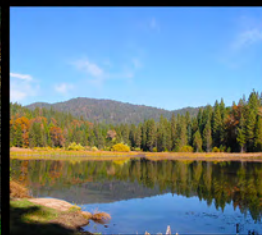


MCTC 2011 REGIONAL TRANSPORTATION PLAN

DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT



Draft Subsequent Environmental Impact Report
for the
MCTC 2011
Regional Transportation Plan

April 30, 2010

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1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that a Draft Environmental Impact Report (DEIR) be prepared and distributed for a 45-day 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 45-day 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 (reference Appendix A) and during development of the Madera County Transportation Commission (MCTC) 2011 Regional Transportation Plan (RTP).

1.2 FORMAT AND SCOPE

This document has been prepared to address written comments received from interested individuals and agencies regarding the NOP prepared for the Regional Transportation Plan and to comply with requirements of CEQA. The forty-five day Draft SEIR review and comment period begins on April 30, 2010 and will end on June 14, 2010.

The Draft SEIR is composed of the following documents:

- ◆ 2011 Regional Transportation Plan, Draft Environmental Impact Report, April 30, 2010; and
- ◆ 2011 Air Quality Conformity Finding.

1.3 PROJECT DESCRIPTION

The project, as defined by CEQA Statutes, Section 21065, is the preparation of the 2011 revision of the RTP. MCTC has prepared the RTP 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 Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The RTP must also meet Transportation Conformity for the Air Quality Attainment Plan per 40 CFR Part 51 and 40 CFR Part 93. In addition, the RTP must address requirements set forth in Assembly Bill 32, the California Global Warming Solutions Act of 2006. Finally, the California Transportation Commission has prepared guidelines (most recently adopted by the Commission on September 20, 2007 plus an Addendum addressing Climate Change and Greenhouse Gas Emissions adopted by the Commission on May 29, 2008) to assist in the preparation of RTPs pursuant to Section 14522 of the Government Code.

As the designated Regional Transportation Planning Agency (RTPA), MCTC is mandated by state and federal law to update the Regional Transportation Plan every four (4) years. The last comprehensive EIR on the RTP was completed in May 2007, which addressed transportation improvement projects, programs, and funding reflected in the 2007 RTP together with additional funding from the proposed (now approved) ½ Cent Sales Tax Measure Extension (Measure "T"). Measure "C" did receive the 2/3rds voter approval required in order to pass in the November 2006 election. The 2011 revision to the RTP has been prepared to address possible environmental impacts resulting from implementation of the RTP and sources of funding that are available for programming.

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 will be addressed by this SEIR. The RTP is also used as a transportation planning document by each of the three 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 2011 RTP include Climate Change, Environmental Justice, Goods Movement, and Blueprint Planning. In addition, the 2011 RTP includes updated project lists and updated performance measures.

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

- ◆ **Chapter 1.** Executive Summary
- ◆ **Chapter 2.** San Joaquin Valley Regional Transportation Overview
- ◆ **Chapter 2.** Regional Setting, State and Planning Assumptions
- ◆ **Chapter 3.** Policy Element
- ◆ **Chapter 4.** Action Element
- ◆ **Chapter 5.** Financial Element
- ◆ **Chapter 6.** Blueprint Planning
- ◆ **Chapter 7.** Environmental Considerations and Environmental Justice
- ◆ **Chapter 8.** Performance Monitoring Program
- ◆ **Appendices**

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

The following section provides a summary of the impacts, mitigation measures, and the environmental determination associated with each of the environmental areas included in the NOP. The NOP determined that a Program EIR is required for the Regional Transportation Plan or "Project" because it could result in significant environmental impacts. The NOP concluded that adoption of the Regional Transportation Plan would result in less than significant impacts on the following environmental issue areas if applicable policies and standards were applied:

- ◆ Recreation; and
- ◆ Mineral Resources.

This EIR analyzes the Regional Transportation Plan's effects on the following environmental issue areas:

- ◆ Aesthetics;
- ◆ Agricultural Resources;
- ◆ Air Quality;
- ◆ Biotic Resources;
- ◆ Climate Change;
- ◆ Cultural Resources;
- ◆ Geology/Soils;
- ◆ Hazards & Hazardous Materials;
- ◆ Hydrology/Water Quality;

- ◆ Land Use/Planning;
- ◆ Noise;
- ◆ Population/Housing;
- ◆ Public Utilities, Other Utilities & Services Systems;
- ◆ Social and Economic Effects; and
- ◆ Transportation/Traffic.

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

The environmental impact analysis and mitigation measure evaluation is organized in Section 4 of this Draft EIR by environmental issue area. Each issue contains a section describing the following:

- ◆ **Criteria for Significance** - The standard by which impacts are measured or the threshold of significance.
- ◆ **Impact** - A description of each impact associated with an environmental issue area. Each impact will be listed by number for future reference.
- ◆ **Mitigation Measures** - A description of the measure to reduce or avoid a significant impact.
- ◆ **Significance After Mitigation** - A statement indicating whether the mitigation measure will reduce an impact to a level less than significant.

Based on findings identified in Section 5 of this EIR, projects contained in the 2011 RTP, the preferred alternative is the Environmentally 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 SAFETEA-LU and air quality conformity requirements. Further, this alternative focuses on "traditional" land use planning activities, i.e., designation of planned growth and development consistent with established land use density policies. This includes the designation of urban development consistent with adopted local agency General Plans.

IMPACTS AND MITIGATION MEASURES

Aesthetics

Impact 3.1.1 – Obstruction of Views

Construction and implementation of individual 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 could potentially block or impede views of scenic resources in a given area. For example, construction of highways could block or impede views of area mountains 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 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.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The project implementation agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ Implement design guidelines, local policies, and programs aimed at protecting views of scenic corridors and avoiding visual intrusions.
- ◆ 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

This impact is considered significant and unavoidable, because it is likely that there will be situations where visual impacts cannot be mitigated to a less than significant level.

Impact 3.1.2 – Altered Appearance of Scenic Resources

Construction and implementation of the projects could alter the appearance of scenic resources along or near designated scenic highways and vista points. 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 scenic corridor.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The project implementation agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

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

Significance After Mitigation

This impact is considered significant and unavoidable because it is likely that there will be situations where visual impacts cannot be mitigated to a less than significant level.

Impact 3.1.3 – Development of Previously Undeveloped Sites with Visual Qualities

Construction and implementation of the projects 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. 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.

Development of previously undeveloped sites could result in impacts to visual resources. Construction of a new transportation system through a developed area 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

All mitigation measures will be included in project-level analysis, as appropriate. The project implementation agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ Develop design guidelines for each type of transportation facility that make elements of proposed facilities 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 will be designed in a manner where the surrounding landscape dominates
 - Transportation systems 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
- ◆ Project implementation agencies shall design projects to minimize contrasts in scale and massing between the project and surrounding natural forms and development. Project implementation agencies shall 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 shall be designed to add significant natural elements and visual interest to soften the hard-edged, linear travel experience that would otherwise occur.
- ◆ Project implementation agencies shall use natural landscaping to minimize contrasts between the project and surrounding areas. Wherever possible, interchanges and transit lines shall 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 shall replace and renew landscaping to the greatest extent possible along corridors with road widenings, interchange projects, and related improvements. New corridor landscaping shall be designed to respect existing natural and man-made features and to complement the dominant landscaping of surrounding areas.
- ◆ Project implementation agencies shall 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 shall 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

This impact is considered significant and unavoidable, because it is likely that there will be situations where visual impacts cannot be mitigated to a less than significant level.

Impact 3.1.4 – New Sources of Light and Glare

Construction and implementation of individual 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 two 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

All mitigation measures will be included in project-level analysis, as appropriate. The project implementation agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ Develop design guidelines for each type of transportation facility that make light elements of proposed facilities visually compatible with surrounding areas. The following methods will be employed whenever possible:
 - Transportation systems will be designed in a manner where the surrounding landscape dominates
 - Transportation systems 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

This impact is considered significant and unavoidable because it is likely that there will be situations where visual impacts cannot be mitigated to a less than significant level.

Cumulative Impacts 3.1.5

Madera County will experience significant growth and development by 2035. The 2011 RTP influences the pattern of this development, by increasing mobility and including transportation measures. At the regional scale, the 2011 RTP's contribution to impacts on the overall visual character of the existing landscape setting would be cumulatively significant.

The 2011 RTP includes 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 2011 RTP emphasizes focusing development in accordance with applicable general plans, or infill development. Infill 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.

The region will increase in population and employment by 2035. 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 25 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

- ◆ Mitigation measures identified above should also be implemented as applicable to development projects throughout the region.
- ◆ In visually sensitive site areas and prior to project approval, local land use agencies shall apply development standards and guidelines to maintain compatibility with surrounding natural areas, including site coverage, building height and massing, building materials and color, landscaping, site grading, etc.
- ◆ Local agencies should develop design guidelines for each type of transportation facility that make light elements of proposed facilities visually compatible with surrounding areas. The following methods will be employed whenever possible:
 - Transportation systems will be designed in a manner where the surrounding landscape dominates;
 - Transportation systems will be developed to be compatible with the surrounding environment; and
 - Lighting devices will be employed such as downward facing light, light shields, and amber lumens.

Significance After Mitigation

This impact is considered significant and unavoidable because it is likely that there will be situations where visual impacts cannot be mitigated to a less than significant level.

Agricultural Resources

Impact 3.2.1 - Changes in Land Use Patterns

Strategies aimed at addressing the transportation needs of future growth patterns were considered during development of the proposed 2011 RTP. The document promotes alternatives to the automobile through enhanced funding (beyond that identified in the 2011 RTP) for transit and other alternative modes of transportation such as bicycle facilities, trails, airport improvements, and others. Implementation of strategies proposed in the RTP 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. Land use and transportation policies are emphasized in the 2011 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 2011 RTP. 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.

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 projects in the Plan could have significant impacts on land use patterns, potentially causing land use growth and development to occur in areas not previously envisioned for growth and development. This impact could be especially significant on agricultural land uses within the County.

Mitigation Measures

The impact on significant agricultural resources will be evaluated as part of the appropriate improvement project-specific environmental review. Mitigation measures will be identified to minimize impacts. Implementation agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with all mitigation measures.

- ◆ Individual projects will be consistent with local land use plans and policies that designate areas for urban land use and preserve agricultural lands that support the economic viability of agricultural activities.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will conduct the appropriate project-specific environmental review, including consideration of potential land use impacts.

Significance After Mitigation

While implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts, it is probable that such impacts will remain significant and unavoidable.

Impact 3.2.2 – Loss of Agricultural Land

Implementation of the proposed Project could potentially result in the disturbance or loss of significant agricultural resources throughout the Madera region. This would be considered a potentially significant impact.

The Madera region contains areas designated by the State as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. These areas are interspersed throughout urban areas or are located in undeveloped portions

of the region. Development of proposed projects could potentially result in the disturbance or loss of some of these designated areas. Specifically, new projects involving construction would be most likely to result in impacts to these areas.

Mitigation Measures

The impact on significant agricultural resources will be evaluated as part of the appropriate improvement project-specific environmental review. Mitigation measures will be identified to minimize impacts. Implementation agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with all mitigation measures.

- ◆ 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.
- ◆ For projects in agricultural areas, project implementation agencies will contact the California Department of Conservation and the County Agriculture Department's office to identify the location of prime farmlands and lands that support crops considered valuable to the local or regional economy.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will establish conservation easement programs to mitigate impacts to prime farmland.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will avoid impacts to prime farmlands or farmlands that support crops considered valuable to the local or regional economy.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will encourage enrollments of agricultural lands for counties that have Williamson Act programs.

Significance After Mitigation

While implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts, it is probable that such impacts will remain significant and unavoidable.

Air Quality

Short-Term Construction Impacts

Impact 3.3.1 – Project Construction Impacts on Air Quality

Construction activities could increase short-term air emissions. This could be considered a less than significant impact.

Short-term impacts could result from the following construction-related sources:

- ◆ Construction equipment emissions
- ◆ Dust from grading and earthmoving operations
- ◆ Emissions from workers' vehicles traveling to and from construction sites

As individual transportation improvements are constructed, the activity at individual construction sites will involve grading and other earth-moving operations and the use of diesel and gasoline-powered construction equipment. These could generate exhaust emissions of carbon monoxide and nitrogen dioxide at the individual construction sites. Where asphalt is used, volatile organic compounds (VOC) could be released from asphalt when it is applied to the roadways' surfaces. If an individual construction site is located near existing homes or other sensitive receptors, such emissions could have the potential to result in significant short-term impacts at that particular location.

The Air District has developed thresholds of significance for individual construction projects. Project-level analysis conducted for CEQA purposes should estimate construction emissions for each individual improvement project based on the equipment used, vehicle miles traveled, and time allowed to complete the individual improvement project. Mitigation measures to reduce air quality impacts should be established in project-specific environmental documents. Some of the larger projects could have the potential to exceed the significance thresholds established by the District, creating significant short-term impacts. These impacts could occur in localized areas depending on the construction site locations, and could impact land uses, facilities and activities that may be occurring on these properties within vicinity of the projects requiring mitigation

Since the Project proposes more highway and arterial projects than the No Project Alternative, short-term construction emissions could be greater. However, construction-related impacts are expected to be temporary in nature and can generally be reduced to a less than significant level through the use of mitigation measures and through compliance with applicable existing city, county, state, and District regulations for reducing construction-related emissions. Therefore, the increase in construction activities proposed by the Project is expected to constitute a less than significant impact on a programmatic level. Nonetheless, individual projects may exceed the emissions thresholds, which could constitute project-level significant impacts. Individual projects shall be required to implement mitigation measures to reduce construction emissions as determined by the applicable analysis of such air quality project construction impacts.

Mitigation Measures

All mitigation measures shall be included in project-level analysis, as appropriate. The individual improvement project proponent or local jurisdiction shall be responsible for completing an air quality analysis and study to determine the project-specific air quality construction impacts and identify and provide the mitigation measures that shall reduce the impacts to a level of less than significant in accordance with the applicable air quality standards. Such air quality analysis and study shall identify the impacts on land uses, facilities and activities of properties within the vicinity of the project and shall identify and provide the mitigation measures that shall reduce the impacts to a

level of less than significant in accordance with the applicable air quality standards. The individual improvement project proponent or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures prior to and during the construction of the project. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with air quality.
- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations, and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors with regards to air quality.
- ◆ Project implementation agencies shall ensure implementation of mitigation measures to reduce PM₁₀ and NO_x emissions from construction sites, including:
 - Maintain on-site truck loading zones
 - Configure on-site construction parking to minimize traffic interference and to ensure emergency vehicle access
 - Provide temporary traffic control during all phases of construction activities to improve traffic flow
 - Use best efforts to minimize truck idling to not more than two minutes during construction
 - Apply non-toxic soil stabilizers (according to manufacturers' specifications) to all inactive construction areas.
 - During construction, replace ground cover in disturbed areas as quickly as possible
 - During construction, enclose, cover, water twice daily or apply non-toxic soil binders (according to manufacturers' specifications) to exposed piles with 5 percent or greater silt content and to all unpaved parking or staging areas or unpaved road surfaces
 - During the period of construction, install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip
 - During the period of construction, assure that traffic speeds on all unpaved roads be reduced to 15 mph or less
 - Pave all construction access roads at least 100 feet on to the site from permanent roadways
 - Cover all haul trucks
- ◆ The individual improvement project proponent or local jurisdiction shall address Regulation VIII under the San Joaquin Valley Air District for all construction sites and will constitute sufficient mitigation to reduce PM₁₀ impacts to a level considered less-than significant.

Significance After Mitigation

Less than significant.

Impact 3.3.2 – Point Source Impacts

Traffic conditions at some individual locations may lead to occasional localized carbon monoxide concentrations.

The proposed Project will improve traffic flows and reduce congestion system-wide, reducing the potential for carbon monoxide "hot spots" that can occur from exhaust of idling cars waiting to clear a heavily congested intersection or crossing. The Project is intended to reduce congested conditions throughout the system that is faced with a challenge to accommodate additional traffic generated by an increase in population projected by the Year 2035. While the proposed improvements will respond to this challenge by accommodating additional traffic and reducing congestion (brought by that additional traffic) system-wide, exhaust emissions from cars at localized areas may, at certain times, create a potential for carbon monoxide concentrations, or hot spots, to develop under adverse atmospheric conditions that prevent a rapid dispersion of carbon monoxide. Currently, the Air Basin is in attainment of federal and State standards for carbon monoxide, and the carbon monoxide emissions are not a serious problem in the Basin. Nonetheless, because there is a potential for exhaust emissions from cars at localized areas to create an occasional hot spot, the following mitigation measure is proposed.

