and paleontological resources, primarily through the disturbance of buried resources. Frequently, these resources are previously unidentified. Therefore, any excavation in previously undisturbed soil has the potential to impact archaeological and paleontological resources.

Development of new transportation facilities may affect historic architectural resources (structures 50 years or older), either through direct affects to buildings within the proposed individual improvement project area, or through indirect affects to the area surrounding a resource if it creates a visually incompatible structure adjacent to a historic structure. Impacts to historic resources fall into three categories:

- ✓ Direct disturbance of buried resources.
- ✓ Direct impact or alternation of structures.
- ✓ Indirect impacts to structures, such as vibration and corrosive air contaminants, and creation of a visually incompatible environment.

Madera County contains a large number of historic properties and historic residential districts; therefore, the potential for impacts to historic properties is significant. Improvements within existing rights-of-way are less likely to affect historical architectural resources. However, new highway segments through historic districts (within or adjacent to urban areas and throughout the rural area), would constitute a significant impact. In addition, reducing buffer zones between transportation corridors and reduction of historic resources through lane widening could cause significant impacts.

Public Resources Code (*Section 5020.1*), defines a potential historic resource as including, but not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, regardless of age. The 45-year criteria were designed by the OHP to take into consideration resources, which may be considered significant in the near future. Types of projects that may potentially impact cultural resources include:

- ✓ Regionally significant streets and highways that involve the development of new lanes and right-of-way acquisition.
- ✓ Freeway projects include developing mixed flow lanes, some new lanes, and possible right-of-way acquisition.
- ✓ Bridge crossing projects that include the development of new lanes and right-of-way acquisition.
- ✓ Interchange improvement projects that include new lanes and possible right-of-way acquisition.
- ✓ Future land use developments consistent with the RTP/SCS and the general plans of local jurisdictions.

Since some excavation is involved in all the project types mentioned above, it is necessary that prior to beginning each of the proposed projects, potential impacts to individual cultural resources and appropriate mitigation measures should be identified on a project-by-project basis. It is important that the vicinity of individual projects be carefully evaluated to identify resources and potential impacts. As time passes and structures age, the status of structures change as their age (45 years or older) makes them eligible for historic status. In addition, data on archaeological resources changes since data is added to the regional database on a continuous basis. Thus, the potential for encountering archaeological resources changes because knowledge of their location allows them to be avoided.

Cultural Resource Impacts, Mitigation Measures, and Significance After Mitigation

Impact 3.7.1 – Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5.

“Historical resource” includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript, which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

Development of highway, arterial, bridge crossing, transit, and future land use development projects may impact historic resources. Due to the size and potentially large number of historic resources that could be disturbed because of the combined projects, this impact would be potentially significant at a regional level. Types of projects that have the potential to impact historic resources include highway projects and bridge crossings that entail the development of new lanes and in some instances acquisition of new right-of-ways, arterial and interchange projects, which entail the development of new lanes, right-of-way acquisition, and the development of land and sites for future land use developments.

Mitigation Measures

All mitigation measures will be included in program-level analysis, as appropriate. The implementing agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ✓ **CTR 3.7.1-1** As part of the appropriate environmental review of individual projects, the project implementation agencies will identify potential impacts to historic resources considering requirements set forth in Assembly Bill 52 (Gallo, Chapter 532 of 2014) and Senate Bill 18. If the project is also subject to the federal National Environmental Policy Act (NEPA), the tribal requirements of Section 106 of the National Historic Preservation Act of 1966 may also apply.
- ✓ **CTR 3.7.1-2** As part of the appropriate environmental review of individual projects, the project implementation agencies will identify potential impacts to historic resources. A record search at the appropriate Information Center will be conducted to determine whether the individual transportation improvement project or future land use development area has been previously surveyed and whether resources were identified.
- ✓ **CTR 3.7.1-3** As necessary, prior to construction activities, the implementing agencies will obtain a qualified architectural historian to conduct historic architectural surveys as recommended by the Archaeological Information Center. In the event the records indicate that no previous survey has been

conducted, the Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the individual transportation improvement project or future land use development area for cultural resources.

- ✓ **CTR 3.7.1-4** Implementing agencies will comply with Section 106 of the National Historic Preservation Act if federal funding or approval is required. This law requires federal agencies to evaluate the impact of their actions on resources included in or eligible for listing in the National Register of Historic Places. Federal agencies must coordinate with the State Historic Preservation Officer in evaluating impacts and developing mitigation. These mitigation measures may include, but are not limited to the following:
 - Carry out the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, relocation, or reconstruction of any impacted historic resource, which will be conducted in a manner consistent with the Secretary of the Interior’s Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.

- ✓ **CTR 3.7.1-5** In some instances, the following mitigation measure may be appropriate in lieu of the previous mitigation measure:
 - Secure a qualified environmental agency and/or architectural historian, or other such qualified person to document any significant historical resource(s), by way of historic narrative, photographs, or architectural drawings, as mitigation for the effects of demolition of a resource will not mitigate the effects to a point where clearly no significant effect on the environment would occur.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce significant impacts on historic resources identified above, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact 3.7.2 – Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.

Construction activities involving excavation and earthmoving may encounter historic and/or prehistoric era archaeological resources. This would be considered a significant impact. The OHP defines an archaeological “site” as consisting of three or more related resources discovered in one locality. In the event of archaeological and paleontological discovery, construction must stop in the immediate vicinity and the discovery evaluated by a qualified archaeologist. If the project is subject to Section 106, the SHPO must be notified and consultation with the SHPO and appropriate parties conducted to determine a mitigation strategy. If the project is subject to CEQA only, the SHPO need not be notified (unless on state land); however, depending upon the nature of the discovery, consultation with Native American tribes with respect to the possible preservation of, or the mitigation of impacts to, specified Native American places, features, and objects located within their jurisdiction may be required. Pursuant to Section 106 of the NHPA and Section 15064.5, subdivision (f) under CEQA, if the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the project while historical or unique archaeological resource mitigation takes place.” If the mitigation measure is deemed to be removal and curation, the curation facility is usually appropriated by the landowner or lead agency. An archaeological resource includes artifacts or sites, when it can be demonstrated that without merely adding to the current body of knowledge, there is a high probability it meets any one or all of the following criteria:

- ✓ It has made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
- ✓ It is associated with the lives of persons important to California’s past.
- ✓ It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- ✓ It has yielded, or may be likely to yield, information important to the prehistory or history of California.

The project includes new streets, roads and highways, street, road and highway widening (for wider lanes, shoulders or new lanes), new transit facilities, grade crossings, consolidated rail corridors, bridge projects, a number of interchanges, and future land use development activities. These types of projects have the potential to impact archaeological materials, because they could take place in previously undisturbed areas. Excavation and soil removal of any kind, irrespective of depth, has the potential to yield resources of archaeological significance. Improvements and modifications to existing transportation facilities and land use developments would have less of an impact to archaeological resources because these project locations have previously been disturbed. However, construction of additional lanes and future land use development, would potentially impact archaeological materials, if it would entail brush clearing, grading, trenching, excavation, and/or soil removal of any kind, in an area not previously used as a paved

transportation facility. Due to the size and potentially large number of archaeological sites that could be disturbed because of the combined projects, this impact would be potentially significant to archaeological resources at a regional level.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The implementing agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

Implementation of the following mitigation measures for archaeological resources is recommended to reduce impacts to a less-than-significant level. Implementing agencies will require the following measures as part of the individual transportation improvement project or future land use development review process:

- ✓ **CTR 3.7.2-1** As part of the appropriate environmental review of individual projects, the project implementation agencies will identify potential impacts to historic resources considering requirements set forth in Assembly Bill 52 (Gallo, Chapter 532 of 2014) and Senate Bill 18. If the project is also subject to the federal National Environmental Policy Act (NEPA), the tribal requirements of Section 106 of the National Historic Preservation Act of 1966 may also apply [reference Appendix B, Notice of Preparation (NOP) Comment Letters from the Native American Heritage Commission, dated April 28, 2017].
- ✓ **CTR 3.7.2-2** As part of the appropriate environmental review of individual projects, the implementation agencies will consult with the Native American Heritage Commission to determine whether known sacred sites are in the project area and identify the Native American(s) to contact to obtain information about the project site.
- ✓ **CTR 3.7.2-3** Prior to construction activities and as necessary, the implementation agencies will obtain a qualified archaeologist to conduct a record search at the appropriate Information Center of the California Archaeological Inventory to determine whether the project area has been previously surveyed and whether resources were identified.
- ✓ **CTR 3.7.2-4** As necessary prior to construction activities, the implementation agencies will obtain a qualified archaeologist or architectural historian (depending on applicability) to conduct archaeological and/or historic architectural surveys as recommended by the Information Center. In the event the records indicate that no previous survey has been conducted, the Information Center

will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for cultural resources.

- ✓ **CTR 3.7.2-5** If the record search indicates that the project is located in an area rich with cultural materials, the implementing agencies will retain a qualified archaeologist to monitor any subsurface operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property.
- ✓ **CTR 3.7.2-6** Construction activities and excavation will be conducted to avoid cultural resources (if found). If avoidance is not feasible, further work may need to be done to determine the importance of a resource. The implementation agencies will obtain a qualified archaeologist familiar with the local archaeology, and/or an architectural historian should make recommendations regarding the work necessary to determine importance. If the cultural resource is determined to be important under State or federal guidelines, impacts on the cultural resource will be mitigated.
- ✓ **CTR 3.7.2-7** The project implementation agencies will stop construction activities and excavation in the area where cultural resources are found until a qualified archaeologist can determine the importance of these resources.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce significant construction impacts on archeological resources identified above, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact 3.7.3 – Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Construction activities involving excavation and earthmoving may encounter paleontological materials. This is a significant impact. Construction of projects may cause unearthing of buried paleontological resources, such as true fossils, fossil casts, and breas. Construction occurring in previously undisturbed areas and deep excavation activities would have the greatest likelihood to affect paleontological

resources. Improvements proposed in existing right-of-ways would have less potential to affect paleontological resources, since these areas have been previously disturbed. However, excavation and soil removal of any kind, irrespective of depth, has the potential to yield resources of paleontological significance. Fossils can be found at the surface in an outcrop, whereby chances are that same formation may extend many feet straight down into the ground and may well extend for miles just below the surface. This makes the task of predicting which areas are paleontologically sensitive difficult. Construction and excavating activities relating to this project pose a significant impact to paleontological materials.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The implementing agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures. Implementing agencies in the Madera region will implement the following measures as part of the review process for proposed transportation projects:

- ✓ **CTR 3.7.3-1** The project sponsor of a 2022 RTP/SCS project involving ground disturbing activities (including grading, trenching, foundation work, and other excavations) shall 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, the following measures shall apply:
 - Paleontological Mitigation and Monitoring Program. A qualified paleontologist shall prepare a Paleontological Mitigation and Monitoring Program to be implemented during ground disturbance activity. This program shall outline the procedures for construction staff Worker Environmental Awareness Program (WEAP) training, paleontological monitoring extent and duration (i.e., in what locations and at what depths paleontological monitoring shall be required), salvage and preparation of fossils, the final mitigation and monitoring report, and paleontological staff qualifications.
 - Paleontological Worker Environmental Awareness Program (WEAP). Prior to the start of ground disturbance activity greater than two feet below existing grade, 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 disturbed geologic units with high paleontological sensitivity 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 to weekly spot-checking under the discretion of the qualified paleontologist. Monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources.
 - **Salvage of Fossils.** 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 mitigation and monitoring. 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.
- ✓ **CTR 3.7.3-2** As part of the appropriate environmental review of individual projects, the project implementation agencies will obtain a qualified paleontologist to identify and evaluate paleontological resources where potential impacts are considered high; the paleontologist will also conduct a field survey in these areas.
- ✓ **CTR 3.7.3-3** Construction activities will avoid known paleontological resources, especially if the resources in a particular lithic unit formation have been determined through detailed investigation to be unique. If avoidance is not feasible, paleontological resources will be excavated by the qualified

paleontologist and given to a local agency, State University, or other applicable institution, where they can be displayed.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce significant impacts on paleontological resources identified above, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact 3.7.4 – Disturb any human remains, including those interred outside of formal cemeteries.

Construction activities involving excavation and earthmoving may encounter human remains. This is a significant impact.

Humans have occupied Madera County for at least 10,000 years, and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, it is likely that excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, formal burials. Construction and excavation activities associated with this project are considered to potentially yield a significant impact relative to the discovery of human remains. Under CEQA, human remains are protected under the definition of archaeological materials as being “any evidence of human activity”. Human remains are also protected under the Native American Graves and Repatriation Act (NAGPRA) of 1990, which was enacted to provide for the protection of Native American graves, as well as culturally affiliated items, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony. NAGPRA states the following:

- ✓ A burial site means any natural or prepared physical location, whether originally below, on, or above the surface of the earth, into which as part of the death rite or ceremony of a culture, individual remains are deposited.

As previously stated, the project includes new highways, highway widening, new transit facilities, grade crossings, rail corridors, bridge crossings, interchanges, and future land use developments. These

activities all have a potential to yield previously undiscovered human remains, because they could take place in previously undisturbed or under-disturbed areas. Excavation and soil removal of any kind, irrespective of depth, has the potential to yield human remains. Improvements and modifications to existing rights-of-way or existing land use developments would have less of an impact because these individual project locations have previously been disturbed. However, construction of additional lanes or new land use developments, could potentially impact human remains, if it would entail brush clearing, grading, trenching, excavation, and soil removal of any kind, in an area not previously developed.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The implementing agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

As part of the appropriate environmental review of individual projects, the project implementation agencies - in the event of discovery or recognition of any human remains, during construction or excavation activities associated with the project, in any location other than a dedicated cemetery - will cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the Madera County coroner has been informed and has determined that no investigation of the cause of death is required.

- ✓ **CTR 3.7.4-1** As part of the appropriate environmental review of individual projects, the project implementation agencies will identify potential impacts to historic resources considering requirements set forth in Assembly Bill 52 (Gallo, Chapter 532 of 2014) and Senate Bill 18. If the project is also subject to the federal National Environmental Policy Act (NEPA), the tribal requirements of Section 106 of the National Historic Preservation Act of 1966 may also apply.
- ✓ **CTR 3.7.4-2** If the remains are of Native American origin, the coroner will contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner will make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.
- ✓ **CTR 3.7.4-3** If the Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission, in which case:

- The landowner or his authorized representative will obtain a Native American monitor - and an archaeologist, if recommended by the Native American monitor - and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance where the following conditions occur:
 - The Native American Heritage Commission is unable to identify a descendent.
 - The descendant identified fails to make a recommendation.
 - The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce significant impacts on human remains identified above, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Criteria for Significance – Tribal Cultural Resources

The California Environmental Quality Act (CEQA) (Pub. Resources Code§ 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code§ 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code§ 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines§ 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code § 21074) and provides 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. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015. If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). Both SB 18 and AB 52 have tribal consultation requirements. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

Tribal Resource Impacts, Mitigation Measures and Significance After Mitigation

Impact 3.7.5 - 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Construction activities involving excavation and earthmoving may encounter tribal cultural resources. This would be considered a significant impact.

The project includes new streets, roads and highways, street, road and highway widening (for wider lanes, shoulders or new lanes), new transit facilities, grade crossings, consolidated rail corridors, bridge projects, a number of interchanges, and future land use development activities. These types of projects have the potential to impact tribal cultural resources, because they could take place in previously undisturbed areas. Excavation and soil removal of any kind, irrespective of depth, has the potential to yield resources

of tribal cultural significance. Improvements and modifications to existing transportation facilities and land use developments would have less of an impact to tribal cultural resources because these project locations have previously been disturbed. However, construction of additional lanes and future land use development, would potentially impact tribal cultural resources, if it would entail brush clearing, grading, trenching, excavation, and/or soil removal of any kind, in an area not previously used as a paved transportation facility or developed for urban or rural land uses. Due to the size and potentially large number of tribal cultural sites that could be disturbed because of the combined projects, this impact would be potentially significant to tribal cultural resources at a regional level.

Mitigation Measures

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of a proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. It is recommended that local agencies and Caltrans consult their legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

- ✓ **CTR 3.7.5-1** Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
 - a. A brief description of the project.
 - b. The lead agency contact information.
 - c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code§ 21080.3.1 (d)).
 - d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code§ 21073).

- ✓ **CTR 3.7.5-2** Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code§ 21080.3.1, subds. (d) and (e))

and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).

a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code§ 21080.3.1 (b)).

✓ **CTR 3.7.5-3** Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

a. Alternatives to the project.

b. Recommended mitigation measures.

c. Significant effects. (Pub. Resources Code§ 21080.3.2 (a)).

✓ **CTR 3.7.5-4** Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

a. Type of environmental review necessary.

b. Significance of the tribal cultural resources.

c. Significance of the project's impacts on tribal cultural resources.

d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code§ 21080.3.2 (a)).

✓ **CTR 3.7.5-5** Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code§ 21082.3(c)(1)).

✓ **CTR 3.7.5-6** Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

a. Whether the proposed project has a significant impact on an identified tribal cultural resource.

b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code§ 21082.3 (b)).

- ✓ **CTR 3.7.5-7** Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
 - a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
 - b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code§ 21080.3.2 (b)).2

- ✓ **CTR 3.7.5-8** Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code§ 21082.3 (a)).

- ✓ **CTR 3.7.5-9** Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource,' the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code§ 21082.3 (e)).

- ✓ **CTR 3.7.5-10** Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
 - a. Avoidance and preservation of the resources in place, including, but not limited to:
 - i. Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b. 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:
 - i. Protecting the cultural character and integrity of the resource.
 - ii. Protecting the traditional use of the resource.
 - iii. Protecting the confidentiality of the resource.
 - c. 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.
 - d. Protecting the resource. (Pub. Resource Code§ 21084.3 (b)).
 - e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to

protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code§ 815.3 (c)).

- f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code§ 5097.991).

✓ **CTR 3.7.5-11** Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

- a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
- b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
- c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code§ 21082.3 (d)).

➤ All mitigation measures will be included in project-level analysis, as appropriate. The implementing agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

➤ Implementation of the following mitigation measures for tribal cultural resources is recommended to reduce impacts to a less-than-significant level. Implementing agencies will require the following measures as part of the individual transportation improvement project or future land use development review process:

- As part of the appropriate environmental review of individual projects, the project implementation agencies will identify potential impacts to tribal cultural resources considering requirements set forth in AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments noted above in items 1 through 11 and referenced in Appendix B, Notice of Preparation (NOP) Comment Letter dated April 28, 2017.
- As part of the appropriate environmental review of individual projects, the implementation agencies will consult with the NAHC and affected Native American Tribes to determine

whether known sacred sites are in the project area and identify the Native American(s) to contact to obtain information about the project site.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce significant construction impacts on archeological resources identified above, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

3.8 ENERGY AND ENERGY CONSERVATION

This section describes the existing energy resources and analyzes the effects on energy consumption and conservation that would result from implementing the proposed RTP/SCS.

Regulatory Setting

Federal

- ✓ **Energy Policy and Conservation Act of 1975** - The Energy Policy and Conservation Act sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the USDOT, is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

- ✓ **Clean Air Act (CAA) of 1970**

The Clean Air Act is a United States federal law designed to control air pollution on a national level. It is one of the United States' first and most influential modern environmental laws, and one of the most comprehensive air quality laws in the world. As with many other major U.S. federal environmental statutes, it is administered by the U.S. Environmental Protection Agency (EPA), in coordination with state, local, and tribal governments.^[4] Its implementing regulations are codified at 40 C.F.R. Subchapter C, Parts 50-97.

The 1955 Air Pollution Control Act was the first U.S. federal legislation that pertained to air pollution; it also provided funds for federal government research of air pollution. The first federal legislation to actually pertain to "controlling" air pollution was the Clean Air Act of 1963. The 1963 act accomplished this by establishing a federal program within the U.S. Public Health Service and authorizing research into techniques for monitoring and controlling air pollution.

It was first amended in 1965, by the Motor Vehicle Air Pollution Control Act, which authorized the federal government to set required standards for controlling the emission of pollutants from certain automobiles, beginning with the 1968 models. A second amendment, the Air Quality Act of 1967, enabled the federal government to increase its activities to investigate enforcing interstate air pollution transport, and, for the first time, to perform far-reaching ambient monitoring studies and stationary source inspections. The 1967 act also authorized expanded studies of air pollutant emission inventories, ambient monitoring techniques, and control techniques.

Amendments approved in 1970 greatly expanded the federal mandate, requiring comprehensive federal and state regulations for both stationary (industrial) pollution sources and mobile sources. It also significantly expanded federal enforcement. Also, EPA was established on December 2, 1970, for the purpose of consolidating pertinent federal research, monitoring, standard-setting and enforcement activities into one agency that ensures environmental protection.

Further amendments were made in 1990 to address the problems of acid rain, ozone depletion, and toxic air pollution, and to establish a national permit program for stationary sources, and increased enforcement authority. The amendments also established new auto gasoline reformulation requirements, set Reid vapor pressure (RVP) standards to control evaporative emissions from gasoline, and mandated new gasoline formulations sold from May to September in many states.

- ✓ **National Energy Act of 1978** - In response to the energy crisis in the 1970s, Congress passed the National Energy Act of 1978 (NEA) to establish energy efficiency programs, tax incentives, tax disincentives, energy conservation programs, alternative fuel programs, and regulatory and market-based initiatives. It includes five statutes:
 - Public Utility Regulatory Policies Act (PURPA) (Public Law 95–617)
 - Energy Tax Act (Public Law 95–618)
 - National Energy Conservation Policy Act (NECPA) (Public Law 95–619)
 - Power Plant and Industrial Fuel Use Act (Public Law 95–620)
 - Natural Gas Policy Act (Public Law 95–621)

Of the five statutes, one, PURPA, is relevant to the consideration of the 2022 RTP/SCS.

- ✓ **Public Utility Regulatory Policies Act of 1978 (PURPA)** - PURPA was passed in response to the unstable energy climate of the late 1970s. PURPA sought to promote conservation of electric energy. Additionally, PURPA created a new class of nonutility generators, small power producers, from which, along with qualified co-generators, utilities are required to buy power.

PURPA was in part intended to augment electric utility generation with more efficiently produced electricity and to provide equitable rates to electric consumers. Utility companies are required to buy

all electricity from “Qfs” (qualifying facilities) at avoided cost (avoided costs are the incremental savings associated with not having to produce additional units of electricity). PURPA expanded participation of nonutility generators in the electricity market and demonstrated that electricity from nonutility generators could successfully be integrated with a utility’s own supply. PURPA requires utilities to buy whatever power is produced by Qfs (usually cogeneration or renewable energy). Utilities want these provisions repealed, critics argue that it will decrease competition and impede development of the renewable energy industry. The Fuel Use Act (FUA) of 1978 (repealed in 1987) also helped Qfs become established. Under FUA, utilities were not allowed to use natural gas to fuel new generating technologies, but Qfs which were by definition not utilities, were able to take advantage of abundant natural gas and abundant new technologies (such as combined cycle). The technologies lowered the financial threshold for entrance into the electricity generation business as well as shortened the lead time for constructing new plants.

- ✓ **Energy Policy Act of 1992 (EPAct)** - The Energy Policy Act of 1992 (EPAct) was passed to reduce the country’s dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

- ✓ **Energy Policy Act of 2005** - The Energy Policy Act of 2005 was signed into law by President Bush on August 8, 2005. Generally, the act includes provisions for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

- ✓ **Energy Independence and Security Act of 2007** - The Energy Independence and Security Act (EISA; Public Law 110-140) was signed into law by President George W. Bush on December 19, 2007. The Act’s goal is to achieve energy security in the United States by increasing renewable fuel production, improving energy efficiency and performance, protecting consumers, improving vehicle fuel economy, and promoting research on greenhouse gas capture and storage. Under the EISA, the RFS program (RFS2) was expanded in several key ways:
 - EISA expanded the RFS program to include diesel, in addition to gasoline.
 - EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
 - EISA established new categories of renewable fuel and set separate volume requirements for each one.

- EISA required EPA to apply lifecycle greenhouse gas performance threshold standards to ensure that each category of renewable fuel emits fewer greenhouse gases than the petroleum fuel it replaces.

RFS2 lays the foundation for achieving significant reductions of greenhouse gas emissions from the use of renewable fuels, for reducing imported petroleum, and encouraging the development and expansion of our nation's renewable fuels sector. The EISA also includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.

- ✓ **Moving Ahead for Progress in the 21st Century (MAP-21)** - MAP-21, the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), was signed into law by President Obama on July 6, 2012. The ACT is the first long-term highway endorsement enacted since 2005 and creates an efficient multimodal plan that will handle the numerous challenges facing the nation's transportation network. Some of the challenges facing our nation's transportation system include safety improvements, reducing travel times, creating a more efficient system for the freight movement, and improving project delivery time. MAP-21 also supports the programs and policies enacted in 1991, which were related to the advancement of the highway, transit, bike, and pedestrian system.
- ✓ **Fixing America's Surface Transportation (FAST) Act** - On December 4, 2015, President Obama signed the [Fixing America's Surface Transportation \(FAST\) Act](#) (Pub. L. No. 114-94) into law—the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act authorizes \$305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act maintains our focus on safety, keeps intact the established structure of the various highway-related programs we manage, continues efforts to streamline project delivery and, for the first time, provides a dedicated source of federal dollars for freight projects. With the enactment of the FAST Act, states and local governments are now moving forward with critical transportation projects with the confidence that they will have a federal partner over the long term.
- ✓ **Heavy-Duty National Program** - The Heavy-Duty National Program was adopted on August 9, 2011, to establish the first fuel efficiency requirements for medium- and heavy-duty vehicles beginning with the model year 2014.

Proposed Rulemaking: Phase 2 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

As of June 2015, The U.S. Environmental Protection Agency (EPA) and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) are jointly proposing a national program that would establish the next phase of greenhouse gas (GHG) emissions and fuel efficiency standards for medium- and heavy-duty vehicles. The Phase 2 program significantly reduces carbon emissions and improves the fuel efficiency of heavy-duty vehicles, helping to address the challenges of global climate change and energy security. Phase 2 would save the heavy-duty vehicle industry billions of dollars' worth of fuel, reduce the cost of transporting goods, cut fuel consumption, and reduce GHG emissions by 1 billion metric tons. Fuel consumption of tractor trailers alone could decrease by 24 percent. The proposed Phase 2 standards, which begin in the model year 2021 (model year 2018 for trailers and 2021 for NHTSA's trailer standards) and culminate in standards for model year 2027, are the product of a comprehensive assessment of existing and advanced technologies and extensive stakeholder outreach.¹

- ✓ **Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance** - Executive Order (EO) 13514 was signed by President Obama on October 5, 2009. It expands on the energy reduction and environmental performance requirements for federal agencies identified in EO 13423, Strengthening Federal Environmental, Energy, and Transportation Management. The goals of EO 13514 are as follows:
 - Reduce petroleum consumption by 2% per year through FY2020 (applies to agencies with fleets of more than 20 vehicles) (Baseline FY2005). Reduce by 2% annually:
 - Potable water intensity by FY2020 (26% total reduction) (Baseline FY2007).
 - Industrial, landscaping, and agricultural water intensity by FY2020 (20% total reduction) (Baseline FY2010).
 - Achieve 50% or higher diversion rate:
 - Non-hazardous solid waste by FY2015.
 - Construction and demolition materials and debris by FY2015.
 - Ensure at least 15% of existing buildings and leases (>5,000 gross square feet) meet the Guiding Principles by FY2015, with continued progress towards 100%.
 - Ensure 95% of all new contracts, including non-exempt contract modifications, require products and services that are energy-efficient, water-efficient, bio-based, environmentally preferable, non-ozone depleting, contain recycled-content, non-toxic or less-toxic alternatives.

¹ Environmental Protection Agency. June 2015. *Cutting Carbon Pollution, Improving Fuel Efficiency, Saving Money, and Supporting Innovation for Trucks*. Available at:
<http://www3.epa.gov/otaq/climate/documents/420f15900.pdf>

- ✓ **Executive Order 13693, Planning for Federal Sustainability in the Next Decade** - EO 13693 was signed by President Obama on October 5, 2009. The goal of EO 13693 is to maintain federal leadership in sustainability and GHG emissions reductions. EO 13693 promotes building energy conservation, efficiency, and management by reducing agency building energy intensity measured in British thermal units per gross square foot by 2.5 percent annually through the end of fiscal year 2025, relative to the baseline of the agency's building energy use in fiscal year 2015 and considering agency progress to date. EO 13693 also sets agency water use efficiency standards and management practices as well as mandates a fleet-wide per-mile GHG emissions reduction from agency fleet vehicles.

State of California

- ✓ **Senate Bill 1078, California Renewables Portfolio Standard Program** - SB 1078 establishes a renewable portfolio standard (RPS) for electricity supply. The RPS requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 20 percent of their supply from renewable sources by 2017. This target date was moved forward by SB 1078 to require compliance by 2010. In addition, electricity providers subject to the RPS must increase their renewable share by at least 1 percent each year. The outcomes of this legislation will impact regional transportation powered by electricity.
- ✓ **Senate Bill 1389** - In 2002, the Legislature reconstituted the State's responsibility to develop an integrated energy plan for electricity, natural gas, and transportation fuels. The California Energy Commission (CEC) adopts and transmits to the Governor and Legislature a report of findings every 2 years. That report is called the Integrated Energy Policy Report (IEPR). The 2016 Integrated Energy Policy Report was adopted by the CEC on March 28, 2016. These reports make recommendations to increase California's energy supplies, reduce energy demand, broaden the range of alternatives to conventional energy sources, and improve the State's energy delivery infrastructure.
- ✓ **Assembly Bill 2075, California Strategy to Reduce Petroleum Dependence** - AB 2075 (Chapter 936, Statutes of 2000) requires the CEC and the Air Resources Board (ARB) to develop and submit to the Legislature a strategy to reduce petroleum dependence in California. The statute requires the strategy to include goals for reducing the rate of growth in the demand for petroleum fuels. In addition, the strategy is required to include recommendations to increase transportation energy efficiency as well as the use of nonpetroleum fuels and advanced transportation technologies including alternative fuel vehicles, hybrid vehicles, and high-fuel efficiency vehicles.

The strategy, Reducing California's Petroleum Dependence, was adopted by the CEC and ARB in 2003. The strategy recommends that California reduce on-road gasoline and diesel fuel demand to 15 percent below 2003 demand levels by 2020 and maintain that level for the foreseeable future; the Governor and Legislature work to establish national fuel economy standards that double the fuel

efficiency of new cars, light trucks, and SUVs; and increase the use of nonpetroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

- ✓ **Assembly Bill 1007, Alternative Fuels Plan** - AB 1007 requires the CEC to prepare a state plan to increase the use of alternative fuels in California. The plan shall include an evaluation of alternative fuels for emissions or criteria air pollutants, air toxics, GHGs, water pollutants, and other harmful substances, and their impacts on petroleum consumption. The plan shall set goals for increased alternative fuel use in the state for the years 2012, 2017, and 2022 and recommend policies to ensure the alternative fuel goals are attained, including standards on transportation fuels and vehicle and policy mechanisms to ensure vehicles operating on alternative fuels use those fuels to the maximum extent feasible. The plan was adopted in December 2007.
- ✓ **Executive Order #S-06-06, Bioenergy Action Plan** - Executive Order #S-06-06 establishes targets for the use and production of bio-fuels and bio-power and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order establishes the following target to increase the production and use of bio-energy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its bio-fuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The executive order also calls for the state to meet a target for use of biomass electricity.
- ✓ **Executive Order #S-01-07, Governor's Low Carbon Fuel Standard** - Executive Order #S-01-07 establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through establishment of a Low Carbon Fuel Standard. The Low Carbon Fuel Standard shall be incorporated into the State Alternative Fuels Plan required by AB 1007 and is one of the proposed discrete early action GHG reduction measures identified by ARB pursuant to AB 32.
- ✓ **Senate Bill 1 (Million Solar Roofs)** - The Million Solar Roofs program under SB 1 (2006) sets a goal to install 3,000 megawatts of new solar capacity by 2017, moving the state toward a cleaner energy future and helping lower the cost of solar systems for consumers. This is a ratepayer-financed incentive program aimed at transforming the market for rooftop solar systems by driving down costs over time. It provides up to \$3.3 billion in financial incentives that decline over time.
- ✓ **Senate Bill 1368, Greenhouse Gas Emissions Performance Standard for Major Power Plant Investments** - SB 1368 was passed in September 2006 and requires the CEC to develop and adopt by regulation a GHG emissions performance standard for long-term procurement of electricity by local publicly owned utilities.
- ✓ **Assembly Bill 32 (California Global Warming Solutions Act of 2006)** - California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599), which established regulatory, reporting, and market mechanisms to achieve

quantifiable reductions in GHG emissions and established a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions sufficient to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions. Under AB 32, CARB must adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 emission cap by 2020.

On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit.

- ✓ **Assembly Bill 758 Energy: Energy Audit** - New state law promulgated under AB 758 mandates the California Energy Commission (CEC) to develop a comprehensive energy efficiency program for existing buildings. This bill will be implemented in three phases. In phase I, during the American Recovery and Reinvestment Act of 2009 (ARRA) implementation period (2010–2012), the CEC used ARRA funds to do state and local upgrade programs, workforce training, financing, and an outreach campaign. The CEC published the Comprehensive Energy Efficiency Program for Existing Buildings Scoping Report and adopted the AB 758 Action Plan. Phase II will focus on implementing the roadmap necessary for foundational No Regrets Strategies to take hold and Voluntary Pathways to scale to achieve energy efficiency goals, partnerships, and market development.

- ✓ Phase III will develop and institute Mandatory Approaches that will move energy efficiency practices into the mainstream. Transformation and maturation of the energy efficiency marketplace will require the formation of partnerships and cooperation among all stakeholders.²

On August 28, 2015, the CEC published the final version of the Existing Buildings Energy Efficiency Action Plan. The Plan provides a 10-year roadmap to activate market forces and transform California’s existing residential, commercial, and public building stock into high-performing and energy-efficient buildings.

The results of this effort will be accelerated growth of energy efficiency markets, more effective targeting and delivery of building upgrade services, improved quality of occupant and investor decisions, and vastly improved performance of California’s buildings. Equally important, this effort will deliver substantial energy savings and greenhouse gas emissions reductions, contributing to the collective goal of reducing the impacts of climate change while improving the resilience of the state’s built environment and economy.³

- ✓ **Assembly Bill 1493 (2009) / Advanced Clean Cars Program** - The Advanced Clean Cars Program under AB 1493 (referred to as Pavley I), requires the California Air Resources Board (CARB) to develop and adopt standards for vehicle manufacturers to reduce GHG emissions coming from passenger vehicles and light-duty trucks at a “maximum feasible and cost-effective reduction” by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as “LEV (Low Emission Vehicle) III GHG” will cover 2017 to 2025. Fleet average emission standards would reach 22 percent reduction by 2012 and 30 percent by 2016.⁴

As of January 2012, CARB adopted the Advanced Clean Cars program to extend AB 1493 through model years 2017 to 2025. This program will promote all types of clean fuel technologies such as plug-in hybrids, battery electric vehicles, compressed natural gas (CNG) vehicles, and hydrogen powered vehicles while reducing smog and saving consumers’ money in fuel costs. By 2025, when the rules will be fully implemented:

- New automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

² California Energy Commission. Accessed September 1, 2015. *Comprehensive Energy Efficiency Program for Existing Buildings*. Available at: <http://www.energy.ca.gov/ab758/>

³ California Energy Commission. 28 August 2015. *Existing Buildings Energy Efficiency Action Plan*. Available at: http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR05/TN205919_20150828T153953_Existing_Buildings_Energy_Efficiency_Action_Plan.pdf

⁴ California Air Resources Board. 6 May 2013. *Clean Car Standards – Pavley, Assembly Bill 1493*. Available at: <http://www.arb.ca.gov/cc/ccms/ccms.htm>

- Environmentally superior cars will be available across the range of models, from compacts, to SUVs, pickups and minivans.
- Consumer savings on fuel costs will average \$6,000 over the life of the car. The savings more than offsets the average \$1,900 increase in vehicle price for the ultra-clean, high efficiency technology.⁵
- ✓ **Senate Bill 2 Renewable Portfolio Standard** - California's Renewable Portfolios Standard (RPS), under Senate Bill (SB) 2 of 2011, sets a procurement goal for electricity retail sellers including investor-owned utilities, electric service providers, and community choice aggregators to 33 percent renewable energy sources by 2020. The RPS has three compliance periods: Period 1 (2011–2013), Period 2 (2014–2016), and Period 3 (2017–2020) as intermediate targets before full compliance in 2020. The CEC is responsible for designating electrical generation facilities as renewable energy sources and enforcing RPS.⁶
- ✓ **Senate Bill No. 100 (SB 100) California Renewables Portfolio Standard Program: emissions of greenhouse gases** – SB 100 amends the Renewable Portfolio Standard's legislative findings and declarations to indicate that the program's goal is to reach a 50 percent renewable resource target by December 31, 2026, and a 60 percent target by December 31, 2030. The bill would require retail sellers and local publicly owned electric utilities to procure a minimum quantity of electricity products from eligible renewable energy resources, with 44 percent of total kilowatthours sold to retail end-use customers by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030.
- ✓ **Part 11 of the California Code of Regulations: Green Building Code** - The California Green Building Standards Code, which is Part 11 of the California Code of Regulations, is commonly referred to as the CALGreen Code. The 2008 edition, the first edition of the CALGreen Code, contained only voluntary standards. The 2010 CALGreen Code is a code with mandatory requirements for state-regulated buildings and structures throughout California beginning on January 1, 2011. The code requires building commissioning, which is a process for the verification that all building systems, such as heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.
- ✓ **California Building Energy Efficiency Standards: 2013 Title 24, Part 6 (California Energy Code)** - The Code California Energy Code (Title 24, Section 6) was created as part of the California Building

⁵ California Air Resources Board. Accessed 20 August 2015. California's Advanced Clean Car Program. Available at: http://www.arb.ca.gov/msprog/consumer_info/advanced_clean_cars/consumer_acc.htm

⁶ 15 California Public Utilities Commission. 6 April 2015. California Renewables Portfolio Standard. Available at: [http://www.cpuc.ca.gov/PUC/energy/Renewables/California Building Standards Commission](http://www.cpuc.ca.gov/PUC/energy/Renewables/California_Building_Standards_Commission). Accessed 26 June 2015. History. Available at: http://www.bsc.ca.gov/abt_bsc/history.aspx

Standards Code (Title 24 of the California Code of Regulations) by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy consumption. These standards include provisions applicable to all buildings, residential and nonresidential, which describe requirements for documentation and certificates that the building meets for the following types of systems, equipment, and appliances:

- Air conditioning systems
- Heat pumps
- Water chillers
- Gas- and oil-fired boilers
- Cooling equipment
- Water heaters and equipment
- Pool and spa heaters and equipment
- Gas-fired equipment including furnaces and stoves/ovens
- Windows and exterior doors
- Joints and other building structure openings ("envelope")
- Insulation and cool roofs
- Lighting control devices

The standards include additional mandatory requirements for space conditioning (cooling and heating), water heating, and indoor and outdoor lighting systems and equipment in non-residential, high-rise residential, and hotel or motel buildings. Mandatory requirements for low-rise residential buildings cover indoor and outdoor lighting, fireplaces, space cooling and heating equipment (including ducts and fans), and insulation of the structure, foundation, and water piping. In addition to the mandatory requirements, the standards call for further energy efficiency that can be provided through a choice between performance and prescriptive compliance approaches. Separate sections apply to low-rise residential and to non-residential, high-rise residential, and hotel or motel buildings. In buildings designed for mixed use (e.g., commercial and residential), each section must meet the standards applicable to that type of occupancy.

The performance approach set forth under these standards provides for the calculation of an energy budget for each building and allows flexibility in building systems and features to meet the budget. The energy budget addresses space-conditioning (cooling and heating), lighting, and water heating. Compliance with the budget is determined by the use of a CEC-approved computer software energy model. The alternative prescriptive standards require demonstrating compliance with specific minimum efficiency for components of the building such as building envelope insulation R-values, fenestration (areas, U-factor and solar heat gain coefficients of windows and doors) and heating and cooling, water heating and lighting system design requirements. These requirements vary depending on the building's location in the state's 16 climate zones.

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle as technology and methods have evolved. As a result of new law under AB 970, passed in the fall of 2000 in response to the state's electricity crisis, an emergency update of the standards went into effect in June 2001. The CEC then initiated an immediate follow-on proceeding to consider and adopt updated standards that could not be completed during the emergency proceeding. The 2013 Standards went

into effect July 1, 2014. The 2016 Standards will continue to improve upon the current 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings.

The 2013 Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings and include requirements that will enable both demand reductions during critical peak periods and future solar electric and thermal system installations.

- ✓ **California Senate Bill 350** - SB 350 was approved by Governor Brown on October 7, 2015. SB 350 will: (1) increase the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) require the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provide for the evolution of the Independent System Operator (ISO) into a regional organization; and (4) require the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

- ✓ **California Solar Initiative** - On January 12, 2006, the California Public Utilities Commission (CPUC) approved the California Solar Initiative (CSI; R.04-03-017), which provides \$2.9 billion in incentives between 2007 and 2017. The CPUC will oversee a \$2.5 billion program for commercial and existing residential customers, funded through revenues and collected from gas and electric utility distribution rates. Furthermore, the CEC will manage \$350 million targeted for new residential building construction, utilizing funds already allocated to the CEC to foster renewable projects between 2007 and 2011.

On March 2, 2006, the CPUC opened a proceeding to develop rules and procedures for the California Solar Initiative and to continue consideration of policies for the development of cost-effective, clean, and reliable distributed generation. On August 21, 2006, the governor signed SB 1, which directs the CPUC and the CEC to implement the CSI program consistent with specific requirements and budget limits set forth in the legislation and directs the CPUC and the CEC to create 3,000 megawatts of new, solar-produced electricity by 2017.

The CPUC has a rulemaking in progress to reconcile its decisions with SB 1, and it also continues to hold public workshops to continue designing program elements. Current incentives provide an upfront, capacity-based payment for a new system. The CSI incentive system will change in 2007 when it moves to performance-based payments. In its August 24, 2006, decision, the CPUC shifted the

program from volume-based to performance-based incentives and clarified many elements of the program's design and administration.⁷

- ✓ **California Cap and Trade Program** - CARB adopted the California Cap and Trade Program final regulations on October 20, 2011. An amended regulation was adopted on September 12, 2012, with the first auction for GHG allowances on November 14, 2012. The cap and trade program is a market-based mechanism to reduce GHG emissions in a cost-effective and economically efficient manner. California is the first multi-sector cap and trade program in North America following the northeast Regional Greenhouse Gas Initiative (RGGI) and the European Union Emission Trading Scheme (EU-ETS). It sets a GHG emissions limit that will decrease by 2 percent each year until 2015 and then 3 percent from 2015 to 2020 to achieve the goals set forth in AB 32. The program initially applies to large electric power plants and large industrial plants but will include fuel distributors by 2015. By 2015, these rules will apply to 85 percent of all of California's GHG emissions.

- ✓ **Scoping Plan and First Update of the Scoping Plan** - Pursuant to AB 32, CARB developed a Scoping Plan to detail the approach towards reducing GHG emissions to 1990 levels by 2020. The Scoping Plan was first considered by CARB in 2008 and must be updated every five years. CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014.⁸ The First Update identifies opportunities to leverage existing and new funds to further drive GHG emissions reductions through strategic planning and targeted low carbon investments. The First Update defines CARB's climate change priorities for the next five years, and also sets the groundwork to reach long-term goals set forth in EO S-3-05 and EO B-16-2012 (below). The Update highlights California's progress toward meeting the "near-term" 2020 GHG emissions reduction goals defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use.²⁰⁹

- ✓ **Executive Order S-3-05** - On June 1, 2005, Governor Arnold Schwarzenegger signed EO S-3-05, which establishes GHG emissions reduction targets for California, and directs the California Environmental Protection Agency Secretary to coordinate the oversight of efforts to achieve them. The targets established by Governor Schwarzenegger call for a reduction of GHG emissions to 2000 levels by 2010;

⁷ California Solar Initiative. Accessed 31 October 2007. Website. Available at:
<http://www.gosolarcalifornia.ca.gov/csi/index.html>

⁸ 19 California Air Resources Board. 13 July 2015. AB 32 Scoping Plan. Available at:
<http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

⁹ California Air Resources Board. 27 May 2014. First Update to the AB 32 Scoping Plan. Available at:
<http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>

a reduction of GHG emissions to 1990 levels by 2020; and a reduction of GHG emissions to 80 percent below 1990 levels by 2050.

- ✓ **Executive Order B-16-2012** - EO B-16-2012 establishes long-term targets of reaching 1.5 million zero emission vehicles (ZEVs) on California’s roadways by 2025 and sets ZEV purchasing requirements for State Government fleets. EO B-16-2012 also sets a target for 2050 of a reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels. In February 2013, an interagency working group developed the ZEV Action Plan, which identifies specific strategies and actions that State agencies will take to meet the milestones of the Executive Order. The ZEV Action Plan states:
 - ZEVs are crucial to achieving the state’s 2050 greenhouse gas goal of 80 percent emission reductions below 1990 levels, as well as meeting federal air quality standards. Achieving 1.5 million ZEVs by 2025 is essential to advance the market and put the state on a path to meet these requirements.

- ✓ **Executive Order B-18-12** - Governor Edmund G. Brown, Jr. signed EO B-18-12 into law on April 25, 2012, which directs state agencies to reduce their grid-based energy purchases by at least 20 percent by 2018, as compared to a 2003 baseline. Pursuant to EO B-18-12, all new state buildings and major renovations beginning design after 2025 shall be constructed as Zero Net Energy facilities with an interim target for 50 percent of new facilities beginning design after 2020 to be Zero Net Energy. State agencies shall also take measures toward achieving Zero Net Energy for 50 percent of the square footage of existing state-owned building area by 2025. Further, the following measures relevant to energy are required:
 - Any proposed new or major renovation of state buildings larger than 10,000 square feet shall use clean, on-site power generation, such as solar photovoltaic, solar thermal and wind power generation, and clean back-up power supplies, if economically feasible;
 - New or major renovated state buildings and build-to-suit leases larger than 10,000 square feet shall obtain LEED “Silver” certification or higher, using the applicable version of LEED;
 - New and existing buildings shall incorporate building commissioning to facilitate improved and efficient building operation; and
 - State agencies shall identify and pursue opportunities to provide electric vehicle charging stations, and accommodate future charging infrastructure demand, at employee parking facilities in new and existing buildings.

- ✓ **Executive Order B-30-15** - EO B-30-15 reiterates EO S-3-05’s 2050 GHG emissions target of 80 percent below 1990 levels and sets a new interim target of 40 percent below 1990 levels by 2030.

- CARB to update the Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent;
- CARB to update every three years the state’s climate adaptation strategy;
- “State agencies shall take climate change into account in their planning and investment decisions and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives.”
- “State agencies’ planning and investment shall be guided by the following principles:
 - Priority should be given to actions that both build climate preparedness and reduce greenhouse gas emissions;
 - Where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts;
 - Actions should protect the state’s most vulnerable populations; and
 - Natural infrastructure solutions should be prioritized.”
- OPR to establish a technical advisory group to help state agencies incorporate climate change impacts into planning and investment decisions.

Environmental Setting

Energy Consumption and Conservation

The study area is comprised of highways, railways, bicycle trails, state routes, roads, and Caltrans rights-of-way. This analysis assumes that automobiles, trucks, transit buses, and other forms of transportation would continue to operate within the Madera region and use a variety of energy forms, including gasoline, compressed natural gas, diesel, and electricity. This section considers the supply and demand for both electricity and fossil fuels.

Energy is fundamental to the economy and the quality of life of the Madera County region. The primary energy source for the U.S. is petroleum (also referred to as “oil”), which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily since 1983; as of February 2022, world consumption of oil had reached 98.7 million barrels per day (IEA Oil Market Report). The world supply of oil is anticipated to peak (i.e., reach the point of maximum production) sometime between now and 2046, before beginning a terminal decline that will put a significant strain on the economy if not anticipated and mitigated. However, the timing of the peak depends on multiple, uncertain factors that will affect how quickly remaining oil is consumed, such as the amount of oil that still remains in the ground; how much of the amount in the ground can be extracted and produced based on technological, economic, and environmental feasibility; and future demand for oil.

The U.S., with approximately 4.5 percent of the world’s population, accounts for nearly 21 percent of world oil consumption, roughly 17.2 million barrels per day (BP Statistical Review of World Energy, 2021),

which is a decrease in consumption from 18.5 million barrels per day in 2015. U.S. oil production peaked around 1970 and declined every year until 2005 to about 8.3 million barrels per day. Since 2005, U.S. oil production has increased to 17.2 million barrels per day in 2020. The U.S. transportation sector is heavily dependent on oil and represented about 69 percent of U.S. petroleum consumption in 2019. Within the transportation sector, light vehicles (i.e., cars, light trucks [two-axle, four-tire trucks], and motorcycles) represent about 56 percent of the petroleum-based energy consumption in 2020.

California's transportation sector is equally dependent upon oil, with petroleum-based fuels currently providing nearly all (90 percent) of California's transportation energy needs (EIA, 2020). Furthermore, transportation-related activities represent almost half (48 percent) of California's petroleum-based fuel consumption. California refineries increasingly rely on imported petroleum products to meet this demand. In 2003 the CEC and ARB adopted a two-part strategy to reduce the state's petroleum demand: promoting improved vehicle efficiency and increasing the use of alternative fuels. In 2006, CEC and ARB set a goal that 20 percent of all transportation energy in 2020 comes from alternative fuels. State plans, programs, and regulations to implement this strategy are further discussed in the Regulatory Setting section below.

Similar to California and the U.S. as a whole, the Madera region relies primarily on oil to meet its transportation needs. Motor vehicles are the largest consumer of fuels in the region's transportation sector. After gasoline, diesel fuel is the most utilized transportation energy source. The primary consumers of diesel fuel in the transportation sector are heavy-duty trucks, with medium-duty trucks, buses, light-duty passenger cars, and railway locomotives accounting for remaining diesel fuel consumption.

Alternative fuels are defined as fuels not derived from petroleum, such as natural gas, ethanol, and electricity. However, like petroleum, alternative fuels like natural gas and ethanol (which is primarily composed of diesel fuel) are also nonrenewable, finite resources. Electricity is also considered nonrenewable when generated from natural gas or coal, but considered renewable when generated from sources like solar, hydroelectric, or wind energy. Most alternative fuel facilities in the region supply compressed natural gas (CNG) or electricity. The region's limited alternative fuel infrastructure severely constrains the use of alternative fuel passenger vehicles.

Although average fuel efficiency for autos and trucks has experienced some improvements during the last quarter-century, fuel consumption associated with the large increase in VMT has exceeded the fuel consumption reductions achieved by improved efficiency, and the total amount of annual fuel consumption has continued to increase. The equipment and vehicles involved in the construction of transportation infrastructure (i.e., roadway and highway improvements; rail lines; etc.) also consume energy. Currently, construction equipment and vehicles are generally dependent on petroleum-based fuels.

Energy Conservation and Global Climate Change

The consumption of nonrenewable energy (primarily gasoline and diesel fuel) associated with construction activities and the operation of passenger, public transit, and commercial vehicles and future land use development results in GHG emissions that cause global climate change (also referred to herein as “climate change” and “global warming”). In addition, alternative fuels like natural gas (including CNG and liquid natural gas [LNG]), ethanol, and electricity (unless derived from solar, wind, nuclear, or another energy source that does not produce carbon emissions) also result in GHG emissions and contribute to global climate change. An overview of climate change, the anticipated impacts of climate change to California, and the climate change impacts of the proposed 2022 RTP/SCS are provided in Chapter 3, Section 3.6 of this EIR. Impacts and mitigation measures associated with climate change also relate to the conservation of energy resources.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Criteria for Significance

The following significance criteria were used to determine the level of significance of impacts on energy resources and energy conservation resulting from the proposed Project. Significance criteria were developed based on Appendix G of the State CEQA Guidelines. In general, an individual improvement project or new land use development contained within the RTP/SCS would result in a significant energy impact if the project would:

- ✓ Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- ✓ Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Impact 3.8.1 - Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

The proposed 2022 RTP/SCS plans improvements to the region’s transportation network and identified the location of future land use development consistent with local city and county general plans through the year 2046. Since the transportation and land use development sectors account for a very large portion of the energy consumed in the Madera region, implementation of transportation network improvements and new development would affect the region’s energy consumption through 2046. In addition, construction of these improvements would result in increased energy consumption due to the operation of construction equipment and vehicles during construction activities. Multiple factors beyond the control of MCTC and outside the scope of the proposed 2022 RTP/SCS may influence future transportation- and future land use development-related energy consumption patterns under the proposed 2022 RTP/SCS. These factors include but are not limited to state and federal regulatory actions; local land use decisions;

technological improvements; regional economic conditions; the fuel-efficiency and fuel-source of private automobiles; the price of oil, gasoline, diesel, electricity, and other fuels; the source of region’s electric power (i.e., proportion of renewable and nonrenewable sources); the amount of oil imported by the U.S. and others.

There are a few alternative fuel projects identified in the 2022 RTP/SCS that would assist in minimizing Madera County’s overall energy consumption. Vehicle fuel consumption was projected from a baseline year of 2019 through the RTP/SCS build out year of 2046 using the EMFAC 2014 model. Table 3-52 quantifies the projected vehicle fuel consumption in gallons per day using EMFAC data. The total fuel consumption is projected to decrease from 256,800 gallons in 2019 to 208,200 gallons in 2046, representing a decrease of 19% over 27 years. Diesel fuel is projected to decrease by 5% over 27 years, while gasoline consumption is projected to decrease by 27% during the same time. It should be noted that the fuel consumption estimate is an overestimate, as "Pavely and Low Carbon Fuels" will have an impact on fleet efficiency.

TABLE 3-52
 Madera County Vehicle Fuel Consumption (2019 through 2046)

	2019	2037	2042
Gasoline (gal/day)	167,900	122,100	123,300
Diesel (gal/day)	88,900	85,300	84,900
Total Fuel (gal/day)	256,800	207,400	208,200
Total Fuel per capita (gal/day)	1.63	1.08	1.01

Source: MCTC, EMFAC 2014

The fuel consumption outputs reflect a decreasing trend of fuel consumption per capita. This analysis shows that with implementation of the various multi-modal improvements (bike/pedestrian facilities, transit infrastructure/service, etc.), considering future land use development under the 2022 RTP/SCS, VMT and fuel consumption will decrease.

Although energy consumption would increase under the proposed 2022 RTP/SCS, the transportation improvements are designed to the improve energy efficiency of the regional transportation system by increasing use of more fuel-efficient public transit, carpools, and vanpools, and improving circulation system levels of service. In addition, building codes have been prepared to reduce energy consumption by future land use development. See the Climate Change discussion in Section 3.6 of this EIR for a detailed discussion of RTP actions that promote GHG emissions reductions, energy conservation, energy efficiency and reduced fuel consumption.

Examples of transportation improvements included in the proposed 2022 RTP/SCS that would improve energy efficiency include proposed transit improvements that would encourage optimized use of public transportation, and enhanced transit programs with new routes that would operate at higher speeds. Public transportation provides a more energy-efficient mode of travel than single-passenger vehicles, thereby reducing the region's transportation energy consumption. Any reductions in traffic congestion realized through implementation of enhanced transit operations would also allow for more energy-efficient vehicular travel.

The SCS proposes an allocation of new land use development that would support new transportation facilities, including the densification of land uses along major transportation corridors. The intent is to reduce auto use and increase transit system use resulting in reduced energy resources.

The proposed 2022 RTP/SCS would also involve highway and arterial widenings, and new freeway interchanges. This in turn would decrease travel time and congestion and consequently decrease fuel consumption from individual vehicles. As shown in Table 3-52 above, total fuel consumption in Madera County is expected to decrease when comparing the baseline year (2019) to the buildout year (2046) of the RTP/SCS.

The 2022 RTP/SCS encourages the transport of goods by rail to reduce congestion on the freeway system. Hauling goods by rail has a positive energy impact. The Federal Railroad Administration estimates that intermodal rail is 2 to 4 times more fuel efficient than trucks. This indicates reduced energy efficiency of goods movement in the region and increased nonrenewable energy consumption.

The construction of transportation infrastructure and future land use development identified in the proposed 2022 RTP/SCS would involve the use of construction equipment and vehicles, which are generally dependent upon nonrenewable petroleum-based fuels, on a large scale. However, it is not feasible to estimate energy consumption associated with future construction of the transportation projects and future land use development in the proposed 2022 RTP/SCS at this program level of analysis.

Given the number of large-scale improvements programmed into the proposed 2022 RTP/SCS and the amount of future land use development planned through to the year 2046, the increase in energy consumption associated with construction activities would be substantial. Although construction equipment and vehicles would be operated in accordance with all applicable rules and regulations, the substantial increase in energy consumption associated with the construction equipment and vehicles primarily powered by nonrenewable fuels under the proposed 2022 RTP/SCS is considered a significant impact.

Operation of the transportation improvements and future land use development identified in the proposed 2022 RTP/SCS would increase the total and per capita amount of diesel fuel consumption associated with the regional transportation network, as well as the increase in electricity and natural gas.

Since diesel and natural gas resources are nonrenewable, the increase in such energy consumption under the proposed 2022 RTP/SCS is considered a significant impact.

In addition to increased energy consumption directly associated with transportation activities, energy consumption would also increase as a result of new lighting including, but not limited to, lighting for land use developments, streets stops or stations, transit station parking structures, and rail tunnels; traffic signals; electronic signage; and other ancillary electric, natural gas, or other energy-consuming components of transportation improvements and new development that would be implemented under the proposed 2022 RTP/SCS. Increased energy consumption levels associated with these ancillary project and land use development features are considered a significant impact.

The proposed 2022 RTP/SCS includes goals and policies supporting smart growth through financial incentives, housing and mixed-use projects at existing and planned transit stations, support for local efforts to develop pedestrian master plans, and other activities that tend to reduce GHG emissions. However, since MCTC has no direct authority over land use planning and other local decisions, the extent to which the goals and policies supporting smart growth would be implemented by local jurisdictions is unknown.

Mitigation Measures

The specific impacts on energy consumption and energy conservation will be evaluated as part of the implantation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **EN 3.8.1-1** Implementing agencies shall review energy impacts as part of any CEQA-required project-level environmental analysis and specify appropriate mitigation measures for any identified energy impacts.

- ✓ **EN 3.8.1-2** During the design and approval of transportation improvements and future land use development projects, the following energy efficiency measures shall be incorporated when applicable:
 - The design or purchase of any lighting fixtures shall achieve energy reductions beyond an estimated baseline energy use for such lighting.
 - LED technology shall be used for all new or replaced traffic lights, rail signals, and other new development lighting features compatible with LED technology.

- ✓ **EN 3.8.1-3** Implementing agencies should consider various best practices and technological improvements that can reduce the consumption of fossil fuels such as:
 - Expanding light-duty vehicle retirement programs.
 - Increasing commercial vehicle fleet modernization.
 - Implementing driver training modules on fuel consumption.
 - Replacing gasoline powered mowers with electric mowers.
 - Reducing idling from construction equipment.
 - Incentivizing alternative fuel vehicles and equipment
 - Developing infrastructure for alternative fueled vehicles.
 - Implementing truck idling rules, devices, and truck-stop electrification
 - Requiring electric truck refrigerator units.
 - Reducing locomotives fuel use.
 - Modernizing older off-road engines and equipment.
 - Encouraging freight mode shift.
 - Limit use and develop fleet rules for construction equipment.
 - Requiring zero-emission forklifts.

- ✓ **EN 3.8.1-4** Implementing agencies should include energy analyses in environmental documentation and general plans with the goal of conserving energy through the wise and efficient use of energy. For any identified energy impacts, appropriate mitigation measures should be developed and monitored. MCTC recommends the use of Appendix F, Energy Conservation, of the *CEQA Guidelines*.

- ✓ **EN 3.8.1-5** Project and land use development implementing agencies should streamline permitting and provide public information to facilitate accelerated construction of solar and wind power.

- ✓ **EN 3.8.1-6** Project and land use development implementing agencies should adopt a “Green Building Program” to promote green building standards. Green buildings can reduce local environmental impacts, regional air pollutant emissions and global greenhouse gas emissions. Green building standards involve everything from energy efficiency, usage of renewable resources and reduced waste generation and water usage. For example, water-related energy use in 2017 consumed 20 percent of the state’s electricity. The residential sector accounts for 48 percent of both the electricity and natural gas consumption associated with urban water use. While interest in green buildings has been growing for some time, cost has been a main consideration as it may cost more up front to provide energy-efficient building components and systems. Initial costs can be a hurdle even when the installed systems will save money over the life of the building. Energy efficiency measures can reduce initial costs, for example, by reducing the need for over-sized air conditioners to keep buildings comfortable. Undertaking a more comprehensive design approach to building sustainability can also save initial costs through reuse of building materials and other means.

- ✓ **EN 3.8.1-7** Where identified, local governments should alter zoning to improve jobs/housing balance, create communities where people live closer to work, and bike, walk, and take transit as a substitute for personal auto travel consistent and in support of the SCS. Creating walkable, transit-oriented modes would generally reduce energy use and greenhouse gas emissions. Residential energy use (electricity and natural gas) accounts for less than 10 percent of California’s greenhouse gas emissions. Furthermore, studies have shown that the type of housing (such as multi-family) and the size of a house have strong relationships to residential energy use. Residents of single-family detached housing consume over 20 percent more primary energy than those of multifamily housing and 9 percent more than those of single-family attached housing.
- ✓ **EN 3.8.1-8** Project and land use development implementing agencies should increase the number of AFVs (i.e., vehicles not powered strictly by gasoline or diesel fuel) both in publicly owned vehicles, as well as those owned by franchisees of these agencies, such as trash haulers, green waste haulers, street sweepers, and curbside recyclable haulers.
- ✓ **EN 3.8.1-9** Bid solicitations for construction of projects should preference the use of alternative formulations of cement and asphalt with reduced GHG emissions to the extent that such cement and asphalt formulations are available at a reasonable cost in the marketplace. Solicitations should also preference the recycling of construction waste and debris if market conditions permit.
- ✓ **EN 3.8.1-10** All mitigation measures listed in Chapter 3, Section 3.6 (Climate Change) of this EIR, are incorporated by reference and shall be implemented by implementing agencies to address energy conservation impacts.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts on energy and energy resources, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact 3.8.2 - Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Energy consumption from new projects that do not include residential uses, such as the proposed Project, are primarily controlled by Title 24, Part 11 California Green Building Standards Code (CalGreen). Because of the limited nature of construction in terms of both duration and extent, as well as the fact that construction would be typical for infrastructure projects and no excess energy would be consumed, construction impacts would not be in conflict with any plan regarding energy efficiency. Operational energy use would be minimal due to the fact that Projects that would be undertaken under the RTP/SCS would generally not only not consume energy (roads) but would represent energy savings due to increased transit. In addition, projects undertaken during the RTP/SCS timeframe would themselves be subject to energy impacts analysis. Impacts of the proposed project would therefore be less than significant.

Mitigation Measures

- ✓ **EN 3.8.2-1** See Mitigation Measures for Impact 3.8.1.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts on energy and energy resources, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

3.9 GEOLOGY/SOILS/MINERAL RESOURCES

This section includes a discussion of existing geology, soils, and seismic conditions in the Madera region. This section also describes the criteria for determining the significance of geologic, seismic and soils impacts, and where appropriate, mitigation measures are recommended to reduce project-related (2022 RTP/SCS) impacts.

Regulatory Setting

Federal Agencies and Regulations

- ✓ **United States. Department of Agriculture, Natural Resources Conservation Service (NRCS)** - The NRCS maps soils and farmland uses to provide comprehensive information necessary for understanding, managing, conserving and sustaining the nation's limited soil resources. In addition to many other natural resource conservation programs, the NRCS manages the Farmland Protection Program, which provides funds to help purchase development rights to keep productive farmland in agricultural uses. Working through existing programs, USDA joins with State, tribal, or local governments to acquire conservation easements or other interests from landowners.

- ✓ **International Building Code (IBC)** - The International Building Code (IBC) is a model building code developed by the International Code Council (ICC). It has been adopted for use as a base code standard by most jurisdictions in the United States. The IBC addresses both health and safety concerns for buildings based upon prescriptive and performance related requirements. The IBC is fully compatible with all other published ICC codes. The code provisions are intended to protect public health and safety while avoiding both unnecessary costs and preferential treatment of specific materials or methods of construction.

- ✓ **Earthquakes Hazard Reduction Act** - The Earthquake Hazards Reduction Act (EHRA) of 1977 (42 U.S.C. § 7701 et. seq.) established the National Earthquake Hazards Reduction Program as a long-term earthquake risk reduction program for the United States which focuses on: developing effective measures to reduce earthquake hazards; promoting the adoption of earthquake hazard reduction activities by federal, state, and local governments, building standards and model building code organizations, engineers, architects, building owners, etc.; improving the understanding of earthquakes and their effects on people and infrastructure through interdisciplinary research.

State Agencies and Regulations

- ✓ **California Department of Conservation** - In 1982, the State of California created the Farmland Mapping and Monitoring Program within the California Department of Conservation to provide maps and statistical data for use in planning for the best utilization of California's agricultural resources.

The California Land Conservation Act of 1965, also known as the Williamson Act, is designed to preserve agricultural and open space lands by discouraging their premature and unnecessary conversion to urban uses. Williamson Act contracts, also known as agricultural preserves, offer tax incentives for agricultural land preservation by ensuring that land will be assessed for its agricultural productivity rather than its highest and best uses.

- ✓ **California Building Code** - The *California Building Code* is another name for the body of regulations contained in Title 24, Part 2, of the California Code of Regulations, which is a portion of the California Building Standards Code (CBSC, 1995). Title 24 is assigned to the California Building Standards Commission which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. Published by the International Conference of Building Officials, the Uniform Building Code (UBC) is a widely adopted model building code in the United States. The California Building Code incorporates by reference the UBC with necessary California amendments. About one-third of the text within the California Building Code has been tailored for California earthquake conditions. Although widely accepted and implemented throughout the United States, local, city and county jurisdictions can adopt the UBC either in whole or in part.
- ✓ **Alquist-Priolo Special Study Zones** - California's Alquist-Priolo Act, originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. 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. The Alquist-Priolo Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. This Act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.
- ✓ **Seismic Hazards Mapping Act** - The Seismic Hazards Mapping Act of 1990 addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. The purpose of the Act is to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The program and actions

mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act.

- ✓ **Surface Mining Area Reclamation Act (SMARA)** - SMARA was enacted by the California Legislature to address the need for a continuing supply of mineral resources, and to prevent or minimize the negative impacts of surface mining to public health, property and the environment. SMARA mandates the California Geological Survey (CGS) to provide objective economic-geologic expertise to assist in the protection and development of mineral resources through the land-use planning process. The primary products are mineral land classification maps and reports for urban and non-urban areas of the state. Local agencies are required to use the classification information when developing land-use plans and when making land-use decisions.
- ✓ **California Department of Transportation (Caltrans)** - Caltrans' jurisdiction includes rights-of-way of state and interstate routes within California. Any work within the right-of-way of a federal or state transportation corridors is subject to Caltrans' regulations governing allowable actions and modifications to the right-of-way. Caltrans issues permits to encroach on land within their jurisdiction to ensure encroachment is compatible with the primary uses of the State Highway System, to ensure safety, and to protect the State's investment in the highway facility. The encroachment permit requirement applies to persons, corporations, cities, counties, utilities, and other government agencies. A permit is required for specific activities including opening or excavating a state highway for any purpose, constructing or maintaining road approaches or connections, grading within rights-of-way on any state highway, or planting or tampering with vegetation growing along any state highway. The encroachment permit application requirements relating to geology, seismicity and soils include information on road cuts, excavation size, engineering and grading cross-sections, hydraulic calculations, and mineral resources approved under SMARA.
- ✓ **California Health and Safety Code** - Sections 17922 and 17951–17958.7 of the California Health and Safety Code require cities and counties to adopt and enforce the current edition of the CBC, including a grading section. Sections of Volume 2 of the CBC specifically apply to select geologic hazards.
- ✓ **Public Resources Code** - Section 5097.5 of the Public Resources Code provides for the protection of cultural and paleontological resources and prohibits the removal, destruction, injury, or defacement of archaeological and paleontological features on any lands under the jurisdiction of State or local authorities.
- ✓ **Construction General Permit** - Stormwater discharges from construction activities in California are regulated by the State Water Resources Control Board (SWRCB) *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*, Order No. 2009-009-DWQ, NPDES No. CAS000002 (Construction

General Permit). The Construction General Permit regulates construction activity that disturbs of at least 1 ac of total land area. The Construction General Permit requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that describes the Erosion Control and Sediment Control Best Management Practices (BMPs) that would be implemented during construction to control erosion and sedimentation, particularly during storm events.

Local Agencies and Regulations

- ✓ **General Plans and Seismic Safety Element** - City and county governments typically develop as part of their General Plans, safety and seismic elements that identify goals, objectives, and implementing actions to minimize the loss of life, property damage and disruption of goods and services from man-made and natural disasters including floods, fires, non-seismic geologic hazards and earthquakes. Local governments may provide policies and develop ordinances to ensure acceptable protection of people and structures from risks associated with these hazards. Ordinances may include those addressing unreinforced masonry construction, erosion or grading.

Environmental Setting

Madera County encompasses 5,963 square miles and is defined by distinct geological features, including the nearly level alluvial plains of the San Joaquin Valley, the foothills of the Coast Ranges, and the foothills/mountains of the southern Sierra Nevada. Elevations in the county range widely from approximately 4,000 feet in the Coastal Ranges, to 365 feet above sea level near the City of Madera, to nearly 14,000 feet peaks in the Sierra Nevada. San Joaquin Valley lies mostly below 1,000 feet.

Madera County covers portions of three of the eleven geologic provinces of California. These provinces include the eastern Coast Ranges, the Great Valley of California, and the southern Sierra Nevada. Each province differs from the others in the nature of its geologic history.¹

- ✓ **Coast Ranges** – The segment of the Coast Ranges province that lies within Madera County is characterized by north-northwest trending mountain ranges of moderate relief. These ranges are underlain primarily by folded marine sedimentary rocks and cut by the San Andreas Fault. Within the Coast Ranges province, sedimentary rocks trend mostly north-northwest and are moderately to mildly deformed along folds parallel to the mountain ranges.

¹ California Division of Mines and Geology, Mines and Mineral Resources of Madera County, California, County Report 1 (1962)

- ✓ Sierra Nevada – The southern Sierra Nevada province, comprised of the southern Sierra Nevada and Tehachapi Mountains, contains most of the high mountains in Madera County. Granitic rocks underlie most of the southern part of the province and are part of the Sierra Nevada batholith.
- ✓ Great Valley – The southern part of the Great Valley province is a nearly flat north trending trough bounded by the Coast Ranges, San Emigdio Mountains, and Sierra Nevada. Sedimentary rocks, largely of marine origin, underlie a relatively thin cover of alluvium.

Seismic and Geologic Hazards

Madera County is subject to several types of hazards associated with seismic and geological conditions. These include earthquake faults, ground shaking, and ground failure.

✓ **Faults**

Madera County is subject to risks associated with several major fault systems (Figure 3-9) currently identified in the region.

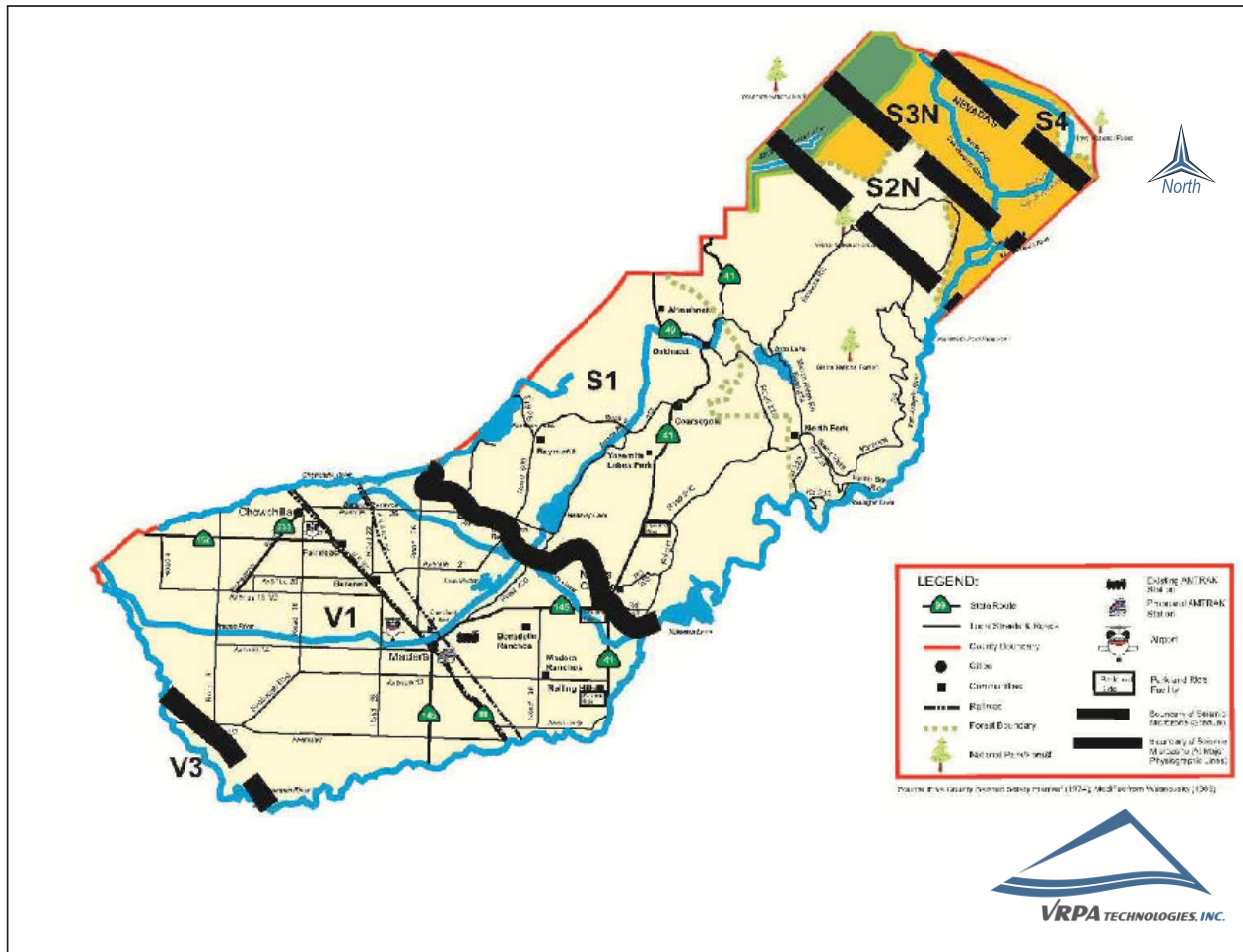
The San Andreas Fault is at least 600 miles long and runs along the western edge of the County; it is considered the boundary between the North American Plate and the Pacific Plate. Although the geologic history of displacements (movement) along the San Andreas Fault is a difficult study area for scientists, it is clear that the San Andreas system holds the greatest energy potential in terms of the Richter Scale.

✓ **Ground Shaking**

Madera County is located near one of the more seismically active faults of California, the San Andreas Fault, and may, at any time, be subject to moderate or severe ground shaking. Ground shaking hazards exist because of stress that accumulates deep within the earth. This stress, or elastic strain, becomes so great that the rock can no longer be contained as a single rock mass and breaks.

Movement along a fracture zone occurs, and an enormous amount of energy is released. This movement may or may not produce a surface fault rupture.

FIGURE 3-9
 Major Potentially Active Faults in Madera County



At any given location, the amount of the resulting shaking motion caused by the sudden movement to a large extent depends on local ground conditions (including the degree of water saturation) and may be as severe ten miles from the fault as immediately adjacent to it. Local ground conditions that affect the intensity of the ground shaking include the magnitude of the earthquake, the distance from the epicenter, the type of rock or sediment in the area, and the degree of water saturation. Since the valley portions of Madera County are composed of alluvial deposits, the intensity of ground shaking would be greater than the foothill or mountain areas in the County that are composed of rock.

Ground shaking is commonly described in terms of peak ground acceleration as a fraction of the acceleration of gravity (g), or by using the Modified Mercalli (MM) Intensity Scale. The MM Intensity Scale is a descriptive method involving 12 levels of intensity. Table 3-53 below illustrates MM intensity ranges from level I (shaking that is not felt) to level XII (total damage). MM intensities ranging from IV to X could cause moderate to significant structural damage.

The Five County Seismic Safety Element was prepared for Madera, Kings, Madera, Mariposa and Tulare Counties in 1974, but has not been updated and does not include recent seismic activity. However, the California Division of Mines and Geology (CDMG) have compiled their Probabilistic Seismic Hazard Map, which is based on a 10 percent probability of earthquake occurrence in 50 years for Madera County. The Madera County portion of that map can be viewed on Figure 3-11.

Identified faults must be considered in planning and land use activities, and faults identified as active deserve special consideration. No structure, including roadway bridges, should be built astride an active fault. Similarly, utilities that cross such faults must be designed to remain functional even after fault movement.

✓ **Ground Failure**

Madera County has a diversity of microenvironments and activities that have the potential for ground failure. Factors that cause or contribute to ground failure can include, but are not limited to soil type and condition, bedrock condition, presence of moisture, presence or lack of vegetation, ground slope, seismic activities, and human activities. Specific types of ground failure and provided local data are described below:

- Landslides – The severity of landslide problems depends on the local soil and bedrock conditions, including moisture content, slope, and vegetation. Human activities also tend to destabilize earth materials and thus increase the chance of ground failure. Human-induced causes include the cutting of slopes for roadways, overloading slopes with artificial fill, extensive irrigation, poor drainage, excessive groundwater withdrawal, and the removal of stabilizing vegetation. Added moisture injected into the soils by water and sewer systems tends to be detrimental in unstable areas and can cause the reoccurrence of landslides in a previously stable area. Small landslides are common within the mountain areas as loose material moves naturally down slope.

TABLE 3-53
 Modified Mercalli Intensity Scale

Scale	Description
I.	Not felt except by a very few under especially favorable conditions.
II.	Felt only by a few persons at rest, especially on upper floors of buildings.
III.	Felt quite noticeably by people indoors, especially on the upper floors of buildings. Many do not recognize it as an earthquake. Standing automobiles may rock slightly. Vibration similar to the passing of a truck. Duration can be estimated. Indoor objects
IV.	Felt indoors by many to all people, and outdoors by few people. Some awakened. Dishes, windows, and doors disturbed, and walls make cracking sounds. Chandeliers and indoor objects shake noticeably. The sensation is more like a heavy truck striking building
V.	Felt inside by most or all, and outside. Dishes and windows may break and bells will ring. Vibrations are more like a large train passing close to a house. Possible slight damage to buildings. Liquids may spill out of glasses or open containers. None to a
VI.	Felt by everyone, outside or inside; many frightened and run outdoors, walk unsteadily. Windows, dishes, glassware broken; books fall off shelves; some heavy furniture moved or overturned; a few instances of fallen plaster. Damage slight to moderate to po
VII.	Difficult to stand. Furniture broken. Damage light in building of good design and construction; slight to moderate in ordinarily built structures; considerable damage in poorly built or badly designed structures; some chimneys broken or heavily damaged. N
VIII.	Damage slight in structures of good design, considerable in normal buildings with a possible partial collapse. Damage great in poorly built structures. Brick buildings easily receive moderate to extremely heavy damage. Possible fall of chimneys, factory s
IX.	General panic. Damage slight to moderate (possibly heavy) in well-designed structures. Well-designed structures thrown out of plumb. Damage moderate to great in substantial buildings, with a possible partial collapse. Some buildings may be shifted off fou
X.	Many well-built structures destroyed, collapsed, or moderately to severely damaged. Most other structures destroyed, possibly shifted off foundation. Large landslides.
XI.	Few, if any structures remain standing. Numerous landslides, cracks and deformation of the ground.
XII.	Total destruction – everything is destroyed. Lines of sight and level distorted. Objects thrown into the air. The ground moves in waves or ripples. Large amounts of rock move position. Landscape altered, or leveled by several meters. Even the routes of ri

Source: U.S. Geology Survey, National Earthquake Information Center Website

- Land Subsidence – Land subsidence is occurring within the San Joaquin Valley. This type of ground failure can be aggravated by ground shaking and is most often caused by the withdrawal of large volumes of fluid from underground reservoirs. Other causes of subsidence include sinking tectonics, oil and gas extraction, and deficient alluvial deposits. Subsidence from any cause accelerates maintenance problems on roads, canals, and underground utilities, and contributes to drainage and flood problems. Seismic activities also aggravate subsidence areas. Western Madera County contains large areas of intense land subsidence caused by excessive groundwater pumping. Maintenance or raising water tables can mitigate effects from subsidence.
- Clay soils – Fine-grained, cohesive clay soils that expand when moisture is added tend to lose their ability to support foundations of structures. Swelling soils usually occurs during the winter and spring rains, and can lead to heaving of highways and roadways, disruption of utility lines, cracked driveways and foundations, and doors and windows that will not open properly. Construction may aggravate the problem due to adding moisture, and heaving may not occur on the site until six months to a year later.

- Liquefaction – Liquefaction occurs when ground shaking produced by earthquakes destabilizes or “liquefies” saturated soils. Liquefaction can occur in certain types of soil, such as loosely consolidated sands, alluvial deposits, or poorly engineered fill. Liquefaction usually occurs in areas that are associated with a shallow water table, within 30 feet of the ground surface. Liquefaction can affect roads, runways and utility lines.
- Erosion – Erosion is the process whereby materials of the earth’s crust are worn down, removed by weathering, and deposited in other places by the flow of water, wind and seismic activity. Erosion usually occurs in Madera County during the winter and spring rains, as well as during windstorms. Erosion can be an on-going, gradual process or a rapid process during wind and flood events. Areas in Madera County where erosion may present a problem include areas that contain one or more of the following: alluvial fans, urban drainage systems, seismic activity, steep slopes, and stripped vegetation due to recent fires. Proper engineering, grading, construction, landscaping, drainage and enforcement can reduce losses associated with erosion.

Soils

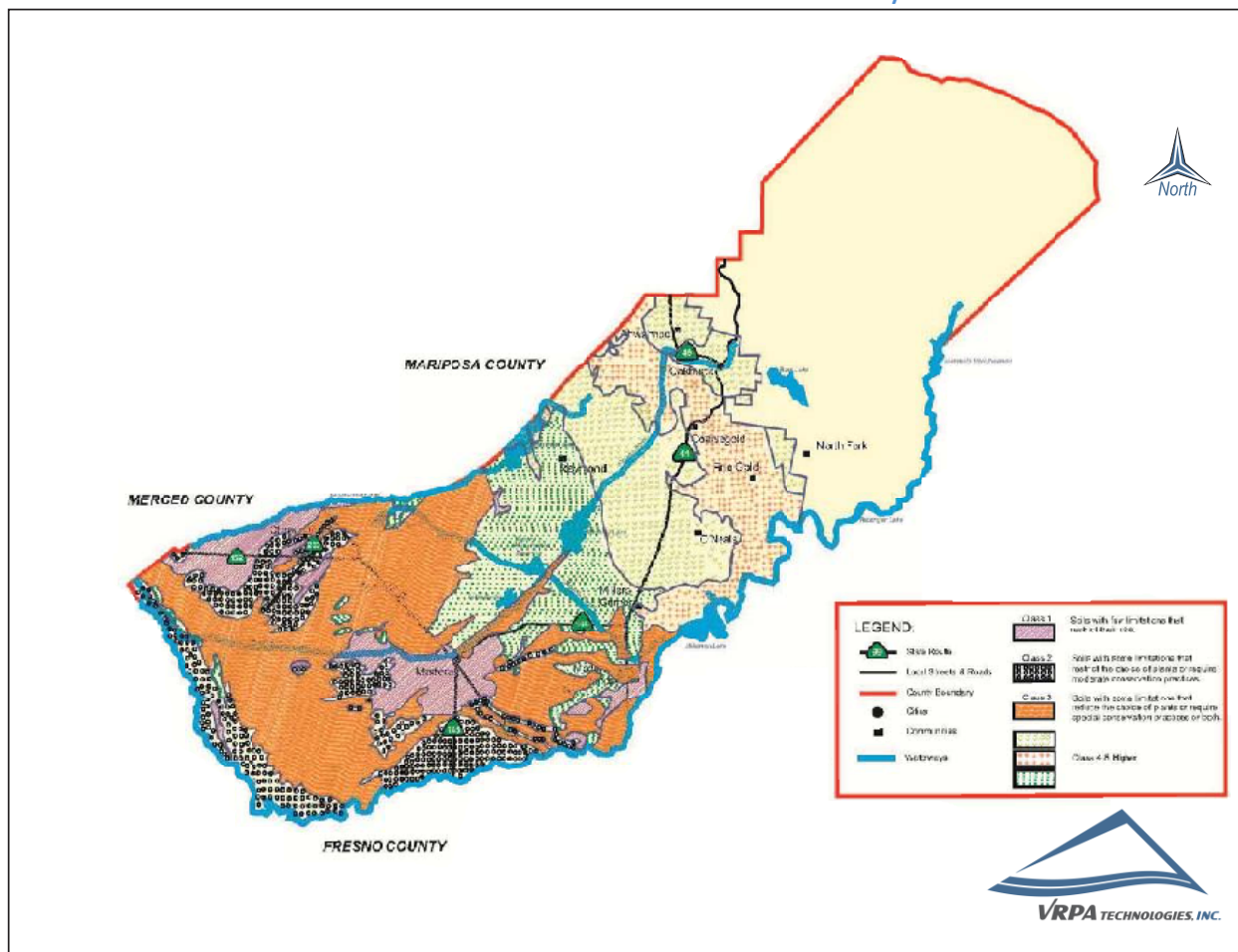
Soil types within Madera County are as diverse as the County’s climate, topography, and underlying geology. Fifty different mapping units are identified on the General Soil Map for the County, named for the major soils series that occur within each unit². A soil series is a group of soils that have similar characteristics and layers. Figure 3-10 provides a graphic review of soil types in Madera County.

These mapping units are organized into eight major groups, based on soil characteristics and qualities, including slope. The soil groups, their associated risk of geologic hazard, and their suitability to agricultural uses are briefly described below.

- ✓ Group 1 areas are dominated by nearly level coarse to moderately fine textured alluvial soils. This group consists of 13 separate soil associations and is used primarily for sheep grazing, cotton and alfalfa production. Soil corrosiveness ranges widely, depending on the specific soil association.
- ✓ Group 2 areas are dominated by gently sloping to moderately steep slope areas and contain coarse to moderately fine textured alluvial soils. This group contains nine separate soil associations and is used predominantly for grazing, small grain, cotton and alfalfa production, although some soils may support orchards. Shrink-swell and erosion hazards are moderate, as is soil corrosiveness.
- ✓ Group 3 areas consist of nearly level clayey soils. This group contains four soil associations and supports cotton, alfalfa, sugar beets and other row crops. Shrink-swell potential for this soil group is severe.

² U.S. Dept. of Agriculture Soil Conservation Service, Report and General Soil Map of Madera County.

FIGURE 3-10
 Soil Classifications in Madera County



- ✓ Group 4 areas are dominated by nearly level soils with dense, very slowly to moderately slowly permeable subsoils or hardpan. This group contains four separate soil associations that support grain crops, cotton and vineyard. Shrink-swell potential for this soil group is very high.
- ✓ Group 5 areas are dominated by sloping soils with dense, slowly to moderately slowly permeable subsoils. This group consists of two soil associations that support range uses and shallow root crops. Shrink-swell potential ranges from low to high between the two soil associations.
- ✓ Group 6 areas consist primarily of coarse to moderately fine textured, gently sloping to very steep residual soils, and are found mainly above 2,500 feet. This group consists of seven soil associations that are best suited for rangeland, oil and timber production, and wildlife habitat. Shrink-swell potential and erosion hazard is generally severe.

- ✓ Group 7 areas are dominated by clayey soils on gently sloping to very steep slopes. This group contains seven soil associations that support citrus production, rangeland, and dry land crops. Shrink-swell and erosion potential are moderate to severe.
- ✓ Group 8 areas are dominated by very shallow soils, rock or very coarse textured soils. This group contains four soil associations that are poorly suited for agricultural uses, and its soil associations are subject to flooding and severe erosion, presenting a threat to construction sites.

As indicated above, Soil Groups 3, 4, 6 and 7 present the greatest constraints to development or construction because of severe shrink-swell potential and the high corrosiveness of associated soils. Group 8 also contains severe limitations because of the potential for flooding and erosion.

Mineral Resources

A number of mineral resources can be found within the region, including construction aggregate (sand, gravel, and crushed stone), clay, gold, etc. Mineral Resource Zone (MRZ) classifications are provided in accordance with the California's State and Surface Mining and Reclamation Act (SMARA) of 1975 (Pub. Resources Code §2710-2796) described in further detail in the Regulatory Setting. MRZ-2 locations indicate the presence of or high likelihood of high-quality mineral resources.

MRZs are classified as follows:

- ✓ MRZ-1 – Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- ✓ MRZ-2 – Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- ✓ MRZ-3 – Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- ✓ MRZ-4 – Areas where available information is inadequate for assignment into any other MRZ.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

This impact analysis looks at each significance criterion individually, it assesses how implementation of the proposed RTP, including changes in the transportation network and to the land use pattern, may impact geology, seismicity, soils and mineral resources. The analysis is programmatic and considers potential impacts on the regional level in terms of both land use and transportation impacts.

By the horizon year, implementation of the proposed RTP will result in a land use pattern and transportation network that is different from existing conditions. Unless otherwise stated, "existing conditions" in the proposed RTP refers to conditions in the baseline.

The land use analysis requires assessing the amount of growth (population, housing, and employment) projected for the region by the horizon year, and considering how that growth will impact geology, seismicity, soils, and mineral resources in the region. A brief description of the types of geological, mineral resources, seismicity, and soils issues found within the region are discussed above.

Criteria for Significance

- ✓ Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - 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.
 - Strong seismic ground shaking.
 - Seismic-related ground failure, including liquefaction.
 - Landslides.

- ✓ Result in substantial soil erosion or the loss of topsoil.

- ✓ 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.

- ✓ Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

- ✓ Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

- ✓ 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.

- ✓ 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.

Impact 3.9.1 – 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.
- iv) Landslides.

Seismic events can damage transportation infrastructure and land use development through ground shaking, liquefaction, surface rupture and land sliding. The potential for projects to be significantly affected by seismic activity are projects that would be located in areas close to faults that are known to experience severe ground acceleration during earthquakes making these areas susceptible to severe ground shaking and earth movement including landslides. The potential for projects to be significantly affected by liquefaction would be higher in areas exhibiting shallow groundwater levels and unconsolidated soils such as fill material, and some alluvial soils. Property and public safety from seismic activity would be considered a significant impact in some cases.

Mitigation Measures

The specific impacts on damaged transportation infrastructure and other future land use development structures from seismic activity will be evaluated as part of the implementing agencies' project-level environmental review process regarding proposed individual transportation improvement projects and future land use development projects. Implementing agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **GSM 3.9.1-1** Implementing agencies will be responsible for ensuring that transportation improvement projects and future land use development projects are built to the seismic standards contained in the most recent edition of the Uniform Building Code (UBC).
- ✓ **GSM 3.9.1-2** Implementing agencies will ensure that transportation improvement projects and future land use development projects located within or across active fault zones comply with design requirements, published by the CGS, as well as local, regional, state, and federal design criteria for construction of projects in seismic areas.

- ✓ **GSM 3.9.1-3** Implementing agencies will guarantee that geotechnical analysis is conducted within construction areas to establish soil types and local faulting prior to the construction of transportation improvements and future land use developments is subject to geotechnical analysis.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce damaged transportation infrastructure and other land use development structures from seismic activity, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact 3.9.2 – Result in substantial soil erosion or the loss of topsoil.

Some transportation improvement projects and future land use development uses require significant earthwork, increasing potential slope failure and long-term erosion. New land uses and transportation development included in the RTP/SCS could result in soil erosion or the loss of topsoil because of new exposed graded surfaces, excavation, stock piling, or boring which are necessary during development. Development may disturb previously undisturbed soils, and new development may increase water runoff, causing erosion problems, and potentially, slope failure. Earthwork can also alter unique geologic features. Transportation improvement projects and future land use development would be considered significant in some cases.

Several transportation improvement projects would involve substantial construction of new highway segments within previously undisturbed areas. Some of these projects could require significant earthwork or cuts into hillsides, which can become unstable over time. Road cuts can expose soils to erosion over the life of the Project, creating potential landslide and falling rock hazards. Engineered roadways can be undercut over time by storm water drainage and wind erosion. Some areas would be more susceptible to erosion than others due to the naturally occurring soils with high erosion potential. Other improvement projects on steep grades or winding mountain passes would pose the greatest potential impacts. Notwithstanding natural soil types, engineered soils can also erode due to poor construction methods and design features or lack of maintenance. Appropriate construction methods, earthwork design, and road cut design can reduce this potential impact to less than significant levels.

New roadways can also permanently alter unique geologic features, particularly in canyons, coastlines, and mountain passes. However, most of the improvement projects would occur in urbanized portions of the region or in existing transportation corridors. Nonetheless, new lanes may require earthwork that would affect existing natural geologic features.

Mitigation Measures

The specific impacts on slope failure and erosion due to project construction will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **GSM 3.9.2-1** Implementing agencies will ensure that individual transportation improvement projects and future land use developments provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion.
- ✓ **GSM 3.9.2-2** Transportation improvement project and future land use development design features will include measures to reduce erosion from storm water.
- ✓ **GSM 3.9.2-3** Road cuts will be designed to maximize the potential for revegetation.
- ✓ **GSM 3.9.2-4** Implementing agencies will ensure that transportation improvement projects and future land use developments avoid landslide areas and potentially unstable slopes wherever feasible.
- ✓ **GSM 3.9.2-5** Where practicable, transportation improvement project and future land use development designs that would permanently alter unique geologic features will be avoided.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce slope failure and erosion due to project construction, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact 3.9.3 - 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.

Local geology can affect transportation infrastructure and the location for new development. Potentially significant impacts to property and public safety could occur due to subsidence and soil instability.