Mitigation Measures

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the on-going use and operation of the project and the mitigation of impacts.
- ◆ Prior to commencing on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations; and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors, and all mitigation measures with regards to addressing air quality impacts.
- ◆ At those projects, facilities, and intersection locations near sensitive receptors where carbon monoxide concentrations may exceed federal and State standards based upon individual air quality impact assessments for individual projects, the individual improvement project proponent or local jurisdiction shall reduce or alleviate these concentrations by improving traffic flows through improved signalization, restriping, addition of traffic lanes, and other improvements identified as part of the environmental review of the project and the applicable mitigation measures.

Significance After Mitigation

The Project will result in beneficial effects of system-wide improvement in traffic flows and reduced congestion, which will reduce the potential for forming carbon monoxide hot spots. At some locations where instances of congested conditions may occur near sensitive receptors, implementation of identified mitigation measures is anticipated to ensure improved traffic flows such that the potential for creating a hot spot will be reduced to a less than significant level.

Long-Term Impacts

Impact 3.3.3 – Long-Term Regional Impacts

Emissions impacts related to the project are not considered to be significant. Table 3-5 in Chapter 3 identifies results of the air quality conformity results including the projected emissions of hydrocarbons, nitrogen oxides, carbon monoxide, volatile organic gases, and particulate emissions for the Project compared with the base or the emissions budgets. The analysis shows that project emissions do not exceed the base and budget thresholds established by EPA. While the project meets Conformity requirements, the Conformity Finding requires the implementation of TCMs to eventually result in improved air quality within the Valley.

Mitigation Measures

- ◆ The various TCMs that have been incorporated into the Air District AQAP, ROP Plans, and the SJVAPCD TCM Program, or have been identified as necessary to provide for positive air quality conformity findings, as referenced in the latest Air Quality Conformity Finding for the 2011 RTP and Federal Transportation Improvement Program (FTIP).
- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the on-going use and operation of the project and the mitigation of impacts associated with regards to addressing air quality impacts.
- ◆ Prior to commencing on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations; and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors, and all mitigation measures with regards to addressing air quality impacts.
- ◆ All applicable rules and regulations adopted by the Air District shall be followed by responsible and implementing agencies as individual improvement projects are designed, constructed and maintained. MCTC shall be provided with documentation indicating compliance with all project-specific mitigation measures applicable to the on-going use and operation of the project.

Significance After Mitigation

The Project will result in beneficial effects of system-wide improvement in traffic flows and reduced congestion and vehicle trips and vehicle miles traveled, which will reduce the potential for increased air emissions when compared to emissions budgets established by EPA. While TCMs have been identified in the Air Quality Conformity Finding, the TCMs will not result in attainment of all pollutants over time or by the year 2035. As a result, long-term emission impacts cannot be reduced to a less than significant level even with the addition of projects and programs outlined in the RTP.

Biotic Resources

Impact 3.4.1 – Removal or Degradation of Sensitive Natural Communities

The RTP includes 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

All mitigation measures will be included in subsequent project-level environmental analysis, as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for compliance with the mitigation measures during all phases of construction, as appropriate. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ When applicable to federally funded projects, MCTC and responsible agencies shall 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. MCTC and affected state and local agencies shall 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 shall 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.
- ◆ Construction and operational Best Management Practices (BMPs) will be identified, installed and maintained 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, sand bag check dams, dry season construction, etc.
- ◆ Native soils in construction areas will be removed, stockpiled separately, and replaced in those areas where onsite revegetation of the native habitat is planned.
- ◆ Any disturbed natural areas will be replanted with appropriate native vegetation following the completion of construction activities.
- ◆ During the individual improvement project design phase, impacts to jurisdictional waters and wetlands will be minimized to the greatest extent feasible.
- ◆ Project proponents will obtain and comply with appropriate regulatory requirements prior to construction.

Significance After Mitigation

These mitigation measures would require individual improvement project proponents to avoid or mitigate impacts to sensitive habitats, including jurisdictional waters and wetlands. However, due to the size and potentially large number of resources that could be disturbed as a result of the Project, impacts to these resources would remain a potentially significant impact at a regional level.

Impact 3.4.2 – Direct Impacts on Rare, Threatened, or Endangered Plant & Wildlife Species

The RTP includes projects that may result in direct impacts to plant and wildlife species including rare, threatened and/or endangered species during construction and operation of the proposed transportation facilities through the removal of native habitat.

Mitigation Measures

All mitigation measures will be included in subsequent project-level environmental analysis, as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for compliance with the mitigation measures during all phases of construction as appropriate. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ Each proposed individual improvement project will consider the displacement of sensitive habitat and sensitive species during the individual improvement project design phase.
- ◆ When avoidance of native vegetation removal is not possible, each transportation project 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).
- ◆ Focused sensitive plant and wildlife species surveys will be conducted within suitable habitat to determine the distribution of sensitive species within the biological impact area of the proposed individual improvement project. Sensitive plant surveys will be conducted during the appropriate flowering season for sensitive plant species with the potential to occur within the individual improvement project area.
- ◆ If sensitive plant or wildlife species 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, silt fencing, exclusion fencing and/or appropriate compensation where impacts cannot be fully avoided.
- ◆ Individual transportation projects shall include offsite habitat enhancement or restoration to compensate for unavoidable habitat losses from the project site.
- ◆ Locations of sensitive species and sensitive habitats 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.
- ◆ Temporary access roads and staging areas will not be located within areas containing sensitive plant or wildlife species wherever feasible, so as to avoid or minimize impacts to these species.
- ◆ 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.
- ◆ All vegetation (including tall grasses) will be removed between August 16 and February 14, 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 abandon the nest.

- ◆ A Worker Awareness Program (environmental education) shall be developed and implemented to inform project workers of their responsibilities in regards to avoiding and minimizing impacts on sensitive biological resources.
- ◆ 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.
- ◆ 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.
- ◆ Sensitive habitats (native vegetative communities identified as rare and/or sensitive by the CDFG) 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.
- ◆ 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.
- ◆ 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.

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 individual improvement project proponents to avoid or mitigate impacts to sensitive plant and wildlife species. However, due to the size and potentially large number of resources that could be disturbed as a result of the Project, impacts to these resources would remain a potentially significant impact at a regional level.

Impact 3.4.3 – Impacts on Rare, Threatened, or Endangered Species from Project Noise, Lighting and Deterrents

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.

Mitigation Measures

All mitigation measures will be included in subsequent project-level environmental analysis as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for compliance with the mitigation measures during all phases of construction as appropriate. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ 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.
- ◆ Road noise minimization methods such as native brush and tree planting adjacent to heavy noise producing transportation facilities or will be incorporated where feasible.

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 individual improvement project proponents to avoid or mitigate impacts to sensitive plant and wildlife species. However, due to the size and potentially large number of resources that could be disturbed as a result of the Project, impacts to these resources would remain potentially significant at a regional level.

Impact 3.4.4 - Temporary and Permanent Impacts to Terrestrial and Aquatic Wildlife Movement

The Project would result in temporary and permanent impacts to terrestrial and aquatic wildlife movement. The linear nature of transportation projects 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 than with improvements to existing facilities, because the existing facility has already formed a barrier, and the addition of new lanes for example, may only slightly increase the barrier effect.

Mitigation Measures

All mitigation measures will be included in subsequent project-level environmental analysis as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for compliance with the mitigation measures during all phases of construction as appropriate. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ During final design, implementing agencies will design, construct, and maintain terrestrial wildlife crossings in order to minimize barrier effects and habitat fragmentation created by the individual improvement project.
- ◆ 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 individual improvement project proponents to avoid or mitigate impacts to wildlife movement. However, due to the size and potentially large number of movement corridors that could be disturbed as a result of the Project, impacts to these resources would remain potentially significant at a regional level.

Impact 3.4.5 – Conflicts with an Adopted Habitat Conservation Plan

The Project could potentially conflict with an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Planning (NCCP) program or other approved local, regional or state HCP.

Mitigation Measure

All mitigation measures will be included in subsequent project-level environmental analysis as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for compliance with the mitigation measures during all phases of construction as appropriate. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ Construction and operation of the proposed individual improvement project will comply with the requirements of all adopted HCPs and other preserved areas.

Significance After Mitigation

With the incorporation of the mitigation measure listed above, this impact would be less than significant.

Impact 3.4.6 – Increased Siltation Impacts

The 2011 RTP would potentially increase siltation of streams and other water resources from exposures of erodible soils during construction activities. Excessive siltation can significantly degrade habitat for fish and other aquatic organisms. Heavy sediment deposition can bury slow-moving or sessile bottom-dwelling organisms, fish eggs and larval forms of many aquatic organisms. These losses are not only of direct concern, but also represent a loss of food sources for larger fishes and other organisms, such as birds and mammals, that are not directly affected by sediments.

Increased sediment can also decrease light penetration for aquatic plant production and increase water temperature from greater insulation. Higher water temperatures can affect aquatic organisms through direct stress of temperature-sensitive organisms (e.g., steelhead require cold water streams), and by increasing nitrate productivity which can exacerbate eutrophication if the sediments contain or are accompanied by excessive nutrients (i.e., algal blooms). The degree of this impact would depend on several factors including the following:

- ◆ *Length of occurrence.* The longer the period of sedimentation, the greater the potential for significance.
- ◆ *Timing of occurrence.* The effect would be of greater significance during particularly sensitive times of year, such as during fish spawning seasons when the eggs and larvae which are particularly sensitive to siltation would be present; and,
- ◆ *Significance of Resource.* The effect would be of greater significance where a special status species might be affected, such as near a steelhead spawning stream.

This impact would be significant.

Mitigation Measures

- ◆ Individual projects near water resources shall implement Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport.
- ◆ Individual projects shall schedule construction activities to avoid sensitive times for biological resources (e.g. steelhead spawning periods during the winter and spring) and to avoid the rainy season when erosion and sediment transport is increased.

Significance After Mitigation

Full implementation of each of these mitigation measures would not avoid the siltation impacts. The impact remains significant.

Cumulative Impacts 3.4.7

Growth and development in Madera County will increase substantially by 2035. The 2011 RTP, by increasing mobility and including transportation measures, could potentially influence the pattern of this growth and development. The 2011 RTP's influence on growth could potentially contribute 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, and
- ◆ Siltation.

The amount of new developed acreage (consuming previously vacant land) may 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 Impacts 3.4.1 through 3.4.6 above.

These indirect impacts on biological resources are associated with population, employment, and household growth forecast by MCTC, and they are considered a potential significant cumulative impact.

Mitigation Measures

The cumulative impacts to biological resources, due to the forecast urban development associated with the 2011 RTP, would be mitigated using the same measures detailed for Impacts 3.4.1 through 3.4.6, in addition to the following measure:

- ◆ Future impacts to biotic resources shall 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 2011 RTP's transportation improvement projects to accommodate growth and development in Madera County (as reflected in adopted local agency general plans) could potentially contribute to biotic resource impacts. Such impacts to biotic resources from the 2011 RTP would be cumulatively considerable.

Climate Change

Impact 3.5.1

Increased Transportation GHG Emissions May Cause Climate Change

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 2011 RTP. 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 2011 RTP is designed to complement, rather than change, the plans adopted by the local agencies. Thus, the ultimate effect of the 2011 RTP 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.

Impact 3.5.2

Cumulative GHG Emission Impact

It is possible that local transportation GHG emissions within Madera County, when combined with emissions throughout California and the world, might contribute to climate change. Based upon analysis conducted by the IPCC, climate change is a significant cumulative impact, given the ramifications for air quality, climate, public health, water resources, flooding, sea level, agricultural productivity, and biological resources, among other potential effects. However, no agreed-upon methodology is currently available under CEQA to adequately identify when project-level GHG emissions contribute considerably to this significant cumulative impact.

Also, the ultimate sources of increased transportation emissions in Madera County are population and employment growth, which will increase with or without projects included in the 2011 RTP. MCTC does not implement land use policy in Madera County; rather, this is under the jurisdiction of the County and the various cities. As such, decisions about the place, pace, and scale of growth and development are reflected in local agency general plans and project approvals approved by those agencies. The 2011 RTP is designed to complement, rather than change the plans adopted at the County and city levels. Thus, the ultimate effect of the 2011 RTP on transportation emissions is not to increase the amount of travel per se, but rather to influence where and how travel occurs within the County. Thus, comparison of emissions between what exists today and what would exist in 2035 with the 2011 RTP is not a true measure of the effect of the project on GHG emissions. A better identification of the effect of the project is to compare the emissions potential with the project against the No-Project Alternative as well as other alternatives. As previously noted, the proposed project would result in lower emissions of criteria pollutants than the No-Project Alternative.

Mitigation Measures

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 2011 RTP. 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 2011 RTP is designed to complement, rather than change, the plans adopted by the local agencies. Thus, the ultimate effect of the 2011 RTP 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.

As of the writing of this Draft Subsequent EIR, the agencies with jurisdiction over air quality regulation and GHG emissions (CARB and the San Joaquin Valley Air Pollution Control District) have not established regulations,

guidance, methodologies, significance thresholds, standards, CEQA protocols or mitigation measures that specify the type of analysis, or mitigation measures, that can be included in a program EIR, or other CEQA document. In addition, no emission inventories or emission baselines have been established that would allow for an appropriate analysis to evaluate an existing setting and impact analysis for the proposed implementation of the Madera County RTP because of climate change. MCTC adheres to the rules and guidelines currently in place at the local, State and federal level, and will adhere to any future regulations regarding global warming resulting from the legislative approval of AB 32 and AB 1493, when available.

A number of mitigation measures are included in Section 3.3 of the Draft EIR to address criteria emissions. Public transit has been enhanced in the 2011 RTP compared to the current RTP (adopted in 2007). Such improvements will help mitigate expected increases in emissions resulting from increased population and employment and the impact of planned growth and development on the regional transportation system. The RTP also includes references to a number of studies. The Plan contains a number of projects and significant funding for various forms of transportation in addition to streets and highways. MCTC is in the process of developing a Regional Blueprint for the year 2050. MCTC is coordinating development of the Blueprint with the other seven counties within the San Joaquin Valley. All eight counties are located in the same Air Basin (San Joaquin Valley Air Basin) and received the grant for Blueprint development from the State of California. According to Sunne Wright McPeak, former State Secretary of the Business, Housing, and Transportation Agency, the Blueprint programs in California are designed to address the three "E"s of Regional Blueprint Planning; that is, Energy Efficiency, the Environment, and Economic Development. The Regional Blueprint will identify a preferred land use scenario and transportation system for Madera County considering the application of alternative growth strategies. The Plan will identify a vision, values, goals, objectives, and implementing strategies that can be planned by MCTC and implemented by local agencies within the County to reduce vehicle trips, vehicle miles traveled (VMT), and support increased walkability, passenger rail, public transit systems, and bicycling. MCTC is now working with the other Valley COGs to develop a Blueprint implementation plan, which will be complete by October 2010.

Further, public transit over the next 20 years has been enhanced in the 2011 RTP over existing conditions and even when compared to the current RTP (adopted in 2007). Such improvements will help mitigate expected increases in emissions resulting from increased population and employment and the impact of planned growth and development on the regional transportation system. Furthermore, the RTP includes references to a number of studies (some of which are described above). The Project improvements are expected to reduce VMT and vehicle trips and as a result, GHG emissions.

MCTC cannot require that local agencies, Caltrans, the Air District or other agencies that use diesel-powered vehicles and equipment apply retrofit emission control devices, such as diesel oxidation catalysts and diesel particulate filters verified by CARB. MCTC also cannot require that the same agencies use alternative forms of cement and asphalt that have lower GHG emissions. It is recommended however, that responsible agencies (local agencies, the Air District, Caltrans, and others) consider the implementation of such measures during individual project development and construction.

Both MCTC and responsible agencies implementing projects outlined in the 2011 RTP will be required to adhere to any future applicable mandatory regulations regarding global warming resulting from the passage of AB 32 and AB 1493, but the exact character of such future implementing strategies is not known at this time. MCTC and the local agencies will quantify GHG emissions consistent with Guidelines and requirements developed by CARB. Once the Guidelines are available, MCTC will address GHG emissions and global warming impacts of projects contained in the 2011 RTP.

All mitigation measures will be included in project-level analysis, as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for ensuring adherence to the mitigation measures.