Subsidence has historically occurred within Madera County due to groundwater overdraft and petroleum extraction. Unconsolidated soils containing petroleum or groundwater often compress when the liquids are removed, causing the surface elevation to decrease. Improperly abandoned oil wells or underground hard rock mining can also cause localized subsidence.

Subsidence can also occur in areas with unconsolidated soils that have not historically shown elevation changes. Transportation infrastructure designs and future land use development must include appropriate reinforcement to minimize potential impacts from subsidence in areas where such activity has not been witnessed.

Most future land use development associated with the SCS will be located within Alluvium Terrace soil areas, which are very common on the Valley floor and can support transportation structures and future land use development. Due to the generally more granular nature of the alluvium, it should be less likely to contain expansive clays.

Mitigation Measures

The specific impacts of subsidence and the presence of expansive soils will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **GSM 3.9.3-1** Implementing agencies will ensure that geotechnical investigations are conducted by a qualified geologist to identify the potential for subsidence and expansive soils.
- ✓ **GSM 3.9.3-2** Implementing agencies should take corrective measures, such as structural reinforcement and replacing soil with engineered fill, will be implemented in individual transportation improvement project and future land use development site designs, where applicable.

- ✓ **GSM 3.9.3-3** Implementing agencies will ensure that, prior to preparing individual transportation improvement project and future land use development site designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area.

While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce subsidence and the presence of expansive soils it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

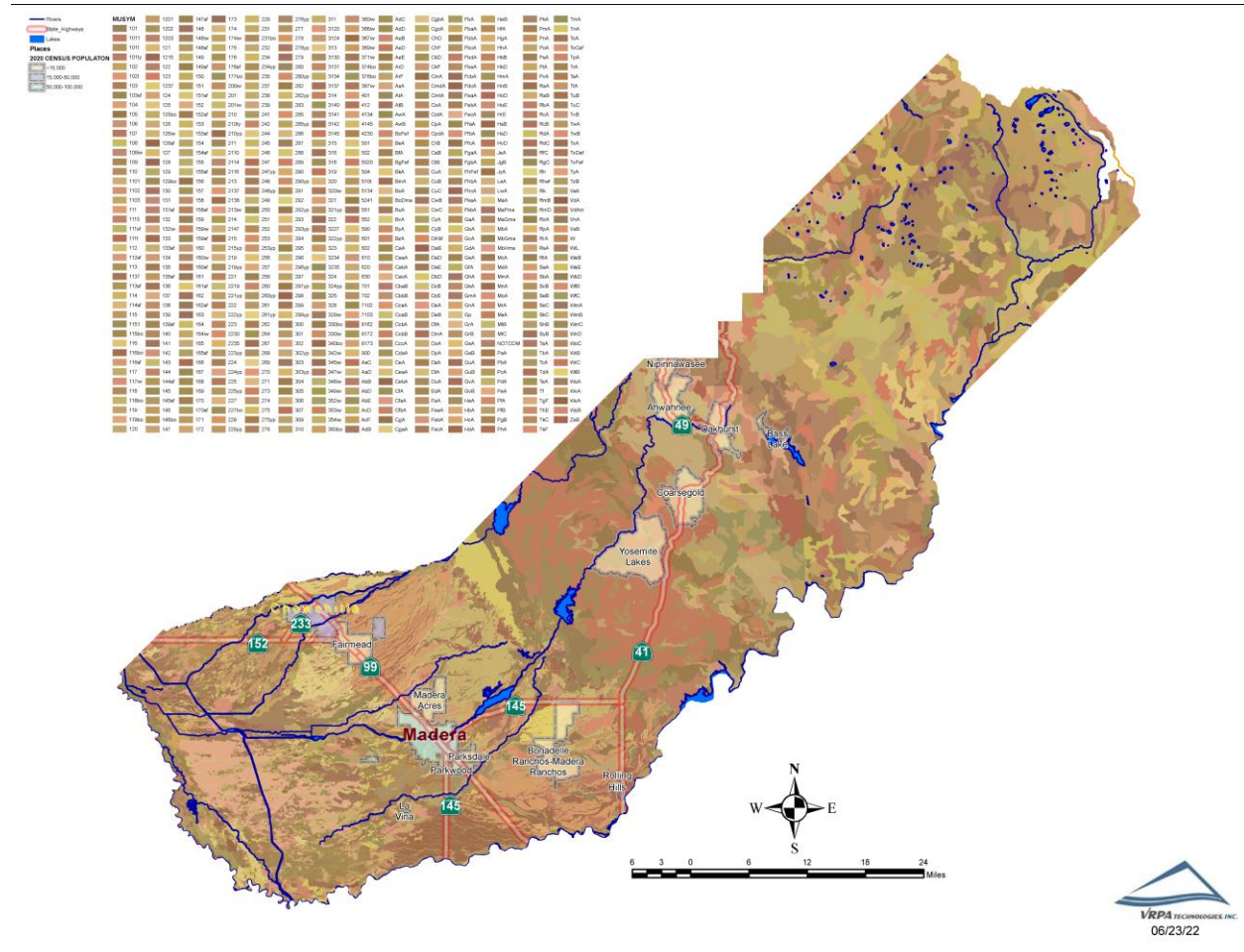
Impact 3.9.4 – Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Local geology can affect transportation infrastructure and the location for new development. Potentially significant impacts to property and public safety could occur due to the presence of expansive soils.

Soils with high percentages of clay can expand when wet, causing structural damage to surface improvements. These clay soils can occur in localized areas throughout Madera County, making it necessary to survey individual transportation improvement project and future land use development areas extensively prior to construction. Each new transportation improvement project and future land use development location would have the potential to contain expansive soils, although they are more likely to be encountered in lower drainage basin areas. Expansive soils are generally removed during foundation work to avoid structural damage.

Most future land use development associated with the SCS will be located within Alluvium Terrace soil areas, which are very common on the Valley floor and can support transportation structures and future land use development. Due to the generally more granular nature of the alluvium, it should be less likely to contain expansive clays. Soil composition for the County according to the Storie Index Rating is displayed below in Figure 3-11. Figure 3-12 also includes soil properties in Madera County.

FIGURE 3-12
 Soil Properties in Madera County



Mitigation Measures

The specific impacts of subsidence and the presence of expansive soils will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **GSM 3.9.4-1** Implementing agencies will ensure that geotechnical investigations are conducted by a qualified geologist to identify the potential for subsidence and expansive soils.
- ✓ **GSM 3.9.4-2** Implementing agencies should take corrective measures, such as structural reinforcement and replacing soil with engineered fill, will be implemented in individual transportation improvement project and future land use development site designs, where applicable.
- ✓ **GSM 3.9.4-3** Implementing agencies will ensure that, prior to preparing individual transportation improvement project and future land use development site designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts to property and public safety due to the presence of expansive soils, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact 3.9.5 - Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

New development has the potential of being located in areas that have soils that may not be able to support the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Growth and development and transportation project improvements will take place throughout the County in accordance with adopted general plans. Such development and projects may be sited in locations far from municipalities with sewer connections, and therefore could potentially require an on-site wastewater treatment system for the disposal of wastewater during project operation. If permanent facilities are constructed in remote locations, a septic tank or alternative wastewater disposal system would have to be installed for use during operation. Based on the soil associations found within the County, it is expected that soils in County will have some limitations for on-site wastewater disposal. A number of soils have a slow permeability, a shallow duripan or hardpan, or high potential for flooding or ponding, preventing the soil from properly treating effluent. Because soils in extensive areas within the County appear to have limited suitability for supporting septic systems, impacts could be significant

without appropriate project design and/or mitigation. It is unclear at this time how implementation of the Proposed Project would result in construction and operations of projects, including the location, number, size, methods, and duration of construction activities. Because of the uncertainties underlying this program-level assessment, impacts of soils incapable for supporting alternative wastewater systems in the County cannot be accurately quantified. Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by implementing agencies. However, because soils in extensive areas within the County appear to have limited suitability for supporting septic systems, this potential impact is considered significant.

Mitigation Measures

- ✓ **GSM 3.9.5-1** Implementing agencies shall conduct a geotechnical investigation and a geotechnical report shall be prepared. The geotechnical report shall include a quantitative analysis to determine whether on-site soils would be suitable for an on-site wastewater treatment system. If it is determined that the soil could not support a conventional on-site treatment system, non-conventional systems shall be analyzed. In many cases, these types of systems can reduce significant wastewater impacts to less-than-significant levels. Implementation of these measures would reduce the significance of having soils incapable of supporting the use of traditional septic systems where sewers are not available for the disposal of wastewater. In some cases, it will not be feasible to provide alternative wastewater disposal systems due to space constraints, lack of a service provider, and/or cost. Implementation and enforcement of conventional and non-conventional system measures would be within the responsibility and jurisdiction of the implementing agencies. For these reasons, wastewater disposal impacts would remain significant.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to determine whether on-site soils would be suitable for an on-site wastewater treatment system, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact 3.9.6 – 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.

Transportation improvements and future land use development associated with implementation of the proposed RTP/SCS could result in a reduction in availability of important designated mineral resources to the region by making certain mineral resources inaccessible for future extraction. The San Joaquin River mineral resource area is located along the Madera and Madera County line. This resource area covers an estimated 4,271 acres and is part of the alluvial materials from the San Joaquin River. Aggregate resources in this area are identified as being MRZ-1 and MRZ-2. This resource area extends for approximately 15 miles, averages about 0.5 miles along its width, and generally follows the historical floodplain of the San Joaquin River. The Kings River Resource Area is an alluvial fan that covers an estimated 16,380 acres and is designated as a MRZ-2.

Many MRZ-2 areas in the proposed RTP/ SCS may already be developed, and the proposed RTP/SCS emphasizes further construction or development within these already developed areas. The proposed RTP/SCS would not likely interfere with existing or new mineral resource production activities in those areas.

Local jurisdictions have policies to manage mineral resources through general plans and are required to respond to mineral resource recovery areas that have been designated MRZ-2 locations under SMARA, indicating that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists, thus reducing the impact to a designated mineral resource. However, local policies will not prevent the potential loss of availability of such mineral resources that would be of value to the region and the residents of the state because the decision to implement transportation improvement projects or permit uses and developments or to protect designated mineral resources is a local decision.

Potential, but unproven mineral resource lands are designated as MRZ-3. These lands can be found along the San Joaquin and Kings Rivers in Madera County, but they may not be of high quality to formulate concrete.

Mines and other mineral resources such as major oil and natural gas fields, and other mineral resources are located throughout Madera County. Major oil and natural gas fields are located near Coalinga. Transportation improvement projects and future land use development projects may be proposed along alignments or near areas that will affect mineral resource lands.

Therefore, the potential for loss of availability of a designated mineral resource related to transportation improvement projects and future land use developments from implementation of the proposed 2022 RTP/ SCS at the regional level is considered potentially significant.

Mitigation Measures

The specific impacts on the loss of availability of a designated mineral resource that would be of value to the region and the residents of the state will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **GSM 3.9.6-1** The implementing agency should protect against the loss of availability of a designated mineral resource through identification of locations with designated mineral resources and adoption and implementation of policies to conserve land that is most suitable for mineral resource extraction from development of incompatible uses.
- ✓ **GSM 3.9.6-2** Where possible, transportation improvement project and future land use development sites will be designed by responsible agencies to limit potential impacts on mineral resource lands.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the mineral resource impacts, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact 3.9.7 - 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.

Implementation of the proposed transportation improvements and future land use developments included in the 2022 RTP/SCS would include new transportation improvement projects and new residential, commercial, and other land uses, including infill development.

Local general plans, specific plans, and other land use plans include policies to protect existing and future mineral production and extraction activities from surrounding uses and require that future projects near mining activities have compatible land uses. In addition, compliance with Surface Mining and Reclamation

Act (SMARA) requirements for mineral resource sites and notice requirements would further minimize impacts to locally-important mineral resource sites. SMARA requires that companies obtain permits before conducting surface mining. The permit applications must describe what the pre-mining environmental conditions and land use are, what the proposed mining and reclamation will be, how the mine will meet the performance standards, and how the land will be used after reclamation is complete. This information is intended to help the government determine whether to allow the mine and set requirements in the permit that will protect the environment. Expansion or extension of the roadway network from implementing proposed RTP/SCS projects would require the need for additional land. Any improvements proposed in federal or state rights-of-way are required to obtain an encroachment permit from Caltrans and provide information on mineral resources to mitigate potential or known impacts. Therefore, the potential for an impact that results in the loss of availability of a locally-important mineral resource recovery site related to transportation improvement projects or future land use development from implementation of the proposed RTP/SCS at the regional level is considered potentially significant based on the reasons given below.

Transportation improvement projects or future land use development near locally-important resources are regulated by local jurisdictions through policies incorporated into general plans, specific plans, and other land use plans; these policies provide protection of mineral resource production and extraction activities. In addition, compliance with SMARA requirements for mineral resource sites and notice requirements would further minimize impacts to locally-important mineral resource sites. Therefore, the potential for an impact that results in the loss of availability of a locally-important mineral resource recovery site related to transportation improvements from implementation of the proposed RTP/SCS is considered potentially significant based on the reasons given below.

Mitigation Measures

The specific impacts resulting 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 will be evaluated as part of the implementing agencies' project-level environmental review process regarding their proposed individual transportation improvement project and future land use development projects. Implementing agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **GSM 3.9.7-1** The implementing agency should protect against the loss of availability of a locally-important mineral resource recovery site through policies incorporated into general plans, specific plans, and other land use plans. Such policies would provide protection of mineral resource production and extraction activities.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce 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, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

3.10 HAZARDS AND HAZARDOUS MATERIALS

This section of the EIR contains an overview of hazards and hazardous waste issues in Madera County. It also discusses potential impacts that may result from implementation of the Project (2022 RTP/SCS) and appropriate mitigation measures to address known impacts.

Regulatory Setting

Numerous laws and regulations at all levels of government serve to minimize the potential impacts associated with the use and handling of hazardous materials. The most relevant federal, state, and local hazardous materials laws and regulations are summarized in this section.

Federal Agencies and Regulations

- ✓ **United States Environmental Protection Agency (EPA)** - The EPA is the primary federal agency charged with protecting human health and with safeguarding the natural environment: air, water, and land. EPA works to develop and enforce regulations that implement environmental laws enacted by Congress. EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Since 1970, the EPA has enacted numerous environmental laws including the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); and the Toxic Substances Control Act (TSCA).
- ✓ **Resource Conservation and Recovery Act (RCRA)** - The 1976 Resource Conservation and Recovery Act (RCRA) is the principle federal law that regulates generation, management, and transportation of waste. RCRA gave the EPA authority to develop strict requirements for all aspects of hazardous waste management including the treatment, storage, and disposal of hazardous waste. In addition, RCRA requires the inspection, enforcement, and formal corrective action for facilities that do not live up to the terms of their permits and other requirements. To achieve these goals, RCRA established three programs:
 - Subtitle D (Solid Waste Program): Encourages states to develop comprehensive plans to manage non-hazardous industrial solid waste and municipal solid waste, sets criteria for municipal solid waste landfills and other solid waste disposal facilities, and prohibits the open dumping of solid waste.
 - Subtitle C (Hazardous Waste Program): Establishes a system for controlling hazardous waste from the time it is generated until its ultimate disposal ("cradle to grave").

- Subtitle I (UST Program): The underground storage tank (UST) program regulates the design and operation of underground storage tanks containing hazardous substances and petroleum products.

A cornerstone of RCRA is management of waste “from cradle to grave,” in other words, from generation, to transportation, treatment, storage, and ultimately, disposal. To assure this, the RCRA utilizes a manifest system, which is a data sheet that identifies each waste shipment. Identification from generators and transporters and permits for Toxic Substance Disposal Facilities (TSDFs) is required, enabling waste shipments, such as special hazardous waste, to be tracked. The manifest will accompany the waste from the generating facility to the final disposal site, thus, allowing for "cradle to grave" tracking of the waste.

- ✓ **Hazardous Materials Transportation Act** - The U.S. Department of Transportation (DOT) regulates hazardous materials shipping at the federal level (49 CFR Parts 171-180). Congress passed the Hazardous Materials Transportation Act in 1975 to give authority to the Secretary of Transportation “to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in commerce.”
- ✓ **Research and Special Programs Administration (RSPA)** - The RSPA of DOT issues the hazardous materials regulations. The regulations cover definition and classification of hazardous materials, communication of hazards to workers and the public, packaging and labeling requirements, operational rules for shippers, and training. They apply to interstate, intrastate, and foreign commerce by air, rail, ships, and motor vehicles, and also cover hazardous waste shipments. The Federal Highway Administration (FHWA) is responsible for highway routing of hazardous materials and highway safety permits. The U.S. Coast Guard regulates bulk transport by vessel. The hazardous material regulations include emergency response provisions, including incident reporting requirements. Reports of major incidents go to the National Response Center, which in turn is linked with CHEMTREC, a service of the chemical manufacturing industry that provides details on most chemicals shipped in the U.S.
- ✓ **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** - CERCLA (generally referred to as Superfund) was enacted by Congress on December 11, 1980. CERCLA established a trust fund to provide for toxic waste cleanup when no responsible party could be identified. Additionally, this Act gave EPA power to seek out those parties responsible for any release and assure their cooperation in the cleanup. The law authorizes two kinds of response actions:
 - Short-term Removals: Actions are taken to address releases or threatened releases requiring prompt response.

- Long-term Remedial Response: Actions are taken to permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life threatening.

These actions can be conducted only at sites listed on EPA's National Priorities List (NPL). CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the NPL sites, which is the list of hazardous waste sites eligible for long-term remedial action financed under the federal Superfund program. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

- ✓ **Superfund Amendments and Reauthorization Act (SARA)** -The Superfund Amendments and Reauthorization Act (SARA) of 1986 reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definitions clarifications, and technical requirements were added to the legislation, including additional enforcement authorities.
- ✓ **Emergency and Community Right to Know Act (EPCRA)** - Also known as Title III of SARA, EPCRA was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. EPCRA was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. EPCRA establishes requirements for federal, state and local governments, tribes and industry regarding emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals. The Community Right-to-Know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. States and communities, working with facilities, can use the information to improve chemical safety and protect public health and the environment. To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC). The SERC's were required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee for each district.
- ✓ **Toxic Substances Control Act (TSCA)** - The Toxic Substances Control Act (TSCA) of 1976 was enacted by Congress to give EPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. EPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. EPA can ban the manufacture and import of those chemicals that pose an unreasonable risk.
- ✓ **Chemical Accident Prevention Provisions** - When Congress passed the Clean Air Act Amendments of 1990, it required the EPA to publish regulations and guidance for chemical accident prevention at

facilities using extremely hazardous substances. These rules, which built upon existing industry codes and standards, require companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program.

- ✓ **EPA Region 9, Preliminary Remediation Goals** - Region 9 is the Pacific Southwest Division of the EPA, which includes Arizona, California, Hawaii, Nevada, Pacific Islands, and over 140 Tribal Nations. Preliminary Remediation Goals (PRGs) are tools for evaluating and cleaning up contaminated sites. PRGs for the Superfund/RCRA programs are risk based concentrations, derived from standardized equations combining exposure information assumptions with EPA toxicity data. They are considered to be protective for humans (including sensitive groups) over a lifetime. However, PRGs are not always applicable to a particular site and do not address non-human health issues such as ecological impacts. Region 9's PRGs are viewed as agency guidelines, not legally enforceable standards.
- ✓ **Federal Aviation Administration Functions** - The Federal Aviation Administration (FAA) has primary responsibility for the safety of civil aviation. The FAA's major functions regarding hazards include the following: (1) developing and operating a common system of air traffic control and navigation for both civil and military aircraft, (2) developing and implementing programs to control aircraft noise and other environmental effects of civil aviation, (3) regulating U.S. commercial space transportation, and (4) conducting reviews to determine that the safety of persons and property on the ground are protected.
- ✓ **Federal Response Plan** - The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that: (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a presidential declaration of a major disaster or emergency.

State Agencies and Regulations

The identification and cleanup, or remediation, of environmentally contaminated properties is regulated by several agencies in California, depending on the size and nature of the site, its past uses, and whether soil or groundwater are impacted.

- ✓ **California Environmental Protection Agency (Cal/EPA)** - The Cal/EPA was created in 1991 by Governor's Executive Order. The six agencies (Air Resources Board, Department of Pesticide

Regulation, Department of Toxic Substances Control, Integrated Waste Management Board, Office of Environmental Health Hazard Assessment and the State Water Resources Control Board) were placed within the Cal/EPA "umbrella" to create a cabinet level voice for the protection of human health and the environment and to assure the coordinated deployment of state resources.

- ✓ **California Department of Toxic Substances Control (DTSC)** - In California, the DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code. Hazardous waste is defined by Section 25117 of Division 20 of the Health and Safety Code as:

A waste or combination of wastes, which because of its quantity, concentration, physical, chemical, or infectious characteristics, may:

- *Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or*
- *Pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed.*

The DTSC regulates hazardous waste, cleans up existing contamination and researches ways to reduce the hazardous waste produced in California. In addition, the DTSC develops legislation, coordinates with lawmakers and responds to constituent complaints. The regulations spell out what those who handle hazardous waste must do to comply with the laws.

Under RCRA, DTSC cleans-up or oversees approximately 220 hazardous substance release sites at any given time and completes an average of 125 cleanups each year. Ensuring compliance through inspection and enforcement is an important part of effectively regulating hazardous waste. DTSC conducts roughly 200 inspections a year. DTSC's Criminal Investigations Branch has the only law enforcement officers in the Cal/EPA. These peace officers, with the powers of arrest, and search and seizure, investigate alleged criminal violations of the Hazardous Waste Control Law. They work closely with district attorneys' offices, the federal Environmental Protection Agency, the Federal Bureau of Investigation, and law enforcement personnel in other states.

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires that any business that handles hazardous materials prepare a business plan, which must include the following:

- Details, including floor plans, of the facility and business conducted at the site.
- An inventory of hazardous materials that are handled or stored on site.
- An emergency response plan.

- A safety and emergency response training program for new employees with annual refresher courses.

- ✓ **Hazardous Transportation Materials Regulations** - Transportation and use of hazardous materials are the concern of several state and local agencies, including Caltrans, which tracks hazardous materials spills at the District level; the California Highway Patrol (CHP), whose Commercial Vehicle Section includes a Motor Carrier/Licensing & HazMat Regulations Unit; and the state Office of Emergency Services, which responds to hazardous materials emergencies in cooperation with local responders. In addition, state law has established Certified Uniform Program Agencies (CUPA), often housed within local fire departments, to oversee local hazardous materials storage, usage, and disposal.

- ✓ **California Unified Program Agency (CUPA)** - In 1993, the CUPA was created by SB 1082 in order to simplify the process of regulating and managing hazardous materials and hazardous wastes. Rather than having numerous state and local agencies regulating a single business, SB 1082 consolidated the enforcement of several different environmental regulations under the administration of one local agency called a CUPA. The CUPA can be a county, city or JPA (Joint Powers Authority). Under SB 1082, the state required all counties to apply for status as a CUPA. In order to address the needs of cities, some of which already had strong environmental inspection programs in place, the law allowed cities to opt in to the CUPA program as long as they could show that they had the minimum expertise and training to implement the six program elements.

Each CUPA, whether housed in a Fire Department, Environmental Health Department, or some other department within the city or county would consolidate six existing environmental regulation programs with the goal of reducing: 1) the number of regular inspections to each site by combining different inspections into a single visit, and 2) the amount each regulated business paid in inspection fees. The six programs include the following: 1) Hazardous Materials Business Plan/Emergency Response Plan; 2) Hazardous Waste/Tiered Permitting; 3) Underground Storage Tanks; 4) Aboveground Storage Tanks (SPCC only); 5) California Accidental Release Program; and 6) the Uniform Fire Code Hazardous Materials Management Plan. The CUPA designates a Participating Agency (PA) to administer one or more Unified Programs within their jurisdiction on behalf of the CUPA.

- ✓ **Government Code Section 65962.5(a), Cortese List** - The Hazardous Waste and Substance Sites Cortese List is a planning document used by the state, local agencies, and developers to comply with the CEQA requirements in providing information January 2014 7345 Soitec Solar Development Program EIR 3.1.4-15 about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop at least annually an updated Cortese List. DTSC is responsible for a portion of the information contained in

the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information for the Cortese List.

- ✓ **Hazardous Materials Business Plans** - Per Article 1 of Chapter 6.95 of the California Health and Safety Code (Sections 25500–25520) requires that any business that handles, stores, or disposes of a hazardous substance at a given threshold quantity must prepare a Hazardous Materials Business Plan (HMBP). HMBPs are intended to minimize hazards to human health and the environment from fires, explosions, or an unplanned release of hazardous substances into air, soil, or surface water. The HMBP must be carried out immediately whenever a fire, explosion, or unplanned chemical release occurs. An HMBP includes three sections: (1) an inventory of hazardous materials, including a site map, which details their location; (2) an emergency response plan; and (3) an employee-training program. HMBPs serve as an aid to employers and employees in managing emergencies at a given facility. They also help better prepare emergency response personnel for handling a wide range of emergencies that might occur at the facility.

HMBPs are submitted to the Department of Environmental Health (DEH) Hazardous Materials Division (HMD). The plans must be resubmitted, reviewed, revised, or amended as necessary every 3 years. The HMBP must also be amended within 30 days whenever there are changes in the amount or location of stored hazardous chemicals on a site. The HMD conducts routine inspections at businesses required to submit business plans. The purpose of these inspections is to (1) ensure compliance with existing laws and regulations concerning HMBP requirements, (2) identify existing safety hazards that could cause or contribute to an accidental spill or release, and (3) suggest preventative measures designed to minimize the risk of a spill or release of hazardous materials. After initial submission of an HMBP, the business must review and recertify the HMBP every year.

- ✓ **Risk Management Plans** - Article 2 of Chapter 6.95 of the California Health and Safety Code (Sections 25531–25543.3) requires the owner or operator of a stationary source with more than a threshold quantity of a regulated substance to prepare a Risk Management Plan (RMP). The state statutes and regulations combine federal and state program requirements for the prevention of accidental releases of listed substances into the atmosphere. The incorporation of the federal and state requirements has been designated the California Accidental Release Prevention (CalARP) program. CalARP requires that an RMP include a hazard assessment program, an accidental release prevention program, and an emergency response plan. The RMP must be revised every 5 years or as necessary. The majority of facilities or businesses in the County that have prepared RMPs are ammonia refrigeration facilities and water treatment and wastewater treatment plants that handle chlorine gas.
- ✓ **Title 22 of the California Code of Regulations & Hazardous Waste Control Law, Chapter 6.5** - The DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste

under RCRA and the California Hazardous Waste Control Law. Both laws impose “cradle to grave” regulatory systems for handling hazardous waste in a manner that protects human health and the environment. CalEPA has delegated some of its authority under the Hazardous Waste Control Law to county health departments and other Certified Unified Program Agencies.

- ✓ **Title 23 of the California Code of Regulations, Underground Storage Tank Act** - The UST monitoring and response program is required under Chapter 6.7 of the California Health and Safety Code and Title 23 of the California Code of Regulations (CCR). The program was developed to ensure that the facilities meet regulatory requirements for design, monitoring, maintenance, and emergency response in operating or owning USTs. The County DEH is the local administering agency for this program.
- ✓ **Title 27 of the CCR, Solid Waste** - Title 27 of the CCR contains a waste classification system that applies to solid wastes that cannot be discharged directly or indirectly to waters of the state and which therefore must be discharged to waste management sites for treatment, storage, or disposal. The California Integrated Waste Management Board and its certified Local Enforcement Agency regulate the operation, inspection, permitting, and oversight of maintenance activities at active and closed solid waste management sites and operations.
- ✓ **California Human Health Screening Levels** - The California Human Health Screening Levels—CHHSLs or “Chisels”—are concentrations of 54 hazardous chemicals in soil or soil gas that CalEPA considers to be below thresholds of concern for risks to human health. The CHHSLs were developed by the Office of Environmental Health Hazard Assessment on behalf of CalEPA. The CHHSLs were developed using standard exposure assumptions and chemical toxicity values published by the EPA 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 CHHSL can be assumed to not pose a significant health risk to people who may live or work at the site. There are separate CHHSLs for residential and commercial/industrial sites.
- ✓ **Senate Bill 1889, Accidental Release Prevention Law/California Accidental Release Prevention Program** - Senate Bill (SB) 1889 required California to implement a new federally mandated program governing the accidental airborne release of chemicals promulgated under Section 112 of the Clean Air Act. Effective January 1, 1997, CalARP replaced the previous California Risk Management and Prevention Program and incorporated the mandatory federal requirements. CalARP 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. CalARP 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 Fire Code** - The California Fire Code (CFC) is Chapter 9 of Title 24 of the California Code of Regulations. It was created by the California Building Standards Commission and is based on the International Fire Code created by the International Code Council. It 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 CFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazard classification system to determine what protective measures are required to protect 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 CFC employs a permit system based on hazard classification. The CFC is updated every 3 years.
- ✓ **California Emergency Services Act** - The California Emergency Services Act was adopted to establish the state's roles and responsibilities during human-made or natural emergencies that result in conditions of disaster and/or extreme peril to life, property, or the resources of the state. This act is intended to protect health and safety by preserving the lives and property of the people of the state.
- ✓ **California Natural Disaster Assistance Act** - The California Natural Disaster Assistance Act (NDAA) provides financial aid to local agencies to assist in the permanent restoration of public real property, other than facilities used solely for recreational purposes, when such real property has been damaged or destroyed by a natural disaster. The NDAA is activated after the following occurs: (1) a local declaration of emergency; or (2) Cal EMA gives concurrence with the local declaration, or the governor issues a Proclamation of a State Emergency. Once the NDAA is activated, local government is eligible for certain types of assistance, depending upon the specific declaration or proclamation issued.
- ✓ **State Fire Regulations** - State fire regulations are set forth in Section 13000 et seq. of the California Health and Safety Code, which include regulations concerning building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training. The state fire marshal enforces these regulations and building standards in all state-owned buildings, state-occupied buildings, and state institutions throughout California.

Environmental Setting

Natural Occurrences of Asbestos (NOA) in California

California Asbestos Regulations

In California, concern over potential public exposure to NOA has led to guidance documents and various regulations for NOA. In 1986, asbestos was identified as a toxic air contaminant by the California Air Resources Board (CARB). In 1990, the CARB issued an Airborne Toxic Control Measure (ATCM), which

prohibited the use of serpentine aggregate for surfacing if the asbestos content was 5 percent or more. These concerns over potential health issues associated with exposure to NOA led to new regulations and guidance regarding NOA:

- ✓ In July 2000, the CARB adopted amendments to the existing ATCM 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. These amendments took effect on November 13, 2001.
- ✓ In July 2001, the CARB adopted a new ATCM for construction, grading, quarrying, and surface mining operations in areas with serpentine or ultramafic rocks. This ATCM became effective on November 19, 2002.
- ✓ In October 2000, the Governor's Office of Planning and Research issued a memorandum providing guidance to Lead Agencies in analyzing the impacts of naturally occurring asbestos on the environment through the California Environmental Quality Act (CEQA) review process.
- ✓ In November 2000, the California Department of Real Estate added a section to subdivision forms that included questions related to NOA on property proposed for development.
- ✓ In 2004, as part of its school-site review program, the California Department of Toxic Substances Control's School Property Evaluation and Cleanup Division released interim guidance on evaluating NOA at school sites.

In addition to these requirements, some counties also have adopted ordinances or requirements regarding the use of asbestos-containing materials for surfacing or pertaining to excavation and grading activities in areas likely to contain NOA. (U.S. Department of the Interior U.S. Geologic Survey, 2011)

Figure 3-13 shows reported historic asbestos mines, historic asbestos prospects, and other natural occurrences of asbestos in Madera County.

Table 3-54 shows reported Summary of asbestos-related features in the 58 counties of California, including the presence of ultramafic rocks or serpentinite, reported natural occurrences of asbestos, and reported fibrous amphibole.

FIGURE 3-13
 Reported Historic Asbestos Mines, Historic Asbestos Prospects, And Other
 Natural Occurrences of Asbestos in Madera County



TABLE 3-54
 Asbestos Featured in 58 counties of California

COUNTY	ULTRAMAFIC ROCKS OR SERPENTINITE ¹	ASBESTOS ²	ASBESTOS (nonspecific location in County) ³	FIBROUS AMPHIBOLE ⁴
Alameda	X	X		
Alpine				
Amador	X	X		
Butte	X	X		
Calaveras	X	X		X
Colusa	X	X		
Contra Costa	X	X		
Del Norte	X	X		
El Dorado	X	X		
Fresno	X	X		X
Glenn	X	X		
Humboldt	X			
Imperial	U	X		
Inyo	U	X		
Kern	X	X		
Kings	X	X		
Lake	X	X		
Lassen				
Los Angeles	X	X		
Madera	U	X		X
Marin	X	X		X
Mariposa	X	X		
Mendocino	X	X		X
Merced	X		X	
Modoc				
Mono	U	X		
Monterey	X	X		X
Napa	X	X		
Nevada	X	X		
Orange	U			
Placer	X	X		
Plumas	X	X		

COUNTY	ULTRAMAFIC ROCKS OR SERPENTINITE ¹	ASBESTOS ²	ASBESTOS (non-specific location in County) ³	FIBROUS AMPHIBOLE ⁴
Riverside	U	X		X
Sacramento			X	
San Benito	X	X		X
San Bernardino	U	X		X
San Diego	U	X		X
San Francisco	X	X		
San Joaquin	U			
San Luis Obispo	X		X	
San Mateo	X			
Santa Barbara	X		X	
Santa Clara	X	X		
Santa Cruz				X
Shasta	X	X		
Sierra	X	X		
Siskiyou	X	X		
Solano	X			
Sonoma	X	X		
Stanislaus	X			
Sutter				
Tehama	X			
Trinity	X	X		
Tulare	X	X		
Tuolumne	X	X		X
Ventura				
Yolo	X	X		
Yuba	X	X		
Totals	51	41	4	12

“X” represents counties in which ultramafic rocks or serpentinite are shown on the accompanying map; “U” represents counties with occurrences too small to show.

¹ Ultramafic rocks or serpentinite identified on geologic maps or mentioned in the literature.

² Counties with locatable asbestos occurrences reported in the literature.

³ Counties with asbestos occurrences reported in the literature, but with locations not specific enough to show on the accompanying map. These occurrences are not listed in *asbestos_sites.xls* or *Death Valley_talc.xls*.

⁴ Occurrences listed in *fibrous_amphiboles.xls*.

Hazardous Waste Management and Transportation

As in many parts of California, the individual cities and Madera County have prepared an Integrated Hazardous Waste Management Plan. It is the responsibility of each jurisdiction, under the provisions of the hazardous waste management plan, to enforce planning decisions or designations regarding the transport and treatment of hazardous waste and the siting of hazardous waste treatment facilities.

Waste management generally falls into four categories: source reduction, recycling, treatment, and residuals disposal. Waste management locations typically accommodate all of these types of activities onsite. Recycling, treatment, and disposal can also occur off-site. However, they would require additional intermediate support not only to store but also to transport the waste.

Public exposure to hazardous materials is elevated because these materials are transported primarily on highways and local roads. This fact causes the national and local governments to be concerned about the safe transport of hazardous materials and the potential harm that hazardous waste can cause to people and the environment.

Local governments can regulate hazardous material and waste transport in one of two ways. First, they may prohibit or limit hazardous material and waste transport. Local governments are generally not responsible for regulating hazardous waste transport on state and interstate highways; however, they are explicitly given the responsibility for regulating hazardous waste transport on local streets. Under AB 1861 (Campbell 1985), local governments can regulate hazardous material and waste transport on local roads considering the following guidelines:

- ✓ The road is appreciably less safe than reasonable alternatives as determined using the Federal Highway Administration's "Guidelines for Applying Criteria to Designate Routes for Transporting Hazardous Materials."
- ✓ The local regulation is not preempted by federal law.
- ✓ The local regulation does not limit necessary access to businesses requiring the services of hazardous materials transporters.
- ✓ The local regulation allows hazardous materials transporters access to service facilities that are within one-half mile of a state or interstate highway.
- ✓ Neighboring jurisdictions agree that the regulation is not incompatible with through transportation;
- ✓ The regulated road is posted.
- ✓ The California Highway Patrol (CHP) is notified of the regulations and includes the restricted road in their published list of restricted highways.

The CHP supports the local governments' responsibility for regulating hazardous materials transport on local roads. As such, the CHP has issued regulations to trucking companies and drivers who carry

explosives requiring drivers to follow routes that have been prescribed or established by local authorities. Further, the CHP requires that:

Where routes are not prescribed by local authority, every driver of a vehicle transporting explosives will avoid so far as practicable, and, where feasible, by prearrangement of routes, driving into or through congested thoroughfares, places where crowds are assembled, streetcar tracks, tunnels, viaducts, and dangerous crossings.

The second way that local governments can regulate transportation is to conduct a transportation risk analysis to determine hazardous waste facility siting. The Integrated Waste Management Plan (IWMP) identifies the adopted commercial hazardous materials shipping routes within Madera County. For the Madera County system of routes, a number of State Routes (SR) and US highways are designated in the IWMP. Although local laws may exist to regulate various aspects of hazardous waste transportation on city and county roads, movement usually involves long-distance travel on state and interstate highways.

Response Procedures for Hazardous Materials Spills

Emergency response programs will address either of the following two scenarios:

- ✓ Responding to a release of hazardous materials into the environment.
- ✓ Implementing AB2185, AB2187, and AB3777 and local emergency response/disclosure ordinances.

Hazardous material releases, typically spills or gas vapor releases, pose potentially serious health threats, and as such, require special attention. Specially trained and equipped crews are assigned to respond to these situations to handle the unique problems presented by hazardous materials.

State-mandated disclosure and emergency response programs (AB 2185, AB 2187, and AB 3777) require local users of hazardous materials to submit emergency response plans and hazardous material inventory lists to a local agency. The local agency is responsible for developing an emergency response plan for the area.

Hazardous Waste Sites

Hazardous wastes may be liquid, solid or sludge. The waste is considered hazardous if it has any of these four characteristics, ignitable, reactive, corrosive, and/or toxic. The wastes may be the by-products of manufacturing processes or simply unwanted commercial products. Hazardous waste generators in Madera County include industries, businesses, public and private institutions, and households. Because the Valley portion of the County is largely agricultural, the use and storage of pesticides is prominent.

County Department of Health Services (DHS) classifies waste into three categories: “large quantity,” or those who produce 1,000 kilograms or more per month; “small quantity”, or those producing between 100 and 1,000 kilograms per month, including businesses, farms and households; and “household wastes”, which includes solvents, pesticides, and miscellaneous wastes, such as car batteries, tires, cleaners, fertilizer and paints.

Hazardous wastes are transported through Madera County by truck and rail. Caltrans has established nine hazardous materials classifications, all of which may be through-transported on Interstate 5. In addition, the County contains six hazardous waste transportation routes (SR 33, 41, 63, 99, 180 and 198), subject to certain restrictions. Therefore, transportation of thousands of tons of hazardous waste is made via state highways and County roadways, causing potential danger of spills caused by accidents.

There are sites where soil or groundwater contamination from hazardous materials has occurred. EnviroStor is used by the Department of Toxic Substances Control to track permitting, enforcement and cleanup activities at hazardous waste facilities and sites with known or suspected contamination. According to EnviroStor, there are 10 active, inactive-action required and inactive-needs evaluation sites within Madera County (reference Table 3-55 below). EnviroStor also lists 21 other inactive, referred and completed sites for Madera County.

Environmental Impacts, Mitigation Measures, and Significance after Mitigation

Methodology

The impact assessment for hazardous materials transport focuses on potential effects the RTP might have on hazardous material use and transport within the County. The assessment is not site or project-specific but is a regional analysis.

Criteria for Significance

The proposed Project could create a potential significant impact if the following conditions are present:

- ✓ Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- ✓ 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;
- ✓ Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

TABLE 3-55
Hazardous Waste Sites in Madera County

SITE / FACILITY NAME	PROGRAM TYPE	STATUS	ADDRESS DESCRIPTION	CITY	COUNTY
ARDAGH GLASS INC	HAZ WASTE - RCRA	CLOSED	24441 AVENUE 12	MADERA	MADERA
CERTAINTEED LLC	HAZ WASTE - RCRA	CLOSED	17775 AVENUE 23-1/2	CHOWCHILLA	MADERA
CHOWCHILLA HS EXPANSION SITE	SCHOOL CLEANUP	CERTIFIED	NORTH OF AVE 25 & WEST OF RD 26	CHOWCHILLA	MADERA
COUNTY OF MADERA, BROWNFIELDS CLEANUP RE	VOLUNTARY CLEANUP	NO FURTHER ACTION	2037 W. CLEVELAND AVENUE	MADERA	MADERA
FORMER MADERA ONE-HOUR MARTINIZING	VOLUNTARY CLEANUP	ACTIVE	319 EAST YOSEMITE AVENUE	MADERA	MADERA
GEORGIA-PACIFIC CORRUGATED LLC	HAZ WASTE	PROTECTIVE FILER	24600 AVENUE 13	MADERA	MADERA
NORTH FORK MILL SITE	VOLUNTARY CLEANUP	NO FURTHER ACTION	57839 ROAD 225	NORTH FORK	MADERA
NORTH FORK RANGER STATION	VOLUNTARY CLEANUP	CERTIFIED	P O BOX 10 (51003 ROAD 225)	NORTH FORK	MADERA
PG&E MANUFACTURED GAS PLANT - MADERA	VOLUNTARY CLEANUP	CERTIFIED	CORNER OF 9TH AND SOUTH E ST	MADERA	MADERA
PISTORESI AGRICULTURAL SERVICES, INC	HISTORICAL	REFER: OTHER AGENCY	15429 ROAD 28 1/2	MADERA	MADERA
SIMPLOT AB RETAIL INC DBA SIMPLOT GROWER SOLUTIONS	HAZ WASTE	PROTECTIVE FILER	24148 ROBERTSON BLVD	CHOWCHILLA	MADERA
WESTERN FARMS SERVICE INC.	SUPERFUND HAZ WASTE	ACTIVE	24778 AVE 13 & RD 25 MADERA	MADERA	MADERA
MACGILLIS AND GIBBS CO	SUPERFUND HAZ WASTE	ACTIVE	11272 RD 32	MADERA	MADERA
MADERA GLASS CO	SUPERFUND HAZ WASTE	ACTIVE	24441 AVENUE 12	MADERA	MADERA
AMERICAN FOREST PROD CO N FORK	SUPERFUND HAZ WASTE	ACTIVE	57839 RD 225 NORTH FORK, CA 95358	MADERA	MADERA
AMERICAN FOREST PROD CO N FORK	SUPERFUND HAZ WASTE	ACTIVE	48754 HWY 49 OAKHURST, CA 95361	MADERA	MADERA
MADERA MUNI ARPT	SUPERFUND HAZ WASTE	ACTIVE	4020 AVIATION DR MADERA CA 95354	MADERA	MADERA
PG&E MANUFACTURED GAS PLANT - MADERA	SUPERFUND HAZ WASTE	ACTIVE	S E ST BET CLINTON & E 9TH ST M	MADERA	MADERA
MIREX CONTAMINATED AIRCRAFT	SUPERFUND HAZ WASTE	ACTIVE	MADERA CO ARPT MADERA CA 95354	MADERA	MADERA
FAIRMED DSPL SITE	SUPERFUND HAZ WASTE	ACTIVE	RD 19 & AVE 22 MADERA, CA 95354	MADERA	MADERA
COUNTY OF MADERA, BROWNFIELDS CLEANUP RE	VOLUNTARY CLEANUP	NO FURTHER ACTION	2037 W. CLEVELAND AVENUE	MADERA	MADERA
PG&E MANUFACTURED GAS PLANT - MADERA	VOLUNTARY CLEANUP	CERTIFIED	CORNER OF 9TH AND SOUTH E ST	MADERA	MADERA
NEW MARTIN ST/ROAD 26 HIGH SCHOOL	SCHOOL CLEANUP	CERTIFIED	MARTIN STREET/ROAD 26	MADERA	MADERA
CHOWCHILLA HS EXPANSION SITE	SCHOOL CLEANUP	CERTIFIED	NORTH OF AVE 25 & WEST OF RD 26	CHOWCHILLA	MADERA
CERTAINTEED LLC	HAZ WASTE - RCRA	CLOSED	17775 AVENUE 23-1/2	CHOWCHILLA	MADERA
CHOWCHILLA HS EXPANSION SITE	SCHOOL CLEANUP	CERTIFIED	NORTH OF AVE 25 & WEST OF RD 26	CHOWCHILLA	MADERA
COUNTY OF MADERA, BROWNFIELDS CLEANUP RE	VOLUNTARY CLEANUP	NO FURTHER ACTION	2037 W. CLEVELAND AVENUE	MADERA	MADERA
NEW MARTIN ST/ROAD 26 HIGH SCHOOL	SCHOOL CLEANUP	CERTIFIED	MARTIN STREET/ROAD 26	MADERA	MADERA
NORTH FORK MILL SITE	VOLUNTARY CLEANUP	NO FURTHER ACTION	57839 ROAD 225	NORTH FORK	MADERA
NORTH FORK RANGER STATION	VOLUNTARY CLEANUP	CERTIFIED	P O BOX 10 (51003 ROAD 225)	NORTH FORK	MADERA
SIMPLOT AB RETAIL INC DBA SIMPLOT GROWER SOLUTIONS	HAZ WASTE	PROTECTIVE FILER	24148 ROBERTSON BLVD	CHOWCHILLA	MADERA

- ✓ Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or environment;
- ✓ 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 for people residing or working in the project area;
- ✓ For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
- ✓ Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or
- ✓ Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Impact HM 3.10.1 - Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

The 2022 RTP/SCS includes projects that may involve the transportation, use, and/or disposal of hazardous materials, particularly the proposed freight rail improvements and other goods movement capacity enhancements, which may result in transport of hazardous goods as well as the use of equipment that contains or uses routine hazardous materials (e.g., diesel fueled equipment), or the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated.

It is anticipated that these activities would result in a less than significant hazard to the public and/or the environment, because these activities are subject to numerous laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers. These include the EPA, the Occupational Safety and Health Administration (OSHA), USDOT, and the Food and Drug Administration (FDA) for the federal government. State agencies, including the Health and Welfare Agency (HWA), under which is the DTSC, have parallel, and in some cases more stringent, rules governing the use of hazardous materials.

USDOT requires the use of hazardous waste manifests, which are used to ensure that hazardous wastes are strictly monitored and tracked from the point of generation through ultimate disposal. To operate in California, all hazardous waste transporters must be registered with the DTSC. Unless specifically exempted, hazardous waste transporters must comply with the California Highway Patrol Regulations; the California State Fire Marshal Regulations; and the United States Department of Transportation Regulations.

In addition, the construction and maintenance of transportation facilities included in the 2022 RTP/SCS would involve the use of hazardous materials such as solvents, paints and other architectural coatings. The use and storage of these materials will be regulated by local fire departments, CUPAs, and the California Division of Occupational Safety and Health. Materials left over from construction projects can likely be re-used on other projects. For materials that cannot be or are not reused, disposal would be regulated by the DTSC under state and federal hazardous waste regulations.

The following mitigation measure is included to ensure compliance with applicable regulations.

Mitigation Measures

- ✓ **HM 3.10.1-1** The implementation agency and project sponsors shall comply with all applicable laws, regulations, and health and safety standards set forth by federal, state, and local authorities that

regulate the proper handling of such materials and their containers to the routine transport, use, and disposal of hazardous materials does not create a significant hazard to the public or the environment.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HM 3.10.2 - 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.

The implementation of the 2022 RTP/SCS could create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during transportation. Implementation of the 2022 RTP/SCS would facilitate the movement of goods, including hazardous materials, through the region. Transportation of goods, in general, and hazardous materials, can thus be expected to increase substantially with implementation of the 2022 RTP/SCS.

The 2022 RTP/SCS transportation improvements and future land use development will increase density and population, and it will include a variety of land uses, ranging from residential to commercial or industrial, that will increase the potential for upset or accident conditions involving the release of hazardous materials into the environment. Specific, parcel-level land uses are unknown, but future land use development will generally increase the number of land uses that require the use, storage, and transport of hazardous materials. Such land uses could include residential, dry cleaners, gas stations, service stations, industrial uses, agricultural uses, etc.

Businesses that store large quantities of hazardous materials (e.g., gas storage facility, chemical warehouse, etc.), and accidents that result from transporting, pumping, pouring, emptying, injecting, spilling, and dumping or disposing, could release hazardous materials into the environment. The severity

of potential effects varies with the activity conducted and the concentration and type of waste present. The possible adverse effects to the public or environment from these and other activities are addressed through regulations and monitoring by federal, state, and local regulations discussed below.

Established by the EPA with additional requirements specific to the State of California, CalARP applies to a wide variety of facilities that contain regulated substances. CalARP aims to prevent an accidental release of hazardous materials into the environment through proper storing, containing, and handling. The USDOT enforces the HMTA by regulating transportation of hazardous materials by truck and rail and governs every aspect of the movement of hazardous materials from packaging, to labeling and shipping. Cal EMA administers the Emergency Response Plan to respond to hazardous materials incidents that may occur. Additionally, roadway improvements in the contained in the RTP/SCS will improve road safety, thereby reducing the potential for accidents related to hazardous materials.

Transportation improvements contained in the 2022 RTP/SCS involve the expansion or extension of the transportation system, which may increase the capacity to transport hazardous materials. For example, gas or oil spilling from vehicle accidents or a tanker overturning on a highway could release hazardous materials. Transportation improvements that expand the transportation system and extend it to new areas expose more adjoining land uses to risks associated with risk of upset on the roadway, highway, or railroad. These impacts are addressed through CalARP, which manages risks associated with accidental release. To prevent or minimize the accidental release of hazardous materials into the environment, precautions, such as proper securing of the materials and proper container design, are required by CalARP. California Vehicle Code Section 31303 outlines general routing and parking restrictions (Table 10.3) for hazardous material and hazardous waste shipments; the CHP also publishes a list of restricted or prohibited highways. Roadway improvements in the proposed RTP/SCS will improve road safety, thereby reducing the potential for accidents related to hazardous materials.

Given the large volume of materials currently and projected to be transported through the region, some portion of which is and will continue to be, hazardous, the risk of upset as a result of accident or human interference is significant.

Mitigation Measures

- ✓ **HM 3.10.2-1** Implementing agencies shall encourage the USDOT, the Office of Emergency Services, and Caltrans to continue to conduct driver safety training programs and encourage the private sector to continue conducting driver safety training.
- ✓ **HM 3.10.2-2** Implementing agencies shall encourage the USDOT and the CHP to continue to enforce speed limits and existing regulations governing goods movement and hazardous materials transportation.

- ✓ **HM 3.10.2-3** The implementing agencies and project sponsors shall comply with all applicable laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers to the routine transport, use, and disposal of hazardous materials does not create a significant hazard to the public or the environment.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the creation of 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, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HM 3.10.3 – Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Increased development within Madera County will increase population and density in the RTP/SCS region. As discussed previously, the implementation of the 2022 RTP/SCS could create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during transportation.

Based on the Madera County Office of Education, there are 32 school districts within Madera County which provide schooling for over 200,000 students. There are just over 360 schools in the County; this includes elementary, middle, and high schools, as well as colleges and charter schools. There are over 40 schools within Madera County that are within one-quarter mile of a state highway facility. Transportation of hazard materials on these state highways could possibly impact these schools in the event there was a release or accident. Transportation of hazardous materials and other activities are subject to numerous laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers. These include the EPA, the Occupational Safety and Health Administration (OSHA), USDOT, and the Food and Drug Administration (FDA) for the federal government. State agencies, including the Health and Welfare Agency (HWA), under which is the DTSC, have parallel, and in some cases more stringent, rules governing the use of hazardous materials.

Due to the strict and numerous regulations governing the use of hazardous materials, impacts are expected to be less than significant.

The following mitigation measure is included to ensure compliance with applicable regulations.

Mitigation Measures

- ✓ **HM 3.10.3-1** The implementing agencies shall comply with all applicable laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers to the routine transport, use, and disposal of hazardous materials does not create a significant hazard to the public or the environment.

Significance After Mitigation

The mitigation measure would assure appropriate steps taken to minimize any hazard to the public or the environment. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the emission of hazardous materials within one-quarter mile of a school, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HM 3.10.4 – Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or environment.

The implementation of the 2022 RTP/SCS could create a hazard to the public or the environment through the disturbance of contaminated property during the construction of new transportation facilities or future land use developments or the expansion of existing transportation facilities or land use developments. Construction of the projects in the 2022 RTP/SCS could involve construction through or next to sites that are contaminated due to past use or disposal of hazardous materials. In the two decades since federal and state laws were adopted providing for remediation of these sites, it is likely that the majority of contaminated sites have been identified or are easily identifiable from existing information. Given the intensity of past use of land in the region, there are substantial numbers of contaminated sites,

and it is likely that most improvement and future land use development projects will have to address this issue.

Because of the large number of contaminated sites and the risk associated with encountering and cleaning up these sites, this impact is considered to be significant.

Mitigation Measures

- ✓ **HM 3.10.4-1** Prior to approval of any improvement project or future land use development project, the project implementation agency shall consult all known databases of contaminated sites and undertake a standard Phase 1 Environmental Site Assessment in the process of planning, environmental clearance, and construction for projects included in the 2022 RTP/SCS. If contamination is found the implementing agency shall coordinate clean up and/or maintenance activities.
- ✓ **HM 3.10.4-2** Where contaminated sites are identified, the project implementation agency shall develop appropriate mitigation measures to assure that worker and public exposure is minimized to an acceptable level and to prevent any further environmental contamination as a result of construction.
- ✓ **HM 3.10.4-3** Local agencies should contact the Chevron Environmental Management Company (CEMC) to determine whether an improvement or future land use development project may be in the vicinity of the Tidewater Oil Company or Standard Oil Company historical pipeline alignments.

Significance After Mitigation

The mitigation measure would assure that contaminated properties are identified, and appropriate steps taken to minimize human exposure and prevent any further environmental contamination. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the disturbance of contaminated property during the construction of new transportation or future land use developments or the expansion of existing transportation facilities or land use developments, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As

appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HM 3.10.5 - 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 for people residing or working in the project area.

Transportation improvements and future land use development associated with implementation of the proposed RTP/SCS could result in a safety hazard within an airport plan area. Regional development could increase the number of land uses and developments within an airport plan area and within airport hazard zones, creating hazards from tall structures, glare producing objects, bird and wildlife attractants, radio waves from communication centers, or other features that have the potential to interfere with take-off or landing procedures.

Implementing agencies are responsible for analyzing compliance with Airport Land Use Commission (ALUC) plans as a part of their land use approval authority. Legislation passed in the 1994 ALUP Handbook requires that when preparing an environmental impact report for any project situated within an airport influence area as defined in an ALUC compatibility plan lead agencies shall utilize the California Airport Land Use Planning Handbook as a technical resource with respect to airport noise and safety compatibility issues.

Military airfields are required to adopt AICUZ studies to evaluate compatible land uses in the vicinity of military airfields. Hazards associated with development in the proximity of military airports would be reduced through California PRC Section 21098. The FAA also evaluates projects located within two miles of a public use airport, and other projects that may pose a potential hazard for people residing or working in the project area, due to height, visual hazard, or the attraction of wildlife.

Mitigation Measures

- ✓ **HM 3.10.5-1** Implementing agencies should comply with ALUC plans as a part of their land use approval authority through policies incorporated into general plans, specific plans, and other land use plans. Such policies would provide protection 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 for people residing or working in the project area.

Significance After Mitigation

If implementing agencies adopt this mitigation measure, impacts resulting in 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 for people residing or working in the project area would be reduced to less than a significant level. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce safety hazards for people residing or working in the project area 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, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HM 3.10.6 - For a project located within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.

Transportation improvements and future land use development associated with implementation of the 2022 RTP/SCS could result in a safety hazard within the vicinity of a private airstrips, creating hazards from tall structures, glare producing objects, bird and wildlife attractants, radio waves from communication centers, or other features that have the potential to interfere with take-off or landing procedures.

Activities and accessibility of private airstrips is limited, and these airstrips affect less land than public airports. Therefore, safety hazards are comparatively less than public or public use airports. In addition, private airstrips are regulated by both local land use regulations and state and federal aviation guidelines. Implementing agencies are responsible for analyzing safety and compatibility issues as a part of their land use approval authority. Also, local governments require operators to obtain a conditional use permit prior to air operations on private airstrips. Furthermore, Caltrans requires operators to obtain a permit from the Division of Aeronautics prior to air operations, and FAA regulation (14 C.F.R. § 77) includes provisions that apply to public as well as private airstrips. Although the regulatory environment for private airstrips is not as explicit as for public airstrips, adherence to state and local permits, existing regulations, and FAA requirements would reduce the potential for a safety hazard for people residing or working in the vicinity of private airstrips. In addition, general plan policies within the area ensure that development in areas to private airstrips address compatibility issues.

Mitigation Measures

- ✓ **HM 3.10.6-1** Implementing agencies should analyze and adhere to all safety and compatibility issues as a part of their land use approval authority through policies incorporated into general plans, specific plans, and other land use plans. Such policies would provide protection 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 for people residing or working in the project area.

Significance After Mitigation

If implementing agencies adopt this mitigation measure, impacts resulting in a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area would be reduced to less than a significant level. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce safety hazards for people residing or working in the project area for a project located within the vicinity of a private airstrip, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HM 3.10.7- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Public service standards, performance measures, and related policies are usually set in city and county general plans. For fire, police, and emergency services these standards are measured in the form of response times or service ratios. Existing facilities would likely need additional personnel and equipment to maintain adequate service levels with increased demand. In some areas, depending on the level of development, constructing new facilities may be necessary to maintain adequate response times, capital capacity, equipment, and personnel.

Historically, local jurisdictions have accommodated increases in demand by constructing new facilities and leveraging existing facilities, equipment, and personnel. Future demand increases will likely be handled in the same manner. The timing, siting, and project-specific details of individual development projects will

necessitate increasing service in existing service areas or expanding service to new areas. In most cases, local jurisdictions will not grant building permits until public services are in place to serve the new development. The 2022 RTP/SCS land use allocation assumes increases in public service facilities and infrastructure as the population increases. However, because public services are regulated at the local level, local jurisdictions have different goals, standards, and policies related to the provision of public services.

Emergency response and emergency evacuation plans are designed by the Office of Emergency Services for the Madera region to respond to a possible emergency situation (e.g., fires, floods, earthquakes, etc.). These plans cover all the land within the region including both incorporated and unincorporated areas. These plans provide a process for evacuating people from danger, preventing or minimizing loss of life and property.

Mitigation Measures

- ✓ **HM 3.10.7-1** Implementing agencies should adhere to all emergency plans as a part of their land use approval authority through policies incorporated into general plans, specific plans, and other land use plans. Such policies would provide protection for a project to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Significance After Mitigation

If implementing agencies adopt this mitigation measure, impacts resulting in a project to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan would be reduced to less than a significant level. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impaired implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HM 3.10.8 - Expose people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands.

People and property can sustain significant damage from wildfires because they can spread quickly across large areas. The 2022 RTP/SCS could pose a hazard if it results in the loss, injury, or death and damage to property adjacent to wild lands where there are intermixed residences with wildlands. Regional development can include different land uses, ranging from residential to commercial or industrial uses, to provide increased goods and services to the region. Regional development could increase the number of structures adjacent to wild lands. The threat of wildfires from development of areas within CALFIRE's responsibility, which include non-federal lands in unincorporated areas with watershed value, is addressed through compliance with Title 14 of the C.C.R., Division 1.5 to minimize exposing people and structures to loss, injury, or death and damage. Title 14 sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which help prevent damage to structures or people by reducing wildfire hazards.

In addition, wildfire prevention is a shared responsibility between federal, state, and local agencies. Federal lands fall under Federal Responsibility Areas, and all incorporated areas and other unincorporated lands are classified as Local Responsibility Areas. The 2022 RTP/SCS projects involve the expansion or extension of the transportation system, which may increase the threat of adverse impacts from wild land fires. Transportation improvements that expand the transportation system and extend it to new areas expose more urban-adjointing land uses to risks associated with wild land fires.

Transportation improvements, especially capacity improvements, generally improve the transportation network to move people more efficiently in case there is a need to evacuate due to a wildfire. The threat of wildfires from transportation improvements within CAL FIRE's responsibility, which include non-federal lands in unincorporated areas with watershed value, is addressed through compliance with Title 14 of the C.C.R., Division 1.5 to minimize exposing people and structures to loss, injury, or death and damage. Title 14 sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which help prevent damage to structures or people by reducing wildfire hazards. In addition, wildfire prevention is a shared responsibility between federal, state, and local agencies. Federal lands fall under Federal Responsibility Areas, and all incorporated areas and other unincorporated lands are classified as Local Responsibility Areas.

Mitigation Measures

- ✓ **HM 3.10.8-1** Implementing agencies should analyze and adhere to all safety and compatibility issues as a part of their design and construction of transportation facilities and their land use approval

authority through policies incorporated into general plans, specific plans, and other land use plans. Such policies would provide protection for a project located within wildland areas.

Significance After Mitigation

If the implementing agency adopts this mitigation measure, impacts resulting in a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area would be reduced to less than a significant level. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the exposure of people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

3.11 HYDROLOGY AND WATER QUALITY

Issues related to surface-water resources, flooding, ground-water resources, storm water runoff, and water quality are addressed in this section. In addition, impacts of the 2022 RTP/SCS have been reflected and appropriate mitigation measures have been identified to lessen the impacts. Further discussion of water supply can be found in the Public Utilities, Other Utilities, and Services Systems section.

Water is currently the most critical issue being faced by the San Joaquin Valley. Many pressing concerns - new as well as long standing - are affecting water supply reliability, quantity, and quality of the region's agricultural, urban, and environmental water needs. In April 2017, Executive Order B-40-17 lifted the drought emergency in California with the exception of Fresno, Kings, Tulare and Tuolumne counties. The Southwest is already the driest and hottest region in the United States, and although California has ended the drought state of emergency in most of the counties, water reporting requirements and prohibitions on wasteful practices continue.

Regulatory Setting

Water resources in the County are regulated at the federal, state, and local agencies as follows;

Federal Regulations

- ✓ **Clean Water Act (CWA)** - Enacted by Congress in 1972, the CWA mandates cooperative effort by federal, state, and local governments to implement its pollution control measures. This law was the first comprehensive national clean water legislation to protect our nation's waters. In an effort to address pollution and poor water quality, the law uses a framework of standards, technical tools, and financial assistance as. The law is intended to improve the quality of the nation's waters.

The National Pollutant Discharge Elimination System (NPDES) was established by the CWA to regulate discharges into "navigable waters" of the United States. This is accomplished by using pollutant thresholds and operational conditions for industrial facilities and wastewater treatment plants. The Act also established Storm Water Management Plans, municipal authority for non-point source NPDES permits, in communities with populations of greater than 100,000 to control urban storm water runoff.

These plans ensure best management practices to reduce pollutant loads. Water quality thresholds called Total Maximum Daily Loads were also developed for pollutants and other stressors affecting water quality. Finally, in an effort to ensure that the actions will be consistent with the state's water quality requirements, Section 401 of the CWA grants states the authority to review federal permits or

licenses that will result in a discharge or disruption to wetlands and other waters under state jurisdiction.

- ✓ **Safe Drinking Water Act** - The Safe Drinking Water Act (SDWA) ensures the quality of Americans' drinking water. The law requires actions to protect drinking water and its sources—rivers, lakes, reservoirs, springs and groundwater wells—and applies to public water systems serving 25 or more people. It authorizes the EPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants. In addition, it oversees the states, municipalities and water suppliers that implement the standards.

EPA standards are developed as a Maximum Contaminant Level (MCL) for each chemical or microbe. The MCL is the concentration that is not anticipated to produce adverse health effects after a lifetime of exposure, based upon toxicity data and risk assessment principles. EPA's goal in setting MCLs is to assure that even small violations for a period of time do not pose significant risk to the public's health over the long run. National Primary Drinking Water Regulations (NPDWRs or primary standards) are legally enforceable standards that limit the levels of contaminants in drinking water supplied by public water systems.

Secondary standards are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply. However, states may choose to adopt them as enforceable standards.

- ✓ **Clean Water Rule: Definition of Water of the United States (WOTUS Rule)** – The EPA and the Corps of Engineers published the WOTUS Rule (40 CFR Parts 110, 112, 116. et. al and 33 CFR Part 328) in 2015 to announce the extent to which wetlands and other water features are protected under the Clean Water Act. The final rule addresses the following:
 - Clearly defines and protects tributaries that impact the health of downstream waters
 - Provides certainty in how far safeguards extend to nearby bodies of waters
 - Protects the nation's regional water treasures
 - Focuses on streams, not ditches
 - Maintains the status of waters within Municipal Separate Storm Sewers Systems
 - Reduces the use of case-specific analysis of water

Federal Agencies

- ✓ **U.S. Army Corps of Engineers** - The Corps of Engineers regulates placement of dredged or fill material in waters of the United States and regulates work in navigable waters of the United States.
- ✓ **U.S. Environmental Protection Agency (EPA)** - The U.S. EPA is the federal agency responsible for water quality management and administration of the federal CWA. In California, the EPA has delegated most of the administration of the CWA to the State Water Resources Control Board (SWRCB).
 - **The Safe Drinking Water Act (SDWA) of 1974** (42 U.S.C. § 300(f) et seq.) is the principal federal law protecting drinking water quality. It empowers U.S. EPA to set drinking water quality standards and oversee water providers that implement the standards. It includes provisions for protecting surface waters and wetlands to support drinking water quality. The California Department of Public Health Division of Drinking Water and Environmental Management is delegated implementation authority for well water permits, regulation of potable water monitoring, regulation of septic and sewer systems, regulation of hazardous materials and wastes, and regulation of underground storage tanks and solid waste disposal facilities.
- ✓ **U.S. Fish and Wildlife Service (USFWS)** - The U. S. Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (FESA) and designates critical habitat for endangered species to carry out its mission to conserve, protect, and enhance the nation's fish and wildlife and their habitats for the continuing benefit of people. Critical habitat areas cannot be disturbed without permission from the USFWS or other federal agencies, depending on land ownership. The USFWS also manages a system of land and waters for the conservation of wildlife and associated ecosystems. These National Wildlife Refuges are primarily managed for the preservation and protection of unique or important resources and ecosystems.
- ✓ **The Federal Emergency Management Agency (FEMA)** - The U.S. Congress passed the National Flood Insurance Act in 1968 and the Flood Disaster Protection Act in 1973 in order to restrict certain types of development on floodplains and provide for a national flood insurance program. The purpose of these programs is to reduce the need for large publicly funded flood control structures and disaster relief.

FEMA classifies flood hazard zones as follows:

- Zone A – Areas of 100-year flood. Base flood elevations and flood hazard factors are not determined.
- Zone B – Areas between the limits of the 100-year flood and 500-year flood; or certain areas subject to the 100-year flooding with average depth of less than one foot; or where the

contributing drainage area is less than one square mile; or areas protected by levees from the base flood.

- Zone C – Areas of minimal flooding not requiring flood insurance.

- ✓ **The U.S. Bureau of Reclamation (USBR)** - The USBR operates the Colorado River project, an extensive network of dams, canals and related facilities. USBR serves as Watermaster overseeing contentious water rights issues and runs drought protection programs.

State Regulations

- ✓ **Safe, Clean, and Reliable Drinking Water Supply Act of 2010 (the Water Bond)** - Signed into law by the California legislature in 2009, a reexamination of the Water Bond's provisions appeared on the November 2014 General Election ballot. The approved measure enacted the Water Quality, Supply, and Infrastructure Improvement Act of 2014, replacing the previous 2010 Water Bond and creating savings to local governments related to water projects. A measure is set to appear on the June 2022 ballot to authorize State and local parks, environment protection and restoration projects, water infrastructure projects, and flood protection projects.

- ✓ **Sustainable Groundwater Management Act (SGMA)** – Governor Brown signed the SGMA in 2014. The legislation allows for local agencies to tailor groundwater suitability plans to meet the specific economic and environmental needs of the region. The Act for the first time in the State’s history provides a framework for sustainable, local groundwater management. Senate Bill (SB) 13, signed in 2015, further outlines technical requirements for groundwater sustainability agency formation, the process for State Water Board jurisdiction and guidelines for basins given high and medium priority.

State Agencies

- ✓ **California State Water Resource Control Board (SWRCB)** - The SWRCB was established through the California Porter Cologne Water Quality Act of 1969. It is the primary State agency responsible for water quality management issues in California.

- ✓ **Regional Water Quality Control Board (RWQCB) – Central Valley Region** - The RWQCB is responsible for implementing policies of the SWRCB, such as ensuring compliance with discharge thresholds and operating standards. The County is located within the RWQCB’s Central Valley Region.

- ✓ **California Department of Fish and Wildlife (CDFW)** - The mandate of the CDFW is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. In particular, CDFW is required under the California Endangered Species Act, the California Native Plant Protection Act, the California

Environmental Quality Act (CEQA) and the Natural Community Conservation Planning Act to conserve species through listing, habitat acquisition and protection, review of local land use planning, multi-species conservation planning, stewardship, recovery, research, and education. The CDFW protects rare, threatened and endangered species by managing habitat in legally designated ecological reserves or wildlife areas.

- ✓ **California Fish and Wildlife Code** - Under Sections 1600–1616 of the California Fish and Wildlife Code, CDFW regulates projects that affect the flow, channel, or banks of rivers, streams, and lakes. Projects that involve construction near or across a river, stream, or lake are required to comply with these regulations. Section 1602 requires public agencies and private individuals respectively to notify and enter into a streambed or lakebed alteration agreement with CDFW before beginning construction of a project that will: divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake; or use materials from a streambed. Section 1602 contains additional prohibitions against the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake.
- ✓ **Delta Water Agency** - The Delta Agency was established in 1965 for maintenance of agricultural water quality throughout the Delta. In 1973, the agency was replaced by the following three agencies: North, Central, and South Delta Water Agencies.
- ✓ **Delta Protection Commission** - The Delta Protection Commission was established by the Delta Protection Act of 1992 to develop a long-term resource management plan for the Delta Primary Zone. The goals of the regional plan are to protect, maintain and, where possible, enhance and restore the overall quality of the delta environment, including but not limited to, agriculture, wildlife habitat, and recreational activities.
- ✓ **The Department of Water Resources (DWR)** - The DWR is responsible for the planning, construction and operation of State Water Project (SWP) facilities, including the California Aqueduct, and sets conditions on use of SWP facilities. In addition, DWR is responsible for statewide water planning, evaluating urban water management plans, overseeing dam safety and flood control, and transfer of certain water rights permits (e.g., pre-1914).
- ✓ **The California Department of Public Health (DPH)** - DPH implements the SDWA. In addition, it oversees the operational permitting and regulatory oversight of public water systems. DPH requires public water systems to perform routine monitoring for regulated contaminants that may be present in their drinking water supply. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding an MCL must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is

not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

In addition, DPH conducts water source assessments, oversees water recycling projects, permits water treatment devices, certifies water system employees, promotes water system security, and administers grants under the State Revolving Fund and State bonds for water system improvements.

- ✓ **The California Water Plan** - The California Water Plan provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The plan, updated every five years, presents basic data and information on California's water resources including water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses. The plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the State's water needs (DWR, n.d.a).
- ✓ **The California Department of Toxic Substances Control (DTSC)** - DTSC is responsible for oversight of hazardous substances and remediation of contaminated sites, including in some cases water sources.
- ✓ **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 to the applicable and numerical water quality standards, and implementation procedures.

The Porter-Cologne Water Quality Control Act authorizes the state boards to adopt, review and revise policies for all waters of the state (including both surface and ground waters) and directs the regional boards to develop Basin Plans. The act also authorizes state boards to adopt Water Quality Control Plans. In the event of inconsistencies among state and regional board plans, the more stringent provisions apply.

- ✓ **California Emergency Management Agency - Dam Inundation Mapping** - Dam owners must submit flood routing information, land surveys to delineate the floodplain, and a technical report to support a dam failure inundation map to the California Emergency Management Agency. The purpose of the program is to provide decision support for emergency preparedness planning, mitigation, response to, and recovery from potential damage to life and property from dam inundation flood waves. Based upon approved inundation maps, or the delineated areas, cities and counties with territory in the mapped areas are required to adopt emergency procedures for the evacuation and control of populated areas below the dams. The technical study must contain information about dam specifications, physical conditions affected by the dam, including downstream areas and floodwater

routing, and the areas that could be affected by a dam failure. The requirements of the technical study can also include modeling of worst case breaching parameters and identification of the downstream hazard potential from partial or complete failure of the dam.

- ✓ **SGMA Groundwater Management** - On September 16, 2014, Governor Brown signed into law a three-bill legislative package, composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). For the first time in its history, California has a framework for sustainable, groundwater management - “management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.” SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, that will be 2040. For the remaining high and medium priority basins, 2042 is the deadline. In his signing statement, the governor emphasized that “groundwater management in California is best accomplished locally.” Through the Sustainable Groundwater Management Program, DWR provides ongoing support to local agencies through guidance and financial and technical assistance. SGMA empowers local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins sustainably and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California.

Environmental Setting

Hydrology

- ✓ **Drainage Patterns**

Madera County stands in one hydrologic region, the San Joaquin River region. In the San Joaquin River region, the area drains into the San Joaquin River, which flows into counties north of Madera County. In the region, the coastal foothills are drained by small creeks eastward toward the Fresno Slough on the Valley floor (reference Figure 3-14).

- ✓ **Surface Waters**

There are numerous surface water sources in the area, including lakes, rivers, and streams. In addition, there are numerous creeks and canals. A number of wetland and vernal pool areas also exist. The San Joaquin River, the Chowchilla River, and the Fresno River are the primary natural surface water sources within Madera County. The rivers originate in the Sierra Nevada and flow toward the Valley floor. The San Joaquin River’s approximate mean annual run-off is over 6 million acre-feet (an

acre-foot is 325,851 gallons). The Chowchilla River's and Fresno River's approximate annual run-off is 77, 000 and 72,000 acre-feet respectively.

FIGURE 3-14
Hydrologic Regions in Madera County



Vernal pools represent an important surface water feature. These pools collect seasonal rains that typically provide habitat for plants and animals, often rare or endangered species. These water bodies are small and usually underlain by semi-impermeable soils, which restrict percolation into the water table below, resulting in pools that often last from winter to summer. California has lost a greater proportion of its original wetlands than has any other state. As such, wetlands protection in general is a challenge here, as it is in the rest of the country. The regulation of wetlands falls mainly with the U.S. Army Corps of Engineers, through the authority of Section 404 of the Clean Water Act. Wetlands as a biological resource habitat are discussed further in Section 3-6 - Biotic Resources. The Fresno River, Chowchilla River, and San Joaquin River are navigable rivers for recreation purposes in Madera County. There are no waterways navigable by commercial vessels.

✓ **Flooding**

The Valley portions of Madera County can receive between six and ten inches of precipitation annually on average, while the mountainous areas can receive up to 70 inches per year. Flooding in Madera County can occur as a result of natural phenomena such as heavy rains, excessive snowmelt and runoff; as a result of man-made structural problems, such as dam failure, levee failure, and localized drainage problems; or any combination thereof. Flooding usually occurs during the late fall and winter due to rainfall, and late spring to early summer due to snowmelt.

The principal impact of flooding includes damage to permanent structures, relocation of non-stationary objects, loss of human life and damage to infrastructure and soil conditions. After the initial damage from floodwaters, standing water often creates a secondary level of destruction, ruining crops, further undermining and damaging infrastructure, and contaminating water wells.

Flooding generally occurs when soil and vegetation cannot absorb excess moisture, and water runs off the land in quantities that cannot be carried in stream channels or kept in natural ponds or man-made reservoirs. Periodic floods occur naturally on many rivers, forming an area known as the flood plain. These river floods usually result from heavy rain, sometimes combined with melting snow, which causes the rivers to overflow their banks. Floods in the mountain region are typically confined to narrow valleys, where flood flows from streams or rivers peak quickly and have high velocities. A flood that rises and falls rapidly with little or no advance warning is called a flash flood. Flash floods usually result from intense rainfall over a relatively small area.

Flooding occasionally occurs on streets and roads where storm waters are diverted into man-made or artificial drainage systems in urbanized areas. Storm water is not able to permeate and percolate into the soil in urbanized areas with significant surface areas covered with impervious surfaces and is, therefore, diverted into a storm drainage system. Storm drainage systems can include street gutters, underground storm drains, retention/detention basins, pumping stations, and open channels. In some

areas, these drainage systems are occasionally overloaded with storm water drainage, or the drains become clogged with leaves or other debris and impede storm water drainage from transportation facilities. The ability of the storm drainage system to accommodate water flows is also largely based on ground permeability and infrastructure capacity. In the metropolitan area, local cities and counties are the agencies responsible for maintaining and upgrading drainage facilities to accommodate water volume.

A system of reservoirs serves as large-scale flood control basins. These include Eastman and Hensley Lake on the Fresno River and Bass Lake and Millerton Lake on the San Joaquin River. These and other lakes and reservoirs within the Valley have been developed over the years by Southern California Edison Company, the Army Corps of Engineers, and Pacific Gas and Electric Company. Strategic management of reservoir releases and the use of canals serve to minimize the likelihood of flooding, by rerouting of water around populated areas. However, substantial flooding can result from dam failure.

According to the California Department of Water Resources, there are 14 dams in jurisdiction within the County, and one of which could cause substantial flooding in Madera County, including Crane Valley Dam. Dam failure could result from earthquakes, erosion, improper siting, rapidly rising floodwaters and structural and design flaws.

Madera County has historically been vulnerable to flooding, due to the network of rivers that run through the valley and the adjacent low-lying terrain. Accordingly, the U.S. Department of Housing and Urban Development (HUD) has designated portions of Madera County as special Flood Hazard areas. In compliance with the Federal Flood Insurance Program, HUD has provided Madera County with a series of Flood Boundary Maps. These maps, which delineate major areas of flooding throughout the County, are on file in the Madera County Planning Department, and hereby incorporated by reference.

A 100-year flood is defined as a flood event that has a one percent chance of occurring in any given year and is more or less a statistical probability. Many low-lying areas near rivers in Madera County are located in the 100-year floodplain. This type of flood is determined for the purposes land use planning and protection of property and human safety. The Federal Emergency Management Act (FEMA) determines areas subject to flooding in general, as well as the 100-year flood hazard.

✓ **Groundwater Resources**

In addition to surface water systems, groundwater is a significant water resource. Groundwater is water that is stored underground, typically between saturated soil and rock. Because of their capacity to store usable water in a manner that is perennially secure from loss or evaporation, groundwater

reservoirs are a significant water resource. Most groundwater reservoirs store far more water than the volume that flows through them annually. However, only the flow-through volume is renewable. A groundwater resource can contain several aquifers, or water-bearing zones. An aquifer refers to a rock formation that is water bearing. Infiltration of rainfall, seepage from streams, canals, ditches, and underflow that enters the valley from tributary stream canyons recharges groundwater reservoirs. Significant areas of groundwater recharge are located along the stream channels of the rivers, where porous soils and gravels contribute extensive amounts of aquifer recharge. Other areas away from river flood plains are characterized by semi-consolidated gravels with low recharge capability or, more often, clay or hardpan soils, which allow minimal amounts of groundwater recharge. Madera County relies on groundwater as a source for municipal and domestic supply, industrial use, and agricultural use. Groundwater is sensitive to contaminants varying regionally dependent on the depth to groundwater, soil type and permeability of the soil. Runoff from agricultural irrigation and animal facilities are of particular concern of contamination where groundwater conditions are shallow with sandy, highly permeable soils.

Water Supply and Quality

Water is an important resource for Madera County. It is necessary for the production of crops in one of the largest agricultural producing regions in the state/nation, as well as meeting the needs of its inhabitants.

Water quality is generally determined by the concentrations of harmful trace elements and the condition of salinity.

✓ **Surface Water**

Madera County is located in the state's Regional Water Quality Control system and is marked by an abundance of surface water resources. Surface water systems in Madera County are generally characterized by a series of reservoirs that collect and store snowmelt in the upper elevations of the Sierra. These include Eastman Lake on the Chowchilla River, Hensley Lake on the Fresno River, Bass Lake on Willow Creek, a tributary of the San Joaquin River, and Millerton Lake on the San Joaquin River. These and other lakes and reservoirs within the Valley have been developed over the years by Southern California Edison Company, the Army Corps of Engineers, and Pacific Gas and Electric Company. Water stored in the reservoirs is typically used for hydro-generation then released into natural rivers. Most of the water is then captured into lower elevation reservoirs in the foothills and stored for transmission in irrigation canals. These facilities are owned and operated by a number of public agencies including the U.S. Bureau of Reclamation, Southern California Edison, and several local irrigation and water districts. The water supply varies, however, depending on the particular area and season. Many communities within the San Joaquin Valley must supplement natural surface water

with water diverted from other sources. A major source is the State Water Project's California Aqueduct.

Water "banking" also occurs among San Joaquin Valley communities in order to preserve water for future use. The City of Madera and local water agencies operate a recharge facility, "the Madera Ranch Project" within the City of Madera where surplus water is recharged for withdrawal in drier years. Much of the groundwater recharge occurring in the Madera region originates from imported surface waters such as deep percolation of irrigation and intentional recharge.

According to the County of Madera, surface water in Madera County is typically of good quality for agricultural irrigation and municipal and industrial uses. The concentration of total dissolved solids (TSDs) is typically low and harmful levels of trace elements are not present. Accordingly, conventional water treatment processes are used. However, bacterial counts and parasite cysts loads are emerging concerns. The streams on the western side of the County contain large volumes of sediment and naturally occurring minerals such as selenium, arsenic, boron and asbestos.

✓ **Groundwater**

Use of groundwater has produced serious overdraft in some areas of the County and has resulted in constraints to the availability of water supplies. The California Department of Water Resources for the Bulletin 118, Interim Update 2016 identifies the Madera and Chowchilla Basins, which the majority of Madera County is in, as being in a critical condition of overdraft. Overdraft can lead to numerous issues, such as increased extraction costs, land subsidence, water quality degradation, and environmental impacts. In reaction to drought conditions, nearly all communities in the region have introduced water conservation programs.

The groundwater situation in the Valley is ideal; high clay content and other impervious sediments in the soils sometime known as "Corcoran Clay", combined with a low water table, make it difficult for contaminants to reach the groundwater supply. Groundwater naturally contains pollutants, which occur when water contacts rocks and soils and carries away dissolved solids. However, human activities further impact water quality by affecting the quantity and quality of water that eventually percolates back into the soil and recharges groundwater sources. High concentrations of dissolved solids create objectionable odors, taste, and staining. The quality of groundwater is affected by three main factors in Madera County: agricultural pollution, industrial pollution, and urban pollution in the form of storm water runoff. As with surface water contamination, storm water that washes over transportation facilities carries urban pollutants. When these untreated effluent percolates into the soil, some contaminants are filtered out before reaching the groundwater aquifer. Reductions in permeable surfaces limit percolation and associated filtration that treat these contaminants.

Groundwater in some localized areas contain elevated levels of boron, dibromochloropropane (DBCP), dichloroethylene (DCE), nitrates, selenium, sulfates, and trichloroethylene (TCE). Groundwater in the western Valley floor area is highly saline and contains other toxic elements resulting from water percolation through marine sediments and is not suitable for use. Naturally occurring arsenic is a concern for domestic well water supplies.

✓ **Storm Water Runoff**

Storm water runoff in the urbanized portions of Madera County is diverted into storm drain systems that funnel these effluents to the network of surface waters. Drainage of surface waters is augmented by natural drainage patterns in non-urban areas. The quality of storm water runoff affects the quality of the surface water into which the runoff eventually flows. Untreated pollutants such as suspended solids, pathogens, oil, grease, air pollutants, pesticides, fertilizers, and animal wastes are carried in storm water when it passes over transportation facilities. In 1987, the federal government created the National Pollutant Discharge Elimination System (NPDES) to address this problem. The NPDES enables state water quality agencies to issue permits to cities and counties to develop, implement, and enforce runoff management programs. Therefore, local jurisdictions are responsible for regulating the harmful constituents of storm water runoff by regulating non-point source pollutants, and for developing methods for containing and treating storm water runoff.

Methodology

Regulatory information and recommended mitigation measures were obtained from state-recommended best management practices for storm water management.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

To determine the actual potential for significant impacts on hydrology and water resources resulting from implementation of the 2022 RTP and SCS, transportation project- and future development project-specific studies would be necessary. However, some general impacts can be identified based on the nature of the individual transportation improvements and future land use development. Projects and future land use development located in watersheds, adjacent to impaired water bodies, or in flood hazard areas are most likely to affect water resources. Construction of the proposed projects and future land use development could cause water quality impacts, because the individual improvement projects and future developments would increase the area of paved surface. Water quality could be affected by storm water runoff that passes over paved surfaces before it reaches a major creek, river, or water body.

Floodplains are areas that are periodically inundated during high flows of nearby streams or high-water levels in ponds or lakes. Natural floodplains offer wildlife and plant habitat, open space, and groundwater recharge benefits. Project and future development construction could affect these uses if not mitigated.

A proposed individual improvement project or future development project would be likely to have a greater impact on water resources in areas where proposed improvements are directly adjacent to or crosses a drainage facility or water body, and in areas where projects are located in 100-year flood hazard areas, than projects further from drainage facilities, water bodies, or 100-year flood hazard areas.

Criteria for Significance

CEQA Guidelines establish that a significant impact would be expected to occur if the Project would:

- ✓ Violate Regional Water Quality Control Board water quality standards or waste discharge requirements.
- ✓ Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- ✓ Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- ✓ Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or 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 storm water drainage systems or provide substantial additional sources of polluted runoff.
- ✓ Otherwise substantially degrade water quality.
- ✓ Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- ✓ Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- ✓ Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- ✓ Inundation by seiche, tsunami, or mudflow.

Short-Term Impacts

Short-term impacts are temporary and generally related to construction activities. Construction activities undertaken to implement transportation improvements and future development could include

excavation, soil stockpiling, boring, and grading. Soil erosion is probable during construction and could directly affect the water quality of local drainage, which could potentially be directed into surface water systems. Soils can contain nitrogen and phosphorus which, when carried into water bodies, can trigger algal blooms.

Extensive blooms of algae can reduce water clarity, deplete oxygen concentrations, and create unpleasant odors. Excessive deposition of sediments in stream channels can blanket fauna and clog streambeds, degrading aquatic habitat. Increased turbidity from suspended sediments can also reduce photosynthesis that produces food supply and aquatic habitat. Additionally, sediment from individual improvement project- and new development-induced on-site erosion could accumulate in downstream drainage facilities and interfere with stream flow, thereby aggravating downstream flooding conditions.

Impacts from construction could affect local storm drain catch basins, culverts, flood control channels, streams, and rivers, depending on the individual improvement project and new development location. Most runoff in urban areas is eventually directed to either a storm drain or water body.

Long-Term Impacts

Increases in the amount of nonpoint-source pollutants generated regionally could occur. In general, they would be attributed to increases in impervious surface area associated with new development and paving, combined with increased overall regional traffic. These nonpoint source pollutants include oil and grease, petroleum hydrocarbons, metals and possibly nutrients. The paving required for highway projects and the construction of future land use development could have significant effects on the amount of surface water that filters into the ground. Pollutants in the runoff from proposed transportation facilities and future development could affect groundwater basins.

Impact HW 3.11.1 – Violate any water quality standards or waste discharge requirements.

Local surface water quality would be affected by increased urban runoff and construction runoff. Increasing impervious surface area would increase urban runoff, which transports greater quantities of contaminants to receiving waters. Construction activities can increase pollutant loads in storm water. In addition, road cut erosion can increase long-term siltation in local receiving waters.

Mitigation Measures

The specific impacts on hydrology and water quality will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given

that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **HW 3.11.1-1** Improvement projects and new development will include upgrades to storm water drainage facilities to accommodate increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce velocity.
- ✓ **HW 3.11.1-2** Transportation network improvements and future land use developments will comply with local, state and federal floodplain regulations. Proposed transportation improvements and applicable new developments will be engineered by responsible agencies to accommodate storm drainage flow.
- ✓ **HW 3.11.1-3** Responsible agencies should ensure that operational best management practices for street cleaning, litter control, and catch basin cleaning are provided to prevent water quality degradation. Responsible agencies implementing projects requiring continual water removal facilities should provide monitoring systems including long-term administrative procedures to ensure proper operations for the life of the Project.
- ✓ **HW 3.11.1-4** Responsible agencies should ensure that new facilities include water quality control features such as drainage channels, detention basins, and vegetated buffers to prevent pollution of adjacent water resources by runoff.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce violations of Regional Water Quality Control Board water quality standards or waste discharge requirements, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HW 3.11.2 – Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

The installation of transportation infrastructure, the expansion of project facilities, and the construction of new development could encounter groundwater. Individual projects and future land use developments may require dewatering during construction and for the life of a project. The process of dewatering includes removal of water (groundwater or surface water) from a construction site by pumping or evaporation. The dewatered effluent must be discharged at another location which could have impacts on groundwater. In addition, individual projects under the RTP/SCS could impact groundwater recharge by increasing the amount of paved surface area. The paving required for highway projects and the construction of future land use development could have significant effects on the amount of surface water that filters into the ground. Pollutants in the runoff from proposed transportation facilities and future development could affect groundwater basins.

Mitigation Measures

The specific impacts on hydrology and water quality will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **HW 3.11.2-1** Transportation network improvements and future land use developments will comply with local, state and federal floodplain regulations. Proposed transportation improvements and applicable new developments will be engineered by responsible agencies to accommodate storm drainage flow. Responsible agencies should ensure that operational best management practices for street cleaning, litter control, and catch basin cleaning are provided to prevent water quality degradation. Responsible agencies implementing projects requiring continual water removal facilities should provide monitoring systems including long-term administrative procedures to ensure proper operations for the life of the Project.
- ✓ **HW 3.11.2-2** Local agencies shall form Groundwater Sustainability Agencies (GSAs) in accordance with the collection of State legislation [AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley)] known as the Sustainable Groundwater Management Act (SGMA), as applicable, to manage high and medium priority basin sustainably and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts on groundwater supplies or groundwater recharge activities, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HW 3.11.3 – Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site

Construction activities related to the individual RTP and SCS projects could potentially involve soil disturbance, excavation, cutting/filling, stockpiling, and grading. Consequently, erosion and sedimentation could increase, affecting water quality and pollutants in the water. In addition, road cut erosion can increase long-term siltation in local receiving waters. During site grading, trenching, and other construction activities, areas of bare soil are exposed to erosive forces during periods of rainfall. They are much more likely to erode than vegetated areas due to lack of dispersion, infiltration, and retention properties created by covering vegetation. The extent of potential impacts is dependent on soil erosion potential, type of construction practice, size of disturbed area, timing of rainfall, and topography and proximity to drainage channels.

Before construction activities can begin, a project applicant must submit a Storm Water Pollution Prevention Plan (SWPPP) and Standard Urban Stormwater Mitigation Plans that will be used in the planned project construction. The applicant must receive approval and submit a Notice of Intent prior to initiating construction. Each individual project in the 2022 RTP/SCS is expected to adopt Best Management Practices (BMPs) appropriate to local conditions and to the proposed construction techniques that will reduce pollution runoff.

Mitigation Measures

The specific impacts on hydrology and water quality will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be

responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **HW 3.11.3-1** Prior to construction within the vicinity of a watercourse, the project sponsor can and should obtain all necessary regulatory permits and authorizations from the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), California Coastal Commission, and local jurisdictions, and should comply with all conditions issued by applicable agencies. Required permit approvals and certifications may include, but not be limited to the following:
 - U.S. Army Corps of Engineers (Corps): Section 404. Permit approval from the Corps should be obtained for the placement of dredge or fill material in Waters of the U.S., if any, within the interior of the project site, pursuant to Section 404 of the federal Clean Water Act.
 - Regional Water Quality Control Board (RWQCB): Section 401 Water Quality Certification. Certification that the project will not violate state water quality standards is required before the Corps can issue a 404 permit, above.
 - California Department of Fish and Wildlife (CDFW): Section 1602 Lake and Streambed Alteration Agreement. Work that will alter the bed or bank of a stream requires authorization from CDFW.

A qualified environmental consultant can and should be retained and paid for by the project sponsor to make site visits as necessary; and as a follow-up, submit to the Lead Agency a letter certifying that all required conditions have been instituted during the grading activities.

- ✓ **HW 3.11.3-2** Project sponsors can and should comply with the State-wide construction storm water discharge permit requirements including preparation of Storm Water Pollution Prevention Plans for transportation improvement construction projects. Roadway construction projects can and should comply with the Caltrans storm water discharge permit. BMPs can and should be identified and implemented to manage site erosion, wash water runoff, and spill control.
- ✓ **HW 3.11.3-3** Project sponsors can and should implement BMPs to reduce erosion, sedimentation, and water quality impacts during construction to the maximum extent practicable. Plans demonstrating BMPs should be submitted for review and approval by the lead agency. At a minimum, the project sponsor can and should provide filter materials deemed acceptable to the lead agency at nearby catch basins to prevent any debris and dirt from flowing into the local storm drain system and creeks.
- ✓ **HW 3.11.3-4** Project sponsors can and should submit an erosion and sedimentation control plan for review and approval by the appropriate government agency. All work should incorporate all

applicable BMPs for the construction industry, including BMPs for dust, erosion and water quality. The measures should include, but are not limited to, the following:

- On sloped properties, the downhill end of the construction area must be protected with silt fencing (such as sandbags, filter fabric, silt curtains, etc.) and hay bales oriented parallel to the contours of the slope (at a constant elevation) to prevent erosion into the street, gutters, storm drains.
- In accordance with an approved erosion control plan, the project sponsor should implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent degradable erosion control fabric should be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas should be temporarily protected from erosion by seeding with fast growing annual species. All bare slopes must be covered with staked tarps when rain is occurring or is expected.
- Minimize the removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanting of the area with native vegetation as soon as possible.
- Install filter materials acceptable to the appropriate agency at the storm drain inlets nearest to the project site prior to the start of the wet weather season; site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in order to retain any debris flowing into the storm drain system. Filter materials should be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.
- Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into water courses, street gutters, or storm drains.
- Direct and locate tool and equipment cleaning so that wash water does not discharge into the street, gutters, or storm drains.
- Create a contained and covered area on the site for storage of bags of cement, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the storm drain system by the wind or in the event of a material spill. No hazardous waste material should be stored on-site.
- Gather all construction debris on a regular basis and place them in a dumpster or other container which is emptied or removed on a weekly (or other interval approved by the lead agency) basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution.
- Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work.
- As appropriate, broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt should be scraped from these areas before sweeping. At the end of each

workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to the street, gutter, and/or storm drains.

- All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management should be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the RWQCB.
- All erosion and sedimentation control measures should be monitored regularly by the project sponsor. If measures are insufficient to control sedimentation and erosion, then the project sponsor should develop and implement additional and more effective measures immediately.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts on existing drainage patterns, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HW 3.11.4 – Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

The Project could increase flooding hazards. Installation of impervious surfaces increases storm water runoff volumes and peak flow rates. This can create flooding hazards in local receiving waters and drainage systems. The Plan could also alter existing drainage patterns or substantially increase the rate or amount of surface runoff in a manner that would result in flooding or produce or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems.

Storm water runoff is influenced by rainfall intensity, ground surface permeability, watershed size and shape, and physical barriers. The introduction of impermeable surfaces greatly reduces natural infiltration, allowing for a greater volume of runoff. In addition, paved surfaces and drainage conduits can accelerate the velocity of runoff, concentrating peak flows in downstream areas faster than under natural conditions. Significant increases to runoff and peak flow can overwhelm drainage systems and alter flood elevations in downstream locations. Increased runoff velocity can promote scouring of existing drainage facilities, reducing system reliability and safety.

The proposed transportation plan may result in projects located adjacent to or within the following regulated streams under Board jurisdiction pursuant to Title 23, California Code of Regulation (23 CCR), Section 112:

<u>Stream</u>	<u>County – Limits</u>
Ash Slough	Madera
Berenda Slough	Madera – Ave 12-1/2 to Ash Slough
Chowchilla Canal Bypass	Merced, Madera, Mariposa
Chowchilla River	Merced, Madera, Mariposa, to Buchanan Dam
Eastside Bypass	Merced and Madera
Fresno River	Madera to Hidden Dam
Fresno River, South Fork	Madera
Lower San Joaquin River Flood Control Project	Fresno, Madera, and Merced

The Board enforces its regulations for the construction, maintenance, and protection of adopted plans of flood control that protect public lands from floods. Adopted plans of flood control include federal- State facilities of the State Plan of Flood Control, regulated streams, and designated floodways. The geographic extent of Board jurisdiction includes the Central Valley, and all tributaries and distributaries of the Sacramento and San Joaquin Rivers, and the Tulare and Buena Vista basins (23 CCR, Section 2). A Board permit is required prior to working in the Board’s jurisdiction for the following:

- ✓ Placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment, excavation, the planting, or removal of vegetation, and any repair or maintenance that involves cutting into the levee (23 CCR Section 6);
- ✓ Existing structures that predate permitting, or where it is necessary to establish the conditions normally imposed by permitting. The circumstances include those where responsibility for the encroachment has not been clearly established or ownership and use have been revised (23 CCR Section 6);
- ✓ Vegetation plantings require submission of detailed design drawings; identification of vegetation type; plant and tree names (both common and scientific); quantities of each type of plant and tree; spacing and irrigation method; a vegetative management plan for maintenance to prevent the interference with flood control operations, levee maintenance, inspection, and flood fight procedures (23 CCR Section 131).

Other local, federal and State agency permits may be required and are the responsibility of the application to obtain.

Board permit application forms and complete 23 CCR regulations can be found on the following website at <http://www/cvfpb.ca.gov/>. Maps of the Board's jurisdiction including all tributaries and distributaries of the Sacramento and San Joaquin Rivers, and Board designated floodways are also available on a Department of Water Resources website at <http://gis.bam.wate.ca.gov/bam/>.

Additional Considerations Related to Potential Impacts of Vegetation and Hydraulics

Accumulation and establishment of woody vegetation that is not managed may have negative impacts on channel capacity and may increase the potential for levee over-topping or other failure. When vegetation develops and becomes habitat for wildlife, maintenance to initial baseline conditions typically becomes more difficult as the removal of vegetative growth may be subject to federal and State resource agency requirements for on-site mitigation. The proposed project should include mitigation measure to avoid decreasing floodway channel capacity. Adverse hydraulic impacts of proposed encroachment could impede flood flows, reroute flood flows, and/or increase sediment accumulation. The proposed project should include mitigation measures for channel and levee improvements and maintenance to prevent and/or reduce hydraulic impacts. If possible off-site mitigation outside of the Boards' jurisdiction should be used when mitigating for vegetation removed at the project location.

Mitigation Measures

The specific impacts on hydrology and water quality will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **HW 3.11.4-1** Prior to construction, and when a potential drainage issue is known, a drainage study should be conducted by responsible agencies for new capacity-increasing projects and new land use developments, where applicable. Drainage systems should be designed to maximize the use of detention basins, vegetated areas, and velocity dissipaters to reduce peak flows where possible. Transportation and new development improvements will comply with federal, state and local regulations regarding storm water management. State-owned freeways must comply with Storm Water Discharge NPDES permit for Caltrans facilities.
- ✓ **HW 3.11.4-2** Responsible agencies should ensure that new facilities include water quality control features such as drainage channels, detention basins, and vegetated buffers to prevent pollution of adjacent water resources by runoff.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts on existing drainage patterns, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HW 3.11.5 – Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

The growth projected for Madera County would result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff between now and 2042, potentially generating additional runoff during storm events. In addition, the increase in impervious surfaces, along with the increase in surface water runoff, could increase the non-point source discharge of pollutants in stormwater and non-stormwater in the plan area. Growth alone does not necessarily translate into exceedance of stormwater drainage capacity or polluted runoff. It is the siting and design of new development, in relation to existing development, that determines if adequate stormwater drainage exists or will exist, and if appropriate measures are taken to limit or reduce polluted runoff. New development could add additional sources of runoff. However, in portions of Madera County that are already built out, such increases would either be accommodated by existing infrastructure, or project proponents would be required, by local ordinances and state regulations, to make infrastructure improvements. In rural or less developed areas, new housing and employment developments could require additional stormwater drainage infrastructure and control measures to limit polluted runoff. However, local stormwater management plans and policies, and State Water Board requirements, which implement federal Clean Water Act requirements, will mitigate these potential impacts.

Mitigation Measures

The specific impacts on hydrology and water quality will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **HW 3.11.5-1** Project sponsors can and should ensure that new facilities include structural water quality control features such as drainage channels, detention basins, oil and grease traps, filter systems, and vegetated buffers to prevent pollution of adjacent water resources by polluted runoff where required by applicable urban storm water runoff discharge permits.
- ✓ **HW 3.11.5-2** Drainage of roadway runoff can and should comply with Caltrans' storm water discharge permit. Wherever possible, roadways can and should be designed to convey storm water through vegetated median strips that provide detention capacity and allow for infiltration before reaching culverts.
- ✓ **HW 3.11.5-3** Project sponsors can and should assure projects mitigate for changes to the volume of runoff, where any downstream receiving water body has not been designed and maintained to accommodate the increase in flow velocity, rate, and volume without impacting the water's beneficial uses. Pre-project flow velocities, rates, and volumes must not be exceeded. This applies not only to increases in storm water runoff from the project site, but also to hydrologic changes induced by flood plain encroachment. Projects should not cause or contribute to conditions that degrade the physical integrity or ecological function of any downstream receiving waters.
- ✓ **HW 3.11.5-4** Impacts can and should be reduced to the extent possible by providing culverts and facilities that do not increase the flow velocity, rate, or volume and/or acquiring sufficient storm drain easements that accommodate an appropriately vegetated earthen drainage channel.
- ✓ **HW 3.11.5-5** Project sponsors of improvement projects on existing facilities can and should include upgrades to stormwater drainage facilities to accommodate any increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce flow velocities, including expansion and restoration of wetlands and riparian buffer areas. System designs can and should be completed to eliminate increases in peak flow rates from current levels.
- ✓ **HW 3.11.5-6** Local jurisdictions can and should encourage Low Impact Development and incorporation of natural spaces that reduce, treat, infiltrate and manage stormwater runoff flows in all new developments, where practical and feasible.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework

and direction to avoid or reduce impacts related to the creation of, or contribution to, runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HW 3.11.6 – Otherwise substantially degrade water quality.

The growth projected for Madera County would increase impervious surfaces. Potential runoff contaminants include sediment, pesticides, herbicides, fertilizers, oil and grease, nutrients, metals, bacteria, and trash which could degrade the quality of receiving waters. During the dry season, these contaminants can accumulate on impervious surfaces and then be transported into stormwater drainage systems after the first rainfall event.

New development could add additional sources of runoff. However, in portions of Madera County that are already developed, such increases would either be accommodated by existing infrastructure or project proponents would be required, by local ordinances and state regulations, to make infrastructure improvements. In rural and less developed areas of the region, new housing and employment developments could require additional stormwater drainage infrastructure and control measures to limit polluted runoff. However, adherence to local and state regulations would ensure that development would not otherwise substantially degrade water quality. Therefore, the land use impacts associated with implementation of the 2022 RTP/SCS at a program-level are considered less than significant. No mitigation is required.

Transportation projects where Caltrans is the lead agency are covered by the Caltrans Stormwater Program. This permit regulates all stormwater discharges from Caltrans-owned conveyances, maintenance facilities and construction activities. Caltrans also has a Storm Water Management Plan that describes the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. Transportation projects where local agencies are the lead agency are subject to local and state regulations for construction and non-construction runoff prevention. Construction-related measures are described in the mitigation section below. Adherence to local and state regulations would ensure that development would not otherwise substantially degrade water quality.

Mitigation Measures

The specific impacts on hydrology and water quality will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **HW 3.11.6-1** Improvement projects along existing facilities and future land use developments will include upgrades to storm water drainage facilities to accommodate increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce velocity.

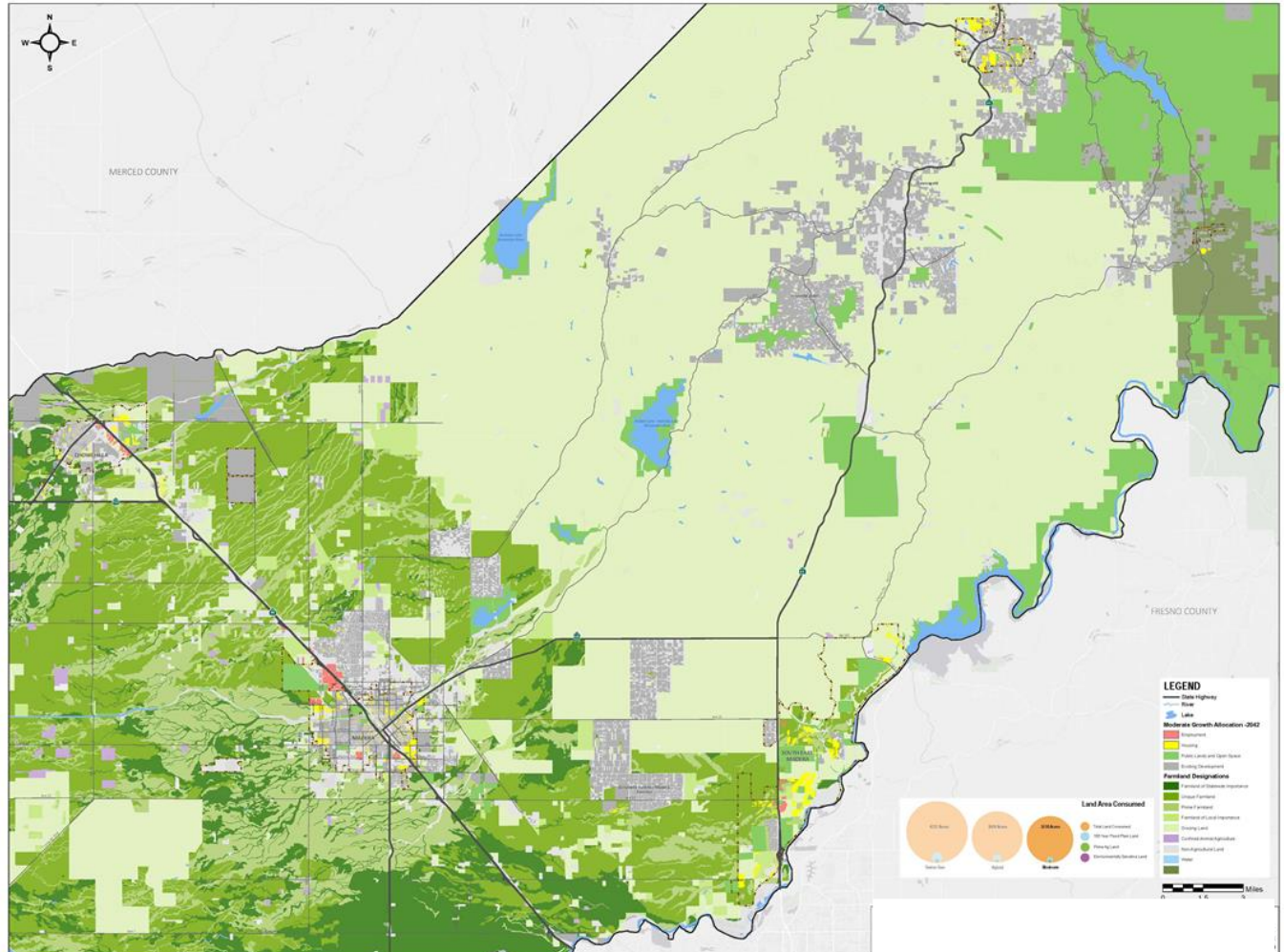
Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the potential to substantially degrade water quality, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HW 3.11.7 – Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

Figure 3-15 generally represents new development associated with the Project by FEMA 100-year flood zone areas (Zones A, AD, AE, and AH). Most new development will be located outside of FEMA 100-year flood zone areas or within areas that have a .2% or less chance of flooding on an annual basis.

FIGURE 3-15
FEMA Flood Zone Development - Preferred Project



Mitigation Measures

The specific impacts on hydrology and water quality will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **HW 3.11.7-1** Prior to construction, and when a potential drainage issue is known, a drainage study should be conducted by responsible agencies for new capacity-increasing projects and new land use developments, where applicable. Drainage systems should be designed to maximize the use of detention basins, vegetated areas, and velocity dissipaters to reduce peak flows where possible.
- ✓ **HW 3.11.7-2** Transportation and new development improvements will comply with federal, state and local regulations regarding storm water management. State-owned freeways must comply with Storm Water Discharge NPDES permit for Caltrans facilities
- ✓ **HW 3.11.7-3** Responsible agencies should ensure that new facilities include water quality control features such as drainage channels, detention basins, and vegetated buffers to prevent pollution of adjacent water resources by runoff.
- ✓ **HW 3.11.7-4** Letters of Map Revision (LOMR) will be prepared and submitted to FEMA (when applicable) by responsible agencies where construction would occur within 100-year floodplains. The LOMR will include revised local base flood elevations for projects constructed within flood-prone areas.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the placement of housing within a 100-year flood hazard area, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HW 3.11.8 – Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

A portion of the transportation projects included in the 2022 RTP and SCS could occur within the 100-year flood hazard area, thus increasing the potential to obstruct or exacerbate floodwaters. The construction of projects involving support structures in the floodway could obstruct floodwaters at some locations. Placement of structures within a floodplain can displace floodwaters and alter the base flood elevation level upstream and in neighboring areas. Likewise, floodwater can cause scour effects, resulting in erosion

and sedimentation problems downstream from structures. Drainage areas could be altered by highway corridors, in which floodwaters could be detained by medians and along the roadside. Proposed bridge supports could block debris in waterways, creating obstructions and further elevating upstream flood levels. The 2022 RTP and SCS could alter existing drainage patterns or substantially increase the rate or amount of surface runoff in a manner that would result in flooding or produce or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems.

Mitigation Measure

The specific impacts on hydrology and water quality will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **HW 3.11.8-1** MCTC will encourage implementing and local agencies to conduct or require project-specific hydrology studies for projects proposed to be constructed within floodplains to demonstrate compliance with applicable federal, state, and local agency flood-control regulations. These studies should identify project design features or mitigation measures that reduce impacts to either floodplains or flood flows such that the project is consistent with federal, state, and local regulations and laws related to development in the floodplain.
- ✓ **HW 3.11.8-2** MCTC will encourage implementing and local agencies to, the extent feasible and appropriate, prevent development in flood hazard areas that do not have appropriate protections.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the exposure of people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HW 3.11.9 – Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

Natural desert conditions promote runoff that can cause flash flooding. In those areas of Madera County where soils have naturally low permeability and are subject to quick saturation, high rain volumes remain on the surface as runoff. When impervious surfaces such as highways are placed within these areas of an existing flood plain the public is exposed to the hazards of flash flooding. Placing new structures within an existing floodplain can impede flood waters, altering the flood risks both upstream and downstream. The flooding risks associated with projects located in flood zones can be modified with appropriate design and alignment considerations.

Mitigation Measures

The specific impacts on hydrology and water quality will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **HW 3.11.9-1** MCTC will encourage implementing and local agencies to conduct or require project-specific hydrology studies for projects proposed to be constructed within floodplains to demonstrate compliance with applicable federal, state, and local agency flood-control regulations. These studies should identify project design features or mitigation measures that reduce impacts to either floodplains or flood flows such that the project is consistent with federal, state, and local regulations and laws related to development in the floodplain.

- ✓ **HW 3.11.9-2** MCTC will encourage implementing and local agencies to, the extent feasible and appropriate, prevent development in flood hazard areas that do not have appropriate protections.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the placement structures within a 100-year flood hazard, which would impede or redirect flood flows, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual

projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HW 3.11.10 – Inundation by seiche, tsunami, or mudflow.

Madera County is outside of the areas of California at risk for tsunamis, as mapped by the California Department of Conservation, so impacts from tsunamis are not analyzed. The 2022 RTP/SCS would have no impact on inundation by tsunamis. Large enclosed or partially enclosed water bodies are susceptible to seiche. Seiche can be caused by several factors including tsunami, earthquake, and wind. No state or federal regulations exist related to seiches. Given the absence of tsunamis and low level of earthquake risk in Madera County, there is a low probability of seiche occurrence in the plan area. While the probability of seiches remain low, the impact of the 2022 RTP/SCS is less than significant. Any development constructed adjacent to unstable slopes would be susceptible to mudflows. Current state and local design standards require slope stabilization that would reduce the possibility for mudflows. When water rapidly accumulates in the ground, during heavy rainfall or rapid snowmelt, mudflows can develop. No state or federal mapping of mudflows exists. At the program-level, the 2022 RTP/SCS would not significantly increase the exposure of people and structures to seiche, tsunami or mudflow. Therefore, the land use and transportation impacts associated with implementation of the RTP/SCS at the regional level are considered less than significant. No mitigation is required.

Mitigation Measures

Not applicable.

Significance After Mitigation

Not applicable.

3.12 LAND USE AND PLANNING & RECREATION

This section of the EIR contains an overview of land use regulations in Madera County. It also discusses existing land uses and potential impacts that may result from implementation of the Project (2022 RTP/SCS). This section also discusses the potential impacts to existing neighborhood and regional parks or other recreational facilities. City and county governments provide the most direct regulation of land use and development in the County, but federal and state levels of government also participate in land use regulation and planning for the County. The following paragraphs provide definitions of relevant land use regulations.

Regulatory Setting

Federal Regulations

- ✓ **National Environmental Policy Act (NEPA)** - The National Environmental Policy Act (NEPA) provides general information on effects of federally funded projects. The act was implemented by regulations included in the Code of Federal Regulations (40CFR6). The code requires careful consideration concerning environmental impacts of federal actions or plans, including projects that receive federal funds. The regulations address impacts on land uses and conflicts with state, regional, or local plans and policies, among others. They also require that projects requiring NEPA review seek to avoid or minimize adverse effects of proposed actions, and also to restore and enhance environmental quality, as much as possible.
- ✓ **United States Department of Transportation Act of 1966, Section 4(f)** - Section 4(f) of the United States Department of Transportation Act requires a comprehensive evaluation of all environmental impacts resulting from federal-aid transportation projects administered by the Federal Highway Administration, Federal Transit Administration, and Federal Aviation Administration that involve the use—or interference with use—of several types of land: public park lands, recreation areas, and publicly or privately owned historic properties of federal, state, or local significance. The Section 4(f) evaluation 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, in which case the project must include all possible planning to minimize harm to any park, recreation, wildlife and waterfowl refuge, or historic site that would result from the use of such lands. If there is a feasible and prudent alternative, a proposed project using Section 4(f) lands cannot be approved by the Secretary. 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.
- ✓ **Tribal Sovereignty** - There are several tribal sovereign lands in Madera County including Big Sandy Rancheria - Mono Indians, Cold Springs Rancheria - Mono Indians, and Table Mountain Rancheria -

Kechiye Yokutch Indians. The federal government considers tribal nations as “domestic dependent nations” and therefore they possess limited sovereignty compared to foreign nations. The relationship between tribal nations and state governments varies by state. But in California, the State has limited criminal and civil judicial authority of activity in these lands. In general, development projects on tribal land are not subject to state and local environmental regulations. However, some development activities may be subject to CEQA environmental review.

- ✓ **The Transfer Act of 1905** - The Transfer Act transferred the management of forest reserves from the Department of the Interior to the Department of Agriculture, Bureau of Forestry, later renamed the United States Forest Service (USFS).
- ✓ **Wilderness Act of 1964** – The Wilderness Act of 1964 provides for the protection and preservation of wilderness areas and facilitates the establishment of the National Wilderness Preservation System.
- ✓ **Federal Land Policy and Management Act (FLPMA)** -The FLPMA governs the way in which the public lands administered by the Bureau of Land Management are managed. The law was enacted in 1976 by the 94th Congress and is found in the United States Code under Title 43. The Federal Land Policy and Management Act phased out homesteading in the United States by repealing the pre-existing Homestead Acts.
- ✓ **Federal Highway Administration (FHWA) National Scenic Byways Program** - The FHWA National Scenic Byways Program, which was established in Title 23, Section 162 of the United States Code under the Intermodal Transportation Efficiency Act of 1991. The program is part of an effort that has been established to help recognize, preserve and enhance selected roads throughout the United States. As a component of the National Scenic Byways Program, the Bureau of Land Management (BLM) manages 54 BLM designated National Back Country Byways and approximately 60 National Scenic Byways cross into BLM lands. Additionally, the U.S. Forest Service (USFS) has also established a National Scenic Byways Program, which was established in 1995 under the Intermodal Transportation Efficiency Act of 1991 to indicate roadways of scenic importance that pass through national forests.
- ✓ **Fixing America’s Surface Transportation Act (FAST Act)** - Signed into law in December 2015, the Fixing America’s Surface Transportation (FAST) Act represents the first federal law in over a decade to provide long-term funding for surface transportation infrastructure planning and investment. The FAST Act provides over \$305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act builds on the previously enacted Moving Ahead for Progress in the 21st Century Act (Map-21), which assisted in addressing challenges facing

the U.S. transportation system and included provisions to make the Federal surface transportation system more streamlined, performance-based, and multimodal.

- ✓ **Clean Water Act of 1972 (CWA) and Endangered Species Act of 1973 (ESA)** - The Army Corps of Engineers, U.S. Fish and Wildlife Service (FWS), and U.S. Environmental Protection Agency (EPA), through enforcing the requirements of the CWA and ESA, have a significant influence on the location and yield of development in the region.
- ✓ **Federal Coastal Zone Management Act** - The Federal Coastal Zone Management Act is administered by the National Oceanic and Atmospheric Administration (NOAA) and provides for the management of the nation's coastal resources. The intention of the act is to "preserve, protect, develop, and where possible to restore or enhance the resources of the nation's coastal zone."

Federal Agencies

- ✓ **U.S. Bureau of Land Management (BLM)** - The U.S. Bureau of Land Management (BLM) manages large rural land areas, including land that is environmentally sensitive. The BLM governs uses that are allowed on land that it manages, striving to balance environmental protection and conservation goals with other uses, such as recreation and grazing.
- ✓ **U.S. Forest Service (USFS)** - The U.S. Forest Service (USFS) is responsible for the management and conservation of large areas of National Forest land. National forests are primarily managed for outdoor recreation uses (such as camping, hiking, fishing, hunting, skiing, and nature interpretation, among others) and for resource preservation by the USFS.
- ✓ **U.S. Fish and Wildlife Service (USFWS)** - The U.S. Fish and Wildlife Service (USFWS) administer the Federal Endangered Species Act (FESA), which designates critical habitat for endangered species. This enables USFWS to carry out its mission to conserve, protect, and enhance the nation's fish and wildlife and their habitats for the continuing benefit of people. Critical habitat areas cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The USFWS also manages a system of land and waters for the conservation of wildlife and associated ecosystems. These National Wildlife Refuges are primarily managed for the preservation and protection of unique or important resources and ecosystems.
- ✓ **U.S. Army Corps of Engineers (USACE)** - The U.S. Army Corps of Engineers (USACE) is responsible for administration of Section 404 of the Clean Water Act (CWA), which governs specified activities in waters of the United States, including wetlands. In this role, the USACE requires that permits be

obtained for projects whose plans would place structures, including dredged or filled materials, within navigable waters or wetlands, or result in alteration of such areas.

- ✓ **U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS)** - The Natural Resources Conservation Service (NRCS) maps soils and farmland uses to provide comprehensive information necessary for understanding, managing, conserving and sustaining the nation's limited soil resources. One of the NRCS' responsibilities is to manage the Farmland Protection Program, which provides funds to aid in the purchase of development rights to keep productive farmland in agricultural uses. Working through existing programs, USDA joins with state, tribal, and local governments, as necessary, to acquire conservation easements or other interests from landowners.
- ✓ **United States Environmental Protection Agency (EPA)** - The EPA is the primary federal agency charged with protecting human health and with safeguarding the natural environment: air, water, and land. EPA works to develop and enforce regulations that implement environmental laws enacted by Congress. EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Since 1970, the EPA has enacted numerous environmental laws including the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); and the Toxic Substances Control Act (TSCA).

State Regulations

- ✓ **California Environmental Quality Act (CEQA)** - CEQA defines a significant impact on the environment as a substantial, or potentially substantial, adverse change in the physical conditions within the area affected by the Project. Land use is a required impact assessment category under CEQA. CEQA documents generally evaluate land use in terms of compatibility with the existing land uses and consistency with local general plans and other local land use controls (zoning, specific plans, etc.).
- ✓ **California Endangered Species Act (CESA)** - The California Endangered Species Act prohibits "take" of any species that the commission determines to be an endangered species or a threatened species. Take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project-caused losses of listed species populations and their essential habitats.
- ✓ **Natural Community Conservation Planning Act of 1991, as Amended** - The Natural Community Conservation Planning Act of 1991, as amended in 2003, established the California Department of Fish

and Wildlife's (CDFW) Natural Community Conservation Planning (NCCP) program. The NCCP represents an unprecedented effort by the State of California, and other private and public partners, that take a broad-based ecosystem approach to the planning for the protection and perpetuation of the state's biological diversity. An NCCP identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. Additionally, NCCP participants are provided the necessary support, direction, and guidance by the CDFW and the U.S. Fish and Wildlife Service.

- ✓ **California Coastal Act of 1976** - The California Coastal Act established the California Coastal Commission (CCC), identified a designated California Coastal Zone, and established the CCC's responsibility to prepare and provide oversight for a Coastal Plan designed to provide protection and management of the Coastal Zone. Additionally, local jurisdictional authority that contain lands within the coastal zone are required to develop and comply with a coastal management plan.
- ✓ **California Land Conservation Act of 1965 (Williamson Act)** - The Williamson Act is the only established program that directly involves state government in an administrative or fiscal capacity. The Act creates an arrangement (contract) whereby private landowners voluntarily restrict their land to agricultural and compatible open space uses under a rolling ten-year contract. In return parcels are assessed for property tax purpose at a rate consistent with their actual use, rather than potential market value.
- ✓ **State Lands Commission Significant Lands Inventory** - The State Lands Commission is responsible for managing lands owned by the state, including lands that the state has received from the federal government. The Commission goes about protecting these lands and resources through balanced management, marine protection and pollution prevention, adaptation to climate change, and ensuring public access to these lands and waters.
- ✓ **Quimby Act** - The Quimby Act was established by the California State Legislature in 1965 and codified as California Government Code Section 66477. The Quimby Act allows the legislative body of a city or county, by ordinance, to require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative tract map or parcel map. Under the Quimby Act, requirements for parkland dedications are not to exceed three acres of parkland per 1,000 persons residing within a subdivision, and in-lieu fee payments shall not exceed the proportionate amount necessary to provide three acres of parkland, unless the amount of existing neighborhood and community parkland exceeds that limit.
- ✓ **State Public Park Preservation Act of 1971** - The primary instrument for protecting and preserving parkland is the State Public Park Preservation Act of 1971 (Pub. Resources Code, §§ 5400–5409). Under the Act, cities and counties may not acquire any real property that is in use as a public park for

any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

- ✓ **Enhanced Infrastructure Financing Districts** – Enhanced Infrastructure Financing Districts (EIFD) are separate government entities that are formed through a Joint Power Authority (JPA) consisting of cooperating cities, counties, and special districts. This allows for one or more EIFD to be created within a city or county and used to finance the construction or rehabilitation of a wide variety of public infrastructure and private facilities. An EIFD is permitted to fund these facilities and development with the property tax increment of those taxing agencies that consent. Additionally, a city or county is authorized to issue bonds following a 55 percent affirmative vote of the voters, for which only the district is liable.
- ✓ **Cortese-Knox-Hertzberg Local Government Reorganization Act of 2005**- The Cortese-Knox-Hertzberg Act establishes the process through which local agency boundaries are established and revised. The Act further establishes procedures for local government changes or organizations, including city incorporations, annexations to a city or special district, and city and special district consolidations. Additionally, each county must have a Local Agency Formation Commission (LAFCO), which is the agency that has the responsibility to create orderly local government boundaries, with the goal of encouraging “planned, well-ordered, efficient urban development patterns,” the preservation of open space lands, and the discouragement of urban sprawl.
- ✓ **Sustainable Communities Act of 2008 (Senate Bill 375)** – SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPO’s regional transportation plan. The California Air Resources Board (CARB), in consultation with MPO’s, will provide each affected region with reduction targets (based on 2005 levels) for per-capita GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO’s SCS or APS for consistency with its assigned targets.

This law also extends the minimum time period for the regional housing needs allocation cycle from five years to eight years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as “transit priority projects.”

Related to SB 375, the California Global Warming Solutions Act of 2006 (AB 32) requires California to reduce its GHG emissions to 1990 levels by the year 2020. The passage of Senate Bill (SB) in 2016 expanded on the mandate set forth in AB 32, requiring California to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030.

- ✓ **Caltrans Smart Mobility 2010: A Call to Action for the New Decade** - The Caltrans Smart Mobility plan responds to modern transportation challenges by providing new concepts and tools and presenting a program for putting these updates into action. The Smart Mobility helps to address the State mandate to find solutions to climate change, the need to reduce per capita vehicle miles traveled, demand for a safe transportation system that gets people and goods to their destinations, and the commitment to create a transportation system that advances social equity and environmental justice.

State Agencies

- ✓ **California Department of Transportation (Caltrans)** - Caltrans' jurisdiction includes the rights-of-way associated with state and interstate routes within California. Any work performed within a federal or state transportation corridor is subject to Caltrans regulations governing allowable actions and modifications to the right-of-way. Caltrans issues encroachment permits on land within their jurisdiction to ensure encroachment is compatible with the primary uses of the State Highway System, to ensure safety, and to protect the State's investment in the highway facility. The encroachment permit requirement applies to persons, corporations, cities, counties, utilities, and other government agencies.
- ✓ **California Department of Forestry and Fire Protection (CDF)** - The California Department of Forestry and Fire Protection (CDF) reviews and approves plans for timber harvesting on private lands. In addition, the CDF plays a role in planning development in forested areas as a part of its responsibility for fighting wild land fires.
- ✓ **California Department of Parks and Recreation (CDPR)** - The principal mission of the California Department of Parks and Recreation (CDPR) is to provide sites for a variety of recreational and outdoor activities to California residents and tourists. Natural resource management and protection is also a part of the mission of CDPR. Different park designations dictate the extent to which natural resources are a management priority; natural preserves, state parks, state reserves and state wilderness designations are terms, which indicate that an area has outstanding natural features. The CDPR is a trustee agency that owns and operates all state parks and participates in land use planning affecting state parkland.
- ✓ **California Department of Conservation** - In 1975, the Natural Resources Conservation Service (NRCS) began production of agricultural resource maps based on soil quality and land use. In 1982, the State

of California created the Farmland Mapping and Monitoring Program within the California Department of Conservation to carry on the mapping activity from the NRCS on a continuing basis. The California Department of Conservation also administers the Williamson Act for the conservation of farmland and other resource-oriented laws. The Williamson Act is designed to preserve agricultural and open space lands by discouraging their premature and unnecessary conversion to urban uses. Williamson Act contracts, also known as agricultural preserves, offer tax incentives for agricultural land preservation by ensuring that land will be assessed for its agricultural productivity rather than its highest and best uses.

- ✓ **State Lands Commission** - According to the State Lands Commission (SLC), when California was admitted to the Union, it acquired approximately 4 million acres of sovereign land underlying the State's navigable waterways, including the waters and underlying beds of rivers, lakes, streams, and sloughs. The SLC holds the lands subject to the Public Trust for commerce, navigation, fisheries, and open space preservation. The SLC has developed a list of State-owned and State Public Trust lands in Madera County. This list is incorporated by reference.

- ✓ **California Department of Fish and Wildlife (CDFW)** - The California Department of Fish and Wildlife (CDFW) is mandated to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. CDFW is required under the California Endangered Species Act, the California Native Plant Protection Act, the California Environmental Quality Act and the Natural Community Conservation Planning Act to conserve species through listing, habitat acquisition and protection, review of local land use planning, multi-species conservation planning, stewardship, recovery, research, and education. The CDFW protects rare, threatened and endangered species by managing habitats in legally designated ecological preserves or wildlife areas.

Local Controls

- ✓ **Local Agency Formation Commissions** - Under state law, each county must have a local agency formation commission (LAFCO). A LAFCO is the agency that carries responsibility for creating orderly local government boundaries, with the goal of encouraging "planned, well-ordered, efficient urban development patterns," the preservation of open space lands, and the discouragement of urban sprawl. A LAFCO typically consists of two county supervisors, two representatives of the county's cities, and one member of the public. Many LAFCOs also include one special district representative. While LAFCOs have no land use power, their actions determine which local government will be responsible for planning new areas.

LAFCOs address a wide range of boundary actions, including creation of spheres of influence for cities, adjustments to boundaries of special districts, annexations, incorporations, detachments of areas

from cities, and dissolutions of cities. The definition of a city's sphere of influence is frequently an indication of the city's ultimate boundaries. Since 1992, state law requires that incorporation of a new city must not financially harm the county and must result in a positive cash flow for the new city, a requirement that has slowed the rate of new city incorporation.

- ✓ **Airport Land Use Compatibility Plans** - State law encourages public access airports to develop Airport Land Use Compatibility Plans to be adopted by the County's Airport Land Use Commission (ALUC). The ALUC of Madera County adopted the Madera Yosemite International Airport Compatibility Land Use Plan in June 2012. The Plan provides guidance for ALUC review of proposed new airports and heliports, expansion and modification to these existing airports, and development of surrounding land uses.
- ✓ **San Joaquin Valley Blueprint Vision** - The San Joaquin Valley Blueprint plans for future population growth within the region. It displays a coordinated vision of Smart Growth principles related to land use, transportation, and resource planning. The Blueprint contains a discussion of the values and visions as developed in consultation with public feedback, goals, objectives, and performance measures based on the values and visions, and preferred and alternative growth scenarios.
- ✓ **Land Conservation Trust** - Land conservation trust is another type of organization devoted to protecting open space, agricultural lands, wildlife habitats, and natural resource lands. A land trust is a nonprofit organization that, as all or part of its mission, actively works to conserve land by undertaking or assisting in land or conservation easement acquisition, or by its stewardship of such land or easements. 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 Control Mechanisms - General Plans:** The most comprehensive land use planning for the County is provided by city and county general plans, which local governments are required by state law to prepare as a guide for future development. The general plan contains goals and policies concerning topics that are mandated by state law and others, which the jurisdiction may have chosen to include. Required topics are land use, circulation, housing, conservation, open space, noise, and safety. Local governments frequently choose to address other topics, including public facilities, parks and recreation, community design, and growth management, among others. City and county general plans must be consistent with each other, and County general plans must cover areas not included by city general plans (e.g., unincorporated areas). The 2022 RTP SCS was prepared considering the existing adopted and proposed draft general plans for each of the local jurisdictions. Table 3-56 provides a listing of those general plans that were considered during development of the RTP/SCS (SCS Moderate Growth Scenario) and the status of those general plans.

Specific and Master Plans: Specific or Master Plans are sometimes developed by a city or county to address smaller, more specific areas within its jurisdiction. These more localized plans provide for focused guidance for developing a specific area and contain development standards tailored to the area, as well as systematic implementation of the general plan.

TABLE 3-56
Adopted General Plans

Member Agency	Adopted General Plans
Chowchilla	2040 General Plan
Madera	2009 General Plan
Madera County	1995 General Plan

Zoning: The zoning code for a city or county is a set of detailed requirements that implement the general plan policies at the level of the individual parcel. The zoning code presents standards for different uses and identifies uses that are allowed in the various zoning districts of the jurisdiction. Since 1971, state law has required the city or county zoning code to be consistent with the jurisdiction’s general plan.

Recreation and Parks Master Plans: These plans outline projected needs and strategies for fulfilling those needs. The main purpose of the plans is to provide guidance for addressing preservation, use, development, and administration of recreation facilities. These policy and action documents ensure the preservation of the naturalistic environment, while providing developments to facilitate human enjoyment of the parks and recreation areas. Plans can target goals and future actions for a specific park or be generalized to a collection of parks in a larger system.

Bicycle, Pedestrian, and Trails Master Plans: Bicycle, Pedestrian, and Trails Master Plans are planning documents used to guide future development of a jurisdictions bicycle and pedestrian facilities. At a minimum these plans usually contain an inventory of existing facilities, a discussion of the plan’s goals, recommendations for new projects, and an implementation plan.

Environmental Setting

Existing Land Use Within the Region

Land uses throughout the region, as adopted by local cities and counties, are depicted in the various General Plan Land Use Maps prepared, adopted, and on file with the cities and the County and incorporated by reference.

✓ **Residential Land Use**

Madera County includes the Cities of Madera and Chowchilla, in addition to other smaller communities. As one moves away from urban centers, parcel sizes tend to become larger and more dependent upon livestock and agriculture. Urban residential zones are typically located within the incorporated cities and allow small lots and relatively higher densities. The largest residential category within the County is rural residential. This category permits one dwelling unit on parcels ranging from one acre to over twenty acres.

✓ **Commercial Land Use**

Commercial zoning categories also represent an important land use classification within the County. Commercial zoning is typically found in the urban centers and in suburban developments near large residential concentrations in order to allow for the provision of goods and services.

✓ **Industrial/Special Classifications**

Industrial areas are important to economic development in the County. Most of the industry uses are located within the urban and rural communities throughout the Madera region with a major industrial area positioned along SR 99.

✓ **Airports**

The City of Madera owns and operates the Madera Municipal Airport, which provides aviation services to approximately 88 fixed-base operators. The City of Chowchilla operates the Chowchilla Municipal Airport with 18 fixed-base operators. Fresno Yosemite International Airport (FYI or FAT) in Fresno County is the primary passenger airport facility in the region.

✓ **Agricultural**

Agricultural areas are found throughout the region and represent the largest existing land use type in the County. The agricultural base in this area is primarily grazing.

✓ **Open Space**

Open space areas are primarily found in the eastern portion of the County and are primarily under the jurisdiction of the State and federal government and represent the second largest existing land use in the County.

✓ **Unincorporated Areas**

Unincorporated areas of the County contain a population of approximately 72,702 persons, or 46.2 percent of Madera County's total population. In addition to large State and federally owned areas, several unincorporated communities are located in Madera County. These communities, as well as other unincorporated areas are governed by the Madera County General Plan adopted in 1995.

✓ **Recreation and Parks**

The Madera County Parks Unit operates and maintains six (6) park and recreational areas (lakes, campgrounds, etc.) throughout the County. The City of Madera maintains approximately 11 parks including two (2) regional parks. The City of Chowchilla oversees and maintains one (1) park. There are additional park and recreational areas throughout Madera County in the other neighboring smaller communities.

✓ **Bicycle and Pedestrian Trails**

There are several existing bikeways and trails within the City of Madera and the City of Chowchilla and throughout the County. The Cities of Chowchilla and Madera, and Madera County continue to be involved in implementing bicycle facilities. The City of Madera annually reserves a portion of its Local Transportation Fund (LTF) proceeds for the construction of bicycle and pedestrian facilities. These funds are used in conjunction with funds from the REMOVE, CMAQ, and State Active Transportation Program (ATP) programs to implement elements of the Madera Regional Active Transportation Plan (ATP) and local bike and pedestrian plans. Each of the local agencies offer citizens of Madera County opportunities to increase bicycle ridership through awareness and participation and encourage community members to commute to work and school on a bicycle or pedestrian trail instead of motor vehicles.

Land uses within each city and the County are governed by general plans, which designate appropriate land uses throughout the jurisdiction and define specific goals, policies and objectives. In general, most plans recognize existing land uses and determine acceptable uses for future development of land currently used for agriculture or open space. General plans consist of a number of elements, including land use, circulation, housing, conservation, open space, noise, and safety. The general plan must be comprehensive and internally consistent. Of particular importance is the consistency between the circulation and land use elements. The general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other public utilities and facilities must be consistent with the general distribution and intensity of land for housing, business, industry, open space, education, public areas, waste disposal facilities, agriculture, and other public and private uses.

Airport Land Use Commission

In each county containing a public use airport, an Airport Land Use Commission (ALUC) is required to assist local agencies in ensuring compatible land uses in the vicinity of existing or proposed airports; to coordinate planning at state, regional and local levels; to prepare and adopt an airport land use plan as required by Public Resources Code Section 21675; to review plans, regulations or locations of agencies and airport operators; and to review and make recommendations regarding the land uses, building heights, and other issues relating to air navigation safety and promotion of air commerce. The County of Madera is designated as the agency responsible for carrying out functions of the Madera County Airport Land Use Commission. The Commission's Airport Land Use Policy Plan provides the criteria for evaluating land use compatibility between proposed development in the vicinity of the County's public-use, general aviation airport facilities. There are two (2) public use airports; one in each of the cities of Madera and Chowchilla.

Future Land Use

It is anticipated that the future pattern of land uses will remain relatively constant at a countywide level. While urbanized areas will continue to increase in size, the number of acres utilized for development to accommodate the projected population increase is comparatively small. Table 3-57 provides the total population, housing unit and employment for the base year 2019 and for future Years 2035 and 2046. Table 3-58 identifies the total population, housing and employment for each of the growth areas for each of the analysis years including 2035 and the RTP horizon year of 2046. Table 3-59 lists the employment growth by employment sector for years 2010, 2020, 2035 and 2046. The cities of Madera and Chowchilla remain the predominant urban centers in Madera County, with the other communities in the County representing a second tier of urban land use.

TABLE 3-57
Housing and Employment Growth from Year 2019 to Year 2046

Year	Population	Households	Employment
2019	157,686	49,212	49,708
2035	187,842	60,892	61,439
2046	207,038	66,885	67,482

Source: State of California DOF & EDD, MCTC and Impact Sciences

TABLE 3-58
 Madera County Development Projections by Growth Area
 Years 2035 and 2046

Socioeconomic Factor	Year	Growth Area			Total
		Chowchilla	Madera	Madera County	
Population	2035	22,541	77,015	88,286	187,842
	2046	24,845	84,886	97,308	207,038
Housing	2035	5,098	20,932	32,827	60,892
	2046	5,488	22,608	36,743	66,885
Employment	2035	4,367	20,104	34,933	61,439
	2046	5,055	22,786	37,595	67,482

Source: MCTC Regional Traffic Model Socioeconomic Profile, U.S. Census, State of California DOF, Impact Sciences

The County's basic land use policy encourages the concentration of urban development in existing cities and infill of vacant land in urban areas to protect agricultural land, consistent with the 2022 RTP/SCS. For purposes of the 2022 RTP/SCS, focus of future growth and development consistent with the general plans was placed on in-fill and increased densities along major corridors and within activity centers. Figure 3-14 provides a graphic view of the development types representative of the preferred RTP/SCS scenario for the Madera County region.

The SCS encourages changes to the urban form that improve accessibility to transit, and create more compact development, thereby yielding a number of transportation benefits to the region. These include reductions in travel time, vehicle miles traveled (VMT), vehicle hours traveled (VHT), and vehicle hours of delay. The SCS only shows how future growth and development would be allocated to planned growth areas consistent with the general plans of the cities and the County of Madera.

Methodology

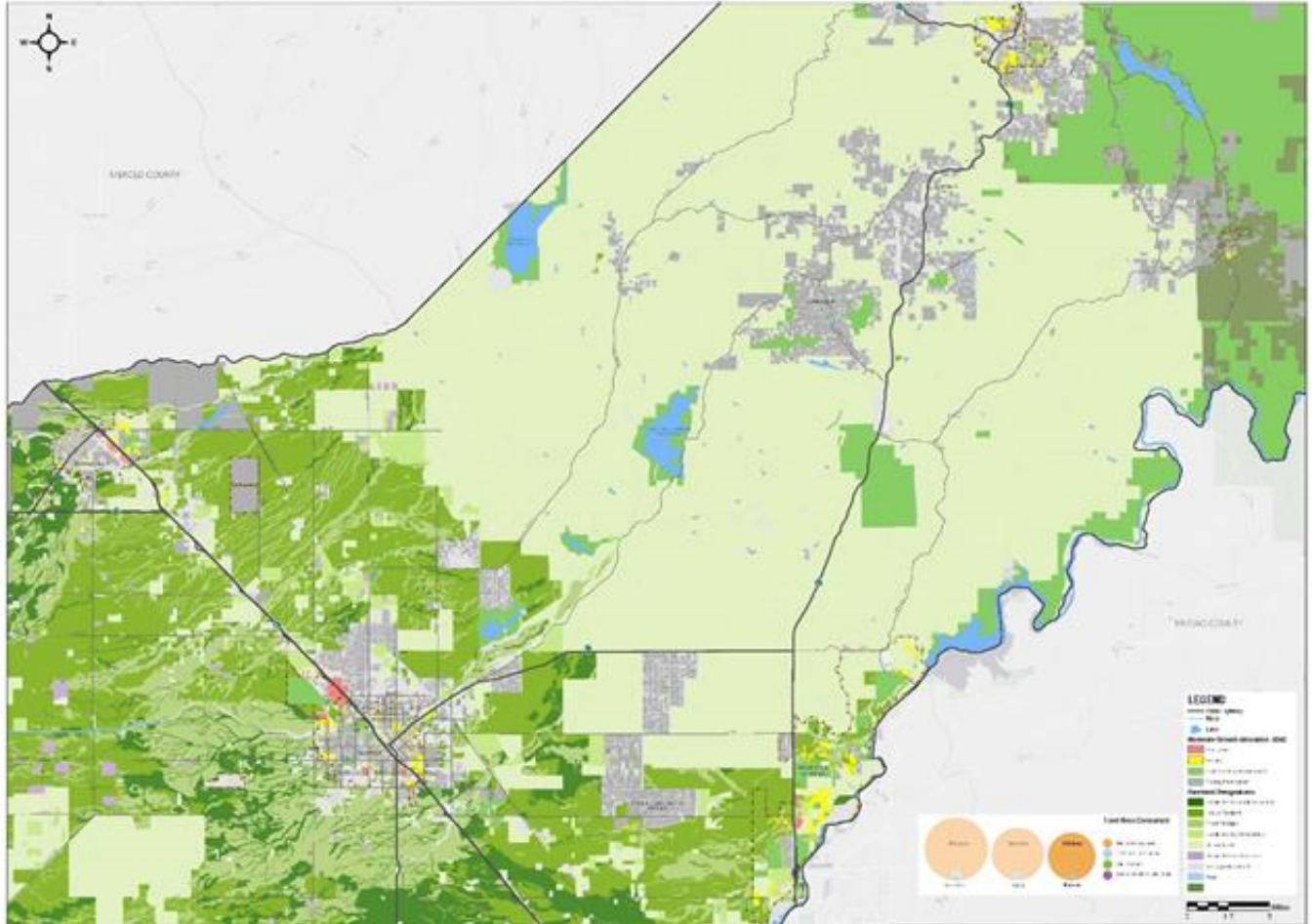
Those uses most likely to be affected by the construction and implementation of transportation and related projects are the focus of this land use analysis. Land use impacts are evaluated by identifying the land uses that could be affected by the projects. Because of the comprehensive land use planning information available in them, the general plans for cities and counties were used to identify projected land uses. Information contained in the general plans of cities and counties were the basis of the evaluation of potential impacts to agricultural and open space areas within the region. In addition to these resources, information from the California Department of Conservation was used to identify potential impacts to agricultural areas.

TABLE 3-59
Employment Growth Projections by Sector

Employment Sector	2010	2020	2035	2046
Agriculture, Forestry, Fishing and Hunting	15,501	10,790	10,521	10,426
Mining, Quarrying, Oil and Gas Extraction	2	13	41	59
Utilities	76	112	135	148
Construction	948	1,524	2,085	2,431
Manufacturing	2,290	3,598	4,978	5,818
Wholesale Trade	498	769	1,097	1,301
Retail Trade	2,122	4,078	5,050	5,650
Transportation and Warehousing	6,236	4,600	4,639	4,690
Information	353	491	650	747
Finance and Insurance	186	395	580	694
Real Estate, Rental and Leasing	313	410	512	570
Professional, Scientific and Technical Services	719	1,134	1,670	1,991
Management of Companies and Enterprises	2	8	16	20
Administrative & Support, Waste Management and Remediation Services	572	756	895	982
Educational Services	3,077	4,637	5,577	6,162
Health Care and Social Assistance	4,772	6,838	8,127	8,928
Arts, Entertainment and Recreation	1,729	594	958	1,177
Accommodation	715	736	1,322	1,677
Food Services	1,039	2,222	3,219	3,821
Other Services Except Public Administration	1,311	2,355	3,011	3,415
Public Administration	1,086	3,648	4,302	4,713
Total:	43,547	49,708	59,385	63,718

Source: U.S. Economic Census, the California DOF, the California EDD

FIGURE 3-14
 Development Types for Preferred Project



- ✓ Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- ✓ Conflict with any applicable habitat conservation plan or natural community conservation plan.
- ✓ 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.
- ✓ Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Impact LPR 3.12.1 – Physically divide an established community.

The 2022 RTP/SCS would have a potentially significant impact if it would physically divide an established community. For the purposes of this Draft EIR, established communities are defined as incorporated cities and unincorporated communities in Madera County. Impacts resulting from the construction of alternative transportation routes or future land use developments may potentially occur, as well as impacts resulting from the designation of new areas of open space that would create a physical separation between established community areas and/or restrict access between such areas. The 2022 RTP/SCS focuses growth and development to the existing cities and communities within the County based upon the adopted or draft general, specific and community plans (reference Table 3-55). As such, the potential to physically divide a community is not expected and the RTP would not be in conflict with existing or draft general plan policies.

Mitigation Measures

The specific impacts on land use and planning will be evaluated as part of the implementing agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **LPR 3.12.1-1** Individual transportation and future land use development projects will be consistent with local transportation system and land use plans and policies that designate areas for urban land use and transportation improvements, as identified by the agency with jurisdiction over said land(s).
- ✓ **LPR 3.12.1-2** Prior to final approval of each individual transportation improvement project and future land use development project, the implementing agency will conduct the appropriate transportation improvement project-specific and future land use development-specific environmental review, to

address impacts from land use and transportation system projects that may physically divide a community.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts that may physically divide a community, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact LPR 3.12.2 – Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the projects (Including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

The Project is in-line with current implementation agencies' adopted land use plans; however, should an agency make changes that reflect a differing development pattern, the Project could then have the potential to conflict with applicable adopted local land use plans and policies. Most of the improvement projects submitted for inclusion in the RTP, are developed through a local review process that involves local jurisdictions working with MCTC. In addition, the SCS scenario was developed considering the existing and proposed general plans for each of the local jurisdictions within the County. Table 3-55 provides a listing of the general plans within Madera County and their status. As shown, all of the general plans considered during development of the SCS were adopted. MCTC staff worked closely with the jurisdictions to develop the SCS to ensure consistency with general plan land use designations, transportation systems, and general plan update policies.

Strategies aimed at addressing the transportation needs and future growth patterns were considered during development of the proposed RTP/SCS. The document promotes alternatives to the automobile such as transit and other alternative modes of transportation such as bicycle facilities, trails, airport improvements, and others. In addition, the SCS includes a land use allocation process that provides for increased densities in support of alternative transportation systems. Implementation of strategies proposed in the RTP/SCS could result in positive changes to land uses. This would be considered a beneficial impact.

Implementation of transit improvements included in the Plan could influence land use patterns throughout the region as reflected in the SCS. Land use and transportation policies are emphasized in the RTP/SCS in order to address automobile traffic, and air quality and greenhouse gas emissions concerns. Growth patterns that promote alternatives to the automobile by creating mixed-use developments, which would include residences, shops, parks, and civic institutions, linked to pedestrian-and-bicycle friendly public transportation centers, are also discussed in the RTP/SCS. The program will establish transportation facilities in future land use developments to increase transit use and encourage higher density and mixed land use planning. Design features, such as improved street connectivity, public amenities, and a concentration of residences and jobs in proximity to transit routes could be incorporated into mixed-use developments; therefore, reducing automobile traffic and air quality concerns.

Implementation of enhanced alternative modes as provided by the RTP could result in more balanced land use conditions throughout the region as reflected in the SCS, as the mixed-use developments would result in a concentration of jobs and residences in close proximity to one another thus reducing commuter related VMT. The RTP encourages higher density and mixed-use developments, which in turn, creates a better job to housing ratio. The Town Center land use is the highest-intensity development type used in the SCS for the Madera County region. This type of land use is employment centric and provides jobs and services to the multi-family housing opportunities that are also incorporated within the land use.

While the RTP is likely to result in a positive outcome related to supportive land use conditions for alternative forms of transportation such as transit, other improvement projects and future land use developments in the RTP/SCS could have significant impacts on land use patterns, land use growth and development. This impact could be especially significant on recreational, open space, agricultural, and other land uses within the County.

Mitigation Measures

The specific impacts on land use and planning will be evaluated as part of the implementing agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **LPR 3.12.2-1** Individual transportation and future land use development projects will be consistent with local land use plans and policies that designate areas for urban and rural land use and preserve recreational, open space, and other lands.

- ✓ **LPR 3.12.2-2** Prior to final approval of each individual improvement project and future land use development project, the implementing agency will conduct the appropriate transportation improvement project-specific and future land use development-specific environmental review, including consideration of potential land use impacts.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce land use impacts, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact LPR 3.12.3 – Conflict with any applicable habitat conservation plan or natural community conservation plan.

The 2022 RTP/SCS is not expected to conflict significantly with Habitat Conservation Plans (HCPs), Natural Community Conservation Plans (NCCPs), or any other approved local, regional or state habitat conservation plan because all transportation projects would be required to comply with existing HCPs, NCCPs, and other approved conservation plans.

Mitigation Measures

The specific conflicts with existing HCPs, NCCPs, and other approved habitat conservation plans will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s).

Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, lead agencies wanting to tier to this PEIR for CEQA compliance on subsequent discretionary permits and approvals would be expected to include the mitigation measures referenced below (or a functional equivalent) as conditions of approval of their respective permits and approvals, as appropriate.

- ✓ **LPR 3.12.3-1** Consult with federal, state, and/or local agencies that handle administration of HCPs and NCCPs.
- ✓ **LPR 3.12.3-2** When feasible, the project will be designed in such a way that lands preserved under HCPs or NCCPs are avoided.
- ✓ **LPR 3.12.3-3** Sufficient conservation measures to fulfil the HCPs or NCCPs requirements be taken when avoidance is determined to be infeasible.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce conflicts with any HCPs, NCCPs, and other approved conservation plans. It is anticipated that the Projects presented in the RTP/SCS will be required to be in compliance with existing conservation plans, therefore the mitigation measures listed will be sufficient to ensure impacts remain below a significant level.

Impact LPR 3.12.4 – **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.**

The project would not increase the use of neighborhood and regional parks other than what is expected to occur because of increased population growth between 2022 and 2046 consistent with the general plans of each of the local jurisdictions. Each of those plans include the provision for additional parks and recreation facilities to accommodate future growth and development. The increase in population is also not expected to cause substantial physical deterioration of the region’s recreational facilities. The addition of transportation improvements does have the potential to impact existing recreational facilities because of widening for street and roads, bike lanes, or other transportation improvements. As a result, such improvements could have significant impacts on recreational facilities within the region.

Mitigation Measures

- ✓ **LPR 3.12.4-1** Reference Mitigation Measures for Impacts LPR 3.12.2-1 and -2.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project

area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce land use impacts, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact LPR 3.12.5 – 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.

The project would include recreational facilities to support growth and development consistent with adopted general plans within the County. Such plans may require the expansion of recreational facilities but are not expected to have any adverse physical effect on the environment. Each of those plans include the provision for additional parks and recreation facilities to accommodate future growth and development. The increase in population is also not expected to cause adverse physical effects on the region's environment. The addition of transportation improvements does have the potential to impact existing recreational facilities because of widening for street and roads or bike lanes and other transportation improvements. As a result, such improvements could have significant impacts on recreational facilities within the region.

Mitigation Measures

- ✓ **LPR 3.12.5-1 Reference Mitigation Measures for Impacts LPR 3.12.2-1 and -2.**

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce land use impacts, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

3.13 NOISE

This section provides information about the effects of noise from the Project (2022 RTP/SCS). The methodology and the criteria used to evaluate the significance of noise-related impacts as well as mitigation measures are discussed.

Regulatory Setting

In general, the federal government sets noise standards for transportation noise sources that are related to interstate commerce. These typically include aircraft, trains, and trucks. State governments establish noise standards for those sources not regulated by federal standards such as automobiles, light trucks, motorboats and motorcycles. Other noise sources associated with construction, as well as industrial, and commercial activities are usually regulated by noise ordinances and general plan policies, which are established by local jurisdictions.

Federal Regulations

The Federal Highway Administration (FHWA) has established noise abatement criteria that must be considered for the design of federal or federally funded highway projects. Federal regulations also set noise limits for medium and heavy trucks (over 4.5 gross tons). The federal standard for truck pass by noise at 15 meters (50 feet) is 80 dB from the vehicle pathway centerline. These standards are implemented through federal regulatory controls on truck manufacturers. Noise generated from aircraft operated in the United States is also subject to federal regulation, which is established by the Federal Aviation Administration (FAA). Aircraft manufacturers must comply with these regulations prior to certification of the aircraft. Similarly, locomotives are also subject to federal standards.

Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772) provides procedures for conducting highway project noise studies and implementing noise abatement measures to help protect the public health and welfare, supply Noise Abatement Criteria (NAC), and establish requirements for information to be given to local officials for use in planning and designing highways. Under this regulation, noise abatement must be considered for a Type I project if the project is predicted to result in a traffic noise impact. A traffic noise impact is considered to occur when the project results in a substantial noise increase or when the predicted noise levels approach or exceed the NAC specified in the regulation.

Title 23, Part 772 of the Code of Federal Regulations does not specifically define what constitutes a substantial increase or the term approach; rather, it leaves interpretation of these terms to the states. In California, a noise level is considered to approach the NAC for a given activity category if it is within 1 dBA of the NAC. A substantial noise increase is considered to occur when the project's predicted worst-hour design-year noise level exceeds the existing worst-hour noise level by 12 dBA or more. Before adoption of a final environmental document, Caltrans shall identify noise abatement measures that are feasible and reasonable as well as noise impacts for which no apparent solution is available. Noise abatement measures that are feasible and reasonable are then incorporated

into the project’s plans and specifications to reduce or eliminate the noise impact on existing activities, developed lands, or undeveloped lands for which development is planned, designed, and programmed. Table 3-60 summarizes the NAC.

TABLE 3-60
Noise Abatement Criteria

Activity Category	Activity $L_{eq}[h]^1$	Evaluation Location	Description of Activities
A	57	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 ²	67	Exterior	Residential.
C ²	67	Exterior	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meetings 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	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meetings rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E ²	72	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 The $L_{eq}[h]$ activity criteria values are for impact determination only and are not design standards for noise abatement measures. All values are A-weighted decibels (dBA).

² Includes undeveloped lands permitted for this activity category.

Source: FHWA 23 CFR 772

✓ **Department of Housing and Urban Development (HUD)**

HUD seeks to create quality affordable housing for all Americans and uses their platform to improve the quality of life. To achieve their goals and fulfill their mission, HUD has established its own exterior noise criteria for evaluating projects located in high noise areas (e.g., near an airport, road, or railroad).

HUD’s exterior noise criterion states that 65 dBA DNL noise levels or less are satisfactory for residential land uses. HUD’s criterion does not include standards for interior noise levels, but it is assumed that current construction/building code will provide sufficient attenuation such that, if the exterior noise level is 65 dBA DNL or less, the interior level will be 45 dBA DNL or less.

✓ **Federal Aviation Administration (FAA)**

Aircraft operated in the U.S. are subject to certain 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, considering the model year, aircraft weight, and number of engines. Pursuant to the federal Airport Noise and Capacity Act of 1990, the FAA established a schedule for complete transition to Part 36 "Stage 3" standards by year 2000. This transition schedule applies to jet aircraft with a maximum takeoff weight in excess of 75,000 pounds, and thus applies to passenger and cargo airlines, but not to operators of business jets or other general aviation aircraft.

Title 14, Part 150 of the CFR (14 CFR 150) promotes the creation of noise exposure maps by airports that show land uses incompatible with high noise levels. The Part 150 Program formulates voluntary participating that airports may utilize to conduct airport noise compatibility planning, to measure airport noise impacts, and identify incompatible land uses. It remains the responsibility of local authorities for determining the acceptable and permissible land uses and the relationship with specific noise contours.

Although the National Environmental Policy Act (NEPA) does not establish specific noise standards, the noise impacts of projects are routinely considered as one of the potential environmental consequences of federal actions subject to NEPA.

✓ **Federal Highway Administration (FHWA)**

The Federal Highway Administration (FHWA) uses a one-hour equivalent (time-average) sound level criteria of 67 dBA to determine when to consider noise barriers for new highway projects. Before building barriers, the FHWA requires that the project further qualify based on the cost and benefit of the barrier per protected home.

✓ **Federal Railroad Administration (FRA)**

The FRA, established by the Department of Transportation Act of 1966, was created to advance, and enforce rail safety regulations, manage railroad assistance programs, coordinate research and development of the continuous improvement of railroad safety and national rail policy, and to unite government support of rail transportation. Noise standards for the FRA are the same as those specified by the FTA.

✓ **Federal Transit Administration (FTA)**

The FTA, established by the Urban Mass Transportation Act of 1964, was tasked with providing federal assistance for mass transit projects. Its procedures to evaluate noise resulting from transit projects

are outline in the document titled, “Transit Noise Vibration Impact Assessment” (FTA, 2006). The three (3) categories of noise-sensitive land uses are the following:

- Category 1: buildings or parks where quiet is an essential element of their purpose:
- Category 2: residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.
- Category 3: institutional land uses with primarily daytime and evening use. This category includes schools, libraries, churches, and active parks.

✓ **Federal Vibration Policies**

The FHWA is responsible for noise standards associated with federally funded highway projects and for establishing procedures to evaluate these noise impacts to determine whether the impacts warrant noise abatement actions. The noise abatement criteria are based on worst hourly Leq sound levels. The Federal Railway Administration (FRA) and the Federal Transit Administration (FTA) have published guidance relative to vibration impacts. The FRA establishes noise standards for federally funded transit projects and the FTA establishes noise standards for federally funded rail projects. According to the FRA, fragile buildings can be exposed to groundborne vibration levels of 0.5 PPV without experiencing structural damage. The FTA has identified the human annoyance response to vibration levels as 80 VdB.

✓ **U.S. Environmental Protection Agency (US EPA)**

Established in 1969 (42 U.S. Code § 4321-4347), the U.S. EPA outlines indoor and outdoor noise limits to serve the overall public health and welfare. The Noise Pollution and Abatement Act of 1972 established a federal program for regulating noise pollution that could endanger the public health. The U.S. EPA was given the responsibility of over-seeing federal research and activities related to noise control as well as coordinating its programs with other federal agencies. The program lost its funding in 1981 and the regulation of noise pollution and standards has mainly become the responsibility of State and local agencies. However, the U.S. EPA is still responsible for coordinating the programs of all federal agencies and dealing with noise standards related to commerce.

State Regulations

The State sets standards for light trucks (less than 4.5 gross tons), passenger cars, and other motor vehicles as identified in the California Motor Vehicle Code. The State of California has also established additional noise standards to regulate freeway noise affecting schools and classrooms. Furthermore, the State has adopted noise insulation standards for multi-family residential units, hotels, and motels that are in areas subject to high levels of transportation-related noise.

✓ **California's Airport Noise Standards**

The State of California has the authority to establish regulations requiring airports to address aircraft noise impacts on land uses in their vicinities. The State of California's Airport Noise Standards, found in Title 21 of the *California Code of Regulations*, identify a noise exposure level of CNEL 65 dB 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.

✓ **California Department of Transportation (Caltrans)**

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State passby standard is consistent with the federal limit of 80 dB. The State passby standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dB at 15 meters from the centerline. For new roadway projects, Caltrans employs the Noise Abatement Criteria, discussed above in connection with FHWA. Caltrans provides agencies that fund construction or reconstruction projects with policies, procedures, and practices. Noise abatement criteria outlined in Caltrans' Traffic Noise Analysis Protocol is the same as those specified in 23 Code of Federal Regulations Section 772.

✓ **California Noise Insulation Standards**

The California Noise Insulation Standards found in the California Code of Regulations, Title 24, set requirements for new multi-family residential units, hotels, and motels that may be subject to relatively high levels of transportation-related noise. For exterior noise, the noise insulation standard is DNL 45 dB 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 noise levels greater than DNL 60 dB.

➤ High Speed Rail – Operations for the future High-Speed Rail project within Madera County are expected to increase railroad noise levels at locations in proximity to High-Speed Rail tracks. Figure 7 of the California High-Speed Train Project EIR/EIS for the Merced to Madera Region section indicates train noise may exceed 60 dB Ldn, Normally Acceptable noise levels, for new residential uses at locations exceeding one thousand (1,000) feet from the tracks.

✓ **Governor's Office of Planning and Research (OPR)**

The OPR is obligated to adopt and periodically revise the guidelines utilized to prepare the content of local general plans. The 2003 OPR General Plan Guidelines established noise/land use compatibility guidelines indicating Normally Acceptable noise levels for noise-sensitive land uses of up to 60 dBA

CNEL, Conditionally Acceptable from 60 to 70/75 dBA CNEL, and Normally Acceptable above 70 or 75 dBA CNEL.

✓ **State of California General Plan Guidelines**

The State of California General Plan Guidelines include recommended guidelines for noise elements of city and county general plans, and compliance is not required. However, many local agencies do base their noise elements on these guidelines which vary by land use type and are helpful when determining land use compatibility.

✓ **State Vibration Policies**

There are no adopted state policies or standards for ground-borne vibration. However, Caltrans recommends that extreme care be taken when sustained pile driving occurs within 7.5 meters (25 feet) of any building, and 15 to 30 meters (50 to 100 feet) of a historic building or a building in poor condition.

Local Regulations

The noise element and local noise ordinances are the two primary documents that local jurisdictions use to set noise standards in their community. A noise element is a required component of each jurisdiction's General Plan. The noise element is required to analyze the current and future noise levels associated with local noise sources, such as freeways and highways, major streets and arterials, rail operations, aviation activities and local industrial plants and develop noise contours for these sources using CNEL or Ldn.

The noise element also includes implementation measures and possible solutions for existing and potential noise problems. The noise elements of the cities and the County typically apply land use compatibility criteria of 60-65 dB Ldn as being normally acceptable for new residential developments affected by transportation noise sources. The intent of these standards is to provide an acceptable noise environment for outdoor activities. In addition, an interior noise level criterion of 45 dB Ldn is commonly applied to residential land uses. The intent of this standard is to provide a suitable environment for indoor communication and sleep. These criteria are consistent with the interior and exterior noise level standards applied by the Federal Department of Housing and Urban Development (HUD).

The above-described noise standards are commonly applied to new residential projects affected by transportation noise sources, rather than the increase in traffic noise levels resulting from regional growth, such as in this study. Nonetheless, the local noise criteria are included to provide a frame of reference by which the magnitude of existing and future traffic noise levels can be compared.

Major Noise Sources in Madera County

Noise sources are commonly grouped into two major categories: transportation and non-transportation noise sources. Transportation noise sources include surface traffic on public roadways, railroad line operations, and aircraft in flight. Non-transportation (or fixed), noise sources, commonly consist of industrial activities, railroad yard activities, small mechanical devices (lawnmowers, leaf blowers, air conditioners, radios, etc.), and other sources not included in the traffic, railroad, and aircraft category.

✓ **Traffic Noise**

The ambient noise environment in Madera County is defined by a wide variety of noise sources. The most pervasive source of noise in the region is traffic noise. With thousands of miles of roadways in the County, it is difficult to escape the sound of traffic. Traffic noise exposure is mainly a function of the number of vehicles on a given roadway per day, the speed of those vehicles, the percentage of medium and heavy trucks in the traffic volume, and the receiver's proximity to the roadway. Every vehicle passage on every roadway in the region radiates noise.

Existing high noise levels along major streets and highways are generally caused by traffic and congestion. Potential impacts along these facilities are generally classified as follows:

- Low - L_{dn} 59 dB or below
- Moderate - L_{dn} 60 dB to 65 dB
- High - L_{dn} 66 dB or greater

The potential for adverse noise impacts is generally moderate to high along most segments of State highways and is generally low to moderate along most segments of County streets and highways.

✓ **Rail Noise**

The region is also affected by freight and passenger railroad operations. While these operations generate significant noise levels in the immediate vicinity of the railroad tracks during train passages, these operations are intermittent, and the tracks are widely dispersed throughout the region. For these reasons, the contribution of railroad noise to the overall ambient noise environment in the County is relatively small.

The two main line rail operations in Madera County are the Union Pacific Transportation Company (UP) and the Burlington, Northern and Santa Fe (BNSF). Numerous freight train operations per day occur on the UP and BNSF lines that extend from their respective yards in Madera to points north and south of the County. There are approximately 14 daily train movements along the UP line in Madera County and approximately 46 daily train movements along the BNSF line including a total of 12 daily passenger rail operations.

High noise impacts can be expected within approximately 100 feet of the main line railroad tracks, moderate impacts from 100-700 feet, and low impacts at distances greater than about 700 feet. The above-noted impacts may be lesser or greater depending on site-specific factors such as soundwalls, grade crossings and topographic shielding. Insignificant noise impacts can be expected adjacent to the several branch lines in Madera County.

✓ **Airport Noise**

Madera County is home to two airports which include the Chowchilla Airport and the Madera Municipal Airport. In addition to the numerous daily aircraft operations, which originate and terminate at these airports daily, over flights of the area by aircraft not utilizing the regional airports frequently occur. All of these operations contribute in some degree to the overall ambient noise environment in the County. The intensity of aircraft noise exposure depends on one's proximity to the aircraft flight path, the type, speed, and altitude of airplane, as well as atmospheric conditions. The farther away the noise source is, the more the sound propagation from source to receiver is affected by weather.

Airport noise contours have been established for all airport facilities in the County and are consistent with the Federal Aviation Administration (FAA) Integrated Noise Model. In addition, noise contours for existing and future conditions at each of the airports are contained in plans or studies, including Airport Master Plans, Airport Land Use Compatibility Plan, Comprehensive Airport Land Use Plans, Airspace Plans, and Airport Layout Plans. Each of these plans or studies includes implementation goals, objectives, and policies and/or recommendations to lessen noise impacts.

✓ **Land Use Development Noise Sources**

There is a wide variety of industrial and other non-transportation noise sources in the County, including heavy industrial or manufacturing operations, power plants, food packaging and processing facilities, lumber mills, aggregate mining and processing plants, racetracks, shooting ranges, amphitheaters, and car washes, to name a few. Noise generated by these sources varies significantly, but can provide a greater contribution to the local ambient noise environment than traffic, depending on the nature of the noise source. Although non-transportation noise sources can define the ambient noise environment within a given distance to the noise source, the regional ambient noise environment is, nonetheless, defined primarily by traffic.

Environmental Setting

Noise is often described as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon. Researchers have generally agreed that A-weighted sound pressure levels (sound levels) are well correlated with subjective reaction to noise. Variations in sound levels over time are represented by statistical descriptors, and by time-weighted composite noise metrics such as the

Day/Night Average Level (Ldn). The unit of sound level measurement is the decibel (dB), sometimes expressed as dBA. Throughout this analysis, A-weighted sound pressure levels will be used to describe traffic and other noise sources. Typical indoor and outdoor noise levels are presented in Figure 3-19 (Common Environmental Sound Levels).

The following noise descriptors are used throughout this section:

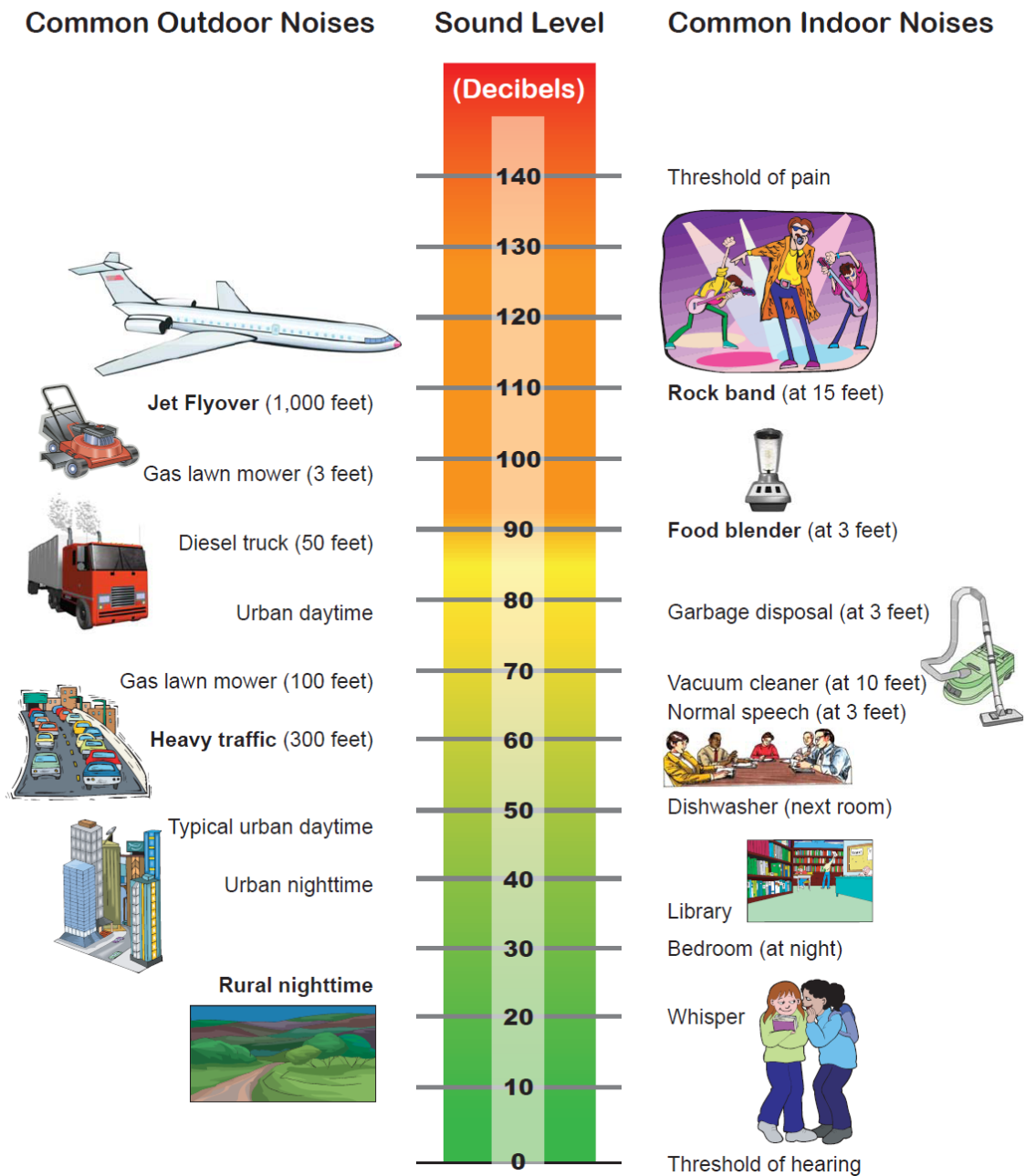
- ✓ Day-Night Average Noise Level (Ldn). Ldn is the average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.
- ✓ Energy-Equivalent Noise Level (Leq). Leq is the sound level containing the same total energy as a time varying signal over a given sample period. Leq is typically computed over 1, 8 and 24-hour sample periods.
- ✓ Community Noise Equivalent Level (CNEL). CNEL is the average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7 p.m. to 10p.m. and ten decibels to sound levels in the night before 7 a.m. and after 10 p.m.
- ✓ Decibel (dBA). A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micro-newtons per square meter).

Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard, and hence, are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called hertz (Hz) by international agreement. The speed of sound in air is approximately 770 miles per hour, or 1,130 feet/second. Knowing the speed and frequency of a sound, one may calculate its wavelength; the physical distance in air from one compression of the atmosphere to the next.

An understanding of wavelength is useful in evaluating the effectiveness of physical noise control devices such as mufflers and barriers, which depend upon either absorbing or blocking sound waves to reduce sound levels. Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold of 20 micropascals as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range.

The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in levels (dB) correspond closely to human perception of relative loudness.

FIGURE 3-17
 Common Environmental Sound Levels



The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighting the frequency response of a sound level measurement device (called a sound level meter) by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as sound levels in dB) and community response to noise. For this reason, the A-weighted sound pressure level has become the standard tool of environmental noise assessment.

Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptors such as Ldn and shows very good correlation with community response to noise.

The CNEL, like Ldn, is based upon the weighted average hourly Leq over a 24-hour day, except that an additional +4.8 decibel penalty is applied to evening (7:00 p.m. to 10:00 p.m.) hourly Leq values. The CNEL was developed for the California Airport Noise Regulations and is applied specifically to airport/aircraft noise assessment. For this reason, the Ldn descriptor, rather than CNEL, is used for the assessment of traffic noise levels in the County.

Noise in the community has often been cited as being a health problem, not in terms of actual damage such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities such as sleep, speech, recreation, and tasks demanding concentration or coordination. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases, and the acceptability of the environment for people decreases. This decrease in acceptability and the threat to public well-being are the bases for land use planning policies preventing exposure to excessive community noise levels.

To control noise from fixed sources, which have developed from processes other than zoning or land use planning, many jurisdictions have adopted community noise control ordinances. Such ordinances are intended to abate noise nuisances and to control noise from existing sources. They may also be used as performance standards to judge the creation of a potential nuisance, or potential encroachment of sensitive uses upon noise-producing facilities. Community noise control ordinances are generally designed to resolve noise problems on a short-term basis (usually by means of hourly noise level criteria), rather than on the basis of 24-hour or annual cumulative noise exposures.

Noise ordinance criteria are not applicable to traffic on public roadways. However, General Plan Noise Elements provide noise standards for new noise-sensitive land uses affected by transportation noise sources. General Plan Noise Elements frequently contain general noise mitigation measures for use in

reducing the potential for adverse noise impacts associated with the development of new noise-sensitive or noise-producing land uses.

For new noise-sensitive land uses affected by transportation noise sources, many jurisdictions consider land use compatibility criteria of 60 to 65 dB Ldn as being “normally acceptable” for such uses. Typical options for mitigation of excessive traffic noise levels include the use of setbacks or buffer areas between the roadways and the proposed noise-sensitive land use, noise barriers, residential unit design and improvements to building facade construction. Because many rural residential areas experience very low noise levels, residents may express concern about the loss of “peace and quiet” due to the introduction of a sound, which was not audible previously. In very quiet environments, the introduction of virtually any change in local activities will cause an increase in noise levels. A change in noise level and the loss of “peace and quiet” is the inevitable result of land use or activity changes in such areas. Audibility of a new noise source or increases in noise levels within recognized acceptable limits are not usually considered to be significant noise impacts, but these concerns should be addressed and considered in the planning and environmental review processes.

Vibration Characteristics and Effects

Groundborne vibration is the oscillatory motion of the ground above some equilibrium condition that could be described in terms of displacement, velocity, or acceleration. Because sensitivity to vibration typically corresponds to the amplitude of vibrating velocity within the low-frequency range (e.g., 5 to 100 Hertz), velocity changes are the preferred measure for evaluating groundborne vibration.

The most common measure used to quantify vibration amplitude is the Peak Particle Velocity (PPV). PPV is typically used in monitoring blasting and other types of construction-generated vibration, since it is related to the stresses experienced by building components. Although PPV is appropriate for evaluating building damage, it is less suitable for evaluating human response, which is better related to the average vibration amplitude. Therefore, groundborne vibration from equipment (e.g., trains, subways, earthmovers, graders, and bull dozers) is usually characterized in terms of the smoothed root mean square (rms) vibration velocity level. This is expressed in velocity decibels (VdB). VdB values are expressed in inches per second. The VdB is used to avoid confusion with sound decibels.

Ambient vibration levels in residential areas are typically 50 VdB, which is well below human perception. The operation of heating/air conditioning systems and slamming of doors produce typical indoor vibrations that are noticeable to humans. The most common exterior sources of ground vibration that can be noticeable to humans inside residences include construction activities, train operations, and street traffic.

Table 3-61 provides some common sources of ground vibration and the relationship to human perception. This information comes from the Federal Transit Administration’s “Basic Ground-Borne Vibration Concepts.”

TABLE 3-61
 Typical Levels of Ground-Borne Vibration

Human/Structural Response	Velocity Level, VdB	Typical Events (50 ft. Setback)
Threshold, minor cosmetic damage fragile buildings	100	Blasting from construction projects Bulldozers and other heavy tracked construction equipment
Difficulty with tasks such as reading a video or computer screen	90	Commuter rail, upper range
Residential annoyance, infrequent events (e.g commuter rail)	80	Rapid transit, upper range Commuter rail, typical
Residential annoyance, infrequent events (e.g rapid transit)	70	Bus or truck over bump Rapid transit, typical
Limit for vibration sensitive equipment. Approx. threshold for human perception of vibration	60	Bus or truck, typical
	50	Typical background vibration

Source: Federal Transit Administration

Despite the perceptibility threshold of about 65 VdB, human reaction to vibration is not significant unless the vibration exceeds 75 VdB according to the United States Department of Transportation.

California Department of Transportation's (Caltrans) Transportation and Construction-Induced Vibration Guidance Manual (2004) identifies thresholds for disturbance due to vibration: 0.2 inches per second for continuous vibration sources such as processing and excavation activities, and 0.9 inches per second for transient vibration sources such as blasting.

Noise Barriers

Shielding by barriers can be obtained by placing walls, berms or other structures between the traffic or other noise source and the receiver. The effectiveness of a barrier depends upon blocking line-of-sight between the traffic and receiver and is improved with increasing the distance the sound must travel to pass over the barrier as compared to a straight line from source to receiver. For a noise barrier to be effective, it must not only be sufficiently tall to intercept line of sight from noise source to receiver, but it must also be sufficiently long to reduce the potential for sound to flank around ends of the barrier. Barrier effectiveness depends upon the relative heights of the source, barrier and receiver. In general, barriers are most effective when placed close to either the receiver or the traffic or other noise source.

An intermediate barrier location yields a smaller path length difference for a given increase in barrier height than does a location closer to either source or receiver.

For maximum effectiveness, barriers must be continuous and relatively airtight along their length and height. To ensure that sound transmission through the barrier is insignificant, barrier mass should be about 4 lbs. /square foot, although a lesser mass may be acceptable if the barrier material provides sufficient transmission loss in the frequency range of concern. Satisfaction of the above criteria requires substantial and well-fitted barrier materials, placed to intercept line of sight to all significant traffic noise sources. Earth, in the form of berms or the face of a depressed area, is also an effective barrier material. There are practical limits to the noise reduction provided by barriers. For highway traffic noise, a 5 to 10 dB noise reduction may often be reasonably attained. A 15 dB noise reduction is sometimes possible, but a 20 dB noise reduction is extremely difficult to achieve. Barriers usually are provided in the form of walls, berms, or berm/wall combinations. The use of an earth berm in lieu of a solid wall will provide up to 3 dB additional attenuation over that attained by a solid wall alone, due to the absorption provided by the earth. Berm/wall combinations offer slightly better acoustical performance than solid walls and are often preferred for aesthetic reasons.

Noise barriers currently exist or are planned in many areas of the County adjacent to the state highways or existing development to shield noise. In cases of new residential development adjacent to a major roadway in the County, the responsibility for noise mitigation is placed on the individual improvement project developer. In such cases, noise barriers are commonly constructed just inside the highway right

of way. In other cases, local jurisdictions and Caltrans have built barriers as part of roadway improvement projects or barrier retrofit programs.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

The impacts of the Project were analyzed considering implementation of the proposed 2022 RTP, including changes to the transportation network and land uses, may impact the noise environment. This noise analysis evaluates the noise impacts of the Project by comparing predicted traffic noise levels for the proposed Project to the 2019 Base Year model scenario provided by MCTC.

Criteria for Significance

The following significance criteria were used to determine the level of significance of impacts of transportation improvement projects or land uses proposed by the Project. Significance criteria were developed based on Appendix G of the State CEQA Guidelines. In general, an individual improvement project and new development project contained within the RTP/SCS would result in a significant noise impact if it would result in:

- ✓ Generation of 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.
- ✓ Generation of excessive ground-borne vibration or ground-borne noise levels.
- ✓ 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.

Generally, proposed projects are of the following two types:

- ✓ New Systems (new highway and transit facilities).
- ✓ Modifications to Existing Systems (widening roads, addition of carpool lanes, grade crossings, intelligent transportation systems, maintenance, and service alterations).

Methodology

Since noise is a highly localized impact, specific and detailed analyses are most appropriate at the individual improvement project and new development project level. Subsequent project specific EIRs will be required to further analyze the transportation improvements or new development proposed by the Project to determine the magnitude of noise and vibration impacts, and to identify appropriate potential mitigations for each individual improvement or new land use development project.

Impact N 3.13.1 - Generation of 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.

Noise-sensitive land uses could be exposed to noise in excess of normally acceptable noise levels and/or could experience substantial increases in noise as a result of the operation of expanded or new transportation facilities (i.e., increased traffic resulting from new highways, addition of highway lanes, roadways, ramps, and new transit facilities as well as increased use of existing transit facilities, etc.) and future noise generating land use developments.

At the regional scale, the noise impacts of new highways, highway widening, new HOV lanes, new transit corridors, increased frequency along existing transit corridors, and noise generating future land use developments such as heavy manufacturing plants and other uses are generally expected to exceed the significance criteria when they occur near sensitive receptors. For comparison purposes, noise levels along the busiest portions of the SR 41 corridor within Madera County was evaluated. Existing traffic noise levels were gathered using an Extech Type 2 sound level meter datalogger during the PM peak hour. Noise monitoring was conducted during the PM peak hour because traffic counts in along SR 41 show a greater volume of traffic in the PM peak hour than the AM peak hour.

Existing traffic noise levels were then evaluated using the FHWA Traffic Noise Model (TNM 3.1) (reference Appendix C of this Draft PEIR). Traffic volumes collected from the model runs prepared for the 2022 RTP and posted vehicle speed limits along SR 41 were entered into the model to estimate noise levels at receptors adjacent to the corridor. As shown in Table 3-62, the noise levels determined in the field along SR 41 was 60.0 Leq(h) dBA.

TABLE 3-62
SR 41 Noise Analysis

Receptor I.D. No.	Location	Existing Noise Level Leq(h) dBA	Existing Noise Level Modeled Leq(h) dBA	K - Factor (Measured - Modeled = K)	2019 Base Model Noise Level Leq(h) dBA	2046 Project (2022 RTP/SCS) Noise Level Leq(h) dBA
1	Business 41 - 250 feet from SR 41 Centerline	60.0	70.0	-10.0	60.0	63.0

Source: VRPA, 2022

The impacts of the 2022 RTP were analyzed considering the 2019 Base Year Model and the 2046 Plus Build (2022 RTP/SCS) conditions. Table 3-62 shows the predicted noise levels at the noise receptors evaluated under existing conditions. Results of the analysis show that noise levels under the 2046 Plus Build (2022 RTP/SCS) are projected to increase by 3.0 dBA's along SR 41 when compared to the 2019 Base Year Model. When it comes to noise levels, the Ldn is determined to be within +/- 2 dBA of the peak hour Leq under normal traffic conditions based upon Caltrans' Traffic Analysis Noise Protocol. Typical noise standards for

residential land uses for local jurisdictions have a maximum noise level of 60 to 65 Ldn/CNEL. Therefore, impacts may occur if residential land uses are determined to be within 200 feet of SR 41 and no noise abatement improvements currently exist to shield the residential land uses from traffic noise.

Mitigation Measures

The specific impacts on noise will be evaluated as part of the implementing agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **N 3.13.1-1** As part of the implementing agency's appropriate environmental review of each project, a project specific noise evaluation shall be conducted, and appropriate mitigation identified and implemented.
- ✓ **N 3.13.1-2** Implementing agencies should employ, where their jurisdictional authority permits, land use planning measures, such as zoning, restrictions on development, site design, and use of buffers to ensure that future development is compatible with adjacent transportation facilities and other noise generating land uses.
- ✓ **N 3.13.1-3** Implementing agencies shall, to the extent feasible and practicable, maximize the distance between noise-sensitive land uses and new roadway lanes, roadways, rail lines, transit centers, park-and-ride lots, and other future noise generating facilities.
- ✓ **N 3.13.1-4** Implementing agencies should construct sound reducing barriers between noise sources and noise-sensitive land uses. Sound barriers can be in the form of earth-berms or soundwalls. Constructing roadways so as appropriate and feasible that they are depressed below-grade of the existing sensitive land uses also creates an effective barrier between the roadway and sensitive receptors.
- ✓ **N 3.13.1-5** Implementing agencies shall, to the extent feasible and practicable, improve the acoustical insulation of dwelling units where setbacks and sound barriers do not sufficiently reduce noise.
- ✓ **N 3.13.1-6** Implementing agencies shall implement, to the extent feasible and practicable, speed limits and limits on hours of operation of rail and transit systems, where such limits may reduce noise impacts.
- ✓ **N 3.13.1-7** Passenger stations, central maintenance facilities, decentralized maintenance facilities, and electric substations should be located away from sensitive receptors.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact N 3.13.2 – Generation of excessive ground-borne vibration or ground-borne noise levels.

Construction activity, as described above, can result in ground vibration, depending upon the types of equipment used. Operation of construction equipment causes ground vibrations which spread through the ground and diminish in strength with distance from the source generating the vibration. Ground vibrations as a result of construction activities very rarely reach vibration levels that will damage structures but can cause low rumbling sounds and feelable vibrations for buildings very close to the site. Construction activities that generally create the most severe vibrations are blasting and impact pile driving.

Ambient vibration levels in residential areas are typically 50 VdB, which is well below human perception. The operation of heating/air conditioning systems and slamming of doors produce typical indoor vibrations that are noticeable to humans. The most common exterior sources of ground vibration that can be noticeable to humans inside residences include constructions activities, train operations, and street traffic. Table 3-63 above provides some common sources of ground vibration and the relationship to human perception. This information comes from the Federal Transit Administration’s “Basic Ground-Bourne Vibration Concepts.”

In order to estimate the impact of vibrations from construction activities as a result of the expanded or new transportation facilities or future land use development included in the 2022 RTP/SCS, the following formula was applied to evaluate ground vibration at a distance of 150 feet from the construction site.

$$Lv(D) = Lv(25 \text{ ft}) - 20 \log (D/25)$$

Using the highest vibration level shown in Table 3-63 (Lv 87) from construction related activities and the formula shown above, the anticipated vibration level at 150 feet from the construction area is 71 VdB. Based on Table 3-62 above, vibration levels above 80 VdB would be considered excessive and would need to be mitigated. Therefore, at a distance of 150 feet from a construction area, the vibration levels would not be considered significant given the data provided in Table 3-63. The approximate vibration level at 50

feet from the construction area would generate vibration levels above 80 VdB based on the equipment listed in Table 3-63.

Mitigation Measures

- ✓ **N 3.13.2-1** Mitigation measures identified to address Impact 3.13.1 shall be applied to address impacts associated with Impact 3.13.2.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible.

Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

TABLE 3-63
Vibration Source Levels for
Construction Equipment

Equipment	PPV at 25 ft (in/sec)	Approximate L _v * at 25 ft
Large bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

* RMS velocity in decibels (VdB) re 1 minch/second

Impact N 3.13.3 – 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.

Madera County is home to two airports which include the Chowchilla Airport and the Madera Municipal Airport. In addition to the numerous daily aircraft operations, which originate and terminate at these airports daily, over flights of the area by aircraft not utilizing the regional airports frequently occur. Airport noise contours have been established for all airport facilities in the County and are consistent with the FAA Integrated Noise Model.

Generally, proposed projects are of the following two types:

- ✓ New Systems (new highway and transit facilities).
- ✓ Modifications to Existing Systems (widening roads, addition of carpool lanes, grade crossings, intelligent transportation systems, maintenance, and service alterations).

During the construction of new highway and transit facilities or the modification of an existing system near one of the airports in Madera County, it is possible that construction workers will be temporarily exposed to excessive noise levels. Though construction activities are intermittent and temporary, there is the potential for workers to be subject to excessive noise levels if any construction activities are near or adjacent to any of the airports within Madera County.