- ◆ Implementation agencies will ensure implementation of the following mitigation measures to reduce GHG emissions:
 - Develop land use patterns, which encourage people to walk, bicycle, or use public transit for a significant number of their daily trips
 - Use comprehensive community plans and specific plans to ensure development is consistent and well connected by alternative transportation modes
 - Adopt transit-oriented or pedestrian-oriented design strategies and select areas appropriate for these designs in the general plan
 - Support higher density development in proximity to commonly used services and transportation facilities
 - Develop in a compact, efficient form to reduce vehicle miles traveled and to improve the efficiency of alternatives to the automobile
 - Use the control of public services to direct development to the most appropriate locations
 - Promote infill of vacant land and redevelopment sites
 - Encourage project site designs and subdivision street and lot designs that support walking, bicycling, and transit use
 - Adopt design guidelines and standards promoting plans that encourage alternative transportation modes
 - Require certain sites to be created to allow convenient access by transit, bicycle, and walking

- ◆ Prior to or in conjunction with the adoption of the proposed 2014 RTP, MCTC will develop a GHG Emissions Reduction Plan that includes the following:
 - General discussion of the potential impacts that GCC poses to the Madera County region, with particular focus on potential impacts related to RTP facilities, to the extent that such information is available
 - A baseline inventory of total GHG emissions directly and indirectly from transportation in the County that currently exist, and review of potential targets and timelines for achieving GHG reductions
 - Development of feasible GHG emissions reduction measures and strategies to achieve reductions in RTP GHG emissions. Such reduction measures may include construction of new transportation projects, modification of existing facilities or services, incentive or funding programs, pricing strategies, regulations or any other actions that reduce GHG emissions associated with RTP activities
 - State protocols and GHG emissions inventory mechanisms are necessary tools to track and monitor GHG emissions at the local level. MCTC and member agencies must determine, in cooperation with the state, the solutions that will best minimize its potential risks and maximize its potential benefits

- ◆ Intelligent Transportation
 - Developing an Intelligent Transportation Systems strategy to implement the Integrated Performance Management Systems Network that will:
 - Interconnect the region's local transportation management centers, including the use of cameras, and computer hardware and software to detect and clear accidents
 - 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

◆ Create Alternative Fuel Vehicle and Infrastructure Toolkit for Local Governments

MCTC will develop an Alternative Fuel Vehicle (AFV) and Infrastructure Toolkit for member agencies that will contain best practices related to ordinances, analytical tools, financing opportunities, codes, and standards related to reducing GHG emissions. MCTC will identify the alternative fuel vehicle(s) (e.g. neighborhood electric vehicles) and alternative fuel infrastructure with the potential to result in the greatest GHG emission reductions. MCTC will conduct a public education program for local governments and other public agencies, as appropriate to encourage the use of alternative fuel vehicles and infrastructure.

MCTC will work with its member agencies to increase the number of AFVs (i.e., vehicles not powered strictly by gasoline or diesel fuel) both in municipally owned vehicles, as well as those owned by franchisees of these cities, such as trash haulers, green waste haulers, street sweepers, and curbside recyclable haulers. Such AFVs shall have GHG emissions at least 10 percent lower than comparable gasoline- or diesel-powered vehicles. The Alternative Fuel Vehicle and Infrastructure Toolkit described above will include best practices strategies to aid in the transformation of municipally owned or contracted fleets, including vehicle fleets operated and/or funded, at least in part by MCTC.

◆ Adopt Transportation Pricing Policy

MCTC will prepare an analysis on the impacts and the viability of using pricing policies with the transit system and selected portions of the road network to encourage people to drive less and use transit, walking, and bicycling modes more. This study will identify strategies to reduce GHG emissions that will include, but are not limited to, free or reduced transit fares during "spare the air" days; fare-free zones on the transit system; transit vouchers; days on which transit is free; congestion pricing options for portions of the road system, such as tolls on freeways and highways; and congestion-pricing to enter certain high-traffic areas served by public transit (e.g. downtown areas). MCTC shall adopt a transportation pricing policy based upon these strategies, and shall conduct seminars with local government staff, planning commissioners and elected officials and members of the private development, planning, engineering and design communities to disseminate these strategies.

◆ Create a Public Education Program on Individual Transportation Behavior and Climate Change

In conjunction with key partners such as local air districts, public utility providers, area chambers of commerce and others, MCTC will create a public information program to educate the public about the connection between individual transportation behavior and global climate change, including transportation behavior modifications the public can make to reduce their GHG emissions over time. MCTC shall include information on its website that is focused on global climate change. The website shall identify actions the public can take to reduce their carbon footprint, and provide web links to sources of information designed to promote alternative mode use (carpools, vanpools, public transit, bicycling, walking, telecommuting) and other travel demand management strategies.

◆ Provide Funding for Workshop on Global Climate Change for Local Government Officials and Create GHG Emissions Reduction Strategies Toolkit

MCTC will provide funding for a workshop on global climate change for local government officials that will focus on practical techniques that local governments can implement to reduce greenhouse gas emissions at the city and county level. Workshop topics shall include, but are not limited to the following:

- The basic science behind climate change and its effects on the Madera County Region
- Addressing the California Environmental Quality Act (CEQA) and the effects of AB 32
- What cities and counties are doing to address climate change and CEQA
- Cost effective actions cities can take to reduce greenhouse emissions

- Actions being taken in the Madera County area to advance and support innovative “green” business

MCTC in conjunction with other key partners, shall produce a toolkit for local governments to use to take effective actions to reduce greenhouse gas emissions over time. The toolkit will incorporate recommendations by the workshop participants to identify which issues are important for the region and the tools and resources they would like to have available to reduce greenhouse emissions .

- ◆ Adopt Safe Routes to School Policy and Implement Pilot Program and Conduct Workshop with Cities, Counties and School Districts to Identify other Opportunities for Collaboration that may reduce Greenhouse Emissions

Within 3 years from the adoption of the 2011 RTP, MCTC shall adopt a Safe Routes to Schools (SRTS) policy to promote the practice of safe bicycling and walking to and from schools throughout the Plan Area in order to reduce traffic congestion, improve air quality, and enhance neighborhood safety. There are both federal and state funding programs for SRTS. As a regional agency, MCTC is an eligible applicant under the federal program for both infrastructure and non-infrastructure projects. Under the state program, only cities and counties are eligible applicants for infrastructure projects only. (Caltrans, 2007) With the passage of the Safe Routes to School bill (AB 1475), a “one third” distribution formula for federal safety funds to be allocated in equal amounts to: state highways, local roads, and Safe Routes to School (SRTS) construction program was established.

The federal Safe Routes to School program (SRTS) was authorized by Section 1404 of the *SAFETEA-LU (the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users)*. As MCTC should apply for federal funds from the Federal Highway Administration through Caltrans to implement at least one SRTS pilot program within the Plan Area. The State-legislated Safe Routes to School program (SR2S) is contained in Streets & Highways Code Section 2330-2334. MCTC shall encourage its member agencies to apply for funds available through the State Highway Safety Improvement fund for eligible infrastructure projects in order to improve bicycle and pedestrian safety for school children.

MCTC shall also join the Safe Routes to School National Partnership, a network of more than 300 nonprofit organizations, government agencies, schools, and professionals working together to advance the Safe Routes to School movement in the United States.

In addition, MCTC will host a regional workshop for all cities, counties, school districts and transit operators within the region to identify other potential opportunities for collaboration that would reduce greenhouse gas impacts. At a minimum, the issues discussed will include the findings from the Safe Routes to School activities described above, opportunities to increase the number of students with bus or other transit options to get to and from school, and integrating school siting practices with goals of promoting walkable neighborhoods with a wide range of easily accessible services.

- ◆ Establish a baseline for MCTC’s own GHG Impacts

Starting in calendar year 2011, MCTC shall measure and record the GHG emissions associated with its own operations in an accurate manner and in a format consistent with the California Climate Action Registry’s own reporting protocol in order to establish a baseline against which any future GHG reductions may be applied. The report shall be independently audited by a State and Registry approved certifier. The report shall include the following elements:

- Indirect emissions from electricity and natural gas use
- Direct emissions from mobile source combustion (agency vehicles)
- Indirect emissions from business-related employee air travel
- Direct and Indirect emissions from employee commuting

- Indirect emissions associated with MCTC purchasing practices

MCTC shall continue to report on its own GHG emissions consistent with this format in subsequent years and track its progress in reducing emissions. Emissions reductions in future years will comply with the goals set in the Regional Climate Change Action Plan.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent regional program-specific and individual improvement project-specific mitigation designed to avoid or reduce the identified significant project impacts to a less than significant level; however, it is unlikely that mitigation measures would reduce GHG emissions below existing conditions (let alone to 1990 levels as required by AB 32) due to anticipated population growth. As such, significant and unavoidable impacts on global warming will occur.

Cultural Resources

Impact 3.6.1 – Impacts on Historic Resources

Development of highway, arterial, bridge crossing and transit projects may impact historic resources. This would be considered a significant impact. 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, and arterials and interchange projects, which entail the development of new lanes, and right-of-way acquisition.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The individual improvement project proponent or local jurisdiction 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 will identify potential impacts to historic resources. A record search at the appropriate Information Center will be conducted to determine whether the individual improvement project area has been previously surveyed and whether resources were identified.
- ◆ As necessary, prior to construction activities, the project implementation 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 improvement project area for cultural resources.
- ◆ The project implementation 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 measure may include, but are not limited to the following:
 - The project implementation agencies will 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.
- ◆ In some instances, the following mitigation measure may be appropriate in lieu of the previous mitigation measure:
 - The project implementation agencies will 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

This impact is considered less than significant after mitigation, because the recommended mitigation would require the local jurisdiction to follow a comprehensive procedure to assess the magnitude of the impact, and to avoid or mitigate the impacts, if necessary.

Impact 3.6.2 – Construction Impacts on Archaeological Resources

Construction activities involving excavation and earthmoving may encounter 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, the resources are collected, documented and curated at an educational institution, such as a school or a museum. The curation facility is usually appropriated by the landowner or lead agency. A unique archaeological resource includes artifacts or sites in which it can be demonstrated that, without merely adding to the current body of knowledge, there is a high probability that 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 and a number of interchanges. 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 rights-of-way and right-of-way maintenance (such as pothole repair), would have less of an impact to archaeological resources because these individual improvement project locations have previously been disturbed. However, construction of additional lanes, 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.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The individual improvement project proponent or local jurisdiction 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. Project proponents will implement the following measures as part of the individual improvement project review process for proposed transportation projects:

- ◆ As part of the appropriate environmental review of individual projects, the project 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 individual improvement project site.

- ◆ Prior to construction activities, the project 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 individual improvement project area has been previously surveyed and whether resources were identified.
- ◆ As necessary prior to construction activities, the project 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 individual improvement project area for cultural resources.
- ◆ If the record search indicates that the individual improvement project is located in an area rich with cultural materials, the individual improvement project proponent 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.
- ◆ 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 project 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.
- ◆ 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 recommended mitigation would require individual improvement project proponents to follow a comprehensive procedure to assess the magnitude of the impact, and to avoid or mitigate the impacts, if necessary. However, due to the size and potentially large number of archaeological sites that could be disturbed as a result of the combined projects, this impact would remain a potentially significant impact to archaeological resources at a regional level.

Impact 3.6.3 – Construction Impacts on Paleontological Resources

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 rights-of-way 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 individual improvement project proponent or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to

construction. MCTC will be provided with documentation indicating compliance with mitigation measures. Project proponents in the Madera region will implement the following measures as part of the review process for proposed transportation projects:

- ◆ 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.
- ◆ 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 measures recommended above require the individual improvement project proponents to assess the magnitude of the impact to resources, and to avoid or mitigate impacts. However, due to the size and potentially large number of paleontological localities that could be disturbed as a result of the combined projects, this impact would remain a potentially significant impact at a regional level.

Impact 3.6.4 – Impacts on Human Remains

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 and interchanges. 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 would have less of an impact because these individual improvement project locations have previously been disturbed. However, construction of additional lanes, 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 used as a paved transportation facility.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The individual improvement project proponent or local jurisdiction 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 individual improvement 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 coroner of the county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required

- ◆ 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.
- ◆ 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

This impact is considered less than significant after mitigation, because the recommended mitigation would require the individual improvement project proponent to follow a comprehensive procedure to assess the magnitude of the impact, and to avoid or mitigate the impacts, if necessary.

Cumulative Impacts 3.6.5

Growth and development in Madera County will increase substantially by 2035. The 2011 RTP, by increasing mobility and by inclusion of transportation measures, potentially influences the pattern of this development. The 2011 RTP's influence on growth could potentially contribute to regional impacts to existing historic resources and previously undisturbed and undiscovered cultural resources, as described in Impacts 3.6.1 thru 3.6.4 above.

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 2011 RTP would be considerable when compared to the No Build or

No Project Alternatives. 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 where cultural 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 3.6.1 thru 3.6.4 above.

These effects are considered a significant cumulative impact.

Mitigation Measures

The cumulative impacts to cultural resources, due to the forecast growth and development associated with the 2011 RTP, would be mitigated using the same measures detailed for Impacts 3.6.1 thru 3.6.4, in addition to the following measure.

- ◆ Future impacts to cultural resources shall be minimized through cooperation and information sharing between the implementation agency and affected resource agencies.

Significance After Mitigation

The impacts to cultural resources due to regional scale growth would be reduced through application of the mitigation measures, however implementation of the 2011 RTP's transportation improvement projects to accommodate growth and development in Madera County (as reflected in adopted local agency general plans) could potentially contribute to cultural resource impacts. Impacts to cultural resources from the 2011 RTP would be cumulatively considerable.

Geology/Soils

Impact 3.7.1 – Damaged transportation Infrastructure from Seismic Activity

Seismic events can damage transportation infrastructure through ground shaking, liquefaction, surface rupture and land sliding.

Property and public safety from seismic activity would be considered a significant impact in some cases.

Mitigation Measures

- ◆ Project structures will be built by responsible agencies to the seismic standards contained in the most recent edition of the Uniform Building Code (UBC).
- ◆ Implementing agencies will ensure that improvement 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.
- ◆ The project implementing agencies will guarantee that geotechnical analysis is conducted within construction areas to establish soil types and local faulting prior to individual improvement project design preparation.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Impact 3.7.2 – Slope Failure and Erosion Due to Project Construction

Some improvement projects require significant earthwork, increasing potential slope failure and long-term erosion. Earthwork can also alter unique geologic features. Individual improvement project impacts would be considered significant in some cases.

Several 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 project implementing agencies will ensure that individual improvement project designs provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion.
- ◆ Design features will include measures to reduce erosion from storm water.
- ◆ Road cuts will be designed to maximize the potential for revegetation.
- ◆ Implementing agencies will ensure that projects avoid landslide areas and potentially unstable slopes wherever feasible.
- ◆ Where practicable, routes and individual improvement project designs that would permanently alter unique geologic features will be avoided.

Significance After Mitigation

Given the topography, ecology and meteorology of Madera County, long-term erosion and the potential for slope-failure will remain significant.

Impact 3.7.3 - Subsidence and the Presence of Expansive Soils

Local geology can affect transportation infrastructure. Potentially significant impacts to property and public safety could occur due to subsidence and the presence of expansive soils. Mitigation measures would reduce these impacts to less than significant levels.

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 must include appropriate reinforcement to minimize potential impacts from subsidence in areas where such activity has not been witnessed. In addition, 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 improvement project areas extensively prior to construction. Each new improvement project 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. Many of the improvement projects would occur within existing transportation corridors, where expansive soils may be expected to have already been removed.

Mitigation Measures

- ◆ Implementing agencies will ensure that geotechnical investigations are conducted by a qualified geologist to identify the potential for subsidence and expansive soils.
- ◆ Recommended corrective measures, such as structural reinforcement and replacing soil with engineered fill, will be implemented in individual improvement project designs.

- ◆ Implementing agencies will ensure that, prior to preparing individual improvement project designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils.

Impact 3.7.4 – Susceptibility to Seismic Action

Because of Madera County's moderately high level of seismic activity (reference Figure 3-6), construction projects may be susceptible to fault rupture and severe ground shaking. Project susceptibility and potential damage to structures resulting from seismic action is considered a significant impact.