Mitigation Measures

The specific impacts on noise will be evaluated as part of the implementing agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **N 3.13.3-1** Compliance with Occupational Safety and Health Administration's (OSHA) hearing conservation amendment. The Permissible Exposure Level (PEL) is defined as an 8-hour time-weighted average sound level of 90 dBA integrating all sound levels from at least 90 dBA to at least 140 dBA. Project implementing agencies will comply with all local sound control and noise level rules, regulations, and ordinances.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements

rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

3.14 POPULATION, HOUSING & EMPLOYMENT

This section provides information about population, housing, and employment in Madera County. CEQA defines population impacts to include changes to the location, distribution, density, or growth rate of the human population, while housing impacts relate to alterations in existing housing or the creation of demand for additional housing. The environmental setting and methodology used to evaluate the potential impacts of projects and future land use development associated with implementation of the Project are described. The criteria used to evaluate the significance of those impacts, potential impacts resulting from those projects, and mitigation measures are discussed.

Regulatory Setting

Federal Regulations

- ✓ **The Civil Rights Act of 1964** - The Civil Rights Act of 1964, Title VI prohibits discrimination based on race or national origin by government agencies that receive federal funds. The power to enforce the legislation was relatively weak at the time of its enactment and was later strengthened in subsequent legislation.
- ✓ **The Civil Rights Act of 1968** - The Civil Rights Act of 1968, Title VIII is commonly referred to as the Fair Housing Act and expanded on the previous Civil Rights Acts by prohibiting discrimination in the sale, rental, and financing of housing based on race, religion, national origin, gender, familial status, and disability.
- ✓ **The Architectural Barriers Act of 1968** - The Architectural Barriers Act (ABA) of 1968 requires that facilities designed, constructed, altered, or leased using federal funds must be accessible to the public, including those with disabilities. Facilities constructed prior to this legislation are exempt, however, alterations or leases pursued post-legislation may be required to comply.
- ✓ **Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970** - The Uniform Relocation Assistance and Real Property Acquisition Policies Act (URA) of 1970 was enacted to ensure fair treatment of individuals displaced by federally funded or federally assisted programs. This Act has been amended several times, but it provides for rules regarding the compensation for federal eminent domain.
- ✓ **The Education Amendments Act of 1972** - The Education Amendments Act of 1972, Title IX prohibits discrimination based on sex for any education program receiving federal financial assistance.

- ✓ **The Rehabilitation Act of 1973** - The Rehabilitation Act of 1973 prohibits discrimination based on disability for all programs conducted by federal agencies, programs receiving federal financial assistance, federal employment, and employment practices of federal contractors.
- ✓ **The Housing and Community Development Act of 1974** - The Housing and Community Development Act of 1974 prohibits discrimination based on race, national origin, gender, and religion for programs receiving financial assistance from HUD's Community and Development Block Program. It amended the Housing Act of 1937, which established Section 8 housing.
- ✓ **Age Discrimination Act of 1975** - The Age Discrimination Act of 1975 prohibits discrimination based on age for all programs receiving federal financial assistance.
- ✓ **The Americans with Disabilities Act of 1990** - The Americans with Disabilities Act (ADA) of 1990 is similar to the Civil Rights Act of 1964 in that it provides similar protections against discrimination. The ADA prohibits discrimination on the basis of disabilities under certain circumstances. Disabilities are determined on a case-by-case basis. Title II of the ADA prohibits discrimination based on disability and applies to all public agencies at the local and State level, public transportation provided by public agencies, and local and State public housing.
- ✓ **The Native American Housing Assistance and Self Determination Act of 1996** - The Native American Housing Assistance and Self Determination Act (NAHASDA) of 1996 was enacted to improve the condition of infrastructure on Native American lands by creating a new HUD block grant program responsible for tribal housing.
- ✓ **Native American Housing Enhancement Act of 2005** - The Native American Housing Enhancement Act of 2005 amends the Native American Housing Assistance and Self Determination Act of 1996 and the Cranston-Gonzalez National Affordable Housing Act of 1990 to improve housing programs for tribes through increased housing grant opportunities.
- ✓ **Title 23 CFR 450.322(e)** - The Code of Federal Regulations, Title 23 CFR 450.322(e) requires that the metropolitan planning organization (MPO) update the regional transportation plan using current available forecasts and assumptions for population, land use, employment, and other trends.
- ✓ **Indian Veterans Housing Opportunity Act of 2010** - The Indian Veterans Housing Opportunity Act of 2010 amended the Native American Housing Assistance and Self Determination Act of 1996 to exclude from consideration as income funds received by a family from the Department of Veteran Affairs for service-related disabilities.

- ✓ **Moving Ahead for Progress in the 21st Century (MAP-21)** - The Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law in July 2012 and reauthorized the federal highway and public transportation programs for fiscal years 2013 and 2014 for a total of \$105 billion, holding funding flat relative to prior years. However, the bill marks a notable departure from prior surface transportation acts in several respects, most notably its short duration, elimination of earmarks, consolidation of programs, and introduction of performance measures into the federal transportation policy framework. While the bill retains many of the larger highway and transit programs of its predecessor—the Safe Accountable, Flexible, Efficient Transportation Equity Act, A Legacy for Users known as SAFETEA—LU, eliminates almost 100 smaller programs and distributes a much larger share of funds by formula (93 percent compared to 83 percent under SAFETEA-LU).

- ✓ **Fixing America’s Surface Transportation (FAST) Act** - On December 4, 2015, President Obama signed the [Fixing America’s Surface Transportation \(FAST\) Act](#) (Pub. L. No. 114-94) into law—the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act authorizes \$305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act maintains our focus on safety, keeps intact the established structure of the various highway-related programs we manage, continues efforts to streamline project delivery and, for the first time, provides a dedicated source of federal dollars for freight projects. With the enactment of the FAST Act, states and local governments are now moving forward with critical transportation projects with the confidence that they will have a federal partner over the long term.

On September 30, 2021, the law authorizing the FAST Act, as extended for one year after 2020, had expired. Therefore, President Biden signed a measure voted by Congress to extend transportation funding programs for a month while Congress debated an a more comprehensive and extensive bill that invests in America’s infrastructure.

- ✓ **Executive Orders** - Executive Orders 11063, 11246, 12892, 12898, 13166, and 13217 further prohibit discrimination based on a variety of criteria.

- ✓ **Federal Uniform Act** - The Uniform Act establishes standards for federally funded projects and programs that demand the attainment of real estate or dislocation of persons from their farms, businesses, or homes. The Uniform Act implements protections and assistance in the instances of the acquisition, restoration, or destruction of real estate for federally funded projects.

State Regulations

- ✓ **Fair Employment and Housing Act of 1959** - The Fair Employment and Housing Act of 1959 prohibits discrimination in housing based on race, religion, sexual orientation, marital status, national origin, ancestry, disability, or source of income.
- ✓ **The Unruh Civil Rights Act of 1959** - The Unruh Civil Rights Act of 1959 prohibits discrimination based on sex, race, religion, ancestry, national origin, disability, medical condition, marital status, or sexual orientation and applies to all businesses.
- ✓ **California Government Code, Section 65008** - California Government Code, Section 65008 prohibits any government agency from denying an individual the enjoyment of residence, landownership, tenancy, or any other land use. It also prohibits the discrimination against residential development or emergency shelters if the intended population is low income.
- ✓ **California Constitution, Article 34, Public Housing Project Law** - Article 34 of the California Constitution, the Public Housing Project Law, states that a low rent housing project cannot be developed, constructed, or acquired by any public agency unless it passes a majority vote of the electorate.
- ✓ **California Building Standards Code** - The California Building Standards Code is Title 24 of the California Code of Regulations (CCR) and is a compilation of building criteria from three (3) different sources maintained by the California Building Standards Commission (BSC). The sources consist of national codes adopted by State agencies without change, national codes that have been modified and adapted to meet State conditions, and additional codes (not covered by national codes) that address specific State concerns. Since 1989, the BSC has published Title 24 every three (3) years, called the triennial editions. The last triennial edition was published in 2019.
- ✓ **California Transportation Commission Regional Transportation Plan Guidelines** - Assembly Bill (AB) 69 was passed in 1972 and required the State to establish Regional Transportation Planning Agencies (RTPA) throughout the State to prepare Regional Transportation Plans (RTP). The Madera County Transportation Commission (MCTC) is the designated RTPA for Madera County. MCTC is required to submit an updated RTP to the California Transportation Commission (CTC) and Caltrans every 4 years. The CTC has established guidelines to assist RTPAs in preparing the RTPs. These guidelines recommend that RTP projections be based on available data and forecasting methodologies while being consistent with Department of Finance (DOF) projections. The guidelines were updated in 2010 to include requirements of Senate Bill (SB) 375.

- ✓ **California Relocation Assistance Act** - The California Relocation Assistance Act of 1971 is similar to the Uniform Relocation Assistance Act of 1970 (federal). However, it applies to State and local programs and projects that receive State funding, regardless of whether they receive federal funding.
- ✓ **Homeowners and Private Property Protection Act of 2008** - Proposition 99, the Homeowners and Private Property Protection Act, was approved by voters in 2008. Proposition 99 amended the State Constitution and prohibits local agencies from using eminent domain to acquire owner-occupied residences and transferring it to private entities.
- ✓ **California Government Code, Sections 65580 and 65589** - California Government Code, Sections 65580 and 65589 specify the State Housing Element requirements. The Housing Element is one of the State-mandated elements of the General Plan and is updated every eight (8) years. The legislation requires agencies to prepare and adopt the Housing Element and the State Department of Housing and Community Development (HCD) is responsible for reviewing Housing Elements to ensure compliance with State law.
- ✓ **Senate Bill 375 – The Sustainable Communities and Climate Protection Act of 2008** - Senate Bill (SB) 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets established under Assembly Bill (AB) 32 (California Global Warming Solutions Act), and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable community strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPO’s regional transportation plan. The California Air Resources Board (CARB), in consultation with MPOs, will provide each affected region with reduction targets (based upon 2005 levels) for per-capita GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO’s SCS or APS for consistency with its assigned targets. CARB set targets for 2020 and 2035 for each of the 18 metropolitan planning organization regions in 2010 and updated them in 2018.

This law also extends the minimum time period for the regional housing needs allocation cycle from five (5) years to eight (8) years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as “transit priority projects.”

- ✓ **California Housing Element Law of 1969** - The California Housing Element Law requires regional councils of government in California to evaluate existing and projected regional housing needs for individuals of all income levels. Each governing body is required to adopt a comprehensive, long-term general plan for the development of area within their jurisdiction. This law mandates that each governing body plans adequately to meet future and present housing needs among all income levels as part of the Housing Element, one of the mandated elements of the local general plan. Requirements for the Housing Element are outlined in California Government Code Section 65580-65589.9.
- ✓ **Senate Bill 862- Greenhouse Gases Emission Reduction** - In 2014, Senate Bill 862 implemented long-term cap and trade funding programs for transit, sustainable communities and affordable housing, and high-speed rail. It allocates 60 percent of ongoing cap and trade revenues to these programs beginning in 2015-2016. A minimum of 25 percent of these funds will be allocated to projects that provide benefits to disadvantaged communities, and a minimum of 10 percent must go to projects within those communities.
- ✓ **Assembly Bill 32 (California Global Warming Solutions Act of 2006)** - California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599), which established regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and established a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions sufficient to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions. AB 32 requires California to reduce its GHG emissions to 1990

levels by the year 2020. The passage of Senate Bill (SB) in 2016 expanded on the mandate set forth in AB 32, requiring California to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030.

- ✓ **Senate Bill 375** - SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPO's Regional Transportation Plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects may not be eligible for funding.

This law also extends the minimum time period for the regional housing needs allocation cycle from five years to eight years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the Regional Transportation Plan (and associated SCS or APS). However, new provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

Local Regulations

- ✓ **Local Housing Elements** - Housing Elements are included in the General Plan Updates prepared by the County of Madera and its incorporated cities and are required based on California Government Code. Housing Elements are intended to present the area's housing needs and the goals, policies, and programs to meet those needs. At a minimum, the Housing Element should include a housing needs assessment, a sites inventory and analysis, constraints on housing, housing programs, and estimated quantified objectives to be achieved.

Environmental Setting

New Patterns of Development and Travel

The Madera region has evolved into a different kind of place since the 1970s, when downtown Madera was by far the largest job center. Today, north Madera, Clovis and other employment centers have developed to where they have as many or more jobs as downtown Madera. The trend of multiple job

centers seems secure, given that the region has enough unused land already zoned for employment to serve triple the current population, or to last thirty years or more at present growth rates.

Housing, jobs, shopping, and recreational opportunities tend to develop in separate locations. Offices seek proximity, for ease of interaction. Manufacturing and warehousing seek separation from residential neighborhoods, to reduce impacts. Big-box stores tend to locate on large parcels at the urban edge. New housing is being built around the urban edge and in many of the smaller cities near or adjacent to the Madera Region or the SR 99 corridor. As a result of the separated development of jobs and housing, the urban area has grown in a way that forces people to travel from one area to another. Some of the edge communities show a better balance between jobs and housing, but about half of the region's jurisdictions do not have a mix of housing affordable to all those who work there.

Population and Employment Estimates and Projections

Every two to three years, MCTC updates its growth forecasts for housing, population, and employment. Various year housing, population, and employment estimates are provided in Tables 3-64 and 3-65, and Figures 3-18 and 3-19. Housing, population, and employment projections are available for the Year 2010 and 2046, as well as other interim years (reference Tables 3-66 through 3-68 and Figure 3-20). These projections reflect a consensus of local government agencies on anticipated development of the region over the next 24-year period. The projections are used for transportation and air quality planning purposes, particularly for the development of the RTP/SCS.

Growth Areas

The projections indicate that population in Madera County is expected to grow by 56,856 people between 2010 and 2046 and 48,244 people between 2020 and 2046. Total population in the Madera region in 2046 is projected to be just under 207,000. The City of Madera and the southeast unincorporated area are expected to capture the most growth.

TABLE 3-64

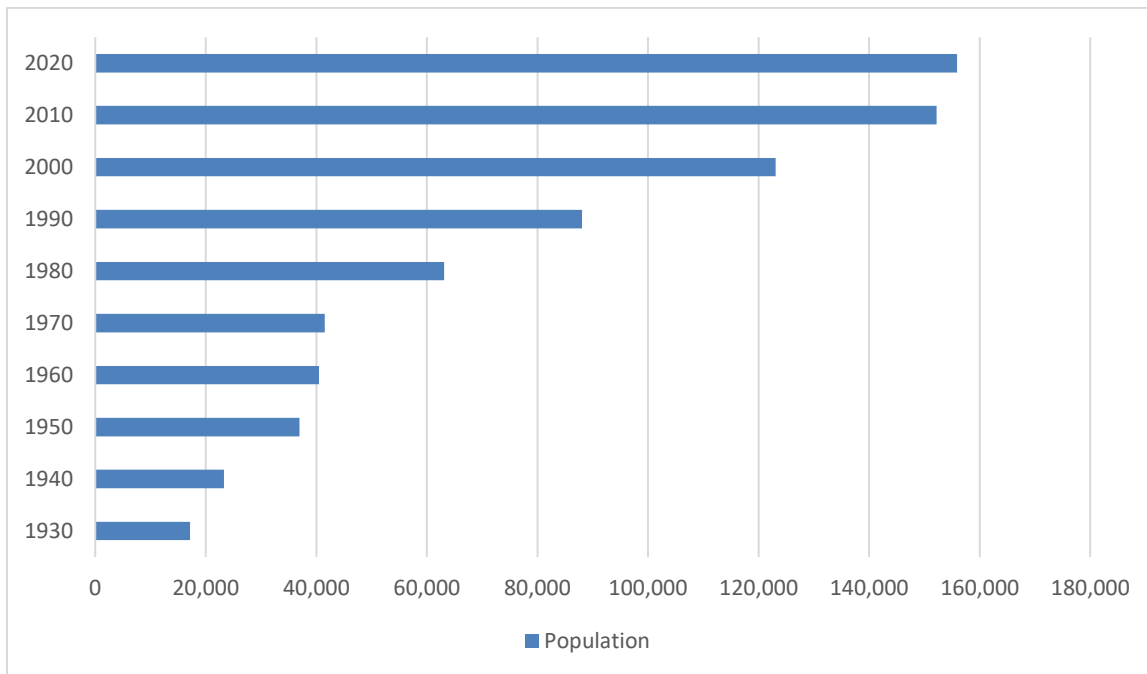
Madera County Historical Population Growth: Years 1930 - 2010

Year	Population	% Increase	Average Annual Increase
1930	17,164		
1940	23,314	35.8	3.1
1950	36,964	58.5	4.7
1960	40,468	9.5	0.9
1970	41,519	2.6	0.2
1980	63,116	52	4.3
1990	88,090	39.6	3.4
2000	123,109	39.8	4
2010	152,203	23.6	2.36
2020	155,925	2.4	.24

Source: US Census, State of California DOF
 2020 American Community Survey

FIGURE 3-18

Madera County Historical Population Growth: Years 1930 - 2010



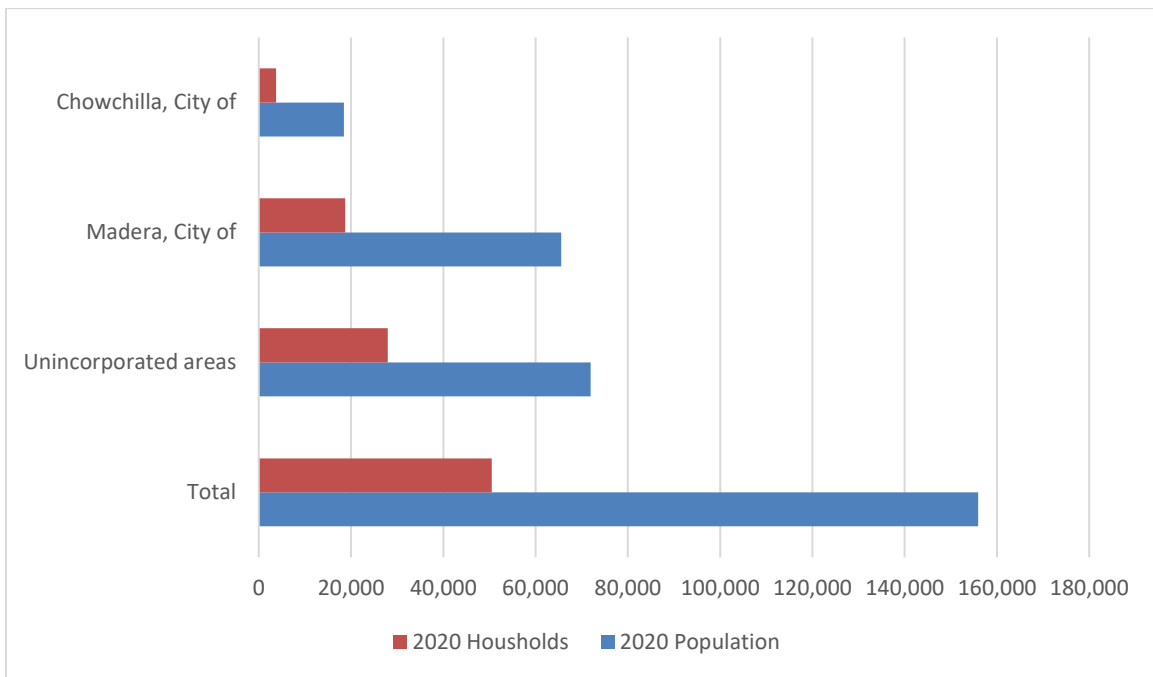
Source: US Census, State of California DOF, 2020 American Community Survey

TABLE 3-65
 2020 Madera County Population & Households

Area of Madera County	2020 Population	2020 Households
Chowchilla, City of	18,443	3,783
Madera, City of	65,575	18,713
Unincorporated areas	71,907	27,984
Total	155,925	50,480

Source: American Community Survey 2020

FIGURE 3-19
 2020 Madera County Population & Households



Source: American Community Survey 2020

TABLE 3-66
Employment and Madera County Residents by Industry Category
2010, 2020, 2035 and 2046

Employment Sector	2010	2020	2035	2046
Agriculture, Forestry, Fishing and Hunting	15,501	10,790	10,521	10,426
Mining, Quarrying, Oil and Gas Extraction	2	13	41	59
Utilities	76	112	135	148
Construction	948	1,524	2,085	2,431
Manufacturing	2,290	3,598	4,978	5,818
Wholesale Trade	498	769	1,097	1,301
Retail Trade	2,122	4,078	5,050	5,650
Transportation and Warehousing	6,236	4,600	4,639	4,690
Information	353	491	650	747
Finance and Insurance	186	395	580	694
Real Estate, Rental and Leasing	313	410	512	570
Professional, Scientific and Technical Services	719	1,134	1,670	1,991
Management of Companies and Enterprises	2	8	16	20
Administrative & Support, Waste Management and Remediation Services	572	756	895	982
Educational Services	3,077	4,637	5,577	6,162
Health Care and Social Assistance	4,772	6,838	8,127	8,928
Arts, Entertainment and Recreation	1,729	594	958	1,177
Accommodation	715	736	1,322	1,677
Food Services	1,039	2,222	3,219	3,821
Other Services Except Public Administration	1,311	2,355	3,011	3,415
Public Administration	1,086	3,648	4,302	4,713
Total:	43,547	49,708	59,385	63,718

Source: U.S. Economic Census, the California DOF, the California EDD

TABLE 3-67
 Madera County Development Projections by Growth Area
 Years 2035 and 2046

Socioeconomic Factor	Year	Growth Area			Total
		Chowchilla	Madera	Madera County	
Population	2035	22,541	77,015	88,286	187,842
	2046	24,845	84,886	97,308	207,038
Housing	2035	5,098	20,932	32,827	60,892
	2046	5,488	22,608	36,743	66,885
Employment	2035	4,367	20,104	34,933	61,439
	2046	5,055	22,786	37,595	67,482

Source: MCTC Regional Traffic Model Socioeconomic Profile, U.S. Census, State of California DOF, Impact Sciences

FIGURE 3-20
 Madera County Development Projections
 Years 2010, 2020, 2035, and 2042

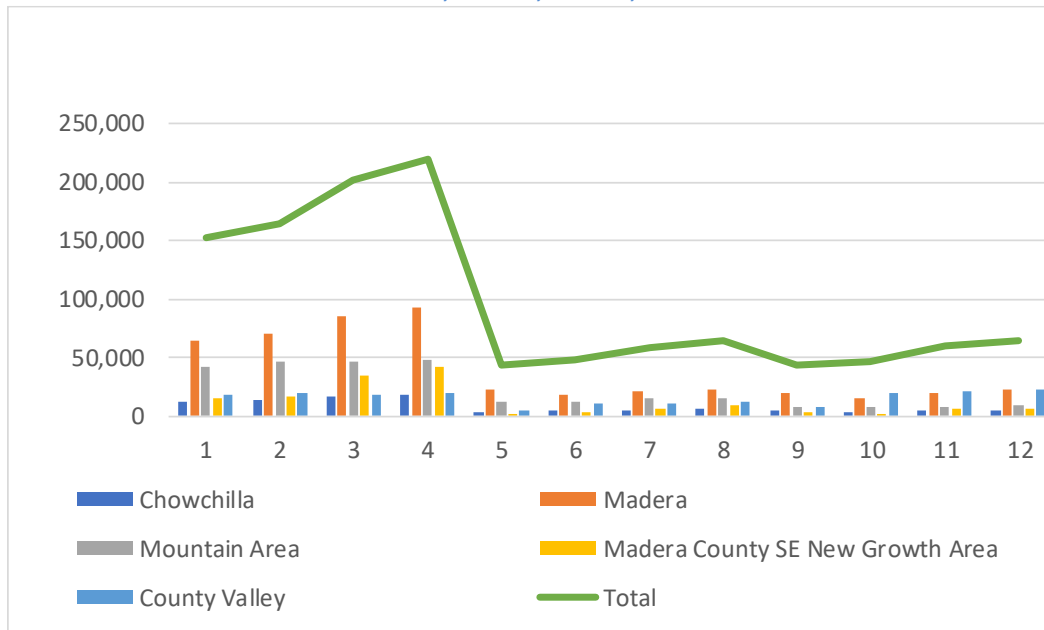


TABLE 3-68
Madera County Population, Housing, and Employment Forecasts
Years 2019, 2020, 2035, 2046

Year	Population	Households	Employment
2019	157,686	49,212	49,708
2035	187,842	60,892	61,439
2046	207,038	66,885	67,482

Source: State of California DOF & EDD, MCTC and Impact Sciences

Jobs-Housing Ratio

The study of jobs-housing balance continues in urban and urbanizing regions across the country as a land-use strategy with the potential to improve regional air quality and mobility. The premise assumes that land-use policy can create a balanced mix of housing and employment opportunities, which in turn can reduce commuting distances and associated air pollution.

The primary objective for many jurisdictions is to improve mobility by reducing total vehicle miles traveled (VMT), both work and non-work related. Therefore, improving or worsening jobs-housing balance would not result in a beneficial or adverse impact in and of itself, but the resultant effects on mobility, congestion, and air quality may comprise significant secondary impacts. A jurisdiction is considered housing rich if the ratio is less than 1.10 and job rich if the ratio is above 1.30. Madera County in 2046 is expected to be housing rich with a jobs to housing ratio of 1.01.

Methodology

To identify and evaluate impacts associated with the Project (RTP/SCS), improvements were reviewed to identify the projects that might affect population or housing. The evaluation of impacts is based on general descriptions of improvement projects and future land use development and is regional in nature. The evaluation is not project-specific but is intended to serve as a resource to jurisdictions and Caltrans for conducting site-specific environmental review for specific projects and future land use development. Section 3.19 of this PEIR also provides a thorough analysis of socioeconomic impacts and mitigation measures related to the impacts of the Project on population and the disruption of existing residential or commercial neighborhoods.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Criteria For Significance

Four criteria were used to determine significant impacts of the Project on population and the disruption of existing residential or commercial neighborhoods. The Project is considered to have a significant impact if it:

- ✓ Contributes to unplanned/dispersion of population or employment growth. Implementation of the Project would have a potentially significant impact if the transportation improvements lead to substantial, unanticipated increases in population beyond those currently projected, including areas currently zoned for agriculture and open space.
- ✓ Causes community displacement. Implementation of the Project would have a potentially significant impact if new construction or right-of-way acquisition associated with the Project results in residential or business displacement.
- ✓ Causes community disruption. Implementation of the Project would have a potentially significant impact if it results in permanent alterations to the characteristics and qualities of an existing neighborhood or community, particularly in cases where access to a neighborhood or commercial district is restricted. A significant impact would also result if residences are separated from community facilities and services, or community amenities are lost. Finally, a significant impact would occur if the Project results in temporary disruption to or restriction of access within neighborhoods or commercial areas during construction. It is assumed that most projects have the potential for short-term construction impacts at some level, with the exception of minor operational improvements. In general, the implementing agencies must identify areas of such concern, and work towards mitigation of such effects.

Impact PHE 3.14.1 – 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).

The Project could affect overall population, housing and employment growth and dispersion into agricultural and open space lands in the region from the predicted regional assumptions. Implementation of the proposed mitigation measures is expected to reduce this to a less-than-significant impact. The Project is a specific set of transportation improvements together with the long-range transportation plan (RTP) and land use allocation described in the SCS designed to meet, among other goals, the long-term socioeconomic conditions of the region. The SCS is based upon the adopted or draft general plans of the jurisdictions within Madera County. One of the strategic issues is growth. The recent growth trends in housing, population, and jobs within the region are expected to continue.

Given the location of the region, its mild climate and existing population trends, growth in the region is seen as inevitable. The Project provides for the anticipated transportation and future land use needs of projected growth. The Project is based on a projected population in the Madera region in 2046 of 1.35 million people and associated employment. MCTC's projected population is not within 3% of the Department of Finance (DOF) regional forecast in each year between now and 2046; however, MCTC prepared its own regional forecast in consultation with DOF, which was approved by the MCTC Board for purposes of the 2022 RTP/SCS development process.

The transportation network included in the Project was not the sole determinant that affected the distribution of growth during development of the SCS preferred scenario. Transportation is just one factor that can affect growth. Other factors included to prepare the SCS included the cost of and type housing, the location of jobs, and the economy. A majority of the street and highway projects anticipated under the RTP/SCS would be for the purpose of alleviating congestion within major residential and/or commercial centers in the Madera region and are intended to increase connectivity between towns or cities in the region.

Factors that account for population growth include natural increase and net migration. The fertility rate in California in 2020 was 52.4 per 1,000 women ages 15-44. Additionally, California is expected to attract more than one third of the country's immigrants.

There is some debate as to whether the Project is a response to growth, whether it facilitates growth or in fact induces growth. Infrastructure of any type can be argued to do any one of these. In the case of the Project, the RTP/SCS are considered to be, overall, a response to growth; however, individual transportation or future development projects may facilitate or even induce growth. If existing transportation deficiencies are not addressed and future projected travel needs are not accommodated, then some localized areas of the region expected to receive new jobs and/or housing may become undesirable, causing the regional growth total to change or growth to be redistributed.

New or improved transportation facilities provide access to areas of new development, thereby allowing more people and jobs to locate in growth areas. Without these facilities, the lack of access could force development into areas with existing transportation infrastructure, thereby shifting population and employment growth from one area of the region to another. From this standpoint, the inclusion of new or upgraded transportation facilities in the Project could be considered growth inducing in some localities.

Mitigation Measures

The specific impacts on regional growth and dispersion will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **PHE 3.14.1-1** Local agencies will be encouraged to update general, area, community and specific plans to reflect projects included in the 2022 RTP and future land use allocations reflected in the SCS.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts on Regional Growth and Dispersion, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact PHE 3.14.2 – Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

The Project could potentially displace or relocate residences and businesses through acquisition of land and buildings necessary for highway, arterial, and transit improvements, as well as future land use development. This would be considered a potentially significant impact.

The proposed transportation improvements and future land use development could result in significant impacts related to the displacement or relocation of homes and businesses. In some cases, buildings on residential, commercial, and industrial land may have to be removed in order to make way for new or expanded transportation facilities or other future land uses or development. In other cases, certain transportation improvements or future land use development could permanently alter the characteristics and qualities of a neighborhood. In any case, the potential for displacement and disruption are major considerations in the final design of individual transportation improvements and future development and

are addressed in the design and development of mitigation programs. From the regional perspective, it is assumed that some residential and commercial displacement and disruption will occur.

Many of the improvement projects proposed by the Project that focus on maintaining and operating the existing regional system will occur on existing roadways and will not require the acquisition of land. This is true of most of the proposed carpool lanes, bus lines, transportation demand management projects, intelligent transportation systems, and road maintenance projects and programs. These transportation projects will generally not require the displacement of residences or businesses as the right-of-way has already been acquired.

Other proposed projects, new or expanded highway interchanges, arterial improvements, and future land use development consistent with the SCS have the potential to impact residential units and businesses. Depending on the alignments selected, they have the potential to impact residential or commercial areas and construction of these projects may require acquisition of new rights-of-way or development sites. Depending on the location and scope of these projects, potential impacts could be as major as removal of several homes or businesses or as minor as extending into existing right-of-way.

Mitigation Measures

The specific impacts on community displacement will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **PHE 3.14.2-1** Local agencies will be encouraged to update general, area, community and specific plans to reflect projects included in the 2022 RTP and future land use allocations reflected in the SCS.
- ✓ **PHE 3.14.2-2** For projects with the potential to displace homes or businesses, project and future development implementation agencies will evaluate alternate route alignments and transportation facilities that minimize the displacement of homes and businesses. An iterative design and impact analysis would help where impacts to persons or businesses are involved. Potential impacts will be minimized to the extent feasible.
- ✓ **PHE 3.14.2-3** Project implementation agencies should identify businesses and residences to be displaced. As required by law, relocation and assistance will be provided to displaced residents and businesses, in accordance with the federal Uniform Relocation and Real Property Acquisition Policies

Act of 1970 and the State of California Relocation Assistance Act, as well as any applicable City and County policies.

- ✓ **PHE 3.14.2-4** Project implementation agencies will develop a construction schedule that minimizes potential neighborhood deterioration from protracted waiting periods.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts on community displacement, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact HPE 3.14.3 – Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

The Project has the potential to disrupt or divide a community by separating community facilities, restricting community access and eliminating community amenities. This is a potentially significant impact. New transportation facilities or expansion of existing facilities could contribute to changes to community character in some areas of the region. The widening of a roadway could be perceived as too great a distance to cross by a pedestrian and thus divide a community. An elevated grade crossing may create a physical barrier in some locations. New transportation corridors may traverse community open space thus eliminating a community amenity. Each of the jurisdictions includes improvements to arterial roadways. Arterial roadways generally serve the local network of streets and provide access to community amenities and public facilities. Changes to these arterial roadways, such as roadway widening that impede pedestrian crossing could create a real or perceived barrier to community amenities such as parks, schools, and other public facilities located across the arterial.

Mitigation Measures

The specific impacts on disrupting or dividing communities will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given

that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **PHE 3.14.3-1** Project implementation agencies will design new transportation facilities that protect access to existing community facilities. During the design phase of the individual improvement project, community amenities and facilities should be identified and access to them considered in the design of the individual improvement project.

- ✓ **PHE 3.14.3-2** Project implementation agencies will design roadway improvements, in a manner that minimizes barriers to pedestrians and bicyclists. During the design phase, pedestrian and bicycle routes will be determined that permit easy connections to community facilities nearby in order not to divide the communities.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts that could potentially disrupt or divide communities, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

3.15 PUBLIC UTILITIES, OTHER UTILITIES AND SERVICES SYSTEMS

This section identifies the existing public services and utilities in Madera County, describes the potential impacts of the 2022 RTP/SCS on public services (police protection, fire protection, emergency services, social services, schools, and libraries) utilities and other service systems, and identifies mitigation measures for the impacts. Even though they often share right-of-way or are built and maintained in easements adjacent to transportation facilities or future land use developments, public utilities in the region are operated and maintained by various agencies separately from the transportation system or most local jurisdictions. Also included are the public utilities, other utilities and services systems that come into contact with, on a regular basis, agencies responsible for transportation system or future land use development construction and maintenance.

Regulatory Setting

The regulatory setting describes the federal, state, and local agencies that have jurisdiction over public services and utilities. The regulations pertinent to public services and utilities that each of these agencies enforce are also described.

Federal Regulations

- ✓ **Tariff Act of 1790** - The Tariff Act of 1790 was signed by President George Washington to authorize the construction of vessels (the Revenue Cutter Service) to enforce federal tariff and trade laws and to prevent smuggling. In 1915, the Revenue Cutter Service merged with the U.S. Life-Saving Service, and was officially renamed the U.S. Coast Guard. In the 1900s, the Coast Guard also became responsible for maritime navigation, merchant marine licensing, and merchant vessel safety. The Coast Guard was officially transferred to the Department of Homeland Security in 2003.
- ✓ **Aviation and Transportation Security Act** - The Aviation and Transportation Security Act was passed by the U.S. Congress and signed into law on November 19, 2001. The Act established the Transportation Security Administration (TSA), which is a component of the Department of Homeland Security (DHS) and is responsible for security of the nation's transportation systems. With state, local, and regional partners, the TSA oversees security for highways, railroads, buses, mass transit systems, and ports. However, the majority of the TSA's resources are aimed at aviation security, which includes screening passengers and baggage at U.S. airports.
- ✓ **Elementary and Secondary Education Act of 1965 and No Child Left Behind Act of 2001** – The Education and Secondary Education Act (ESEA) funds primary and secondary education, while emphasizing high standards and accountability. The ESEA mandates that funds are authorized for

professional development, instructional materials, resources to support educational programs, and promoting parental involvement.

The 2001 reauthorization of the ESEA under President Bush became known as the No Child Left Behind Act. The major focus of the Act was to close achievement gaps by providing all students with a fair, equal, and significant opportunity to obtain a high-quality education. The U.S Department of Education emphasizes four primary points within the bill, which include:

- **Accountability:** To ensure those students who are disadvantaged, achieve academic proficiency
- **Flexibility:** Allows school districts flexibility in how they use federal education fund to improve student achievements
- **Research Based education:** Emphasizes educational programs and practices that have been proven effective through scientific research
- **Parental Options:** Increase the choices available to the parents of students attending Title I schools

- ✓ **Homeland Security Act of 2002** - The Department of Home Security (DHS) was established by the Homeland Security Act of 2002. The DHS is primarily responsible for protecting the territory of the United States from terrorist attacks and responding to natural disasters. There are five homeland security missions, which include:

- Prevent terrorism and enhancing security;
- Secure and manage borders;
- Enforce and administer immigration laws;
- Safeguard and secure cyberspace;
- Ensure resilience to disasters

- ✓ **Executive Order 12127 – Federal Emergency Management Agency** - President Jimmy Carter signed Executive Order 12127 to create the Federal Emergency Management Agency (FEMA). FEMA assist in coordinating the federal government’s role in “preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror.”

Additionally, the National Incident Management System (NIMS) is administered under FEMA. The NIMS guides all levels of government, nongovernmental organizations, and the private sector to collaborate in preventing, protecting against, mitigating, responding to, and recovering from major incidents. NIMS acts as a comprehensive, nationwide, systematic approach to incident management.

California has a similar management system called the Standard Emergency Management System (SEMS). SEMS is required by Government Code Section 8607(a) for managing emergencies involving

multiple jurisdictions and agencies. State of California Executive Order S205 requires the state to integrate, to the extent appropriate, the NIMS, into the state's SEMS.

- ✓ **National Response Framework (Presidential Policy Directive 8: National Preparedness)** – The National Response Framework (NRF) is a key component of the National Preparedness System, which is mandated in the Presidential Policy Directive (PPD) 8: National Preparedness. PPD-8 defines five mission areas: Prevention, Protection, Mitigation, Response, and Recovery, and mandates the development of a series of policy and planning documents to explain and guide the Nation's collective approach to ensuring and enhancing national preparedness. The (NRF) is built on concepts identified in the National Incident Management System (NIMS).
- ✓ **Federal Safe Drinking Water Act** - Enacted in 1974 and implemented by the EPA, the Federal Safe Drinking Water Act (SDWA) imposes water quality and infrastructure standards for potable water delivery systems nationwide. The Act requires actions to protect drinking water and its sources (rivers, lakes, reservoirs, springs, and groundwater wells) and applies to public water systems serving 25 or more people. The Act authorizes the U.S. EPA to set national health-based standards for drinking water to protect against naturally occurring and manmade contaminants. The Act also provides for overseeing the states, municipalities and water suppliers that implement the standards.

U.S. EPA standards are developed as a Maximum Contaminant Level (MCL) for each chemical or microbe. The MCL represents a concentration that is not anticipated to produce adverse health effects after a lifetime of exposure, based upon toxicity data and risk assessment principles. The U.S. EPA's goal in setting MCLs is to assure that even small violations that may occur over a period of time do not pose significant risk to the public's health over the long run. National Primary Drinking Water Regulations (NPDWRs, or primary standards) are legally enforceable standards that limit the levels of contaminants in drinking water supplied by public water systems.

Secondary standards of the Act are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. While the U.S. EPA recommends secondary standards to water systems but does not require systems to comply, the states may choose to adopt them as enforceable standards.

In July 2014, implementation of the SDWA was transferred from the California Department of Public Health (DPH) to State Water Resources Control Board, Division of Drinking Water (DDW). Additionally, the DDW also oversees the operational permitting and regulatory oversight of public water systems. The DDW requires public water systems to perform monitoring for regulated contaminants that may be present in their drinking water supply. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding an MCL must notify the public and remove

the source from service or initiate a process and schedule to install treatment for removing the contaminant. Monitoring violations may include failure to conduct or to report in a timely fashion the results of required monitoring. The DDW also conducts water source assessments, oversees water recycling projects, permits water treatment devices, certifies water system employees, promotes water system security, and administers grants under the State Revolving Fund and State bonds for water system improvements.

- ✓ **U.S. Environmental Protection Agency (EPA)** - The EPA is responsible for establishment of primary drinking water standards in the Clean Water Act, Section 304. States are required to ensure that potable water retailed to the public meets these standards. Standards for a total of 81 individual constituents have been established under the Safe Drinking Water Act, as amended in 1986. The U.S. EPA may choose to add further constituents in the future. State primary and secondary drinking water standards are promulgated in CCR Title 22 Section 64431-64501. Secondary drinking water standards incorporate non-health risk factors including taste, odor, and appearance.
- ✓ **Clean Water Act (CWA)** - Enacted in 1972, the Clean Water Act (CWA) is federal legislation to completely revise the pre-existing Water Pollution Control Act.

Section 401 of the CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. The U.S. EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. The provisions of Section 401 of the CWA are enforced through the State Water Resources Control Board (SWRCB) and local RWQCBs.

Section 402 of the CWA authorized the U.S. Environmental Protection Agency (EPA) to regulate point source pollutants, particularly municipal sewage and industrial discharges, to waters of the United States through the National Pollutant Discharge Elimination System (NPDES) permitting program. In California, the EPA has delegated responsibility for managing the NPDES program to the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs). In addition, to establish a framework for regulating water quality, the CWA authorized a multi-million-dollar Clean Water Grant Program, which together with the California Clean Water Bond funding, assisted communities in constructing municipal wastewater treatment facilities.

These financing measures made higher levels of wastewater treatment possible for both large and small communities throughout California, significantly improving the quality of receiving waters Statewide. Wastewater treatment and water pollution control laws in the State of California are codified in the California Water Code and the California Code of Regulations (CCR) Titles 22 and 23. In 1967, the SWRCB was assigned responsibility for implementing and enforcing water quality regulations by California State Legislature. In 1969, the California Porter-Cologne Water Quality

Control Act was passed which introduced major new water pollution control measures and established the nine RWQCBs, as they exist today.

Section 404 of the CWA establishes a program to regulate the discharge of dredged and fill materials into waters of the United States, including wetlands. The U.S. Army Corps of Engineers (USACE) administers the day-to-day program, including individual permit decisions and jurisdictional determinations; develops policy and guidance; and enforces Section 404 provisions.

- ✓ **Resource Conservation and Recovery Act** - The Resource Conservation and Recovery Act (RCRA) establishes minimum location standards for siting municipal solid waste landfills. Due to California laws and regulations governing the approval of solid waste landfills meeting the requirements of Subtitle D, the U.S. EPA has delegated the enforcement responsibility to the State of California.

California Regulations

- ✓ **California Education Code** - School facilities and services are subject to the rules and regulations of the California Education Code and governance of the State Board of Education (SBE). The SBE is a governing and policy making body of the California Department of Education (CDE) that sets K–12 education policy in the areas of standards, instructional materials, assessment, and accountability. The CDE and the State Superintendent of Public Instruction are responsible for enforcing education law and regulations; and for continuing to reform and improve public elementary school, secondary school, and child care programs, as well as adult education and some preschool programs.
- ✓ **Community Facilities Act of 1982, as amended** - The Community Facilities Act of 1982, also commonly known as the Mello-Roos Act, enables certain public agencies to designate a Mello-Roos Community Facilities District. A Mello-Roos Community Facilities District allows for the financing of public improvements and services, which may include: basic infrastructure, police protection, fire protection, ambulance services, schools, parks, libraries, museums, and other cultural facilities.
- ✓ **California Government Code Section 65995** - California Government Code Section 65995 authorizes school districts to collect impact fees from developers of new residential and commercial/industrial building space. In 1998, the California legislature passed Leroy Greene School Facilities Act, also known as Senate Bill (SB) 50, which amended Government Code Section 65995. Under the provisions of SB 50, schools can collect fees to offset costs associated with increasing school capacity as a result of development.
- ✓ **Leroy Greene School Facilities Act of 1998** - The Leroy Greene School Facilities Act removed the ability of cities and counties to require full mitigation of school impacts. This was replaced with the ability

for school districts to assess fees to developers to offset the cost of increasing school capacity as a result of new development.

- ✓ **California Fire Code** - Title 24, Part 9 of the California Code of Regulations (CCR) is the California Fire Code (CFC). The CFC sets forth regulations consistent with nationally recognized and accepted practices for safeguarding life and property from hazards, including:
 - Fire and Explosion
 - Dangerous conditions arising from the storage, handling, and use of hazardous materials and devices
 - Hazardous conditions in the use or occupancy of buildings or premises
- ✓ **Warren-Alquist Act of 1974** - The California Energy Commission (CEC) was established by the Warren-Alquist Act of 1974. The CEC acts as the State's primary energy policy and planning agency. The responsibilities of the CEC include: advancing state energy policy, achieving energy efficiency, investing in energy innovation, developing renewable energy, transforming transportation, certifying thermal power plants, and preparing for energy emergencies
- ✓ **Public Utilities Act of 1912** - The California Public Utilities Commission (CPUC) was established under the Public Utilities Act of 1912 and currently regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The mission of the CPUC is to regulate services and utilities, protect customers, safeguard the environment, and assure Californians' access to safe and reliable utility infrastructure and services.
- ✓ **California Integrated Waste Management Act (AB 939)** - As many of the landfills in the state are approaching capacity and the siting of new landfills becomes increasingly difficult, the need for source reduction, recycling, and composting has become readily apparent. In response to this increasing solid waste problem, in September 1989 the state Assembly passed Assembly Bill (AB) 939, known as the California Integrated Waste Management Act (IWMA). The Act requires every City and County in the state to prepare a Source Reduction and Recycling Element (SRRE) with its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory state waste diversion goals of 25 percent by the year 1995 and 50 percent by the year 2000. The purpose of AB 939 is to facilitate the reduction, recycling, and re-use of solid waste to the greatest extent possible. Noncompliance with the goals and timelines set forth within AB 939 can be severe, since the bill imposes fines of up to \$10,000 per day on cities and counties not meeting these recycling and planning goals. Senate Bill 2202 mandates that jurisdictions continue 50 percent diversion on and after January 1, 2000.
- ✓ **California Solid Waste Reuse and Recycling Act** - The California Solid Waste Reuse and Recycling Act of 1991 was established to assist local jurisdictions with accomplishing the goals of the IWMA. In

accordance with AB 2176, any development project that has submitted an application for a building permit must include adequate, accessible areas for the collection and loading of recyclable materials. Additionally, the areas to be utilized must be adequate in capacity, number, and distribution to serve the proposed project. Finally, the collection areas are to be located as close to existing exterior refuse collection areas as possible.

- ✓ **SB X7-6, Groundwater** - Enacted in November 2009, SB X7-6, Groundwater required statewide collection and publication of groundwater elevations for the first time in California's history. SB X7-6 directs local agencies, with the assistance of DWR, to monitor and report the elevation of their groundwater basins to assist in the manage of resources during both average water years and drought conditions.
- ✓ **Solid Waste: Diversion Rule (AB 341)** - Under commercial recycling law (Chapter 476, Statutes of 2011), Assembly Bill (AB) 341, directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. AB 341 requires that California reduce, recycle, or compost at least 75 percent of solid waste that is generated in the state by the year 2020. This changes the diversion goals previously set by Assembly Bill 939 (AB 939), which required that 50 percent of waste be diverted away from landfills.
- ✓ **Executive Order B-29-15** - Executive Order B-29-15 mandates the SWRCB to impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 28, 2016. Additionally, these restrictions require water suppliers to California's cities and towns to reduce usage as compared to the amount used in 2013.
- ✓ **California Water Action Plan** - The California Water Action Plan was released by Governor Brown in January 2014. The Plan acts as a guideline during a five year period, as the state moves toward sustainable water management. The California Water Action Plan states its intent to meet three broad objectives: more reliable water supplies, the restoration of important species and habitat, and a more resilient, sustainably managed water resources system (water supply, water quality, flood protection, and environment) that can better withstand inevitable and unforeseen pressures in the coming decades.
- ✓ **California Water Plan** - The California Water Plan provides a collaborative planning framework for elected officials, agencies, tribes, water and resource managers, businesses, academia, stakeholders, and the public to develop findings and recommendations and make informed decisions for California's water future. The plan, updated every five years, presents the status and trends of California's water dependent natural resources; water supplies; and agricultural, urban, and environmental water demands for a range of plausible future scenarios. The California Water Plan also evaluates different combinations of regional and statewide resource management strategies to reduce water demand,

increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. The evaluations and assessments performed for the plan help identify effective actions and policies for meeting California's resource management objectives in the near term and for several decades to come.

- ✓ **State Water Resources Control Board Onsite Waste Treatment System (OWTS) Policy** - The State Water Resources Control Board OWTS policy allows the continued use of OWTS, while protecting water quality and public health. This policy recognizes that responsible local agencies can provide the most effective means to manage OWTS on a routine basis. This policy also establishes a statewide, risk-based, tiered approach for the regulation and management of OWTS installations and replacements and sets the level of performance and protection expected from OWTS.
- ✓ **California Integrated Waste Management Board (CIWMB)** - The CIWMB has numerous responsibilities in implementing the federal and state regulations summarized above. The CIWMB is the state agency responsible for permitting, enforcing and monitoring solid waste landfills, transfer stations, material recovery facilities (MRFs), and composting facilities within California. Permitted facilities are issued Solid Waste Facility Permits (SWFPs) by the CIWMB. The CIWMB also certifies and appoints Local Enforcement Agencies (LEAs), county or city agencies which monitor and enforce compliance with the provisions of SWFPs. The CIWMB is also responsible for monitoring implementation of AB 939 by the cities and counties. In addition to these responsibilities, CIWMB also manages the Recycled-Content.

Materials Marketing Program to increase the understanding of and commitment to using specific recycled-content products in road applications, public works projects and landscaping. These products include recycled aggregate, tire-derived aggregate (TDA), rubberized asphalt concrete (RAC), and organic materials. As discussed previously, AB 939 requires that each County in the state of California prepare a Countywide Integrated Waste Management Plan (CIWMP). The CIWMP is a countywide planning document that describes the programs to be implemented in unincorporated and incorporated areas of the county that will effectively manage solid waste and promote and implement the hierarchy of the Integrated Waste Management Act. The CIWMPs consists of a Summary Plan (SP), a Source Reduction and Recycling Element (SRRE), a Household Hazardous Waste Element (HHWE), a Non-Disposal Facility Element (NDFE), and a Countywide Siting Element (CSE).

- **Summary Plan (SP)** - A Summary Plan is a solid waste planning document required by Public Resources Code Section 41751, in which counties or regional agencies provide an overview of significant waste management problems faced by the jurisdiction, along with specific steps to be taken, independently and in concert with cities within their boundaries.

- **Source Reduction and Recycling Element (SRRE)** - The SRRE consists of the following components: waste characterization, source reduction, recycling, composting, solid waste facility capacity, education and public information, funding, special waste and integration. Each city and county are required to prepare, adopt, and submit to the Board an SRRE, which includes a program for management of solid waste generated within the respective local jurisdiction. The SRREs must include an implementation schedule for the proposed implementation of source reduction, recycling, and composting programs. In addition, the plan identifies the amount of landfill and transformation capacity that will be needed for solid waste which cannot be reduced, recycled, or composted.

- ✓ **California Solid Waste Reuse and Recycling Act**- The California Solid Waste Reuse and Recycling Act of 1991 was enacted to assist local jurisdictions with accomplishing the goals of AB 939. In accordance with AB 2176, any development project that has submitted an application for a building permit must include adequate, accessible areas for the collection and loading of recyclable materials.

- ✓ **Household Hazardous Waste Element (HHWE)** - Each city and county are required to prepare, adopt and submit to the Board, a HHWE which identifies a program for the safe collection, recycling, treatment, and disposal of hazardous wastes that are generated by households. The HHWE specifies how household hazardous wastes generated by households within the jurisdiction must be collected, treated, and disposed. An adequate HHWE contains the following components: Evaluation of Alternatives, program selection, funding, implementation schedule and education and public information.

- ✓ **Non-Disposal Facility Element (NDFE)** - Each city and county are required to prepare, adopt and submit to the Board, an NDFE which includes a description of new facilities and expansion of existing facilities, and all solid waste facility expansions (except disposal and transformation facilities) that recover for reuse at least five percent of the total volume. The NDFE are to be consistent with the implementation of a local jurisdiction’s SRRE. Each jurisdiction must also describe transfer stations located within and outside of the jurisdiction, which recover less than five percent of the material received.

- ✓ **Countywide Siting Element (CSE)** -Counties are required to prepare a CSE that describes areas that may be used for developing new disposal facilities. The element also provides an estimate of the total permitted disposal capacity needed for a 15-year period if counties determine that their existing disposal capacity will be exhausted within 15 years or if additional capacity is desired (PRC Sections 41700-41721.5).

- ✓ **California Safe Drinking Water Act** - The California Safe Drinking Water Act was enacted in 1976, the California Safe Drinking Water Act and codified in Title 22 of the California Code of Regulations (CCR).

Potable water supply is managed through local agencies and water districts, the State Department of Water Resources (DWR), the Department of Health Services (DHS), the SWRCB, the EPA, and the U.S. Bureau of Reclamation. Water right applications are processed through the SWRCB for properties claiming riparian rights or requesting irrigation water from State or federal distribution facilities. The DWR manages the State Water Project (SWP) and compiles planning information on supply and demand within the State.

- ✓ **Water Recycling Act** - The Water Recycling Act was enacted in 1991 and established water recycling as a priority in California. The Act encourages municipal wastewater treatment districts to implement recycling programs to reduce local water demands.
- ✓ **California Water Code (Section 13240)** - The California Water Code directs to SWRCB and RWQCBs to prepare Water Quality Control Plans (Basin Plans), establishing water quality objectives and beneficial uses for each body of water within the regional boundaries including groundwater basins. NPDES permits are required for wastewater treatment facilities discharging to surface waters of the United States. The permits establish effluent quantity and quality limitations as well as provide monitoring provisions to evaluate compliance. For point source discharges (e.g., wastewater treatment facilities), the RWQCBs prepare specific effluent limitations for constituents of concern such as toxic substances, total suspended solids (TSS), bio-chemical oxygen demand (BOD), and organic compounds. The limitations are based on the Basin Plan objectives and are tailored to the specific receiving waters, allowing some discharges more flexibility with certain constituents due to the ability of the receiving waters to accommodate the effluent without significant impact.

The RWQCB issues waste discharge requirements (WDRs) for discharges of privately or publicly treated domestic wastewater to locations other than surface water. These WDRs are usually designed to protect beneficial uses of groundwater basins but can be issued to protect surface waters in areas where groundwater is known to infiltrate into surface waters. Many municipal wastewater treatment facilities do not have NPDES permits, but rather are issued WDRs for discharges to surface impoundments and percolation ponds. The RWQCB also issues waste reclamation requirements (WRRs) for treated wastewater used exclusively for reclamation projects such as irrigation and groundwater recharge. Title 22 of the California Code of Regulations lists allowable reclamation uses including landscape irrigation, recreational impoundments, and groundwater recharge.

In addition to federal and state restrictions on wastewater discharges, most incorporated cities in California have adopted local ordinances for wastewater treatment facilities. Local ordinances generally require treatment system designs to be reviewed and approved by the City prior to construction. Larger urban areas with elaborate infrastructure in place would generally prefer new developments to hook into the existing system, rather than construct new discharges. Other

communities promote individual septic systems to avoid construction of potentially growth-accommodating treatment facilities. The RWQCBs generally delegate management responsibilities of septic systems to local jurisdictions.

- ✓ **Safe, Clean, and Reliable Drinking Water Supply Act of 2010 (the Water Bond)** - Signed into law by the California legislature in 2009, a reexamination of the Water Bond's provisions appeared on the November 2014 General Election ballot. The approved measure enacted the Water Quality, Supply, and Infrastructure Improvement Act of 2014, replacing the previous 2010 Water Bond and creating savings to local governments related to water projects. A measure (Proposition 68) passed on the June 2018 ballot authorizing state and local parks, environment protection and restoration projects, water infrastructure projects, and flood protection projects.

MCTC enacted Resolution No. 2010-12 on April 29, 2010 in support of the 2010 Water Bond specifically for funding to enhance local water supply and reliability, including above ground storage projects such as the Temperance Flat Dam, improvements to the physical infrastructure of the water system, and to lay the groundwork for development of a Delta alternative water conveyance system. The MCTC Board passed another Resolution in September 2013 to reaffirm the 2010 Resolution and requested the ecological problems in the Delta be fixed, operational flexibility to the state's water storage and delivery system, and aid for disadvantaged communities with water quality problems, while expanding water recycling and conservation.

In addition, Governor Brown has asked Californians to conserve at least 20% of their water usage to help with the drought and MCTC's member agencies have passed resolutions, reaffirmed resolutions, and tightened their conservation enforcement measures during the water crisis.

- ✓ **Sustainable Groundwater Management Act (SGMA)** – Governor Brown signed the Sustainable Groundwater Management Act in 2014. The legislation allows for local agencies to tailor groundwater suitability plans to meet the specific economic and environmental needs of the region. The Act for the first time in the State's history provides a framework for sustainable, local groundwater management. Senate Bill (SB) 13, signed in 2015, further outlines technical requirements for groundwater sustainability agency formation, the process for State Water Board jurisdiction and guidelines for basins given high and medium priority.

Environmental Setting

Police Protection Services

Police protection within the unincorporated areas of the County is provided by the Madera County Sheriff's Department. In addition, a few incorporated cities contract with the County Sheriff to protect

their city. Typically, newly incorporated municipalities are assisted by the County Sheriff's department in an effort to serve their citizens by offering an established police force to protect the jurisdiction as it grows. City police departments are found in the other two jurisdictions within the County (City of Chowchilla and Madera). The California Highway Patrol (CHP) service area is located along the State Route (SR) and Interstate highway system that dissects through the region. The CHP cooperates with both County and city police departments when the need arises.

Fire Protection Services

Fire prevention/suppression, rescue and emergency medical services are provided by the County Fire Department (through a contract with CalFire) to the unincorporated areas of the County as well as those municipalities that contract with the CalFire for fire protection. For the most part, private companies are contracted for ambulance services. CalFire and the U.S. Forest Service also provide fire protection services in the remote areas of the County and within the State and National Parks and forest lands.

Schools

Public education facilities and services are provided to the residents of Madera County. There are over 85 school sites in Madera County including elementary schools, middle schools, high schools, adult/alternative/continuation, special education, court schools and preschools.

Gas and Electric

Pacific Gas and Electric (PG&E) operates in Madera County, as well as numerous solar power equipment providers.

Telephone and Cellular Phone Service

Local and long-distance phone service is provided primarily by AT&T, as well as a number of independent telephone companies also operate within the County. Throughout much of the County, cellular telephone service is provided by AT&T, Verizon Wireless, Sprint and others.

Cable Television and Internet Services

Internet services are provided by AT&T, Comcast, Windstream, Hughes, CenturyLink, Netzero, and Time Warner Madera., in addition to satellite and other providers. Cable television is primarily provided by Comcast Madera, AT&T, and Charter Madera.

Cable fibers are generally co-located and installed concurrently with other utility infrastructure. This infrastructure is installed underground within new development in order to reduce visual and aesthetic impacts and any potential safety hazards.

Emergency Services

✓ **County Offices of Emergency Services**

The Madera County Office of Emergency Services coordinates planning and preparedness, response and recover efforts for disasters occurring within the unincorporated area of the County. The Madera County Office of Emergency Services operates under the directions of the Madera County Sheriff's Department.

There are a wide range of disasters that Madera County is vulnerable to including flooding, wildfires, earthquakes, landslides, drought, hazardous materials incidents, and transportation accidents. Public health and agricultural emergencies also pose potential emergencies.

In addition to being responsible for the day-to-day operations of the County's disaster preparedness and response program, the Office of Emergency Services is also responsible for maintaining the County's Emergency Operations Center. During a disaster, the Office is responsible for gathering information on the County's emergency response needs, assessing county and state resources, and facilitating the acquisition, use and coordination of those resources.

✓ **Federal Emergency Management Agency**

Madera County is within Federal Emergency Management Agency (FEMA) Region IX, which covers Arizona, California, Hawaii, Nevada, Guam, American Samoa, Commonwealth of Northern Mariana Islands, Republic of Marshall Islands, Federation States of Micronesia, and more than 150 sovereign tribal entities. Region IX serves a population of over 47 million people and covers 399,000 square miles. Major threats facing the Region include earthquakes, wildfires, floods, and tsunamis.

✓ **Transportation Security Administration**

The Transportation Security Administration (TSA) responsibilities in the Madera County region are focused on protection of people and commerce.

✓ **National Incident Management System**

The State of California adopted the National Incident Management System (NIMS) in 2005 by Executive Order S-2-05. The cities and the County of Madera are involved in NIMS through California's Offices of Emergency Services/Offices of Emergency Management.

✓ **United States Coast Guard**

The Eleventh Coast Guard District encompasses the states of California, Arizona, Nevada, and Utah, the coastal and the offshore waters of Mexico and Central America down to South America. Coast Guard operational units are located throughout California. The Eleventh District now includes 43 units and employs 2,400 active duty, reserve, and civilian employees. These resources carry out Search and Rescue, Homeland Security, Law Enforcement, Marine Safety, and Aids to Navigation missions over 3.3 million square miles of water.

✓ **California Department of Transportation (Caltrans)**

Madera County is located within the jurisdiction of Caltrans Districts 6. Caltrans, in coordination with the California Highway Patrol (CHP), has Transportation Management Centers (TMCs) to rapidly detect and respond to incidents while managing the resulting congestion. This is accomplished through the gathering of real time information from sources such as electronic sensors in the pavement, freeway call boxes, video cameras, 911 calls, officers on patrol. Caltrans highway crews, ramp meter sensors, earthquake monitors, motorist cellular calls, and commercial traffic reporters.

Social Services

Social services are a range of public services provided by government agencies, private not-for-profit organizations and private for-profit organizations for its residents including such things as health care, public housing and social security. Services include: alcohol, drug and mental health services; adult education and job training; child support services; civic buildings and community centers; courts and parole offices; health and disabled services; homeless and housing assistance; human assistance; and Veteran affairs.

Water Supply Systems

Water supply systems obtain water from several sources including groundwater, surface water (lakes and rivers), and conservation. In most cases, the water is then purified, disinfected through chlorination, and sometimes fluoridated. Treated water then either flows by gravity or is pumped to reservoirs, which can be elevated (water towers) or on the ground. Once water is used, wastewater is typically discharged in a sewer system and treated in a wastewater treatment plant before being discharged into a body of water or reused for landscaping, irrigation, or industrial use.

Potable water supply comes from *surface water* and *groundwater* sources. In most urban parts of the region, surface water makes up a majority of the water supply. In more rural areas of the region, where agricultural water demand is higher, groundwater and rainfall/snowmelt make up a larger percentage of water supply, though the amount of groundwater available largely depends on the geological makeup of

the area. Water demand for non-potable uses, such as landscape irrigation, can take advantage of *recycled water*, in addition to the other sources mentioned above.

Additional review of water supply systems can be found in Section 3.11 Hydrology and Water Quality.

Sewer Disposal and Treatment

A number of sanitation districts and wastewater collection and treatment facilities are located throughout the County. Primary treatment refers to the physical chemical treatment of wastewater; secondary treatment involves continuing the process with biological decomposers to rid the effluent of living organisms.

Environmental Impacts, Mitigation Measures, and Significance after Mitigation

Methodology

This public services and utilities analysis evaluates those public services and utilities most likely to be affected by the construction and implementation of the various types of transportation improvement projects and future land use development projects included in the 2022 RTP/ SCS.

Criteria for Significance

The following significance criteria were used to determine potentially significant impacts to public services and utilities resulting from implementation of proposed improvement projects and future land use development. Significance criteria were developed based on State CEQA guidelines. Public services and utilities would experience significant adverse impacts if improvement projects and future land use development would:

- ✓ 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, and other public facilities.
- ✓ Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- ✓ Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- ✓ Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

- ✓ Have sufficient water supplies available to serve the project from existing entitlements and resources, or the need for new or expanded entitlements.
- ✓ Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- ✓ Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- ✓ Comply with federal, state, and local statutes and regulations related to solid waste.

Impact PU 3.15.1 – 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, and other public facilities.

Construction and implementation of improvement and future land use development projects could affect the level of police, fire, medical, and other public services and facilities in the County. With mitigation, this would be a less-than-significant impact. It is possible that with RTP/SCS improvements there may be a reduction in congestion and slowing allowing for improved emergency responder response times.

Numerous agencies within multiple jurisdictions in the County provide fire protection, emergency medical services, and police services. Depending upon the timing, location, and duration of construction activities, proposed transportation improvement projects and land use development projects could delay emergency response times or otherwise disrupt delivery of emergency services. Emergency routes would be impaired if one or more lanes of a roadway in Madera County were closed off due to transportation or land use development construction activities. Traffic delays and prevention of access to calls for service could potentially result.

While these impacts would be short-term in nature, they could be potentially significant. Each individual improvement or land use development project will be analyzed to determine the degree of impact to emergency services, as part of project-specific environmental review. Adherence to road encroachment permits by the implementing agency could reduce individual improvement project construction-related impacts to emergency vehicle access and response times. As part of the construction mitigation strategy, a traffic control plan should be prepared to further reduce impacts on traffic and emergency response vehicles. Additionally, there is the potential need for increased police, fire, and medical services at the construction sites of projects for safety purposes. The impact of the construction sites themselves on police, fire, and emergency medical services is anticipated to be short-term in nature and less-than-significant.

The Project includes several types of improvement and future land use development projects that, upon completion, would require different levels of police, fire, and medical services. Projects involving new roadways are anticipated to require police, fire, and emergency medical services for safety purposes. In many cases, transit-related projects would involve the construction of transit stations. Upon completion, these transit stations would require police, fire, and emergency medical services. In some cases, the governing transit authority provides security. Additionally, the increased use of transit modes of transportation, such as buses and trains, would involve an increased need for police, fire, and emergency medical services for protection and rescue services. Finally, various future land use development, such as residential and commercial uses increase the need for emergency services.

Rail projects, other than transit stations and other types of future land use development, such as many industrial and office facilities, are anticipated to require minimal amounts of additional fire, police, and emergency medical services for safety purposes. The improvement of and the use of non-motorized transportation methods, such as bike routes, are anticipated to require minimal amounts of additional police, fire, and emergency medical services. If restrooms or drinking fountains were incorporated into non-motorized transportation projects, these uses would require a minimal amount of police, fire, and emergency medical for security and safety.

Public service and utility providers have historically accommodated increases in demand throughout the County. For the most part, improvement projects and future land use developments would not generate a substantial need for additional police, fire, and emergency medical services, except in the case where new facilities and developments are constructed. Local jurisdictions are expected to be equipped to handle any increased demands for fire and medical services generated by facilities and developments, like transit stations and major government facilities. If any new transit police staff or facility is deemed necessary (by the individual improvement project level CEQA documentation), it will need to be funded by the appropriate transit authority. The total projected demand for each of these types of projects is not anticipated to be significant, based on the demand for public service and utility for similar projects and on the current capacities of existing fire, police, and medical services.

As discussed in the Section 3.14 of this PEIR (Population and Housing), population in the County will increase over the next 24 years, with or without the Project. In general, MCTC does not anticipate that the Project will substantially affect population distribution on a regional basis. However, transportation projects and future land use developments in the less developed areas of the region could experience a corresponding increase in demand because of the RTP/SCS. Depending on the amount of increase in population, the increase in the demand for these services has the potential to be a significant impact in those specific areas. However, any construction resulting from the Project within the County will be subject to further environmental review. With the following mitigation measures, this impact would be reduced to a level of insignificance.

It is possible that underground utility lines (sewer, gas, electricity, telephone and water) could be uncovered and potentially severed because of construction of transportation projects or future land use development. Above ground power, phone and cell towers could also be affected due to the construction of projects.

The potential to encounter underground utility lines, and potentially sever those lines, is a possibility with any groundbreaking in the Madera region. However, prior to construction, the implementing agency would be required to incorporate the locations of existing utility lines into the construction schedule.

Mitigation Measures

The specific impacts on public services and utilities will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **PU 3.15.1-1** Prior to construction, the project implementation agency will ensure that all necessary local and state permits are obtained. The project implementation agency also will comply with all applicable conditions of approval. As deemed necessary by the governing jurisdiction, road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Traffic control plans should include the following requirements:
 - Identify all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.
 - Develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
 - Schedule truck trips outside of peak morning and evening commute hours.
 - Limit lane closures during peak hours to the extent possible.
 - Use haul routes, minimizing truck traffic on local roadways, to the extent possible.
 - Include detours for bicycles and pedestrians in all areas potentially affected by individual improvement project construction.
 - Install traffic control devices as specified in the Caltrans Manual of Traffic Controls for Construction and Maintenance Work Zones.
 - Develop and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. Access plans will be developed with the facility owner or

administrator. To minimize disruption of emergency vehicle access, affected jurisdictions will be asked to identify detours for emergency vehicles, which will then be posted by the contractor. The facility owner or operator will be notified in advance of the timing, location, and duration of construction activities and the locations of detours and lane closures.

- Store construction materials only in designated areas.
 - Coordinate with local transit agencies for temporary relocation of routes or bus stops in work zones, as necessary.
- ✓ **PU 3.15.1-2** Transportation and future land use development projects requiring police protection, fire service, and emergency medical service will coordinate with the local fire department and police department to ensure that the existing public services and utilities would be able to handle the increase in demand for their services. If the current levels of service at the individual improvement project or future land use development site are found to be inadequate, infrastructure improvements and personnel requirements for the appropriate public service will be identified in each individual improvement project's CEQA documentation.
- ✓ **PU 3.15.1-3** The growth inducing potential of individual transportation and future land use development projects will be carefully evaluated so that the full implications of the 2022 RTP/SCS are understood. Individual environmental documents will quantify indirect impacts (growth that could be facilitated or induced) on public services and utilities. Lead and responsible agencies should then make any necessary adjustments to the applicable general plan.
- ✓ **PU 3.15.1-4** As part of transportation project-specific or future land use development project-specific environmental review, implementing agencies will evaluate the impacts resulting from the potential for severing underground utility lines during construction activities. Appropriate mitigation measures will be identified for all impacts. The implementing agencies will be responsible for ensuring adherence to mitigation measures. MCTC will be provided with documentation indicating compliance with mitigation measures.
- ✓ **PU 3.15.1-5** Prior to construction, the implementing agency or contractor will identify the locations of existing utility lines. All known utility lines will be avoided during construction.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework

and direction to avoid or reduce the impacts on public services, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact PU 3.15.2 – Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Wastewater treatment facilities and collection systems must have adequate capacity to prevent overflows, spills, or a release of untreated or partially treated wastewater, which has the potential to pollute surface and ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and enjoyment of surface waters. Untreated wastewater often contains high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oil, and grease, and an overflow could result in the closure of beaches and other recreational areas, inundate properties, and pollute rivers and streams.

Forecast growth and land use changes expected to occur as part of the 2022 RTP/SCS would be primarily focused in previously developed urban areas that are served by existing wastewater treatment facilities and collection systems. Increases in population and housing density would result in a corresponding increase in the volume of wastewater compared to existing conditions and could require the expansion of treatment facilities and collection systems to ensure sufficient capacity. In rural areas, new development could require construction of on-site wastewater treatment systems.

Impacts to wastewater treatment requirements are typically controllable and can be mitigated below a level of significance through actions of the implementing agency, including adherence to existing regulations, such as those issued and enforced through the State Water Resources Control Board (SWRCB), Regional Water Quality Control Board (RWQCB), and Best Management Practices (BMPs).

Mitigation Measures

The specific impacts on wastewater treatment facilities will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **PU 3.15.2-1** During the CEQA review process for individual facilities, implementing agencies should apply necessary mitigation measures to reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified impacts on wastewater treatment, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact PU 3.15.3 – Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Demand for solid waste, wastewater, and potable water services in the County could be affected by construction and implementation of transportation improvement projects and future land use developments.

Transportation and future land use and development projects have the potential to generate a significant amount of solid waste during construction through grading and excavation activities. Any increases in demand for wastewater and potable water services resulting from the 2022 RTP/SCS are expected to be minimal during construction. Construction debris would be recycled or transported to the nearest landfill site and disposed of appropriately. Currently, several landfills in the region function at or below their permitted capacity. Therefore, the projects proposed are not anticipated to generate a significant impact on solid waste facilities during construction. Nevertheless, the amount of debris generated during individual improvement project or future land use development project construction would need to be evaluated prior to construction on a project-by-project basis.

It is assumed that, upon completion, projects will require additional public services and utilities to handle increased demand for wastewater and solid waste services, increased demand for potable water, and, in

some cases, increased demand for reclaimed water for landscaping purposes. These increases would need to be evaluated on a project-by-project basis. Projects involving roadway construction and future land use development are anticipated to require potable or reclaimed water for landscaping purposes. These increases would need to be evaluated on a project-by-project basis.

Transit-related projects would involve the construction of transit stations in many cases. Incremental amounts of potable water would be generated at these transit stations for restrooms, public drinking water, and landscaping. Additionally, a minimal increase in the demand for potable water, wastewater service, and solid waste collection would be created by increased use of transit methods, such as buses and trains.

With the exception of transit-related rail, unless rail projects involve the construction of additional railways or facilities, they are not anticipated to require additional wastewater, solid waste, or potable water service. The improvement of and increased usage of non-motorized transportation methods, like bike routes, are not anticipated to require additional levels of solid waste, waste water, and potable water service, other than drinking fountains. If restrooms are incorporated into non-motorized transportation projects, these uses would also require minimal amounts of solid waste (for trash receptacles), wastewater (for toilets, water fountains, and faucets), and potable water (for faucets, drinking fountains, and landscaping) services.

Public service and utility providers have accounted for increases in the public needs throughout the County. In most cases, wastewater and potable water infrastructures function well below their capacities. In addition, solid waste facilities, including transfer stations and landfills, commonly accept levels of solid waste well below their maximum capacities. Based on the demand for public services and utilities for similar projects, and on the current capacities of existing public services and utilities, the local projected demand for each of these types of projects is not anticipated to be significant but will need to be analyzed on a project-by-project basis.

Mitigation Measures

The specific impacts on public services and utilities will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **PU 3.15.3-1** Projects requiring wastewater service, solid waste collection, or potable water service will coordinate with the local agencies to ensure that the existing public services and utilities would be able to handle the increase. If the current infrastructure servicing the individual transportation improvement or future land use development project sites is found to be inadequate, infrastructure improvements for the appropriate public service utility will be identified in each individual transportation improvement or future land use development project's CEQA documentation.
- ✓ **PU 3.15.3-2** Reclaimed water will be used for landscaping purposes instead of potable water wherever feasible.
- ✓ **PU 3.15.3-3** Each of the proposed transportation improvement projects or future land use developments will comply with applicable regulations related to solid waste disposal.
- ✓ **PU 3.15.3-4** The construction contractor will work with Recycling Coordinators to ensure that source reduction techniques and recycling measures are incorporated into individual transportation improvement or future land use development project construction.
- ✓ **PU 3.15.3-5** The amount of solid waste generated during construction will be estimated prior to construction, and appropriate disposal sites will be identified and utilized.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the impacts to solid waste, wastewater, and potable water services, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact PU 3.15.4 – Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Storm water drainage facilities are necessary to drain excess water from paved streets, parking lots, sidewalks, and roofs to prevent flooding after rain events. Ensuring adequate capacity and design of storm

water drainage facilities allows for the safe management of large volumes of water and conveyance of runoff to a point of disposal.

Growth and development and transportation improvements expected to occur as part of the 2022 RTP/SCS would be primarily focused in previously developed urban areas. Urban areas have limited amounts of vacant land where rainwater and urban runoff can percolate into the soil, and new infill development in urban areas would not result in a substantial increase in impervious surfaces. In addition, development in urban areas would be served by existing storm drain collection systems.

A limited number of new developments in urban areas would convert undeveloped land to impermeable surfaces, resulting in an increase in storm water runoff, which could potentially exceed the capacity of existing storm water drainage facilities.

Development in rural areas would convert undeveloped land to impermeable surfaces from the development of rooftops, parking lots, roads, and driveways, and would result in an increase in storm water runoff. In these areas, there are not typically storm water drainage systems, and increases in the amount of impermeable surfaces could result in volumes of runoff requiring the construction of new or expansion of existing facilities. The local projected demand for stormwater facilities is not anticipated to be significant but will need to be analyzed on a project-by-project basis.

In addition, the transportation of construction materials to and from the sites during individual transportation improvement project or future land use development project construction could cause accumulation of soil on roadways surrounding the construction sites. Hauling trucks could track soil from the construction site onto adjacent streets during construction of projects, particularly those involving excavation. Since street cleaning activities typically occur only once a month or less in a particular area, increased soil on local streets would increase the demand for street cleaning.

Mitigation Measures

The specific impacts on public services and utilities will be evaluated as part of the implementing agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **PU 3.15.4-1** During the CEQA review process for individual RTP/SCS projects, implementing agencies with responsibility for the construction of new storm water drainage facilities or the expansion of existing facilities to adequately meet projected capacity needs should apply necessary mitigation

measures, including actions set forth in regional watershed management plans, to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities.

- ✓ **PU 3.15.4-2** As part of transportation project-specific and future land use development project-specific environmental review, implementing agencies will evaluate the impacts resulting from soil accumulation during construction of the transportation projects and future land use developments. Appropriate mitigation measures will be identified for all impacts. The implementing agencies will be responsible for ensuring adherence to the mitigation measures. MCTC will be provided with documentation indicating compliance with mitigation measures.
- ✓ **PU 3.15.4-3** Implementing agencies should implement appropriate measures, such as the washing of construction vehicles undercarriages before leaving the construction site or increasing the use of street cleaning machines, to reduce the amount of soil on local roadways as a result of construction.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact PU 3.15.5 – Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed.

Demand for potable water services in the County could be affected by construction and implementation of transportation improvement projects and future land use developments. Any increases in demand for potable water services resulting from the 2022 RTP/SCS are expected to be minimal during construction.

It is assumed that, upon completion, projects will require additional public services and utilities to handle increased demand for potable water, and, in some cases, increased demand for reclaimed water for landscaping purposes. These increases would need to be evaluated on a project-by-project basis. Projects

involving roadway construction and future land use development are anticipated to require potable or reclaimed water for landscaping purposes. These increases would need to be evaluated on a project-by-project basis.

Transit-related projects would involve the construction of transit stations in many cases. Incremental amounts of potable water would be generated at these transit stations for restrooms, public drinking water, and landscaping. Additionally, a minimal increase in the demand for potable water would be created by increased use of transit methods, such as buses and trains.

With the exception of transit-related rail, unless rail projects involve the construction of additional railways or facilities, they are not anticipated to require additional potable water service. The improvement of and increased usage of non-motorized transportation methods, like bike routes, are not anticipated to require additional levels of potable water service, other than drinking fountains. If restrooms are incorporated into non-motorized transportation projects, these uses would also require minimal amounts of potable water (for faucets, drinking fountains, and landscaping) services.

Public service and utility providers have accounted for increases in the public needs throughout the County. In most cases, potable water infrastructures function well below their capacities. Based on the demand for public services and utilities for similar projects, and on the current capacities of existing public services and utilities, the local projected demand for potable water is not anticipated to be significant but will need to be analyzed on a project-by-project basis.

Mitigation Measures

The specific impacts on public services and utilities will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **PU 3.15.5-1** Projects requiring potable water service will coordinate with the local agencies to ensure that the existing public services and utilities would be able to handle the increase. If the current infrastructure servicing the individual transportation improvement or future land use development project sites is found to be inadequate, infrastructure improvements for the appropriate public service utility will be identified in each individual transportation improvement or future land use development project's CEQA documentation.
- ✓ **PU 3.15.-2** Reclaimed water will be used for landscaping purposes instead of potable water wherever feasible.

- ✓ **PU 3.15.5-3** In January 2014 the Governor declared an emergency drought declaration for the State. Long-term water supply documents anticipate that drought (including severe single-year drought) are regular occurrences within the State. Because the 2022 RTP/SCS does not propose or approve any development of any water demand projects, the Governor’s drought declaration does not indicate that there is a significant water supply impact associated with the RTP/ SCS.
- ✓ **PU 3.15.5-4** Local agencies shall form Groundwater Sustainability Agencies (GSAs) in accordance with the collection of State legislation [AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley)] known as the Sustainable Groundwater Management Act (SGMA), as applicable, to manage high and medium priority basin sustainably and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the impacts to potable water services, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact PU 3.15.6 – Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Demand for wastewater services in the County could be affected by construction and implementation of transportation improvement projects and future land use developments. Any increases in demand for wastewater services resulting from the 2022 RTP/SCS are expected to be minimal during construction. It is assumed that, upon completion, projects will require additional public services and utilities to handle increased demand for wastewater. These increases would need to be evaluated on a project-by-project basis.

Transit-related projects would involve the construction of transit stations in many cases. A minimal increase in the demand for wastewater service would be created by increased use of transit methods, such as buses and trains.

With the exception of transit-related rail, unless rail projects involve the construction of additional railways or facilities, they are not anticipated to require additional wastewater service. The improvement of and increased usage of non-motorized transportation methods, like bike routes, are not anticipated to require additional levels of wastewater services. If restrooms are incorporated into non-motorized transportation projects, these uses would also require minimal amounts of wastewater (for toilets, water fountains, and faucets) services.

Public service and utility providers have accounted for increases in the public needs throughout the County. In most cases, wastewater infrastructures function well below their capacities. Based on the demand for public services and utilities for similar projects, and on the current capacities of existing public services and utilities, the local projected demand for each of these types of projects is not anticipated to be significant but will need to be analyzed on a project-by-project basis.

Mitigation Measures

The specific impacts on public services and utilities will be evaluated as part of the implantation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **PU 3.15.6-1** Projects requiring wastewater service will coordinate with the local agencies to ensure that the existing public services and utilities would be able to handle the increase. If the current infrastructure servicing the individual transportation improvement or future land use development project sites is found to be inadequate, infrastructure improvements for the appropriate public service utility will be identified in each individual transportation improvement or future land use development project's CEQA documentation.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the impacts on wastewater services, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine

appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact PU 3.15.7 – Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Demand for solid waste services in the County could be affected by construction and implementation of transportation improvement projects and future land use developments. Transportation and future land use and development projects have the potential to generate a significant amount of solid waste during construction through grading and excavation activities. Construction debris would be recycled or transported to the nearest landfill site and disposed of appropriately. Currently, several landfills in the region function at or below their permitted capacity. Therefore, the projects proposed are not anticipated to generate a significant impact on solid waste facilities during construction. Nevertheless, the amount of debris generated during individual improvement project or future land use development project construction would need to be evaluated prior to construction on a project-by-project basis.

It is assumed that, upon completion, projects will require additional public services and utilities to handle increased demand for solid waste services. These increases would need to be evaluated on a project-by-project basis. Transit-related projects would involve the construction of transit stations in many cases. A minimal increase in the demand for solid waste collection would be created by increased use of transit methods, such as buses and trains.

With the exception of transit-related rail, unless rail projects involve the construction of additional railways or facilities, they are not anticipated to require additional solid waste service. The improvement of and increased usage of non-motorized transportation methods, like bike routes, are not anticipated to require additional levels of solid waste. If restrooms are incorporated into non-motorized transportation projects, these uses would also require minimal amounts of solid waste (for trash receptacles) services. Public service and utility providers have accounted for increases in the public needs throughout the County. In most cases, solid waste facilities, including transfer stations and landfills, commonly accept levels of solid waste well below their maximum capacities. Based on the demand for public services and utilities for similar projects, and on the current capacities of existing public services and utilities, the local projected demand for solid waste services is not anticipated to be significant but will need to be analyzed on a project-by-project basis.

Mitigation Measures

The specific impacts on public services and utilities will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation

improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **PU 3.15.7-1** Projects requiring solid waste collection will coordinate with the local agencies to ensure that the existing public services and utilities would be able to handle the increase. If the current infrastructure servicing the individual transportation improvement or future land use development project sites is found to be inadequate, infrastructure improvements for the appropriate public service utility will be identified in each individual transportation improvement or future land use development project's CEQA documentation.
- ✓ **PU 3.15.7-2** Each of the proposed transportation improvement projects or future land use developments will comply with applicable regulations related to solid waste disposal.
- ✓ **PU 3.15.7-3** The construction contractor will work with Recycling Coordinators to ensure that source reduction techniques and recycling measures are incorporated into individual transportation improvement or future land use development project construction. Implementing agencies should address new regulations set forth in SB 1383, which were finalized by CalRecycle in November 2020 and took effect in January 2022.
- ✓ **PU 3.15.7-4** The amount of solid waste generated during construction will be estimated prior to construction, and appropriate disposal sites will be identified and utilized.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the impacts to solid waste services, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impact PU 3.15.8 – Comply with federal, state, and local statutes and regulations related to solid waste.

Forecast growth and land use changes expected to occur as part of the 2022 RTP/SCS would be primarily focused in previously developed urban areas that are served by existing solid waste collection systems. Increases in population and housing density would result in a corresponding increase in the volume of solid waste compared to existing conditions and could require the expansion of collection systems to ensure sufficient capacity.

Impacts to solid waste can be mitigated below a level of significance through actions of the implementing agency, including adherence to existing federal, state, and local statutes and regulations.

Mitigation Measures

The specific impacts on solid waste collection systems will be evaluated as part of the implementation agencies' project-level environmental review process regarding their proposed individual transportation improvement project(s) and future land use development(s). Implementation agencies will ultimately be responsible for ensuring adherence to the mitigation measures identified prior to construction. Given that MCTC does not have land use authority to approve development projects, their role will be to encourage inclusion of the mitigation measures referenced below.

- ✓ **PU 3.15.8-1** During the CEQA review process for individual facilities, implementing agencies should apply necessary mitigation measures to reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce the identified impacts on solid waste, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

3.16 SOCIAL AND ECONOMIC EFFECTS

This section explores the issue of social environment in Madera County by providing a description of the demographic and income profile. The analysis includes information on the minority and low- and moderate-income populations and the potential impact of the Project (2022 RTP/SCS) on areas with high concentrations of minority, low-income or moderate-income populations.

According to CEQA Guidelines Section 15358(b), impacts to be analyzed in the EIR must be “related to physical changes” in the environment, not in economic or social conditions. In fact, CEQA Guidelines Section 15131(a) does not require an analysis of a project’s social or economic effects because such impacts are not, in and of themselves, considered significant effects on the environment. Section 15131(a) states:

“Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.”

The CEQA Guidelines also provide that physical effects on the environment related to changes in land use, population, and growth rate induced by a project may be indirect or secondary impacts of the project and should be analyzed in the EIR only if the physical effects would be significant (CEQA Guidelines Section 15358(a)(2)). Indeed, “evidence of economic and social impacts that do not contribute to or are not caused by physical changes in the environment is not substantial evidence that the project may have a significant effect on the environment” (CEQA Guidelines, § 15064(f)(6)). The California Supreme Court has explained that “[a]n EIR is to disclose and analyze the direct and the reasonably foreseeable indirect environmental impacts of a proposed project if they are significant.... Economic and social impacts of proposed projects, therefore, are outside CEQA’s purview” (Anderson First Coalition v. City of Anderson [2005] 130 Cal.App.4th 1173, 1182 [citing CEQA Guidelines, §§ 15126.2, 15064(d)(3)] [emphasis in original]). Accordingly, it is only “[w]hen there is evidence ... that economic and social effects caused by a project ... could result in a reasonably foreseeable indirect environmental impact, such as urban decay or deterioration, then the CEQA lead agency is obligated to assess this indirect environmental impact” (Ibid).

“Environmental Justice (EJ)” is a term often used to describe the types of social effects that are outside the realm of CEQA. Specifically, Environmental Justice is the concept that environmental laws, policies, and impacts should be applied such that projects do not result in the disproportionate infliction of environmental impacts on populations comprising ethnic minorities and/or underprivileged groups. An analysis of Environmental Justice, however, is a required element of environmental review under the National Environmental Policy Act (NEPA), not CEQA (see United States Code, title 42, §§ 4331(a), 4342,

4344). Under CEQA, and as set forth above, a lead agency has an obligation to analyze impacts on the physical environment, not social or economic impacts. Accordingly, an Environmental Justice analysis is not required.

Regardless, on February 11, 1994, President Clinton issued an “Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” (Executive Order 12898, 1994). This Order is designed to focus federal attention on environmental and human health conditions in minority communities and low-income communities. The Order is further intended to promote non-discrimination in federal programs substantially affecting human health and the environment and to provide for information access and public participation relating to such matters.

Even though not required by CEQA, the Environmental Justice analysis provided below is intended to achieve compliance with the letter and spirit of Executive Order 12898 and other federal requirements by addressing the question of whether and how the impacts of the Proposed Project and alternatives may disproportionately affect minority and low-income populations.

Regulatory Setting

At the federal level, requirements include civil rights protections against discrimination in federally funded programs on the basis of a person’s race, color, or national origin; and federal environmental justice objectives aimed at avoiding disproportionately high and adverse effects on minority and low-income populations. At the state level, requirements include civil rights protections against discrimination on the basis of sex, race, color, religion, ancestry, national origin, ethnic group identification, age, mental disability, physical disability, medical condition, genetic information, marital status, or sexual orientation. At the regional level, MCTC has adopted environmental justice principles and objectives that promote equity throughout the agency’s regional planning efforts.

Environmental justice addresses equal and fair access to a healthy environment, with the goal of protecting minority and low-income communities from disproportionate negative environmental impacts. The analysis helps policymakers, local jurisdictions and the public understand the equity-related implications of implementing the RTP in the region, especially in the disadvantaged communities.

Environmental Justice is concerned with ensuring that adverse human health or environmental effects of governmental activities do not disproportionately fall on minority and low-income populations. For transportation, environmental justice means assessing the nature, extent, and incidence of probable impacts, both negative and positive, from any transportation-related activity. The transportation activities include the transportation planning process through implementation of individual transportation projects.

On February 11, 1994, former President Clinton signed Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The Executive Order directs every Federal agency to make environmental justice part of its mission by identifying and addressing the effects of all programs, policies, and activities on under-represented groups and low-income populations. Minority populations are currently protected from discrimination under Title VI of the Civil Rights Act of 1964. However, the new order, Executive Order 12898, specifically calls attention to the protection of minority populations and to low-income populations. Title VI states that “No person...shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” Title VI establishes the need for transportation agencies to disclose to the public the benefits and burdens of proposed projects on minority populations. The understanding of civil rights has expanded to include gender, religion, and disability. Title VI was further amended in 1987 to extend non-discrimination requirements for recipients of federal aid to all of their programs and activities, not just those funded with federal funds.

The United States Department of Transportation (DOT) recognizes that transportation programs and policies may disproportionately burden low-income and minority communities. Hence, the U.S. DOT has issued its own order, 5680.2, to clarify and reinforce environmental justice policies for minorities and low-income populations. The Federal Highway Administration (FHWA), a branch of the DOT, has begun to carry out the order and require environmental justice analyses in its transportation programs and activities. FHWA has set policies for integrating environmental justice principles into existing operations, preventing disproportionately high and adverse effects and actions to address disproportionately high and adverse effects on low-income and minority populations. All federally funded transportation planning and decisions must involve an environmental justice assessment process that explicitly considers adverse effects or the potential of adverse effects on the populations.

FHWA wants to ensure that social, economic, and environmental impacts are addressed up front, from early on in the planning process through individual improvement project implementation. As a federally designated metropolitan transportation planning organization, MCTC is required to comply with rules and policies set forth by FHWA. MCTC’s planning and programming activities have the potential to disproportionately affect human health or the environment, especially for minority and low-income populations. Metropolitan Planning Organizations (MPOs) and other related agencies will include explicit consideration of the effects of transportation activities on minority and low-income populations. This could include establishing procedures or providing meaningful opportunities for public involvement by members of minority populations and low-income populations during the planning and development of programs. Agencies should also provide public access to public information concerning the human health or environmental impacts of programs, policies, and activities. There are three main elements to FHWA’s environmental justice policy:

- ✓ Avoid, minimize, or mitigate disproportionate high and adverse human health or environmental effects, including social and economic effects on minority populations, and low-income populations.

- ✓ Ensure full and fair participation by all potentially affected communities in the transportation decision-making process.
- ✓ Prevent denial of reduction in or significant delay in the receipt of benefits by minority populations and low-income groups.

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to developing, implementing, and enforcing environmental laws, regulations, and policies. 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 human health and safety, economic development, society and culture, accessibility, and the natural environment.

Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.

Meaningful involvement means that:

- ✓ People have an opportunity to participate in decision about activities that may affect their environment and/or health.
- ✓ The public's contribution can influence the regulatory agency's decision.
- ✓ Community concerns will be considered in the decision-making process.
- ✓ The decision makers seek out and facilitate the involvement of those potentially affected.

Minority Populations: "Minority population" means "any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity."¹ Minority populations include persons who identify as any of the following groups as defined by the Census Bureau² in accordance with guidelines provided by the U.S. Office of Management and Budget, as well as DOT Order 5610.2(a).

- ✓ Black or African-American – A person having origins in any of the Black racial groups of Africa.
- ✓ Hispanic or Latino – A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

¹ DOT Order 5610.2(a),

https://www.fhwa.dot.gov/environment/environmental_justice/ej_at_dot/orders/order_56102a/

² US Census Bureau's definitions for race and ethnicity, see:

<http://www.census.gov/topics/population/race/about.html>.

- ✓ American Indian or Alaska Native – A person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment.
- ✓ Asian – A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
- ✓ Native Hawaiian or Other Pacific Islander – A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

The non-Environmental Justice population includes those persons who identify as white and not Hispanics or Latino.

According to the Council of Environmental Quality (CEQ), an advisory body in the Executive Branch, minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above stated thresholds³.

Analysis Methodology

MCTC staff began by analyzing racial and income data from the 2020 Census. The block group level data was chosen as the primary level of Census data analysis because it provides the most specific data for the geographic analysis of income and race. With 79 block groups within Madera County, block group data provides a more accurate level of analysis for both income and race when compared to census tract level data, which includes only 19 tracts within Madera County.

For racial data, block level data is available, which would provide a more accurate level of data analysis; however, the most specific level of data available for income information is the block group. To keep the maps and boundaries of the income and race data consistent, the block group level data was chosen.

Once the Census information for race and income were imported into the MCTC Geographic Information Systems (GIS) database, staff was able to identify racial and income characteristics of the county. Based on these characteristics, staff demarcated block groups into five target areas to analyze equity of the 2022 RTP and SCS capacity increasing; rehabilitation and maintenance; transit; air quality; bicycle and

³ Council on Environmental Quality, "Environmental Justice under the National Environment Policy Act," December 10, 1997. <<http://ceq.eh.doe.gov/nepa/regs/ej/ej.pdf>>

pedestrian; and Caltrans projects. Projects were then assigned to particular target areas and analyzed for levels of benefit.

The goal of this process was to ensure racial, low-income and geographic equity of project benefit. That is, populations considered minority or low-income should have equal levels of benefit compared to other population groups. Similarly, projects and the level of benefit they provide should not be concentrated into one geographic region, but rather should be distributed proportionally to the share of use of a particular system. A map of the five target areas and the population density of the County are displayed in Figure 3-21. The locations with the highest concentrations of persons in the county are the City of Madera, City of Chowchilla, Oakhurst and the Madera Ranchos areas. Figure 3-21 displays the target areas and significant roads in more detail.

Target Area Population Characteristics

Target area I includes the town of La Vina, located in the south-west corner and is characterized by being mostly rural, with a population of 7,372 persons. Target area I accounts for roughly 4.7% of the total county population.

Target area II includes all of the City of Chowchilla and surrounding block groups. Racial and population figures from the two prisons within this area have been omitted. There are 22,070 persons within the target area. Target area II represents 14.2% of the total county population.

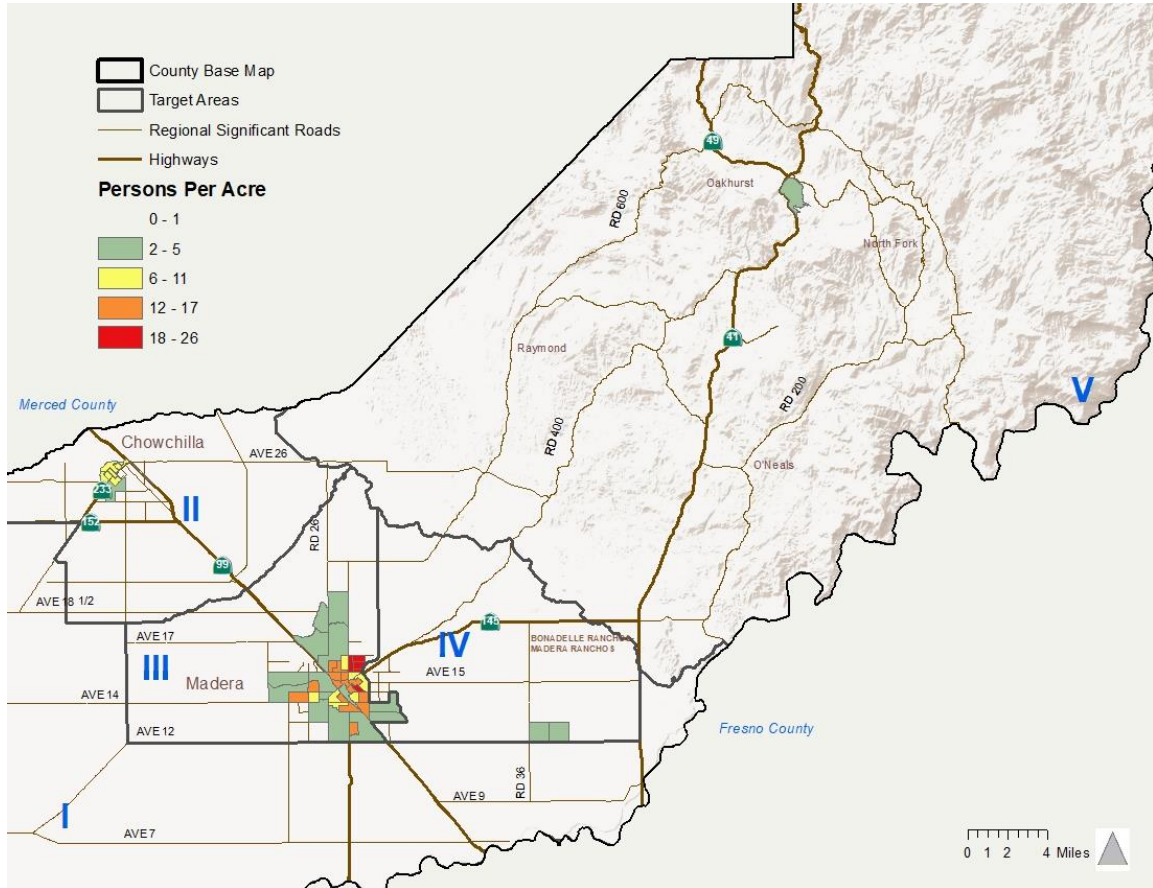
Target area III includes all of the City of Madera and is therefore, the most populous of the five target areas. There are 84,689 persons within the area. Target area III represents 54.3% of the total county population.

Target area IV includes the Madera Ranchos area, which is located near Avenue 12, between Highway 41 and Road 34. Target area IV also includes the areas of Ripperdan and Eastin Arcola, located in the south-west portion of the target area. There is significant population growth planned for this target area in the future, much of which will take place in the Rio Mesa development area, located in the north-eastern portion of the target area. Roughly 15,000 housing units and 40,000 persons are expected to occupy the Rio Mesa development area once it is fully developed. Currently, there are 14,201 persons in the target area. Target area IV represents 9.1% of the total county population.

Target area V represents the mountain communities within Madera County, north of the Madera Canal. A significant portion of target area V lies within the Sierra National Forest, with little population. The majority of the persons living within target area V live in the Yosemite Lakes, Coarsegold, Oakhurst, Bass Lake and North Fork areas. There are 27,593 persons within target area V. Target area V represents 17.7% of the county's total population.

FIGURE 3-21

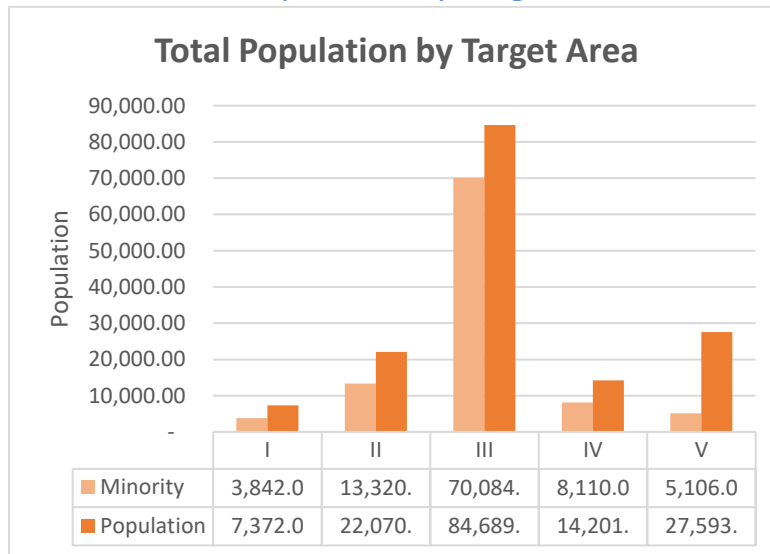
Madera County Population Density, Target Areas and Significant Roadway Network



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

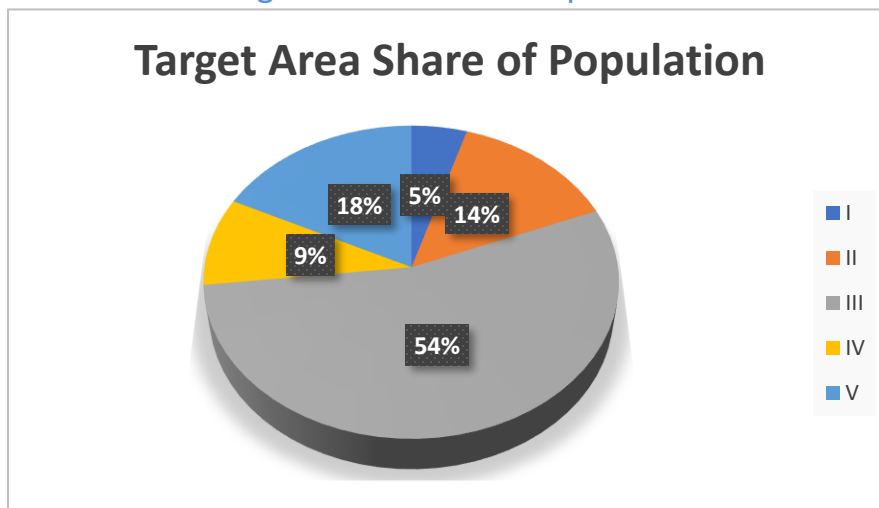
Figures 3-22 and 3-23 display graphical representations of the five target area characteristics.

FIGURE 3-22
 Total Population by Target Area



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

FIGURE 3-23
 Target Area Share of Population



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

Racial Minority Populations

Figure 3-22 shows qualifying zones containing racial minorities by block group according to the American Community Survey 5- Year Estimates 2016-2020. Within the County of Madera, 103,816 persons, or 66.6% of the County population fall under the category of racial minority. In Figure 3-23, designated minority populations are demarcated by a blue shade. Minority populations are located primarily in target areas III and II. Target area III contains the City of Madera and includes 70,084 (69.8% of the target area) persons representing an ethnic minority group. Target area I includes 3,842 persons representing ethnic minority groups, 52% of the target areas population. Target area II includes the City of Chowchilla and contains 13,320 persons representing ethnic minority groups, 60% of the target areas population. The prison population contained within target area II is omitted from this analysis. Target area IV includes the Madera Ranchos area and the communities of La Vina and Ripperedan. Target area IV contains 8,110 persons representing ethnic minority groups, 57% of the target areas population. Target area V represents the eastern portion of Madera County and is comprised of several rural mountain communities. Target area V contains 5,106 persons representing ethnic minority groups, 19% of the target areas population.

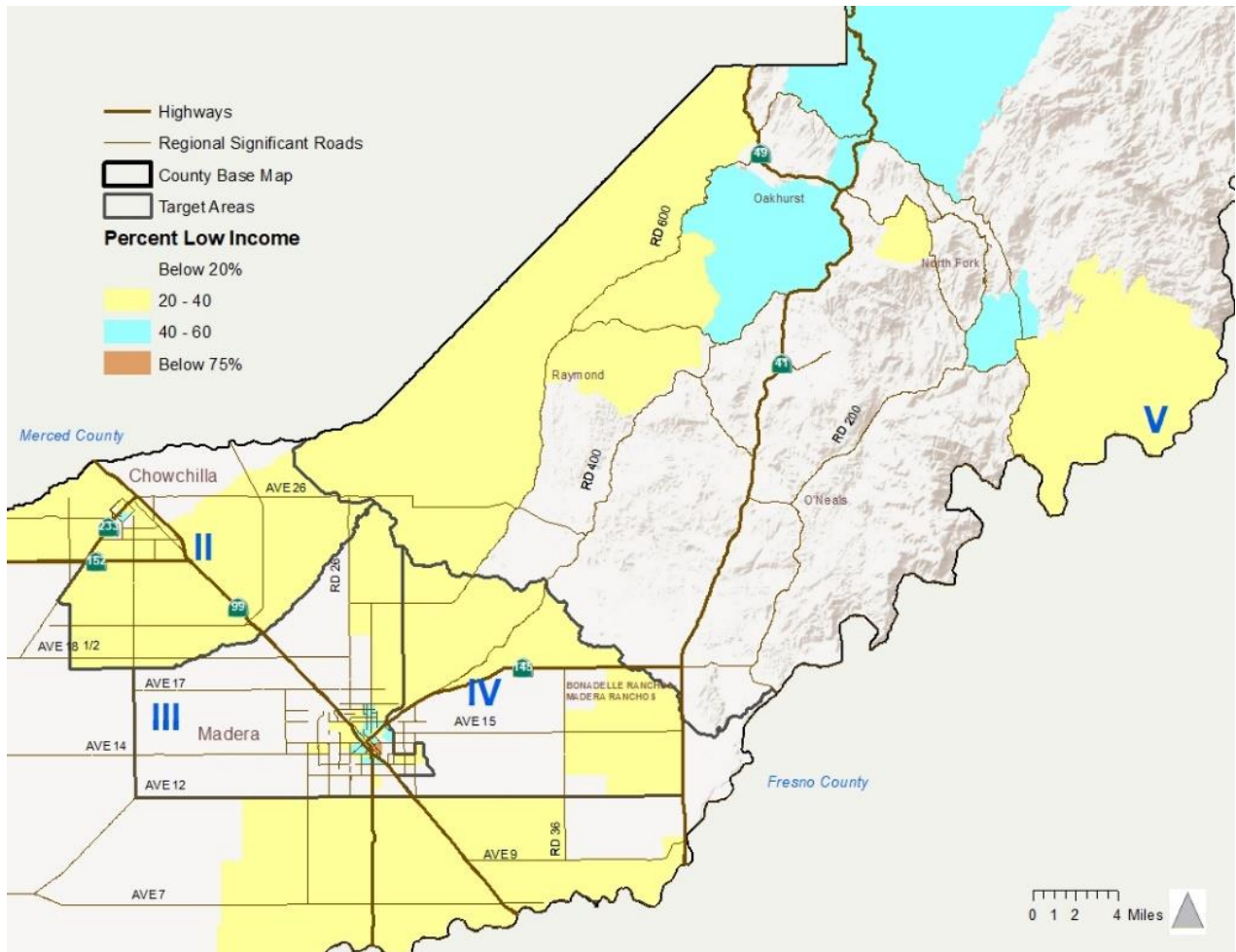
Low-Income Populations

In addition to racial minorities, another traditionally underserved population is low-income residents. For the purpose of this study, each block group within the five target areas is labeled according to percentage greater than 20% of the poverty level. The U.S. Department of Health and Human services has determined that the poverty level in 2022 for a family of four is \$27,750.⁴

Figure 3-24 highlights low income populations. Examining the poverty level threshold for each block group reveals that the City of Chowchilla, within target area I and the City of Madera, within target area III, contain block groups with significant levels of residents at or near the poverty line. In Figure 3-25, block groups containing both low-income populations and minority populations are demarcated in the color blue. The only target area which does not have block groups that meet both criteria is target area V, Eastern Madera.

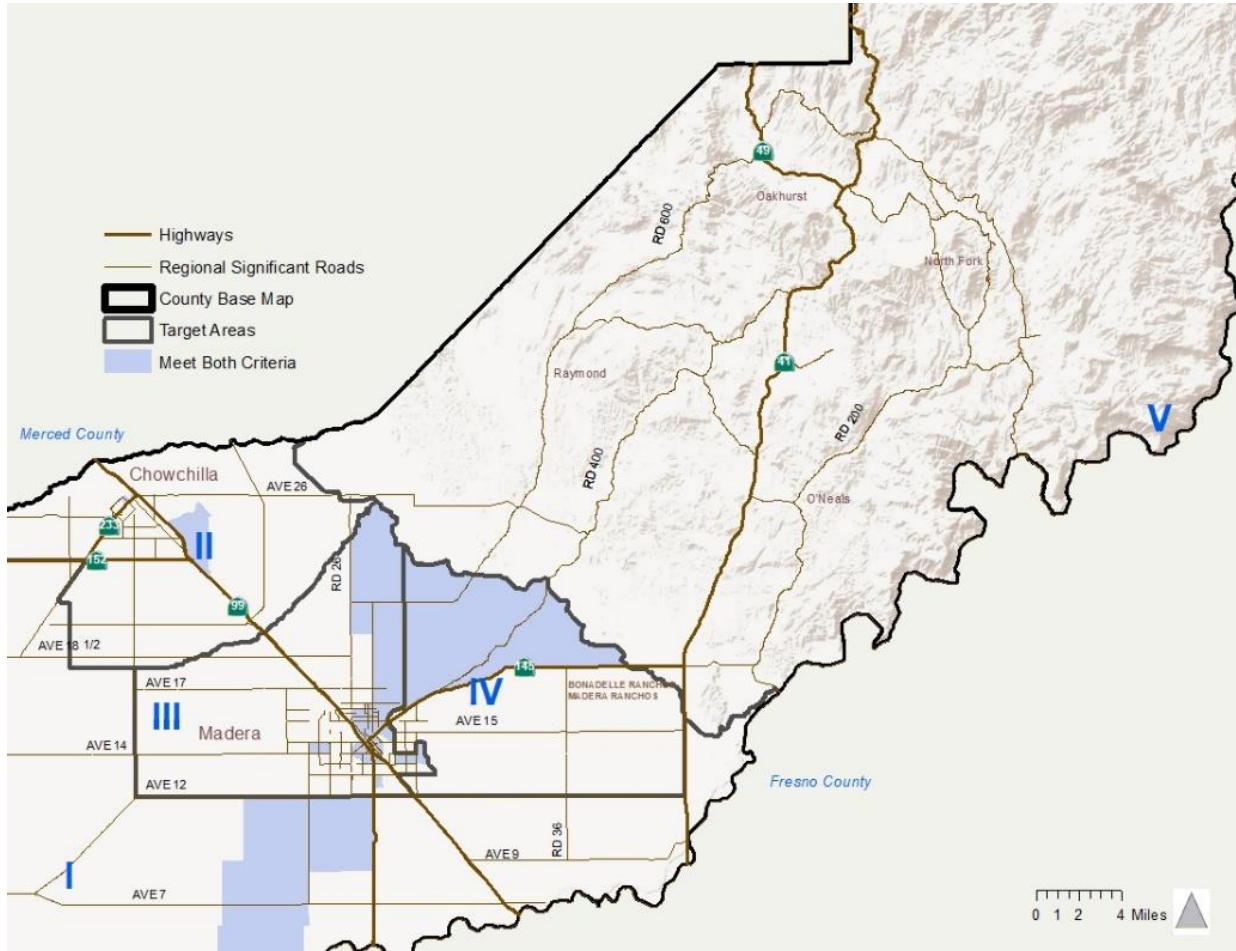
⁴ Health and Human Services, *HHS Poverty Guidelines for 2022*. <<https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines>>

FIGURE 3-24
Low-Income Populations



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

FIGURE 3-25
Low-Income and Minority Populations



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

Environmental Justice Areas

Analysis was performed on the state designated SB 535 disadvantaged communities as determined by CalEnviroScreen (CES). According to CES, disadvantaged communities are census tracts that rank in the top 25th percentile in the state for pollution burden, along with several other social and environmental factors.⁵ Using these criteria MCTC identified 11 census blocks for the equity analysis. Figure 3-26 shows that the state designated disadvantaged communities are located in target zones I, II, III, and part of target zone IV.

For a regional analysis MCTC identified environmental justice areas as census blocks that have a concentration of minority and/or low-income residents and Language English Proficiency (LEP) above 20%, elderly population over the age of 65 and transit dependent population. or a regional analysis MCTC identified environmental justice areas as census blocks that meet both criteria for minority and/or low-income residents and Language English Proficiency (LEP) above 20%. Figure 3-25 also shows that target zones II and III, primarily within the City of Chowchilla rank in the top 25 percentile pollution burden, meet the EJ criteria of minority and limited means, and the City of Madera also includes LEP population.

The majority of the elderly and transit dependent areas are located in target zone V, as shown in Figure 3-26. Zone II and Zone III have some overlapping with transit dependent populations as shown in Figure 3-27.

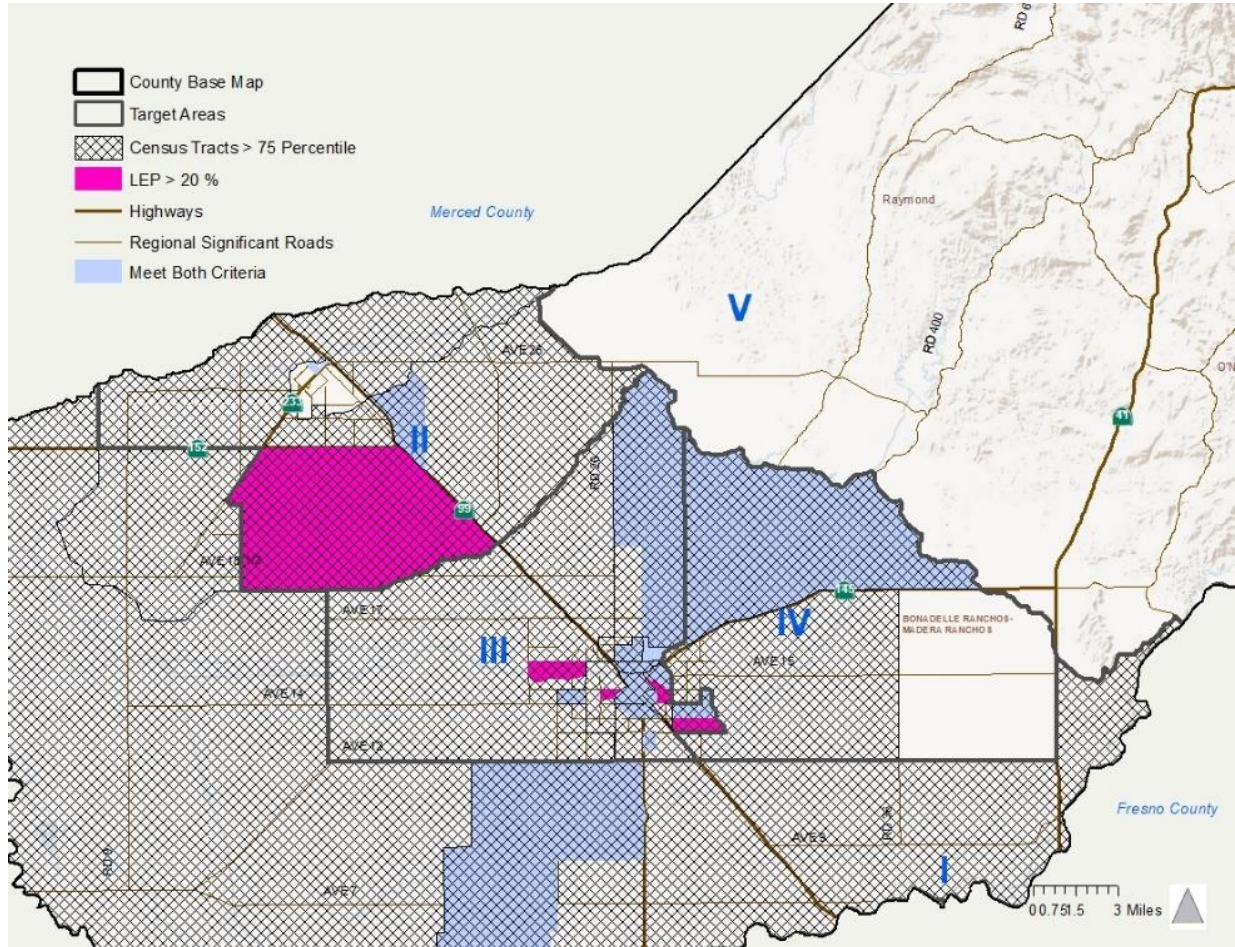
Roadway-Emphasis Projects

Roadway-emphasis projects include mainline highway, highway interchange, highway maintenance, regional roadway and regional roadway maintenance projects as listed in the 2022 RTP. Due to these projects' location-specific nature, this analysis is reliant on proximity to the proposed improvements and to regional travel patterns.

Each project is assigned to one of the five target areas; however, the benefit of each particular project is not limited only to residents of the target area in which the project is located. For example, any capacity increasing or rehabilitation project located on Highway 41 near Avenue 12 will not only benefit residents in target area IV but will benefit residents in target area V as well, since Highway 41 is the main thoroughfare to the mountain communities. Similarly, improvements made to Highway 99 will benefit all communities located on the valley floor since it is a primary travel corridor for Madera County residents. Benefit of Highway 99 projects is therefore assigned to target areas I, II, III and IV.

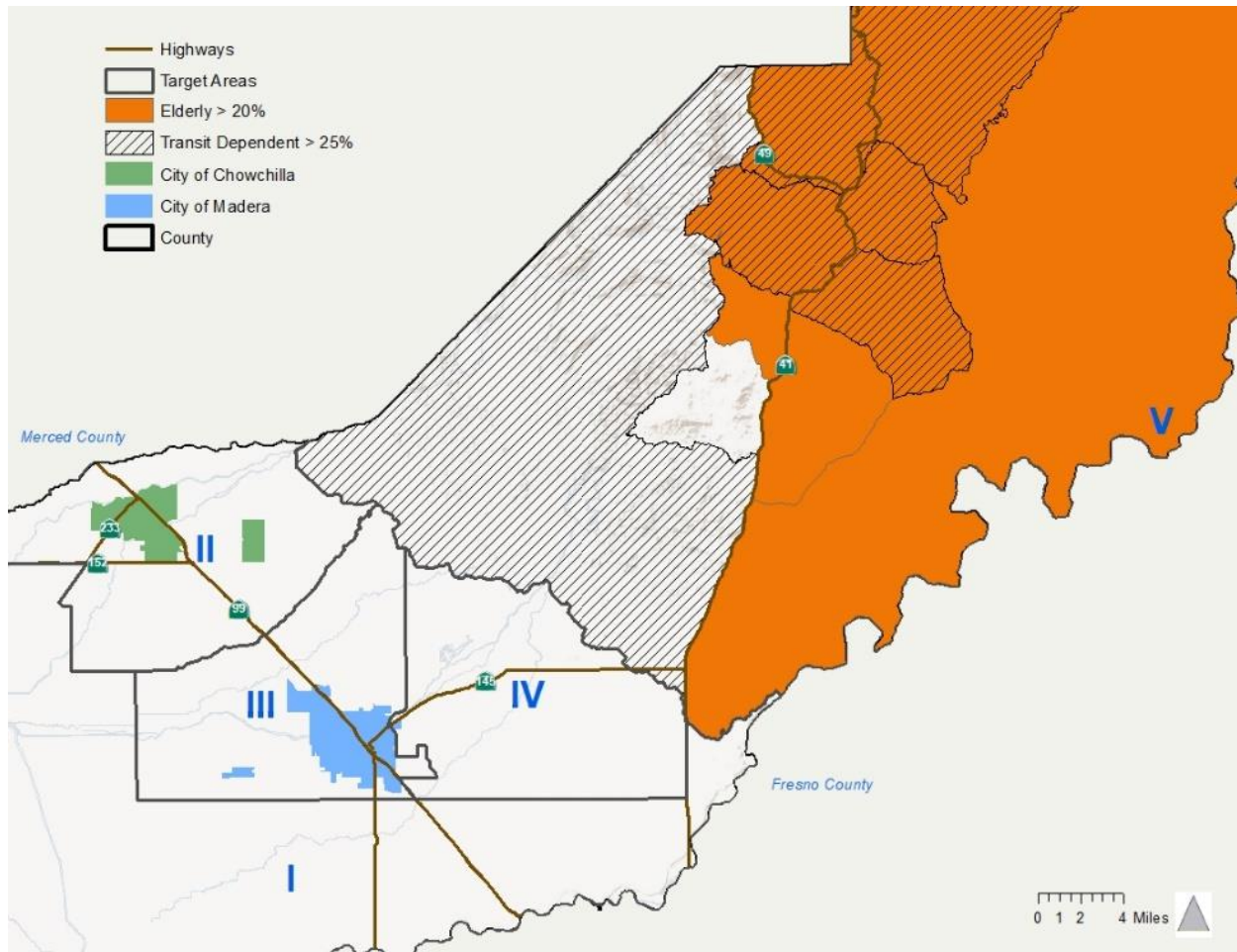
⁵ California EPA CalEnviroScreen, SB 535 Disadvantaged Communities.
See: <https://oehha.ca.gov/calenviroscreen/sb535>

FIGURE 3-26
Madera County Environmental Justice Areas



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

FIGURE 3-27
Madera County Elderly and Transit Dependent



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

This method of assigning benefit to more than one target area explains why the analysis category “percent share of investment” used throughout this chapter will not be zero sum. This process of analyzing project benefit relative to geography was found to be the most accurate method of analysis. Subsequently, if MCTC staff is able to show a geographically equitable distribution of projects, those minority and low-income populations that exist within the specific geography would garner equal levels of project benefit relative to the rest of the County.

Similarly, there are more investment dollars planned for Highway 99 compared to Highway 41, which explains the slightly less investment dollars in target area V, which is not assigned Highway 99 project benefits. The large investment of Highway 99 projects also explains the relatively large amount of benefit to target areas I and II relative to their share of the drive-to-work population.

Roadway-emphasis investments are equitable across the spectrum of different income and racial groups. With geographic equity among target areas, block groups contained within these areas benefit from similar levels of equity. In particular, Target Area III, which is characterized by low-income and racial minority populations, derives significant benefit from roadway-emphasis investment.

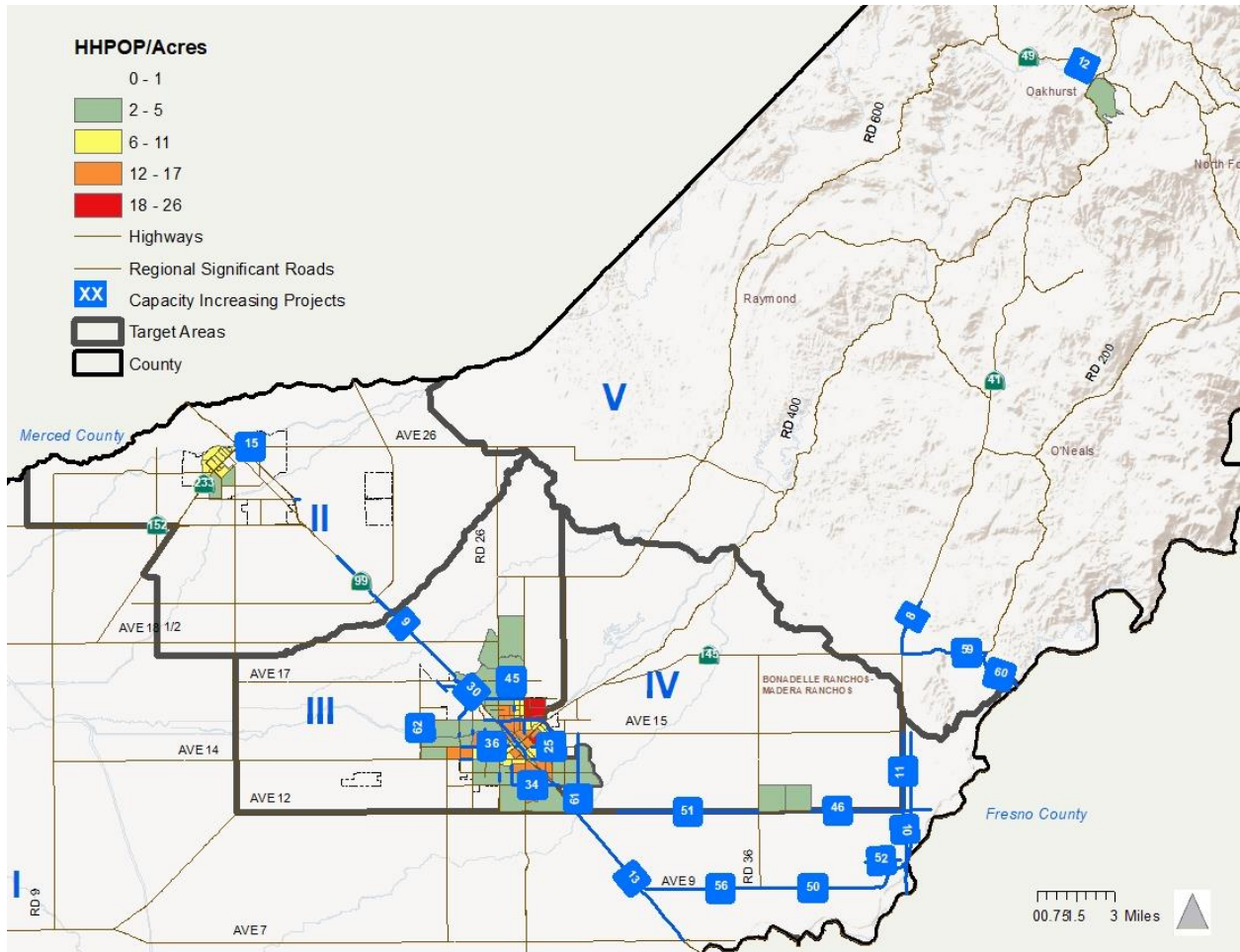
Figures 3-28 through 3-32 identify the proposed capacity increasing street and highway projects compared to 2020 low-income and minority populated areas within the County, Chowchilla and Madera. The results continue to support the conclusion that the projects do not negatively impact the low-income or minority populated areas any greater than they do higher income and non-minority populated areas of the County. Furthermore, transportation improvement projects also benefit the low-income and minority populated areas of the County to the same extent as they do the higher-income and non-minority populated communities or areas of the County.

Bus Transit Projects

Transit services within Madera County play an integral role in the transportation of low-income, elderly and people with disabilities residents who lack reliable use of personal automobiles. Fixed-route and demand-response transit systems provide access to jobs and services throughout the county. Public transit in Madera County includes Madera Area Express fixed route and Dial-a-Ride, Madera County Connection, Eastern Madera Senior Bus, Escort Program, Chowchilla Area Transit Express, CatLinx, specialized social service transportation services, Greyhound, and taxi service. Public transportation is provided by fixed-route and demand-response transit systems, as described Chapter 2 – *“Requirements, Trends & Contents.”*

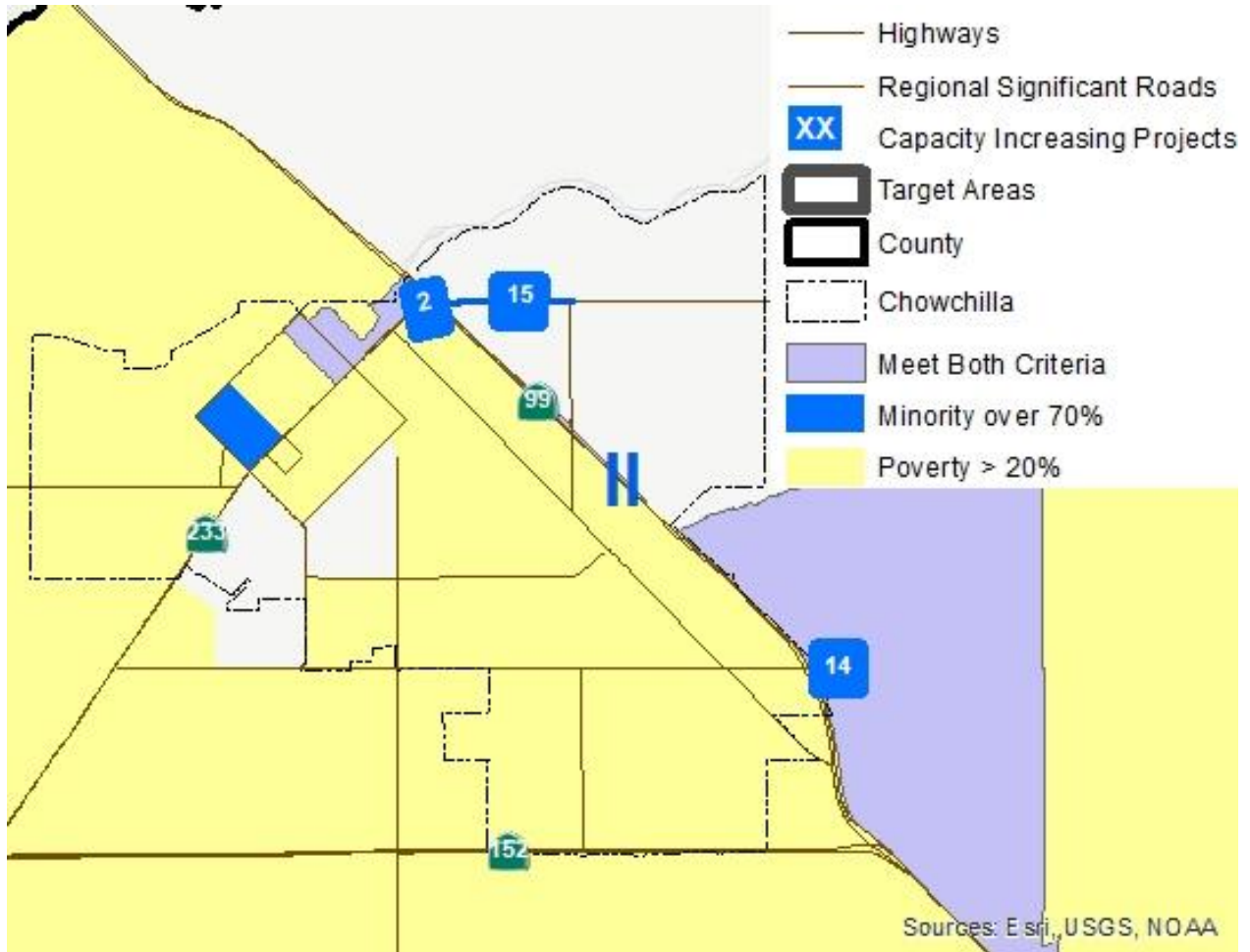
To determine the adequacy of the current transit system and areas needed for improvement, public participation is critical. MCTC is committed to annually complete an Unmet Transit Needs Public Hearing process. The purpose of this process is to receive testimony from the public regarding transit systems within the County. The fixed route system, Madera Area Express, and the Madera County Connection owe their creation to this process, and since it is such an important one, MCTC staff undertakes extensive efforts to outreach to the community. Once comments are received, MCTC staff works with the Social Service Transportation Advisory Committee (SSTAC) to make recommendations for improvement to the MCTC Policy Board.

FIGURE 3-28
 Madera County Population Density Compared to Capacity Increasing Street and Highway Projects



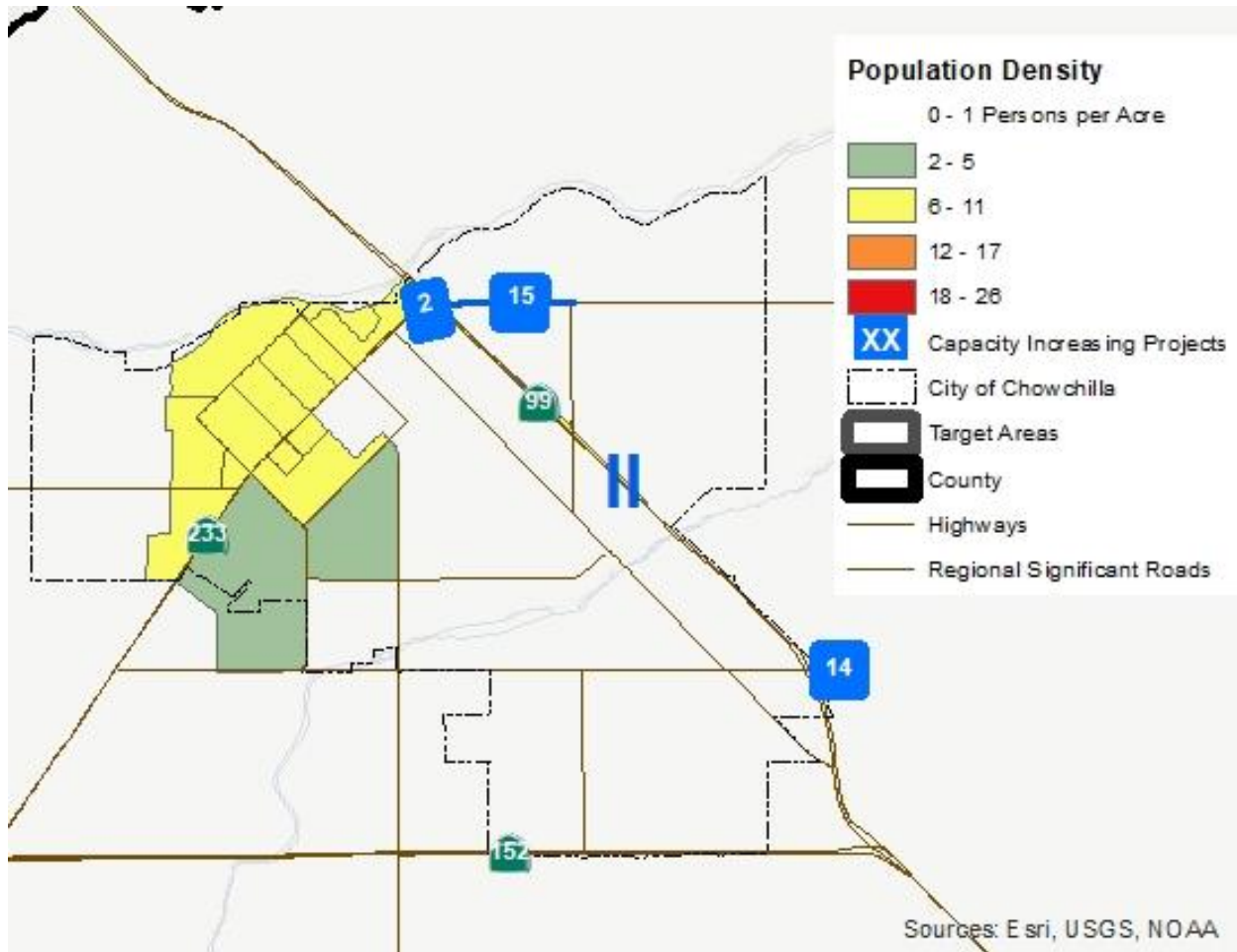
Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

FIGURE 3-29
Chowchilla Poverty Levels Compared to Capacity Increasing Street and Highway
Projects



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

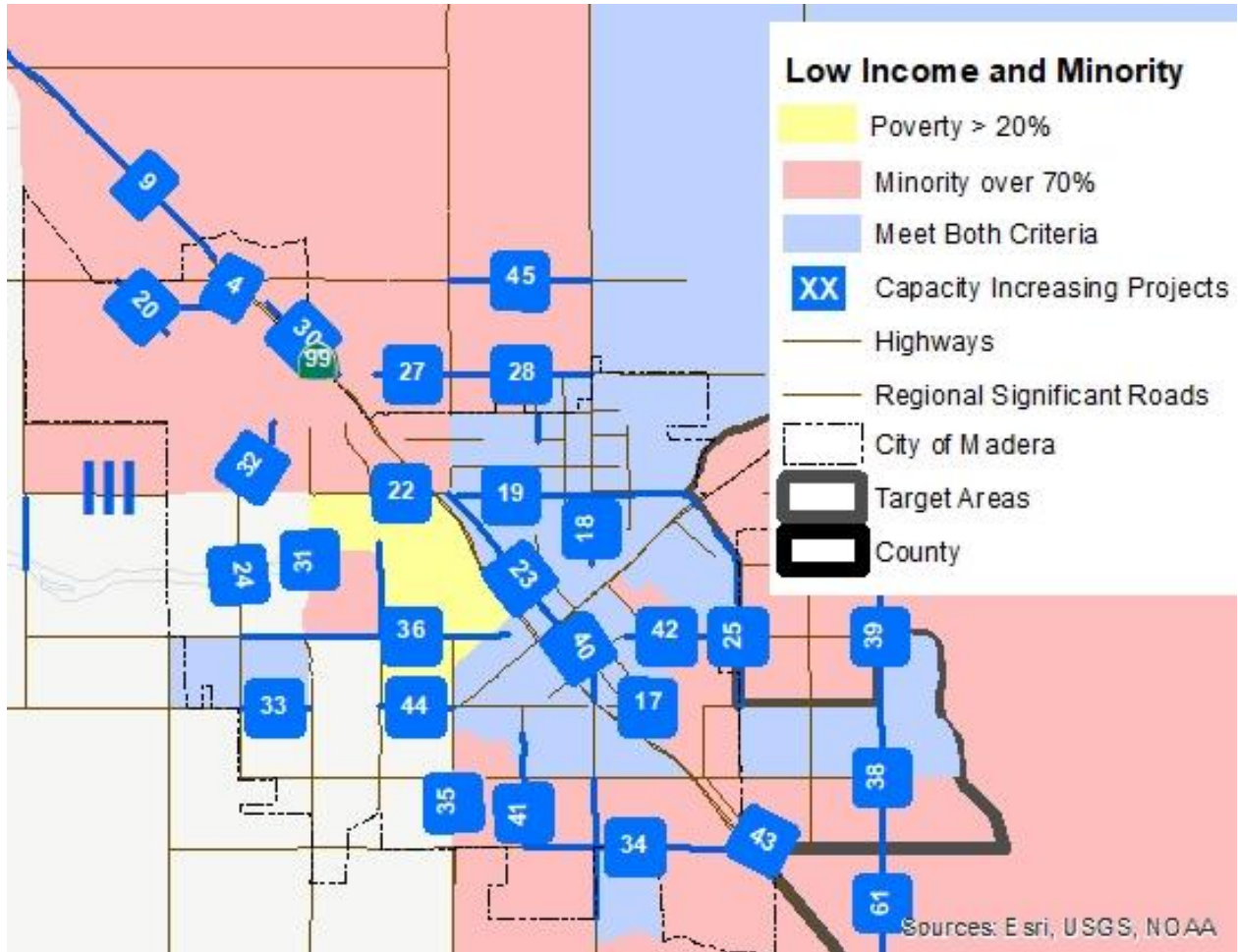
FIGURE 3-30
Chowchilla Population Density Compared to Capacity Increasing Street and Highway Projects



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

FIGURE 3-31

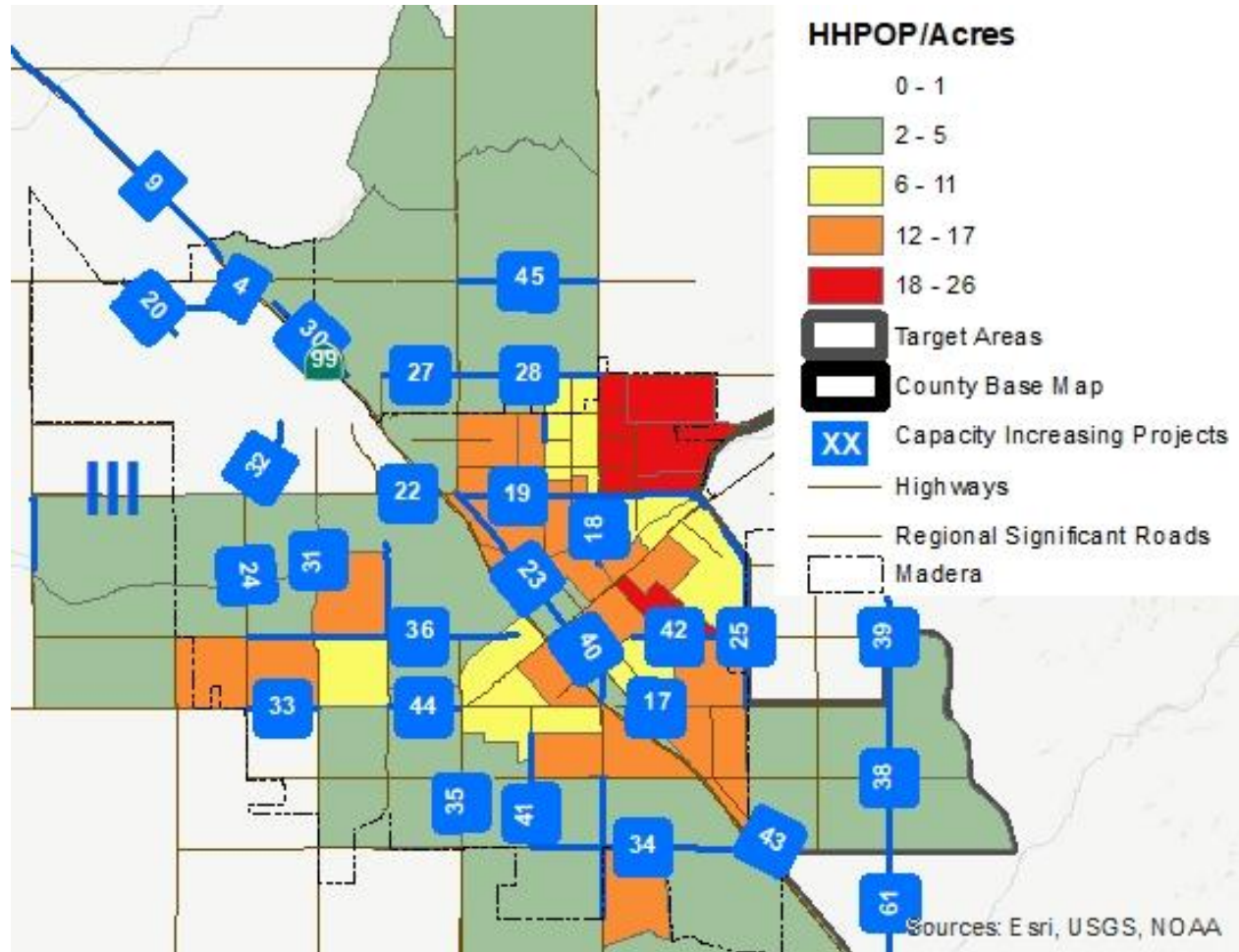
Madera Poverty Levels Compared to Capacity Increasing Street and Highway Projects



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

FIGURE 3-32

Madera Population Density Compared to Capacity Increasing Street and Highway Projects



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

Transit expenditures were calculated using projected estimates of FTA 5307, FTA 5311, Local Transportation Fund (LTF), and Congestion Mitigation & Air Quality (CMAQ) dollars. These funds were further broken down to the specific transit systems operating within Madera County and into their respective target areas. Since the Madera County Connection (MCC) operates in all five target areas, the funds available are divided equally among the five target areas.

Each transit system operates within a specific target area, except for the Madera County Connection, which provides service to all target areas. The number of passengers per service is assigned to the specific target area to quantify the percentage share of use. This share is then compared to the percentage share of transit investment.

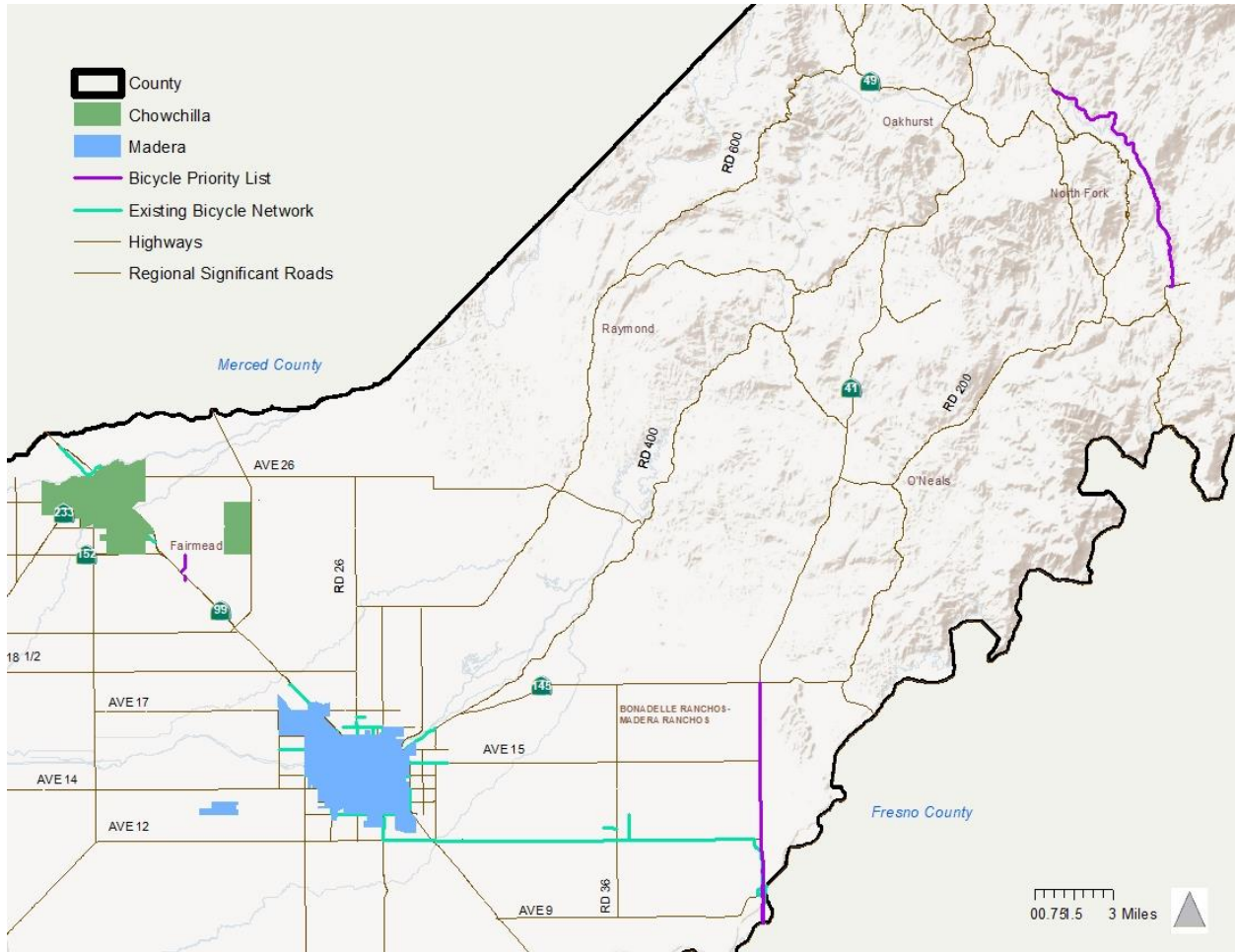
There exists a strong correlation between transit use and transit investment within Madera. Target area III, which has the largest proportion of minority and low-income residents--and also the most access to transit services (Madera Area Express and Madera Dial-A-Ride)—would receive the largest proportion of transit investment. This proportionality is a key element of equity analysis. Residents who rely on public transit most, should subsequently receive the largest share of transit investment. Similarly, transit investment in other target areas should be relatively proportional to its residents' use of the transit system. In this respect, there is equity of transit investment among all residents of Madera County.

Bicycle/Pedestrian Facilities

Bicycle and pedestrian facilities are integral components of a multi-modal transportation network. These facilities not only provide regional connectivity, but by reducing the reliance on motor vehicles, can have positive impacts on air quality. Bicycle and pedestrian facilities are primarily funded through LTF, CMAQ, and Measure T funds and there is an estimated \$90.2 million dollars available for such projects over the next 24 years.

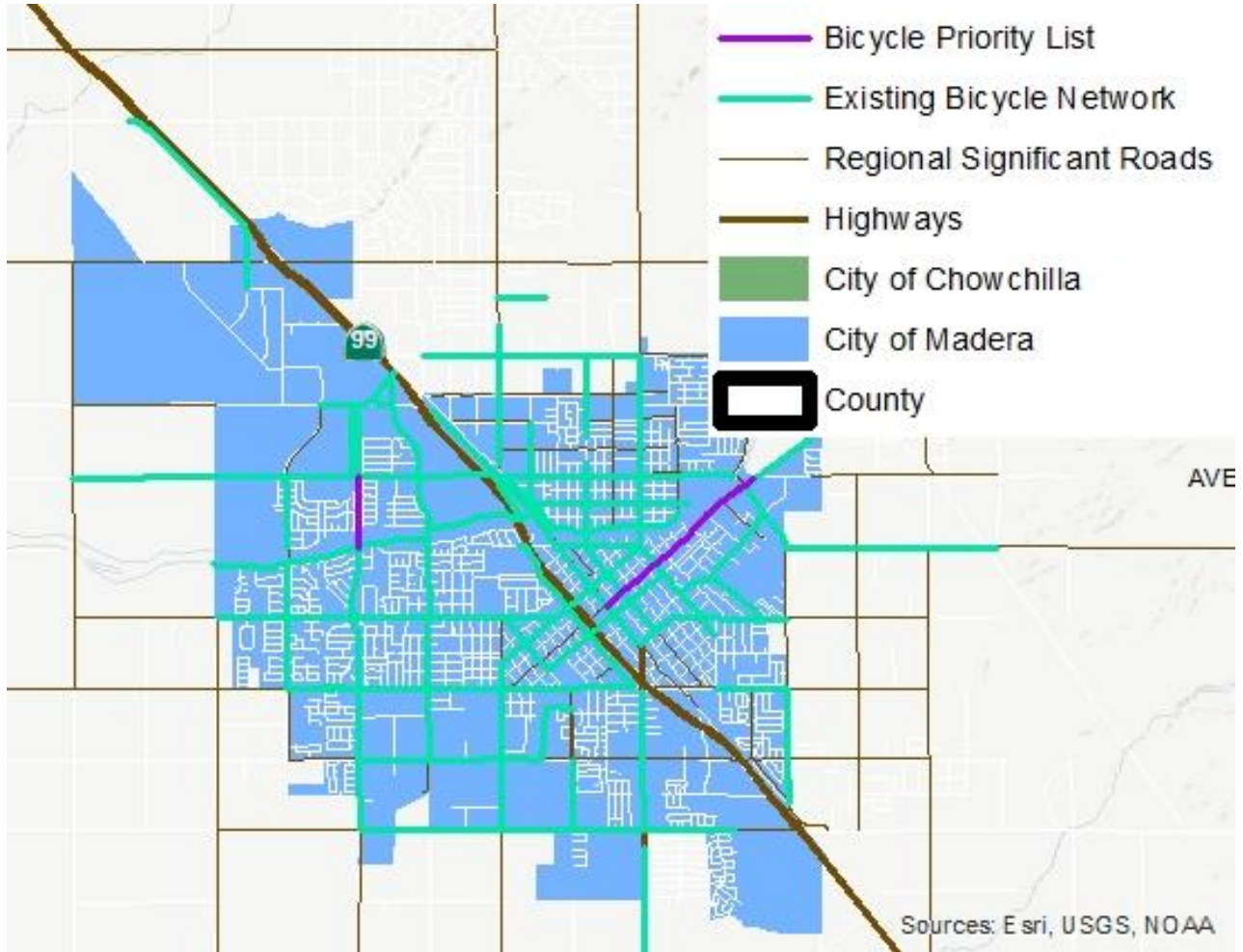
The majority of bicycle/pedestrian funding positively correlates with use, however there are some discrepancies. These discrepancies can be attributed to two factors. First, there are limitations to the number of residents who use the facilities. Since the City of Madera has higher population and commercial densities relative to the rest of the county, there is little surprise that there are significantly higher numbers of pedestrians who walk to work within the city. Similarly, more existing bicycle and pedestrian infrastructure can be found in the city relative to the rest of the county. Figures 3-33 through 3-35, show the existing and priority projects proposed for the bicycle network in the region. These projects are consistent with the ones in the Active Transportation Plan.

FIGURE 3-33
Madera County Existing Bicycle Facilities and Bicycle Priority List



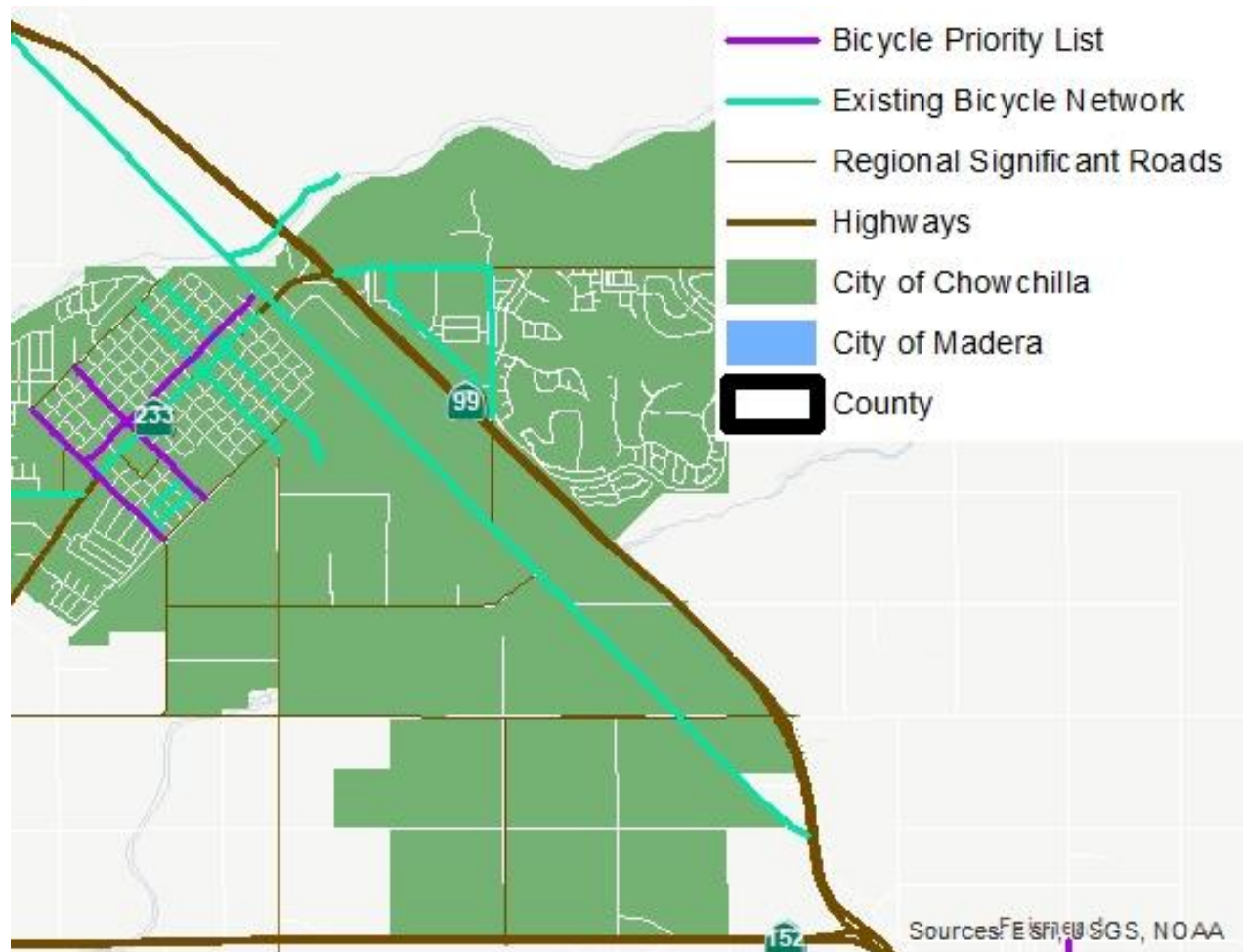
Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

FIGURE 3-34
City of Madera Existing Bicycle Network



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

FIGURE 3-35
City of Chowchilla Existing Bicycle Facilities and Bicycle Priority List



Source: MCTC, Madera County's 2022 Regional Transportation Plan and Sustainable Communities Strategy

Environmental Impacts

The equity analysis section mainly assesses whether all racial and income target areas will benefit from fair shares in the transportation investments. However, some transportation projects may create some adverse impacts. Successful transportation projects do not only focus on improvements to the transportation system, but also minimizes and mitigates any negative environmental and social impacts the project may create.

Air Pollution Emissions

The projects included in this RTP are intended to alleviate existing congestion and improve the level of service (LOS) for the roadway system. The completion of these proposed projects is likely to help congestion, thus reducing air pollutant emissions from vehicle idling and constantly accelerating and decelerating. Therefore, the neighborhoods that contain these projects may initially experience some negative impacts in local air quality due to the projects' construction, but in the long run, the local air quality in these areas will benefit from the better traffic flow and less localized pollutant emission.

In addition to the roadway projects, the transit and bike projects included in this RTP will also contribute to the improvement of air quality. The City and County of Madera has also been recognized for its efforts to improve air quality through the purchase of low pollutant or natural gas vehicles. Much of the money used for these particular clean air projects comes from federal CMAQ dollars.

Conclusion

The analysis in this chapter mainly focuses on racial minority, low-income and geographic equity of transportation projects within Madera County. This analysis endeavors to present a reasonably comprehensive investigation on the fairness of the distribution of benefits and detriments of the transportation projects included in this RTP/SCS.

Considering all the analyses as a whole, it is sufficient to conclude that the ***RTP/SCS does meet the environmental justice requirements***: ensuring that all residents of Madera County are subject to proportionate benefits and detriments of transportation investment.

Criteria for Significance

The Project will have a significant impact if the short-term construction and/or long-term operations of the proposed improvement and future land use development projects will result in disproportionately high and adverse human health or environmental effects on a minority and/or low-income population.

As defined by the "Final Guidance for Incorporating Environmental Justice Concerns," contained in the Guidance Document of the United States Environmental Protection Agency's NEPA Compliance Analysis (EPA 1998), minority (people of color) and low-income populations are identified where either:

- ✓ The minority or low-income population of the affected area is greater than 50 percent of the affected area's general population; or
- ✓ The minority or low-income population percentage of the affected area is meaningfully greater (50 percent or greater per EPA Guidance Document) than the minority population percentage in the

general population of the jurisdiction or other appropriate unit of geographic analysis (i.e., County or Native American Reservation) where the affected area is located.

In 1997, the President's Council on Environmental Quality issued Environmental Justice Guidance (CEQ 1997, available at <http://ceq.hss.doe.gov/nepa/regs/ej/justice.pdf>) that defines minority and low-income populations as follows:

- ✓ "Minorities" are 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 (without double-counting non-white Hispanics falling into the Black/African-American, Asian/Pacific Islander, and Native American categories).
- ✓ "Low-income populations" are identified as populations with mean annual incomes below the annual statistical poverty level.

Impact SE 3.16.1 – Construction impacts on minority and low-income populations

Construction of some improvement projects will be located in areas of minority and low-income populations.

The improvement and future land use development projects may have direct, short-term impacts on surrounding communities related to construction, including noise, air quality, and traffic. However, none of these projects are expected to have a disproportionate impact on minority or low-income communities. The Project is designed to serve the entire population of the County, and the transportation and future land use development projects are dispersed throughout the region.

While many of the transportation and future land use development projects are located in urban areas where a higher proportion of low-income and minority communities are, more existing transportation routes and facilities are located in those areas. Since more of the existing facilities are located in those areas, more major improvements to address existing deficiencies and accommodate projected population growth are also needed in those areas.

Furthermore, MCTC works with cities, counties, and other implementing agencies to encourage improvement projects that serve those communities with the greatest transit needs, such as low-income or minority communities in urban core areas. The location, design, and alignment of transportation facilities and routes are planned to reduce potential impacts to the extent feasible, and to ensure that if impacts occur, these impacts do not disproportionately affect low-income or minority populations.

Numerous construction sites of individual improvement and future land use development projects throughout the region may experience short-term noise, air quality, and traffic impacts. Mitigation measures have been identified in Sections 3.4, 3.12, and 3.14 to minimize potential impacts and protect

the sensitive uses that may be located near the individual improvement and future land use development project sites, including low-income and minority communities. It is not anticipated that minority and low-income communities would be disproportionately and adversely affected. As a result, short-term impacts are considered less-than-significant.

The Population and Housing section identified potential construction impacts resulting from implementation of the Project that would remain significant and unavoidable after mitigation due to the potential displacement or relocation of homes and businesses. This section also found that some of the transportation and future land use development projects have the potential to disrupt or divide a community by separating community facilities, restricting community access and eliminating community amenities. In addition, the Land Use section identified potential impacts to sensitive receptors including residences, educational facilities, medical facilities, and places of worship that would remain significant and unavoidable after mitigation.

It is not anticipated that minority and low-income communities would be disproportionately and adversely affected, as compared to other communities. As a result, long-term impacts are considered less-than-significant.

Mitigation Measures

- ✓ Impact is considered less-than-significant; no mitigation is required.

Significance After Mitigation

- ✓ Not applicable.

Impact SE 3.16.2 – Operational impacts on low-income and minority populations

The operation of some of the improvement and future land use development projects will occur in areas of low-income and minority populations.

The improvement and future land use development projects are designed specifically to improve transit accessibility, address existing deficiencies including congestion, and accommodate projected population growth to the extent feasible within the existing funding constraints. As discussed previously, the improvement projects are located throughout the region and are not disproportionately concentrated in low-income or minority areas. (There are more transportation improvements and future land use development projects are planned for urban areas). This is because more transportation facilities and services are located in those areas serving large concentrations of people. As a result, these facilities need improvements and maintenance to continue serving the rapidly growing urban populations.

The Project will improve the transportation system through a variety of projects. These improvements are intended to improve traffic flow and reduce congestion, and to address existing deficiencies associated with the projected population increases. A beneficial impact that will result from the Project is greater transit accessibility for low-income and minority residents. These improvements are particularly important for low-income and minority communities, as these groups typically rely on public transit to a much greater extent than communities with higher incomes. Improvements will also allow more people in the region to reduce their dependence on automobiles and will provide enhanced connections to employment and housing.

It is anticipated that the improvement projects will increase accessibility and address existing problems with the transportation network. The projects are not expected to disproportionately affect low-income communities in an adverse way, since these projects are dispersed throughout the region, and are designed to improve transportation facilities where they are needed most. As a result, this impact is considered less-than-significant.

Mitigation Measures

- ✓ Impact is considered less-than-significant; no mitigation is required.

Significance After Mitigation

- ✓ Not applicable.

3.17 TRANSPORTATION

Implementation of the Project will result in improvements to existing regional transportation and circulation systems. Proposed improvements are intended to fulfill required regional transportation needs. Proposed street and highway programs are aimed at reducing existing traffic and other transportation/circulation conflicts and resulting accident hazards. Implementation of planned improvements to the street and highway network, improvement of County airports, provision of public transit facilities, identification of additional bikeways and pedestrian improvements, and improved transportation systems that accommodate goods movement will have beneficial effects on a region wide basis to address 2022 RTP/SCS objectives.

Regulatory Setting

Federal Regulations

- ✓ **U.S. Environmental Protection Agency (EPA) and Federal Clean Air Act (CAA)** - The Federal Clean Air Act first adopted in 1967 and periodically amended since then, established federal ambient air quality standards. A 1987 amendment to the Bill set a deadline for the attainment of these standards. That deadline has since passed. The other CAA Bill Amendments, passed in 1990, share responsibility with the State in reducing emissions from mobile sources. The U.S. Environmental Protection Agency (EPA) is responsible for enforcing the 1990 amendments.

CAA Section 176(c) (42 U.S.C. 7506(c)) and EPA transportation conformity regulations (40 CFR 93 Subpart A) require that each new RTP and Transportation Improvement Program (TIP) be demonstrated to conform to the State Implementation Plan (SIP) before the RTP and TIP are approved by the Metropolitan planning organization (MPO) or accepted by the U.S. Department of Transportation (DOT). The conformity analysis is a federal requirement designed to demonstrate compliance with the national ambient air quality standards.

- ✓ **National Environmental Policy Act (NEPA)** - The National Environmental Policy Act (NEPA) provides general information on effects of federally funded projects. The act was implemented by regulations included in the Code of Federal Regulations (40CFR6). The code requires careful consideration concerning environmental impacts of federal actions or plans, including projects that receive federal funds. The regulations address impacts on land uses and conflicts with state, regional, or local plans and policies, among others. They also require that projects requiring NEPA review seek to avoid or minimize adverse effects of proposed actions, and also to restore and enhance environmental quality as much as possible.

- ✓ **Infrastructure Investment and Jobs Act/Bipartisan Infrastructure Law (BIL)** - On November 15, 2021, President Biden signed the Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58, also known as the “Bipartisan Infrastructure Law”) into law. The Bipartisan Infrastructure Law is the largest long-term investment in our infrastructure and economy in our Nation’s history. It provides \$550 billion over fiscal years 2022 through 2026 in new Federal investment in infrastructure, including in roads, bridges, and mass transit, water infrastructure, resilience, and broadband.

With respect to the Metropolitan Planning Program, the BIL continues many of the programs and regulations established previously in the Fixing America’s Surface Transportation (FAST) Act and Moving Ahead for Progress in the 21st Century Act (MAP-21). Some key changes are noted below:

- The BIL requires each MPO to use at least 2.5% of its PL funds (and each State to use 2.5% of its State Planning and Research funding under 23 U.S.C. 505) on specified planning activities to increase safe and accessible options for multiple travel modes for people of all ages and abilities. A State or MPO may opt out of the requirement, with the approval of the Secretary, if the State or MPO has Complete Streets standards and policies in place and has developed an up-to-date Complete Streets prioritization plan that identifies a specific list of Complete Streets projects to improve the safety, mobility, or accessibility of a street. For the purpose of this requirement, the term “Complete Streets standards or policies” means standards or policies that ensure the safe and adequate accommodation of all users of the transportation system, including pedestrians, bicyclists, public transportation users, children, older individuals, individuals with disabilities, motorists, and freight vehicles.
- The BIL requires the United States Department of Transportation to amend Federal regulations to define a metropolitan transportation plan’s outer year as beyond the first four years.
- The BIL requires an MPO that serves an area designated as a transportation management area, when designating officials or representatives for the first time and subject to the MPO’s bylaws or enabling statute, to consider the equitable and proportional representation of the population of the metropolitan planning area.
- The BIL allows MPOs to use social media and other web-based tools to encourage public participation in the transportation planning process.

The BIL makes several changes to include housing considerations in the metropolitan transportation planning process, including:

- updating the policy to include, as items in the national interest, encouraging and promoting the safe and efficient management, operation, and development of surface transportation systems that will better connecting housing and employment;
- adding officials responsible for housing as officials with whom the Secretary shall encourage each MPO to consult;
- requiring the metropolitan transportation planning process for a metropolitan planning area to provide for consideration of projects and strategies that will promote consistency between

- transportation improvements and State and local housing patterns (in addition to planned growth and economic development patterns);
 - adding assumed distribution of population and housing to a list of recommended components to be included in optional scenarios developed for consideration as part of development of the metropolitan transportation plan;
 - adding affordable housing organizations to a list of stakeholders MPOs are required to provide a reasonable opportunity to comment on the metropolitan transportation plan; and
 - within a metropolitan planning area that serves a transportation management area, permitting the transportation planning process to address the integration of housing, transportation, and economic development strategies through a process that provides for effective integration, including by developing a housing coordination plan.
- ✓ **Metropolitan Planning General Requirements** – Under BIL as previously established in MAP-21, the U.S. Department of Transportation (USDOT) requires that metropolitan planning organizations, such as MCTC, prepare long-range transportation plans (RTPs) and update them every four years if they are in areas designated as “nonattainment” or “maintenance” for federal air quality standards. Prior to enactment of MAP-21, the primary federal requirements regarding RTPs were included in the metropolitan transportation planning rules—Title 23 CFR Part 450 and 49 CFR Part 613. Key federal requirements for long range plans include the following:
- RTPs must be developed through an open and inclusive process that ensures public input; seeks out and considers the needs of those traditionally under served by existing transportation systems; and consults with resource agencies to ensure potential problems are discovered early in the RTP planning process;
 - RTPs must have a financially constrained element, transportation revenue assumptions must be reasonable, and the long-range financial estimate must take into account construction-related inflation costs;
 - RTPs must include a description of the performance measures and performance targets used in assessing the performance of the transportation system;
 - RTPs must include a system performance report evaluating the condition and performance of the system with respect to performance targets adopted by the state that detail progress over time;
 - RTPs may include multiple scenarios for consideration and evaluation relative to the state performance targets as well as locally developed measures;
 - RTPs must conform to the applicable federal air quality plan, called the State Implementation Plan (SIP), for ozone and other pollutants for which an area is not in attainment; and
 - RTPs must consider planning factors and strategies in the local context.
- ✓ **Transportation Security Administration (TSA)** - The TSA is responsible for the security of the nation’s transportation system. Highways, railroads, buses, mass transit systems, and ports are all monitored by the TSA in conjunction with state, local, and regional partners to ensure safety. The TSA focuses most of its resources on aviation security.

State Regulations

- ✓ **California Environmental Quality Act (CEQA)** - CEQA defines a significant impact on the environment as a substantial, or potentially substantial, adverse change in the physical conditions within the area affected by the individual improvement project. Land use is a required impact assessment category under CEQA. CEQA documents generally evaluate land use in terms of compatibility with the existing land uses and consistency with local general plans and other local land use controls (zoning, specific plans, etc.).
- ✓ **Senate Bill 226** – In 2011, Senate Bill 226 (SB 226) was passed by the legislature and signed into law. SB 226 provides a revision to the CEQA Guidelines moving forward an efficient review process for infill projects, including performance standards to determine an infill project’s eligibility for that review. One of the requirements for streamlined review demands that the project be consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy.
- ✓ **2013 Zero Emission Vehicle Action Plan** - Governor Brown issued Executive Order B-16-2012 in 2012, which calls for the rapid commercialization of zero emission vehicles (ZEV). The goal of this Executive Order is to have 1.5 million ZEVs on California’s roads by 2025. The order targets the transportation sector and calls for a reduction of GHG emissions to 80 percent below 1990 levels by 2020.
- ✓ **California Transportation Commission Regional Transportation Plan Guidelines** - The CTC publishes and periodically updates guidelines for the development of long-range transportation plans. Pursuant to Government Code Section 65080(d), each nonattainment regional transportation planning agency (RTPA) is required to adopt and submit an updated regional transportation plan (RTP) to the California Transportation Commission (CTC) and the Department of Transportation (Caltrans) at least every four years and attainment RTPA’s every five years.

Under Government Code Section 14522, the CTC is authorized to prepare guidelines to assist in the preparation of RTPs. The CTC’s RTP guidelines suggest that projections used in the development of an RTP should be based upon available data (such as from the Bureau of the Census), use acceptable forecasting methodologies, and be consistent with the Department of Finance baseline projections for the region. The guidelines further state that the RTP should identify and discuss any differences between the agency projections and those of the Department of Finance.

The most recent update to the RTP guidelines were published in 2017 and includes updates to State Climate Change Legislation and Executive Orders, as well as guidance on the applicability of the RTP Guidelines. It also describes Senate Bill 743 and the anticipated future change to transportation analysis for transit priority areas.

- ✓ **AB 32 (California Global Warming Solutions Act of 2006)** - California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599), which established regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and established a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions sufficient to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions. Under AB 32, CARB was required to adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 emission cap by 2020.

On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit.

- ✓ **California Global Warming Solutions Act of 2016: emissions limit, or SB 32** – SB 32 is a California Senate bill expanding upon AB 32 to reduce greenhouse gas (GHG) emissions. The lead author is Senator Fran Pavley and the principal co-author is Assembly member Eduardo Garcia. SB 32 was signed into law on September 8, 2016, by Governor Edmund Gerald "Jerry" Brown Jr. SB 32 sets into law the mandated reduction target in GHG emissions as written into Executive Order B-30-15. SB 32 requires that there be a reduction in GHG emissions to 40% below the 1990 levels by 2030. Greenhouse gas emissions include carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons (https://en.wikipedia.org/wiki/California_Senate_Bill_32_-_cite_note-GHG_overview-2). The California Air Resources Board (CARB) is responsible for ensuring

that California meets this goal. The provisions of SB 32 were added to Section 38566 of the Health and Safety Code subsequent to the bill's approval. The bill went into effect January 1, 2017. SB 32 builds onto Assembly Bill (AB) 32 written by Senator Fran Pavley and Assembly Speaker Fabian Nunez passed into law on September 27, 2006 (https://en.wikipedia.org/wiki/California_Senate_Bill_32_-_cite_note-AB_32_text-3). AB 32 required California to reduce greenhouse gas emissions to 1990 levels by 2020 and SB 32 continues that timeline to reach the targets set in Executive Order B-30-15. SB 32 provides another intermediate target between the 2020 and 2050 targets set in Executive Order S-3-05.

- ✓ **Senate Bill 375** - Sen. Bill No. 375 (Stats. 2008, Ch. 728) (SB 375) requires MPOs to prepare a Sustainable Communities Strategy (SCS) that demonstrates how the region will meet its greenhouse gas (GHG) reduction targets through integrated land use, housing, and transportation planning. Specifically, the SCS must identify a transportation network that is integrated with the forecasted development pattern for the plan area and will reduce GHG emissions from automobiles and light trucks in accordance with targets set by the California Air Resources Board. Sections 3-4 and 3-6 in this Chapter include more in-depth discussions of SB 375 and its implications for the proposed RTP.
- ✓ **Senate Bill 743 (SB 743)** - On September 27, 2013, Governor Brown signed Senate Bill 743 (Steinberg, 2013). Among other things, SB 743 creates a process to change analysis of transportation impacts under CEQA. Currently, environmental review of transportation impacts focuses on the delay that vehicles experience at intersections and on roadway segments. That delay is measured using a metric known as "level of service," or LOS. Mitigation for increased delay often involves increasing capacity (i.e., the width of a roadway or size of an intersection), which may increase auto use and emissions and discourage alternative forms of transportation. Under SB 743, the focus of transportation analysis will shift from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks and promotion of a mix of land uses.

Specifically, SB 743 requires the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines (Title 14 of the California Code of Regulations sections and following) to provide an alternative to LOS for evaluating transportation impacts. Particularly within areas served by transit, those alternative criteria must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." Measurements of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated." OPR also has discretion to develop alternative criteria for areas that are not served by transit, if appropriate.

Formal adoption of SB 743 into CEQA occurred in December 2018 with a required implementation date of July 1, 2020. CEQA evaluations conducted after July 1, 2020 are now using vehicle miles traveled (VMT) as the performance measure for the determination of transportation impacts.

- ✓ **Executive Order (EO) B-32-15, Sustainable Freight Transport Initiative** – Governor Brown signed Executive order B-32-15 on July 17, 2015 to require the Secretary of the California State Transportation Agency, the Secretary of Cal/EPA, and the Secretary of the Natural Resources Agency to lead other relevant State departments including the CARB, the Caltrans, the California Energy Commission (CEC), and the Governor’s office of Business and Economic Development to improve freight efficiency, transition to zero-emission technologies, and increase competition of the State’s freight system.

- ✓ **Intelligent Transportation System (ITS)** - Intelligent Transportation System (ITS) incorporates the use of advanced applications to improve the safety, coordination of surface transport networks. ITS provides a non-traditional alternative to transportation applications and new infrastructure. As travel demand on road transport systems grows, there is a need to increase capacity but also improve the systems through improved management. Collaboration between transportation planning and operations is critical in metropolitan regions and corridors with high volumes where a number of jurisdictions, agencies, and service providers are responsible for safety, security, and operation of transportation systems. The success of ITS depends on the careful coordination communication of all parties involved at all levels, it is equally important that there exists a regional forum to achieve the coordination and communication in an effective manner.

- ✓ **Assembly Bill 1358, the Complete Streets Act of 2008 (AB 1358)** - The California Government Code Section 65302 was amended by AB 1358 to require all substantive revisions to city and county Circulation Element include accommodations for all roadway users. This included bicyclist and pedestrians.

- ✓ **California Bicycle Transportation Act** - This act, passed in 1994, requires the adoption of a bicycle master plan by all cities and counties before being considered eligible to apply for funding from the Bicycle Transportation Account.

- ✓ **Senate Bill 1014** - The Clean Miles Standard and Incentive Program (SB 1014) requires the California Public Utilities Commission (CPUC) and California Air Resources Board (CARB) to establish and implement greenhouse gas emission reduction targets and goals for transportation network companies (TNCs). The State is establishing targets in 2021. TNCs will be required to develop GHG emission reduction plans beginning January 1, 2022, with targets and goals starting in 2023. In the proposed rulemaking, TNCs will be able to comply with the rule through any combination of electrification, reduction of miles without passengers, increased ridesharing, and optional credits.

Regional and Local Statutes

- ✓ **Local Agency General Plans** - State law requires cities and counties to adopt general plans, which must include a transportation element. The transportation element describes the acceptable operating standards, levels of service, classifications, and transportation related goals of a given city or county; it is typically a multimodal section that addresses roads, public transit, bicycle facilities, and pedestrian facilities. This EIR does not explicitly identify localized traffic issues that might be the focus of a city's general plan; rather, it will deal with issues of overall system performance from a regional perspective.

- ✓ **City and County Modal Plans** - City- and county-wide bicycle and pedestrian master plans, active transportation plans, freight/goods movement plan, and other mode-specific plans serve as policy documents to guide the development and maintenance of the transportation network, support facilities, and non-infrastructure programs. These plans describe the acceptable operating standards, levels of service, facility classifications, and mode-specific goals and policies of a given city or the county.

Environmental Setting

The existing conditions section for the transportation and circulation systems within Madera County have been broken down into six subsections and are generally described below. Further detail regarding the existing systems, system needs, and system actions is provided in Chapter 2 of this EIR.

Multi-modal Transportation System

The planned transportation/circulation system provides the basic network used for the movement of goods and people in the region. Regional streets and highways are used by nearly all travel modes including automobiles, ridesharing vehicles, public and common carrier transit, the intra- and inter-regional trucking industry, bicyclists, pedestrians, and other non-motorized modes of transportation. These systems must operate efficiently in order to reduce traffic congestion, improve air quality, and move people and goods safely.

The RTP systems are composed of the regional streets and roads that include federal interstate and State highways, regional arterials, and other regional street and road facilities. The RTP also addresses future transportation/circulation system's needs, including mass transportation, aviation, non-motorized, and goods movement. A list of planned improvement projects along each of these systems is provided in the RTP and the list of improvement projects and programs contained in the RTP are provided in Section 2 of this Draft EIR. These planned projects are considered to be "financially constrained"; therefore, the likelihood for implementation prior to the horizon year of 2046 is assumed. The impact analysis of each mode on the planned transportation/circulation system is provided below. The analysis was developed

with the assumption that only financially constrained projects would be implemented during the life of the Project.

The sprawling pattern commonly associated with California transportation networks provides fewer modal options to commuters. Multimodal efforts in Madera County are focused on enhancing existing conditions and creating environmentally favorable patterns of travel. Based upon information provided in the RTP, transportation planning has relied heavily in the past upon the analysis of separate and discrete transportation modes. However, as the County tries to deal with congestion and the problems of air pollution, there is a growing awareness that solutions must be evaluated within the context of an integrated system, rather than by individual mode only. This systematic look at the region's capabilities encourages analysis and planning, which look at transportation systems that can be brought to the resolution of a need for travel or movement of goods. This approach is helped by looking at the characteristics of the region, which may affect travel demands, including but not limited to those, which follow:

- ✓ Madera County contains National protected areas including Devils Postpile National Monument, and portions of the Inyo National Forest, Sierra National Forest, and Yosemite National Park
- ✓ State Route (SR) 41 is the primary corridor to Yosemite, one of the two most visited national parks in the nation.
- ✓ As a large producer of farm commodities, Madera County has a strong "farm to market" travel demand affecting local roads and the state highway system. Movement of goods occurs throughout the County, as farm and other commodities are brought to market and to interregional routes.
- ✓ The County is crossed by two north-south corridors, SR 41 and SR 99. Each of them is key to the statewide network.
- ✓ Recreational and other trips are served by a number of State highways: SR 33, 41, 49, 99, 145, 152, and 233.
- ✓ Madera is served by Amtrak, which has experienced increasing ridership, even though continuous rail service to northern California is limited and to southern California is yet to be developed.
- ✓ While the distances between destinations and generally low densities have encouraged automobile usage, there is a large rural and urban population in need of public transit service.
- ✓ The systems that are in place are in need of more stable financing.
- ✓ Madera Municipal and Chowchilla Municipal Airports provide general aviation service.
- ✓ The climate and terrain are compatible with the use of cycling for short commutes and recreational trips.
- ✓ Existing rail lines offer potential for an expanding share of commodity movement.

Any ultimate state of multimodal transportation service would be a system in which a traveler could make a “seamless” journey with connections between modes, taking minimum effort and involving little delay. Currently, such an ideal state can be reached only in the country’s largest and densest cities. In these areas, land use densities and developed commuter rail lines, subways, transit buses, trolleys, airport shuttles and taxis offer a variety of choice and scheduling flexibility that make travel times and accessibility reliable. In the Central Valley, where cities have experienced much of their growth since the automobile’s debut, residential densities tend to be comparatively low, with streets and land uses designed to encourage automobile use and storage.

During hot summer days when upper temperatures can remain around 100 degrees, an air-conditioned car is highly attractive. It will require an even stronger commitment to air quality and quality-of-life goals in Madera County to make the changes needed to implement the “seamless” multimodal system. It involves people making conscious choices to use alternative transportation modes and providing those alternate systems in a manner that encourages their use. To succeed, those efforts would have to focus on long-term changes, which are part of the preferred scenario:

- ✓ Increasing land use intensity and residential densities, particularly along corridors used for transit or planned for future light rail systems.
- ✓ Facilitating mixed land use districts that promote living, working, shopping and recreation accessible by foot or bicycle, and that are served by centrally located transit routes
- ✓ Expanding transit systems and service frequency.
- ✓ Developing connected bikeway systems and encouraging their use.
- ✓ Improving connectivity between transit and rail, transit, cycling and transit, etc.
- ✓ Reserving future “park-and-ride” opportunities.
- ✓ An organized public education effort.
- ✓ Appropriate financing, including both operational and capital investment.

Details regarding the multi-modal transportation system in Madera County are provided in Chapter 2 of this EIR.

Highways, Streets and Roads

✓ **Regionally Significant Road System**

Madera County's Regionally Significant Roads System is served by six (6) State Routes. SR 41 and SR 99 are major routes that generally run in a north-south direction. State Routes 33, 49, and 145 also provide north-south access, while SR 145, 152, and 233 generally run in an east-west direction. In addition, many city and County roads are used for commute, agricultural, recreational and scenic purposes. With urbanization taking place in the County, commuter and business trips are increasing.

MCTC, in conjunction with its member agencies and Caltrans, has developed the "Regionally Significant Road System" for transportation modeling purposes based on the Federal Highways Administration (FHWA) Functional Classifications System of Streets and Highways. In general, the classification systems used by local agencies coincide with the FHWA Functional Classification System; however, when it comes to design standards or geometrics of a particular street or road within a local jurisdiction, each of the local agencies has their own specific design criteria.

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There is a significant distinction between the Regionally Significant Roads System and the Countywide Network. Regionally significant projects are statutorily required to be treated separately for air quality reasons. Chapter 2 of this EIR depicts the regionally significant road system in Madera County and provides further details regarding this mode of transportation.

✓ **Functional Classification System**

Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the type of service they are intended to provide. Fundamental to this process is the recognition that individual streets and roads do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads. It becomes necessary to determine how this travel can be channelized within the network in a logical and efficient manner. Functional classifications define the channelization process by defining the area that a particular road or street should service through a highway network. Table 3-69 defines the functional classes in urban areas and Table 3-70 defines functional classes in rural areas.

TABLE 3-69
Urban Functional Classification System-Definitions

Classification	Primary Function	Direct Land Access	Speed Limit	Parking
Fwy/Expwy	Traffic Movement	None	45-65	Prohibited
Primary Arterial	Traffic Movement/ Land Access	Limited	35-45	Prohibited
Secondary Arterial	Traffic Movement/ Land Access	Restricted	30-35	Generally Prohibited
Collector	Distribute Traffic Between Local Streets & Arterials	Safety Controls, Limited Regulation	25-30	Limited
Local	Land Access	Safety Controls Only	25	Permitted

TABLE 3-70
 Rural Functional Classification System-Definitions

Classification	Primary Function	Direct Land Access*	Speed Limit**	Parking***
Fwy/Expwy	Traffic Movement	Safety Controls	55-70	Prohibited
Arterial	Traffic Movement/ Land Access	Safety Controls	55	Permitted
Collector	Distribute Traffic Between Local Streets & Arterials	Safety Controls	55	Permitted
Local	Land Access	Safety Controls	55	Permitted

*Access to arterials is generally limited or restricted if it provides access to a land subdivision or an industrial, commercial, or multi-family use. Access is granted on a controlled basis to parcels fronting on expressways where there is not a frontage road or access to another road.

** All County roads have a 55-mph operating speed unless otherwise indicated.

*** Parking is permitted on all County roads unless otherwise indicated.

Public Transit

Existing transit services in Madera County consist of both public transit and AMTRAK rail passenger service. Transit services include inter-city, fixed-route, and demand-responsive operations. Common carriers within Madera County include AMTRAK, Greyhound, Orange Belt Stage Lines, and others.

✓ **Public Transportation**

Public transit in Madera County includes Madera Area Express fixed route and Dial-a-Ride, Madera County Connection, Eastern Madera Senior Bus, Escort Program, Chowchilla Area Transit Express, CatLinx, specialized social service transportation services, Greyhound, and taxi service. Public transportation is provided by fixed-route and demand-response transit systems, as described below.

➤ **City of Madera**

The City operates the Madera Metro fixed-route system and Dial-A-Ride, a general public demand-responsive system. Services are contracted out to a third-party contractor. MAX operates two fixed routes weekdays from 7:00 a.m. to 6:30 p.m., Saturdays from 9:00 a.m. to 4:00 p.m., and Sundays from 8:30 a.m. to 2:30 p.m. The City also introduced a new MAX route to Madera Community College in January 2018. Service operates primarily within the City limits. The general public cash fare was \$1.00, but fares have been waived since April 2020 due to the

COVID-19 pandemic. No service is available on six holidays. Prior to the pandemic, the system transported over 100,000 riders annually.

Dial-A-Ride is a general public system primarily serving the elderly and disabled. Service is provided weekdays from 7:00 a.m. to 6:30 p.m., Saturdays from 9:00 a.m. to 4:00 p.m. and Sundays from 8:30 a.m. to 2:30 p.m. The system operates within the Madera urbanized area and a five-mile radius from Downtown Madera. The general public cash fare of \$3.00 was waived in April 2020 due to the pandemic. Prior to the pandemic, Dial-A-Ride transported 36,000 riders annually including residents in unincorporated portions of the County under a cooperative agreement.

➤ City of Chowchilla

The City of Chowchilla operates Chowchilla Area Transit Express (CATX), a general public, demand-responsive service. Service is offered weekdays from 7:30 a.m. to 5:00 p.m. within two zones. Zone 1 is generally bounded by Road 13 to the west, Highway 152 to the south, Road 19 to the east, and Avenue 26 to the north. Zone 2 is generally bounded by Road 12 to the west, Avenue 20 to the south, Santa Fe Drive to the east, and Ash Slough to the north. Two paratransit buses are used.

The County of Madera funds CATX service in unincorporated portions of the service area. The CATX service area encompasses the City and contiguous unincorporated areas, including Fairmead. The general public cash fare is \$1.50 in Zone 1 and \$2.00 in Zone 2. No service is offered on eleven holidays. CATX transported 12,000 riders annually prior to the COVID-19 pandemic.

➤ County of Madera

Three transit services are operated by Madera County--Madera County Connection (MCC) fixed-route service; Eastern Madera Senior Bus demand-response service for seniors and disabled; and Escort Program demand-response service for medical trips.

The MCC operates general public, inter-city fixed-route service providing access within a large service area. MCC provides access to the communities of Madera, Chowchilla, Fairmead, La Vina, Ripperdan, Eastin Arcola, Ranchos, Yosemite Lakes Park, Coarsegold, Oakhurst, North Fork, Madera Community College Center, and Children's Hospital of Central California. Service operates weekdays from 6:00 a.m. to 8:00 p.m. and prior to the COVID-19 pandemic transported 23,000 riders annually. The Senior Bus serves the communities of Oakhurst, Coarsegold, Bass Lake and Ahwahnee and transports 3,700 riders annually (pre-pandemic). The Escort Program provides trips to Madera, Fresno, and Clovis and transported 490 riders annually (pre-pandemic).