Mitigation Measure

- ◆ Project structures will be constructed by responsible agencies to the seismic standards contained in the most recent edition of the Uniform Building Code (UBC).
- ◆ Implementing agencies shall ensure that projects are designed in accordance with county and city code requirements for seismic ground shaking. The design of projects shall consider seismicity of the site, soil response at the site, and dynamic characteristics of the structure, in compliance with the appropriate California Building Code and State of California design standards for construction in or near fault zones, as well as all standard design, grading, and construction practices in order to avoid or reduce geologic hazards.
- ◆ Implementing agencies shall ensure that projects located within or across Alquist- Priolo Zones comply with design requirements provided in Special Publication 117, published by the California Geological Survey, as well as relevant local, regional, state, and federal design criteria for construction in seismic areas.
- ◆ The project implementing agencies shall ensure that geotechnical analyses from qualified geotechnical experts are conducted within construction areas to ascertain soil types and local faulting prior to preparation of project designs. These investigations would identify areas of potential failure and recommend remedial geotechnical measures to eliminate any problems.

Significance After Mitigation

Implementation and monitoring of the above mitigation measure will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Impact 3.7.5 – Geotechnical Impacts

As discussed in the Environmental Setting Section, soil types and bedrock formations within Madera County range widely in terms of their potential for geologic hazards. Although the scope of study performed for this EIR evaluation did not include a determination for project-specific liquefaction or seismic settlement potential, it is possible that liquefiable soils or soils susceptible to seismic compaction during ground shaking exist within areas of planned transportation improvement projects. This is a potentially significant impact, which will require analysis as part of subsequent project-specific environmental review.

In addition, individual transportation project construction will require removal of vegetative cover and exposure of site soils to wind and surface water runoff. High erosion rates are typical of disturbed sites. Because of the high erosion potential of some categories of soils, risk of erosion is considered a significant impact.

Implementation of proposed Project could potentially have short-term and long-term effects on water quality downstream from specific project sites. The short-term impacts relate to the grading and construction phases of

project implementation that may cause erosion, while the long-term impacts may result from increased runoff flows from larger areas of asphalt.

Mitigation Measures

- ◆ Improvement projects with significant cuts or fill should include a geotechnical investigation to identify adverse soil conditions and develop recommendations for design and construction that would limit the effects of adverse soil and bedrock conditions.
- ◆ Cut and fill plans will be prepared for all improvement projects where cut and fill will be reburied, so that all fill materials are properly designed, placed, and compacted.
- ◆ Preparation of a detailed erosion control plan will be prepared to limit the effects of soil erosion and water degradation during improvement project construction, in accordance with permit conditions and requirements of the State Water Resources Control Board's Best Management Practices (BMPs), or equally effective measures will be employed.

Significance After Mitigation

Given the topography, ecology and meteorology of Madera County, long-term erosion and the potential for slope-failure will remain significant.

Impact 3.7.6 – Impacts on State-Owned and State Minerals Reserved Lands

Some street and highway projects may be proposed along alignments that will affect State-owned and State minerals reserved lands.

Mitigation Measure

- ◆ Where possible, improvement projects will be designed by responsible agencies to limit potential impacts on State-owned or State mineral-reserved lands.

Significance After Mitigation

Given the extent of State-owned and State mineral-reserved lands within Madera County, the Project has the potential of causing significant impacts even with specific-project design. As a result, the impact will remain significant.

Cumulative Impact 3.7.7

Growth and development in Madera County would increase substantially by 2035. The 2011 RTP, by increasing mobility and including transportation measures, potentially influences the pattern of this urbanization. Implementation of the 2011 RTP 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 2011 RTP, the cumulative impacts of the 2011 RTP on geological units and soils as well as the potential exposure to substantial adverse effects to people and property would be significant.

Mitigation Measures

Mitigation measures 3.7.1 through 3.7.6 would be applied to this impact in addition to the following measure:

- ◆ Future impacts to geologic resources shall 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 2011 RTP's transportation improvement projects to accommodate growth and development in Madera County (as reflected in adopted local agency general plans) could potentially contribute to geologic resource impacts. Impacts to geologic resources from the 2011 RTP would be cumulatively considerable.

Hazards & Hazardous Materials

Impact 3.8.1- Hazardous Solvent and Architectural Coatings

Construction and maintenance activities associated with the implementation of the 2011 RTP could potentially result in solvent and architectural coating activities that may be considered hazardous if not used, stored, or disposed of properly. Any excesses in these materials, which exist upon completion of transportation projects in the RTP could be considered hazardous materials or wastes that may need to be disposed of properly. This is a potential impact. However, these left over materials can likely be stored properly and used for other transportation projects or purposes. Such use or reuse would reduce the amount of excess materials that would require disposal. In addition, steps can be taken to minimize the risk associated with handling hazardous materials in the process of transportation facility construction. Therefore, the potential impact is considered less than significant and no mitigation is required.

Mitigation Measures

Not applicable.

Significance After Mitigation

Less than significant.

Impact 3.8.2 – Decreased Safety Risks

Implementation of the RTP could potentially result in decreased safety risks as a result of enhanced hazardous materials transport options.

The Project could result in one of two outcomes where the transport of hazardous material is concerned:

- ◆ It is likely that potential routes for the transport of hazardous materials will become safer due to proposed improvements in the RTP. Hazardous materials are generally transported along the regional roadway network. Exceptions include gasoline and other fuels, which are often transported to their destinations along on local streets and roads. The RTP includes congestion reduction measures to improve transportation facilities in a number of corridors throughout the County. This is considered a potential beneficial effect, because these facilities could become safer due to reduced congestion levels resulting in fewer accidents.
- ◆ Congestion is projected to decrease in 25 years as a result of the proposed Project improvements. The Plan indicates that congestion is expected to decrease compared to the No Project and No Build Alternatives. This is considered a potential beneficial effect, because the decrease in congestion could contribute to reductions in accident rates, including those corridors where no transportation improvement projects are proposed.

Mitigation Measures

Beneficial impact. No mitigation needed.

Significance After Mitigation

Less than significant.

Impact 3.8.3

The implementation of the 2011 RTP could create a hazard to the public or the environment through the disturbance of contaminated property during the construction of new transportation or expansion of existing transportation facilities.

Construction of the projects in the 2011 RTP 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.

Because of the potential number of contaminated sites and the risk associated with encountering and cleaning up these sites, this impact is considered to be significant.

Mitigation Measures

- ◆ Prior to approval of any RTP 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 2011 RTP. If contamination is found the implementing agency shall coordinate clean up and/or maintenance activities.
- ◆ 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.
- ◆ Local agencies should contact the Chevron Environmental Management Company (CEMC) to determine whether an improvement project may be in the vicinity of the Tidewater Oil Company or Standard Oil Company historical pipeline alignments.

Significance After Mitigation

The mitigation measures would assure that contaminated properties are identified and appropriate steps taken to minimize human exposure and prevent any further environmental contamination. The impact after mitigation would be less than significant.

Cumulative Impact 3.8.4

Implementation of the investments and policies in the 2011 RTP 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 2011 RTP's influence on mobility and its transportation measures could potentially influence population distribution, potentially contributing to a cumulatively considerable impact related to disturbance of contaminated sites by new urban development. With additional pressure for infill development, reuse of "brownfields" properties may become more common as the region grows.

This impact is considered to be significant.

Mitigation Measures

Mitigation Measures 3.8.1 through 3.8.3 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.

Hydrology/Water Quality

Short-Term Impacts

Short-term impacts are temporary and generally related to construction activities. Construction activities undertaken to implement transportation improvements 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 projects' 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 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 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 could have minor effects on the amount of surface water that filters into the ground. Pollutants in the runoff from proposed transportation facilities could affect groundwater basins.

Impact 3.9.1 – Impacts on Water Quality

Local surface water quality could be affected by increased urban runoff and construction runoff. Increasing impervious surface area could 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 Measure

- ◆ Improvement projects along existing facilities 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

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than a significant level.

Impact 3.9.2 – Impacts on Groundwater

The installation of transportation infrastructure and expansion of Project facilities could encounter groundwater. Individual projects may require dewatering during construction and for the life of the Project.

Mitigation Measures

- ◆ Transportation network improvements will comply with local, state and federal floodplain regulations. Proposed transportation improvements 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.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than a significant level.

Impact: 3.9.3 – Increased Flood Hazards

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. In addition, placing new structures within an existing floodplain can impede floodwaters, altering the flood elevations upstream and downstream.

Mitigation Measures

- ◆ 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. Drainage systems should be designed to maximize the use of detention basins, vegetated areas, and velocity dissipaters to reduce peak flows where possible. Transportation 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.
- ◆ Responsible agencies shall 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.
- ◆ 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

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than a significant level.

Impact: 3.9.4 - Impacts from Construction Runoff

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 Measure

- ◆ Improvement projects along existing facilities 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

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than a significant level.

Cumulative Impact 3.9.5

Growth and development will increase substantially by 2035. The 2011 RTP, by increasing mobility and by including transportation measures, potentially influences the pattern of this development. The 2011 RTP's influence on growth could potentially contribute to the conversion of undeveloped land, resulting in impacts to water quality, stormwater infiltration and groundwater recharge, flood hazard impacts, and wastewater treatment services, and water demand.

The growth projection associated with the 2011 RTP would increase the amount of developed land in the County. With the 2011 RTP, the amount of new developed acreage (consuming previously vacant land) would be considerable.

Mitigation Measures

Mitigation Measures 3.9.1 through 3.9.4 shall be applied to all development projects, as feasible, in addition to the following measures:

- ◆ Local governments should encourage Low Impact Development and natural spaces that reduce, treat, infiltrate and manage stormwater runoff flows in all new developments.
- ◆ Local governments 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.

- ◆ Local governments 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.
- ◆ Developers, local governments, 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.
- ◆ Future impacts to water quality shall be avoided through cooperative planning, information sharing, and comprehensive pollution control measure development.
- ◆ Local jurisdictions and water agencies are encouraged to continue regional-scale planning for improved stormwater management and groundwater recharge. Future adverse impacts shall be avoided through cooperative planning, information sharing, and comprehensive implementation efforts.
- ◆ Local governments should prevent development in flood hazard areas that do not have appropriate protections, especially in alluvial fan areas of the region.
- ◆ 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.
- ◆ Wastewater treatment agencies are encouraged to have expansion plans, approvals and financing in place once their facilities are operating at 80 percent of capacity.
- ◆ 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.
- ◆ 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.
- ◆ Local water agencies shall continue to evaluate future water demands and establish the necessary supply and infrastructure to meet that demand.
- ◆ Developers, local governments, and water agencies should include conjunctive use as a water management strategy when feasible.
- ◆ 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.
- ◆ Future impacts to water supply shall be minimized through cooperation, information sharing, and program development.

Significance After Mitigation

New development expected by 2035 could potentially create adverse impacts on water quality, stormwater infiltration and groundwater recharge, flood hazard impacts, and wastewater treatment service and water demand impacts. The 2011 RTP's influence on growth distribution is a cumulatively considerable contribution to this significant impact.

Land Use/Planning

Impact 3.10.1 - Land Use Impacts

Strategies aimed at addressing the transportation needs of future growth patterns were considered during development of the proposed RTP. The document promotes alternatives to the automobile through enhanced funding (beyond that identified in the 2011 RTP) for transit and other alternative modes of transportation such as bicycle facilities, trails, airport improvements, and others. Implementation of strategies proposed in the RTP 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. Land use and transportation policies are emphasized in the 2011 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. 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, addressing 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 the mixed-use developments would result in a concentration of jobs and residences in close proximity to one another.

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 projects in the RTP could have significant impacts on land use patterns, potentially causing land use growth and development to occur in areas not previously envisioned for growth and development. This impact could be especially significant on agricultural land uses within the County.

Mitigation Measures

The individual improvement project proponent or local jurisdiction shall identify and evaluate the impacts on significant agricultural resources as part of the appropriate improvement project-specific environmental review and shall identify mitigation measures to reduce the impacts to a level of less than significant. In addition, the individual improvement project proponent or local jurisdiction shall identify and evaluate the impacts of growth and development on the ability of local agencies and special districts or other agencies, to provide the public service and facilities to accommodate growth and development pursuant to their adopted short- and long-range master plans, as part of the appropriate improvement project-specific environmental review and shall identify mitigation measures to reduce the impacts to a level of less than significant. The project implementing agency or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the land use plans, policies, requirements, rules and regulations that may be applicable to the project and the mitigation of impacts following construction of the project in terms of the ability of local agencies to provide public services and facilities required by the growth inducing and development affects of the project.
- ◆ Following construction of the project, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county land use plans, policies, requirements, rules and regulations, and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors applicable to the project and the mitigation of

impacts of the project in terms of the ability of local agencies to provide public services and facilities required by the growth inducing and development affects of the project.

- ◆ Prior to final approval of each individual improvement project, the individual improvement project proponent or local jurisdiction shall conduct the appropriate project-specific environmental review, including consideration of potential land use impacts and specific impacts on sensitive receptors in vicinity of the project, and identify mitigation measures to reduce the impacts to a level of less than significant applicable to the on-going use and operation of the project.
- ◆ Prior to final approval of each individual improvement project, the project implementing agency or local jurisdiction shall conduct the appropriate project-specific environmental review, including consideration of potential land use and public services demands and impacts resulting from the potential growth inducement of the project and shall identify mitigation measures that will reduce the impacts to a level of less than significant.

Significance After Mitigation

While implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts, it is probable that such impacts will remain significant and unavoidable.

Impact 3.10.2 – Impacts on Sensitive Receptors

There are many sensitive receptors located in the urban and rural areas of the County. A “sensitive receptor” includes, but is not limited to residential units and land uses, educational facilities and schools, medical facilities, places of worship or other land uses that may require a higher level of protection and mitigation from the impacts of construction. These sensitive receptors may be sensitive to noise, vibration, air pollutants, and other conditions that impact our environment. Sensitive receptors located in the vicinities of proposed improvement projects could be impacted by construction and implementation of the proposed highway, arterial and transit projects due to noise, dust, vibration, etc. This could be considered a potentially significant impact.

Construction of new parkways and connectors, widening of existing highways and the construction of new interchanges are some of the highway and arterial projects. Many other types of transportation projects will not involve construction activities. Many proposed public transit projects involve service alterations along existing streets, highways, and rail lines. The impacts of projects on sensitive receptors will depend on several factors such as the type of project individual improvement project proposed for the given area, the projected and existing land uses of a given area, the activities and operations of sensitive receptors, the proximity of sensitive receptors to the project, and duration of proposed construction activities.

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).

Mitigation Measures

Impacts to sensitive receptors shall be identified and specifically studied and evaluated as part of the project-specific environmental review, and mitigation measures shall be identified to reduce the impacts to a level of less than significant. The individual improvement project proponent or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures following construction of the project. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures following construction of the project:

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the land use plans, policies, requirements, rules and regulations that may be applicable to the project and the mitigation of impacts following construction of the project.
- ◆ Following construction of the project, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county land use plans, policies, requirements, rules and regulations, and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors applicable to the on-going use and operation of the project
- ◆ Prior to final approval of each individual improvement project, the individual improvement project proponent or local jurisdiction shall conduct the appropriate project-specific environmental review, including consideration of potential land use impacts and specific impacts on sensitive receptors in vicinity of the project, and identify mitigation measures to reduce the impacts to a level of less than significant applicable to the on-going use and operation of the project.
- ◆ Potential significant impacts to sensitive receptors and land uses within vicinity of the project shall be mitigated to a level of less than significant as applicable to the on-going use and operation of the project.

Significance After Mitigation

Less than significant on a project-specific level. However, this impact may be significant and unavoidable after mitigation because of the large number of individual projects that may potentially affect sensitive receptors within close vicinity.

Impact 3.10.3 – Loss of Open Space and Community Recreation Areas

Construction and implementation of projects would result in the loss of open space and community recreation areas. This would be considered a potentially significant impact. Pockets of open space vary in size and location throughout the County and within the cities. Open space land uses include agricultural areas, public parks, recreational facilities, and areas planned for such uses.

The Project includes highway, arterial and transit projects proposed to be located in or adjacent to areas designated for open space. The potential for significant impacts to natural habitats and community recreation exists, since these projects may be constructed in areas that have habitat and recreational value. Development of RTP projects and programs could result in the disturbance or loss of open space and recreational resources. Specifically, new projects involving construction would be most likely to result in impacts to open space areas.

Mitigation Measures

The impact on open space and community recreation areas will be evaluated as part of the appropriate project-specific environmental review and mitigation measures will be identified to minimize impacts. Implementation agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with all mitigation measures.