➤ **Social Service Transportation**

Transportation is provided by social service agencies serving clients or patrons. The agencies provide transportation mostly to program-specific clients and sites.

➤ **Other Transportation Providers**

Inter-city and inter-county services are provided by a variety of public and private-sector providers. They include Greyhound, Madera Cab Company, Yosemite Area Regional Transit (YARTS), CalVans and Uber and Lyft. Private medical transit services also are available within the County.

Greyhound operates seven days a week from the City of Madera’s Downtown Intermodal Center on North “E” Street. Madera Cab Company provides service in Madera County seven days a week, 24 hours a day. YARTS operates seasonally to Yosemite National Park via Highway 41 from mid-May to the end of September. CalVans is a multi-county vanpool authority for commuters available to the general public. Uber and Lyft offer personalized door-to-door transportation with local drivers generally through smartphone scheduling.

✓ **Passenger Rail/Support Facilities**

Madera is served by Amtrak’s San Joaquin with seven daily round-trips between Oakland or Sacramento and Bakersfield. Amtrak operates on the Burlington Northern & Santa Fe tracks located at 18770 Road 26 (Avenue 15½ and Road 29) east of Madera. Northbound service runs from 4:50 a.m. to 7:37 p.m. while southbound service operates from 9:08 a.m. to 9:24 p.m.

Amtrak also provides thruway bus service from various rail stations along the San Joaquin route to cities that are not accessible by rail, including Los Angeles, San Francisco and San Jose.

Aviation

The City of Madera owns and operates the Madera County Municipal Airport, which provides aviation services to approximately 88 fixed-base operators. The City of Chowchilla operates the Chowchilla Municipal Airport with 18 fixed-base operators. Fresno Yosemite International Airport (FYI or FAT) in Fresno County is the primary passenger airport facility in the region.

Non-Motorized Existing Conditions

The Cities of Chowchilla and Madera, and Madera County continue to be involved in implementing bicycle facilities. The City of Madera annually reserves a portion of its Local Transportation Fund (LTF) proceeds for the construction of bicycle and pedestrian facilities. These funds are used in conjunction with funds

from the REMOVE, CMAQ, and Active Transportation Program (ATP) programs to implement elements of the Madera County 2018 Regional Active Transportation Plan and locally adopted Bicycle and Pedestrian Master Plans.

Goods Movement

Goods movement in Madera County is primarily provided by trucking and freight rail services. The trucking industry includes common carrier, private carrier, contract carrier, drayage and owner-operator services, which handle both line-haul and pick-up and delivery services. A number of trucking facilities are located in Madera County including the public highway system, truck terminal facilities, freight forwarders, truck stops, and maintenance facilities. These facilities are especially concentrated along SR 99.

RTP Policies

The RTP Policy Element seeks to identify the transportation goals, objectives, and policies that meet the regional needs. Goals, objectives, and policies are established to direct the courses of action that will provide efficient, integrated multimodal transportation systems to serve the mobility needs of people, including accessible pedestrian and bicycle facilities, and freight, while fostering economic prosperity and development, and minimizing mobile sources of air pollution. The 2022 RTP reflects transportation planning for Madera County through the year 2046. Because Madera County is one of eight MPOs that make up the San Joaquin Valley Air Basin, we are linked for regional transportation planning through air quality guidelines. As such, the Needs Assessment is addressed on the regional Valley level and can be found in RTP/SCS Appendix, the *San Joaquin Valley Regional Transportation Chapter*; the *Regional Setting, State and Federal Issues Chapter*; and is further developed in the *Needs Assessment and Action Element Chapter* (available for review at the San Joaquin Valley Air Pollution Control District). The Action Plan describes the programs and actions necessary to implement the Goals of the RTP/SCS. The Investment Plan Chapter summarizes the cost of plan implementation constrained by a realistic projection of available revenues.

In addition, the 2022 RTP also includes the Sustainable Communities Strategies (SCS) for Madera County. As such, a separate committee and public participation process was followed. Performance measures /indicators were developed to evaluate the scenario process and can be found in the Scenario Development and Scenario Evaluation chapters of the 2022 RTP/SCS.

Additional details regarding the Policy Element are provided in Chapter 2 of the RTP/SCS. In developing the Policy Element for the 2022 RTP broad overarching focus points are evident: preservation of existing facilities, sound financial management with leveraging of existing funding, balancing transportation needs with land use, and meeting state targets regarding greenhouse gas reduction.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Criteria for Significance

The following significance criteria were used to determine the level of significance of impacts on the transportation system resulting from the proposed Project. Significance criteria were developed based on Appendix G of the State CEQA Guidelines and on professional judgment. In general, an individual improvement project and new development project contained within the RTP/SCS would result in a significant transportation impact if it would:

- ✓ Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- ✓ Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
- ✓ Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- ✓ Result in inadequate emergency access.

Generally, proposed projects are of the following two types:

- ✓ New Systems (new highway and transit facilities).
- ✓ Modifications to Existing Systems (widening roads, addition of carpool lanes, grade crossings, intelligent transportation systems, maintenance, and service alterations).

Impact 3.17.1 – Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities transit.

A description of the existing transportation system is provided earlier in this section.

The 2022 RTP approach and strategies align with other regional programs, plans, and policies, including MCTC's programs to administer State and federal programs. MCTC partners with other regional and local agencies to assure alignment of transportation strategies. The core approach of directing growth to infill areas and providing sustainable transportation options to reduce emissions, improve mobility and access, reduce congestion, and increase safety on the transportation system is reflective of federal, State, and local efforts. Implementation of the proposed Plan is not expected to substantially conflict with a program,

plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Mitigation Measures

Not applicable.

Significance After Mitigation

Not applicable.

Impact 3.17.2 – Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

As noted in CEQA Guidelines Section 15064.3(a), in general, vehicle miles traveled is the most appropriate measure of transportation impacts. CEQA Guidelines Section 15064.3(b) provides the criteria for analyzing and determining transportation impacts, as follows:

The criteria in Section 15064.3(b) are primarily directed toward the assessment of project-level impacts, whereas the proposed Plan is a regional long-range plan integrating a region-wide suite of projects, programs, and policies, and the proposed Plan is analyzed using regional models. While VMT has been established as the new measure of transportation impacts under SB 743 (see the Regulatory Setting section for further discussion of SB 743), CEQA allows lead agencies to determine the methodology for evaluating VMT (CEQA Guidelines Section 15064.3(b)(4) and to establish a threshold of significance (CEQA Guidelines Section 15064.7).

The State has developed resources to help lead agencies evaluate impacts and establish impact thresholds under the new VMT standard. Key guidance relevant to transportation impacts and VMT include the Technical Advisory on Evaluating Transportation Impacts in CEQA (Governor’s Office of Planning and Research 2018) and the California Air Resources Board’s (CARB) 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals (CARB 2019).

The Technical Advisory prepared by the Office of Planning and Research (OPR) provides guidance on determining significance thresholds and assessing VMT. The Technical Advisory is directed to specific projects by project type (i.e., residential, retail, office, etc.) and local plans (i.e., general plans), and includes recommendations for evaluating transportation impacts. OPR uses the Statewide greenhouse gas targets established through 2050 by State laws and executive orders as the basis for its recommended VMT significance thresholds. For project-level analyses, OPR recommends that “a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold” based on their review of relevant research on project-level impact mitigation measures. The OPR guidance

addresses general plans (and lesser area plans), but not regional plans: “A general plan, area plan or community plan may have a significant impact on transportation if proposed new residential office, or retail land use would, in aggregate, exceed the respective thresholds” for the project level thresholds, a per capita VMT that is fifteen percent below existing development.

In the 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals, CARB describes VMT estimates associated with a scenario developed for the 2017 Scoping Plan Update. The scenario assumed a combination of vehicle technologies, vehicle fuels, and slower VMT growth that would achieve the Statewide 2050 GHG emission reductions targets (80% below 1990 levels by 2050, as established under EO S-03-05). The assessment is based on a scenario CARB developed that would achieve the GHG goals through a combination of cleaner vehicles and fuels and slower VMT growth. Based on the scenario assessment, CARB found that for light-duty vehicle travel, per-capita VMT would need to be 16.8 percent lower than existing levels (Statewide 2015-2018 average VMT per capita) by 2050, and for overall vehicle travel, per-capita VMT would need to be 14.3 percent lower than existing levels to be consistent with the 2050 State climate goals (CARB 2019). However, CARB also stresses that the VMT developed in these estimates “is not household-generated VMT, and the values are not directly comparable to output from a local or regional travel demand model.” Based on the above, no thresholds for assessing significant impacts in VMT at the regional level, such as for an RTP/SCS, have been established by the State.

Although the reduction amounts developed by OPR and CARB may not apply to significance thresholds for an RTP/SCS, they establish standards that may be used for lead agencies as guidance, subject to lead agency discretion as discussed above.

It is noted that the aggregate GHG emission reduction sought after by CARB in the 2017 Scoping Plan is 15 percent statewide. This is one reason OPR believes the 15 percent reduction in VMT is appropriate. The aggregate 15 percent GHG emission reduction applies across all land use and transportation activities and would indicate that the State and its individual MPOs are compliant with the SB 375 goals, the overall State climate change strategy, and Scoping Plan objectives.

CARB establishes GHG targets for each of the 18 MPOs in the State, reviews the SCS’s and makes a determination whether the SCS’s would achieve GHG reduction targets if implemented. CARB established a 16 percent GHG reduction target for the MCTC region. The State recognizes that Madera County’s contribution to the aggregate 15 percent statewide GHG emission reduction is 16 percent. Other regions may achieve greater reductions to achieve the aggregate statewide goals. As such, reduction in GHG directly corresponds to reduction in VMT. In order to reach the statewide GHG reduction goal of 15 percent, Madera County must reduce GHG by 16 percent. The method of reducing GHG by 16 percent is to reduce VMT by 16 percent as well.

Therefore, MCTC’s target for this RTP/SCS is to achieve a 2046 VMT per capita that is 16 percent below the existing regional VMT per capita. An inability to achieve that target is considered to be indicative of a significant environmental impact.

Table 3-71 indicates VMT results from the 2022 RTP for 2019 Baseline and 2046 Horizon Year conditions. The regional model is not able to accurately evaluate the VMT implications of strategies such as transit expansion, telework, TDM/TSM, electric vehicle adoption and charging infrastructure, carpool/vanpool programs, and bicycle/pedestrian infrastructure improvements. Therefore, the future results shown below are considered to be conservative and the actual VMT reductions would be slightly greater.

TABLE 3-71
 2019 Base Year, 2046 No Build and 2046 Project (Scenario 3) VMT, Population and VMT Per Capita

	2019 Baseline	2046 With 2022 RTP/SCS (Scenario 3 - Preferred Project)
VMT:	2,290,656	2,892,777
Population:	150,126	196,411
VMT/capita:	15.26	14.73

As indicated in Table 3-100, the 2022 RTP/SCS Scenario 3 (preferred scenario) lowers VMT/capita by 3.5% compared to the to the 2019 Baseline. However, the 2022 RTP/SCS does not meet the regional per capita VMT reduction target of 16%.

Mitigation Measures

Implementation of multimodal improvement projects and programs and land use plans that consolidate growth in infill areas served by transit will generally serve to lower VMT/capita but fall short of achieving the types of reductions needed to achieve a less than significant result.

To address VMT impacts, the following mitigation measures are recommended.

- ✓ **TT 3.17.2-1** Measures intended to reduce VMT are part of the RTP/SCS. These include increasing rideshare and work-at-home opportunities to reduce demand on the transportation system, investments in non-motorized transportation, maximizing the benefits of the land use/transportation connection through increased densities and mixed uses, other Travel Demand Management measures described in the RTP and in local agency General Plans.

- ✓ **TT 3.17.2-2** MCTC will continue to secure funding programs considering a project's ability to enhance complete streets objectives where it is feasible.
- ✓ **TT 3.17.2-3** Beyond the currently financially and institutionally feasible measures included in the 2022 RTP/SCS, MCTC will identify further reduction in VMT, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs, additional vanpools, and additional bicycle/pedestrian programs.
- ✓ **TT 3.17.2-4** Transportation Planning: MCTC will assist local jurisdictions to encourage new developments to incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation.
- ✓ **TT 3.17.2-5** Local jurisdictions are encouraged to promote ride sharing programs e.g., by designating a certain percentage of parking spaces for high-occupancy vehicles, providing larger parking spaces to accommodate vans used for ridesharing, and designating adequate passenger loading and unloading and waiting areas.
- ✓ **TT 3.17.2-6** Local jurisdictions are encouraged to support the use of public transit systems by enhancing safety and cleanliness on vehicles and in and around stations, providing shuttle service to public transit, offering public transit incentives, and providing public education and publicity about public transportation services.
- ✓ **TT 3.17.2-7** Local jurisdictions are encouraged to support bicycling and walking by incorporating bicycle lanes into street systems in regional transportation plans, new subdivisions, and large developments, creating bicycle lanes and walking paths directed to the location of schools and other logical points of destination and provide adequate bicycle parking, and encouraging commercial projects to include facilities on-site to encourage employees to bicycle or walk to work.
- ✓ **TT 3.17.2-8** Transit agencies are encouraged to support bicycling to transit facilities by providing additional bicycle parking, locker facilities, and bike lane access to transit facilities when feasible.
- ✓ **TT 3.17.2-9** Project sponsors are encouraged to build or fund a major transit stop within or near the development.
- ✓ **TT 3.17.2-10** Local jurisdictions and transit agencies are encouraged to continue to provide public transit incentives such as free or low-cost monthly transit passes to employees, or free ride areas to residents and customers.

- ✓ **TT 3.17.2-11** Local jurisdictions and project sponsors are encouraged to incorporate bicycle lanes, routes and facilities into street systems, new subdivisions, and large developments.
- ✓ **TT 3.17.2-12** Local jurisdictions are encouraged to require amenities for non-motorized transportation, such as secure and convenient bicycle parking.
- ✓ **TT 3.17.2-13** Local jurisdictions are encouraged to ensure that the project enhances, and does not disrupt or create barriers to, non-motorized transportation.
- ✓ **TT 3.17.2-14** Local jurisdictions are encouraged to connect parks and open space through shared pedestrian/bike paths and trails to encourage walking and bicycling.
- ✓ **TT 3.17.2-15** Local jurisdictions are encouraged to create bicycle lanes and walking paths directed to the location of schools, parks, and other destination points.
- ✓ **TT 3.17.2-16** Local jurisdictions are encouraged to work with the school districts to improve pedestrian and bike access to schools and to restore or expand school bus service using lower-emitting vehicles.
- ✓ **TT 3.17.2-17** Local jurisdictions and transit agencies are encouraged to provide information on alternative transportation options for consumers, residents, tenants, and employees to reduce transportation-related emissions.
- ✓ **TT 3.17.2-18** Local jurisdictions are encouraged to educate consumers, residents, tenants, and the public about options for reducing motor vehicle-related greenhouse gas emissions. Include information on trip reduction; trip linking; vehicle performance and efficiency (e.g., keeping tires inflated); and low or zero-emission vehicles.
- ✓ **TT 3.17.2-19** Project Selection: Local jurisdictions are encouraged to give priority to transportation projects that would contribute to a reduction in vehicle miles traveled per capita, while maintaining economic vitality and sustainability.
- ✓ **TT 3.17.2-20** System Interconnectivity: Local jurisdictions are encouraged to create an interconnected transportation system that allows a shift in travel from private passenger vehicles to alternative modes, including public transit, ride sharing, car sharing, bicycling, and walking, by incorporating the following:
 - Provide transportation centers that are multi-modal to allow transportation modes to intersect;
 - Provide adequate and affordable public transportation choices, including expanded bus routes and service, as well as other transit choices such as shuttles;

- To the extent feasible, extend service and hours of operation to underserved arterials and population centers or destinations such as colleges;
 - Focus transit resources on high-volume corridors and high-boarding destinations such as colleges, employment centers and regional destinations;
 - Coordinate schedules and routes across service lines with neighboring transit authorities;
 - Support programs to provide “station cars” for short trips to and from transit nodes (e.g., neighborhood electric vehicles);
 - Employ transit-preferential measures, such as signal priority and bypass lanes. Where compatible with adjacent land use designations, right-of-way acquisition or parking removal may occur to accommodate transit-preferential measures or improve access to transit. The use of access management should be considered where needed to reduce conflicts between transit vehicles and other vehicles;
 - Provide safe and convenient access for pedestrians and bicyclists to, across, and along major transit priority streets;
 - Use park-and-ride facilities to access transit stations only at ends of regional transitways or where adequate feeder bus service is not feasible.
- ✓ **TT 3.17.2-21** Transit System Infrastructure: Local jurisdictions are encouraged to upgrade and maintain transit system infrastructure to enhance public use, including:
- Provide transit stops and bus lanes that are safe, convenient, clean, and efficient;
 - Provide transit stops that have clearly marked street-level designation, and are accessible;
 - Provide transit stops that are safe, sheltered, benches are clean, and lighting is adequate;
 - Place transit stations along transit corridors within mixed-use or transit-oriented development areas at intervals of three to four blocks, or no less than one-half mile.
- ✓ **TT 3.17.2-1** Customer Service: Transit agencies are encouraged to enhance customer service and system ease-of-use, including:
- Continue to develop the Regional Pass system to reduce the number of different passes and tickets required of system users;
 - Expand “Smart Bus” technology, using GPS and electronic displays at transit stops to provide customers with “real-time” arrival and departure time information (and to allow the system operator to respond more quickly and effectively to disruptions in service);
 - Investigate the feasibility of an on-line trip-planning program.
-
- Before funding transportation improvements that increase roadway capacity and VMT, evaluate the feasibility and effectiveness of funding projects that support alternative modes of transportation and reduce VMT, including transit, and bicycle and pedestrian access.

- ✓ **TT 3.17.2-22** System Monitoring: Local jurisdictions are encouraged to monitor traffic and congestion to determine when and where new transportation facilities are needed in order to increase access and efficiency.
- ✓ **TT 3.17.2-23** Arterial Traffic Management: Local jurisdictions are encouraged to modify arterial roadways to allow more efficient bus operation, including bus lanes and signal priority/preemption where necessary.
- ✓ **TT 3.17.2-24** HOV Lanes: Local jurisdictions are encouraged to support the construction of high-occupancy vehicle (HOV) lanes or similar mechanisms whenever necessary to relieve congestion and reduce emissions.
- ✓ **TT 3.17.2-25** Ride-Share Programs: MCTC will continue to support regional ridesharing efforts, and local jurisdictions are encouraged to promote ride sharing programs as well, including:
 - Designate a certain percentage of parking spaces for ride-sharing vehicles;
 - Designate adequate passenger loading, unloading, and waiting areas for ride-sharing vehicles;
 - Provide a web site or message board for coordinating shared rides;
 - Encourage private, for-profit community car-sharing, including parking spaces for car share vehicles at convenient locations accessible by public transit;
 - Hire or designate a rideshare coordinator to develop and implement ridesharing programs.
- ✓ **TT 3.17.2-26** Employer-based Trip Reduction: The San Joaquin Valley Air Pollution Control District's Rule 9410 requires large employers (100-plus) to adopt Employer Trip Reduction Implementation Plan (eTRIP) to encourage employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. Local jurisdictions are encouraged to support voluntary, employer-based trip reduction programs, including:
 - Provide assistance to regional and local ridesharing organizations;
 - Advocate for legislation to maintain and expand incentives for employer ridesharing programs;
 - Require the development of Transportation Management Associations for large employers and commercial/ industrial complexes;
 - Provide public recognition of effective programs through awards, top ten lists, and other mechanisms.
- ✓ **TT 3.17.2-27** Ride Home Programs: Local jurisdictions are encouraged to implement a “guaranteed ride home” program for those who commute by public transit, ride-sharing, or other modes of transportation, and encourage employers to subscribe to or support the program.
- ✓ **TT 3.17.2-28** Local Area Shuttles: Transit agencies are encouraged to utilize shuttles to serve neighborhoods, employment centers and major destinations.

- ✓ **TT 3.17.2-29** Local jurisdictions and transit agencies are encouraged to create a free or low-cost local area shuttle system that includes a fixed route to popular tourist destinations or shopping and business centers.
- ✓ **TT 3.17.2-30** Local jurisdictions are encouraged to work with existing shuttle service providers to coordinate their services.
- ✓ **TT 3.17.2-31** Low- and No-Travel Employment Opportunities: Local jurisdictions are encouraged to facilitate employment opportunities that minimize the need for private vehicle trips, including:
 - Amend zoning ordinances and the Development Code to include live/work sites and satellite work centers in appropriate locations;
 - Encourage telecommuting options with new and existing employers, through project review and incentives, as appropriate.
- ✓ **TT 3.17.2-32** Local jurisdictions are encouraged to support bicycle use as a mode of transportation by enhancing infrastructure to accommodate bicycles and riders and providing incentives.
- ✓ **TT 3.17.2-33** Development Standards for Bicycles: Local jurisdictions are encouraged to establish standards for new development and redevelopment projects to support bicycle use, including:
 - Amending the Development Code to include standards for safe pedestrian and bicyclist accommodations, by incorporating the following:
 - “Complete Streets” policies that foster equal access by all users in the roadway design, wherever feasible;
 - Bicycle and pedestrian access internally and in connection to other areas through easements;
 - Safe access to public transportation and other non-motorized uses through construction of dedicated paths;
 - Safe road crossings at major intersections, especially for school children and seniors;
 - Adequate, convenient, and secure bike parking at public and private facilities and destinations in all urban areas;
 - Street standards will include provisions for bicycle parking within the public right of way.
- ✓ **TT 3.17.2-34** Local jurisdictions are encouraged to incorporate bicycle facilities, as appropriate in the new land use, including:
 - Construction of weatherproof bicycle facilities where feasible, and at a minimum, bicycle racks or covered, secure parking near the building entrances;
 - Provision and maintenance of changing rooms, lockers, and showers at large employers or employment centers.

- Prohibit projects that impede bicycle and pedestrian access, such as large parking areas that cannot be safely crossed by non-motorized vehicles, and developments that block through access on existing or potential bicycle and pedestrian routes;
 - Encourage the development of bicycle stations at intermodal hubs, with attended or “valet” bicycle parking, and other amenities such as bicycle rental and repair, and changing areas with lockers and showers;
 - Conduct a connectivity analysis of the existing bikeway network to identify gaps and prioritize bikeway development where gaps exist.
- ✓ **TT 3.17.2-35** Bicycle and Pedestrian Trails: Local jurisdictions are encouraged to establish a network of multi-use trails to facilitate safe and direct off-street bicycle and pedestrian travel and will provide bike racks along these trails at secure, lighted locations.
- ✓ **TT 3.17.2-36** Bicycle Safety Program: Local jurisdictions are encouraged to develop and implement a bicycle safety educational program to teach drivers and riders the laws, riding protocols, routes, safety tips, and emergency maneuvers.
- ✓ **TT 3.17.2-37** Bicycle and Pedestrian Project Funding: Local jurisdictions are encouraged to pursue and provide enhanced funding for bicycle and pedestrian facilities and access projects, including, as appropriate:
- Apply for regional, State, and federal grants for bicycle and pedestrian infrastructure projects;
 - Establish development exactions and impact fees to fund bicycle and pedestrian facilities;
 - Use existing revenues, such as State gas tax subventions, sales tax funds, and general fund monies for projects to enhance bicycle use and walking for transportation.
- ✓ **TT 3.17.2-38** Bicycle Parking: Local jurisdictions are encouraged to adopt bicycle parking standards that ensure bicycle parking sufficient to accommodate 5 to 10 percent of projected use at all public and commercial facilities, and at a rate of at least one per residential unit in multiple-family developments.
- ✓ **TT 3.17.2-39** Local jurisdictions are encouraged to implement measures to reduce employee vehicle trips and to mitigate emissions impacts from municipal travel.
- ✓ **TT 3.17.2-40** Pedestrian and Bicycle Promotion: Local jurisdictions are encouraged to work with local community groups and downtown business associations to organize and publicize walking tours and bicycle events, and to encourage pedestrian and bicycle modes of transportation.
- ✓ **TT 3.17.2-41** Trip Reduction Program: Local jurisdictions are encouraged to implement a program to reduce vehicle trips by employees, including:

- Providing incentives and infrastructure for vanpooling and carpooling, such as pool vehicles, preferred parking, and a website or bulletin board to facilitate ridesharing;
 - Providing subsidized passes for mass transit;
 - Offering compressed work hours, off-peak work hours, and telecommuting, where appropriate;
 - Offer a guaranteed ride home for employees who use alternative modes of transportation to commute.
- ✓ **TT 3.17.2-42** Bicycle Transportation Support: Local jurisdictions are encouraged to promote and support the use of bicycles as transportation, including:
- Providing bicycle stations with secure, covered parking, changing areas with storage lockers and showers, as well as a central facility where minor repairs can be made;
 - Providing bicycles, including electric bikes, for employees to use for short trips during business hours;
 - Implementing a police-on-bicycles program;
 - Providing a bicycle safety program, and information about safe routes to work.
- ✓ **TT 3.17.2-43** Transit Access to Municipal Facilities: Local jurisdiction and agency facilities are encouraged to be located on major transit corridors, unless their use is plainly incompatible with other uses located along major transit corridors.
- ✓ **TT 3.17.2-44** Local jurisdictions are encouraged to implement Intelligent Transportation Systems improvements, where feasible, that will:
- Use technology to improve traffic signal timing in order to optimize traffic flow and transit service
 - Involve new equipment to improve on-time transit performance and provide real-time transit information at stops and stations.

Significance After Mitigation

The mitigation measures would require implementing agencies to avoid or mitigate impacts to all types of transportation facilities (multi-modal). Although the VMT reduction that could be achieved by implementation of the recommended mitigation measures is unknown and would be difficult to calculate, it is clear that MCTC does not have land use authority, nor does it have the ability to design and construct transportation improvement projects and future land use developments included in the 2022 RTP/SCS or require local implementing agencies to adopt the above mitigation measures. The responsibility to determine and adopt mitigation and approve land use development rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies. Therefore, for the purposes of this program-level review, the impact is considered significant and unavoidable.

Impact 3.17.3 – Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

While the 2022 RTP/SCS will not directly result in increased hazards due to design feature (e.g., sharp curves or dangerous intersections) or increase conflicts between incompatible uses (e.g., farm equipment and other vehicular traffic), measures should be implemented to ensure that traffic hazards are minimized in the design of the individual transportation projects included in the RTP. Land use development in urban areas of Madera County will increase the number of residents in close proximity to public transit. It will also increase opportunities for walking and biking, thereby making it necessary that multi-modal facilities be designed to enhance the safety of these users.

Mitigation Measures

The implementing agency would be responsible for developing and ensuring adherence to necessary mitigation measures. MCTC is not an implementing agency and does not have the ability to design and construct transportation improvement projects included in the RTP/SCS. The responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies.

To address related impacts and to support policies contained in the 2022 RTP/SCS, the following additional mitigation measures are recommended.

- ✓ **TT 3.17.3-1** Implementing agencies should consider safety an objective in the design of RTP projects, and should plan to avoid, improve, or mitigate safety impacts in the course of project-level environmental review.
- ✓ **TT 3.17.3-2** MCTC shall conduct a forum where policymakers can be educated and can develop consensus on regional transportation safety and security policies.
- ✓ **TT 3.17.3-3** MCTC shall work with local officials to assist with implementation of regional transportation safety and security policies.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts that substantially increase hazards due to a design feature or incompatible uses, it is probable that such impacts could remain significant and unavoidable. As a

program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce impacts identified.

Impact 3.18.4 – Result in inadequate emergency access.

Congestion is expected to worsen between now and 2046 which could adversely impact emergency access. While the 2022 RTP/SCS would generally enhance mobility and access to destinations (including access for emergency vehicles) as compared to the No Project Alternative, measures should be implemented to maintain adequate emergency access in the design of RTP projects. Before 2022 RTP projects are implemented by local jurisdictions, all projects will undergo additional environmental analysis, as applicable and appropriate, that will include evaluation of impacts by emergency and public services. The implementing agencies will use these to ensure adequate access in the design of individual RTP projects. During emergencies, emergency vehicles demand (and should be given) right of way which is signaled through lights and sirens. This will remain the case in the future, allowing emergency vehicles to avoid some congestion.

Mitigation Measures

Implementing agencies should consider emergency access impacts in the design of RTP projects, and should plan to avoid, improve, or mitigate these impacts in the course of project-level environmental review. The implementing agency would be responsible for requiring and ensuring adherence to necessary mitigation measures. MCTC is not an implementing agency and does not have the ability to design and construct transportation improvement projects included in the RTP/SCS. The responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies.

To address related impacts and to support policies contained in the 2022 RTP/SCS, the following additional mitigation measure is recommended.

- ✓ **TT 3.17.4-1** MCTC shall support local agencies with the rapid repair of transportation infrastructure in the event of an emergency. This will be accomplished by MCTC, in cooperation with local and State agencies, identifying critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. In addition, MCTC shall establish transportation infrastructure practices that promote and enhance security.

Significance After Mitigation

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above mitigation measures will provide the framework and direction to avoid or reduce impacts that result in inadequate emergency access, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-notated mitigation strategies intended to avoid or reduce impacts identified.

3.18 WILDFIRE

This section includes a discussion of potential impacts related to wildfires in the MCTC region as it relates to the 2022 Regional Transportation Plan/Sustainable Communities Strategy.

Regulatory Setting

Federal Agencies and Regulations

- ✓ **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.

State Agencies and Regulations

- ✓ **The California Fire Plan** - The Strategic Fire Plan for California is the State’s road map for reducing the risk of wildfire. The most recent version of the Plan was finalized in August 2022 and directs each CAL FIRE Unit to revise and update its locally specific Fire Management Plan (CAL FIRE 2022b). These plans assess the fire situation within each of the 21 CAL FIRE units and six contract counties. The plans address wildfire protection areas, initial attack success, assets and infrastructure at risk, pre-fire management strategies, and accountability within their geographical boundaries.
- ✓ **California Building Code** - The *California Building Code* is another name for the body of regulations contained in Title 24, Part 2, of the California Code of Regulations, which is a portion of the California Building Standards Code (CBSC, 1995). Title 24 is assigned to the California Building Standards Commission which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. Published by the International Conference of Building Officials, the Uniform Building Code (UBC) is a widely adopted model building code in the United States. The California Building Code incorporates by reference the UBC with necessary California amendments. About one-third of the text within the California Building Code has been tailored for California earthquake conditions. Although widely accepted and implemented throughout the United States, local, city and county jurisdictions can adopt the UBC either in whole or in part.

- ✓ **California Office of Emergency Services** - The California Office of Emergency Services prepares the SHMP, which identifies hazard risks and includes a vulnerability analysis and a hazard mitigation strategy. The SHMP is required under the Disaster Mitigation Act of 2000 in order for the State to receive federal funding. The Disaster Mitigation Act of 2000 requires a State mitigation plan as a condition of disaster assistance.

- ✓ **California Fire Code** - The 2019 California Fire Code (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.

Local Agencies and Regulations

- ✓ **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 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.

- ✓ **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

Environmental Setting

Madera County is defined by distinct geographical features, including the nearly level alluvial plains of the San Joaquin Valley, the foothills of the Coast Ranges, and the foothills/mountains of the southern Sierra Nevada.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

This impact analysis looks at each significance criterion individually, it assesses how implementation of the proposed RTP, including changes in the transportation network and to the land use pattern, may impact geology, seismicity, soils and mineral resources. The analysis is programmatic and considers potential impacts on the regional level in terms of both land use and transportation impacts.

Criteria for Significance

- ✓ If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan.
- ✓ If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, 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.
- ✓ If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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.
- ✓ If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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 3.18.1 – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan.

Impact 3.18.2 – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, 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.

Impact 3.18.3 – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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.

Impact 3.18.4 – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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.

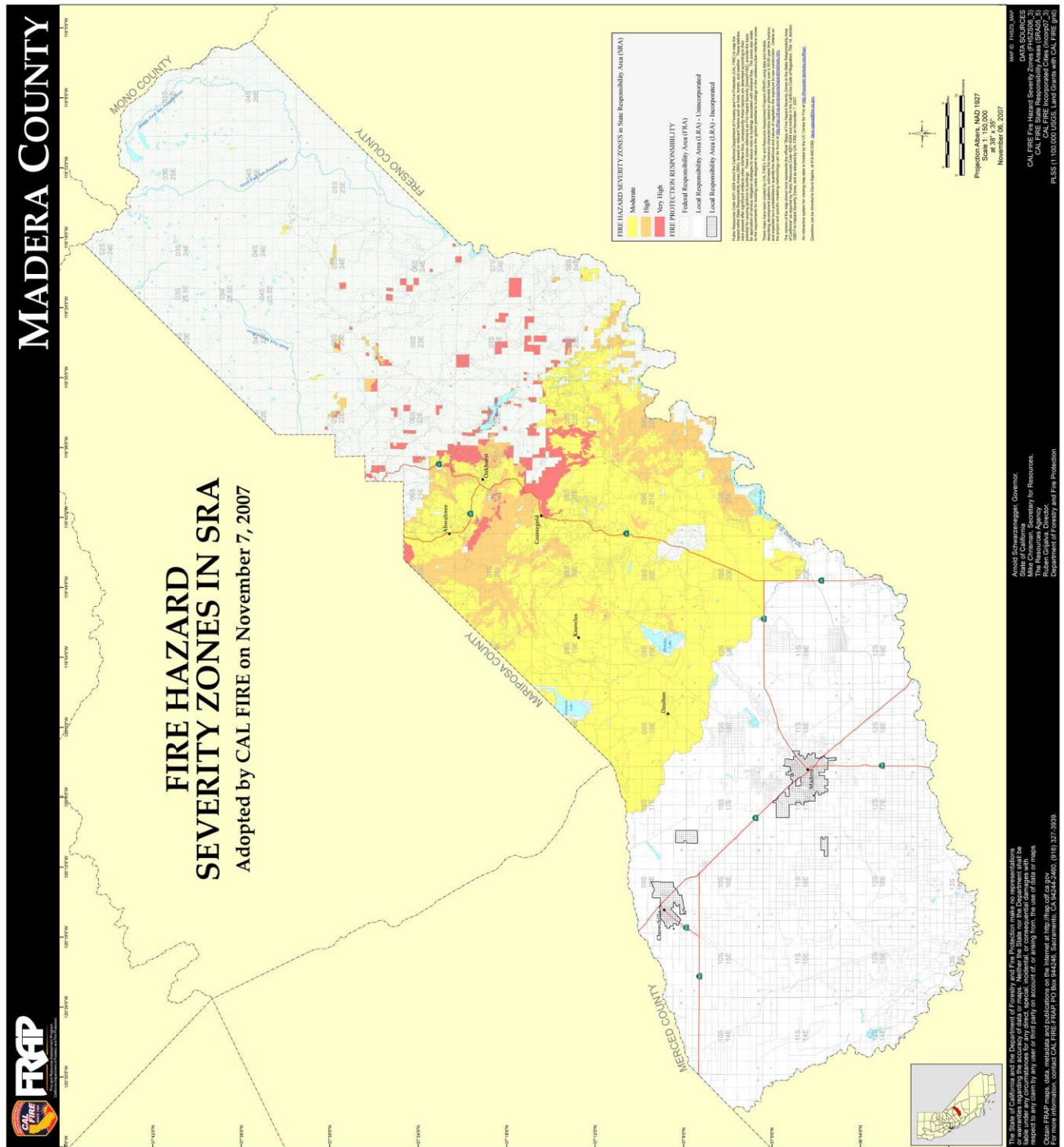
As shown in Figure 3-72, CAL FIRE has mapped much of Madera County as having a high or very high fire hazard, both in SRAs and LRAs. The land use scenario envisioned by the 2022 RTP/SCS concentrates the forecasted population and employment growth in urban areas and corridors of the County, such as incorporated cities, unincorporated towns, and major roadways, where the risk of wildfire is less than in more rural areas where fuels are more abundant. However, as evidenced by the 2022 Camp Fire in Northern California, urban areas are also susceptible to wildfires, despite the lower abundance of typical wildfire fuels. This land use scenario is similar to that contained in the 2022 RTP/SCS, which concentrates the forecasted regional population and employment growth in urban areas and corridors of the County while preserving the distinct identity of existing cities and towns. However, not all projects and development included in the 2022 RTP/SCS would be infill projects in urbanized areas, and some projects would inevitably be located in areas at risk of wildfires. Additionally, CAL FIRE has mapped some urbanized areas within the region as moderate, high, or very high fire hazard severity zones and, as evidenced by the 2022 Camp Fire, urban areas are still at risk from wildfire.

New construction would be subject to the California Fire Code, which includes safety measures to minimize the threat of fire, including ignition-resistant construction with exterior walls of noncombustible or ignition resistant material from the surface of the ground to the roof system and sealing any gaps around doors, windows, eaves and vents to prevent intrusion by flame or embers. 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. The codes and regulations would reduce the risk of loss, injury or death from wildfire for new development envisioned by the 2022 RTP/SCS, but not entirely.

Land use development projects in the 2022 RTP/SCS (including any land use development projects from the 2022 RTP/SCS that have not been constructed) that would be located within or less than 2 miles from an SRA or very high fire hazard severity zones, would have potentially significant wildfire impacts, as existing codes and regulations cannot fully prevent wildfires from damaging structures or populations. These projects would increase the exposure of transportation infrastructure to risk of loss or damage from wildfire. Mitigation Measure WF 3.18.1 is provided below to reduce the risk of wildfire for these projects.

However, it should be noted that land use and transportation projects located outside or more than 2 miles from an SRA or very high fire hazard severity zones would not require mitigation.

FIGURE 3-72
 Madera County Fire Hazard Severity Zones



Source: Calfire

Mitigation Measures

MCTC and transportation project sponsor agencies shall implement the following mitigation measure for the 2022 RTP/SCS where applicable for land use and transportation projects that result in impacts related to wildfire. Cities and counties in the Madera County region should implement these measures, where relevant to land use projects implementing the 2022 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

- ✓ **WF 3.18.1** If an individual transportation or land use project included in the 2022 RTP/SCS is located within or less than 2 miles from an SRA or very high fire hazard severity zones, the implementing agency shall require appropriate mitigation to reduce the risk. Examples of mitigation to reduce risk of loss, injury or death from wildfire include, but are not limited to:
- Require adherence to the local hazards 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.
 - Encourage the use of fire-resistant vegetation native to Madera County and/or the local microclimate of the project site and discourage the use of fire-prone species especially nonnative, 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.

Significance After Mitigation

With implementation of this mitigation, 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 2022 RTP/SCS projects to inadvertently

ignite a wildfire. However, it is not possible to prevent a significant risk of wildfires or fully protect people and structures from the risks of wildfires, despite implementation of mitigation. Thus, this impact would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

4.0 COMPARISON OF PROJECT ALTERNATIVES

4.1 INTRODUCTION

CEQA requires that an EIR describe a reasonable range of alternatives to the project or to the location of the project that could feasibly avoid or lessen significant environmental impacts while at the same time substantially attaining the basic objectives of the project. CEQA also states that an EIR should also evaluate the comparative merits of the alternatives. This chapter identifies the potential alternatives to the proposed project, a qualitative analysis of each alternative, and a comparison of each alternative to the proposed project. Key provisions of *State CEQA Guidelines* Section 15126.6 pertaining to the alternatives analysis that are provided below.

- ✓ An EIR shall describe a range of reasonable alternatives to the project, or 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.
- ✓ An EIR need not consider any 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 which are infeasible.
- ✓ Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be costlier.
- ✓ The range of alternatives required in an EIR is governed by a “rule of reason.” That requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project. Of these alternatives, the EIR need examine in detail only the ones that the Lead Agency determines could feasibly attain most of the basic objectives of the project.
- ✓ The No Project Alternative shall be evaluated along with its impacts to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative analysis shall discuss the existing conditions at the time the notice of preparation is published, as well as what would reasonably be expected to occur in the

foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

- ✓ An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

According to CEQA, the range of feasible alternatives is selected and discussed in a manner that would foster meaningful public participation and informed decision-making. Factors that may be considered when addressing the feasibility of alternatives (as described in *State CEQA Guidelines* Section 5126.6[f][1]) are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to the alternative site.

Referencing CEQA, an EIR must briefly describe the reasons for selection and rejection of alternatives. The lead agency may make an initial determination as to which alternatives are feasible, and, therefore, merit in-depth consideration. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet project objectives, are infeasible, or do not avoid any significant environmental effects.

State CEQA Guidelines require that an EIR identify a range of reasonable Project alternatives, or alternative Project locations, which could feasibly meet the basic objectives of the Project, as well as evaluate the merits of the alternatives. The Guidelines also require that the No Project alternative and its impacts are evaluated, and that discussion should focus on alternatives that are capable of eliminating significant adverse environmental effects of the Project or reducing them to less-than-significant levels. In addition, SB 375 required analysis only includes lands outside of the current spheres of influence; while CEQA requires that all land be considered. As such, several notations throughout this chapter will refer to SB 375 land analysis, and CEQA analysis, indicating which type of data the item is referring to. Within this document, the SB 375 analysis is notated for transparency and consistency with discussions that have taken place throughout the RTP/SCS planning process. To ensure CEQA requirements are met, data indicating impact levels to all lands is clearly notated throughout the chapter.

The alternative impact analysis is presented below at a summary level of detail, relying upon the base information presented in Section 3 of this EIR. This section only provides a comparison for the purpose of selecting the environmentally superior alternative. If the alternative with the least environmental impact is the No Project alternative, then one of the other alternatives is to be identified as the environmentally superior alternative.

4.2 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

The following three (4) Project alternatives have been determined to represent a reasonable range of alternatives, which have the potential to feasibly attain most of the basic objectives of the Project but may avoid or substantially lessen any of the significant effects of the Project. These alternatives include No-Project, Scenario 1 (Continued Trends), Scenario 2 (Moderate Shift), and Scenario 3 (Conservation and Mobility). The Preferred Project is the 2022 Madera County Transportation Commission (MCTC) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) reflective of the Scenario 3 (Preferred Project). The Scenario Alternatives were defined by the 2022 RTP/SCS Roundtable Committee, which was composed of a number of diverse stakeholders representing constituents from throughout the County. The Committee reviewed each of the alternative scenarios considering public input resulting from public workshops and recommended that the Conservation and Mobility Scenario should be the Preferred Project Alternative (2022 RTP/SCS). The MCTC Board took into consideration the Roundtable Committee and public recommendations and selected the Conservation and Mobility Scenario as the Preferred Alternative.

Scenario planning is a method by which several scenarios are developed, studied for future impacts, and then evaluated against each other. In the context of the 2022 RTP/SCS, scenario planning was used to study three different land use scenarios. Each scenario represents a different set of land use patterns and transportation investments. The analysis then shows how the different sets of investments and land uses create different future outcomes.

The Conservation and Mobility Scenario was established to identify land use development in infill locations and transportation systems that would address RTP Goals, Objectives, and Policies and those of the adopted general plans for each Madera County jurisdiction. Scenario 1 would allocate growth generally consistent with historical trends. Scenario 2 would allocate growth towards established urban areas, and Scenario 3 prioritize infill in existing urbanized areas.

Each of these alternatives are defined below in Sections 4.4 and 4.5. It should be noted that there are other environmental issues that were considered to compare and select the Preferred Project Alternative, including all environmental issue areas referenced in Chapter 3 of this PEIR and further documented in Section 4.5 below.

4.3 PROJECT OBJECTIVES

The impact analyses presented in Chapter 3 of this Draft PEIR focuses on an analysis of the Project [2022 RTP/SCS (Scenario 3)]. Three (3) additional alternatives have been developed in this section of the Draft PEIR to ensure that a reasonable range of alternatives to the Project is provided, inclusive of No Project.

The 2022 RTP/SCS reflects transportation planning for Madera County through the year 2046. Because Madera County is one of eight (8) Metropolitan Planning Organizations (MPOs) that make up the San Joaquin Valley Air Basin (SJVAB), it is linked for regional transportation planning purposes through air quality guidelines. As such, a needs assessment is addressed on the regional Valley level and can be found in the 2022 RTP/SCS appendix.

The goals referenced in Table 4-1 have been established for the Proposed Project and will aid decision makers in the review of the Project and associated environmental impacts. Chapter 4 of the 2022 RTP/SCS seeks to identify the transportation goals that meet the regional needs. Table 4-1 provides a comparison of the Environmentally Preferred Project to the No Project and to each of the other Alternatives. As can be seen, the Environmentally Preferred Project (Scenario 3) best meets the goals/objectives compared to the other Project Alternatives.

Environmentally Superior Alternative Section 15126.6(e)(2) of the CEQA Guidelines indicates that an analysis of alternatives to a proposed project shall identify an environmentally superior alternative among the alternatives evaluated in an EIR. The CEQA Guidelines also state that should it be determined that the No Project Alternative is the environmentally superior alternative, the EIR shall identify another environmentally superior alternative among the remaining alternatives. Table 4-1 provides a comparison of the alternatives to the project objectives or goals. Table 4-2 provides a comparison of each project alternative to each environmental impact issue area. The results of this comparison indicate that the Project Alternative (Conservation and Mobility Scenario) provides the best environmental outcomes. Based upon results referenced in Tables 4-1 through 4-6, the Scenario 3 is considered the Preferred Project Alternative.

A more detailed description of the potential impacts associated with each alternative is provided in this Chapter. Pursuant to Section 15126.6(c) of the CEQA Guidelines, the analysis below addresses the ability of the alternatives to “avoid or substantially lessen one or more of the significant effects” of the Project. Of the alternatives analyzed in the EIR, the Scenario 3 is considered the preferred alternative because it would best meet the identified objectives established for the proposed Project.

TABLE 4-1
 Comparison of Alternatives by Project Goal

Goal	1 (Continued Trends)	2 (Moderate Shift)	3 (Conservation and Mobility, Preferred Project)	No Project	Justification
Improve Quality of Life	Partially met	Partially met	Partially met	Not met	All three project scenarios would see increased transportation infrastructure that would allow improved mobility and accessibility for all groups thereby impacting quality of life, however the No Project Alternative would not reflect proposed transportation improvements beyond the first two years of the conformed TIP.
Raise Economic Prosperity	Partially met	Partially met	Fully met	Not met	Alternative 3 would serve to raise economic prosperity as it would leave to the greatest number of transportation infrastructure improvements via various modes while also having the lowest impact on the environment.
Cultural Diversity	Partially met	Partially met	Partially met	Partially met	Although the implementation of transportation infrastructure throughout the County in various forms would improve opportunities for all groups, no alternative could fully meet a stated goal of complete cultural diversity.
Promote Public Health and a Cleaner Environment	Partially met	Partially met	Fully met	Not met	Alternative 3 best meets this goal as it would result in the fewest environmental impacts thereby having the least effect on public health and the environment of any alternative considered.

TABLE 4-2
 Comparison of Project Alternatives by Environmental Issue Area

Environmental Issue Area	Project and Project Alternatives			
	No Project	Scenario 1	Scenario 2	Scenario 3 (Preferred Project Alternative)
Aesthetics	☒	☒	☒	=
Agricultural & Forestry Resources	☒	☒	☒	=
Air Quality	☒	☒	☒	=
Biotic Resources	☒	☒	=	=
Climate Change/Greenhouse Gases	☒	☒	=	=
Cultural Resources & Tribal Cultural Resources	☒	☒	☒	=
Energy & Energy Conservation	☒	=	=	=
Geology/Soils/Minerals	☒	☒	☒	=
Hazardous Materials	☒	☒	☒	=
Hydrology & Water Resources	☒	☒	=	=
Land Use & Planning	☒	=	=	=
Noise	☒	☒	=	=
Population, Housing & Employment	☒	=	=	=
Public Utilities, Other Utilities, & Services	☒	☒	=	=
Social and Economic Effects	☒	☒	=	=
Transportation/Traffic	☒	☒	☒	=
Wildfire	☒	☒	☒	=
Total Environmentally Superior or Similar Areas:	0	3	9	17
	☒	<i>Falls short</i>		
	☑	<i>Exceeds the Project Alternative</i>		

TABLE 4-3
 2022 RTP and SCS Performance Measures

Summary Performance Measures from Network, No Project			
5,447,055	Vehicle-Miles of Travel	Vehicles	Daily
72,822	Intrazonal Trips	Vehicles	Daily
	Total VMT	Vehicles	Daily
	Vehicle-Miles of Travel in Congestion	Vehicles	Daily
	Percent VMT in Congestion	Vehicles	Daily
5,964,522	Person-Miles of Travel	Vehicles	Daily
10,300	Person-Miles of Travel	Transit	Daily
100,177	Vehicle-Hours of Travel	Vehicles	Daily
113,651	Person-Hours of Travel	Vehicles	Daily
910	Person-Hours of Travel	Transit	Daily
1,186	Vehicle-Hours of Delay	Vehicles	Daily
1,550	Person-Hours of Delay	Vehicles	Daily
	Person-Hours of Delay	Transit	Daily
54	Average Speed	Vehicles	Daily
11	Average Speed	Transit	Daily

Summary Performance Measures from Trip Tables			
124,123	Work Auto Trips	Trips	Daily
7	Work Transit Trips	Trips	Daily
15,436	Work Walk/Bike Trips	Trips	Daily
139,566	Work Total Trips	Trips	Daily
610,642	Non-Work Auto Trips	Trips	Daily
3,017	Non-Work Transit Trips	Trips	Daily
113,785	Non-Work Walk/Bike Trips	Trips	Daily
727,443	Non-Work Total Trips	Trips	Daily
734,765	Total Auto Trips	Trips	Daily
3,024	Total Transit Trips	Trips	Daily
129,221	Total Walk/Bike Trips	Trips	Daily
867,010	Total Trips	Trips	Daily
88.93%	% Work Auto Trips	Percent	Daily
0.01%	% Work Transit Trips	Percent	Daily
11.06%	% Work Walk/Bike Trips	Percent	Daily
83.94%	% Non-Work Auto Trips	Percent	Daily
0.41%	% Non-Work Transit Trips	Percent	Daily
15.64%	% Non-Work Walk/Bike Trips	Percent	Daily

84.75%	% Total Auto Trips	Percent	Daily
0.35%	% Total Transit Trips	Percent	Daily
14.90%	% Total Walk/Bike Trips	Percent	Daily

Summary Performance Measures from Network, Scenario 1			
5,663,391	Vehicle-Miles of Travel	Vehicles	Daily
71,902	Intrazonal Trips	Vehicles	Daily
	Total VMT	Vehicles	Daily
	Vehicle-Miles of Travel in Congestion	Vehicles	Daily
	Percent VMT in Congestion	Vehicles	Daily
6,287,581	Person-Miles of Travel	Vehicles	Daily
10,287	Person-Miles of Travel	Transit	Daily
103,323	Vehicle-Hours of Travel	Vehicles	Daily
118,772	Person-Hours of Travel	Vehicles	Daily
917	Person-Hours of Travel	Transit	Daily
413	Vehicle-Hours of Delay	Vehicles	Daily
584	Person-Hours of Delay	Vehicles	Daily
	Person-Hours of Delay	Transit	Daily
55	Average Speed	Vehicles	Daily
11	Average Speed	Transit	Daily

Summary Performance Measures from Trip Tables			
128,566	Work Auto Trips	Trips	Daily
6	Work Transit Trips	Trips	Daily
15,466	Work Walk/Bike Trips	Trips	Daily
144,038	Work Total Trips	Trips	Daily
626,321	Non-Work Auto Trips	Trips	Daily
3,030	Non-Work Transit Trips	Trips	Daily
114,161	Non-Work Walk/Bike Trips	Trips	Daily
743,512	Non-Work Total Trips	Trips	Daily
754,887	Total Auto Trips	Trips	Daily
3,036	Total Transit Trips	Trips	Daily
129,627	Total Walk/Bike Trips	Trips	Daily
887,550	Total Trips	Trips	Daily
89.26%	% Work Auto Trips	Percent	Daily
0.00%	% Work Transit Trips	Percent	Daily
10.74%	% Work Walk/Bike Trips	Percent	Daily
84.24%	% Non-Work Auto Trips	Percent	Daily
0.41%	% Non-Work Transit Trips	Percent	Daily
15.35%	% Non-Work Walk/Bike Trips	Percent	Daily

85.05%	% Total Auto Trips	Percent	Daily
0.34%	% Total Transit Trips	Percent	Daily
14.61%	% Total Walk/Bike Trips	Percent	Daily

Summary Performance Measures from Network, Scenario 2			
5,634,477	Vehicle-Miles of Travel	Vehicles	Daily
72,615	Intrazonal Trips	Vehicles	Daily
	Total VMT	Vehicles	Daily
	Vehicle-Miles of Travel in Congestion	Vehicles	Daily
	Percent VMT in Congestion	Vehicles	Daily
6,238,296	Person-Miles of Travel	Vehicles	Daily
10,302	Person-Miles of Travel	Transit	Daily
102,742	Vehicle-Hours of Travel	Vehicles	Daily
117,795	Person-Hours of Travel	Vehicles	Daily
918	Person-Hours of Travel	Transit	Daily
406	Vehicle-Hours of Delay	Vehicles	Daily
573	Person-Hours of Delay	Vehicles	Daily
	Person-Hours of Delay	Transit	Daily
55	Average Speed	Vehicles	Daily
11	Average Speed	Transit	Daily

Summary Performance Measures from Trip Tables			
128,310	Work Auto Trips	Trips	Daily
6	Work Transit Trips	Trips	Daily
15,565	Work Walk/Bike Trips	Trips	Daily
143,881	Work Total Trips	Trips	Daily
628,435	Non-Work Auto Trips	Trips	Daily
3,036	Non-Work Transit Trips	Trips	Daily
115,047	Non-Work Walk/Bike Trips	Trips	Daily
746,518	Non-Work Total Trips	Trips	Daily
756,745	Total Auto Trips	Trips	Daily
3,043	Total Transit Trips	Trips	Daily
130,611	Total Walk/Bike Trips	Trips	Daily
890,399	Total Trips	Trips	Daily
89.18%	% Work Auto Trips	Percent	Daily
0.00%	% Work Transit Trips	Percent	Daily
10.82%	% Work Walk/Bike Trips	Percent	Daily
84.18%	% Non-Work Auto Trips	Percent	Daily
0.41%	% Non-Work Transit Trips	Percent	Daily
15.41%	% Non-Work Walk/Bike Trips	Percent	Daily

84.99%	% Total Auto Trips	Percent	Daily
0.34%	% Total Transit Trips	Percent	Daily
14.67%	% Total Walk/Bike Trips	Percent	Daily

Summary Performance Measures from Network, Scenario 3 (Preferred Project)			
4,835,654	Vehicle-Miles of Travel	Vehicles	Daily
72,024	Intrazonal Trips	Vehicles	Daily
	Total VMT	Vehicles	Daily
	Vehicle-Miles of Travel in Congestion	Vehicles	Daily
	Percent VMT in Congestion	Vehicles	Daily
6,221,502	Person-Miles of Travel	Vehicles	Daily
10,386	Person-Miles of Travel	Transit	Daily
89,711	Vehicle-Hours of Travel	Vehicles	Daily
117,538	Person-Hours of Travel	Vehicles	Daily
924	Person-Hours of Travel	Transit	Daily
412	Vehicle-Hours of Delay	Vehicles	Daily
584	Person-Hours of Delay	Vehicles	Daily
	Person-Hours of Delay	Transit	Daily
54	Average Speed	Vehicles	Daily
11	Average Speed	Transit	Daily

Summary Performance Measures from Trip Tables			
128,364	Work Auto Trips	Trips	Daily
6	Work Transit Trips	Trips	Daily
15,572	Work Walk/Bike Trips	Trips	Daily
143,942	Work Total Trips	Trips	Daily
628,696	Non-Work Auto Trips	Trips	Daily
3,053	Non-Work Transit Trips	Trips	Daily
115,249	Non-Work Walk/Bike Trips	Trips	Daily
746,998	Non-Work Total Trips	Trips	Daily
757,060	Total Auto Trips	Trips	Daily
3,059	Total Transit Trips	Trips	Daily
130,821	Total Walk/Bike Trips	Trips	Daily
890,940	Total Trips	Trips	Daily
89.18%	% Work Auto Trips	Percent	Daily

0.00%	% Work Transit Trips	Percent	Daily
10.82%	% Work Walk/Bike Trips	Percent	Daily
84.16%	% Non-Work Auto Trips	Percent	Daily
0.41%	% Non-Work Transit Trips	Percent	Daily
15.43%	% Non-Work Walk/Bike Trips	Percent	Daily
84.97%	% Total Auto Trips	Percent	Daily
0.34%	% Total Transit Trips	Percent	Daily
14.68%	% Total Walk/Bike Trips	Percent	Daily

TABLE 4-4
 2022 RTP and SCS CO2 Emissions Performance Measures

2022 Madera County Regional Transportation Plan and Sustainable Communities Strategy			
Metric	Scenario 1	Scenario 2	Scenario 3
2005 CO2 emissions per capita (lbs.) from light duty vehicles (passenger cars, and light and medium trucks less than 8,500 lbs.)	17.01	17.01	17.01
2005 vehicle miles traveled per capita	18.72	18.72	18.72
Target for 10% reduction per capita from 2005	1.70	1.70	1.70
2020 needed CO2 emissions/capita to meet target	15.31	15.31	15.31
2020 CO2 emissions/capita	13.98	13.98	13.98
2035 vehicle miles traveled per capita	15.72	15.72	15.72
Target for 16% reduction per capita from 2005	2.72	2.72	2.72
2035 needed CO2 emissions/capita to meet target	14.29	14.29	14.29
2035 CO2 emissions/capita	13.33	13.26	13.25
2035 vehicle miles traveled per capita	15.31	15.21	15.20
Reduction in CO2 per capita from 2005 to 2020	-17.80%	-17.81%	-17.82%
Reduction in VMT per capita from 2005 to 2020	-16.03%	-16.04%	-16.04%
Reduction in CO2 per capita from 2005 to 2035	-21.60%	-22.05%	-22.12%
Reduction in VMT2 per capita from 2005 to 2035	-18.22%	-18.73%	-18.78%
			Preferred Scenario

TABLE 4-5
 2022 RTP and SCS Housing Characteristics

20-Jun-22	Scenario 1	Scenario 2	Scenario 3
2020 Housing			
2020 Single-family housing	42,078.0	42,064.0	42,048.0
2020 Multi-family/attached housing	7,702.0	7,716.0	7,730.0
2020 Percent single-family housing	84.53%	84.50%	84.47%
2020 Percent multi-family/attached housing	15.47%	15.50%	15.53%
Future Housing			
2035 Single-family housing	48,958.0	48,846.0	48,783.0
2035 Multi-family/attached housing	9,844.0	9,977.0	10,053.0
2035 Percent single-family housing	83.26%	83.04%	82.91%
2035 Percent multi-family/attached housing	16.74%	16.96%	17.09%
2046 Single-family housing	53,591.0	53,382.0	53,266.5
2046 Multi-family/attached housing	11,231.0	11,443.0	11,555.5
2046 Percent single-family housing	82.67%	82.35%	82.17%
2046 Percent multi-family/attached housing	17.33%	17.65%	17.83%
Housing Growth from 2020			
2035 New single-family housing	6,880.0	6,782.0	6,735.0
2035 New multi-family/attached housing	2,142.0	2,261.0	2,323.0
2035 Percent single-family housing growth	76.26%	75.00%	74.35%
2035 Percent multi-family/attached housing growth	23.74%	25.00%	25.65%
2046 New single-family housing	11,513.0	11,318.0	11,218.5
2046 New multi-family/attached housing	3,529.0	3,727.0	3,825.5
2046 Percent single-family housing growth	76.54%	75.23%	74.57%
2046 Percent multi-family/attached housing growth	23.46%	24.77%	25.43%
			Preferred Scenario

TABLE 4-6
 2022 RTP and SCS Travel Characteristics

2022 Madera County Regional Transportation Plan and Sustainable Communities Strategy			
Mode Share*	Scenario 1	Scenario 2	Scenario 3
Mode			
Drive alone	297,804	297,804	297,804
Two-person shared ride	128,958	128,958	128,958
Three-plus person shared ride	172,383	172,383	172,383
Transit	2,411	2,411	2,411
Walk	6,250	6,250	6,250
Bike	87,117	87,117	87,117
Other			
Home to work average trip distance (miles)	9.37	9.37	9.37
Home to work trip average time (minutes)	15.24	15.24	15.24
2035 Mode Share			
Drive alone	339,106	339,770	339,988
Two-person shared ride	149,693	149,964	150,052
Three-plus person shared ride	202,921	203,082	203,168
Transit	2,782	2,789	2,791
Walk	7,893	7,924	7,933
Bike	106,888	107,468	107,502
Other			
Home to work average trip distance (miles)	8.76	8.72	8.67
Home to work trip average time (minutes)	14.69	14.62	14.56
2046 Mode Share			
Drive alone	366,306	367,463	367,699
Two-person shared ride	163,926	164,365	164,429
Three-plus person shared ride	224,654	224,917	224,931
Transit	3,036	3,043	3,059
Walk	9,047	9,096	9,118
Bike	120,580	121,516	121,703
Other			
Home to work average trip distance (miles)	8.42	8.36	8.26
Home to work trip average time (minutes)	14.42	14.32	14.20
			Preferred Scenario

*Date in this table is derived from Travel Demand Model Activity. Off-model reductions are not part of these calculations.

4.4 PREFERRED PROJECT ALTERNATIVE

Scenario 3 (Conservation and Mobility, Preferred Project Alternative)

Figure 4-1 provides a graphic representation of the land use allocation results associated with Scenario 3.

Land Use Allocation

Land use categories from the Madera Travel Demand Model have been translated into a standardized land use category set to be used by the UPlan software. UPlan is a rule based urban growth model intended for regional or county level modeling. The needed space for each land use type is calculated from simple demographics and assigned based on the net attractiveness of locations to that land use (based on user input), locations unsuitable for any development and a general plan that determines where specific types of development are permitted.

The Uplan parameters were based off outreach inputs received from outreach, then applied through a combination of local land use plans to ensure allocation would occur in a manner not inconsistent with locally approved planning and guidance documents.

This process established the contents of the land use parameters in place for the SCS scenarios. These can then be input into the Madera County Travel demand model. They will generate travel activity depending on where the various land uses are distributed at in the region. Scenario 3 allocates growth towards established growth and urban areas, prioritizes infill development, and increases lot sizes and housing density share.

4.5 OTHER PROJECT ALTERNATIVES

The following sections provide a comparison of the Preferred Project Alternative to the No Project Alternative, Scenario 1 (Continued Trends) and Scenario 2 (Moderate Shift) to the Preferred Project. For purposes of this EIR, the other project alternatives are known as the No Project Alternative, Alternative 1, and Alternative 2.

No Project Alternative

California Environmental Quality Act (CEQA) regulations require assessment of a No Project Alternative. This alternative has been analyzed to determine whether environmental impacts associated with the Project will be lessened if planned improvements to the future transportation system were not made beyond the first two years of the conformed TIP. The No Project Alternative also assumes that growth and

development (through to the year 2046) would occur in a fashion consistent with the adopted general plans of each of its three local jurisdictions including residential densities and unit types, minimal mixed-use development, residential densities persons per acre consistent with historical trends, transit oriented development, and other continued suburban growth and development resulting in an increasing development footprint and continued farmland conversion.

As noted above, the No Project Alternative reflects all existing transportation systems, and future project improvements contained in the first two years of the most recently approved FTIP for which an Air Quality Conformity package was also prepared and approved.

Impacts could result from this alternative; specifically, impacts upon each of the environmental areas addressed in Chapter 3 of this Draft PEIR. These impacts are discussed below.

✓ **Aesthetics**

The No Project is reflective of balanced or trend growth and development throughout the County, which will result in similar land consumption of scenic resources, important farmland, and environmental resource lands and therefore similar light and glare and other aesthetic impacts associated with the Project Alternative. The Project Alternative is focused on more growth in already urbanized areas with an emphasis on infill.

While it can be expected that there will be a similar amount of land consumed as a result of future growth and development to the year 2046 associated with the Project Alternative, the No Project Alternative will result in potentially greater impacts to aesthetic resources due to the lack of adequate modal facilities and services resulting in significant congestion and travel delay as well as land development not being focused in existing urban areas. The No Project Alternative will have greater aesthetic impacts due to increased transportation congestion causing greater and longer light and glare and obstruction of views and scenic resources impacts in rural and suburban areas of the County in comparison to existing urban areas that already experience such disturbance. This is especially true of street and highway improvements.

✓ **Agricultural Resources**

The No Project Alternative will have fewer impacts on the consumption of important farmland resulting from the significantly fewer number of transportation improvement projects of all modes compared to the Project Alternative. The No Project is also reflective of balanced growth and development throughout the County, which will result in similar consumption of important farmland, compared to the Project Alternative. While there will likely be a smaller amount of farmland

consumed as a result of future growth and development to the year 2046 associated with the Project Alternative, the No Project Alternative will result in less important farmland consumed as a result of significantly fewer transportation improvement projects.

✓ **Air Quality**

Air quality impacts are determined considering tons of pollutants (Carbon Monoxide, Reactive Organic Gases, Nitrogen Oxide, Particulate Matter 10, and Particulate Matter 2.5) released per a typical day. The No Project Alternative will likely produce higher criteria pollutant emissions since the No Project Alternative would see future development in undeveloped areas that would require more disturbance during construction.

✓ **Biological Resources**

While there will be a similar amount of biotic resources impacted as a result of future growth and development to the year 2046 associated with the Project Alternative, the No Project Alternative will result in more biotic resources impacts as the 2022 RTP/SCS is focused on developing in areas that are already urbanized.

✓ **Climate Change**

Climate Change impacts are determined considering annual tons of greenhouse gas emissions (Carbon Dioxide or CO₂, Methane or CH₄, Nitrous Oxide or N₂O and others). Compared to the Preferred Project Alternative, the No Project Alternative will likely produce higher greenhouse gas emissions since the No Project Alternative is projected to have a significantly greater number of congested facilities leading to greater vehicle hours of travel and potential idling in congested corridors.

✓ **Cultural Resources and Tribal Cultural Resources**

While there could be a similar amount of cultural and tribal resources impacted as a result of future growth and development to the year 2046 associated with the Project Alternative, the No Project Alternative will result in fewer cultural and tribal resource impacts as a result of significantly fewer transportation improvement projects. However, growth under the Project Alternative will also focus on areas that are already urbanized making effects on tribal and cultural resources less likely. As a result, the No Project Alternative will have similar impacts to cultural and tribal resources.

✓ **Energy & Energy Conservation**

The No Project Alternative will have slightly higher VMT (reference Table 4-1) vs. the Preferred Project Alternative. In addition, more energy efficiency is expected to occur with the Preferred Project Alternative vs. the No Project Alternative as a result of more balanced and compact, mixed-use and walkable development resulting in more energy efficiency.

✓ **Geology/Soils/Mineral Resources**

Impacts related to geologic, seismic, mineral and soils resources would be similar between the No Project and the Preferred Alternative since the regional population distribution is generally similar under either alternative. However, the No Project Alternative will have greater impacts on geology, soils and mineral resources since it is expected to consume more undeveloped land resulting from growth spread across the County as opposed to within existing urban areas.

✓ **Hazardous Materials**

Impacts related to hazardous materials would be similar between the No Project and the Preferred Alternative since the regional population distribution is generally similar under either alternative. However, the No Project Alternative is expected to have more severe congestion than the Preferred Project Alternative and is therefore expected to result in increased opportunities for vehicular accidents involving the transport of hazardous materials.

✓ **Hydrology and Water Resources**

Flooding would be site specific, but the Project Alternative will provide for significantly more street and highways and other modal projects that will be designed to federal, State and local design standards including mitigation of impacts associated with being located in a flood zone. There are likely a number of existing street and highway facilities that are located in flood prone areas that do not currently meet design standards and could therefore be impacted by inundation events. The construction of a significantly greater number of transportation improvement projects would also occur thereby increasing the risk of transportation projects being located in flood prone areas. Impacts related to water resources would be similar between the No Project and the Preferred Alternatives since the regional population distribution is generally similar under either alternative.

✓ **Land Use and Planning**

Impacts related to land use would be similar between the No Project and the Preferred Alternatives since the regional population distribution is generally similar under either alternative. Impacts related to planning processes and policies would be significant under the No Project Alternative since State transportation plans and local general plan circulation elements address modal needs considering projected growth and development. The local general plan elements including land use and circulation are required to be internally consistent. The No Project Alternative would result in such plans being in conflict with State General Plan Guidelines and requirements.

✓ **Noise**

Noise impacts are considered significant under the No Project Alternative. With significantly fewer transportation improvement projects of all modes, congestion levels along the major streets and roads within the region will increase significantly resulting in increased noise levels. Impacts related to land use would be similar between the No Project and the Preferred Alternatives since the regional population distribution is generally similar under either alternative.

✓ **Population, Housing & Employment**

Impacts related to land use would be similar between the No Project and the Preferred Alternatives since the regional population distribution is generally similar under either alternative. However, the No Project Alternative would likely cause significant strain on the transportation system resulting from the lack of future transportation facilities and services to accommodate the project population and employment demand. Employees would experience significant delay and congestion and the lack of adequate modal access to employment sites compared to the Project Alternative.

✓ **Public Utilities, Other Utilities & Services Systems**

The No Project Alternative results in the same or fewer impacts to solid waste disposal and transfer facilities, public utilities and other utilities and services systems as the Preferred Project Alternative. However, the maintenance of transportation systems would degrade under the No Project Alternative since traffic accommodated through to the year 2042 would be utilizing severely congested facilities compared to the Project Alternative.

✓ **Social and Economic Effects**

The Preferred Project Alternative is expected to benefit a larger number of minority and low-income communities and households compared to the No Project Alternative since the transportation improvement projects under the Preferred Project Alternative are expected to provide a benefit to these communities and households in the form of increased and improved transit services, and other active transportation systems. Finally, the No Project would result in the lack of transportation improvements to provide viable access to/from minority and low-income communities and households compared to the Project Alternative.

✓ **Transportation/Traffic**

The No Project Alternative is expected to experience higher LOS deficiencies (reference Table 4-5), higher vehicle hours of travel, and a greater number of auto trips compared to the Preferred Project Alternative. Significant congestion will result and access to other modes will be restricted to the use of existing facilities to the year 2046.

✓ **Wildfire**

The No Project Alternative would result in the least amount of focused future development which would result in a greater risk of wildfire affect such development as compared to the Project Alternative.

Alternative Scenario 1 (Continued Trends)

Scenario 1 would allocate future growth over the life of the RTP/SCS in a manner consistent with past trends, with slight increases to density or housing density share. Impacts could result from this alternative; specifically, impacts upon each of the environmental areas addressed in Chapter 3 of this Draft PEIR. These impacts are discussed below as they compare to impacts associated with the Preferred Project Alternative – Scenario 3.

✓ **Aesthetics**

Scenario 1 will have greater aesthetic impacts due to future land use development in currently undeveloped and outlying communities in the region causing greater light and glare and obstruction of views and scenic resources impacts in comparison to existing urban areas that already experience such disturbance.

The Preferred Project Alternative is focused on more compact development consistent with existing general plans resulting in less intrusion of light and glare and less obstruction to views and scenic resources in outlying areas.

✓ **Agricultural Resources**

Utilizing required SB 375 analysis, Scenario 1 will have greater impacts on the consumption of important farmland because it is expected to consume an estimated 4,642 acres of farmland by 2046, while the Preferred Project Alternative would consume only 3,664 acres.

✓ **Air Quality**

Air quality impacts are determined considering tons of pollutants (Carbon Monoxide, Reactive Organic Gases, Nitrogen Oxide, Particulate Matter 10, and Particulate Matter 2.5) released per a typical day in 2046. Compared to the Preferred Project Alternative, the Alternative 1 is also expected to pass air quality conformity tests and but will produce slightly higher amounts of criteria pollutant emissions compared to the Preferred Project Alternative.

✓ **Biotic Resources**

Alternative 1 will have greater impacts to biotic resources since it would consume more undeveloped land and would disturb sensitive species habitats and natural lands due to future land use development in currently undeveloped and outlying communities of the region. The Preferred Project Alternative is focused on more compact development consistent with existing general plans resulting in less undisturbed land consumption in outlying areas and communities.

✓ **Climate Change**

Climate Change impacts are determined considering annual tons of greenhouse gas emissions (Carbon Dioxide or CO₂, Methane or CH₄), Nitrous Oxide or N₂O and others). Scenario 1 is expected to have a lower greenhouse gas reduction percentage (21.60%) against 2005 levels compared to the Preferred Project Alternative (22.12%) in 2035.

✓ **Cultural and Tribal Resources**

Scenario 1 will have greater impacts to cultural resources since it would consume more undeveloped land, which would disturb archeological, paleontological, or human remains, as well as historic structures due to increased transportation projects and future land use development in currently

undeveloped and outlying areas and communities in the region. The Preferred Project Alternative is focused on more compact development consistent with existing general plans resulting in less undisturbed lands in outlying areas, including a focus on infill development.

✓ **Energy and Energy Conservation**

Scenario 1 will have higher VMT (5,663,391) in 2046) vs. the Preferred Project Alternative (4,835,654 in 2046). Because of the higher VMT associated with Alternative 1, there will be higher fuel consumption.

✓ **Geology/Soils/Mineral Resources**

Impacts related to geologic, seismic, and soils resources would be higher between Alternative 1 and the Preferred Alternative since the regional population distribution is more concentrated in urban areas under the Preferred Alternative.

✓ **Hazardous Materials**

Alternative 1 is expected to have higher VMT than the Preferred Project Alternative and is expected to result in increased opportunities for vehicular accidents involving the transport of hazardous materials. Under Alternative 1, construction activities related to less compact development, could encounter potentially contaminated sites. Alternative 1 would consume more farmland compared to the Preferred Project Alternative, which may be potentially contaminated by previous pesticide use. In addition, Alternative 1 will result in a greater spreading of traffic that could potentially result in accidents and the release of hazardous waste near outlying schools.

✓ **Hydrology and Water Resources**

While Alternative 1 and the Preferred Project Alternative would have the same projected population, the more sprawling land use pattern of Alternative 1 would result in a slightly greater per capita and less efficient use of water than the Preferred Project Alternative, due to the fewer number of single-family homes with landscaping. Similarly, wastewater would be slightly decreased due to the less efficient land use pattern under Alternative 1. Under Alternative 1, more new development would be serviced in areas not currently served by existing infrastructure.

Impacts to water quality under Alternative 1 would be greater than the Preferred Project Alternative due to the increased consumption of currently undeveloped land. Flooding would be site specific, but slightly more consumption of vacant land would occur under Alternative 1; thereby, increasing the risk of transportation projects and future land use development being located in flood prone areas.

✓ **Land Use and Planning**

Alternative 1 would have a greater number of acres of land consumed due to new development in comparison to the Preferred Project Alternative. It would also have more acres of important farmland consumed due to new growth. As referenced in Tables 4-1 and 4-2, the residential density and average number of people per acre would be lower than the Preferred Project Alternative leading to less compact development. The demand for educational facilities would be the same for Alternative 1 and the Preferred Project Alternative; however, the location of the educational facilities would result in more schools and parks being located in rural areas or communities than under the Preferred Project Alternative, which would result in more schools being located within the cities. In addition, Alternative 1 will accommodate more land use development in rural communities resulting in greater impacts to biotic resources in the surrounding areas. Finally, since Alternative 1 will accommodate more land use development in rural communities, greater impacts on open space and community recreational areas will occur.

✓ **Noise**

Noise impacts are considered more significant under Alternative 1 than the Preferred Project Alternative. With slightly less emphasis placed on mass transit, and active transportation choices (walking and biking), congestion levels in existing rural areas and communities will increase resulting in increased noise levels. Alternative 1 will have greater noise impacts due to increased future land use development in currently undeveloped and outlying areas and communities in the region. There may be less intense noise impacts under Alternative 1 due to less compact development and noise associated with decreased traffic and concentrations of people.

✓ **Population, Housing and Employment**

Alternative 1 would have a larger number of acres of land consumed due to new housing and other development in comparison to the Preferred Project Alternative. For Alternative 1, less compact development would occur resulting in a smaller number of households within a 1/4 mile of transit corridors compared to the Preferred Project Alternative. The cumulative impacts between Alternative 1 and the Preferred Project Alternative would be the same given the same number of people and households projected for the year 2046.

✓ **Public Utilities, Other Utilities and Services Systems**

Slightly greater impacts are expected to occur as a result of Alternative 1 since growth is spread out over a larger area of the region in outlying communities resulting in the need for additional and extended public utilities, sewage systems, and other utilities and service systems. In addition, longer emergency vehicle response times would be experienced than under the Preferred Project Alternative. Alternative 1 results in the same or greater impacts to solid waste disposal and transfer facilities as the Preferred Project Alternative. The solid waste disposal and infrastructure of Alternative 1 would be more greatly extended out into new growth areas in outlying communities vs. the Preferred Project Alternative, because it focuses on less compact growth and associated solid waste systems. The generation of green waste would increase under Alternative 1 because there would be a larger area of vacant land developed and landscaped vs. the Preferred Project Alternative, which again would result in less land consumption and more compact development. Construction impacts would be similar to the Preferred Project Alternative.

✓ **Social and Economic Effects**

The Preferred Project Alternative is expected to benefit a larger number of minority and low-income communities and households compared to Alternative 1, and the transportation improvement projects under the Preferred Project Alternative are expected to provide a benefit to these communities and households in the form of increased and improved transit services, and other active transportation systems. Alternative 1 will provide a higher percentage of single-family housing units compared to the Preferred Project Alternative, resulting in increased housing costs.

✓ **Transportation/Traffic**

Alternative 1 is expected to experience a greater total VMT (reference Table 4-1), compared to the Preferred Project Alternative. In addition, the weekday person trips by transit, walk, and bike modes are expected to be similar for Alternative 1 compared to the Preferred Project Alternative.

✓ **Wildfire**

Alternative 1 would result in more undeveloped land, including farmland, to be consumed as compared to the Project Alternative. This would put future rural development at a greater risk of wildfire as compared to the Project Alternative.

Alternative Scenario 2 (Moderate Shift)

Scenario 2 would allocate future growth over the life of the RTP/SCS toward established growth and urban area, moderate increases to lot sizes and housing density share. Impacts could result from this alternative; specifically, impacts upon each of the environmental areas addressed in Chapter 3 of this Draft PEIR. These impacts are discussed below as they compare to impacts associated with the Preferred Project Alternative – Scenario 3.

✓ **Aesthetics**

Alternative 2 will have greater aesthetic impacts due to future land use development in currently undeveloped and outlying communities in the region causing greater light and glare and obstruction of views and scenic resources impacts in comparison to existing urban areas that already experience such disturbance. The Preferred Project Alternative is focused on more compact development consistent with existing general plans resulting in less intrusion of light and glare and less obstruction to views and scenic resources in outlying areas.

✓ **Agricultural Resources**

Utilizing required SB 375 analysis, Alternative 2 will have greater impacts on the consumption of important farmland because it is expected to consume an estimated 3,835 acres of farmland compared to the Project Alternative's 3,664 acres.

✓ **Air Quality**

Air quality impacts are determined considering tons of pollutants (Carbon Monoxide, Reactive Organic Gases, Nitrogen Oxide, Particulate Matter 10, and Particulate Matter 2.5) released per a typical day in 2046. Compared to the Preferred Project Alternative, Alternative 2 is also expected to pass air quality conformity tests and but will produce slightly higher amounts of criteria pollutant emissions compared to the Preferred Project Alternative.

✓ **Biotic Resources**

Alternative 2 will have greater impacts to biotic resources since it would consume more undeveloped land and would disturb sensitive species habitats and natural lands due to future land use development in currently undeveloped and outlying communities of the region. The Preferred Project Alternative is focused on more compact development consistent with existing general plans resulting in less undisturbed land consumption in outlying areas and communities.

✓ **Climate Change**

Climate Change impacts are determined considering annual tons of greenhouse gas emissions (Carbon Dioxide or CO₂, Methane or CH₄, Nitrous Oxide or N₂O and others). The Alternative 2 is expected to have a lower greenhouse gas reduction percentage (22.05%) against 2005 levels compared to the Preferred Project Alternative (22.12%) in 2035.

✓ **Cultural and Tribal Resources**

Alternative 2 will have greater impacts to cultural resources since it would consume more undeveloped land, which would disturb archeological, paleontological, or human remains, as well as historic structures due to increased transportation projects and future land use development in currently undeveloped and outlying areas and communities in the region. The Preferred Project Alternative is focused on more compact development consistent with existing general plans resulting in less undisturbed lands in outlying areas.

✓ **Energy & Energy Conservation**

Alternative 2 will have slightly higher VMT (5,634,477 in 2046) vs. the Preferred Project Alternative (4,835,654 in 2046). Because of the higher VMT associated with Scenario 2, there will be higher fuel consumption.

✓ **Geology/Soils/Mineral Resources**

Impacts related to geologic, seismic, and soils resources would be similar between the Scenario 2 and the Preferred Alternative since the regional population distribution is generally similar under either alternative.

✓ **Hazardous Materials**

Alternative 2 is expected to have higher VMT than the Preferred Project Alternative and is expected to result in increased opportunities for vehicular accidents involving the transport of hazardous materials. Under Alternative 2, construction activities related to less compact development, could encounter potentially contaminated sites. The Hybrid alternative would consume more farmland than the Preferred Project Alternative, which may be potentially contaminated by previous pesticide use. In addition, the Hybrid Alternative will result in a greater spreading of traffic that could potentially result in accidents and the release of hazardous waste near outlying schools.

✓ **Hydrology and Water Resources**

While Alternative 2 and Preferred Project Alternative would have the same projected population, the more sprawling land use pattern of Alternative 2 would result in a slightly greater per capita and less efficient use of water than the Preferred Project Alternative, due to the fewer number of single-family homes with landscaping. Similarly, wastewater would be slightly decreased due to the less efficient land use pattern under the Hybrid Alternative. Under Alternative 2, more new development would be serviced in areas not currently served by existing infrastructure.

Impacts to water quality under Alternative 2 would be slightly greater than the Preferred Project Alternative due to the increased consumption of currently undeveloped land. Flooding would be site specific, but lightly more consumption of vacant land would occur under the Hybrid Alternative; thereby, increasing the risk of transportation projects and future land use development being located in flood prone areas.

✓ **Land Use and Planning**

Alternative 2 would have a greater number of acres of land consumed due to new development in comparison to the Preferred Project Alternative. It would also have more acres of important farmland consumed due to new growth. As referenced in Table 4-1, the residential density and average number of people per acre would be lower than the Preferred Project Alternative leading to less compact development. The demand for educational facilities would be the same for Alternative 2 and the Preferred Project Alternative; however, the location of the educational facilities would result in more schools and parks being located in rural areas or communities than under the Preferred Project Alternative, which would result in more schools being located within the cities. In addition, Alternative 2 will accommodate more land use development in rural communities resulting in greater impacts to biotic resources in the surrounding areas. Finally, since Alternative 2 will accommodate more land use development in rural communities, greater impacts on open space and community recreational areas will occur.

✓ **Noise**

Noise impacts are considered more significant under this Alternative than the Preferred Project Alternative. With slightly less emphasis placed on mass transit, and active transportation choices (walking and biking), congestion levels in existing rural areas and communities will increase resulting in increased noise levels.

Alternative 2 will have greater noise impacts due to increased future land use development in currently undeveloped and outlying areas and communities in the region. There may be less intense noise impacts under Alternative 2 due to less compact development and noise associated with decreased traffic and concentrations of people.

✓ **Population, Housing & Employment**

Alternative 2 would have a larger number of acres of land consumed due to new housing and other development in comparison to the Preferred Project Alternative. It would also have more acres of important farmland consumed due to new housing and other growth and development in the rural areas and communities. As referenced in Table 4-1, the residential density and average number of people per acre would be less than the Preferred Project Alternative leading to less compact development. For Alternative 2, referencing Table 4-1, less compact development would occur resulting in a smaller number of households within a 1/4 mile of transit corridors compared to the Preferred Project Alternative. The cumulative impacts between Alternative 2 and the Preferred Project Alternative would be the same given the same number of people and households projected for the year 2046.

✓ **Public Utilities, Other Utilities & Services Systems**

Slightly greater impacts are expected to occur as a result of Alternative 2 since growth is spread out over a larger area of the region in outlying communities resulting in the need for additional and extended public utilities, sewage systems, and other utilities and service systems. In addition, longer emergency vehicle response times would be experienced than under the Preferred Project Alternative. Alternative 2 results in the same or greater impacts to solid waste disposal and transfer facilities as the Preferred Project Alternative. The solid waste disposal and infrastructure of Alternative 2 would be more greatly extended out into new growth areas in outlying communities vs. the Preferred Project Alternative, because it focuses on less compact growth and associated solid waste systems. The generation of green waste would increase under the Hybrid Alternative because there would be a larger area of vacant land developed and landscaped vs. the Preferred Project Alternative, which again would result in less land consumption and more compact development. Construction impacts would be similar to the Preferred Project Alternative.

✓ **Social and Economic Effects**

The Preferred Project Alternative is expected to positively impact a larger number of minority and low-income communities and households compared to Alternative 2, and the transportation improvement projects under the Preferred Project Alternative are expected to provide a benefit to

these communities and households in the form of increased and improved transit services, and other active transportation systems. Alternative 2 will provide a higher percentage of single-family housing units compared to the Preferred Project Alternative, which would result in increased housing costs vs. the Preferred Project Alternative.

✓ **Transportation/Traffic**

Alternative 2 is expected to experience greater total VMT (reference Table 4-1), compared to the Preferred Project Alternative. In addition, the weekday person trips by transit, walk, and bike modes are expected to be similar for Alternative 2 compared to the Preferred Project Alternative.

✓ **Wildfire**

Alternative 2 would result in more undeveloped land, including farmland, to be consumed as compared to the Project Alternative. This would put future rural development at a greater risk of wildfire as compared to the Project Alternative.

4.6 ENVIRONMENTALLY PREFERRED ALTERNATIVE

Based on the analysis and results described in Chapter 3 and Sections 4.4 and 4.5 of this Chapter, the Environmentally Preferred Project Alternative is implementation of the 2022 RTP/SCS (Scenario 3, Conservation and Mobility). The Project is considered the "Environmentally Preferred Alternative" as noted below.

4.6.1 Meets Project Objectives

This section compares the impacts of the three (3) project alternatives under consideration to those of the proposed Project (2022 RTP/SCS) – Scenario 3. Tables 4-1 through 4-2 above show whether each project alternative would have impacts that fall short of the Project Alternative, meet or address environmental quality, or have similar impacts or benefits of the Project Alternative for each of the issue areas studied in this PEIR.

4.6.2 Environmentally Superior Alternative

Environmentally Superior Alternative Section 15126.6(e)(2) of the CEQA Guidelines indicates that an analysis of alternatives to a proposed project shall identify an environmentally superior alternative among the alternatives evaluated in an EIR. The CEQA Guidelines also state that should it be determined that the

No Project Alternative is the environmentally superior alternative, the EIR shall identify another environmentally superior alternative among the remaining alternatives.

In this case, the No Project Alternative would not be considered environmentally superior overall. Although it would entail the fewest projects and therefore result in the fewest construction-related impacts and impacts associated with ground disturbance, many of the transportation improvements envisioned in the 2022 RTP/SCS would not occur. As a consequence, congestion would be greater with this alternative as compared to the Project Alternative. In addition, air contaminant, and GHG emissions impacts would be expected to be greater than the Project Alternative.

4.6.3 Reduces Significant Impacts

Scenario 3 or the 2022 RTP/SCS Preferred Project Scenario will reduce significant impacts to a greater extent than any of the other Project Alternatives as discussed above and throughout this Chapter. In addition, the Project is considered the Environmentally Preferred Alternative *because it is:*

Feasible, Implementable, Achievable

The Preferred Project Alternative is based on current planning assumptions reflected in current or draft general plans of each of the local jurisdictions. This alternative was proposed by member agencies leading to an alternative that is feasible, implementable, and achievable.

This alternative will see growth in cities and communities based on historical trend with increased densities and with the planned growth following current and draft general, community, and specific plans.

As described in Chapter 2 of this EIR and of the RTP/SCS, and information presented regarding the goals and objectives in Section 4.3 of this Chapter, MCTC developed an extensive list of goals, objectives, and performance measures to help quantify and evaluate the tangible results of the 2022 RTP/SCS. Using performance measures is not only good practice, but also critically important, because they help decision-makers and the public evaluate and make informed decisions on the expected results of a plan before it is implemented. Additionally, performance measures can provide useful ongoing information as projects are developed to ensure that they continue to meet the needs of the region.

The 2022 RTP/SCS evaluated the long-range outlook of several performance measures for each of the three (3) planning scenarios to understand how each scenario contributed to the stated goals and objectives. Comparing the three scenarios on their merits then resulted in a determination of which

one would provide the best mix of future conditions to meet the goals of the Plan and address the needs of the region. Scenario 3 was chosen as the Preferred Scenario for the 2022 RTP/SCS.

Once Alternative 3 was chosen, its performance was compared against other scenarios, which captured “business-as-usual” land use planning and transportation investments. Detailed information on the performance measures and their results can be found in the SCS.

The 2022 RTP/SCS is based on a preferred land use and transportation investment scenario, referred to as the Scenario 3 (Preferred Scenario), which defines a pattern of future growth and transportation system investment for the region. This Scenario includes comprehensive improvements to the regional and local transportation networks, with a focus on infill development in downtowns and centers in close proximity to jobs and services. In addition, this Scenario emphasizes transportation investments in transit and active transportation facilities to improve bicycle and pedestrian mobility.

Considering the performance measures presented in Table 4-1 in this Chapter, the other scenarios are not preferred for the reasons listed below by alternative scenario.

Alternative 1 is not preferred because it results in the:

- Highest total VMT associated with new development.
- Highest total acres of new development.
- Highest acres of farmland converted.

Scenario 2 is not preferred because it results in the:

- Second highest total VMT associated with new development.
- Second highest total acres of new development.
- Second highest acres of farmland converted.

✓ **Consistent with Local General Plans and Policies**

Land uses within each city and the County are governed by general plans, which designate appropriate land uses throughout the jurisdiction and define specific goals, policies, and objectives. In general, most plans recognize existing land uses and determine acceptable uses for future development of land currently used for agriculture or open space. The Preferred Project Alternative was developed in cooperation between MCTC and Madera County’s jurisdictions to ensure consistency with draft general plan land use designations, transportation systems, and general plan update policies. Future growth and development consistent with the general plans will be focused on existing communities and increased densities along major corridors and within activity centers. More specifically, the

Conservation and Mobility Scenario is consistent with the general plans of all jurisdictions within Madera County because it addresses and accommodates the projected amount and allocation of population, housing and employment growth between 2022 and 2046 to each of those jurisdictions, while at the same time increasing residential densities and increasing employment along transit corridors.

✓ **Reduces Air Pollution**

In order to serve the needs of a growing and diverse population and meet air quality standards, demand management measures will be reviewed as a means of maintaining accessibility while also reducing congestion. The Preferred Project Alternative will encourage land use patterns that reduce dependency on automobiles, reduce energy consumption, and support the use of transit and other alternative modes. The goals, objectives, and policies for air quality attainment and energy conservation stress concerted efforts toward supporting alternative transportation modes including the improvement of bicycle and pedestrian systems and upgrading existing public transit and regional rail facilities. Each of these types of improvements are included in the Preferred Project Alternative.

✓ **Meets GHG Reduction Targets**

The Preferred Project Alternative takes into consideration requirements of SB 375 and Sustainable Communities Strategy elements. As part of its mandate under SB 375, in 2010, the California Air Resources Board (CARB) set specific GHG emission reduction targets for cars and light trucks for each of the state's 18 metropolitan planning organizations from a 2005 base year. The GHG targets set for the Madera region call for a 5 percent per capita reduction by 2020, and a 10 percent per capita reduction by 2035. MCTC has demonstrated that the 2022 RTP/SCS (Preferred Project Alternative) will meet the CARB GHG emission reduction targets for 2035.

✓ **Achieves the Goals of SB 375**

The strategies in the 2022 RTP/SCS are aimed at reducing travel and providing additional travel choices. As such, the 2022 RTP/SCS complies with the conformity requirements of the Clean Air Act, as further detailed in the conformity document (reference the Conformity Analysis for the 2019 Federal Transportation Improvement Program and the 2022 RTP/SCS on the MCTC Website at: www.maderactc.org). An important part of the Conservation and Mobility Scenario is a significant investment in public transit, as well as facilities that encourage walking and bicycling as forms of active transportation. The aim of these investments is to significantly increase the attractiveness of public transit, walking, and bicycling – particularly in areas that are planned for more compact and mixed-use development. Investments in local streets and roads, including access to regional airports; goods movement projects, and Transportation Demand Management (TDM) projects and programs are also integral to the overall transportation network.

It is expected that the 2022 RTP/SCS (Preferred Project Alternative) will produce benefits beyond simply reducing GHG emissions. The 2022 RTP/SCS will help the region contend with many ongoing issues across a wide range of concerns, including place making, the environment, responsiveness to the marketplace, and mobility.

- ✓ The 2022 RTP/SCS promotes development of better places to live and work through measures that encourage more compact development, varied housing options, bike and pedestrian improvements, and efficient transportation infrastructure.
- ✓ The demographic profile of the region is changing and the market for housing is changing with it. Residents will be looking for a “value lifestyle” in which both housing and transportation costs are minimized even as they maintain a high-quality of life. Strategies focused on high-quality places, compact infill development, and more housing and transportation choices provide a response to these newly emerging market forces.
- ✓ By including options that create more compact neighborhoods and placing destinations closer to homes and closer to one another, the 2022 RTP/SCS strategies can reduce the cost of development for taxpayers and reduce everyday costs of housing and transportation.
- ✓ Reducing the footprint of new development protects farmland and open space.
- ✓ The 2022 RTP/SCS does not envision wholesale redevelopment of the region. The vast majority of neighborhoods and business districts that will exist in 2046 already exist today, and most of them will be unchanged in the next 20-25 years. Rather, the 2022 RTP/SCS envisions a new development pattern for new neighborhoods and revitalized neighborhoods and business districts that will build upon current patterns to give residents more choices and opportunities as they consider where to live and work.

5.0 CUMULATIVE EFFECTS

Section 15126.2 of the *CEQA Guidelines* requires that EIRs identify four types of impacts:

- ✓ The significant environmental effects of the project.
- ✓ Significant effects of the project which cannot be avoided if the project is implemented.
- ✓ Significant irreversible environmental changes which would be caused by the project.
- ✓ The growth inducing impacts of the project. Section 15130(a) requires an EIR to provide a discussion of significant cumulative impacts of a project when the project's incremental effect is cumulatively considerable.

The significant effects of the Project were identified in Section 3 of this EIR. This section of the EIR identifies the unavoidable impacts, irreversible environmental changes, growth inducing impacts, and cumulative effects of the Project.

5.1 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL CHANGES

Significant unavoidable environmental changes would result from any of the improvement projects under the Preferred Project Alternative where construction of such projects would utilize non-renewable resources in such a way that reversing the impact of Project implementation is not possible. CEQA Section 15126.2(b) requires a discussion of any significant impacts that cannot be reduced to levels of insignificance. Although mitigation measures have been identified, where feasible, for all of the significant impacts of the proposed Project, the Plans would result in the following impacts that are significant and unavoidable even after implementation of available, feasible mitigation measures:

- ✓ Blocked or impeded scenic resources as seen from the transportation facility or from the surrounding area.
- ✓ Altered appearance of scenic resources along or near designated or eligible scenic highways and/or vista points.
- ✓ Creation of significant contrasts with the overall visual character of the existing landscape setting.
- ✓ New source of substantial light and glare.
- ✓ Land use and growth that may occur in areas not previously envisioned for growth and development (agricultural areas).
- ✓ Increased emissions during the planning period for the Project.
- ✓ Creation of objectionable odors affecting a substantial number of people.
- ✓ Degradation or removal of natural vegetation and wildlife habitat during construction activities.
- ✓ Displacement or removal of riparian or wetland habitat during construction and operation of

- improvement and future land use development projects.
- ✓ Displacement or removal of riparian or wetland habitat during construction and operation of improvement or future land use development projects as a result of edge effects.
- ✓ Temporary or permanent impacts to terrestrial and aquatic wildlife movements.
- ✓ Potential increase in the siltation of screens and other water resources from exposures of erodible soils during construction activities.
- ✓ Indirect cumulative effect on biological resources.
- ✓ Cumulative Greenhouse Gas Emissions (GHG) impacts.
- ✓ Impacts on cultural and historical sources resulting from increased construction activities.
- ✓ Excavation and earthmoving activities of previously unknown archaeological resources or paleontological materials.
- ✓ Cumulative regional impacts on existing cultural and historical resources.
- ✓ Increased slope failure.
- ✓ Long-term erosion impacts.
- ✓ Impact along alignments and future land use development sites of state owned and state mineral-reserve land.
- ✓ Exposure of people or structures to potential substantial adverse effects related to seismic activity and landslides.
- ✓ Cumulative regional impacts on geologic resources.
- ✓ Hazards to the public or environment through the release of hazardous materials during transportation of such wastes or the release of materials from future land use developments.
- ✓ Cumulative regional impact on water quality, stormwater infiltration, groundwater recharge, flood hazard, wastewater treatment service, and water demand.
- ✓ Energy consumption and conservation impacts.
- ✓ Impacts on land use patterns, potentially causing land use growth and development to occur in areas not previously envisioned for growth and development or to occur at a higher density than planned in general plans.
- ✓ Sensitive receptors located in the urban and rural areas of the Madera region including residences, educational facilities, medical facilities and places of worship. Construction and implementation of the proposed highway and arterial improvements, transit facilities, and future land use development would impact sensitive receptors located in the vicinities of the individual improvement or future land use development projects.
- ✓ Loss of open space areas.
- ✓ Disturbance or loss of significant agricultural resources throughout the Madera region.
- ✓ Cumulative regional impacts on existing and planned land use and recreational facilities.
- ✓ Noise impacts resulting from construction and grading activities.
- ✓ Exposure to noise for noise-sensitive land uses in excess of normally acceptable noise levels or substantial increases in noise.

- ✓ Cumulative regional impacts on ambient noise levels.
- ✓ Displaced or relocated residences and businesses through acquisition of land and buildings necessary for roadway improvements or for future land use developments.
- ✓ Disrupted or divided communities by separating community facilities, restricting community access and eliminating community amenities.
- ✓ Increases in 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.
- ✓ Recreational facilities or construction or expansion of recreational facilities which might have an adverse physical effect on the environment.
- ✓ Cumulative regional impact to population, housing and employment.
- ✓ Cumulative regional impact on public utilities, other utilities and services systems.
- ✓ Level of Service (LOS) deficiencies (LOS E and F conditions) and congestion along the regionally significant road system.
- ✓ Substantially increase hazards due to a design feature or incompatible uses.
- ✓ Result in inadequate emergency access and parking capacity.
- ✓ Conflict with adopted polices, plans, or programs supporting alternative transportation.

5.2 SIGNIFICANT IRREVERSIBLE IMPACTS

The identification of irreversible impacts is required in Section 15126.2(c) of the CEQA Guidelines. This section states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts, and particularly secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. In addition, irreversible damage can result from environmental accidents associated with the Project (RTP/SCS). Irretrievable commitments of resources should be evaluated to assure that current consumption is justified.

CEQA Section 15126.2(c) requires a discussion of any significant impacts that cannot be reduced to levels of insignificance. Although mitigation measures have been identified, where feasible, for all of the significant impacts of the proposed Project, the RTP/SCS would result in the impacts listed above that are significant and irreversible even after implementation of available, feasible mitigation measures.

5.3 GROWTH INDUCING IMPACTS

According to Section 15126.2(d) of the State CEQA Guidelines, an EIR is required to evaluate potential growth-inducing impacts of a proposed project. CEQA Guidelines defines a growth-inducing impact as “the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.” CEQA also requires the analysis of project characteristics that may encourage and facilitate activities that could individually or cumulatively affect the environment. Growth inducement therefore, is any growth, which exceeds planned growth of an area and results in new development, which would not have taken place without the implementation of the proposed project. The growth-inducing potential of a project would be considered significant if it results in growth or a population concentration that exceeds growth forecasts included in general plans, other land use plans, or projections made by regional planning agencies.

The environmental effects of induced growth are indirect impacts of the proposed project. Such effects could result in significant, adverse environmental impacts, which could include increased demand on public services, increased traffic and/or noise, degradation of air and/or water quality, and conversion of agricultural land and open space to other uses.

The socioeconomic growth that the Madera region has experienced for the past 50 years is expected to continue. The Project will, in and of itself, may incur growth inducing impacts to the Madera region. New or improved transportation facilities provide access to areas of new development, thereby allowing more people and jobs to locate in growth areas. Without these facilities, the lack of access could force development into areas with existing transportation infrastructure, thereby shifting population and employment growth from one area of the region to another. From this standpoint, the inclusion of new or upgraded transportation facilities in the Project could be considered growth inducing in some localities.

It is anticipated that the Madera region will grow at the same rate, regardless of whether or not the Project is implemented. See the Population, Employment, and Housing section (Chapter 3, Section 3.14 of this EIR) for further clarification. Construction of individual improvement projects and future land use development within the County will be subject to further CEQA review and evaluation of growth inducing impacts, and, as mentioned above, the Project, in and of itself, may have growth inducing impacts.

5.4 CUMULATIVE IMPACTS

Cumulative effects, according to CEQA Guidelines are defined as “two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts.” The cumulative impact from several projects results from the incremental impacts of the proposed project when added to other closely related past, present, and reasonably foreseeable future projects (Section 15255). According to CEQA Guidelines Sections 15130(a) and (b), the purpose of this section is to provide a discussion of significant cumulative impacts resulting from the Project, and to indicate the severity of the impacts and their likelihood of occurrence. The CEQA Guidelines require that EIRs discuss the cumulative impacts of a project when a project’s incremental effect is “cumulatively considerable,” meaning that a project’s incremental effects are considerable when viewed in connection with effects of past, current, and probable future projects. The CEQA Guidelines provide two methods for analyzing cumulative impacts with the most appropriate method for a program-level RTP EIR being the projection approach. In this approach, the cumulative impact analysis is based on a summary of projections of future development and impacts contained in adopted general planning or related planning documents, or in prior environmental documents that have been certified. These documents must be available to the public and actually describe or evaluate the regional or areawide conditions contributing to the cumulative impact.

Land use and growth projections for the 2022 RTP/SCS, which are the subject of analysis throughout this Draft Program EIR, are combined with the growth projections for Madera County (and the incorporated cities and communities). In other words, the geographic scope for this cumulative analysis covers the entire Madera County region plus the projected growth within each community (including both unincorporated and incorporated areas). The general plans for the jurisdictions within Madera County were used to compile planned land uses for the cumulative impact analysis area. As a regional planning and financing project, the Project would regionally affect development in the same way as other regional planning and financing projects, such as city and county general plans and master plans of water and sanitation agencies would be expected to contribute to cumulative impacts on the same scale as the Project.

Aesthetics

Future development within Madera County and development in surrounding areas would result in the increased intensity of existing urban land uses as well as conversion of open space into urban land uses, which is expected to result in a less than significant visual impact. The conversion of open space to urban land uses would result in a significant unavoidable impact by causing the obstruction of existing open views as well as potentially obstructing distant panoramic views from existing development; therefore, implementation of the proposed 2022 RTP/SCS will cumulatively contribute significantly to the loss of

visual character of the County. Aesthetic impacts associated with implementation of the 2022 RTP/SCS are analyzed in Chapter 3, Section 3.2 of this Draft PEIR.

Impacts AE.1:

Madera County will experience significant growth and development by 2046. The 2022 RTP/SCS influences the pattern of this development, by increasing mobility. At the regional scale, the 2022 RTP's and SCS's contribution to impacts on the overall visual character of the existing landscape setting would be cumulatively significant.

The 2022 RTP/SCS include land use policies that would affect the regional distribution of population, households, employment, and facilities and could impact aesthetics and views. The primary land use strategy discussed in the 2022 RTP/SCS emphasizes focusing development in accordance with applicable general plans, including increased densities and infill development. Such future development may result in taller buildings that obstruct views. However, an infill strategy will also help preserve open space in the region, thereby protecting many scenic resources.

Madera County will increase in population and employment by 2046. Some of these people will live in households and work at jobs on land that is currently vacant. This conversion of vacant land to residential or other uses would have a significant impact on aesthetics and views. As a result of the population growth expected to occur in the region over the next 24 years, contrasts with existing visual character will occur either due to increased land use intensity in urban areas or due to development of previously vacant lands. Although implementation of mitigation measures would reduce potential cumulative impacts, the impacts would be considered cumulatively considerable.

Mitigation Measures:

- ✓ **AE.1-1** Mitigation measures referenced in Chapter 3, Section 3.2 should also be implemented to address cumulative impacts.

Significance After Mitigation:

Population growth projected by 2046 in combination with the projects in the 2022 RTP/SCS would consume land that is currently vacant resulting in contrasts with the overall visual character of the existing landscape setting. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce the significant impacts identified, it is

probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Agriculture and Forestry Resources

As Madera County and the surrounding areas develop, a greater intensity of land uses may result in cumulative land use compatibility impacts. The proposed 2022 RTP/SCS will result in the conversion of State-designated (Prime, Unique, and Statewide Important) farmland as well as land currently utilized for agricultural productivity Prime Farmlands, Unique Farmlands, or Farmlands of Statewide Importance to a variety of non-agricultural uses. Impacts to agricultural resources associated with implementation of the 2022 RTP/SCS are analyzed in Chapter 3, Section 3.3 of this PEIR.

Impacts AR 1:

Implementation of the 2022 RTP/SCS would result in conversion of important farmland to urban use as defined by SB 375. While this represents total agricultural land lost in Madera County outside of the recorded-year and current spheres of influence of each of the local jurisdictions or agencies, neighboring counties would also continue to convert agricultural land due to development outside of Madera County. This collectively adds to the overall conversion of agricultural lands in the cumulative impact analysis and surrounding area. The contribution of the proposed 2022 RTP/SCS to cumulative loss of agricultural and forest land resources would be cumulatively considerable. This is considered to be a potentially significant impact.

Mitigation Measures:

- ✓ **AG 1-1** Mitigation measures referenced in Chapter 3, Section 3.3 should also be implemented to address cumulative impacts.

Significance After Mitigation:

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce the significant impacts identified, it is probable that such

impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies.

As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Air Quality

Chapter 3, Section 3.4 of this PEIR includes a detailed analysis of the air quality conditions related to implementation of the proposed 2022 RTP/SCS. This includes an analysis of regional and localized air quality impacts such as impacts from air emissions during construction and operation, exposure to toxic air contaminants, and odor impacts. The discussion below addresses cumulative air quality impacts beyond Madera County.

Madera County is within the San Joaquin Valley Air Basin, which is monitored by the San Joaquin Valley Air Pollution Control District (SJVAPCD). The State has identified specific pollutants for which emissions levels have exceeded applicable federal and state pollutant standards in each of the air basins. Madera County is nonattainment for Ozone (1 hour and 8 hour) and PM₁₀ and PM_{2.5}. The project will result in beneficial effects of system-wide improvement in traffic flows and reduced congestion, which would reduce the potential for increased air emissions. The SJVAPCD Ozone, PM_{2.5} and PM₁₀ plans all document the SJVAPCD's plans to achieve the State ambient air quality standards, and as such, compliance with the regulations and incentives contained in the SJVAPCD plans results in compliance with the State ambient air quality standards. Based on the air quality analysis, the 2022 RTP conforms to the applicable SIPs and demonstrates progress toward attainment with the state ambient air quality standards for PM₁₀, PM_{2.5} and Ozone. As a result, implementation of the 2022 RTP would result in a less than significant impact to PM₁₀, PM_{2.5}, and Ozone and wouldn't impede the above referenced plans and regulations.

Generally, growth within a specific region can not only worsen pollution levels within its own basin but it can also potentially worsen pollution levels within neighboring basins. Pollutant transport can occur as a result of various topographical and atmospheric conditions that cause pollution generated in one location to move to another location outside of the air basin. While the 2022 RTP/SCS does contribute to an ongoing violation, it does not impede the above referenced plans and regulations.

Impacts AQ 1:

Forecasted growth within Madera County and its surrounding areas will result in a potentially significant cumulative impact from air emissions adversely affecting a number of air basins. The regional contribution to these cumulative air quality impacts may also be potentially significant.

Mitigation Measures:

- ✓ **AQ 1-1** Implement Mitigation Measures in Chapter 3, Section 3.4. Implementation of these measures will lessen this impact but not to a less than significant level.

Significance After Mitigation:

While population growth is expected to occur in Madera County and its surrounding areas in the future with and without the Project, implementation of mitigation measures is expected to lessen cumulative impacts, however they will remain significant and unavoidable. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce the significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Biotic Resources

Chapter 3, Section 3.5 of this PEIR includes a detailed analysis of the biotic conditions related to implementation of the proposed 2022 RTP/SCS. While the loss of some special status species and important natural communities habitat in Madera County is expected as a result of implementation of the 2022 RTP/SCS, surrounding communities may also convert habitat land for development and actions by these surrounding communities may further impact these biological resources. Collectively, this adds to the overall cumulative impacts to biological resources.

Impacts BR 1:

Growth and development in Madera County will increase substantially by 2046. The 2022 RTP/SCS, by increasing mobility, influences the pattern of this growth and development. The 2022 RTP's and SCS's influence on growth potentially contributes to following regional cumulatively considerable impacts:

- ✓ Displacement of natural vegetation.
- ✓ Damage to sensitive species habitat.
- ✓ Habitat fragmentation.
- ✓ Impacts to riparian and wetland habitats.

- ✓ Construction and operational disturbances.
- ✓ Siltation.

The amount of new developed acreage (consuming previously vacant land) would be considerable. This degree of development is reasonably foreseeable; however, to assign this future development to precise locations would be speculative, such that it cannot be estimated which natural vegetation communities would be affected. Despite the inability to predict the acreage of each habitat type that may be affected, it is reasonable to expect that this future development would contribute to the same types (although on a larger scale) of impacts detailed in Chapter 3, Section 3.5.

These indirect impacts on biological resources are associated with population, employment, and household growth forecast by MCTC, and they are considered a significant cumulative impact.

Mitigation Measures:

- ✓ **BR 1-1** The cumulative impacts to biological resources, due to the forecast urban development associated with the 2022 RTP/SCS, would be mitigated using the same measures detailed for impacts referenced in Chapter 3, Section 3.5, in addition to the following measure.
- ✓ **BR 1-2** Future impacts to biotic resources will be minimized through cooperation and information sharing between the implementation agency and affected resource agencies.

Significance After Mitigation:

The impacts to biotic resources due to regional scale growth would be reduced through application of the mitigation measures; however, implementation of the 2022 RTP's and SCS's transportation improvement and future land use development projects to accommodate growth and development in Madera County (as reflected in adopted local agency general plans) would contribute to biotic resource impacts. Impacts to biotic resources from the 2022 RTP/SCS would be cumulatively considerable. The responsibility to mitigate impacts to biotic resources rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce conflicts with any local policies or ordinances protecting biological resources, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Climate Change

Climate change impacts associated with implementation of the 2022 RTP/SCS are analyzed in Chapter 3, Section 3.6 of this PEIR. Climate change impacts tend to be considered exclusively cumulative in nature. Implementation of the 2022 RTP/SCS would be consistent with statewide and regional plans and would achieve the statewide target for future year emissions reductions required under SB 375, AB 32, and SB 32.

Impact CC 1:

Although growth and development in Madera County and its surrounding communities is likely to result in increases in cumulative GHG emissions and contribute to global climate change, the contribution of the 2022 RTP/SCS to cumulative GHG emissions and global climate change would typically be considered a less than significant impact. However, for reasons considered below, impacts are considered significant and unavoidable.

Mitigation Measure:

- ✓ **CC 1-1** Implement Mitigation Measures in Chapter 3, Section 3.6. Implementation of these measures will lessen this impact but not to a less than significant level.

Significance After Mitigation:

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce increased transportation GHG emissions on climate change, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Cultural and Tribal Cultural Resources

Impacts to cultural resources associated with implementation of the 2022 RTP/SCS are analyzed in Chapter 3, Section 3.7 of this PEIR. While some cultural resources may have regional significance, the

resources themselves are site-specific, and impacts to them are project-specific; therefore they are not typically considered cumulatively. However, if a cultural resource represents the last known example of its kind, impacts to it would be considered cumulatively significant.

Impacts CTR 1:

Growth and development in Madera County will increase substantially by 2046. The 2022 RTP/SCS, by increasing mobility and by inclusion of transportation measures, influences the pattern of this development. The 2022 RTP's and SCS's influence on growth contributes to regional impacts to existing historic resources and previously undisturbed and undiscovered cultural and tribal resources. This impact would be cumulatively considerable.

The amount of new developed acreage (consuming previously vacant, open space/recreation and agricultural land) from transportation and land use policies in the 2022 RTP/SCS would be greater than the No Project Alternative. While there will be a similar amount of cultural and tribal resources impacted as a result of future growth and development to the year 2046 associated with the Project Alternative, the No Project Alternative will result in fewer cultural and tribal resource impacts as a result of significantly fewer transportation improvement projects. This degree of development and the implementation of transportation improvements is reasonably foreseeable; however, to assign this future development and transportation improvements to precise locations or alignments would be speculative, such that it cannot be estimated where cultural and tribal resources would be affected. Despite the inability to predict the acreage of previously undisturbed land that may be affected, it is reasonable to expect that this future development would contribute to the same types of impacts detailed in Impacts 3.7.1 through 3.7.5, of Chapter 3, Section 3.7. These effects are considered a cumulatively considerable impact.

Mitigation Measures:

- ✓ **CTR 1-1** The cumulative impacts to cultural resources, due to the forecast growth and development associated with the 2022 RTP/SCS, would be mitigated using the same measures detailed for impacts referenced in Chapter 3, Section 3.7, in addition to the following measure.
- ✓ **CTR 1-2** Future impacts to cultural resources will be minimized through cooperation and information sharing between the implementation agency and affected resource agencies.

Significance After Mitigation:

The impacts to cultural and tribal resources due to regional scale growth would be reduced through application of the mitigation measures; however, implementation of the 2022 RTP's and SCS's

transportation improvement projects to accommodate growth and development in Madera County (as reflected in adopted local agency general plans) would contribute to cultural and tribal resource impacts. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce significant impacts on historic resources and human remains and tribal resources, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies.

As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Energy and Energy Conservation

Energy impacts associated with implementation of the 2022 RTP/SCS are analyzed in Chapter 3, Section 3.8 of this PEIR. Demand for electrical power and natural gas has the potential to affect areas outside of Madera County in a cumulative manner, because energy systems are interconnected and may even crossover into other states and countries. If growth of supplies does not keep pace with demand, the effects of growth and development in the cumulative impact analysis area have the potential to create shortages, resulting in a potentially significant cumulative impact.

Impacts EN 1:

To reduce the consumption of energy and maintain consistency with smart growth principals, the 2022 RTP/SCS include a proposed land use plan and transportation system focused on mixed uses, compact development, and multi-modal transportation options. However, implementation of the RTP/SCS is still anticipated to result in a per-capita and total increase in energy use in Madera County. In addition to other growth and development in Madera County and the surrounding communities that could result in increases in the demand for energy, the contribution of the 2022 RTP/SCS to cumulative energy impacts is considered significant.

Mitigation Measures:

- ✓ **EN 1-1** The cumulative impacts to energy due to the forecast growth and development associated with the 2022 RTP/SCS would be mitigated using the same measures detailed for impacts referenced in Chapter 3, Section 3.8.

Significance After Mitigation:

The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce impacts on energy and energy resources, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Geology/Soils/Mineral Resources

The implementation of the proposed RTP /SCS will contribute to the urbanization of Madera County, which will result in the direct and/or indirect increase of seismic, slope, soil instability, or wind hazards. This increase would result from urban development and the conversion of vacant land to urban uses. As Madera County grows, the opportunity for the hazards to occur grows also. Therefore, implementation of the proposed RTP/SCS will cumulatively contribute significantly to the increased exposure of people and property to seismic, slope, soil instability, and wind hazards.

Chapter 3, Section 3.9 of this PEIR includes a detailed analysis of the geology and soil conditions related to implementation of the proposed 2022 RTP /SCS.

Impacts GSM 1:

Growth and development in Madera County will increase substantially by 2046. The 2022 RTP/SCS, by increasing mobility and including alternative transportation modes, influences the pattern of this urbanization. Implementation of the 2022 RTP/SCS would have the potential to result in a cumulatively considerable adverse effect on human beings and property when considered at the regional scale.

Potentially hazardous geological and seismic factors are found throughout the San Joaquin Valley. Given the regional scale and growth-inducing nature of the projects and programs included in the 2022 RTP/SCS, the cumulative impacts of the 2022 RTP/SCS on geological units and soils as well as the potential exposure to substantial adverse effects to people and property would be significant.

Mitigation Measures:

- ✓ **GSM 1-1** Mitigation measures reference in Chapter 3, Section 3.9. would be applied to this impact in addition to the following measure:
- ✓ **GSM 1-2** Future impacts to geologic resources will be minimized through cooperation and information sharing between the implementation agency and affected resource agencies.

Significance After Mitigation:

The impacts to geologic resources due to regional scale growth would be reduced through application of the mitigation measures; however, implementation of the 2022 RTP's and SCS's transportation improvement and future land use development projects to accommodate growth and development in Madera County (as reflected in adopted local agency general plans) would contribute to geologic resource impacts. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce damaged transportation infrastructure and other land use development structures from seismic activity, slope failure and soil erosion, and loss of mineral resources, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Hazards and Hazardous Materials

Development in accordance with the proposed RTP/SCS would cumulatively increase the intensity of development in Madera County. Compliance with federal, State, and local regulations concerning the storage and handling of hazardous materials and/or waste would reduce the potential for significant public health and safety impacts from hazardous materials to occur. Therefore, the impact of the proposed RTP/SCS in addition to future development in surrounding areas is not expected to affect significantly the number of people exposed to public health and safety risks from exposure to hazardous materials.

Chapter 3, Section 3.10 of this PEIR includes a detailed analysis of the hazardous materials conditions related to implementation of the proposed 2022 RTP/SCS.

Impacts HM 1:

Implementation of the investments and policies in the 2022 RTP/SCS could create a potential hazard to the public or the environment by the disturbance of contaminated sites as a result of population and housing growth in the region. The 2022 RTP's and SCS's influence on mobility and its land use-transportation systems would influence population distribution, potentially contributing to a cumulatively considerable impact related to disturbance of contaminated sites by new urban development. This impact is considered to be significant.

Mitigation Measures:

- ✓ **HM 1-1** Referenced in Chapter 3, Section 3.10 as implemented by responsible agencies and private developers would address this impact.

Significance After Mitigation:

With appropriate review and clean up or maintenance, this impact would not be cumulatively considerable and therefore would be less than significant. However, the responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce the impacts of hazardous materials, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Hydrology & Water Resources

Chapter 3, Section 3.11 of this PEIR includes a detailed analysis of the hydrology and water quality conditions related to implementation of the proposed 2022 RTP/SCS. Some types of impacts are localized and occur independently; these are not considered cumulative. There are, however, hydrology and water quality impacts that may be additive and cumulative.

Development within a flood hazard area results in continuous and incremental changes over time that could have cumulative adverse effects during a flood. Alterations of the drainage patterns, effects of groundwater withdrawal, and groundwater recharge may be cumulatively affected.

Impacts HW 1:

Growth and development will increase substantially by 2046. The 2022 RTP/SCS, by increasing mobility and by including alternative transportation modes, influences the pattern of this development. The 2022 RTP's and SCS's influence on growth would contribute to the conversion of undeveloped land, resulting in impacts to water quality, stormwater infiltration and groundwater recharge, flood hazard impacts, wastewater treatment services, and water demand.

The growth projection associated with the 2022 RTP /SCS would substantially increase the amount of developed land in the County. With the 2022 RTP /SCS, the amount of new developed acreage (consuming previously vacant land) would be considerable.

Mitigation Measures:

- ✓ **HW 1-1** Mitigation Measures referenced in Chapter 3, Section 3.11 shall be applied to all transportation and future land use development projects, as feasible, in addition to the following measures:
- ✓ **HW 1-2** Local governments and Caltrans should encourage Low Impact Development and natural spaces that reduce, treat, infiltrate and manage stormwater runoff flows.
- ✓ **HW 1-3** Local governments and Caltrans should implement green infrastructure and water-related green building practices through incentives and ordinances. Green building resources include the U.S. Green Building Council's Leadership in Energy and Environmental Design, Green Point Rated Homes, and the California Green Builder Program.
- ✓ **HW 1-4** Local governments and Caltrans should integrate water resources planning with existing greening and revitalization initiatives, such as street greening, tree planting, development and restoration of public parks, and parking lot conversions, to maximize benefits and share costs.
- ✓ **HW 1-5** Developers, local governments, Caltrans, and water agencies should maximize permeable surface area in existing urbanized areas to protect water quality, reduce flooding, allow for groundwater recharge, and preserve wildlife habitat. New impervious surfaces should be minimized to the greatest extent possible, including the use of in-lieu fees and off-site mitigation.
- ✓ **HW 1-6** Future impacts to water quality should be avoided through cooperative planning, information sharing, and comprehensive pollution control measure development.

- ✓ **HW 1-7** Local jurisdictions, Caltrans, and water agencies are encouraged to continue planning for improved stormwater management and groundwater recharge. Future adverse impacts should be avoided through cooperative planning, information sharing, and comprehensive implementation efforts.
- ✓ **HW 1-8** Local governments and Caltrans should prevent improvement project and future land use development in flood hazard areas that do not have appropriate protections, especially in alluvial fan areas of the region.
- ✓ **HW 1-9** Local jurisdictions should encourage new development and industry to locate in those service areas with existing wastewater infrastructure and treatment capacity, making greater use of those facilities prior to incurring new infrastructure costs.
- ✓ **HW 1-10** Wastewater treatment agencies are encouraged to have expansion plans, approvals and financing in place once their facilities are operating at 80 percent of capacity.
- ✓ **HW 1-11** Local jurisdictions should promote reduced wastewater system demand by: designing wastewater systems to minimize inflow and increase upstream treatment and infiltration to the extent feasible, reducing overall source water generation by domestic and industrial users, deferring development approvals for industries that generate high volumes of wastewater until wastewater agencies have expanded capacity.
- ✓ **HW 1-12** Project developers and agencies should consider potential climate change hydrology and attendant impacts on available water supplies and reliability in the process of creating or modifying systems to manage water resources for both year-round use and ecosystem health.
- ✓ **HW 1-13** Local water agencies should continue to evaluate future water demands and establish the necessary supply and infrastructure to meet that demand.
- ✓ **HW 1-14** Developers, local governments, and water agencies should include conjunctive use as a water management strategy when feasible.
- ✓ **HW 1-15** Developers and local governments should reduce exterior uses of water in public areas, and should promote reductions in private homes and businesses, by shifting to drought-tolerant native landscape plantings (xeriscaping), using weather-based irrigation systems, educating other public agencies about water use, and installing related water pricing incentives.
- ✓ **HW 1-16** Future impacts to water supply should be minimized through cooperation, information sharing, and program development.

Significance After Mitigation:

RTP/SCS improvement projects and future land use development expected by 2046 would create adverse impacts on water quality, stormwater infiltration and groundwater recharge, flood hazard impacts, and wastewater treatment service and water demand impacts. The 2022 RTP's and SCS's influence on growth distribution is a cumulatively considerable contribution to this significant impact. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce the identified significant impacts identified, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Land Use & Planning & Recreation

As Madera County and the surrounding areas develop, a greater intensity of land uses may result in cumulative land use compatibility impacts. Chapter 3, Section 3.12 of this EIR includes a detailed analysis of the land use and planning conditions related to implementation of the proposed 2022 RTP/SCS.

Impacts LPR 1:

Growth and development in the County will increase substantially by 2046. The 2022 RTP/SCS, by increasing mobility and enhancing alternative transportation modes, influences the pattern of this urbanization. The 2022 RTP/SCS are in-line with current implementation agencies' adopted land use plans; however, should an agency make changes that reflect a differing development pattern, they could then have the potential to conflict with applicable adopted local land use plans and policies and result in impacts on recreational facilities.

While the RTP /SCS are likely to result in a positive outcome related to supportive land use conditions for alternative forms of transportation such as transit, other improvement projects and future land use developments in the RTP /SCS could have significant impacts on land use patterns, land use growth and development. This impact could be especially significant on recreational, open space, agricultural, and other land uses within the County. The 2022 RTP's and SCS's influence on growth contributes to regional cumulatively considerable impacts to land use and would change the intensity of land use in some areas.

Mitigation Measures:

- ✓ **LPR 1-1** The mitigation measures listed in Chapter 3, Section 3.12 would be applied as mitigation for this impact. In addition, the following measure would apply.
- ✓ **LPR 1-2** Regional planning efforts will be used to build a consensus in the region to support changes in land use to accommodate future population growth while maintaining the quality of life in the region.

Significance After Mitigation:

In order to accommodate the projected population totals assumed for 2046, the region will need to change land uses and increase the intensity of some existing land use. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce impacts on land use and planning, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce impacts identified.

Noise

The 2022 RTP /SCS would result in potential cumulative noise level increases along major roadways and near industrial/commercial zones. Each of these noise impacts would be dealt with separately when new noise sensitive or noise generating developments are proposed. Chapter 3, Section 3.13 of this EIR includes a detailed analysis of the noise conditions related to implementation of the proposed 2022 RTP/SCS.

Impacts N 1:

Cumulative ambient noise levels could increase in the region to exceed normally acceptable noise levels or have substantial increases in noise as a result of the operation of expanded or new transportation facilities and future land use developments.

The 2022 RTP/SCS could have a significant impact on noise in the region. As described under Chapter 3, Section 3.13, many of the projects involve construction, which would result in significant short-term impacts. While the construction noise is temporary and short-term at the project level, the cumulative construction noise region wide could be significant. Over the course of the planning horizon there is likely to be constant construction within the region.

Cumulative transportation noise could also increase. This ambient noise increase could be related to aircraft overflights, railroads, as well as freeway, arterial and transit noise, and finally the operation of future land use developments.

Mitigation Measures:

- ✓ **N 1-1** Mitigation measures intended to reduce the noise impacts on sensitive receptors are part of the 2022 RTP/SCS. These include: site design, buffers, soundwalls, etc.
- ✓ **N 1-2** Further reduction in noise impacts would be obtained through the implementation of the measures described in Chapter 3, Section 3.13.

Significance After Mitigation:

Mitigation Measures referenced in Chapter 3, Section 3.13 may not reduce noise levels to below regulatory levels in all cases. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce the identified noise impacts, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Population, Housing & Employment

Future increases in population and housing will occur within Madera County. Development on a scale and intensity permitted under the 2022 RTP/SCS would result in cumulatively significant population increases within the County and region. Chapter 3, Section 3.14 of this PEIR includes a detailed analysis of the population, housing, and employment conditions related to implementation of the proposed 2022 RTP/SCS.

Impacts PHE 1:

Growth and development in the County will increase substantially by 2046. The 2022 RTP/SCS, by increasing mobility and including transportation measures, influences the pattern of this development.

The 2022 RTP's and SCS's influence on growth contributes to regional cumulatively considerable impacts to population, housing and employment and would change the intensity of land use in some areas.

Mitigation Measures:

- ✓ **PHE 1-1** The mitigation measures listed in Chapter 3, Section 3.14 would be applied as mitigation for this impact. In addition, the following measure would apply.
- ✓ **PHE 1-2** Regional planning efforts will be used to build a consensus in the region to support changes in population, housing and employment to accommodate future growth while maintaining the quality of life in the region.

Significance After Mitigation:

In order to accommodate the projected population, housing and employment totals assumed for 2046, the region will need to change land uses and increase the intensity of some existing land use. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce impacts on population, housing, and employment, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Public Utilities, Other Utilities & Services Systems

Chapter 3, Section 3.15 of this PEIR includes a detailed analysis of the public utilities, other utilities, and services systems conditions related to implementation of the proposed 2022 RTP /SCS.

Impacts PU 1:

The contribution of the proposed 2022 RTP /SCS to cumulative public service impacts in the form of state routes, freeways, and other roads under the jurisdiction of the CHP; rural wildland fire areas protected by CAL FIRE; and regional, state, and federal parks, open space, recreational areas, and other future land uses may be cumulatively considerable. This is considered to be a potentially significant impact.

Mitigation Measures:

- ✓ **PU 1-1** The mitigation measures listed in Chapter 3, Section 3.15 would be applied as mitigation for this impact.

Significance After Mitigation:

If the implementing agency adopts these mitigation measures, it will reduce the contribution of the proposed 2022 RTP/SCS to cumulative impacts to a less than significant level. However, the responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce impacts public services, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Impacts PU 2:

Growth and development in the County will increase substantially by 2046. The 2022 RTP/SCS, by increasing mobility and including alternative transportation modes, influences the pattern of this development. The 2022 RTP's and SCS's influence on growth contributes to regional cumulatively considerable impacts to police and fire and emergency services, solid waste services, and other public services in the County.

Growth and development in the region will require additional police, fire, and other emergency and public services, and additional solid waste services. Such needs will be determined on a transportation project- and future land use development project-level basis by individual service providers.

Mitigation Measures:

The mitigation measures listed in Chapter 3, Section 3.15 would be applied as mitigation for this impact in addition to the following.

- ✓ **PU 2-1** The growth inducing potential of individual transportation and future land use projects will be carefully evaluated so that the full implications of the projects are understood. Individual environmental documents should quantify indirect impacts (growth that could be facilitated or induced) on public services and utilities to the extent feasible.
- ✓ **PU 2-2** The California Integrated Waste Management Board should continue to enforce solid waste diversion mandates that are enacted by the Legislature.
- ✓ **PU 2-3** Local jurisdictions should continue to adopt programs to comply with state solid waste diversion rate mandates and, where possible, should encourage further recycling to exceed these rates.
- ✓ **PU 2-4** Local jurisdictions should implement or expand city or county-wide recycling and composting programs for residents and businesses. This could include extending the types of recycling services offered (e.g., to include food and green waste recycling) and providing public education and publicity about recycling services.
- ✓ **PU 2-5** Project implementation agencies should coordinate regional approaches and strategic siting of waste management facilities.
- ✓ **PU 2-6** Project implementation agencies should prioritize siting of new solid waste management facilities including recycling, composting, and conversion technology facilities in conjunction with existing waste management or material recovery facilities.
- ✓ **PU 2-7** Project implementation agencies should increase programs to educate the public and increase awareness of reuse, recycling, composting, and green building benefits and raise consumer education issues at the county and city level, as well as at local school districts and education facilities.

Significance after Mitigation:

Adoption of these mitigation measures by implementing agencies would reduce the contribution of the proposed 2022 RTP/SCS to cumulative impacts. However, the responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the

responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce impacts public services, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce the significant impacts identified.

Social and Economic Effects

Chapter 3, Section 3.16 of this EIR includes a detailed analysis of the social and economic conditions related to implementation of the proposed 2022 RTP/SCS. While an analysis of the social and economic impacts is not required by CEQA, Title VI of the Civil Rights Act of 1964 established the need for transportation agencies to disclose to the public the benefits and burdens of proposed projects on minority populations. The understanding of civil rights has expanded to include gender, religion, and disability. Title VI was further amended in 1987 to extend non-discrimination requirements for recipients of federal aid to all of their programs and activities, not just those funded with federal funds. In 1994, President Clinton issued Executive Order 12898 on “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” In 1997, the Department of Transportation followed up with an Order on Environmental Justice designed to implement the Executive Order. In December 1998, the Federal Highway Administration (FHWA) issued its own environmental justice order. As a federally designated metropolitan transportation planning organization (MPO), MCTC is required to comply with the rules and policies set forth by FHWA.

Impacts SE 1:

Growth and development in the County will increase substantially by 2046. The 2022 RTP/SCS, by increasing mobility and including transportation measures, influences the pattern of this development. Construction of some improvement projects will be located in areas of minority and low-income populations. The improvement and future land use development projects may have direct, short-term impacts on surrounding communities related to construction, including noise, air quality, and traffic. However, none of these projects are expected to have a disproportionate impact on minority or low-income communities.

The Project is designed to serve the entire population of the County, and the transportation and future land use development projects are dispersed throughout the region. As a result, short-term impacts are considered less-than-significant.

Furthermore, MCTC works with cities, counties, and other implementing agencies to encourage improvement projects that serve those communities with the greatest transit needs, such as low-income or minority communities in urban core areas. It is anticipated that the improvement projects will increase accessibility and address existing problems with the transportation network. The location, design, and alignment of transportation facilities and routes are planned to reduce potential impacts to the extent feasible, and to ensure that if impacts occur, these impacts do not disproportionately affect low-income or minority populations. As a result, long-term impacts are considered less-than-significant.

Mitigation Measures:

- ✓ **SE 1-1** Mitigation measures have not been identified in Sections 3.4, 3.12, and 3.14 to minimize potential impacts because impacts were found to be less-than-significant. However, to protect the cumulative effects on sensitive uses that may be located near the individual improvement and future land use development project sites, including low-income and minority communities, the following measure would also apply.
- ✓ **SE 1-2** Regional planning efforts will be used to build a consensus in the region to support changes in social and economic conditions to accommodate future growth while maintaining the quality of life in the region.

Significance After Mitigation:

Less than significant.

Transportation/Traffic

Chapter 3, Section 3.17 of this PEIR includes a detailed analysis of the transportation/traffic conditions related to implementation of the proposed 2022 RTP/SCS. At the regional level, all transportation and traffic impacts associated with implementation of the 2022 RTP/SCS are considered potentially significant but are expected to provide benefits such as increasing person trips by bicycle, walking, and transit and improving infrastructure and connectivity for pedestrians, bicycles.

Impacts TT 1:

The 2022 RTP/SCS are designed to maintain and encourage the balance between jobs and housing within the region. The additional population, housing, and job growth forecasted in 2046 is not a result of the 2022 RTP/SCS, which is a strategy to allocate the forecasted growth in order to achieve a more balanced jobs/housing ratio and to optimize transportation investments that support those land uses. The 2022 RTP/SCS result in a greater mix of alternative modes. The potential for cumulative impacts related to

traffic generated within Madera County and its surrounding communities, to which implementation of the 2022 RTP/SCS might contribute, is potentially significant.

Mitigation Measures:

- ✓ **TT 1-1** The mitigation measures listed in Chapter 3, Section 3.17 will be applied as mitigation for this impact.

Significance After Mitigation:

Implementing agency agencies should require measures that increase alternate modes of transportation. The responsibility to approve land use development consistent with the general plans and the SCS rests with the local jurisdictions and the responsibility to design and construct transportation improvements rests with Caltrans, the local jurisdictions, and other responsible agencies with jurisdiction over a project area. While implementation and monitoring of the above referenced mitigation measures will provide the framework and direction to avoid or reduce transportation impacts, it is probable that such impacts could remain significant and unavoidable. As a program-level document, evaluation of all project-specific circumstances is not plausible. Individual projects will require a project-level analysis to determine appropriate mitigation strategies. As appropriate, MCTC will encourage the implementation of the above-noted mitigation strategies intended to avoid or reduce impacts identified.

6.0 LIST OF PREPARERS, ORGANIZATIONS, AND AGENCIES REFERENCED OR CONSULTED

6.1 LIST OF PREPARERS

The following provides a list of firms and staff members involved in the preparation process of this document:

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Troy McNeil, Deputy Director/Fiscal Supervisor
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Jeff Findley, Principal Regional Planner
Evelyn Espinosa, Associate Regional Planner
Nicholas Dybas, Associate Regional Planner
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Sheila Kingsley, Office Assistant

VRPA Technologies, Inc.

Georgiena Vivian, President, Project Manager
Erik Ruehr, P.E., Director of Traffic Engineering
Richard Lee, PhD, AICP, Director of Innovation and Sustainability
Jeff Stine, Senior Transportation Planner
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John Thomason, Contractor, Environmental Specialist
Jason Ellard, Contractor
David Berggren, Contractor, GIS Specialist
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Impact Sciences

John Anderson, M.A., M. Phil., OLY, Assoc. Principal Yasmeen Hussain, Planner III

BBK Law

Charity Schiller, Partner Hannah Park

6.2 ORGANIZATIONS AND AGENCIES REFERENCED OR CONSULTED

The following provides a list of organizations and agencies referenced or consulted during preparation of this Draft EIR:

American Farmland Trust - Fresno, California
AMTRAK
Best, Best & Krieger
Burlington, Northern and Santa Fe Railroad
California Attorney General
California Air Resources Board
California Building Standards Commission, (CBSC)
California Department of Conservation
California Department of Finance
California Department of Fish and Wildlife
California Department of Forestry and Fire Protection
California Department of Health Services
California Department of Parks and Recreation
California Department of Transportation (Caltrans)
California Department of Water Resources
California Division of Oil, Gas and Geothermal Resources
California Division of Mines and Geology
California Employment Development Department
California Energy Commission
California Environmental Protection Agency
California Gas Utilities
California Governor's Office of Planning and Research
California Historical Resources Commission
California Integrated Waste Management Board
California Native American Heritage Commission
California Office of Environmental Health
California Office of Historic Preservation
California Regional Water Quality Control Board
California State University, Bakersfield
California State Water Resources Control Board
California Transportation Commission
City of Madera (Various Departments)
City of Chowchilla (Various Departments)
Coalition for Clean Air
County of Madera (Various Departments)
Federal Emergency Management Agency
Federal Highway Administration
Federal Transit Administration
Governor's Office of Planning and Research

Greyhound Bus Lines
Impact Sciences, Inc.
Institute of Transportation Engineers
Madera County Airport Land Use Commission
Madera County LAFCO
Madera County Transportation Commission (MCTC)
MCTC RTP and SCS Roundtable
Moy & Associates
National Park Service
National Forest Service
National Transportation Safety Board
Orange Belt Stages
Pacific Gas and Electric (PG&E)
QK Inc.
Pacific Gas and Electric (PG&E)
Provost & Pritchard Consulting Group
Regional Water Quality Control Board, Central Valley Region
San Joaquin Valley Air Pollution Control District
San Joaquin Valley Railroad
Southern California Edison
Transportation Research Board
Trinity Consultants
Union Pacific Transportation Company
United States Army Corps of Engineers
United States Aviation Administration
United States Bureau of the Census
United States Bureau of Land Management
United States Department of Agriculture, Natural Resource Conservation Service (NRCS)
United States Department of Energy, Energy Information Administration
United States Department of the Interior, Fish and Wildlife Service
United States Department of Transportation
United State Department of Housing and Urban Development
United States Environmental Protection Agency
United States Fish and Wildlife Service
United States Geological Survey
VRPA Technologies, Inc.

APPENDIX A
MCTC 2022 RTP/SCS Notice of Preparation & Comment Letters



2001 Howard Road, Suite 201
Madera, California 93637

Office: 559-675-0721 Facsimile: 559-675-9328
Website: www.maderactc.org

Notice of Preparation

Date: March 1, 2021

To: Reference List of Recipients

From: Dylan Stone, Principal Regional Planner
Madera County Transportation Commission (MCTC) – Lead Agency
dylan@maderactc.org

Subject: Notice of Preparation of a Program Environmental Impact Report (PEIR) for the MCTC 2022 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS)

The Madera County Transportation Commission (MCTC) will be the Lead Agency and will prepare a Program Environmental Impact Report (PEIR) for the 2022 RTP/SCS. MCTC is requesting input regarding the scope and content of the environmental information, which is germane to your agency's statutory responsibilities in connection with the proposed project.

The project title, location, environmental review requirements, agency background and overview, project description, and probable environmental issues to be addressed in the PEIR are attached. An Initial Study is not attached and is not required pursuant to California Environmental Quality Act (CEQA) Guidelines section 15060(d).

Your response is requested at the earliest possible date, but not later than 30 days after receipt of this notice or **by April 1, 2021**. Please send your response to Mr. Dylan Stone, Regional Planning Supervisor, at the email (preferred) address, office address, or facsimile number shown below. Please identify the name, phone number, and email address of a contact person at your agency.

By E-Mail	By Mail	By Facsimile
dylan@maderactc.org	2001 Howard Road, Ste. 201 Madera, CA 93637	(559) 675-9328

The project is of regional significance; therefore, in addition to your written comments provided, your verbal comments regarding preparation of the PEIR are also requested. A scoping meeting will be held on Thursday, March 18, 2021 beginning at 10:30 AM via the Zoom Platform at Join Zoom Meeting at: <https://zoom.us/j/98561833748>, Meeting ID: 985 6183 3748, One tap mobile - +1 669 900 9128 US (San Jose) to provide your verbal comments.

MCTC looks forward to receipt of your comments regarding this important project for our region.

Attachment – Notice of Preparation (NOP)

Member Agencies: County of Madera, City of Madera, City of Chowchilla



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Madera, California 93637

Office: 559-675-0721 Facsimile: 559-675-9328
Website: www.maderactc.org

Notice of Preparation

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Member Agencies: County of Madera, City of Madera, City of Chowchilla

Notice of Preparation –
MCTC 2022 RTP/SCS PEIR

Notice of Preparation
Program Environmental Impact Report
Project Overview and Scope of Environmental Analysis
2022 Regional Transportation Plan &
Sustainable Communities Strategy (RTP/SCS)
March 1, 2021

Project Title

Program Environmental Impact Report (PEIR) for the Madera County Transportation Commission 2022 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS).

Location

Within the corporate limits of Madera County, California, including the two (2) incorporated cities (Chowchilla and Madera) and all unincorporated areas under the jurisdiction of the County of Madera (reference the attached map of Madera County identifying the area to be addressed by the PEIR and the RTP/SCS). Madera County is the 4th largest county in the San Joaquin Valley region of the State of California encompassing approximately 2,200 square miles. The estimated population in 2020 is 157,772. The City of Chowchilla has a population of about 19,053 and the City of Madera has a population of approximately 66,700. The estimated population of the County Unincorporated Area is 72,019.

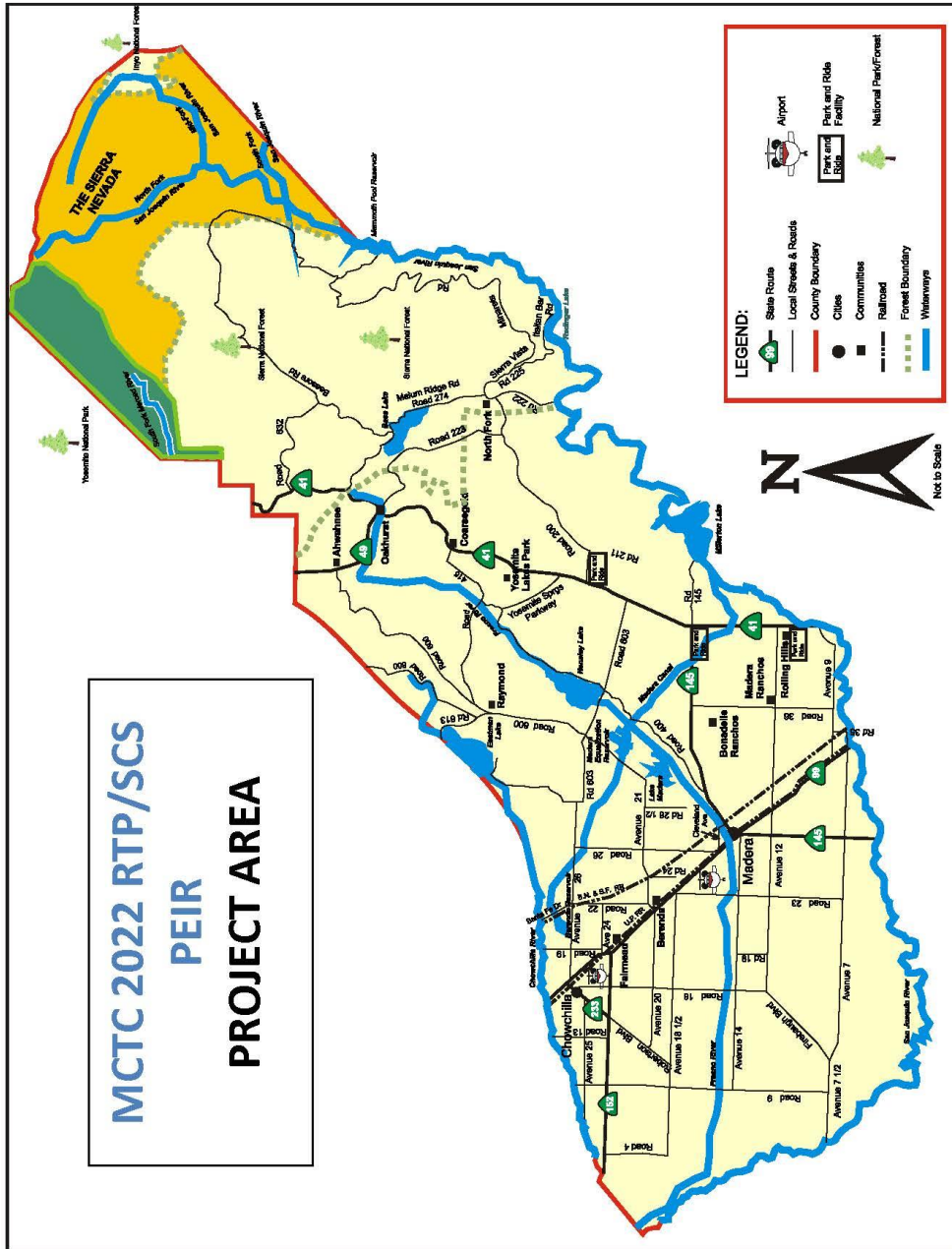
CEQA Requirements

The RTP/SCS PEIR will be prepared in accordance with the California Environmental Quality Act (CEQA) and State CEQA Guidelines. CEQA requires public agencies, such as MCTC, to consider the potential environmental impacts of the proposed 2022 RTP/SCS. The objectives of CEQA are to:

- ✓ Disclose to the MCTC Board and the public the potential environmental impacts of the proposed RTP/SCS
- ✓ Propose feasible alternatives or mitigation measures that avoid, eliminate, or reduce project-related environmental effects
- ✓ Describe the analytical process, which leads to MCTC's decision on the project
- ✓ Promote interagency coordination
- ✓ Provide a mechanism for increasing public participation in the planning process

The environmental document will be prepared as a "Programmatic" or "Program" EIR (PEIR), which is a type of first-tier document as defined in CEQA Guidelines Sections 15152 (Tiering) and 15168 (Program EIR). A Program EIR is prepared for an agency program or series of actions that can be characterized as one large project. Typically, such a project involves actions that are closely related geographically and are logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program with generally similar environmental effects and mitigation measures. The RTP/SCS would be such a project.

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 MCTC 2022 RTP/SCS PEIR



Notice of Preparation –
MCTC 2022 RTP/SCS PEIR

For purposes of this effort, a PEIR will be prepared to reflect impacts and mitigation measures, which will result from the 2022 RTP/SCS including certain environmental issue areas such as air quality, climate change, transportation, and others noted on Page 7.

It is noted that additional environmental analysis by local jurisdictions or other agencies of individual projects contained in the 2022 RTP/SCS may be required. The tiering concept is a multi-level approach to streamlining subsequent environmental reviews. This first-tier RTP/SCS PEIR will include an analysis of general matters (i.e., broad policies, the planned regional multi-modal transportation system and related impacts, and program-wide mitigation measures). Subsequent tiers prepared by local jurisdictions or other agencies (later EIRs and Negative Declaration) will include an analysis of narrower, subsequent projects by “incorporating by reference” the general discussions from the broader first-tier RTP/SCS PEIR. Second-tier environmental reviews will focus on the impacts of individual improvement projects that implement the RTP/SCS, related programs, and/or policy(ies).

Regional Planning Background and Overview

MCTC is a voluntary association of local governments that was created in 1973 through a Memorandum of Understanding (MOU) agreement composed of elected officials of Madera County and its two (2) incorporated cities. In addition, MCTC is the designated Regional Transportation Planning Agency (RTPA) and the designated Metropolitan Planning Organization (MPO), which qualifies it for Federal transportation funding as identified in Title 23 U.S.C. Section 134 and Title 23 Code of Federal Regulations (CFR) Part 450.300. MPOs are federally designated while the State designated RTPAs are described under California Government Code Section 29532 et seq.

As part of the regional transportation planning process, MCTC studies potential transportation improvements, forecasts future conditions and needs, and pools the planning resources and expertise of its member agencies to facilitate development of a shared strategic vision for transportation and development in the region. These responsibilities enable MCTC to fulfill federal and State planning requirements and maintain the eligibility of the Madera region for federal and State funding for transportation planning and improvements.

According to the 2017 California Regional Transportation Planning Guidelines, prepared by the California Transportation Commission (CTC), MCTC is required to adopt and submit an updated RTP to the CTC and the California Department of Transportation (Caltrans) every four years. The Guidelines state that “Regional transportation improvement projects proposed to be funded, in whole or in part, in the state Transportation Improvement Program (RTIP) must be included in an adopted RTP.”

The 2022 RTP is a planning document to be developed by MCTC in cooperation with the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Caltrans and other stakeholders, including transportation system users. Following the passage of *Assembly Bill 32 (AB 32) – The California Global Warming Solutions Act of 2006*, which specifies that by the year 2020, greenhouse gas (GHG) emissions within the State must be at 1990 levels, *Senate Bill 375 (SB 375) – The Sustainable Communities and Climate Protection Act of 2008* was signed into law as the framework for achieving greenhouse gas emissions reductions from land use and transportation planning.

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MCTC 2022 RTP/SCS PEIR

SB 375 includes four primary findings related to the RTP/SCS development process:

- ✓ That the California Air Resource Board (ARB) develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California, including MCTC
- ✓ That MCTC, during the next RTP update, is required to prepare an SCS that specifies how the GHG emissions reduction target set by ARB will be achieved. If the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) shall be prepared by MCTC
- ✓ Streamlines CEQA requirements for specific residential and mixed-use developments that are consistent with the Madera County SCS or APS (as determined by ARB) to achieve the regional GHG emissions reduction target
- ✓ Requires that MCTC conduct the Regional Housing Needs Assessment (RHNA) process consistent with the RTP/SCS process and that the RHNA allocations be consistent with the development pattern in the SCS

Project Description

The project, as defined pursuant to Public Resources Code, Section 21065, is the preparation of the 2022 RTP/SCS. MCTC is in the process of preparing the RTP/SCS as required by Section 65080 et seq., of Chapter 2.5 of the California Government Code, federal guidelines pursuant to new requirements established in the federal surface transportation reauthorization, “Moving Ahead for Progress in the 21st Century” (MAP-21) and the Fixing America’s Surface Transportation (FAST) Acts, Transportation Conformity for the Air Quality Attainment Plan per 40 CFR Part 51 and 40 CFR Part 93, and requirements set forth in *Assembly Bill 32*, *The California Global Warming Solutions Act of 2006*, and *Senate Bill 375 The Sustainable Communities and Climate Protection Act of 2008*. Finally, the California Transportation Commission (CTC) has prepared guidelines (most recently adopted by the CTC on January 18, 2017) to assist in the preparation of the RTP/SCS.

The last comprehensive EIR on the RTP was completed in September 2018, which addressed transportation improvement projects, programs, and funding reflected in the 2018 RTP/SCS including funding from the approved ½ Cent Sales Tax Measure Extension (Measure “T”).

The 2022 RTP/SCS will address all transportation modes including motor vehicles, transit (commuter and local), rail (commuter and interregional), goods movement (rail freight and trucking), bicycle and pedestrian facilities, aviation systems, and transportation systems management (TSM) programs and projects considering the horizon year of 2046. In addition, the 2022 RTP/SCS will:

- ✓ Identify the region’s transportation goals, objectives, and policies
- ✓ Include the SCS, which demonstrates how the region will meet its GHG reduction target through integrated land use, and housing and transportation planning. *Once adopted by MCTC, the SCS becomes an integral part of the RTP*
- ✓ Set forth an action plan of projects and programs to address the needs consistent with the Policy Element
- ✓ Integrate results reflected in the Congestion Management Program (CMP)
- ✓ Document the financial resources needed to implement the plan
- ✓ Reflect results of the Transportation Conformity Analysis
- ✓ Highlight the 2022 RTP/SCS EIR process and results

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- ✓ Detail the RTP/SCS public outreach process
- ✓ Include the Environmental Justice analysis process

Specifically, the RTP/SCS will include the following sections, which may be reorganized or modified as a result of staff and consultant review:

Chapter 1	The 2022 RTP and SCS – A Summary
Chapter 2	Requirements, Trends & Content
Chapter 3	The Madera Region: Past, Present, & Future
Chapter 4	A Shared Vision
Chapter 5	Delivering the Plan for Change
Chapter 6	Creating a Sustainable Future
Chapter 7	Investing in Change
Chapter 8	Public Involvement for Change
Chapter 9	System Performance
Chapter 10	Addressing Environmental Justice
Appendices	

Preliminary 2022 RTP Project Alternatives & SCS Alternative Scenarios

The following preliminary 2022 RTP/SCS project alternatives may be addressed in the PEIR:

- ✓ No Project
- ✓ Preferred SCS Scenario
- ✓ Other Alternative SCS Scenarios potentially including the Low Change Scenario and the Moderate Change Scenario

CEQA Streamlining (SB 375 and SB 226)

SB 375 and SB 226 provide “exemptions” for certain types of projects from CEQA review or projects may qualify for streamlined review if they conform to the regional SCS or the APS (if applicable). Projects qualify for streamlined CEQA review even if they conflict with local plans following adoption of the SCS.

Environmental Issues to be Addressed in the PEIR

The programs and projects to be included in the 2022 RTP/SCS will be analyzed through development of the PEIR. This will allow MCTC to analyze the regional or general impacts of the programs and projects. A more detailed or project level environmental assessment (if required) of the various projects included in the RTP/SCS will be conducted by the various responsible agencies including Caltrans, Madera County, and the cities within the County before the projects are approved for construction and implementation.

Notice of Preparation –
MCTC 2022 RTP/SCS PEIR

Potential environmental impacts that could result from the Project include project impacts to:

- ✓ Aesthetics
- ✓ Agricultural and Forestry Resources
- ✓ Air Quality
- ✓ Biological Resources
- ✓ Climate Change
- ✓ Cultural Resources & Tribal Cultural Resources
- ✓ Energy and Energy Conservation
- ✓ Geology/Soils/Mineral Resources
- ✓ Hazards and Hazardous Materials
- ✓ Hydrology and Water Quality
- ✓ Land Use, Planning, and Recreation
- ✓ Noise and Vibration
- ✓ Population, Housing, and Employment
- ✓ Public Utilities, Other Utilities, and Services Systems
- ✓ Social and Economic Effects
- ✓ Transportation/Traffic
- ✓ Alternatives (noted above), Cumulative Effects, Growth Inducing Impacts, and Other Issues required by CEQA
- ✓ Mandatory Findings of Significance

Prepared by: Georgiena M. Vivian, President
VRPA Technologies, Inc.
March 1, 2021

Date: March 1, 2021

Signature: 
Patricia Taylor

Title: Executive Director

Phone: (559) 675-0721 Ext. 13

2022 Regional Transportation Plan/Sustainable Communities Strategy

Summary

SCH Number	2021030268
Lead Agency	Madera County Transportation Commission (MCTC)
Document Title	2022 Regional Transportation Plan/Sustainable Communities Strategy
Document Type	NOP - Notice of Preparation of a Draft EIR
Received	3/10/2021
Present Land Use	Various
Document Description	Regional transportation plan covering the entire county of Madera. The RTP/SCS is a long-range plan for all modes of transportation through to the year 2046.

Contact Information

Name	Dylan Stone
Agency Name	Madera County Transportation Commission
Contact Types	Lead/Public Agency
Address	2001 Howard Road Suite 201 Madera, CA 93637
Phone	(559) 675-0721 ext. 17
Email	dylan@maderactc.org

Location

Cities	Chowchilla, Madera
Counties	Madera
Regions	Countywide
Cross Streets	N/A
Zip	N/A

Total Acres	N/A
Parcel #	N/A
State Highways	SR 99 and others
Railways	UP and BNSF
Airports	Madera Municipal and others
Schools	Madera Community
Waterways	San Joaquin River and Others
Township	N/A
Range	N/A
Section	N/A
Base	N/A
Other Location Info	N/A
Other Information	N/A

Notice of Completion

State Review Period Start	3/10/2021
State Review Period End	4/9/2021
State Reviewing Agencies	California Air Resources Board (ARB), California Department of Conservation (DOC), California Department of Forestry and Fire Protection (CAL FIRE), California Department of Parks and Recreation, California Department of Transportation, District 6 (DOT), California Department of Transportation, Division of Aeronautics (DOT), California Department of Transportation, Division of Transportation Planning (DOT), California Department of Water Resources (DWR), California Governor's Office of Emergency Services (OES), California Highway Patrol (CHP), California Natural Resources Agency, California Public Utilities Commission (CPUC), California Regional Water Quality Control Board, Central Valley Fresno Region 5 (RWQCB), California San Joaquin River Conservancy (SJRC), California State Lands Commission (SLC), California Transportation Commission (CATC), Central Valley Flood Protection Board, Department of Toxic Substances Control, Office of Historic Preservation, State Water Resources Control Board, Division of Drinking Water, State Water Resources Control Board, Division of Water Quality, California Native American Heritage Commission (NAHC), California Department of Fish and Wildlife, Central Region 4 (CDFW)
State Reviewing Agency Comments	California Native American Heritage Commission (NAHC), California Department of Fish and Wildlife, Central Region 4 (CDFW)
Development Types	Other (Regional Transportation Plan)
Local Actions	Regional Plan
Project Issues	Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Cumulative Effects, Drainage/Absorption, Energy, Flood Plain/Flooding, Geology/Soils, Greenhouse Gas Emissions, Growth Inducement, Hazards & Hazardous Materials, Hydrology/Water Quality, Land Use/Planning, Mineral Resources, Noise, Population/Housing, Public Services, Recreation,

Schools/Universities, Transportation, Tribal Cultural Resources, Utilities/Service Systems, Vegetation, Wetland/Riparian

Attachments

Draft Environmental Document [Draft IS, NOI_NOA_Public notices, OPR Summary Form, Appx,]

MCTC 2022 RTP SCS PEIR NOP 030921 HG07_Signed Copy  

Notice of Completion [NOC] Transmittal form

MCTC 2022 RTP SCS NOC 030921 HG03_signed copy  

State Comment Letters [Comments from state reviewing agencies]

2021030268_CDFW Comment   2021030268_NAHC Comment  

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



Governor's Office of Planning & Research

Apr 09 2021

April 9, 2021

STATE CLEARINGHOUSE

Dylan Stone
Madera County Transportation Commission
2001 Howard Road Suite 201
Madera, California 93637
dylan@maderactc.org

**Subject: 2022 Regional Transportation Plan/Sustainable Communities Strategy
(RTP/SCS) (Project)
Notice of Preparation (NOP)
SCH No.: 2021030268**

Dear Mr. Stone:

The California Department of Fish and Wildlife (CDFW) received a NOP from the Madera County Transportation Commission (MCTC) for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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Dylan Stone
Madera County Transportation Commission
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CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

PROJECT DESCRIPTION SUMMARY

Proponent: Madera County Transportation Commission

Objective: The Project is the preparation of the 2022 RTP/SCS. MCTC is in the process of preparing the RTP/SCS as required by Section 65080 et seq., of Chapter 2.5 of the California Government Code, federal guidelines pursuant to new requirements established in the federal surface transportation reauthorization, "Moving Ahead for Progress in the 21st Century" and the Fixing America's Surface Transportation Acts, Transportation Conformity for the Air Quality Attainment Plan per 40 CFR Part 51 and 40 CFR Part 93, and requirements set forth in Assembly Bill 32, The California Global Warming Solutions Act of 2006, and Senate Bill 375 The Sustainable Communities and Climate Protection Act of 2008. The California Transportation Commission has prepared guidelines to assist in the preparation of the RTP/SCS.

The 2022 RTP/SCS will address all transportation modes including motor vehicles, transit (commuter and local), rail (commuter and interregional), goods movement (rail freight and trucking), bicycle and pedestrian facilities, aviation systems, and transportation systems management programs and projects considering the horizon year of 2046. In addition, the 2022 RTP/SCS will:

- Identify the region's transportation goals, objectives, and policies
- Include the SCS, which demonstrates how the region will meet its GHG reduction target through integrated land use, and housing and transportation planning. Once adopted by MCTC, the SCS becomes an integral part of the RTP
- Set forth an action plan of projects and programs to address the needs consistent with the Policy Element
- Integrate results reflected in the Congestion Management Program
- Document the financial resources needed to implement the plan

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Madera County Transportation Commission
April 9, 2021
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- Reflect results of the Transportation Conformity Analysis
- Highlight the 2022 RTP/SCS EIR process and results
- Detail the RTP/SCS public outreach process
- Include the Environmental Justice analysis process

Location: The Project site is located within the corporate limits of Madera County, California, including two incorporated cities (Chowchilla and Madera) and all unincorporated areas under the jurisdiction of the County of Madera.

Timeframe: The RTP/SCS is a long-range plan for all modes of transportation through to the year 2046.

COMMENTS AND RECOMMENDATIONS

The NOP indicates that the Environmental Impact Report (EIR) for the Project will describe existing environmental conditions in the Project area, and analyze potential impacts resulting from Project activities. The EIR will also identify and evaluate alternatives to the proposed project.

When an EIR is prepared, the specifics of mitigation measures may be deferred, provided the lead agency commits to mitigation and establishes performance standards for implementation. Several special-status plant and animal species that have been documented in the Project area per the California Natural Diversity Database (CNDDDB), including but not limited to, the State and federally endangered and State fully protected blunt-nosed leopard lizard (*Gambelia sila*), the State and federally threatened California tiger salamander (*Ambystoma californiense*), the State threatened Swainson's hawk (*Buteo swainsoni*), the State threatened tricolored blackbird (*Agelaius tricolor*), the State endangered great gray owl (*Strix nebulosa*), the State endangered foothill yellow-legged frog (*Rana boylei*), the State fully protected golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*), the State endangered and fully protected bald eagle (*Haliaeetus leucocephalus*), the State and federally endangered Fresno kangaroo rat (*Dipodomys nitratoides exilis*), the State threatened and federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*), the State threatened and federally proposed endangered Sierra Nevada red fox (*Vulpes vulpes nicator*), the State threatened and federally endangered fisher (*Pekania pennanti*), the State and federally endangered Harweg's golden sunburst (*Pseudobahia bahiifolia*), the State endangered and federally endangered hairy Orcutt grass (*Orcuttia pilosa*), the State endangered and federally threatened succulent owl's clover (*Castilleja campestris var. succulenta*), and the State species of special concern burrowing owl (*Athene cunicularia*), California spotted owl (*Strix occidentalis occidentalis*), and western spadefoot toad (*Spea hammondi*). While this list may not include all special-status species present Project area, it does provide a robust source of information as to which species could potentially be impacted. CDFW recommends the EIR prepared for the Project analyze potential impacts to these species provide measurable mitigation measures that, as needed, will reduce impacts to less than significant levels.

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Dylan Stone
Madera County Transportation Commission
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More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (<https://www.wildlife.ca.gov/Conservation/Survey-Protocols>).

CDFW also recommends consulting with the USFWS on potential impacts to federally listed species including, but not limited to, California tiger salamander, Sierra Nevada red fox, fisher, Harweg's golden sunburst, succulent owl's clover, and vernal pool invertebrates. Take under the Federal Endangered Species Act (FESA) is more broadly defined than CESA; take under FESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. Consultation with the USFWS in order to comply with FESA is advised well in advance of any ground disturbing activities.

In addition to potential species impacts, it is likely that some Project activities that will be subject to CDFW's regulatory authority pursuant Fish and Game Code section 1600 et seq. If a Lake or Streambed Alteration Agreement (LSAA) is needed, CDFW is required to comply with CEQA in the issuance or the renewal of a LSAA. Therefore, for efficiency in environmental compliance, we recommend that any potential lake or stream disturbance that may result from Project activities be described, and mitigation for the disturbance be developed as part of the EIR. This will reduce the need for the Department to require extensive additional environmental review for a LSAA in the future. If inadequate, or no environmental review, has occurred, for the Project activities that are subject to notification under Fish and Game Code section 1602, CDFW will not be able to issue the Final LSAA until CEQA analysis for the project is complete. This may lead to considerable Project delays.

CDFW is available to meet with you ahead of DEIR preparation to discuss potential impacts and possible mitigation measures for some or all of the resources that may be analyzed in the EIR. If you have any questions, please contact Jim Vang, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 243-4014 extension 254, or by electronic mail at Jim.Vang@wildlife.ca.gov.

Sincerely,

DocuSigned by:

Julie A. Vance
Regional Manager

Attachment

cc: Regional Water Quality Control Board
Central Valley Region
1685 "E" Street
Fresno, California 93706-2020

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Dylan Stone
Madera County Transportation Commission
April 9, 2021
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United States Army Corps of Engineers
San Joaquin Valley Office
1325 "J" Street, Suite #1350
Sacramento, California 95814-2928

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United States Fish and Wildlife Service
Patricia Cole; Patricia_Cole@fws.gov

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Dylan Stone
Madera County Transportation Commission
April 9, 2021
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LITERATURE CITED

CDFW. 2021. Biogeographic Information and Observation System (BIOS).
<https://www.wildlife.ca.gov/Data/BIOS>.



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STATE OF CALIFORNIA

Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

March 15, 2021

Governor's Office of Planning & Research

Dylan Stone, Principal Regional Planner
Madera County Transportation Commission (MCTC)
2001 Howard Rd., Ste. 201
Madera, CA 93637

Mar 19 2021

STATE CLEARINGHOUSE

Re: 2021030268, MCTC 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Project, Madera County

Dear Mr. Stone:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project 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. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit. 14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd. (a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides 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. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

- 1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:** Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
 - a. A brief description of the project.
 - b. The lead agency contact information.
 - c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
 - d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

- 2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report:** A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
 - a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

- 3. Mandatory Topics of Consultation If Requested by a Tribe:** The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
 - a. Alternatives to the project.
 - b. Recommended mitigation measures.
 - c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

- 4. Discretionary Topics of Consultation:** The following topics are discretionary topics of consultation:
 - a. Type of environmental review necessary.
 - b. Significance of the tribal cultural resources.
 - c. Significance of the project's impacts on tribal cultural resources.
 - d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

- 5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process:** With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

- 6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document:** If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
 - a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
 - b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

- 7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
- a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
 - b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
- 8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
- 9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
- 10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
- a. Avoidance and preservation of the resources in place, including, but not limited to:
 - i. Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b. 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:
 - i. Protecting the cultural character and integrity of the resource.
 - ii. Protecting the traditional use of the resource.
 - iii. Protecting the confidentiality of the resource.
 - c. 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.
 - d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
 - e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
 - f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).
- 11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
- a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
 - b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
 - c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).



March 5, 2021

Dylan Stone, Principal Regional Planner
Madera County Transportation Commission (MCTC)
2001 Howard Road, Suite 201
Madera, CA 93637

Project: Notice of Preparation of a Program Environmental Impact Report for the 2022 Regional Transportation Plan/Sustainable Communities Strategy (2022 RTP/SCS)

District CEQA Reference No: 20210213

Dear Mr. Stone:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Draft Program Environmental Impact Report (DPEIR) for the project referenced above. The 2022 RTP/SCS is a long-range comprehensive plan for the region's multi-modal transportation system including projects, policies, and strategies to create a blueprint for the region's growth through 2046 (Plan). The geographical extent of the proposed 2022 RTP/SCS includes the area within the limits of Madera County, CA. The District offers the following comments:

1. Future Individual Development Projects

- A. The NOP for the PEIR identifies potential significant and unavoidable air quality impacts for the Plan, and future individual development projects within the scope of the Plan would also could have a significant and unavoidable impact on air quality. The District recommends that the Draft EIR include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for this Project.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to

Samir Sheikh

Executive Director/Air Pollution Control Officer

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www.valleyair.org

www.healthyairliving.com

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San Joaquin Valley Air Pollution Control District
District Reference No. 20210213
March 5, 2021

Page 2

mitigate Project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-specific regional impacts on air quality can be fully mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project-specific regional emissions have been mitigated to less than significant. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the Draft EIR includes an assessment of the feasibility of implementing a VERA.

Incidentally, an emission reduction agreement can be established at the Program level, in which case an agreement would be entered into with the District to address the mitigation of emissions increases for individual projects.

- B. Future individual development projects may be subject to District Rule 9510, Indirect Source Review (ISR). The Plan description does not provide enough information to determine if future individual development projects will be subject to District Rule 9510. Therefore, the Plan should include a requirement for project proponents to assess the applicability of District Rule 9510 to their individual development project. District staff is available to provide assistance with determining if future individual development projects will be subject to Rule 9510, and can be reached at (559) 230-6000 or email ISR@valleyair.org.

When a project is subject to Rule 9510, an AIA application is required to be submitted prior to the project seeking final discretionary approval. The District recommends that demonstration of compliance with District Rule 9510, before issuance of the first building permit, be made a condition of project approval.

The purpose of District Rule 9510 (Indirect Source Review) is to reduce the growth in both NOx and PM10 emissions associated with development and transportation projects from mobile and area sources associated with construction and operation of development projects. The rule encourages clean air design elements to be incorporated into the development project. In case the proposed project clean air design elements are insufficient to meet the targeted emission reductions, the rule requires developers to pay a fee used to fund projects to achieve off-site emissions reductions.

Information about how to comply with District Rule 9510 can be found online at: <http://www.valleyair.org/ISR/ISRHome.htm>. The AIA application form can be found online at: <http://www.valleyair.org/ISR/ISRFormsAndApplications.htm>.

- C. Health Risk Screening/Assessment – A Health Risk Screening/Assessment identifies potential Toxic Air Contaminants (TAC's) impact on surrounding sensitive receptors such as hospitals, daycare centers, schools, work-sites, and residences. TAC's are air pollutants identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) (<https://www.arb.ca.gov/toxics/healthval/healthval.htm>) that pose a present or potential hazard to human health. A common source of TACs can be attributed to diesel exhaust emitted from both mobile and stationary sources.

The District recommends future development project(s) be evaluated for potential health impacts to surrounding receptors (on-site and off-site) resulting from operational and multi-year construction TAC emissions.

- i) The District recommends conducting a screening analysis that includes all sources of emissions. A screening analysis is used to identify projects which may have a significant health impact. A prioritization, using CAPCOA's updated methodology, is the recommended screening method. A prioritization score of 10 or greater is considered to be significant and a refined Health Risk Assessment (HRA) should be performed.

For your convenience, the District's prioritization calculator can be found at: http://www.valleyair.org/busind/pto/emission_factors/Criteria/Toxics/Utilities/PRIORITIZATION%20RMR%202016.XLS

- ii) The District recommends a refined HRA for projects that result in a prioritization score of 10 or greater. Prior to performing an HRA, it is recommended that the Project proponent contact the District to review the proposed modeling protocol. The Project would be considered to have a significant health risk if the HRA demonstrates that the Project related health impacts would exceed the District's significance threshold of 20 in a million for carcinogenic risk and 1.0 for the Acute and Chronic Hazard Indices, and would trigger all feasible mitigation measures. The District recommends that Projects that result in a significant health risk not be approved.

For HRA submittals, please provide the following information electronically to the District for review:

- HRA AERMOD model files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodology.

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More information on toxic emission factors, prioritizations and HRAs can be obtained by:

- E-Mailing inquiries to: hramodeler@valleyair.org; or
- The District can be contacted at (559) 230-6000 for assistance; or
- Visiting the District's website (Modeling Guidance) at:
http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm.

- D. Ambient Air Quality Analysis – An ambient air quality analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of the ambient air quality standards. The District recommends that an AAQA be performed for future projects if emissions exceed 100 pounds per day of any pollutant.

If an AAQA is performed, the analysis should include emissions from both project specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.

Specific information for assessing significance, including screening tools and modeling guidance is available online at the District's website:
www.valleyair.org/ceqa.

- E. Future individual development projects within the Plan may also be subject to other District rules and regulations:
- i) Certain equipment operating at the individual development sites may require District permits. Prior to the start of construction, the project proponent should contact the District's Small Business Assistance Office at (559) 230-5888 to determine if an Authority to Construct (ATC) is required.
 - ii) Individual development projects may also be subject to the following District rules: Regulation VIII, (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants).
 - iii) The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to future individual development projects within the Plan or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business

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Assistance Office at (559) 230-5888. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm.

- F. Referral documents (e.g. project proposals and related documents submitted to the District for review) for new development projects should include a project summary detailing, at a minimum, the land use designation, project size, and proximity to sensitive receptors and existing emission sources.

If you have any questions or require further information, please contact Eric McLaughlin by e-mail at Eric.McLaughlin@valleyair.org or by phone at (559) 230-5808.

Sincerely,

Brian Clements
Director of Permit Services



For John Stagnaro
Program Manager

BC: em

APPENDIX B
MCTC 2022 RTP/SCS
TRANSPORTATION PROJECT LISTS BY MODE

Table B-1 Streets and Roads

Agency	Project Name	Location	Project ID	Description	Opening Year	Total Cost
Caltrans	SR 99/SR 233 Bridge	Interchange	MAD417005	Interchange Improvements	2026	\$16,209,000
Caltrans	State Route 99	Avenue 7 to Avenue 12	MAD417003	4 Lanes to 6 Lanes	2028	\$101,873,000
City of Madera	Olive Ave	Gateway to Roosevelt	MAD217034	2 Lanes to 4 Lanes	2022	\$12,000,000
City of Madera	Almond Avenue	Stadium Road to Pine St	MAD217045	New Collector Roadway	2026	\$6,645,000
City of Madera	Lake St	4th St to Cleveland	MAD217035	2 Lanes to 4 Lanes	2022	\$7,262,000
Madera County	State Route 41	Avenue 10.5 to Avenue 12, Avenue 12 to Avenue 14, Avenue 14 to .4 miles north of Avenue 15	MAD417008	In the County of Madera, from Avenue 10.5 to Avenue 12, widen to 4 lane expressway. From Avenue 12 to Avenue 14, widen to 4 lane expressway. From Avenue 14 to 0.4 miles north of Avenue 15, widen to 4 lane conventional highway	2024	\$98,700,000
Madera County	State Route 41	Avenue 12 to Avenue 14, Avenue 14 to .4 miles north of Avenue 15	MAD417009	In the County of Madera, From Avenue 12 to Avenue 14 reconstruct existing 4 lane expressway in ultimate configuration. From Avenue 14 to 0.4 miles north of Avenue 15, upgrade to a 4 lane expressway. From 0.4 miles north	2040	\$56,000,000
Caltrans	SR 99/SR 233 Bridge	East and west of SR 233 and SR 99 Interchange		Bridge with Pedestrian Improvements Over SR 99 in Chowchilla with Improvements to Round-A-Bouts	2030	\$9,000,000
Caltrans/City of Madera	State Route 145/Madera Avenue	Avenue 12 1/2 to Avenue 13 1/2		2 lanes to 4 lanes	2037	\$8,000,000
Caltrans/City of Madera	State Route 99	Avenue 17		Interchange Improvements	2035	\$50,000,000
Caltrans/Madera County	State Route 41	Madera County Line to Avenue 10		4 Lanes to 6 Lanes	2035	\$15,000,000
Caltrans/Madera County	State Route 41	NB On-Ramp/SR 41 At Children's Blvd.		1 Lane to 2 Lanes	2035	\$11,000,000
Caltrans/Madera County	State Route 41	SR 145 to Road 208 (tie into new constructed Passing Lanes)		Construct Passing Lanes	2035	\$20,000,000

Caltrans/Madera County	State Route 49	Meadow Vista Dr to Westlake Dr		2 lanes to 4 lanes	2035	\$7,000,000
Caltrans/Madera County	State Route 99	Avenue 17 to Avenue 21 1/2		4 Lanes to 6 Lanes	2036	\$134,000,000
Caltrans/Madera County	State Route 41	Avenue 10 to Avenue 12		6 Lane Freeway/Interchange at Avenue 12	2040	\$101,000,000
City of Chowchilla	Avenue 26	SR 99 to Coronado St		2 Lanes to 4 Lanes	2025	\$10,000,000
City of Chowchilla	E/W Connection Flyover	East and West of SR 99 btwn Robertson Blvd and Ave 24		Traffic flyover bridge, bicycle and pedestrian improvements, ADA improvements, safety striping, to increase urban circulation between the east and west parts of City	2035	\$30,500,000
City of Madera	Gateway Dr	Yosemite to Cleveland		2 Lanes to 4 Lanes	2027	\$8,600,000
City of Madera	Ellis Street	Rd 26 to Lake St		2 lanes to 4 lanes	2030	\$3,915,000
City of Madera	Schnoor St	Trevor Way to Sunset Ave		Restripe to 4 Lanes	2030	\$1,107,000
City of Madera	Sharon Blvd	1320 feet South of Ave 17 to Ellis St		New 4 Lane Road	2030	\$5,000,000
City of Madera	Granada Dr	at Fresno River		Widen Bridge from 2 Lanes to 4 Lanes	2030	\$6,500,000
City of Madera	Westberry Blvd	Cleveland Ave to Ave 16		2 Lanes to 4 Lanes	2030	\$2,717,000
City of Madera	Howard Road	Westberry Blvd to Granada Dr		2 lanes to 4 lanes	2030	\$4,674,000
City of Madera	Pecan Ave	Golden State Blvd to Stadium Rd		2 lanes to 4 lanes	2030	\$4,674,000
City of Madera	Pine St	Almond Ave to MSHS Driveway		2 lanes to 4 lanes	2030	\$2,000,000
City of Madera	Sunrise Ave	B Street to Rd 28		2 lanes to 4 lanes	2030	\$3,000,000
City of Madera	Sunset Ave	4th St to Westberry Blvd		2 lanes to 4 lanes	2035	\$2,000,000
City of Madera	D St	Clark St to Adell St		2 Lanes to 4 Lanes	2035	\$1,500,000
City of Madera	Rd 29	Olive Ave to Ave 13		2 lanes to 4 lanes	2035	\$8,099,000
City of Madera	Rd 29	Ave 14 to Ave 15		2 lanes to 4 lanes	2035	\$4,721,000
City of Madera	SR 145	SR 99 to Yosemite Ave		2 lanes to 4 lanes	2035	\$5,537,000
City of Madera	Stadium Rd	Pecan Ave to Maple St		2 lanes to 4 lanes	2035	\$1,210,000
City of Madera	Tozer St/Rd 28	Ave 13 to Knox St		2 lanes to 4 lanes	2035	\$2,000,000
City of Madera	Howard Rd	Pine St to Schnoor St		4 lanes to 5 lanes	2040	\$5,000,000
City of Madera	Avenue 17	Rd 26 to Rd 27		2 lanes to 4 lanes	2040	\$3,000,000
City of Madera	Cleveland Ave	Sharon Ave to Tozer St		Restripe to 4 Lanes	2025	\$500,000
City of Madera	Aviation Dr	Extend to Ave 17		New 2 Lane Road	2025	\$1,500,000



City of Madera	Yeager Dr	Falcon Dr to Aviation Dr		New 2 Lane Road	2025	\$1,500,000
City of Madera	Cleveland Ave	Schnoor St to SR 99		4 Lanes to 6 Lanes	2026	\$3,750,000
City of Madera	SR 145/Gateway Drive	SR 99 to Yosemite		2 lanes to 4 lanes	2028	\$5,800,000
City of Madera	Westberry	Westberry Bridge		New Bridge	2030	\$12,500,000
City of Madera	Road 28/Tozer	Avenue 14 to Clinton		Corridor Completion Improvement	2030	\$6,000,000
City of Madera	Yosemite and Tozer			Intersection Capacity Improvement	2030	\$1,000,000
City of Madera	Ellis Street	Krohn to Road 26/Country Club		Develop to Full Arterial Standard	2032	\$6,200,000
Madera County	Avenue 12	Road 38 to Road 40		2 Lanes to 4 Lanes	2027	\$10,000,000
Madera County	Avenue 12	Road 40 to Riverwalk Blvd		2 Lanes to 6 Lanes	2027	\$10,000,000
Madera County	Avenue 12	Riverwalk Blvd to SR 41		4 Lanes to 8 Lanes	2027	\$10,000,000
Madera County	Avenue 12	SR 41 To Flagbarn Rd		2 Lanes to 4 Lanes	2030	\$4,250,000
Madera County	Avenue 9	Road 36 to SR 41		2 Lanes to 4 Lanes	2030	\$15,722,808
Madera County	Avenue 12	Road 30 1/2 to Road 36		2 Lanes to 4 Lanes	2030	\$21,000,000
Madera County	Rio Mesa Blvd	Ave 12 to Ave 15		New 4 Lane Road	2030	\$16,250,000
Madera County	Rio Mesa Blvd	Children's Blvd to Ave 12		2 lanes to 4 lanes	2035	\$9,750,000
Madera County	Avenue 9	BNSF RR Tracks to Road 36		2 Lanes to 4 Lanes	2035	\$9,240,592
Madera County	Avenue 9	SR 99 to BNSF RR Tracks		2 Lanes to 4 Lanes	2035	\$8,038,082
Madera County	Avenue 9	BNSF RR Grade Separation Project		Grade Separation	2035	\$26,160,036
Madera County	Road 145	Road 145 between Road 206 to SR 41		2 Lanes to 4 Lanes	2035	\$12,331,806
Madera County	Road 206	Road 206 Extension to Friant Road		2 Lanes to 4 Lanes	2035	\$26,889,018
Madera County	Avenue 10	Rd 40 to Lanes Bridge		Widen to 4 Lanes	2040	\$8,200,000
Madera County	Children's Blvd	SR 41 NB Ramps to Crocket Way		4 Lanes to 6 Lanes	2040	\$6,600,000
Madera County/City of Madera	Road 29	Avenue 12 to Avenue 13		2 Lanes to 4 Lanes	2030	\$15,000,000
Madera County/City of Madera	Road 23	Ave 15 1/2 to the Fresno River			2030	\$15,000,000
Total						\$1,032,625,342



Table B-2 Operations and Safety Projects

MCTC ID	Agency	Project Name	Project ID	Description	Total Cost
SRHP - 265	City of Madera	Intersection Improvements at the Intersection	MAD202081	Intersection improvements	\$566,000
	Various Agencies	Grouped Projects for Safety Program - HSIP Program	MAD419004	Projects are consistent with CFR Part 93.126 Exempt Tables 2 and Table 3 categories - Railroad/highway crossing, Safer non-Federal-aid system roads, etc.	\$28,000
SRHP - 62	Caltrans	Madera Shoulder Widening	06-1C250	Widen shoulders and construct centerline and shoulder rumble strip	\$5,800,000
SRHP - 269	Caltrans	TUL-FRE-MAD Pumping Plant Upgrades	06-0U230	Upgrade Stormwater Pumping Plants	\$3,600,000
SRHP - 271	Caltrans	Pump Plant Upgrades	06-1A740	In Fresno, Tulare, and Madera Counties on Routes 99 and 41 at various locations, upgrade pumps	\$7,673,000
SRHP - 91	City of Chowchilla	Road 16	C19	Drainage Improvements	\$430,000
SRHP - 93	City of Chowchilla	Various	C20	Storm Drain system serving Entire roadway network in sw quadrant of city	\$600,000
SRHP - 115	City of Madera	Howard Road	10.B	Road Diet Alternative: Remove parking on both sides	\$183,400
SRHP - 146	City of Madera	Tozer Street (Road 28)	24.A	Road Diet Alternative: Remove on-street parking	\$85,400
TP - 220	City of Madera	AHS Grant - Urban Greening	CP-2	Urban Greening/Landscaping (off trail from 5th & C to Intermodal Facility)	\$200,000
SRHP - 338	Madera County	Mountain Area Evacuation Routes	x-42	Safety and Fire Evacuation Routes Projects & Planning Study	\$48,000,000
	Madera County	Avenue 12 - Road 36 to Road 38		Traffic Calming/Complete Street Project	\$20,000,000
SRHP - 98	City of Chowchilla	Multimodal Transportation Study	R-10	Multi-modal study. Involves the creation of an ADA assessment/Master Plan/Transition Plan Truck Route Study plan with recommendations for safety, and a stop sign inventory/reflectivity study	\$273,992
SRHP - 201	City of Madera	Miscellaneous Traffic Safety Items	TS-00030	Minor traffic safety improvements such as signs, striping, barriers, warning devices, channelizers, or other devices. One such near term improvement is traffic circle upgrades on Caitlan Drive at Isla Vista Court	\$155,000
SRHP - 261	Various Agencies	Various	MC23	TCMs/TSMs	\$53,727,223
SRHP - 30	Caltrans	California Tiger Salamander Mitigation	06-0U020	Establish Mitigation Banks for Tiger Salamander	\$180,000
SRHP - 33	Caltrans	SR 41	06-1A160	Remove Sheet Pile, Under the San Joaquin River Bridge	\$170,000
SRHP - 72	City of Chowchilla	Bridge No. 41C0033 Road 16 Over Berenda Slough	CH4473	Bridge Scour Countermeasure Project	\$2,213,000
				Total	\$143,885,015



Table B-3 Maintenance Projects

MCTC ID	Agency	Project Name	Project ID	Description	Total Cost
SRHP - 1	Caltrans	Grouped Projects for Bridge Preservations	MAD406006	Grouped Projects for Bridge Preservation - SHOPP Bridge Preservation Program	\$44,767,000
SRHP - 3	Caltrans	Roadside Preservation	MAD406004	Grouped Projects for Roadside Preservation - SHOPP Roadside Preservation Program	\$1,860,000
SRHP - 61	Caltrans	Safety Improvements, Shoulder Improvement, Pavement Resurfacing/Rehabilitation	MAD406007	Grouped Projects for Safety Improvements, Shoulder Improvements, Pavement Resurfacing, and/or Rehabilitation - Minor Program	\$5,369,000
SRHP - 68	Caltrans	Various Roadway Preservation	MAD406003	Roadway Preservation on the National Highway System	\$84,207,000
SRHP - 165	City of Madera	Pecan Avenue	MAD202091	Pecan Avenue from Pine to Golden State - Shoulder Paving	\$665,000
SRHP - 190	City of Madera	Various Locations	MAD217037	Alley Paving (currently unpaved) 10-15 locations throughout the City of Madera	\$690,000
SRHP - 191	City of Madera	Various Locations	MAD202080	Alley Paving Various Locations	\$185,000
SRHP - 8	City of Madera	Raymond Road	MAD202072	Shoulder Paving - Raymond Road	\$314,000
SRHP - 9	City of Madera	Sports Complex	MAD202079	Shoulder Paving, Curb and Gutter Around Sports Complex	\$306,000
SRHP - 13	Madera County	Avenue 12	MAD102084	Shoulder paving of 4 feet on each side of the roadway on Avenue 12 from Road 23 to Road 19 for a distance of 4 miles	\$827,000
SRHP - 14	Madera County	Avenue 18 1/2	MAD102085	Shoulder paving of 4 feet on each side of the roadway on Avenue 18 1/2 from Golden State Boulevard to 5 miles west for a distance of 5 miles	\$998,000
SRHP - 16	Madera County	Avenue 7	MAD102083	Shoulder paving of 4 feet on each side of the roadway on Avenue 7 from Road 30 1/2 to SR 145 for a distance of 3.5 miles	\$724,000
SRHP - 17	Madera County	Avenue 9	MAD102061	Avenue 9 -Road 23 to Road 23 1/2 -Shoulder Paving	\$99,000
SRHP - 18	Madera County	Avenue 9	MAD102082	Shoulder paving of 4 feet on each side of the roadway on Avenue 9 from Road 38 to Children's Boulevard SR 145 for a distance of 2.84 miles	\$567,000
SRHP - 19	Madera County	Road 16	MAD102081	Shoulder paving of 4 feet on each side of the roadway on Road 16 from SR 152 to Avenue 24 for a distance of .95 miles	\$197,000
SRHP - 20	Madera County	Road 209	MAD102076	Road 209 from State Route 41 to 4.6 miles North - Shoulder Paving	\$863,000
SRHP - 21	Madera County	Road 23	MAD102077	Road 23 from Avenue 14 to Avenue 15 1/2 (1.5 miles), 18 1/2 south 2,000 linear feet - Shoulder Paving	\$357,000
SRHP - 22	Madera County	Road 23	MAD102060	Road 23 -Avenue 8 1/2 to Avenue 9 1/2 - Shoulder Paving	\$187,000
SRHP - 23	Madera County	Road 25	MAD102079	Road 25 from Avenue 12 to City Limits (1 mile) - Shoulder Paving	\$188,000