- ◆ Project implementation agencies will ensure that projects are consistent with federal, state, and local plans that preserve open space and recreation.
- ◆ Project implementation agencies will identify open space and recreation areas that could be preserved and will include mitigation measures (such as dedication or payment of in-lieu fees) for the loss of open space.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will conduct the appropriate project-specific environmental review, including consideration of loss of open space and recreation.
- ◆ Potential significant impacts to open space will be mitigated.
- ◆ For projects that require approval or funding by the U.S. Department of Transportation, project implementation agencies will comply with Section 4(f) of the U.S. Department of Transportation Act.

Significance After Mitigation

It is anticipated that implementation of the Project could potentially result in the loss or disturbance of open space; therefore, this impact would remain significant and unavoidable.

Impact 3.10.4 – Loss of Agricultural Resources

Implementation of the proposed RTP could potentially result in the disturbance or loss of significant agricultural resources throughout the Madera region. This would be considered a potentially significant impact. The County contains areas designated by the State as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. These areas are interspersed throughout urban areas or are located in undeveloped portions of the region. Development of highway, arterial and transit projects proposed under the RTP could potentially result in the disturbance or loss of some of these designated areas. Specifically, new projects involving construction would be most likely to result in impacts to these areas.

Mitigation Measures

The impact on significant agricultural resources will be evaluated as part of the appropriate project-specific environmental review, and mitigation measures will be identified to minimize impacts. Implementation agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with all mitigation measures.

- ◆ 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.
- ◆ For projects in agricultural areas, project implementation agencies will contact the California Department of Conservation and the County Agricultural Commissioner's office to identify the location of prime farmlands and lands that support crops considered valuable to the local or regional economy.

- ◆ Prior to final approval of each individual improvement project, the implementing agency will establish conservation easement programs to mitigate impacts to prime farmland.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will avoid impacts to prime farmlands or farmlands that support crops considered valuable to the local or regional economy.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will encourage enrollments of agricultural lands in the Williamson Act.

Significance After Mitigation

It is anticipated that implementation of the Project could potentially result in the loss or disturbance of significant agricultural resources; therefore, this impact would be considered significant and unavoidable.

Impact 3.10.5 – Inconsistency with Local Land Use Plans

The Project has the potential to conflict with applicable adopted local land use plans and policies.

Most of the projects submitted for inclusion in the RTP, are developed through a local review process that involves local jurisdictions working with MCTC. For this reason, it is unlikely that any individual improvement project submitted would be inconsistent with a local jurisdiction's plan.

Mitigation Measures

- ◆ No mitigation measures are necessary.

Significance After Mitigation

Not applicable.

Cumulative Impact 3.10.6

Growth and development in the County will increase substantially by 2035. The 2011 RTP, by increasing mobility and including transportation measures, potentially influences the pattern of this development. The 2011 RTP's influence on growth could potentially contribute to cumulatively considerable impacts to land use and could change the intensity of land use in some areas.

Mitigation Measures

The mitigation measures listed above for Impacts 3.10.1 through 3.10.5 would be applied as mitigation for this impact. In addition, the following measure would apply.

- ◆ 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 2035, the region may need to change land uses and increase the intensity of some existing land use. The cumulative impact would remain significant.

Noise

Impact 3.11.1 – Transportation Construction Noise Impacts

Grading and construction activities associated with the proposed highway, arterial, and transit projects would intermittently and temporarily generate noise levels and vibration occurrences above ambient background levels. Noise and vibration levels in the immediate vicinity of the construction sites could increase substantially sometimes for extended durations. This would be considered a potentially significant impact.

Generally, proposed projects are of the following two types:

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

Construction activities associated with the project could result in temporary noise and vibration increases at nearby sensitive receptors. The impacts of projects on sensitive receptors will depend on several factors such as the type of individual improvement project proposed for the given area, the projected and existing land use of the given area, the activities and operations of sensitive receptors, the proximity of sensitive receptors to the project, and duration of proposed construction activities, etc.. Additionally, construction noise and vibration levels could fluctuate depending on the construction phase, equipment type, and duration of use; distance between the noise and vibration source and sensitive receptors; and presence or absence of barriers between noise and vibration source and sensitive receptors. In general, sensitive receptors could be significantly impacted by projects involving new systems (new facilities, truck lanes, rail corridors, interchanges, underground rail lines). Specifically, sensitive receptors located in the vicinity of these projects could be significantly impacted by construction of the proposed improvement projects. Additionally, modification projects could result in short-term construction impacts to sensitive receptors.

Mitigation Measures

As part of project-specific environmental review, the individual improvement project proponent or local jurisdiction shall be responsible for completing a noise and vibration analysis and study to determine the project-specific noise and vibration construction and provide the mitigation measures that shall reduce the impacts to a level of less than significant in accordance with the applicable noise and vibration standards. Such noise and vibration analysis and study shall identify the impacts on land uses, facilities and activities of properties within the vicinity of the project and shall identify and provide the mitigation measures that shall reduce the impacts to a level of less than significant in accordance with the applicable noise and vibration standards. The project implementing agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to and during the construction. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with noise and vibration.
- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations, and all plans, policies, requirements, rules and

requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors with regards to noise and vibration.

- ◆ The individual improvement project proponent or local jurisdiction shall comply with all local sound control, vibration, and noise level policies, requirements, rules, regulations, and ordinances.
- ◆ The individual improvement project proponent or local jurisdiction shall limit the hours of construction to between 6:00 a.m. and 8:00 p.m. on Monday through Friday and between 7:00 a.m. and 8:00 p.m. on weekends. In the event that noise or vibration affects public sensitive receptors, specific hours of construction shall be agreed upon between the individual improvement project proponent or local jurisdiction and the entities that are responsible and oversee public sensitive receptors to minimize the noise and vibration impacts on sensitive receptors.
- ◆ Equipment and trucks used for construction shall utilize the best available noise and vibration control techniques (including mufflers, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) in order to minimize construction noise and vibration impacts.
- ◆ Impact equipment (e.g., jackhammers, pavement breakers, and rock drills) used for individual improvement project construction shall be hydraulically or electrical powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible to a reduction of 5 dBA. Quieter procedures shall be used such as drilling rather than impact equipment whenever feasible.
- ◆ The individual improvement project proponent or local jurisdiction shall ensure that stationary noise and vibration sources shall be located as far from sensitive receptors as possible. If they must be located near existing sensitive receptors, they shall be adequately muffled so that the noise level at the property line of sensitive receptors shall not exceed 65 dBA and there is no significant vibration within the structures of the sensitive receptors.
- ◆ The individual improvement project proponent or local jurisdiction shall designate a complaint coordinator responsible for responding to noise and vibration complaints received during the construction phase. The name and phone number of the complaint coordinator shall be conspicuously posted at construction areas and on all advanced notifications. Entities that are responsible and oversee sensitive receptors within vicinity of the project shall be given written notification of the dates and times of construction during which noise and vibration may occur in conjunction with the project. The complaint coordinator shall be responsible for taking steps required to resolve complaints, including periodic noise and vibration monitoring, if necessary.
- ◆ Noise generated from any rock-crushing or screening operations performed within 3,000 feet of any occupied residence and sensitive receptor shall be mitigated by the individual improvement project proponent or local jurisdiction by strategic placement of material stockpiles between the operation and the affected properties or by other means approved by the individual improvement project proponent local jurisdiction.
- ◆ The individual improvement project proponent or local jurisdiction shall direct contractors to implement appropriate additional noise and vibration mitigation measures including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents and entities that are responsible and oversee sensitive receptors within vicinity of the project in advance of construction work, and installing acoustic barriers around stationary construction noise sources to comply with local noise control requirements.

- ◆ The individual improvement project proponent or local jurisdiction shall implement use of portable barriers during construction of subsurface barriers, debris basins, and storm water drainage facilities.
- ◆ No pile-driving or blasting operations will be performed within 3,000 feet of an occupied residence and sensitive receptor on Sundays, legal holidays, or between the hours of 8:00 p.m. and 8:00 a.m. on other days. Any variance from this condition shall be obtained from the individual improvement project proponent or local jurisdiction and shall be approved by the local jurisdiction. In the event that such operations affect sensitive receptors, specific hours of construction shall be agreed upon between the individual improvement project proponent or local jurisdiction and the entities that are responsible and oversee sensitive receptors to minimize the noise and vibration impacts on sensitive receptors.
- ◆ Wherever possible, sonic or vibratory pile drivers shall be used instead of impact pile drivers, (sonic pile drivers are only effective in some soils). If sonic or vibratory pile drivers are not feasible, acoustical enclosures shall be provided as necessary to ensure that pile-driving noise does not exceed speech interference criterion at the closest sensitive receptor, and that the noise level at the property line of sensitive receptors shall not exceed 65 dBA and there is no significant vibration within the structures of the sensitive receptor.
- ◆ In residential areas, pile driving shall be limited to construction to between 6:00 a.m. and 8:00 p.m. on Monday through Friday and between 7:00 a.m. and 8:00 p.m. on weekends.
- ◆ Engine and pneumatic exhaust controls on pile drivers shall be required as necessary to ensure that exhaust noise from pile driver engines are minimized to the extent feasible.
- ◆ Where feasible, pile holes will be pre-drilled to reduce potential noise and vibration impacts.

Significance After Mitigation

It is anticipated that implementation of the Project could potentially result in significant noise impacts; therefore, this impact would be considered significant and unavoidable.

Impact 3.11.2

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.).

At the regional scale, the noise impacts of new highways, highway widening, new HOV lanes, new transit corridors, and increased frequency along existing transit corridors may exceed the significance criteria when they occur near sensitive receptors. Arterials, transportation demand management projects, operations and maintenance projects, grade crossings, ramp and interchange improvements, county-wide bus route expansions, and transit facility improvements are not specifically considered here because noise impacts already occur in the vicinity of these facilities, and determining increases in noise requires greater precision of information.

Mitigation Measures

- ◆ As part of the appropriate environmental review of each project, a project specific noise evaluation shall be conducted and appropriate mitigation identified and implemented.

- ◆ Project implementation agencies shall 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.
- ◆ Project implementation 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 new noise generating facilities.
- ◆ Project implementation agencies shall 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.
- ◆ Project implementation 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.
- ◆ The project implementation 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.
- ◆ Passenger stations, central maintenance facilities, decentralized maintenance facilities, and electric substations should be located away from sensitive receptors.

Significance After Mitigation

Although mitigation measures are implemented for the impact, it may not reduce noise levels to below regulatory levels in all circumstances. This impact would remain significant.

Cumulative Impact 3.11.3

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 (i.e., increased traffic resulting from new highways, addition of highway lanes, roadways, ramps, and new use of new transit facilities as well as increased use of existing transit facilities, etc.).

The projects included in the 2011 RTP could have a significant impact on noise in the region. As described under Impact 3.11.1, many of the projects involve construction which could 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.

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.

Mitigation Measures

Mitigation measures intended to reduce the noise impacts on sensitive receptors are part of the 2011 RTP. These include: site design, buffers, soundwalls, etc.

Further reduction in noise impacts would be obtained through the implementation of the measures described in 3.11.1 and 3.11.2.

Significance After Mitigation

Mitigation measures 3.11.1 and 3.11.2 may not reduce noise levels to below regulatory levels in all cases. Therefore, the impact would be significant.

Population/Housing

Impact 3.12.1 – Impacts on Regional Growth and Dispersion

The Project could potentially affect overall population, housing and employment growth and dispersion 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 developed to meet, among other goals, the long-term socioeconomic conditions of the region. One of the strategic issues is growth. Between the years, 2010 and 2035, residential population is expected to increase. The growth 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 inevitable. The Project provides for the anticipated transportation needs of projected growth. The Project is based on a projected population in the Madera region in 2035 of 313,250 people and associated employment. The MCTC projected population growth does not exceed the Department of Finance (DOF) regional forecast and is acceptable under State law.

It is not anticipated that the majority of changes to the transportation network included in the Project may significantly change population, employment and household rates of growth or distribution of growth. Transportation is just one factor that can affect growth. Other factors include the cost of housing, the location of jobs, the economy, and the climate. Factors that account for population growth include natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population, compared to 10 births per 1,000 population in West Virginia, the state with the lowest projected birth rate. 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. In the case of the Project, the Plan itself is considered to be, overall, a response to growth; however, individual 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 could 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 potentially 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. The lack of new or improved facilities in some areas could also result in increased growth in areas with existing transportation infrastructure, or growth that may not have been anticipated in the local general planning process. From this standpoint, the lack of new transportation facilities in the Project could also be considered growth inducing in some other localities.

Major regional capacity-enhancing projects, may have the potential to attract major new growth, and could be seen as potentially growth inducing at the regional level. If these projects open up new areas for urban development, particularly through the development of interchanges and new road connections that are in addition to those proposed by the Project, then the dispersion of population, housing and employment growth in the region can differ from that predicted in the regional growth assumptions.

The Project could also potentially displace or relocate residences and businesses through acquisition of land and buildings necessary for highway, arterial, and transit improvement. This could be considered a potentially significant impact.

The proposed transportation improvements in the Project 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. In other cases, certain transportation improvements 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 are addressed in the design and development of mitigation programs.

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, and arterial improvements have the potential to impact residential units and businesses. Depending on the alignments selected, they have the potential to traverse through residential or commercial areas and construction of these projects may require acquisition of new rights-of-way. 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 individual improvement project proponent or local jurisdiction shall identify and evaluate the impacts on population and job displacement as part of the appropriate improvement project-specific environmental review and shall identify mitigation measures to reduce the impacts to a level of less than significant. The project implementing agency or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the policies, requirements, rules and regulations that may be applicable to the project and the mitigation of impacts following construction of the project in terms of the ability of local agencies to address growth, development, population and housing, and displacement of housing and jobs affected by the development affects of the project.
- ◆ Following construction of the project, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county land use plans, policies, requirements, rules and regulations, and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors applicable to the to the project and the mitigation of impacts of the project in terms of the ability of local agencies to address growth, development, population and housing, and displacement of housing and jobs affected by the development affects of the project.
- ◆ For projects with the potential to displace homes or businesses, the individual improvement project proponent or local jurisdiction shall evaluate alternate route alignments and transportation facilities that minimize the displacement of homes and businesses. Potential impacts shall be minimized to the extent feasible. If possible, existing rights-of-way shall be used.
- ◆ The individual improvement project proponent or local jurisdiction shall identify businesses and residences to be displaced. As required by law, relocation and assistance shall be identified and provided to displaced residents and businesses, in accordance with the federal Uniform Relocation and Real Property Acquisition Policies Act of

1970, the State of California Relocation Assistance Act, and any other applicable federal state city and County policies, rules, regulations, requirements and laws.

- ◆ The individual improvement project proponent or local jurisdiction shall develop a construction schedule that minimizes potential neighborhood deterioration from protracted waiting periods between right-of-way acquisition and construction.

Significance After Mitigation

The impact could remain significant and unavoidable after mitigation due to the potentially large number of displacements that could occur with construction of all of the proposed improvement projects.

Impact 3.12.2 – Disrupt or Divide Communities

Projects have 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. In addition, the project that divides a community may also separate public facilities, including schools from the service area that they serve, causing disruption and requiring school districts to adjust attendance areas. Due to the dividing of a community by a project, unsafe and hazardous access/egress pedestrian, bicycle, school transportation and private vehicle routes any be created

Mitigation Measures

The individual improvement project proponent or local jurisdiction shall identify and evaluate the impacts associated with the disruption and division of a neighborhood or community as a part of the appropriate improvement project-specific environmental review and shall identify mitigation measures to reduce the impacts to a level of less than significant. The project implementing agency or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the project and the mitigation of impacts following construction of the project in terms of the impacts of projects associated with the disruption and division of neighborhoods and communities and the ability of local agencies to provide public services and facilities required after the disruption and divisions of the neighborhood or community.
- ◆ Following construction of the project, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county plans, policies, requirements, rules and regulations, and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities

that are responsible and oversee sensitive receptors applicable to the project and the mitigation of impacts of the project in terms of the impacts of projects associated with the disruption and division of neighborhoods and communities and the ability of local agencies to provide public services and facilities required after the disruption and divisions of the neighborhood or community.

- ◆ The individual improvement project proponent or local jurisdiction shall design new transportation facilities to protect access/egress to and from existing community public facilities. During the design phase of the individual improvement project, community amenities and public facilities shall be identified and access/egress to and from them shall be considered in the design of the individual improvement project.
- ◆ The individual improvement project proponent or local jurisdiction shall design roadway improvements, in a manner that minimizes barriers to pedestrians and bicyclists. During the design phase, pedestrian and bicycle routes shall be determined that permit easy connections to community public facilities nearby in order not to divide the communities.
- ◆ The individual improvement project proponent or local jurisdiction shall evaluate school pedestrian, bicycle, school district transportation, and private passenger transportation routes to school facilities and identify mitigation measures to provide for the safe, hazard free, and efficient routes to minimize the disruption to neighborhood and community schools.

Significance After Mitigation

The Project proposes programs and improvement projects in the majority of urbanized areas within the region, and as such, the potential to disrupt or divide communities remains a significant unavoidable impact even with mitigation measures.

Cumulative Impact 3.12.3

Growth and development in the County will increase substantially by 2035. The 2011 RTP, by increasing mobility and including transportation measures, could potentially influence the pattern of this development. The 2011 RTP's influence on growth could contribute to regional cumulatively considerable impacts to population, housing and employment and could change the intensity of land use in some areas.

Mitigation Measures

The mitigation measures listed above for Impacts 3.12.1 and 3.12.2 would be applied as mitigation for this impact. In addition, the following measure would apply.

- ◆ 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 2035, the region will may need to change land uses and increase the intensity of some existing land use. The cumulative impact would remain significant.

Public Utilities, Other Utilities & Services Systems

Impact 3.13.1 – Construction Impacts on Utilities and Service Systems

Construction and implementation of improvement projects could affect the level of police, fire and medical services in the County. With mitigation, this may be a less than significant impact.

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, several of the proposed improvement projects, including arterials, interchanges, and auxiliary lanes could delay emergency response times or otherwise disrupt delivery of emergency services. Emergency routes could be impaired if one or more lanes of a roadway in Madera County were closed off for construction. Traffic delays and prevention of access to calls for service could potentially be caused by the closure of these lanes.

In addition, school districts provide student transportation to and from residential land uses and school facilities based on established bus routes and schedules. Depending upon the timing, location, and duration of construction activities, proposed improvement projects, including but not limited to arterials, interchanges, and auxiliary lanes could delay school district bus routes and schedules or otherwise disrupt delivery of school bus transportation services. School district routes could be impaired if one or more lanes of a roadway in Madera County were closed off for construction. Traffic delays and school district schedules could potentially be caused by the closure of these lanes. In addition, employees and students of school district schools could be delayed due to disruption of traffic patterns thereby impacting the provisions of educational service.

While these impacts may be short-term in nature, they could be potentially significant. The individual improvement project proponent or local jurisdiction shall be responsible for completing an analysis and study to determine the project-specific impact to emergency services and school district transportation routes and access to schools, as part of project-specific environmental review. Adherence to road encroachment permits by the individual improvement project proponent or local jurisdiction could reduce individual improvement project construction-related impacts to emergency vehicle access and response times, and school district transportation routes and access to schools. As part of the construction mitigation strategy, the individual improvement project proponent or local jurisdiction shall prepare a traffic control plan to further reduce impacts on traffic, emergency response vehicles, and school district transportation routes and access to schools. Additionally, there may be a potential need for increased police, fire, and medical services at the construction sites of projects for safety purposes, and police traffic enforcement and control. The impact of the construction sites themselves on police, fire, and emergency medical services, and school district transportation routes and access to schools is anticipated to be short-term in nature and less than significant.

The Project includes several types of improvement projects that, upon completion, could 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 could involve the construction of transit stations. Upon completion, these transit stations could 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, could involve an increased need for police, fire, and emergency medical services for protection and rescue services.

Rail projects, other than transit stations, 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, could require minimal amounts of additional police, fire, and emergency medical services. If restrooms or drinking fountains are incorporated into non-motorized transportation projects, these uses could 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 will not generate a substantial need for additional police, fire, and emergency medical services, except potentially in cases where new facilities are constructed. Local jurisdictions are expected to be equipped to handle any increased demands for fire and medical services generated by facilities, like transit stations. 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 Population and Housing section of this EIR, population in the County will increase over the next 25 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, several of the transportation projects in the less developed areas of the region could experience a corresponding increase in demand because of the Project. 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 will be reduced to a level of insignificance.

Mitigation Measures

As part of project-specific environmental review, the individual improvement project proponent or local jurisdiction shall be responsible for completing a police, fire, and medical services analysis and study to determine the project-specific impacts on police, fire and emergency services in the County and provide the mitigation measures that shall reduce the impacts to a level of less than significant. The project implementing agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to and during constructions. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with traffic delays and rerouting during construction.
- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, and rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with traffic delays and rerouting during construction.
- ◆ Prior to construction, the individual improvement project proponent or local jurisdiction shall ensure that all necessary local and state road and railroad encroachment permits are obtained. The individual improvement project proponent or local jurisdiction also shall comply with all applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits shall require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Traffic control plans shall include the following requirements:
 - Identify all roadway locations where special construction techniques (e.g., directional drilling or night construction) will 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.
 - Install traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.
 - Develop and implement access and routing plans for highly sensitive land uses such as police and fire stations, and hospitals. Access plans shall be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions shall be asked to identify detours for emergency vehicles, which will then be posted by the contractor. The facility owner or operator shall 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.
- ◆ Projects requiring police protection, fire service, and emergency medical service shall coordinate with the local fire department and police department to ensure that the existing public services and utilities will be able to handle the increase in demand for their services. If the current levels of service at the individual improvement project 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.
 - ◆ The growth inducing potential of individual projects will be carefully evaluated so that the full implications of the Project are understood. Individual environmental documents shall quantify indirect impacts (growth that could be facilitated or induced) on public services and utilities.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Impact 3.13.2 – Increased Demand for Solid Waste, Wastewater, and Potable Water

Demand for solid waste, wastewater, and potable water services in the County could be affected by construction and implementation of the projects. This would be a less than significant impact with mitigation.

Several of the 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 Project 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 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 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 or stops in many cases. Incremental amounts of potable water would be generated at 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

As part of project-specific environmental review, project implementation agencies will evaluate the impacts on demand for solid waste, wastewater, and potable water services in the County. Appropriate mitigation measures should be identified for all impacts. The project implementation agencies or local jurisdiction will be responsible for ensuring adherence to the mitigation measures. MCTC will be provided with documentation indicating compliance to mitigation measures.

- ◆ Projects requiring wastewater service, solid waste collection, or potable water service will coordinate with the local public works department to ensure that the existing public services and utilities would be able to handle the increase. If the current infrastructure servicing the individual improvement project site is found to be inadequate, infrastructure improvements for the appropriate public service utility will be identified in each individual improvement project's CEQA documentation.
- ◆ Reclaimed water will be used for landscaping purposes instead of potable water wherever feasible.
- ◆ Each of the proposed projects will comply with applicable regulations related to solid waste disposal.
- ◆ The construction contractor will work with the County Recycling Coordinator to ensure that source reduction techniques and recycling measures are incorporated into individual improvement project construction.
- ◆ 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

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Impact 3.13.3 – Construction Materials Impacts

The transportation of construction materials to and from the sites during individual improvement project construction could cause accumulation of soil on roadways surrounding the construction sites. This will be a less than significant impact with mitigation.

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 in a particular area, increased soil on local streets could increase the demand for street cleaning. The incorporation of the following mitigation measure will reduce this impact to a level less than significant.

Mitigation Measures

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with soil accumulation.
- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations, to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with soil accumulation.
- ◆ As part of project-specific environmental review, the individual improvement project proponent or local jurisdiction shall evaluate the impacts resulting from soil accumulation during construction of the projects within the areas of construction and in areas outside of construction zones and mitigation measures shall be identified to reduce the impacts to a level of less than significant. The individual improvement project proponent or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures during construction.
- ◆ Implement appropriate measures, including washing of construction vehicles undercarriages before leaving the construction site or increasing the use of street cleaning machines, as well as other activities as appropriate, to reduce the amount of soil on local roadways as a result of construction.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Impact 3.13.4 – Impacts on Underground Utilities

It is possible that underground utility lines (sewer, gas, electricity, telephone and water) could be uncovered and potentially severed because of construction of projects. This would be considered a less than significant impact with mitigation.

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 project implementation agency would be required to incorporate the locations of existing utility lines into the construction schedule. Prior knowledge and avoidance of existing utility lines during construction would reduce this impact to a level less than significant.

Mitigation Measures

- ◆ As part of project-specific environmental review, project implementation agencies will evaluate the impacts resulting from the potential for severing underground utility lines during construction of the projects. Appropriate mitigation measures will be identified for all impacts. The project implementation agencies or local jurisdiction will be responsible for ensuring adherence to mitigation measures. MCTC will be provided with documentation indicating compliance with mitigation measures.
- ◆ 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

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Cumulative Impact 3.13.5

Growth and development in the County will increase substantially by 2035. The 2011 RTP, by increasing mobility and including transportation measures, could potentially influence the pattern of this development. The 2011 RTP's influence on growth could contribute to regionally cumulative 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 services, and additional solid waste services. Such needs will be determined on a project-level basis by individual service providers.

Mitigation Measures

- ◆ The growth inducing potential of individual projects shall be carefully evaluated so that the full implications of the projects are understood. Individual environmental documents shall quantify indirect impacts (growth that could be facilitated or induced) on public services and utilities to the extent feasible.
- ◆ The California Integrated Waste Management Board shall continue to enforce solid waste diversion mandates that are enacted by the Legislature.
- ◆ Local jurisdictions shall continue to adopt programs to comply with state solid waste diversion rate mandates and, where possible, shall encourage further recycling to exceed these rates.
- ◆ 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.
- ◆ Project implementation agencies shall coordinate regional approaches and strategic siting of waste management facilities.

- ◆ Project implementation agencies shall 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.
- ◆ Project implementation agencies shall 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

The cumulative impacts of providing additional public services would remain significant.

Transportation/Traffic

Impact 3.14.1 – Level of Service Deficiencies

To determine the Year 2035 LOS for each segment along the Regionally Significant Roads System, segment LOS was estimated using the capacities resulting from the Regional Traffic Model. The Traffic Model considers the capacity of individual segments based on numerous roadway variables (freeway design speed, signalized intersections per mile, number of lanes, saturation flow, etc.). These variables were identified and applied in the Tables to reflect existing traffic LOS conditions in Madera County. Socioeconomic data incorporated into the traffic modeling is based upon the applicable general plans of the local jurisdictions.

Results of the 2035 LOS segment analysis with the Project along the RTP Regionally Significant Roads System are reflected in Figures 3-10 (City of Madera Urban Area) and Figure 3-11 (Madera County). Traffic model runs were provided by MCTC. Referencing the Figures, results of the LOS analysis with the Project indicate that even with the improvement projects identified in the RTP, LOS deficiencies will still occur by 2035. Considering a No Build condition (the same growth through to the Year 2035 but no additional improvement projects beyond the existing system of streets and highways other than those projects that are currently programmed in the TIP), the LOS deficiencies will be even more considerable by the Year 2035 (reference Figures 12 and 13).

The resultant list of deficient facilities along the Regionally Significant Roads System with and without the Project indicates that when the Project improvements are made to the regionally significant street and highway system, LOS conditions within the Madera Metropolitan Area and within the County will significantly improve.

Congestion decreases and transit use increases significantly with the Project compared to the No Build Alternative. In addition, employment choices are increased for both automobile and transit users. Because one of the stated objectives of the Project is to reduce congestion and improve mobility, this is considered a significant beneficial impact.

While the Project will improve deficient levels of service compared to the No Build or No Project (2007 RTP and Conformity Finding) Alternatives, the Project will not address all deficient levels of service anticipated in the future.

Mitigation Measures

Implementation of street and highway improvement projects and programs generally will serve to improve traffic flows and reduce congestion and delay within Madera County. However, street and highway needs are constrained by limited funding sources that are necessary to implement additional projects along the regional transportation system. As indicated above, LOS deficiencies are projected to occur, even considering the wide range of financially constrained street and highway improvements identified in the 2011 RTP.

To address these and other transportation/circulation related impacts, the following mitigation measures are recommended:

- ◆ A number of local street and road and State Route segments along the regional street and highway system will experience deficient LOS conditions by 2035. Mitigation measures for these segments have not been identified or programmed in the 2011 RTP. Intersection improvements and lane additions would improve deficient levels of service to acceptable levels consistent with minimum LOS policies identified in the 2011 RTP; however, funding to address the improvements is not available or the costs to mitigate the deficiencies are prohibitive. MCTC shall coordinate efforts to identify appropriate strategies that would improve deficient levels of service along the affected streets and highways. MCTC shall continue to work with local agencies and Caltrans, District

06 to identify alternative improvements, associated cost estimates, and an implementation plan and schedule and during update of local general plans and other planning efforts. Various funding sources shall be analyzed as part of implementation plans and findings shall be incorporated into future RTPs.

- ◆ Local agencies should be encouraged to update general, area, community and specific plans to reflect the current status of future street and highway improvements. The timing of improvements should also be regularly updated. These measures will help MCTC identify appropriate and available funding for planned street and highway improvements along the regional street and road system during development of future RTPs.

Significance After Mitigation

While improved mobility will result from implementation of the projects contained in the 2011RTP, some significant unavoidable impacts, considering the regional minimum LOS policy of "D" will occur. LOS deficiencies will result along a number of regional street and highway segments and associated intersections because of the inability to widen such facilities due to funding and other constraints even with RTP projects. It is anticipated that even with implementation of the Project significant LOS deficiencies will continue therefore; this impact would be considered significant and unavoidable.

Impact 3.14.2

The proposed Project includes a series of individual improvement projects and programs (street and highway, transit, bicycle and trail, pedestrian and other projects) to help improve the multi-modal transportation system. Implementation of these projects and programs will improve transportation system performance. In addition, the Project includes numerous individual transportation projects and programs all aimed at implementing the RTP goals. The overall impact of the Project on regional transportation therefore is considered a beneficial impact.

The overarching goal for the Project is to develop a fully integrated, multi-modal transportation system to serve as a catalyst to enhance the quality of life enjoyed by the current and future residents of Madera County. From a transportation and circulation perspective, the implementation of the Project is not anticipated to result in any perceived negative effect on transportation system performance, but will have the effect of improving transportation system performance regionally.

Mitigation Measures

This impact is considered beneficial; mitigation measures are not required.

Significance After Mitigation

Less than significant.

Impact 3.14.3 – Road Construction

Construction of projects may result in temporary lane closures (for varying durations at different locations) along project corridors. Some construction activities may require alternate one-way traffic flow on two-lane roads to be managed by flaggers. As a result, travel delays by the motoring public, school buses, local public transit vehicles, emergency vehicles, and other public agency vehicles may be experienced during peak and off-peak hours. Rerouting of vehicles may result from the construction of the project.

School districts provide student transportation to and from residential land uses and school facilities based on establish bus routes and schedules. Depending upon the timing, location, and duration of construction activities,

proposed improvement projects, including but not limited to arterials, interchanges, and auxiliary lanes could delay school district bus routes and schedules or otherwise disrupt delivery of school bus transportation services. School district routes could be impaired if one or more lanes of a roadway in Madera County were closed off for construction. Traffic delays and school district schedules could potentially be caused by the closure of these lanes. In addition, employees and students of school district schools could be delayed due to disruption of traffic patterns thereby impacting the provisions of educational service.

In addition, project construction may impact pedestrian, bicycle, and private vehicle routes required for student to have safe and hazard free access to schools on routes from residential lands use to school sites. Project construction may create unsafe and hazardous pedestrian, bicycle, and private vehicle routes.

Mitigation Measures

As part of project-specific environmental review, the individual improvement project proponent or local jurisdiction shall be responsible for completing an analysis and study to determine the project-specific impacts on affected local school districts, public transit agencies, emergency service providers, or other affected community service agencies to address potential impacts of a project on an agency's transportation program. The project implementing agency or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures prior to and during construction. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies and applicable school districts responsible for school district bus transportation routing and schedules to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with traffic delays and rerouting during construction.
- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations, and applicable school districts responsible for school district bus transportation routing and schedules to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with traffic delays and rerouting during construction.
- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall prepare in conjunction with local school districts, plans and programs to mitigate the impacts of the project on school district bus transportation, and to provide for safe and hazard free pedestrian, bicycle and private vehicle routes and detours required during the construction of the project.
- ◆ The growth inducing potential of individual projects shall be carefully evaluated so that the full implications of the projects are understood. Individual environmental documents shall quantify indirect impacts (growth that could be facilitated or induced) on public services and utilities to the extent feasible. Lead and responsible agencies then will make any necessary adjustments to the applicable General Plan. Any such identified adjustment shall be communicated to MCTC.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

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 Subsequent Environmental Impact Report (SEIR) is to provide local decision-makers and the public with an objective analysis of the potential environmental consequences of implementation of regional transportation system outlined in the Draft Regional Transportation Plan (RTP). 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.