SRHP - 24	Madera County	Road 36	MAD102074	Road 36 from Avenue 12 1/2 to Avenue 15 - Shoulder Paving	\$469,000
SRHP - 25	Madera County	Road 36	MAD102075	Road 36 from Avenue 15 to Highway 145 - Shoulder Paving	\$563,000
SRHP - 26	Madera County	Road 36	MAD102073	Road 36 from Avenue 9 to Avenue 12 - Shoulder Paving	\$563,000
SRHP - 27	Madera County	Robertson Boulevard	MAD102086	Shoulder paving of 4 feet on each side of the roadway on Robertson Boulevard from SR 152 to Avenue 18 1/2 for a distance of 5.4 miles.	\$1,126,000
SRHP - 28	Various Agencies	Grouped Projects for Bridge Rehabilitation and Reconstruction	MAD410001	HBP Program (Grouped Projects for Bridge Rehabilitation and reconstruction -HBP Program: Projects are consistent with 40 CFR 93.126 Exempt Tables 2 Categories)	\$34,145,000
SRHP - 270	Caltrans	Chowchilla CAPM	06-0W860	Pavement Prevention (Multi-Asset CAPM)	\$5,537,000
SRHP - 276	Caltrans	Bridge No 41C0032 Ave 25, Over Ash Slough, 0.5 MI W RD 13	5941100	Replace 2 Lane Bridge with Lane Bridge	\$4,235,000
SRHP - 277	Caltrans	Bridge Maintenance Program various bridges in the city of Chowchilla	5258039	Bridge Maintenance Program various bridges in the city of Chowchilla	\$180,002
SRHP - 278	Caltrans	CR5.5 Chowchilla River, 0.23 MI N of AVE 24	5941104	Replace 2 lane bridge with 2 lane bridge, no added lane. Bridge No. 41C0099 CR 5.5 Over Chowchilla River	\$1,967,000
SRHP - 279	Caltrans	School RD 427, Over OAK Creek	5941081	Replace 2 lanes bridge	\$5,182,700
SRHP - 281	Caltrans	Avenue 16.5 Over Dry Creek at road 19	5941089	Replace 2 lane bridge with 2 lane bridge	\$1,213,267
SRHP - 282	Caltrans	210 Over Ryan Creek	5941103	Replace 1 lane bridge with 2 lane bridge	\$1,365,000
SRHP - 283	Caltrans	Bridge No. PM00183	PM00183	(BPMP)Bridge Preventive Maintenance Program various bridges in Madera County	\$3,671,779
SRHP - 285	Caltrans	Robertson BLVD, Palm Parkway Ave to Washington Road	06-0K900	Palm Parkway Ave to Washington Road	\$3,871,000
SRHP - 32	Caltrans	South Gateway Drive OC Deck Rehab	06-0U170	Bridge Deck Rehabilitation	\$2,023,000
SRHP - 57	Caltrans	SR 99-Berenda CAPM	06-0U520	Pavement Rehabilitation (CAPM)	\$112,210,000
SRHP - 58	Caltrans	Downtown Madera CAPM	06-0Y180	Pavement preservation (multi-asset CAPM)	\$9,400,000
SRHP - 59	Caltrans	Ranchos Rehab	06-0R210	Roadway Rehabilitation (3R)	\$14,173,000
SRHP - 60	Caltrans	SR 233 Robertson Boulevard CAPM	06-47870	AC overlay - CAPM	\$3,076,000
SRHP - 64	Caltrans	SR 41	618000225	Replace Culverts	\$625,000
SRHP - 65	Caltrans	SR 41	12100000254	Roadway Preservation Near Fresno, from North of Avenue 15 to South of Route 145	\$27,249,000
SRHP - 67	Caltrans	SR 99 Chowchilla 2R Rehab	C24	Pavement Rehabilitation (2R)	\$1,558,000



SRHP - 273	City of Chowchilla	Alley Paving Project	R-11	CMAQ Alley Paving Robertson/Kings & Robertson/ Trinity Alley Paving Project	\$788,683
SRHP - 274	City of Chowchilla	Misc. Street Equipment	R-9	Purchase of street light locator 7k, and Vibraplater 16k	\$23,000
SRHP - 71	City of Chowchilla	BRIDGE NO. 41C0033 HBP Project	R-13	BRIDGE NO. 41C0033, ROAD 16 OVER BERENDA SLOUGH, 0.6 MI N OF AVE 23. Scour countermeasure project	\$2,213,500
SRHP - 73	City of Chowchilla	Bridge Preventive Maintenance Program (BPMP)	R-14	Bridge Preventive Maintenance Program (BPMP) various bridges in the City of Chowchilla	\$180,000
SRHP - 74	City of Chowchilla	Various Bridges	CH4494	BPMP Bridges	\$180,000
SRHP - 79	City of Chowchilla	13th Street	CH8	Majority Reconstruct 2-Lane Collector incl. curb, gutter, SW, ramps etc./Part Overlay	\$300,000
SRHP - 80	City of Chowchilla	13th Street Monterey Avenue	CH9	Majority Reconstruct 2-Lane Collector incl. curb, gutter, SW, ramps etc./Part Overlay	\$800,000
SRHP - 81	City of Chowchilla	City Streets	C17	Overlay, curb, gutter, SW	\$465,000
SRHP - 82	City of Chowchilla	FY 23-24 Street Prevent. Maint. & Rehab. Project	R-7	Annual street preventative maintenance and pavement rehabilitation project	\$960,000
SRHP - 83	City of Chowchilla	FY 24-25 Street Prevent. Maint. & Rehab. Project	R-8	Annual street preventative maintenance and pavement rehabilitation project per City's Pavement Management System	\$960,000
SRHP - 84	City of Chowchilla	Humboldt Avenue/13th Street	CH6	Reconstruct	\$142,000
SRHP - 85	City of Chowchilla	Humboldt Avenue/13th Street	CH7	Reconstruct 2-Lane Collector incl. curb, gutter, SW, ramps etc.	\$1,083,000
SRHP - 86	City of Chowchilla	Humboldt Avenue/13th Street	CH5	Reconstruct	\$852,000
SRHP - 87	City of Chowchilla	Humboldt 13th Street	C18	Reconstruct	\$345,000
SRHP - 88	City of Chowchilla	Monterey Avenue	CH12	Reconstruct	\$681,000
SRHP - 89	City of Chowchilla	Monterey Avenue	CH10	Reconstruct 2-Lane Collector incl. curb, gutter, SW, ramps etc.	\$516,000
SRHP - 90	City of Chowchilla	Monterey Avenue	CH11	Reconstruct 2-Lane Collector incl. curb, gutter, sw, ramps etc.	\$1,091,000
SRHP - 92	City of Chowchilla	Street Striping - Citywide	R-5	Citywide pavement striping and marking over a 4 year period	\$163,559
SRHP - 94	City of Chowchilla	Various	CH13	Regional Recon/Rehab	\$1,080,000
SRHP - 95	City of Chowchilla	Various	CH15	Regional Recon/Rehab	\$7,435,000
SRHP - 96	City of Chowchilla	Various	CH14	Rehab/Maint/Operations	\$5,120,000
SRHP - 97	City of Chowchilla	Various	CH16	Rehab/Maint/Operations	\$19,555,000
SRHP - 107	City of Madera	Various Bridges	M4310	BPMP Bridges	\$2,213,500
SRHP - 149	City of Madera	2020-21 City Streets 3R & ADA Project	R-000071	Pavement rehabilitation with various types of seal coats and AC overlays on various arterial and collector streets	\$700,000



SRHP - 150	City of Madera	2022-23 City Streets 3R & ADA Project	R-000081	Pavement rehabilitation with various types of seal coats and AC overlays for City Arterial, Collector and Local Streets	\$600,000
SRHP - 151	City of Madera	9th	M26	Rehab/Reconstruct/Overlay	\$800,000
SRHP - 152	City of Madera	Almond	M17	Rehab/Overlay	\$160,000
SRHP - 153	City of Madera	Almond	M29	Reconstruct/Rehab Roadway	\$600,000
SRHP - 154	City of Madera	Avenue 17	M35	Rehab/Overlay	\$335,000
SRHP - 155	City of Madera	Central	M28	Rehab/Reconstruct/Overlay	\$340,000
SRHP - 156	City of Madera	Cleveland	M31	Rehabilitate & Overlay	\$1,020,000
SRHP - 157	City of Madera	Clinton	M18	Rehab/Overlay & ADA facilities	\$195,000
SRHP - 158	City of Madera	Contingency/Project Administration	R-000031	Miscellaneous Capital Improvement Projects and Transportation Programs Administration	\$2,109,000
SRHP - 159	City of Madera	D Street	M19	Rehabilitate Roadway, Minor Concrete Repair, ADA facilities	\$500,000
SRHP - 160	City of Madera	Granada	M20	Rehab/Overlay	\$600,000
SRHP - 161	City of Madera	Kennedy	M27	Reconstruct	\$1,200,000
SRHP - 162	City of Madera	Micro-Paver Distress Survey	ENG-000G	Professional consultant services to perform the pavement distress analysis of City streets	\$150,345
SRHP - 163	City of Madera	Owens	M32	Rehabilitate & Overlay/Reconstruct	\$1,000,000
SRHP - 164	City of Madera	Pecan	M21	Rehab	\$800,000
SRHP - 166	City of Madera	Pecan Avenue	M11	Shoulder Paving	\$665,000
SRHP - 167	City of Madera	Pecan Avenue Shoulder Paving	R-000067	CMAQ project to pave 4 to 8 wide shoulders between Pine Street and Golden State Blvd. where missing. (Does not include segment along north side between Stadium Road and Monterey Street because of utility conflicts)	\$677,890
SRHP - 168	City of Madera	Pine	M23	Rehab/Overlay Roadway	\$310,000
SRHP - 169	City of Madera	Pine St. Reconstruction Howard to Fourth St	R-000050	Reconstruction asphalt paving on Pine Street from Howard to Fourth Street and widen road way. Install missing streetlights	\$515,000
SRHP - 170	City of Madera	Pine Street	M22	Reconstruct/Overlay, & Intersection Improvements, Ped Facilities	\$600,000
SRHP - 171	City of Madera	Raymond Road	M9	Shoulder Paving n/o of Cleveland Avenue	\$302,000
SRHP - 172	City of Madera	Riverside	M36	Rehab/Overlay & ADA facilities	\$500,000
SRHP - 176	City of Madera	RMRA Seals/Overlays 2022-23	R-000080	Pavement rehabilitation with various types of seal coats and AC overlays for City Arterial, Collector and Local Streets	\$1,100,000
SRHP - 177	City of Madera	Schnoor	M33	Rehab/Overlay	\$195,000



SRHP - 178	City of Madera	Sharon	M37	Overlay	\$310,000
SRHP - 179	City of Madera	Stadium	M34	Rehab/Overlay	\$310,000
SRHP - 180	City of Madera	Storey Road	M10	Shoulder Paving	\$306,000
SRHP - 181	City of Madera	Sunrise	M24	Rehab/Overlay	\$95,000
SRHP - 182	City of Madera	Torres Way	M2	Alley Paving	\$185,000
SRHP - 183	City of Madera	Various	M38	Regional Rehab/Reconstruct & Safety	\$2,620,000
SRHP - 184	City of Madera	Various	M39	Rehab/Maint/Operations	\$18,500,000
SRHP - 185	City of Madera	Various	M41	Rehab/Maint/Operations	\$172,300,000
SRHP - 186	City of Madera	Various	M8	Alley Paving	\$801,000
SRHP - 187	City of Madera	Various	M40	Regional Rehab/Reconstruct & Safety	\$48,290,000
SRHP - 188	City of Madera	Various	M25	Regional Rehab/Reconstruct & Safety	\$1,000,000
SRHP - 189	City of Madera	Various	M30	Regional Rehab/Reconstruct & Safety	\$1,000,000
SRHP - 294	City of Madera	Raymond Rd-n / o Cleveland	R-000037	Construct Paved Shoulders on Raymond Road north of Cleveland Ave	\$364,216
SRHP - 99	City of Madera	BPMP Rehab/Repair of 3 Bridges	B-000004	Rehabilitation on Fresno River bridges at Cleveland Avenue, Gateway Drive and Clark Street	\$245,182
SRHP - 208	Madera County	Avenue 25 Bridge Replacement	BRLS 5941(100)	Avenue 25 Over Ash Slough, .5 mi W RD 13 Replacement	\$5,348,000
SRHP - 209	Madera County	Bridge No. 41C0032 Avenue 25 over Ash Slough	MC3930	Replace 2 Lane Bridge with 2 Lane Bridge	\$4,235,000
SRHP - 210	Madera County	Bridge No. 41C0099 CR 5.5 Over Chowchilla River	MC4258	Replace 2 Lane Bridge with 2 Lane Bridge	\$1,967,000
SRHP - 211	Madera County	Bridge No. 41C0123 School Road 427 Over Oak Creek	MC3494	Replace 2 Lane Bridge with 2 Lane Bridge	\$5,182,700
SRHP - 213	Madera County	Bridge No. 41C0149 Avenue 16.5 Over Dry Creek	MC3562	Replace 2 Lane Bridge with 2 Lane Bridge	\$1,241,750
SRHP - 214	Madera County	Bridge No. 41C0162 CR 210 Over Ryan Creek	MC4257	Replace 1 Lane Bridge with 2 Lane Bridge	\$1,365,000
SRHP - 215	Madera County	Bridge No. PM00183 BPMP Various Bridges	MC4607	Bridge Maintenance	\$3,671,779
SRHP - 216	Madera County	Road 200 Phase III	MC5659	Replace Bridge at Fine Gold Creek	\$12,367,000
SRHP - 218	Madera County	Road 427 at Oak Creek Bridge Replacement	BRLO 5941(081)	Road 427 at Oak Creek Bridge Replace two lane bridge with two lane bridge	\$5,305,693
SRHP - 241	Madera County	Avenue 12	MC55	Shoulder Paving 4ft on each side of roadway on Avenue 12 from Road 23 to Road 19	\$792,000



SRHP - 242	Madera County	Avenue 12	MC46	PE & Reconstruct 2 Lns	\$10,752,000
SRHP - 243	Madera County	Avenue 18 1/2	MC42	PE/Reconstruct 2 lanes	\$725,000
SRHP - 244	Madera County	Avenue 7	MC56	Shoulder Paving 4ft on each side of roadway on Avenue 7 from Road 30 1/2 to SR 145	\$724,000
SRHP - 245	Madera County	Avenue 7 1/2	MC43	Overlay	\$1,391,000
SRHP - 246	Madera County	Avenue 9	MC57	Shoulder Paving 4ft on each side of roadway on Avenue 9 from Road 38 to Children's Boulevard	\$567,000
SRHP - 247	Madera County	Avenue 9	MC47	Overlay	\$1,558,000
SRHP - 248	Madera County	Countywide Rehabilitation	MC6360	12" FDR with 3" HMA and 2" HMA rehabs at various locations	\$9,334,000
SRHP - 249	Madera County	Road 16	MC58	Shoulder Paving 4ft on each side of roadway on Road 16 from SR 152 to Avenue 24	\$197,000
SRHP - 250	Madera County	Road 16	MC44	Overlay	\$1,565,000
SRHP - 251	Madera County	Road 26	MC48	PE/Reconstruct 2 lanes/widen	\$1,870,000
SRHP - 253	Madera County	Road 36	MC20	Shoulder Paving	\$563,000
SRHP - 254	Madera County	Various	MC49	Regional Recon/Rehab	\$24,660,000
SRHP - 255	Madera County	Various	MC51	Regional Recon/Rehab	\$28,640,000
SRHP - 256	Madera County	Various	MC50	Rehab/Maint/Operations	\$79,809,960
SRHP - 257	Madera County	Various	MC52	Rehab/Maint/Operations	\$158,262,804
				Total	\$1,049,315,309



Table B-4 Bicycle and Pedestrian Projects

MCTC ID	Agency	Project Name	Project ID	Description	Total Cost
PP - 69	City of Chowchilla	Riverside Avenue, 8th Street, & Kings Avenue Pedestrian Improvements Project	MAD302058	Pedestrian Improvements Project	\$1,647,000
BTP - 84	City of Madera	Tulare/Cleveland/Raymond Road	MAD202069	Tulare/Cleveland/Raymond Road - Construction Bike/Pedestrian Facilities	\$336,000
BTP - 85	City of Madera	Cleveland Avenue to Fresno River	MAD202074	Construct Bike/Pedestrian Facilities - Cleveland Avenue to Fresno River on MID	\$379,000
BTP - 86	City of Madera	Fresno River Trail	MAD202086	Bicycle/Pedestrian Facilities -Fresno River Trail Between North-South Trail Behind Montecito Park and Granada Drive (Phase II)	\$146,000
PP - 70	City of Madera	Schnoor Avenue	MAD202083	Sidewalk Construction Along Schnoor Avenue Between Sunset Avenue and Fresno River	\$150,000
PP - 71	City of Madera	Pedestrian facilities around Washington School	MAD217036	Pedestrian facilities around Washington School	\$368,000
PP - 72	City of Madera	Granada Avenue Pedestrian Bridge over the Fresno River	MAD217038	Granada Avenue Pedestrian Bridge over the Fresno River. City of Madera Project 13 in the City's Ped Listing	\$2,500,000
BTP - 83	Madera County	Road 225	MAD102059	Construct Bicycle and Pedestrian Path Road 225 Willow Creek Drive to Road 228	\$1,158,000
BTP - 87	Various Agencies	MAD420001	MAD420001	Grouped Projects for bicycle and pedestrian facilities funded with Active Transportation Program (ATP) funding. Scope: Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 and 3 categories - bicycle	\$1,487,000
PP - 75	Caltrans	SR 49 JUNCTION DRIVE ADA IMPROVEMENTS	06-1A400	Construct ADA Curb Ramps and Access to Accessible Pedestrian Signals (APS) Buttons	\$1,250,000
BTP - 19	City of Chowchilla	Eastern Rancho Calera Roadway at City Limit	24.A	Capital Improvements	\$1,632,000
PP - 42	City of Chowchilla	Robertson Blvd	1	Streetscape	\$1,000,000
PP - 77	City of Chowchilla	Pedestrian Improvement Project	R-12	Improvement Project: Riverside Ave, 8th Street, Kings Ave Pedestrian Improvement project	\$1,647,000
BTP - 100	City of Madera	N Westberry Boulevard	6.D	Capital Improvements	\$2,083,200
BTP - 101	City of Madera	Schnoor Street	7.A	Signing and Striping	\$109,200
BTP - 102	City of Madera	Schnoor Street	7.B	Signing and Striping - Add Sharrows	\$1,880
BTP - 103	City of Madera	Schnoor Street	7.C	Signing and Striping - Remove parking on one-side	\$172,250



BTP - 104	City of Madera	Schnoor Street	7.D	Signing and Striping - Narrow lanes, remove parking on one-side	\$149,500
BTP - 105	City of Madera	Schnoor Street	7.E	Road Diet	\$446,250
BTP - 106	City of Madera	D Street	8.A	Capital Improvements	\$640,000
BTP - 107	City of Madera	D Street	8.B	Signing and Striping	\$131,950
BTP - 108	City of Madera	D Street	8.C	Signing and Striping - Narrow lanes, remove parking on one-side Alternative: Remove TWLTL, maintain parking where turning movements not necessitated	\$141,050
BTP - 109	City of Madera	D Street	8.D	Signing and Striping	\$59,800
BTP - 110	City of Madera	D Street	8.E	Signing and Striping - Narrow lanes, remove parking on one-side Alternative: Remove TWLTL, maintain parking where turning movements not necessitated	\$113,750
BTP - 111	City of Madera	D Street	8.F	Signing, Striping, and Wayfinding	\$2,240
BTP - 112	City of Madera	D Street	8.G	Signing and Striping	\$230,750
BTP - 113	City of Madera	Clinton Street	9.A	Traffic Calming, Signing, and Striping	\$455,000
BTP - 114	City of Madera	Howard Road	10.A	Capital Improvements	\$1,702,400
BTP - 116	City of Madera	Howard Road	10.C	Road Diet	\$232,400
BTP - 117	City of Madera	Olive Avenue (West)	11.A	Road Diet Alternative: Class IV - Remove parking on both sides	\$288,400
BTP - 118	City of Madera	Olive Avenue (West)	11.B	Signing and Striping - Add Sharrows	\$44,100
BTP - 119	City of Madera	Country Club Drive (Road 26)	12.A	Road Diet	\$132,750
BTP - 120	City of Madera	Cleveland Ave	13.A	Capital Improvements	\$5,335,680
BTP - 121	City of Madera	Cleveland Ave	13.B	Signing and Striping	\$185,500
BTP - 122	City of Madera	Cleveland Ave	13.C	Complete Streets Corridor Study - Analyze Road Diet, Overpass, and Tie-in with Country Club, Gateway, and Cleveland	\$3,763,200
BTP - 123	City of Madera	Cleveland Ave	13.D	Signing and Striping - Upgrade intersection bikeway designs to address crossings	\$552,500
BTP - 124	City of Madera	Olive Avenue (East)	14.A	Capital Improvements	\$928,000
BTP - 125	City of Madera	Olive Avenue (East)	14.B	Signing and Striping - Add Westbound Bike Lane	\$171,600
BTP - 126	City of Madera	Fairmead Connector (Avenue 17)	15.A	Capital Improvements	\$4,185,600



BTP - 127	City of Madera	Fairmead Connector (Airport Drive/Yeager Drive)	15.B	Signing, Striping, and Wayfinding	\$154,700
BTP - 129	City of Madera	Granada Drive	16.A	Signing and Striping	\$52,500
BTP - 131	City of Madera	Granada Drive	16.C	Signing and Striping	\$180,600
BTP - 132	City of Madera	Granada Drive	16.D	Signing and Striping - Remove Parking One-side Alternative - Class II.A	\$187,600
BTP - 133	City of Madera	Granada Drive	16.E	Signing and Striping	\$185,500
BTP - 134	City of Madera	Granada Drive	16.F	Capital Improvement	\$1,753,920
BTP - 135	City of Madera	Industrial Boulevard	17.A	Traffic Calming, Signing, and Striping	\$176,288
BTP - 136	City of Madera	Almond Avenue	18.A	Signing and Striping - Remove TWLTL or Parking on One-side	\$369,600
BTP - 137	City of Madera	Almond Avenue	18.B	Signing and Striping	\$85,800
BTP - 138	City of Madera	Almond Avenue	18.C	Capital Improvements	\$3,328,000
BTP - 139	City of Madera	Pecan Avenue	19.A	Capital Improvements	\$10,092,800
BTP - 140	City of Madera	Pecan Avenue	19.B	Capital Improvements	\$1,056,000
BTP - 141	City of Madera	Pecan Avenue	19.C	Capital Improvements	\$4,153,600
BTP - 143	City of Madera	Barnett Way	21.A	Capital Improvements	\$1,376,000
BTP - 144	City of Madera	Sharon Boulevard	22.A	Signing and Striping	\$193,700
BTP - 145	City of Madera	W/E Lincoln Ave	23.A	Signing and Striping	\$351,000
BTP - 147	City of Madera	Tozer Street (Road 28)	24.B	Capital Improvements	\$2,856,000
BTP - 148	City of Madera	Tozer Street (Road 28)	24.C	Capital Improvements	\$832,000
BTP - 149	City of Madera	Tozer Street (Road 28)	24.D	Signing and Striping	\$84,500
BTP - 150	City of Madera	Lake Street	25.A	Capital Improvement	\$2,188,800
BTP - 151	City of Madera	Lake Street	25.B	Road Diet Northbound to add Bike Lane and keep parking Alternative: Remove Northbound parking lane	\$293,800
BTP - 152	City of Madera	Lake Street	25.C	Signing and Striping	\$398,450
BTP - 153	City of Madera	Kennedy Street	26.A	Signing, Striping, and Wayfinding	\$11,700
BTP - 154	City of Madera	Raymond Road	27.A	Capital Improvements	\$2,540,160
BTP - 155	City of Madera	Crosstown Bike Boulevard (4th Street)	28.A	Traffic Calming, Signing, and Striping	\$476,000
BTP - 156	City of Madera	Crosstown Bike Boulevard (Pine Street)	28.B	Traffic Calming, Signing, and Striping	\$433,300



BTP - 157	City of Madera	Madera Avenue	29.A	Signing and Striping - Remove TWLTL or Parking on One-side	\$40,625
BTP - 158	City of Madera	Madera Avenue	29.B	Signing and Striping - Narrow lanes or Road Diet	\$398,450
BTP - 160	City of Madera	Riverview Park Bike Boulevard	31.A	Traffic Calming, Signing, and Striping	\$486,148
BTP - 166	City of Madera	Magnolia Street Bike Boulevard	34.A	Traffic Calming, Signing, and Striping	\$135,606
BTP - 169	City of Madera	Stadium Road	36.A	Signing and Striping - Remove one-side of parking if necessary	\$365,950
BTP - 170	City of Madera	Gary Lane	37.A	Capital Improvements	\$2,688,000
BTP - 171	City of Madera	Tulare St, Cleveland, Raymond Rd	7	Class I, II Bicycle Facilities	\$311,000
BTP - 172	City of Madera	Fresno River Trail	8	Construct Bike/Ped Undercrossing	\$800,000
BTP - 173	City of Madera	Fresno River Trail	10	Construct Bike/Ped Facilities - Phase II	\$380,000
BTP - 174	City of Madera	Bike Lane Improvements Various Locations	R-000089	Installation of bike lane at various locations to provide connectivity from the proposed Veterans housing located at the intersection of 5th Street and C Street, to key destinations such as childcare, grocery stores, library, medical clinics, public parks, and pharmacies	\$150,000
BTP - 88	City of Madera	SR 145 (Yosemite Ave)	1.A	Complete Streets Corridor Study	\$4,972,800
BTP - 89	City of Madera	SR 145 (Yosemite Ave)	1.B	Road Diet	\$350,000
BTP - 90	City of Madera	Elm Street	2.A	Traffic Calming, Signing, and Striping	\$89,148
BTP - 91	City of Madera	Sunset Avenue	3.A	Signing and Striping - Narrow lanes, remove parking on one-side	\$487,500
BTP - 93	City of Madera	Gateway Drive	4.B	Signing and Striping	\$455,000
BTP - 95	City of Madera	Gateway Drive	4.D	Road Diet, parking removal one-side Alternative: Two-way Separated Bikeway on eastern side Gateway Drive with new bridge	\$245,000
BTP - 96	City of Madera	6th Street	5.C	Signing and Striping	\$166,725
BTP - 97	City of Madera	N Westberry Boulevard	6.A	Signing and Striping	\$341,250
BTP - 99	City of Madera	N Westberry Boulevard	6.C	Signing and Striping	\$191,250
PP - 17	City of Madera	Sunset Avenue Sidewalk	14	Construct Pedestrian Facilities	\$345,000
PP - 18	City of Madera	Washington School Sidewalks CMAQ	R-000093	The project consists of the installation of concrete sidewalks with ADA compliant corner ramps and drive approaches, clearing and grubbing, and relocation of power poles. The project is located on	\$368,000



				Lincoln Avenue, Dellavalle Avenue, and Austin Street north	
PP - 48	City of Madera	Various	11	Construct Pedestrian Facilities	\$266,000
PP - 49	City of Madera	Various	12	Construct Pedestrian Facilities	\$315,000
PP - 50	City of Madera	Sunset Avenue Sidewalk	14	Construct Pedestrian Facilities	\$345,000
PP - 55	City of Madera	Gateway/Central/3rd/E. St. Sidewalks	R-000038	Sidewalks on Central Avenue, Gateway to Lake Street: E Street, Central Avenue to 3rd Street: 3rd Street, E Street to Central Avenue	\$590,787
PP - 56	City of Madera	Concreted Projects - Share Program	R-000041	Construct ADA curb returns and sidewalks Citywide	\$196,000
PP - 57	City of Madera	ADA Walkability Sidewalks Program	R-000064	Project adds missing wheelchair ramps City-wide and miscellaneous pedestrian facilities	\$443,867
PP - 58	City of Madera	Pedestrian Facilities, Various Locations	R-000084	Construction of pedestrian facilities such as sidewalk, access curb ramps and drive approaches on Stadium Road, Maple Street, Santa Cruz Street & Monterey Street	\$353,889
PP - 59	City of Madera	Lilly St & Vineyard Pedestrian Facilities	R-000085	Construction of pedestrian facilities such as sidewalk, access curb ramps and drive approaches on Lilly Street, Vineyard Avenue	\$227,790
PP - 61	City of Madera	Washington School Safety Enhancements	R-000088	Installation of rectangular rapid flashing beacons, ADA ramps, and high-visibility striping fronting Washington Elementary School	\$80,000
PP - 63	City of Madera	5th St/C St to E St Sidewalk Shade	R-000091	Installation of sidewalk improvements to provide gap closure and accessibility from the proposed Veteran ft s housing located at the intersection of 5th Street and C Street, to the Intermodal. The project also includes a shade path for pedestrians	\$90,000
PP - 64	City of Madera	Sidewalk Improvements Various Locations	R-000092	Installation of sidewalk improvements at various locations to provide sidewalk gap closure and accessibility from the proposed Veteran ft s housing located at the intersection of 5th Street and C Street, to key destinations such as childcare, grocery st	\$2,422,000
PP - 78	City of Madera	Schnoor Avenue Sidewalk-Sunset to River	R-000058	Construct sidewalks on Schnoor Ave from Sunset to Riverside Dr	\$150,000
BTP - 21	Madera County	Fairmead Connector (Fairmead Boulevard)	1.B	Capital Improvements	\$2,400,000
BTP - 22	Madera County	Maple Street	2.A	Capital Improvements Alternative: Advisory Bike Lanes	\$2,048,000



BTP - 23	Madera County	Elm Street	3.A	Capital Improvements Alternative: Advisory Bike Lanes	\$1,004,276
BTP - 24	Madera County	Road 19 1/2	4.A	Capital Improvements Alternative: Advisory Bike Lanes	\$2,304,000
BTP - 25	Madera County	Avenue 22 3/4	5.A	Capital Improvements	\$3,366,400
BTP - 26	Madera County	Avenue 22 1/2	6.A	Capital Improvements Alternative: Advisory Bike Lanes	\$1,459,200
BTP - 29	Madera County	Fairmead Connector (Avenue 20 1/2)	8.B	Signing, Striping, and Wayfinding	\$99,450
BTP - 31	Madera County	Fairmead Connector (Avenue 18 1/2)	8.D	Signing, Striping, and Wayfinding	\$64,025
BTP - 32	Madera County	Fairmead Connector (Road 23)	8.E	Capital Improvements - Widen Shoulders and add Rumble Strips	\$4,486,134
BTP - 33	Madera County	Fairmead Connector (Avenue 17)	8.F	Capital Improvements	\$4,192,000
BTP - 34	Madera County	Avenue 17	9.A	Signing and Striping	\$278,200
BTP - 35	Madera County	Avenue 17	9.B	Road Diet	\$384,300
BTP - 36	Madera County	Avenue 17	9.C	Capital Improvements	\$3,259,200
BTP - 37	Madera County	D Street	10.A	Capital Improvements	\$3,145,600
BTP - 38	Madera County	Martin Street	11.A	Capital Improvements	\$2,035,200
BTP - 39	Madera County	Ellis Street	12.A	Capital Improvements	\$1,874,880
BTP - 41	Madera County	Country Club Drive (Road 26)	13.A	Signing and Striping - Narrow lanes	\$443,625
BTP - 42	Madera County	Country Club Drive (Road 26)	13.B	Capital Improvements	\$36,430
BTP - 43	Madera County	Country Club Drive (Road 26)	13.C	Signing and Striping	\$1,299,000
BTP - 44	Madera County	Avenue 12 1/2 (Ruth Avenue)	14.A	Signing and Striping	\$184,100
BTP - 45	Madera County	Road 36	15.A	Road Diet - Protected Intersection at Road 36/Avenue 12 1/2 Alternative: Use Class IV on southbound bikeway	\$169,050
BTP - 46	Madera County	Road 36	15.B	Capital Improvements Alternative: Class III.A Bike Route with widened shoulders and add rumble strips	\$3,830,800
BTP - 47	Madera County	Berkshire Bike Boulevard	16.A	Traffic Calming, Signing, and Striping with Bicycle/Pedestrian Hawk Beacon at Road 36 Crossing to Liberty High School	\$5,363,496
BTP - 48	Madera County	Avenue 12	17.A	Signing and Striping - Narrow lanes to add 6 ft bike lanes	\$689,000
BTP - 52	Madera County	Yosemite Forks Route (Road 222)	20.A	Signing, Striping, and Wayfinding	\$36,000
BTP - 57	Madera County	Fine Gold Route (Road 221)	22.B	Signing, Striping, and Wayfinding	\$38,800



BTP - 58	Madera County	North Fork Connector (Road 222)	23.A	Signing, Striping, and Wayfinding	\$33,800
BTP - 60	Madera County	Golden Chain Highway Route (SR 49)	25.A	Signing and Striping - Narrow lanes	\$340,200
BTP - 61	Madera County	Golden Chain Highway Route (SR 49)	25.A	Signing, Striping, and Wayfinding	\$86,300
BTP - 62	Madera County	Crane Valley Road (Road 426)	26.A	Road Diet	\$163,100
BTP - 72	Madera County	Friant Connector (Road 145)	33.A	Signing, Striping, and Wayfinding	\$34,950
BTP - 75	Madera County	Children's Boulevard (Avenue 9) Multi-Use Path	35.A	Capital Improvements	\$612,000
BTP - 76	Madera County	La Vina Elementary School Path	36.A	Capital Improvements	\$612,000
BTP - 77	Madera County	La Vina Bikeway (Avenue 9)	37.A	Capital Improvements Alternative: Extend La Vina Elementary School Path to Avenue 24	\$1,715,200
BTP - 79	Madera County	Various	19	Streetscape/Pedestrian/Bicycle Facilities	\$2,000,000
PP - 51	Madera County	Road 225	15	Construct Pedestrian Facilities	\$1,641,000
PP - 52	Madera County	Avenue 12	16	Construct Pedestrian Facilities	\$123,000
BTP - 80	Various Agencies	Various	20	Class I, II, III Bicycle Facilities	\$19,520,940
				Total	\$160,392,709



Table B-5 Public Transit Projects

MCTC ID	Agency	Project Name	Project ID	Description	Total Cost
TP - 31	City of Chowchilla	CATX Operating Assistance	MAD313036	CATX Operating Assistance	\$4,464,000
TP - 208	City of Madera	Purchase Transit Vehicle	MAD213201	Purchase new transit vehicle	\$300,000
TP - 209	City of Madera	Purchase Transit Vehicle	MAD213202	Purchase new transit vehicle	\$300,000
TP - 210	City of Madera	Purchase Transit Vehicle	MAD213203	Purchase new transit vehicle	\$300,000
TP - 217	City of Madera	Bus Expansion #27	MAD215004	Purchase new transit vehicle	\$238,000
TP - 222	City of Madera	Purchase Electric Zero Emission	MAD217039	Electric charging placement	\$586,000
TP - 223	City of Madera	Section 5307 DAR Operating Assistance	MAD213091	Section 5307 DAR Operating Assistance	\$16,280,000
TP - 224	City of Madera	Section 5307 MAX Operating Assistance	MAD213092	Section 5307 MAX Operating Assistance	\$17,611,000
TP - 225	City of Madera	Section 5307 Intermodal Facility Operating Assistance	MAD213093	Intermodal Facility Operating Assistance	\$2,040,000
TP - 226	City of Madera	Section 5307 MAX & DAR Preventative Maintenance	MAD213094	MAX & DAR Preventative Maintenance	\$2,823,000
TP - 227	City of Madera	Section 5307 Electric Vehicle Charging Station	MAD213110	Section 5307 Electric Vehicle Charging Station	\$149,000
TP - 4	City of Madera	Section 5307 Transit Facility Operating Assistance	MAD213104	Transit Facility Operating Assistance	\$650,000
TP - 81	City of Madera	Bus Shelters #1	MAD213105	Bus Shelters	\$480,000
TP - 102	Madera County	Transit Electric Infrastructure Improvements	MAD113409	Transit Electric Infrastructure Improvements	\$1,000,000
TP - 187	Madera County	Purchase 3 Paratransit Vehicle	MAD113403	Purchase 3 Paratransit Vehicles	\$430,000
TP - 188	Madera County	Purchase 5 Paratransit Vehicles (Electric)	MAD113404	Purchase 5 Paratransit Vehicles	\$1,214,000
TP - 189	Madera County	Purchase 2 Transit Vans	MAD113405	Purchase 2 Transit Vans	\$109,000
TP - 190	Madera County	Purchase 3 Transit Vans (Electric)	MAD113406	Purchase 3 Transit Vans (Electric)	\$528,000
TP - 191	Madera County	Purchase Transit Van (Electric)	MAD113407	Purchase Transit Van (Electric)	\$194,000
TP - 192	Madera County	Purchase Transit Van (Electric)	MAD113408	Purchase Transit Van (Electric)	\$201,000
TP - 211	Madera County	Purchase Transit Van (Electric)	MAD115020	Purchase Transit Van (Electric)	\$183,000
TP - 212	Madera County	Purchase Transit Van (Electric)	MAD115021	Purchase Transit Van (Electric)	\$191,000
TP - 215	Madera County	Purchase Transit Vehicle	MAD115006	Purchase new transit vehicle	\$825,000
TP - 216	Madera County	Purchase Transit Vehicle	MAD115010	Purchase new transit vehicle	\$57,000
TP - 218	Madera County	Purchase Transit Van (Electric)	MAD115022	Purchase Transit Van (Electric)	\$201,000



TP - 228	Madera County	Section 5311 County Operating Assistance	MAD113041	Section 5311 County Operating Assistance	\$9,911,000
TP - 229	Madera County	Preventative Maintenance	MAD113049	Preventative Maintenance Section 5311	\$1,300,000
TP - 234	Madera County	Bus Stop Shelter & Amenities	MAD113410	Bus Stop Shelter & Amenities	\$674,000
TP - 56	Madera County	Section 5307 County Operating Assistance	MAD113401	Section 5307 County Operating Assistance	\$5,150,000
TP - 57	Madera County	Section 5307 County Preventative Maintenance	MAD113402	Section 5307 County Preventative Maintenance	\$662,000
TP - 101	City of Chowchilla	Electric Fleet Infrastructure #2	TFEC-6	Installation of Electric Fleet Infrastructure	\$112,000
TP - 128	City of Chowchilla	Bus Replacement #25	BR-25	Purchase 1 DAR Vehicle	\$93,000
TP - 129	City of Chowchilla	Bus Replacement #26	BR-26	Purchase 1 DAR Vehicle	\$139,000
TP - 130	City of Chowchilla	Bus Replacement #27	BR-27	Purchase 1 DAR Vehicle	\$127,308
TP - 131	City of Chowchilla	Bus Replacement #28	BR-28	Purchase 1 DAR Vehicle	\$252,512
TP - 132	City of Chowchilla	Bus Replacement #29	BR-29	Purchase 1 DAR Vehicle	\$260,087
TP - 133	City of Chowchilla	Bus Replacement #30	BR-30	Purchase 1 DAR Vehicle	\$275,927
TP - 134	City of Chowchilla	Bus Replacement #31	BR-31	Purchase 1 DAR Vehicle	\$292,731
TP - 135	City of Chowchilla	Bus Replacement #32	BR-32	Purchase 1 DAR Vehicle	\$301,512
TP - 136	City of Chowchilla	Bus Replacement #33	BR-33	Purchase 1 DAR Vehicle	\$319,875
TP - 137	City of Chowchilla	Bus Replacement #34	BR-34	Purchase 1 DAR Vehicle	\$339,355
TP - 138	City of Chowchilla	Bus Replacement #35	BR-35	Purchase 1 DAR Vehicle	\$349,536
TP - 139	City of Chowchilla	Bus Replacement #36	BR-36	Purchase 1 DAR Vehicle	\$370,822
TP - 140	City of Chowchilla	Bus Replacement #37	BR-37	Purchase 1 DAR Vehicle	\$393,405
TP - 141	City of Chowchilla	Bus Replacement #38	BR-38	Purchase 1 DAR Vehicle	\$405,208
TP - 142	City of Chowchilla	Bus Replacement #39	BR-39	Purchase 1 DAR Vehicle	\$429,885
TP - 180	City of Chowchilla	Bus Expansion #11	BE-11	Purchase 1 DAR Vehicle	\$267,890
TP - 181	City of Chowchilla	Bus Expansion #12	BE-12	Purchase 1 DAR Vehicle (Replacement)	\$310,558
TP - 182	City of Chowchilla	Bus Expansion #13	BE-13	Purchase 1 DAR Vehicle	\$339,355
TP - 183	City of Chowchilla	Bus Expansion #14	BE-14	Purchase 1 DAR Vehicle (Replacement)	\$360,022
TP - 184	City of Chowchilla	Bus Expansion #15	BE-15	Purchase 1 DAR Vehicle	\$393,405



TP - 185	City of Chowchilla	Bus Expansion #16	BE-16	Purchase 1 DAR Vehicle (Replacement)	\$417,364
TP - 186	City of Chowchilla	Bus Expansion #17	BE-17	Purchase 1 DAR Vehicle	\$429,885
TP - 232	City of Chowchilla	OM-26	OM-26	Operations & Maintenance	\$429,886
TP - 241	City of Chowchilla	CATX Bus Shelter #22	BSI-22	Construction of CATX bus shelters at various locations	\$38,514
TP - 242	City of Chowchilla	CATX Bus Shelter #23	BSI -23	Construction of CATX bus shelters at various locations	\$35,000
TP - 243	City of Chowchilla	CATX Bus Shelter #24	BSI- 24	Construction of CATX bus shelters at various locations	\$43,750
TP - 244	City of Chowchilla	CATX Bus Shelters #25	BSI- 25	Construction of CATX bus shelters at various locations	\$54,688
TP - 245	City of Chowchilla	CATX Bus Shelters #26	BSI-26	Construction of CATX bus shelters at various locations	\$68,359
TP - 246	City of Chowchilla	CATX Bus Shelters #27	BSI-27	Construction of CATX bus shelters at various locations	\$85,449
TP - 32	City of Chowchilla	Operations & Maintenance #27	OM-27	CATX Operating Expenses	\$438,000
TP - 33	City of Chowchilla	Operations & Maintenance #28	OM-28	CATX Operating Expenses	\$446,000
TP - 34	City of Chowchilla	Operations & Maintenance #29	OM-29	CATX Operating Expenses	\$454,000
TP - 35	City of Chowchilla	Operations & Maintenance #30	OM-30	CATX Operating Expenses	\$476,700
TP - 36	City of Chowchilla	Operations & Maintenance #31	OM-31	CATX Operating Expenses	\$500,535
TP - 37	City of Chowchilla	Operations & Maintenance #32	OM-32	CATX Operating Expenses	\$525,562
TP - 38	City of Chowchilla	Operations & Maintenance #33	OM-33	CATX Operating Expenses	\$551,840
TP - 39	City of Chowchilla	Operations & Maintenance #34	OM-34	CATX Operating Expenses	\$579,432
TP - 40	City of Chowchilla	Operations & Maintenance #35	OM-35	CATX Operating Expenses	\$608,403
TP - 41	City of Chowchilla	Operations & Maintenance #36	OM-36	CATX Operating Expenses	\$638,824
TP - 42	City of Chowchilla	Operations & Maintenance #37	OM-37	CATX Operating Expenses	\$670,765
TP - 43	City of Chowchilla	Operations & Maintenance #38	OM-38	CATX Operating Expenses	\$704,303
TP - 44	City of Chowchilla	Operations & Maintenance #39	OM-39	CATX Operating Expenses	\$739,518
TP - 45	City of Chowchilla	Operations & Maintenance #40	OM-40	CATX Operating Expenses	\$776,494
TP - 46	City of Chowchilla	Operations & Maintenance #41	OM-41	CATX Operating Expenses	\$815,319
TP - 47	City of Chowchilla	Operations & Maintenance #42	OM-42	CATX Operating Expenses	\$856,085
TP - 48	City of Chowchilla	Operations & Maintenance #43	OM-43	CATX Operating Expenses	\$898,889



TP - 49	City of Chowchilla	Operations & Maintenance #44	OM-44	CATX Operating Expenses	\$943,833
TP - 50	City of Chowchilla	Operations & Maintenance #45	OM-45	CATX Operating Expenses	\$991,025
TP - 51	City of Chowchilla	Operations & Maintenance #46	OM-46	CATX Operating Expenses	\$1,040,576
TP - 52	City of Chowchilla	Operations & Maintenance #47	OM-47	CATX Operating Expenses	\$1,092,605
TP - 53	City of Chowchilla	Operations & Maintenance #48	OM-48	CATX Operating Expenses	\$1,147,235
TP - 54	City of Chowchilla	Operations & Maintenance #49	OM-49	CATX Operating Expenses	\$1,204,597
TP - 55	City of Chowchilla	Operations & Maintenance #50	OM-50	CATX Operating Expenses	\$1,264,827
TP - 84	City of Chowchilla	CATX Bus Shelters #1	BSI-4	Construction of CATX bus shelters at various locations	\$98,514
TP - 85	City of Chowchilla	CATX Bus Shelters #2	BSI-5	Construction of CATX bus shelters at various locations	\$35,000
TP - 86	City of Chowchilla	CATX Bus Shelters #3	BSI-6	Construction of CATX bus shelters at various locations	\$40,000
TP - 87	City of Chowchilla	CATX Bus Shelters #4	BSI-7	Construction of CATX bus shelters at various locations	\$47,000
TP - 88	City of Chowchilla	CATX Bus Shelters #5	BSI-8	Construction of CATX bus shelters at various locations	\$54,000
TP - 1	City of Madera	Intermodal Improvements #1	TSF-1	Improvements to Downtown Intermodal Facility	\$265,000
TP - 10	City of Madera	Operations & Maintenance #5	OM-5	MAX/DAR Operating Expenses	\$3,105,900
TP - 100	City of Madera	Electric Fleet Infrastructure #1	TFEC-5	Installation of Electric Fleet Infrastructure	\$1,200,000
TP - 104	City of Madera	Bus Replacement #1	BR-1	Purchase 1 DAR Vehicle	\$180,000
TP - 105	City of Madera	Bus Replacement #2	BR-2	Purchase 5 MAX Vehicles	\$901,500
TP - 106	City of Madera	Bus Replacement #3	BR-3	Purchase 2 DAR Vehicles	\$451,366
TP - 107	City of Madera	Bus Replacement #4	BR-4	Purchase 1 DAR Vehicle	\$238,017
TP - 108	City of Madera	Bus Replacement #5	BR-5	Purchase 6 MAX Vehicles	\$4,720,578
TP - 109	City of Madera	Bus Replacement #6	BR-6	Purchase 2 MAX Vehicles	\$1,620,732
TP - 11	City of Madera	Operations & Maintenance #6	OM-6	MAX/DAR Operating Expenses	\$3,261,195
TP - 110	City of Madera	Bus Replacement #7	BR-7	Purchase 1 DAR Vehicle	\$252,512
TP - 111	City of Madera	Bus Replacement #8	BR-8	Purchase 5 DAR Vehicles	\$1,339,450
TP - 112	City of Madera	Bus Replacement #9	BR-9	Purchase 1 DAR Vehicle	\$275,927
TP - 113	City of Madera	Bus Replacement #10	BR-10	Purchase 1 DAR Vehicle	\$292,731



TP - 114	City of Madera	Bus Replacement #11	BR-11	Purchase 5 DAR Vehicles	\$1,552,790
TP - 115	City of Madera	Bus Replacement #12	BR-12	Purchase 2 MAX Vehicles	\$2,053,095
TP - 116	City of Madera	Bus Replacement #13	BR-13	Purchase 1 DAR Vehicle	\$319,875
TP - 117	City of Madera	Bus Replacement #14	BR-14	Purchase 6 MAX Vehicles	\$6,344,064
TP - 118	City of Madera	Bus Replacement #15	BR-15	Purchase 2 MAX Vehicles	\$2,178,130
TP - 119	City of Madera	Bus Replacement #16	BR-16	Purchase 1 DAR Vehicle	\$339,355
TP - 12	City of Madera	Operations & Maintenance #7	OM-7	MAX/DAR Operating Expenses	\$3,424,255
TP - 120	City of Madera	Bus Replacement #17	BR-17	Purchase 5 DAR Vehicles	\$1,800,110
TP - 121	City of Madera	Bus Replacement #18	BR-18	Purchase 1 DAR Vehicle	\$370,822
TP - 122	City of Madera	Bus Replacement #19	BR-19	Purchase 2 MAX Vehicles	\$2,600,800
TP - 123	City of Madera	Bus Replacement #20	BR-20	Purchase 1 DAR Vehicle	\$393,405
TP - 124	City of Madera	Bus Replacement #21	BR-21	Purchase 5 DAR Vehicles	\$2,086,820
TP - 125	City of Madera	Bus Replacement #22	BR-22	Purchase 1 DAR Vehicle	\$429,885
TP - 126	City of Madera	Bus Replacement #23	BR-23	Purchase 6 MAX Vehicles	\$8,525,894
TP - 127	City of Madera	Bus Replacement #24	BR-24	Purchase 2 MAX Vehicles	\$2,927,224
TP - 13	City of Madera	Operations & Maintenance #8	OM-8	MAX/DAR Operating Expenses	\$3,595,467
TP - 14	City of Madera	Operations & Maintenance #9	OM-9	MAX/DAR Operating Expenses	\$3,775,241
TP - 15	City of Madera	Operations & Maintenance #10	OM-10	MAX/DAR Operating Expenses	\$3,964,003
TP - 16	City of Madera	Operations & Maintenance #11	OM-11	MAX/DAR Operating Expenses	\$4,162,203
TP - 17	City of Madera	Operations & Maintenance #12	OM-12	MAX/DAR Operating Expenses	\$4,370,313
TP - 170	City of Madera	Bus Expansion #1	BE-1	Purchase 1 MAX Vehicle	\$885,509
TP - 171	City of Madera	Bus Expansion #2	BE-2	Purchase 1 DAR Vehicle	\$267,890
TP - 172	City of Madera	Bus Expansion #3	BE-3	Purchase 1 DAR Vehicle (Replacement)	\$310,558
TP - 173	City of Madera	Bus Expansion #4	BE-4	Purchase 1 MAX Vehicle	\$1,121,737
TP - 174	City of Madera	Bus Expansion #5	BE-5	Purchase 1 MAX Vehicle	\$1,121,737
TP - 175	City of Madera	Bus Expansion #6	BE-6	Purchase 1 DAR Vehicle	\$339,355



TP - 176	City of Madera	Bus Expansion #7	BE-7	Purchase 1 MAX Vehicle (Replacement)	\$1,190,050
TP - 177	City of Madera	Bus Expansion #8	BE-8	Purchase 1 DAR Vehicle (Replacement)	\$360,022
TP - 178	City of Madera	Bus Expansion #9	BE-9	Purchase 1 DAR Vehicle	\$393,405
TP - 179	City of Madera	Bus Expansion #10	BE-10	Purchase 1 DAR Vehicle (Replacement)	\$417,364
TP - 18	City of Madera	Operations & Maintenance #13	OM-13	MAX/DAR Operating Expenses	\$4,588,829
TP - 19	City of Madera	Operations & Maintenance #14	OM-14	MAX/DAR Operating Expenses	\$4,818,270
TP - 2	City of Madera	Intermodal Improvements #2	TSF-2	Improvements to Downtown Intermodal Facility	\$1,000,000
TP - 20	City of Madera	Operations & Maintenance #15	OM-15	MAX/DAR Operating Expenses	\$5,059,184
TP - 233	City of Madera	Bus Shelters	BSI-16	Bus Stop Improvements	\$320,000
TP - 237	City of Madera	Bus Shelter #18	BSI-18	Bus Shelters	\$1,272,209
TP - 238	City of Madera	Bus Shelter #19	BSI-19	Bus Shelters	\$100,000
TP - 239	City of Madera	Bus Shelter #20	BSI-20	Bus Shelters	\$150,000
TP - 240	City of Madera	Bus Shelter #21	BSI-21	Bus Shelters	\$112,500
TP - 6	City of Madera	Operations & Maintenance #1	OM-1	MAX/DAR Operating Expenses	\$2,487,824
TP - 7	City of Madera	Operations & Maintenance #2	OM-2	MAX/DAR Operating Expenses	\$2,847,000
TP - 8	City of Madera	Operations & Maintenance #3	OM-3	MAX/DAR Operating Expenses	\$2,880,000
TP - 82	City of Madera	Bus Shelters #2	BSI-2	New Bus Stop Shelters	\$587,148
TP - 83	City of Madera	Bus Shelters #3	BSI-3	New Bus Stop Shelters	\$789,078
TP - 9	City of Madera	Operations & Maintenance #4	OM-4	MAX/DAR Operating Expenses	\$2,958,000
TP - 96	City of Madera	New Maintenance/Admin Yard #1	TSM-1	Construction of New Maintenance/Administration Yard	\$500,000
TP - 143	Madera County	Bus Replacement #40	BR-40	Purchase 1 ESCORT Van	\$53,045
TP - 144	Madera County	Bus Replacement #41	BR-41	Purchase 1 ESCORT Van	\$54,636
TP - 145	Madera County	Bus Replacement #42	BR-42	Purchase 2 MCC Buses	\$281,378
TP - 146	Madera County	Bus Replacement #43	BR-43	Purchase 1 SENIOR Bus	\$140,689
TP - 147	Madera County	Bus Replacement #44	BR-44	Purchase 4 MCC Buses	\$579,636
TP - 148	Madera County	Bus Replacement #45	BR-45	Purchase 1 ESCORT Van	\$59,703
TP - 149	Madera County	Bus Replacement #46	BR-46	Purchase 1 ESCORT Van	\$61,494
TP - 150	Madera County	Bus Replacement #47	BR-47	Purchase 2 MCC Buses	\$551,854



TP - 151	Madera County	Bus Replacement #48	BR-48	Purchase 1 SENIOR Bus	\$275,927
TP - 152	Madera County	Bus Replacement #49	BR-49	Purchase 4 MCC Buses	\$1,136,816
TP - 153	Madera County	Bus Replacement #50	BR-50	Purchase 2 ESCORT Vans	\$213,997
TP - 154	Madera County	Bus Replacement #51	BR-51	Purchase 1 ESCORT Van	\$220,417
TP - 155	Madera County	Bus Replacement #52	BR-52	Purchase 2 MCC Buses	\$639,750
TP - 156	Madera County	Bus Replacement #53	BR-53	Purchase 1 SENIOR Bus	\$319,875
TP - 157	Madera County	Bus Replacement #54	BR-54	Purchase 1 ESCORT Van	\$240,856
TP - 158	Madera County	Bus Replacement #55	BR-55	Purchase 4 MCC Buses	\$1,317,884
TP - 159	Madera County	Bus Replacement #56	BR-56	Purchase 1 ESCORT Van	\$248,081
TP - 160	Madera County	Bus Replacement #57	BR-57	Purchase 1 ESCORT Van	\$271,085
TP - 161	Madera County	Bus Replacement #58	BR-58	Purchase 2 MCC Buses	\$741,644
TP - 162	Madera County	Bus Replacement #59	BR-59	Purchase 1 SENIOR Bus	\$370,822
TP - 163	Madera County	Bus Replacement #60	BR-60	Purchase 1 ESCORT Van	\$279,218
TP - 164	Madera County	Bus Replacement #61	BR-61	Purchase 4 MCC Buses	\$1,527,788
TP - 165	Madera County	Bus Replacement #62	BR-62	Purchase 1 ESCORT Van	\$305,109
TP - 166	Madera County	Bus Replacement #63	BR-63	Purchase 1 ESCORT Van	\$314,262
TP - 167	Madera County	Bus Replacement #64	BR-64	Purchase 2 MCC Buses	\$859,770
TP - 193	Madera County	Bus Replacement #7	BE-24	Purchase 2 ESCORT Buses (Replacement)	\$467,680
TP - 194	Madera County	Bus Replacement #8	BE-25	Purchase 1 ESCORT Van	\$233,840
TP - 195	Madera County	Bus Replacement #9	BE-26	Purchase 2 MCC Buses (Replacement)	\$658,942
TP - 196	Madera County	Bus Replacement #10	BE-27	Purchase 1 SENIOR Bus	\$329,471
TP - 197	Madera County	Bus Replacement #11	BE-28	Purchase 3 ESCORT Vans (Replacement)	\$789,570
TP - 198	Madera County	Bus Replacement #12	BE-29	Purchase 1 ESCORT Van	\$263,190
TP - 199	Madera County	Bus Replacement #13	BE-30	Purchase 2 MCC Buses (Replacement)	\$763,894
TP - 200	Madera County	Bus Replacement #14	BE-31	Purchase 1 SENIOR Bus (Replacement)	\$381,947
TP - 201	Madera County	Bus Replacement #15	BE-32	Purchase 1 SENIOR Bus	\$381,947



TP - 202	Madera County	Bus Replacement #16	BE-33	Purchase 4 ESCORT Vans (Replacement)	\$1,184,888
TP - 203	Madera County	Bus Replacement #17	BE-34	Purchase 1 ESCORT Van	\$296,222
TP - 204	Madera County	Bus Replacement #18	BE-35	Purchase 2 MCC Buses (Replacement)	\$885,562
TP - 205	Madera County	Bus Replacement #19	BE-36	Purchase 1 SENIOR Bus	\$442,781
TP - 206	Madera County	Bus Replacement #20	BE-37	Purchase 1 SENIOR Bus (Replacement)	\$442,781
TP - 207	Madera County	Bus Replacement #21	BE-38	Purchase 5 ESCORT Vans (Replacement)	\$1,667,005
TP - 235	Madera County	Transit Administration Facility	TSF-4	Improvements to Transit Administration Facilities	\$750,000
TP - 248	Madera County	Park & Ride / Bus Stop #2	PRBS- 2	Construct Park & Ride/Bus Stop	\$800,000
TP - 249	Madera County	Bus Shelters #29	BSI-29	New Bus Stop Shelters	\$196,157
TP - 250	Madera County	Bus Shelters #30	BSI-30	New Bus Stop Shelters	\$93,470
TP - 251	Madera County	Bus Stop & Signage Enhancements #1	BSSE-1	Bus Stop & Signage Enhancements	\$100,000
TP - 252	Madera County	Bus Shelter #31	BSI-31	New Bus Stop Shelters	\$125,000
TP - 253	Madera County	Bus Shelter #32	BSI-32	New Bus Stop Shelters	\$156,250
TP - 254	Madera County	Bus Shelter #33	BSI-33	New Bus Stop Shelters	\$195,313
TP - 255	Madera County	Bus Stop & Signage Enhancements #2	BSSE-2	New Bus Stop Shelters	\$234,375
TP - 3	Madera County	Satellite Facility	TSF-3	Construct Satellite Facility	\$500,000
TP - 5	Madera County	Transit Administration Facility # 2	TSF-5	Improvements to Transit Administration Facility	\$500,000
TP - 58	Madera County	Operations & Maintenance #53	OM-53	Madera County Transit Operating Expenses	\$1,301,283
TP - 59	Madera County	Operations & Maintenance #54	OM-54	Madera County Transit Operating Expenses	\$1,366,347
TP - 60	Madera County	Operations & Maintenance #55	OM-55	Madera County Transit Operating Expenses	\$1,434,665
TP - 61	Madera County	Operations & Maintenance #56	OM-56	Madera County Transit Operating Expenses	\$1,506,398
TP - 62	Madera County	Operations & Maintenance #57	OM-57	Madera County Transit Operating Expenses	\$1,581,718
TP - 63	Madera County	Operations & Maintenance #58	OM-58	Madera County Transit Operating Expenses	\$1,660,804
TP - 64	Madera County	Operations & Maintenance #59	OM-59	Madera County Transit Operating Expenses	\$1,743,844
TP - 65	Madera County	Operations & Maintenance #60	OM-60	Madera County Transit Operating Expenses	\$1,831,036
TP - 66	Madera County	Operations & Maintenance #61	OM-61	Madera County Transit Operating Expenses	\$1,922,588
TP - 67	Madera County	Operations & Maintenance #62	OM-62	Madera County Transit Operating Expenses	\$2,018,717



TP - 89	Madera County	Bus Shelters #4	BSI-9	New Bus Stop Shelters	\$500,000
TP - 90	Madera County	Park & Ride/Bus Stop	BSI-10	Civic Circle Dr. (Oakhurst); PE	\$698,157
TP - 91	Madera County	Bus Shelters # 5	BSI-11	New Bus Stop Shelters	\$198,157
TP - 92	Madera County	Bus Shelters #6	BSI-12	New Bus Stop Shelters	\$93,470
TP - 93	Madera County	Bus Shelters #7	BSI-13	New Bus Stop Shelters	\$108,358
TP - 94	Madera County	Bus Shelters #8	BSI-14	New Bus Stop Shelters	\$125,616
TP - 95	Madera County	Bus Shelters #9	BSI-15	New Bus Stop Shelters	\$145,624
TP - 99	Madera County	Solar Bus Parking Structure	TSM-4	Construct Solar Bus Parking Structure	\$1,000,000
				Total	\$248,766,300



Table B-6 Commuter Rail Projects

MCTC ID	Agency	Project Name	Project ID	Description	Total Cost
SRHP - 29	Various Agencies	TICRP - Mile north of Avenue 12	MAD118003	The project site is located a mile north of Avenue 12 in Madera County, between the BNSF Railroad tracks to the east and the California High Speed Rail Project Corridor (under construction) to the west	\$123,569,000

Table B-7 Aviation Projects

MCTC ID	Agency	Project Name	Project ID	Description	Total Cost
AP - 1	City of Chowchilla	Rehabilitate Runway 12-30 and Airfield Electrical	AIP-3	Rehabilitate Runway 12-30 (Construction) - Runway rehabilitation on 3,253 feet of runway plus two 300 foot long stopways by 60 feet wide, for a total area of 231,200 sq. ft. PCU=75. Airfield electrical upgrades - new runway edge and threshold lights	\$2,971,000
AP - 2	City of Chowchilla	East Side Development	AIP-4	Environmental Assessment and Land Acquisition for East Side Development	\$1,890,155
AP - 3	City of Chowchilla	Access Control, Perimeter Security, Apron Lighting	AIP-5	Access control, perimeter security upgrades, and apron - Access control and security upgrades include additional vehicle access gates, installation of fencing, and installation of apron lighting. Extend Taxiway B on east side (30 ft x 2,690 ft) design	\$420,000
AP - 4	City of Chowchilla	RPZ Development	AIP-6	Environmental Assessment and Land Acquisition for RPZ	\$315,000
AP - 10	City of Madera	Aviation Project 4	AP-4	Airport layout plan narrative including ALP updated drawings	\$125,000
AP - 11	City of Madera	Aviation Project 5	AP-5	Taxiways P, A, B, C (North), D and E (50 ft x 7880 ft)-Mill and Fill	\$1,667,000
AP - 12	City of Madera	Aviation Project 6	AP-6	Tee Hanger Development-Phase I: Collector Taxiway (35 ft x 355 ft) tee hanger taxilines (25 ft x 1015 ft)	\$1,071,000
AP - 13	City of Madera	Aviation Project 7	AP-7	Tee Hanger Development-Phase II: Collector Taxiway (35 ft x 845 ft) tee hanger taxilines (25 ft x 1300 ft)	\$1,428,000
AP - 14	City of Madera	Aviation Project 8	AP-8	Extended commercial Hangar Development Area (201,000 sq. ft)-Phase III	\$2,137,000
AP - 15	City of Madera	Aviation Project 9	AP-9	Pavement maintenance management plan	\$100,000
AP - 5	City of Madera	Apron & Taxiway Drainage	AIP-0031	Engineering Design and construction for apron and taxiway drainage	\$1,087,000
AP - 6	City of Madera	Commercial Hangar Develop Extend - III	AIP-0034	Construct pavement and infrastructure appurtances to support future commercial hangars (201,000 sq ft.)	\$2,050,000
AP - 7	City of Madera	Runway 12-30 Mill and Fill	AIP-0040	Rehabilitate existing pavement on runway 12-30 (150 ft x 5,545 ft)	\$3,510,000
AP - 8	City of Madera	Aviation Project 1	AP-1	Airfield Drainage improvements	\$1,176,000
AP - 9	City of Madera	Aviation Project 2	AP-2	Pavement maintenance management plan	\$110,000
				Total	\$20,057,155



Table B-8 Intelligent Transportation System Projects

MCTC ID	Agency	Project Name	Project ID	Description	Total Cost
ITSP - 1	City of Madera	Cleveland Ave and Granada Drive	MAD217041	New Traffic Signal on Cleveland and Granada Drive	\$450,000
SRHP - 10	City of Madera	D St/South St Traffic Signal	MAD217040	Design and install new traffic signal at the intersection of D Street and South Street	\$450,000
SRHP - 11	City of Madera	Traffic Signal Upgrades	MAD202095	Traffic Signal Upgrades -Purchase and Install Adaptive Signal Control Technology	\$135,000
SRHP - 274	City of Chowchilla	Misc. Street Equipment	R-9	Purchase of street light locator 7k, and Vibraplater 16k	\$23,000
TP - 219	City of Madera	AHS Grant - ITS Technology	CP-1	ITS Technology Enhancements	\$280,000
SRHP - 192	City of Madera	4th Street Traffic Signal Interconnect	TS-00022	Provide hardwire connection and coordinated timing plans for six (6) traffic signals along 4th Street at the following intersections: Sunset Avenue "I" Street "H" Street "G" Street Gateway Drive "D" Street	\$21,700
SRHP - 195	City of Madera	Cleveland/Granada Dr Traffic Signal	TS-00024	Install traffic signal at Cleveland Avenue. and Granada Dr.	\$556,000
SRHP - 199	City of Madera	HOPYQ Intersection Traffic Signals	TS-00023	Traffic signal modifications and intersection improvements at Howard Road, Olive Avenue, Pine Street, Yosemite Avenue & Q Street intersection	\$135,000
SRHP - 206	City of Madera	Sunrise Avenue	M7	Traffic Signal	\$385,000
SRHP - 207	City of Madera	Yosemite Avenue	M5	Traffic Signal	\$600,000
SRHP - 259	Madera County	Road 36	MC17	Traffic Signal	\$320,000
PP - 65	City of Madera	Stadium Road/Gary Ln Hawk Pedestrian Signal	TS-00029	Installation of Hawk pedestrian signal at intersection of Stadium Road and Gary Lane	\$154,550
				Total	\$3,510,250



Table B-9 Unconstrained Projects

MCTC ID	Agency	Project Name	Project ID	Description	Total Cost
	State	State 99 - State Route 152 to Merced County Line Widening		4 Lanes to 6 Lanes	\$200,000,000
	Madera County/City of Madera	SR 145 Connector to Avenue 17 and State Route 99		New 2 Lane Road	\$45,000,000
	Caltrans/Madera County	State Route 41 - Avenue 15 Interchange		Interchange at Ave 15	\$45,000,000
	Caltrans/Madera County	State Route 41 - Avenue 15 to SR 145 Widening		3 Lanes to 4 Lanes	\$45,000,000
	City of Madera	Cleveland Ave - Road 26 to State Route 99 Widening		4 Lanes to 6 Lanes/Interchange Improvements	\$100,000,000
	City of Madera	Storey Rd - SR 145 to City Limit Widening		2 Lanes to 4 Lanes	\$3,000,000
	City of Madera	Ellis St - Interchange at State Route 99		New Interchange	\$75,000,000
SRHP - 290	Caltrans	SR 41 - TBD	CM-4	CAPM	\$ -
SRHP - 291	Caltrans	SR 41 TBD	CM-5	CAPM	\$ -
SRHP - 292	Caltrans	SR 41 Drainage Improvements	CM-6	TBD - Drainage Improvements at various locations.	\$ -
SRHP - 293	Caltrans	SR 152	CM-7	CAPM TBD Project Classification is a placeholder	\$ -
SRHP - 295	Caltrans	Downtown Madera Rehab	06-46130	In Madera County on SR 145 from Palm Parkway to Washington Road	\$ -
SRHP - 63	Caltrans	SR 41	C23	Pavement Rehab	\$ -
SRHP - 66	Caltrans	SR 41 Culvert Rehabilitation	06-0Y020	Culvert Rehabilitation	\$ -
SRHP - 69	Caltrans	TMS Detection Repair	06-0W180	Repair TMS detection metering systems	\$ -
SRHP - 70	Caltrans	TMS Element Upgrade/Repair	06-0V930	Upgrade and repair TMS elements	\$ -
PP - 20	City of Chowchilla	Robertson Blvd & S 11th Street	1	Install crosswalks on all approaches. Install curb extensions to reduce the pedestrian crossing distances and reduce corner turn radii. Consider this as part of the Robertson Blvd Complete Streets Study or as a standalone SRTS project. Install audible ped	\$ -
PP - 21	City of Chowchilla	Kings Avenue	2	Sidewalk gap closures & crossing improvements throughout corridor	\$ -



PP - 22	City of Chowchilla	11th Street	3	Sidewalk gap closures & crossing improvements throughout corridor	\$ -
PP - 23	City of Chowchilla	S 11th Street & Humboldt Avenue	4	Stripe high-visibility crosswalks on all approaches. Install curb extensions to reduce the pedestrian crossing distances and calm traffic in front of the High School.	\$ -
PP - 24	City of Chowchilla	Ventura Avenue	5	Add marked crosswalks across Ventura Avenue near the Medical Center and intermittently along the corridor to highlight where major pedestrian flows occur. Install curb extensions at these locations to increase pedestrian visibility around parked cars	\$ -
PP - 25	City of Chowchilla	Riverside Avenue	6	Sidewalk gap & crossing improvements throughout corridor	\$ -
PP - 26	City of Chowchilla	N 15th Street & Gill Way	7	Install high-visibility crosswalk and curb extensions on the westbound and northbound approaches to make pedestrians better visible to traffic and slow vehicles near the park	\$ -
PP - 27	City of Chowchilla	S 8th Street	8	Sidewalk gap & crossing improvements throughout corridor	\$ -
PP - 28	City of Chowchilla	Stephens Elementary School - 6th Street Improvements	9	Sidewalk gap & crossing improvements throughout corridor. Install high-visibility crosswalks near Stephens Elementary School. Install Rapid Rectangular Flashing Beacons and curb extensions at uncontrolled crossings	\$ -
PP - 29	City of Chowchilla	SR 233 (Yosemite)	10	Sidewalk gap & crossing improvements throughout corridor	\$ -
PP - 43	City of Chowchilla	Chowchilla Neighborhoods	2	Pedestrian Facilities	\$ -
PP - 44	City of Chowchilla	Ash Slough	3	Riverwalk	\$ -
PP - 45	City of Chowchilla	Pedestrian Facilities	4	Pedestrian Facilities	\$ -
PP - 46	City of Chowchilla	Monterey Avenue	5	Construct Pedestrian Facilities	\$ -
PP - 47	City of Chowchilla	School	6	Construct Pedestrian Facilities	\$ -
BTP - 130	City of Madera	Granada Drive	16.B	Capital Improvements Alternative - Widen Existing Automobile Bridge	\$ -



BTP - 162	City of Madera	Cleveland to Sunset Trail	32.B	Capital Improvements	\$ -
BTP - 164	City of Madera	Fresno River Trail Extension	33.A	Capital Improvements	\$ -
BTP - 168	City of Madera	Irrigation Canal Trail (North)	35.B	Capital Improvements	\$ -
BTP - 82	City of Madera	Bike Lane Improvements Various Locations	R-000089	Installation of bike lane at various locations to provide connectivity from the proposed Veteran's housing located at the intersection of 5th Street and C Street, to key destinations such as childcare, grocery stores, library, medical clinics, public	\$ -
BTP - 92	City of Madera	Gateway Drive	4.A	Capital Improvements - Widen SR-99 Interchange	\$ -
BTP - 98	City of Madera	N Westberry Boulevard	6.B	Capital Improvements	\$ -
PP - 1	City of Madera	SR 145 (E Yosemite Avenue)	1	Sidewalks on NB side.	\$ -
PP - 10	City of Madera	James Madison Elementary School SRTS Pedestrian Improvements	12	Safe Routes to School Priority Sidewalk Gap Closure	\$ -
PP - 10	City of Madera	Pecan Avenue & Road 29	9	Install sidewalk and curb returns with ADA-compliance on all four corners. Minimize curb radii depending on design vehicles. Investigate the potential to reduce the number of vehicle lanes to minimize pedestrian crossing distances	\$ -
PP - 11	City of Madera	Alpha Elementary School & Madera South High School SRTS Pedestrian Improvements	14	Safe Routes to School Priority Sidewalk Gap Closure	\$ -
PP - 11	City of Madera	Sunset Avenue & Fairview Avenue	10	Stripe a high-visibility crosswalk and install a median pedestrian refuge island with Rapid Rectangular Flashing Beacons	\$ -
PP - 12	City of Madera	John Adams Elementary/Thomas Jefferson Middle SRTS Pedestrian Improvements	11	Safe Routes to School Priority Sidewalk Gap Closure	\$ -
PP - 12	City of Madera	Gateway Drive Pedestrian Access	15	Commercial District Priority Sidewalk Gap Closure	\$ -
PP - 13	City of Madera	James Madison Elementary School SRTS Pedestrian Improvements	12	Safe Routes to School Priority Sidewalk Gap Closure	\$ -
PP - 13	City of Madera	Northwest Downtown Pedestrian Access	16	Commercial District Priority Sidewalk Gap Closure	\$ -
PP - 14	City of Madera	Washington Elementary SRTS Pedestrian Improvements	13	Safe Routes to School Priority Sidewalk Gap Closure	\$ -
PP - 14	City of Madera	Multiple Corridors Priority Sidewalk Gap Improvements	17	Sidewalks, curb, and gutter. Install curb extensions where necessary.	\$ -
PP - 15	City of Madera	Alpha Elementary School & Madera South High School SRTS Pedestrian Improvements	14	Safe Routes to School Priority Sidewalk Gap Closure	\$ -



PP - 15	City of Madera	Multiple Corridors General Sidewalk Gap Improvements	18	Sidewalks, curb, and gutter. Install curb extensions where necessary.	\$ -
PP - 16	City of Madera	Gateway Drive Pedestrian Access	15	Commercial District Priority Sidewalk Gap Closure	\$ -
PP - 17	City of Madera	Northwest Downtown Pedestrian Access	16	Commercial District Priority Sidewalk Gap Closure	\$ -
PP - 18	City of Madera	Multiple Corridors Priority Sidewalk Gap Improvements	17	Sidewalks, curb, and gutter. Install curb extensions where necessary	\$ -
PP - 19	City of Madera	Multiple Corridors General Sidewalk Gap Improvements	18	Sidewalks, curb, and gutter. Install curb extensions where necessary	\$ -
PP - 2	City of Madera	Sunset Avenue & N Westberry Blvd	3	Stripe high-visibility crosswalks on all approaches	\$ -
PP - 2	City of Madera	SR 145 (E Yosemite Avenue)	1	Sidewalks on NB side	\$ -
PP - 3	City of Madera	National Avenue & N Schnoor Street	4	Stripe high-visibility crosswalks on all approaches	\$ -
PP - 3	City of Madera	Yosemite Avenue & Elm Street	2	Stripe a high-visibility crosswalk across eastbound approach with a Pedestrian Hybrid Beacon and median Island Refuge for two-stage crossings. Consider the removal of the Eastbound right-turn lane to reduce the number of auto-pedestrian conflicts	\$ -
PP - 4	City of Madera	W 3rd Street & N Schnoor Street	5	Stripe high-visibility crosswalks on all approaches	\$ -
PP - 4	City of Madera	Sunset Avenue & N Westberry Blvd	3	Stripe high-visibility crosswalks on all approaches	\$ -
PP - 5	City of Madera	N D Street & E South Street	6	Stripe high-visibility crosswalks on all approaches. Install curb extensions to reduce the pedestrian crossing distance	\$ -
PP - 5	City of Madera	National Avenue & N Schnoor Street	4	Stripe high-visibility crosswalks on all approaches	\$ -
PP - 6	City of Madera	N D Street & Riverside Drive	7	Install high-visibility crosswalks along D Street to provide better access to the trail. Enhance the trail crossing with a Rapid Rectangular Flashing Beacon across D Street. Install a northbound left-turn lane. Install curb extensions	\$ -
PP - 6	City of Madera	W 3rd Street & N Schnoor Street	5	Stripe high-visibility crosswalks on all approaches	\$ -
PP - 7	City of Madera	Clinton Street Crossings	8	Stripe high-visibility crosswalks on all approaches	\$ -
PP - 7	City of Madera	N D Street & E South Street	6	Stripe high-visibility crosswalks on all approaches. Install curb extensions to reduce the pedestrian crossing distance	\$ -



PP - 8	City of Madera	Pecan Avenue & Road 29	9	Install sidewalk and curb returns with ADA-compliance on all four corners. Minimize curb radii depending on design vehicles. Investigate the potential to reduce the number of vehicle lanes to minimize pedestrian crossing distances	\$ -
PP - 8	City of Madera	N D Street & Riverside Drive	7	Install high-visibility crosswalks along D Street to provide better access to the trail. Enhance the trail crossing with a Rapid Rectangular Flashing Beacon across D Street. Install a northbound left-turn lane. Install curb extensions	\$ -
PP - 9	City of Madera	Clinton Street Crossings	8	Stripe high-visibility crosswalks on all approaches	\$ -
PP - 9	City of Madera	John Adams Elementary/Thomas Jefferson Middle SRTS Pedestrian Improvements	11	Safe Routes to School Priority Sidewalk Gap Closure	\$ -
SRHP - 100	City of Madera	Clark Bridge	M58	Reconstruction	\$ -
SRHP - 193	City of Madera	Almond/Granada	M69	Traffic Signal	\$ -
SRHP - 194	City of Madera	Almond/Schnoor	M70	Traffic Signal	\$ -
SRHP - 198	City of Madera	Granada/Riverview	M72	Traffic Signal	\$ -
SRHP - 202	City of Madera	Olive/Monterey	M73	Traffic Signal	\$ -
SRHP - 203	City of Madera	Schnoor/Dutra	M74	Traffic Signal	\$ -
SRHP - 204	City of Madera	Schnoor/Jefferson	M75	Traffic Signal	\$ -
SRHP - 205	City of Madera	Sherwood/Lake	M76	Traffic Signal	\$ -
SRHP - 321	City of Madera	City of Madera X-26	X-26	Bridge Improvements	\$ -
SRHP - 323	City of Madera	City of Madera X-27	X-27	Bridge Improvements	\$ -
SRHP - 326	City of Madera	City of Madera X-30	X-30	Bridge Improvements	\$ -
TP - 21	City of Madera	Operations & Maintenance #16	OM-16	MAX/DAR Operating Expenses	\$5,312,143
TP - 22	City of Madera	Operations & Maintenance #17	OM-17	MAX/DAR Operating Expenses	\$5,577,750
TP - 23	City of Madera	Operations & Maintenance #18	OM-18	MAX/DAR Operating Expenses	\$5,856,638
TP - 24	City of Madera	Operations & Maintenance #19	OM-19	MAX/DAR Operating Expenses	\$6,149,470
TP - 25	City of Madera	Operations & Maintenance #20	OM-20	MAX/DAR Operating Expenses	\$6,456,943



TP - 256	City of Madera	Operation & Maintenance #76	OM-76	City of Madera Transit Operation & Maintenance #76	\$ -
TP - 257	City of Madera	Operation and Maintenance #77	OM-77	City of Madera Operation & Maintenance #77	\$ -
TP - 258	City of Madera	Operations and Maintenance #78	OM-78	City of Madera Transit Operation & Maintenance #78	\$ -
TP - 259	City of Madera	Operation and Maintenance #79	OM-79	Operation & Maintenance #79	\$ -
TP - 26	City of Madera	Operations & Maintenance #21	OM-21	MAX/DAR Operating Expenses	\$6,779,790
TP - 260	City of Madera	Operation and Maintenance #80	OM-80	City of Madera Operation & Maintenance #80	\$ -
TP - 261	City of Madera	Operation and Maintenance #81	OM-81	City of Madera Transit Operation & Maintenance #81	\$ -
TP - 262	City of Madera	Operation and Maintenance #82	OM-82	City of Madera Transit Operation & Maintenance #82	\$ -
TP - 263	City of Madera	Operation and Maintenance #83	OM-83	City of Madera Transit Operation & Maintenance #83	\$ -
TP - 264	City of Madera	Operation and Maintenance #84	OM-84	City of Madera Transit Operation & Maintenance #84	\$ -
TP - 265	City of Madera	Operation and Maintenance #85	OM-85	City of Madera Transit Operation & Maintenance #85	\$ -
TP - 266	City of Madera	Operation and Maintenance #86	OM-86	City of Madera Transit Operation & Maintenance #86	\$ -
TP - 267	City of Madera	Operation & Maintenance #87	OM-87	City of Madera Transit Operation & Maintenance #87	\$ -
TP - 268	City of Madera	Operation and Maintenance #88	OM-88	City of Madera Transit Operation & Maintenance #88	\$ -
TP - 269	City of Madera	Operation and Maintenance #89	OM-89	City of Madera Transit Operation & Maintenance #89	\$ -
TP - 27	City of Madera	Operations & Maintenance #22	OM-22	MAX/DAR Operating Expenses	\$7,118,780
TP - 270	City of Madera	Operation and Maintenance #90	OM-90	City of Madera Transit Operation & Maintenance #90	\$ -
TP - 28	City of Madera	Operations & Maintenance #23	OM-23	MAX/DAR Operating Expenses	\$7,474,719
TP - 29	City of Madera	Operations & Maintenance #24	OM-24	MAX/DAR Operating Expenses	\$7,848,455
TP - 30	City of Madera	Operations & Maintenance #25	OM-25	MAX/DAR Operating Expenses	\$8,240,877
TP - 97	City of Madera	New Maintenance/Admin Yard #2	TSM-2	Construction of New Maintenance/Administration Yard	\$6,000,000
TP - 98	City of Madera	Solar Parking Structure	TSM-3	Construction Solar Parking Structure	\$3,000,000
BTP - 20	Madera County	Fairmead Connector (Fairmead Boulevard)	1.A	Capital Improvements - Widen Shoulders and add Rumble Strips	\$4,370,256
BTP - 27	Madera County	Avenue 24	7.A	Capital Improvements - Widen Shoulders and add Rumble Strips	\$10,925,640
BTP - 28	Madera County	Fairmead Connector (Fairmead Boulevard)	8.A	Capital Improvements - Widen Shoulders and add Rumble Strips	\$8,243,892
BTP - 30	Madera County	Fairmead Connector (Golden State Boulevard)	8.C	Capital Improvements - Widen Shoulders and add Rumble Strips	\$6,555,384



BTP - 40	Madera County	Ellis Street	12.B	Capital Improvements	\$6,080,000
BTP - 49	Madera County	Bass Lake Loop Multi-Use Path	18.A	Feasibility Study	\$ -
BTP - 50	Madera County	Bass Lake Loop Bike Route (Road 222)	19.A	Capital Improvements - Widen Shoulders and add Rumble Strips Alternative: Signing and Striping where widening not feasible	\$ -
BTP - 51	Madera County	Bass Lake Loop Bike Route (Road 274)	19.B	Capital Improvements - Widen Shoulders and add Rumble Strips Alternative: Signing and Striping where widening not feasible	\$18,871,560
BTP - 53	Madera County	North Fork Route (Road 274)	21.A	Capital Improvements - Add Rumble Strips	\$12,415,500
BTP - 54	Madera County	North Fork Route (Road 225/Road 222)	21.B	Capital Improvements - Widen Shoulders and add Rumble Strips	\$866,326
BTP - 55	Madera County	North Fork Route (North Fork Road)	21.C	Capital Improvements - Add Rumble Strips	\$10,484,200
BTP - 56	Madera County	Fine Gold Route (North Fork Road)	22.A	Capital Improvements - Add Rumble Strips	\$39,177,800
BTP - 59	Madera County	SR 41 Complete Streets	24.A	Complete Streets Corridor Study	\$6,988,800
BTP - 63	Madera County	Crane Valley Road (Road 426)	26.B	Capital Improvements - Widen Shoulders and add Rumble Strips	\$19,423,360
BTP - 64	Madera County	SR 41 Route	27.A	Capital Improvements - Widen Shoulders and add Rumble Strips	\$24,361,970
BTP - 65	Madera County	SR 41 Route	27.B	Capital Improvements - Widen Shoulders and add Rumble Strips	\$75,044,800
BTP - 66	Madera County	SR 41 Route	27.C	Capital Improvements - Rolling Hills Utilities Trails/SR 41 Parallel	\$5,112,000
BTP - 67	Madera County	Road 204	28.A	Future Development	\$8,870,400
BTP - 68	Madera County	Avenue 15	29.A	Future Development	\$47,712,000
BTP - 69	Madera County	Rio Mesa Boulevard	30.A	Future Development	\$14,179,200
BTP - 70	Madera County	Avenue 12	31.A	Future Development	\$7,459,200
BTP - 71	Madera County	San Joaquin River Trail	32.A	Future Development	\$36,422,400
BTP - 73	Madera County	Friant Connector (North Fork Road)	33.B	Capital Improvements	\$6,944,000
BTP - 74	Madera County	Children f t s Boulevard (Avenue 9)	34.A	Capital Improvements	\$7,040,000
BTP - 78	Madera County	Raymond Road (Road 600)	38.A	Capital Improvements - Widen Shoulders and add Rumble Strips Alternative: Class I Multi-use Path	\$3,972,960
PP - 30	Madera County	Raymond Road & South Street	1	Install a Rectangular Rapid Flashing Beacon (RRFB) and high-visibility crosswalk striping across Raymond Road to provide access to Raymond-Knowles Elementary School	\$ -



PP - 31	Madera County	Country Club Drive (Road 26) & Martin Street	2	Install a Pedestrian Hybrid Beacon or Traffic Signal adjacent to the existing Jack G. Desmond Middle School to provide pedestrian access to both schools	\$ -
PP - 32	Madera County	Avenue 16 1/2 & Paula Road	3	Install a high-visibility crosswalk on the westbound approach to provide access to Sierra View Elementary School	\$ -
PP - 33	Madera County	Avenue 12 & Fernwood Drive	4	Install a high-visibility crosswalk on the eastbound approach with a Rapid Rectangular Flashing Beacon (RRFB) to enhance the accessibility of transit facilities. Consider restricting left-turns onto Fernwood from Avenue 12 to provide a pedestrian refuge	\$ -
PP - 34	Madera County	Avenue 12	5	Sidewalk Gap Closure: Construct a sidewalk on the north side Avenue 12 between Road 36 and Topper Road to provide access to Liberty High School and Ranchos Middle School	\$ -
PP - 35	Madera County	Road 36 & Blossom Avenue	6	Pedestrian Hybrid Beacon (PHB) & ADA Improvements: Install a Pedestrian Hybrid Beacon on the south side of the intersection that also facilitates the proposed Bicycle Boulevard crossing. Install an ADA-accessible curb ramp and landing on the east side	\$ -
PP - 36	Madera County	Avenue 22 3/4 & Maple Street	7	Install high-visibility crossings on all approaches to provide access to Fairmead Elementary School. Assess the feasibility of installing all-way stop control	\$ -
PP - 37	Madera County	Multiple Corridors	8	Sidewalk Gap Closure: Construct sidewalk gaps (multiple corridors - see map)	\$ -
PP - 38	Madera County	Maple Street	9	Class I Multi-Use Path: Install a Class I Multi-Use Side Path between Avenue 23 and Fairmead Boulevard to provide access to Fairmead Elementary School	\$ -
PP - 39	Madera County	High School Road	10	Class I Multi-Use Path Connection: Install a multi-use path from Oakhurst Elementary School to Yosemite High School. Transition from the north side of High School Road to the south side at the Indian Springs Road intersection with a Rectangular Rapid Fla	\$ -



PP - 40	Madera County	SR 41	11	Complete Streets Corridor Study: Include an assessment of sidewalk gaps, enhanced midblock crossings, reduced crossing distances, pedestrian-scale lighting, wayfinding, and transit accessibility.	\$ -
PP - 41	Madera County	Road 225 (Amber Ln) & Road 274	12	Sidewalk gap closure Install a Class I Multi-Use Path between Amber Ln and a pedestrian/bicycle bridge	\$ -
PP - 53	Madera County	Various	17	Streetscape	\$3,000,000
PP - 54	Madera County	Various	18	Streetscape	\$1,000,000
SRHP - 263	Madera County	Ave. 9 Grade Separation Project - 4-Lane Structure over the BNSF RR Tracks (Approximately at Road 33 1/2)	MC59	Grade Separation Project	\$ -
SRHP - 329	Madera County	Madera County X-35	X-35	BNSF RR Grade Separation Project	\$ -
SRHP - 333	Madera County	Madera County X-36	X-36	Traffic Calming/Complete Street Project	\$ -
SRHP - 336	Madera County	Madera County X-41	X-41	Intersection Improvements	\$ -
TP - 103	Madera County	Electric Fleet Infrastructure #4	TFEC-8	Installation of Electric Fleet Infrastructure	\$1,573,000
TP - 168	Madera County	Bus Replacement #65	BR-65	Purchase 1 SENIOR Bus	\$429,885
TP - 169	Madera County	Bus Replacement #66	BR-66	Purchase 4 MCC Buses	\$1,771,124
TP - 68	Madera County	Operations & Maintenance #63	OM-63	Madera County Transit Operating Expenses	\$2,119,653
TP - 69	Madera County	Operations & Maintenance #64	OM-64	Madera County Transit Operating Expenses	\$2,225,636
TP - 70	Madera County	Operations & Maintenance #65	OM-65	Madera County Transit Operating Expenses	\$2,336,918
TP - 71	Madera County	Operations & Maintenance #66	OM-66	Madera County Transit Operating Expenses	\$2,453,764
TP - 72	Madera County	Operations & Maintenance #67	OM-67	Madera County Transit Operating Expenses	\$2,576,452
TP - 73	Madera County	Operations & Maintenance #68	OM-68	Madera County Transit Operating Expenses	\$2,705,274
TP - 74	Madera County	Operations & Maintenance #69	OM-69	Madera County Transit Operating Expenses	\$2,840,538
TP - 75	Madera County	Operations & Maintenance #70	OM-70	Madera County Transit Operating Expenses	\$2,982,565
TP - 76	Madera County	Operations & Maintenance #71	OM-71	Madera County Transit Operating Expenses	\$3,131,693
TP - 77	Madera County	Operations & Maintenance #72	OM-72	Madera County Transit Operating Expenses	\$3,288,278
TP - 78	Madera County	Operations & Maintenance #73	OM-73	Madera County Transit Operating Expenses	\$3,452,692
TP - 79	Madera County	Operations & Maintenance #74	OM-74	Madera County Transit Operating Expenses	\$3,625,326



TP - 80	Madera County	Operations & Maintenance #75	OM-75	Madera County Transit Operating Expenses	\$3,806,593
BTP - 81	MCTC	Various	21	Class I, II, III Bicycle Facilities	\$1,250,000



APPENDIX C Noise Impact Assessment Analysis Worksheets

MCTC 2022 Regional Transportation Plan/Sustainable Communities Strategy
DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT

REPORT:	Results: Sound Levels - No Barrier Objects		
TNM VERSION	3.1.7970.37608	REPORT DATE:	22 June 2022
CALCULATED WITH:	3.1.7970.37608	CALCULATION DATE:	6/22/2022 11:15:59 PM
CASE:	Existing Conditions	ORGANIZATION:	MCTC
UNITS:	English	ANALYSIS BY:	
DEFAULT GROUND TYPE:	HardSoil	PROJECT/CONTRACT	2022 RTP/SCS
ATMOSPHERICS:	68°F, 50%	Average pavement type shall be used unless a state highway agency substantiates the use of a different type with approval FHWA.	
PAVEMENT TYPE(S) USED:	Average		

Receiver				Modeled Traffic Noise Levels				
Name	No.	Nb. R.R.	Existing LAeq dBA	LAeq		Increase over Existing		Type of Impact
				Calc.	Absolute Criterion	Calc.	Relative Criterion	
				dBA	dBA	dBA	dBA	
Receiver 1-1	1	1	---	70.3	0.0	---	---	Sound Level

MCTC 2022 Regional Transportation Plan/Sustainable Communities Strategy
DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT

REPORT:	Results: Sound Levels - No Barrier Objects		
TNM VERSION	3.1.7970.37608	REPORT DATE:	22 June 2022
CALCULATED WITH:	3.1.7970.37608	CALCULATION DATE:	6/22/2022 11:23:46 PM
CASE:	2019 Base Conditions	ORGANIZATION:	MCTC
UNITS:	English	ANALYSIS BY:	
DEFAULT GROUND TYPE:	HardSoil	PROJECT/CONTRACT	2022 RTP/SCS
ATMOSPHERICS:	68°F, 50%	Average pavement type shall be used unless a state highway agency substantiates the use of a different type with approval FHWA.	
PAVEMENT TYPE(S) USED:	Average		

Receiver				Modeled Traffic Noise Levels				
Name	No.	Nb. R.R.	Existing LAeq dBA	LAeq		Increase over Existing		Type of Impact
				Calc.	Absolute Criterion	Calc.	Relative Criterion	
				dBA	dBA	dBA	dBA	
Receiver 1-1	1	1	---	60.1	0.0	---	---	Sound Level

MCTC 2022 Regional Transportation Plan/Sustainable Communities Strategy
DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT

REPORT: **Results: Sound Levels - No Barrier Objects**

TNM VERSION	3.1.7970.37608	REPORT DATE:	22 June 2022
CALCULATED WITH:	3.1.7970.37608	CALCULATION DATE:	6/22/2022 11:26:43 PM
CASE:	2046 Build Conditions	ORGANIZATION:	MCTC
UNITS:	English	ANALYSIS BY:	
DEFAULT GROUND TYPE:	HardSoil	PROJECT/CONTRACT	2022 RTP/SCS
ATMOSPHERICS:	68°F, 50%	Average pavement type shall be used unless a state highway agency substantiates the use of a different type with approval FHWA.	
PAVEMENT TYPE(S) USED:	Average		

Receiver				Modeled Traffic Noise Levels				
Name	No.	Nb. R.R.	Existing LAeq dBA	LAeq		Increase over Existing		Type of Impact
				Calc.	Absolute Criterion	Calc.	Relative Criterion	
				dBA	dBA	dBA	dBA	
Receiver 1-1	1	1	---	62.4	0.0	---	---	Sound Level