Requirement to Prepare a Subsequent EIR

According to CEQA, when an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

- ◆ Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.
- ◆ Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.
- ◆ New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
 - The project will have one or more significant effects not discussed in the previous EIR or negative declaration.
 - Significant effects previously examined will be substantially more severe than shown in the previous EIR.
 - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative.
 - Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

In this case, the Madera County transportation Commission (MCTC) understands that 2011 RTP improvement projects will change or the timing of those projects will change. As a result of these changes, rather than prepare a complete new EIR, MCTC desires to use the previous EIR and update/change sections to address RTP project changes, as well as greenhouse gas/global warming (Climate Change) issues.

2.2 PROJECT LOCATION

Madera County is located in California's Central San Joaquin Valley (reference Figure 2-1). Encompassing 2,147 square miles, the County is situated near the geographic center of the State along State Route (SR) 99, approximately 250 miles north of Los Angeles. The County has an altitude of 272 feet above sea level to 14,000 feet above sea level in the Sierra Nevada. As of 2008, Madera County had a population of approximately 152,465.

2.3 PROJECT CHARACTERISTICS

The project, as defined by CEQA Statutes, Section 21065, is the preparation of the 2011 revision of the RTP. MCTC has prepared the RTP 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 Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The RTP must also meet Transportation Conformity for the Air Quality Attainment Plan per 40 CFR Part 51 and 40 CFR Part 93. In addition, the RTP must address requirements set forth in Assembly Bill 32, the California Global Warming Solutions Act of 2006. Finally, the California Transportation Commission has prepared guidelines (most recently adopted by the Commission on September 20, 2007 plus an Addendum addressing Climate Change and Greenhouse Gas Emissions adopted by the Commission on May 29, 2008) to assist in the preparation of RTPs pursuant to Section 14522 of the Government Code.

As the designated Regional Transportation Planning Agency (RTPA), MCTC is mandated by state and federal law to update the Regional Transportation Plan every four (4) years. The last comprehensive EIR on the RTP was completed in May 2006, which addressed transportation improvement projects, programs, and funding reflected in the 2004 RTP together with additional funding from the proposed (now approved) ½ Cent Sales Tax Measure Extension (Measure "T"). Measure "T" did receive the 2/3rds voter approval required in order to pass in the November 2006 election. The 2011 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 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 SEIR. The RTP is also used as a transportation planning document by each of the sixteen 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 2011 RTP include Climate Change, Congestion Management Process, Environmental Justice, Goods Movement, and Blueprint Planning. In addition, the 2011 RTP includes updated project lists and updated performance measures. The regionally Significant Road System is shown in Figure 2-1

Planned transportation improvement projects are listed in the Program of Projects (reference Tables 2-1 through 2-5). The Constrained Capacity Increasing Street and Highway Projects are modeled in the Air Quality Conformity Analysis. 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 Plan, and must be financially constrained.

Forecasting methods in the RTP 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 estimates for growth in all areas of the County. 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/operations costs, cost of alternatives, timeframe (short- and long-term), environmental resources and methodology.

Alternative scenarios are not addressed in RTP; they are, however addressed and analyzed for their feasibility in this EIR, as required by California Environmental Quality Act (15126(d), 15125.6(a)). From the Draft Subsequent EIR, the alternatives are identified and described and projects that deliver the most benefit were selected.

The 2011 RTP promotes a "balanced" transportation system. It calls for increased investments in alternative transportation modes, while accommodating a necessary amount of new highway capacity. Heavier emphasis on alternative modes, above and beyond those already incorporated in the RTP, may be desired or preferred but because of financial constraints, alternative mode additions are not financially feasible in the timeframe of the RTP.

The Constrained Program of Projects (reference Table 2-1) includes projects that will move the region toward a financially constrained and balanced system. Constrained projects have undergone air quality conformity analyses to ensure that they contribute to the Madera region's compliance with state and federal air quality rules. The Unconstrained Program of Projects [reference Chapter 4 (Action Element) of the 2011 RTP] 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 searching for funding to support these projects.

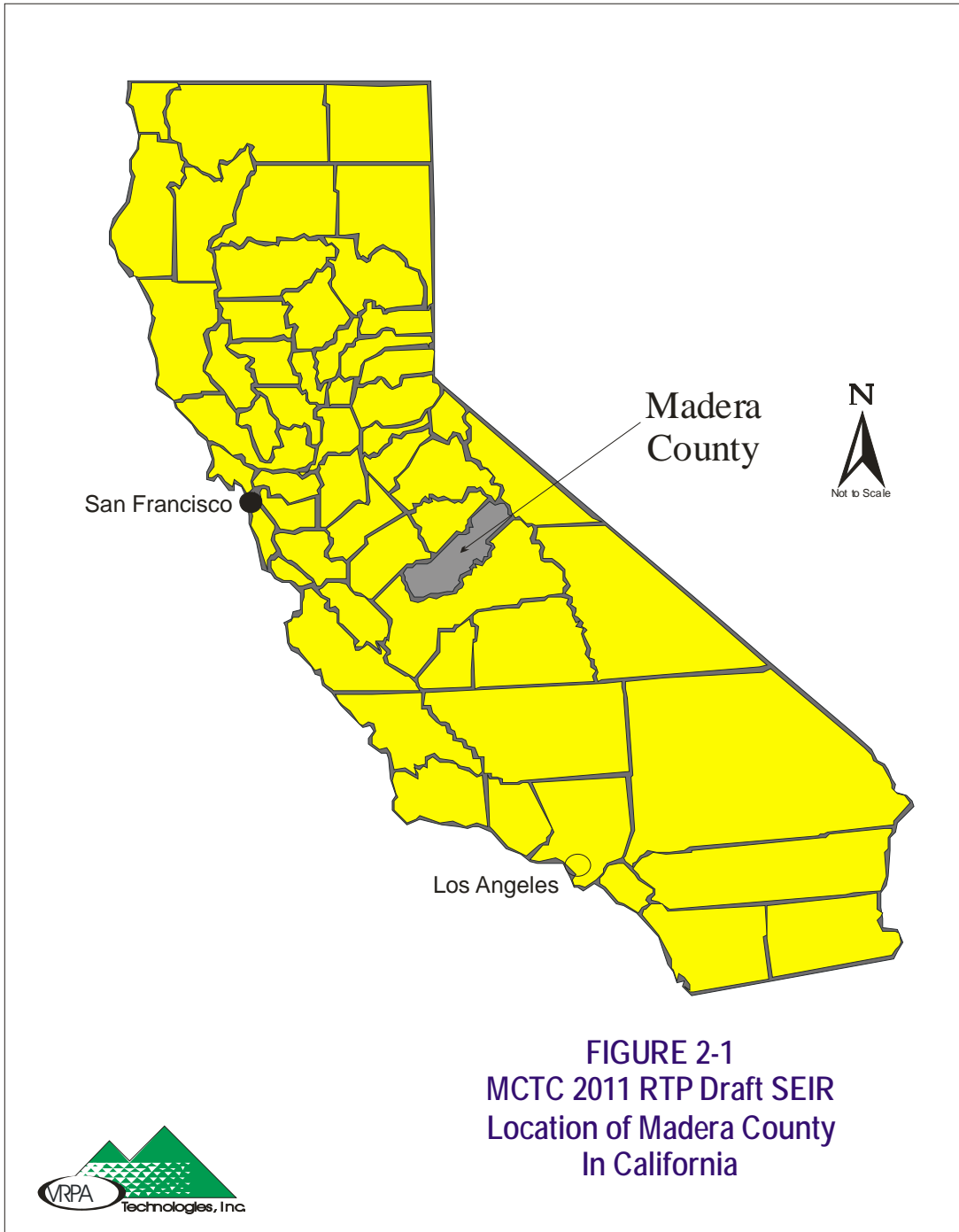


FIGURE 2-1
MCTC 2011 RTP Draft SEIR
Location of Madera County
In California

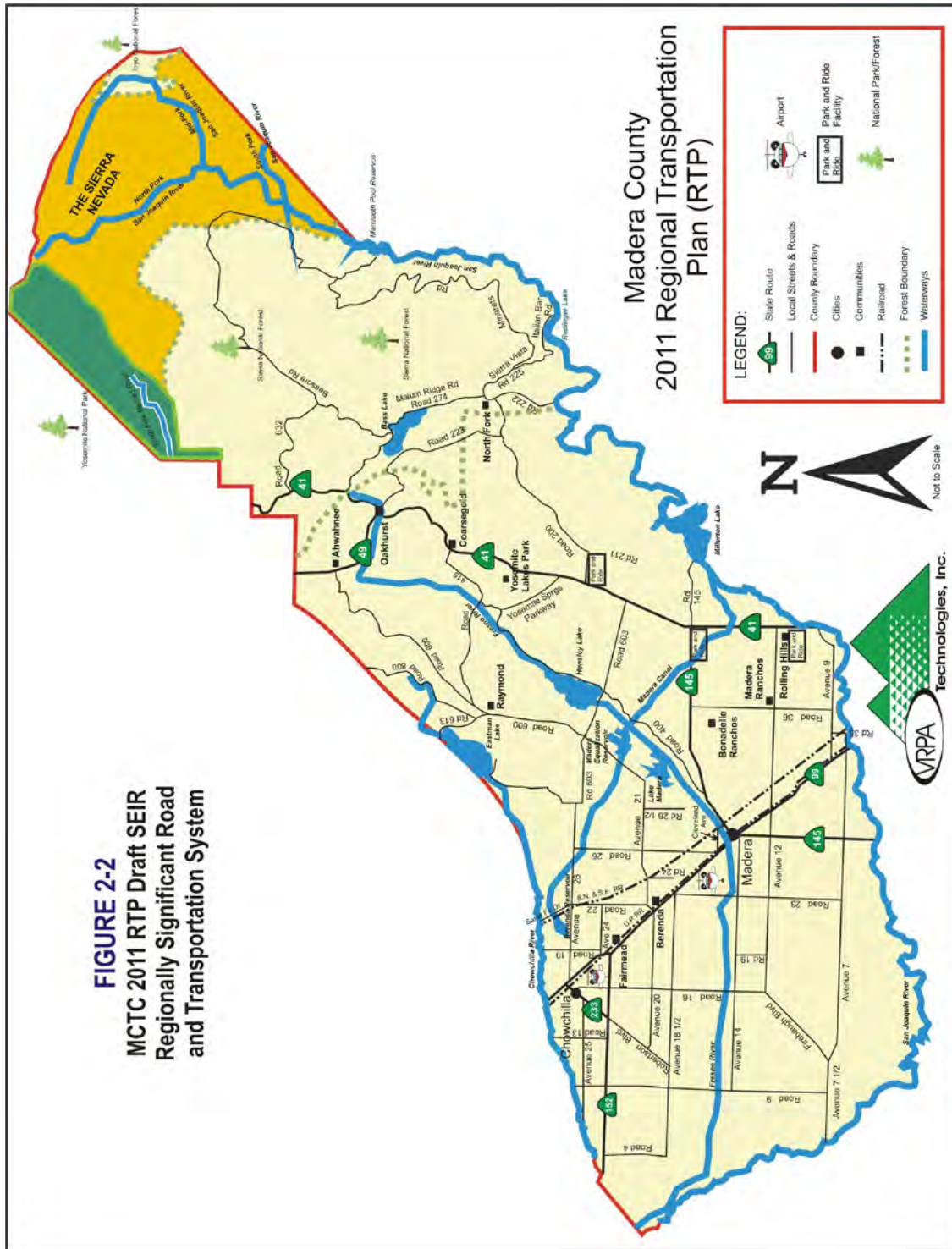


TABLE 2-1
Constrained Candidate Capacity Increasing Projects
for Inclusion in the MCTC 2011 RTP

Agency Identifier	Map ID Number	Route	Project Limits	Project Description	Estimated Cost	Funding Year	Open to Traffic Year	Conformity Analysis Year	Funding Source
CALTRANS CANDIDATE PROJECTS - 2011 RTP PROJECT LIST (CT RTP)									
CTRTP	1	99	On Route 99 from .5 miles south of Avenue 12 overcrossing to .5 miles north of Avenue 12 overcrossing. PM R7.1 - R7.9	Reconstruct Ave 12 Interchange	\$68,000,000	2011-12	2015	2017	99 Bond/Meas T/IF
CTRTP	2	99	In Fresno & Madera Counties, From 0.2 miles south of Grantland Ave UC to 0.6 miles north of Avenue 7	Widen 4-Lane Fwy to 6-Lane Fwy	\$54,000,000	2012-13	2016	2017	ITIP/99 Bond
CTRTP	3	99	Ave 12 to Ave 17	4-Lane Freeway to 6-Lane Freeway	\$91,010,666	2018	2022	2023	ITIP
CTRTP	4	99	Ave 7 to Ave 12	4-Lane Freeway to 6-Lane Freeway	\$160,571,129	2022	2026	2035	ITIP
Subtotal:					\$373,581,795				
CITY OF MADERA CANDIDATE STREET AND ROAD PROJECT LIST (MADCITY)									
MADCITY	5	ELLIS AVE - Phase 1	Granada to w/o SR99	New 4-lane Road Connection replacing Avenue 16 from Granada to SR 99	\$5,020,000	2010	2010	2011	Prop 1B/IF/Dev
MADCITY	6	ELLIS AVE - Phase 2	w/o SR 99 to e/o Road 26	Recon street and new SR 99 OC at Ellis	\$14,755,000	2010	2011	2011	Meas T
MADCITY	7	SR 99	In MAD CO From 0.6Mi S/Of 4TH Street to 0.2Mi N/Of 4TH Street OC PM 10.4 - 11.2	Fourth Street/SR 99 Interchange Improvements	\$7,000,000	2011	2012	2012	RTIP/Meas T
MADCITY	8	4TH	Gateway to Lake	2 to 4 lanes w/ RR xing	\$3,300,000	2011	2012	2012	Meas T/IF
MADCITY	9	OLIVE	Gateway to Roosevelt	2 to 4 lanes	\$2,121,800	2013	2014	2014	Meas T/IF
MADCITY	10	LAKE	4th to Cleveland	2 to 4 lanes	\$2,028,730	2016	2016	2017	Meas T-Tier 2
MADCITY	11	SCHNOOR	Trevor to Sunset	Overlay & Restripe to 4 lanes	\$1,106,886	2018	2018	2020	Meas T
MADCITY	12	CLEVELAND	Sharon to Tozer	Restripe to 4 lanes	\$491,950	2018	2018	2020	Meas T
MADCITY	13	WESTBERRY	at Fresno River	New 4 Lane Bridge	\$12,298,739	2018	2018	2020	IF/Dev
MADCITY	14	AIRPORT	Ave 17 to Yeager	Restripe to 4 lanes	\$391,432	2020	2020	2020	Meas T
MADCITY	15	YEAGER	Airport to Falcon	Overlay and Restripe to 4 lanes	\$391,432	2020	2020	2020	Meas T
MADCITY	16	ELLIS	Road 26 to Lake	2 to 4 lanes	\$3,914,320	2020	2020	2020	IF
MADCITY	17	SR 145	SR99 to Yosemite	Widen 2 to 4 Lanes	\$5,536,935	2022	2022	2023	RTIP/Meas T/IF
MADCITY	18	Granada	at Fresno River	Widen Structure from 2 to 4 lanes	\$3,664,205	2023	2024	2025	Meas T/IF
MADCITY	19	Sharon Blvd	Ellis to Avenue 17	New 4 Lane Roadway	\$8,554,565	2023	2023	2023	IF/Dev
MADCITY	20	CLEVELAND	Schnoor to SR 99	4 to 6 lanes	\$4,847,587	2023	2023	2023	RTIP/Meas T/IF
MADCITY	21	GATEWAY	Yosemite to Cleveland	Widen to 4 Lanes	\$14,257,609	2023	2024	2025	RTIP/Meas T/IF
MADCITY	22	ELLIS	Road 26 to Krohn	2 to 4 lanes	\$5,874,135	2024	2024	2025	Meas T/IF
MADCITY	23	Avenue 17	SR99 Interchange	Interchange Improvements/Widen Structure	\$56,685,401	2024	2025	2025	Meas T/IF/Dev
MADCITY	24	Westberry	Cleveland to Ave. 16	2 to 4 Lanes	\$2,716,787	2024	2024	2025	IF/Dev
MADCITY	25	D Street	Clark to Adell	2 to 4 Lanes	\$701,085	2026	2026	2035	Meas T/IF/Dev
MADCITY	26	Howard	Westberry to Granada	2 to 4 lanes	\$4,673,902	2026	2026	2035	IF/Dev/Meas T
MADCITY	27	Pecan	Golden State to Stadium	2 to 4 lanes	\$4,673,902	2026	2026	2035	Meas T/IF
MADCITY	28	Tozer/Road28	Avenue 13 to Knox	2 to 4 lanes	\$1,869,561	2026	2026	2035	Meas T/IF/Dev
MADCITY	29	SUNRISE	B Street to Road 28	2 to 4 lanes	\$2,892,483	2028	2028	2035	RTIP/Meas T/IF
MADCITY	30	Storey Road	SR145 to City Limit	2 to 4 lanes	\$2,396,629	2028	2028	2035	Meas T/IF
MADCITY	31	CLEVELAND	Road 26 to SR 99	4 to 6 lanes & Interchange Improvements	\$54,988,588	2029	2030	2035	Meas T-Tier 2/IF
MADCITY	32	Pine	Almond Ave to Pecan Ave	2 to 4 lanes	\$1,911,322	2030	2030	2035	IF
MADCITY	33	Stadium	Pecan to Maple	Upgrade 2 to 4 lanes	\$1,209,919	2030	2030	2035	IF
MADCITY	34	Madera Ave (SR145)	SR99 Interchange	4 to 6 Through Lanes	\$29,634,252	2030	2032	2035	IF
MADCITY	35	4th Street	SR99 Interchange	4 to 6 Through Lanes	\$29,318,621	2030	2032	2035	IF
Subtotal:					\$284,207,779				
CITY OF CHOWCHILLA - CANDIDATE STREET AND ROAD PROJECT LISTING (CHOWCITY)									
CHOWCITY	36	ROBERTSON	15th Street to Palm Pkwy	Restripe 2 to 4 Lanes	\$1,078,229	2017	2017	2017	SHOPP/Meas T
CHOWCITY	37	FIG TREE	SR 99 Overcrossing	2 Lane OC to Chowchilla Blvd	\$13,282,638	2018	2020	2020	IF
CHOWCITY	38	99	SR 233 Interchange	Reconstruct Interchange	\$49,832,419	2022	2024	2025	RTIP/Meas T/IF
CHOWCITY	39	AVENUE 26	SR 99 to Coronado	Widen to 4 Lanes	\$9,468,933	2030	2032	2035	IF
Subtotal:					\$73,662,219				

TABLE 2-1 (Cont.)
Constrained Candidate Capacity Increasing Projects
for Inclusion in the MCTC 2011 RTP

Agency Identifier	Map ID Number	Route	Project Limits	Project Description	Estimated Cost	Funding Year	Open to Traffic Year	Conformity Analysis Year	Funding Source
COUNTY OF MADERA STREET AND ROAD PROJECT LISTING (MADCO)									
MADCO	40	41	On Route 41 Between 0.3 Mile North of Road 208 and 2.2 Mile North Of Road 208	Construct Passing Lanes	\$30,388,738	2015	2016	2017	Various
MADCO	41	SR 41	Ave 12 to SR 145	Widen to 4 Lanes	\$19,516,785	2017	2019	2020	Meas T/F
MADCO	42	Rd 206	Madera County Line to Rd 145	Widen to 4 Lanes	\$18,204,521	2017	2019	2020	IF
MADCO	43	Rd 145	Rd 206 to SR 41	Widen to 4 Lanes	\$15,185,957	2017	2019	2020	IF
MADCO	44	SR 41	Madera County Line to Ave 10	Widen to 6 lanes	\$5,780,407	2018	2020	2020	RTIP/Meas T/IF
MADCO	45	Ave 9	SR 99 to Rd 40 1/2	Widen to 4 Lanes	\$41,257,349	2018	2020	2020	RTIP/Meas T/IF
MADCO	46	SR 41	Ave 10 to Ave 12	4 lane freeway & IC @ Ave 12	\$100,858,967	2020	2022	2023	RTIP/Meas T/IF
MADCO	47	Ave 12	Rd 38 to SR 41	Widen to 4 lanes	\$31,279,768	2024	2026	2035	Meas T/F
MADCO	48	SR 41	Road 420 to SR 49 South of Oakhurst	Widen to 4 Lanes	\$36,747,777	2027	2029	2035	RTIP/Meas T/IF
MADCO	49	Rd 29	Olive to Ave 13	Widen to 4 lanes	\$8,098,953	2028	2030	2035	Meas T/F
MADCO	50	Rd 29	Ave 12 to Ave 13	Widen to 4 lanes	\$16,343,357	2029	2031	2035	Meas T/F
MADCO	51	Rd 400	Hensley Lake entrance to Lilly Min Rd	Reconstruct roadway & Widen	\$36,276,533	2030	2032	2035	IF
MADCO	52	Ave 12	SR 99 to Rd 32	Widen to 4 lanes	\$31,065,113	2031	2033	2035	RTIP/Meas T/IF
MADCO	53	CHILDRENS	SR 41 NB ramps to Peck Blvd	Widen to 8 lanes	\$7,281,193	2033	2035	2035	IF
MADCO	54	AVE 12	SR 41 to North Rio Mesa Blvd	Widen to 6 Lanes	\$4,790,259	2033	2035	2035	IF
MADCO	55	AVE 10	Road 401/2 to SR 41	Widen to 4 Lanes	\$8,430,855	2033	2035	2035	IF
MADCO	56	SR 41	NB on ramp/SR 41 @ Children's Blvd	Widen to 2 lanes	\$38,705,289	2033	2035	2035	IF
				Subtotal:	\$450,211,822				
				TOTAL:	\$1,181,663,615				

TABLE 2-2
Candidate Rehabilitation and Safety Projects
for Inclusion in the MCTC 2011 RTP

Agency Identifier	Project Number	Route	Project Limits	Description	Estimated Cost	Funding Year	Funding Source
CALTRANS CANDIDATE PROJECTS - 10 YEAR SHOPP PROJECT LIST (CTSHOPP)							
CTSHOPP	1	152	R0/R15.6	Replace Slab, Dowel & Grind	\$4,620,000	2010	Maintenance
CTSHOPP	2	99	R1.4/7.3	Pavement Preservation	\$1,770,000	2011	Maintenance
CTSHOPP	3	41	R0/R3.23	Seal Joints	\$130,000	2012	Maintenance
CTSHOPP	4	49	.8/9.28	Pavement Preservation	\$5,080,000	2012	Maintenance
CTSHOPP	5	41	35.3/40.9	Pavement Preservation	\$1,970,000	2013	Maintenance
CTSHOPP	6	99	23.1/26.8	ACOL - CAPM	\$1,110,000	2014	SHOPP
CTSHOPP	7	99	22.7/29.4	ACOL - CAPM	\$770,000	2014	SHOPP
CTSHOPP	8	99	9.5/13.0	ACOL/Rehab	\$37,394,000	2014	SHOPP
CTSHOPP	9	99	23.77	Upgrade Bridge Rail	\$180,000	2015	SHOPP
CTSHOPP	10	99	R14.6	Upgrade Bridge Rail	\$80,000	2015	SHOPP
CTSHOPP	11	145	R 0.0-6.8	ACOL-Rehab	\$16,690,000	2016	SHOPP
CTSHOPP	12	152	4.45	Upgrade Bridge Rail	\$70,000	2016	SHOPP
CTSHOPP	13	233	3.87	Upgrade Bridge Rail	\$190,000	2016	SHOPP
Subtotal:					\$70,054,000		
CITY OF MADERA CANDIDATE STREET AND ROAD PROJECTS							
MADCITY	1	Cleveland	Sharon to Raymond	Reconstruct	\$210,000	2011-15	Measure T
MADCITY	2	"D" Street	9th to Yosemite	Rehabilitate & Overlay	\$115,000	2011-15	Measure T
MADCITY	3	Pine	Howard - 4th	Reconstruct 2-Lane Collector	\$200,000	2011-15	Measure T
MADCITY	4	4th	Pine - SR 99	Reconstruct 2-Lane Collector	\$750,000	2011-15	Measure T
MADCITY	5	Yosemite	"Q" - Gateway	Rehabilitate Pavement	\$450,000	2011-15	Measure T
MADCITY	6	Almond	Commerce to Schnoor	Rehabilitate & Overlay	\$120,000	2011-15	Measure T
MADCITY	7	"T" Street	4th to 9th	Reconstruct 2-Lane Collector	\$270,000	2011-15	Measure T
MADCITY	8	Various	Local Streets	Overlay	\$1,800,000	2011-15	Measure T
MADCITY	9	Sherwood	County Club to Sonora	Rehabilitate & Overlay	\$200,000	2011-15	Measure T
MADCITY	10	"D" Street	Cleveland to Adell	Rehabilitate & Overlay	\$637,601	2016-20	Measure T
MADCITY	11	Central	"D" - Lake	Rehabilitate & Overlay	\$695,564	2016-20	Measure T
MADCITY	12	Almond	Monterey - SR 145	Reconstruct 2-Lane Collector	\$324,597	2016-20	Measure T
MADCITY	13	Golden St	Pecan to Almond	Rehabilitate & Overlay	\$289,819	2016-20	Measure T
MADCITY	14	"H" Street	4th to Central	Rehabilitate & Overlay	\$289,819	2016-20	Measure T
MADCITY	15	Central	"H" - "D"	Reconstruct 2-Lane Collector	\$537,567	2021-25	Measure T
MADCITY	16	Vineyard	Clinton to Yosemite	Rehabilitate & Overlay	\$174,709	2021-25	Measure T
MADCITY	17	Merced	Kennedy - Adell	Reconstruct 2-Lane Collector	\$67,196	2021-25	Measure T
MADCITY	18	Kennedy	Merced - Tulare	Reconstruct 2-Lane Collector	\$1,075,133	2021-25	Measure T
MADCITY	19	"D" Street	Adell to Ellis	Reconstruct 2-Lane Collector	\$403,175	2021-25	Measure T
MADCITY	20	Owens Street	Sherwood to Ellis	Reconstruct 2-Lane Collector	\$1,090,577	2026-30	Measure T
MADCITY	21	Clark Street	Sharon to Owens	Reconstruct 2-Lane Collector	\$934,780	2026-30	Measure T
MADCITY	22	Various	To Be Determined	Regional Recon/Rehab	\$3,317,568	2011-2020	Measure T/RSTP/LTF
MADCITY	23	Various	To Be Determined	Regional Recon/Rehab	\$7,168,069	2021-2035	Measure T/RSTP/LTF
MADCITY	24	Various	To Be Determined	Rehab/Maint/Operations	\$29,858,115	2011-2020	Measure T/RSTP/LTF
MADCITY	25	Various	To Be Determined	Rehab/Maint/Operations	\$64,512,621	2021-2035	Measure T/RSTP/LTF
Subtotal:					\$115,491,910		

TABLE 2-2 (Cont.)
Candidate Rehabilitation and Safety Projects
for Inclusion in the MCTC 2011 RTP

Agency Identifier	Project Number	Route	Project Limits	Description	Estimated Cost	Funding Year	Funding Source
CITY OF CHOWCHILLA - CANDIDATE STREET AND ROAD PROJECT LISTING (CHOWCITY)							
CHOWCITY	1	Ventura	3rd St to 4th St, 4th St to 9th St	Overlay, Reconstruct	\$230,000	2011-15	Measure T
CHOWCITY	2	1st Street	Riverside/Kings Alley to 3rd St	Overlay, curb, gutter, sw	\$235,000	2011-15	Measure A
CHOWCITY	3	8th Street	Robertson to Humboldt	Reconstruct/Overlay	\$235,000	2011-15	Measure A
CHOWCITY	4	Washington	Washington/Robertson Blvd	Reconstruct, curb, gutter, sw	\$420,000	2011-15	Measure A
CHOWCITY	5	Colusa	Front to 5th	Reconstruct	\$60,000	2011-15	Measure A
CHOWCITY	6	Road 16	Ave 25 to Basin	Drainage Improvements	\$430,000	2011-15	Measure T
CHOWCITY	7	Various	Area bounded by 15th Street, Robertson, Mariposa Avenue, and Front Street	Storm Drain system serving Entire roadway network in sw quadrant of city	\$600,000	2011-15	Measure T
CHOWCITY	8	Humboldt Ave. 13th Street	3rd St to 6th St	Reconstruct	\$345,000	2011-15	Measure T
CHOWCITY	9	City Streets	3rd, 5th, 15th, & Ventura	Overlay, curb, gutter, sw	\$465,000	2011-15	Measure A
CHOWCITY	10	Humboldt Ave. 13th Street	6th St to 12th	Reconstruct	\$852,066	2016-20	Measure T
CHOWCITY	11	Humboldt Ave. 13th Street	12th to 13th	Reconstruct	\$141,431	2016-20	Measure T
CHOWCITY	12	Humboldt Ave. 13th Street	13th St to 15th St Mariposa Ave to Orange Ave	Reconstruct 2-Lane Collector incl. curb, gutter, sw, ramps etc.	\$1,083,197	2021-25	Measure T
CHOWCITY	13	13th Street	Orange Ave to Kings Ave	Majority Reconstruct 2-Lane Collector incl. curb, gutter, sw, ramps etc./Part Overlay	\$421,990	2021-25	Measure T
CHOWCITY	14	13th Street Monterey Ave	Kings Ave to Ventura Ave 3rd St to 4th St	Majority Reconstruct 2-Lane Collector incl. curb, gutter, sw, ramps etc./Part Overlay	\$1,099,925	2026-30	Measure T
CHOWCITY	15	Monterey Ave	4th St to 7th St	Reconstruct 2-Lane Collector incl. curb, gutter, sw, ramps etc.	\$515,687	2026-30	Measure T
CHOWCITY	16	Monterey Ave	7th St to 12th St	Reconstruct 2-Lane Collector incl. curb, gutter, sw, ramps etc.	\$1,090,577	2026-30	Measure T
CHOWCITY	17	Monterey Ave	12th St. to 15th St	Reconstruct	\$680,832	2026-30	Measure T
CHOWCITY	18	Various	To Be Determined	Regional Recon/Rehab	\$326,799	2011-2020	Measure T/RSTP/LTF
CHOWCITY	19	Various	To Be Determined	Regional Recon/Rehab	\$910,113	2021-2035	Measure T/RSTP/LTF
CHOWCITY	20	Various	To Be Determined	Rehab/Maint/Operations	\$2,941,192	2011-2020	Measure T/RSTP/LTF
CHOWCITY	21	Various	To Be Determined	Rehab/Maint/Operations	\$8,191,016	2021-2035	Measure T/RSTP/LTF
Subtotal:					\$21,274,825		
COUNTY OF MADERA STREET AND ROAD PROJECT LISTING (MADCO)							
MADCO	1	Road 200	Ladd Creek to Finegold Creek	Reconstruct	\$12,000,000	2011-15	Measure A/SLPP
MADCO	2	Rd 29	Ave 12 - Ave 14	PE/Realign & Reconstruct	\$5,790,000	2011-15	Measure T
MADCO	3	Ave 7 1/2	"Y" Ave 12 - Firebaugh	Overlay	\$1,391,129	2016-20	Measure T
MADCO	4	Ave 18 1/2	Rd 22 - Golden State	PE/Reconstruct 2 lanes	\$724,546	2016-20	Measure T
MADCO	5	Rd 16	Ave 12 - Ave 18 1/2	Overlay	\$1,565,020	2016-20	Measure T
MADCO	6	Robertson Blvd.	SR 152 - Ave 18 1/2	Overlay	\$579,637	2016-20	Measure T
MADCO	7	Ave 12	Rd 16 - Rd 23	PE & Reconstruct 2 Lns	\$10,751,331	2021-25	Measure T
MADCO	8	Ave 9	SR 99 - Rd 40 1/2	Overlay	\$1,557,967	2026-30	Measure T
MADCO	9	Rd 26	Ave 18 - Ave 19	PE/Reconstruct 2 lanes/widen	\$1,869,561	2026-30	Measure T
MADCO	10	Various	To Be Determined	Regional Recon/Rehab	\$3,516,137	2011-2020	Measure T/RSTP/LTF
MADCO	11	Various	To Be Determined	Regional Recon/Rehab	\$9,576,879	2021-2035	Measure T/RSTP/LTF
MADCO	12	Various	To Be Determined	Rehab/Maint/Operations	\$31,645,230	2011-2020	Measure T/RSTP/LTF
MADCO	13	Various	To Be Determined	Rehab/Maint/Operations	\$86,191,907	2021-2035	Measure T/RSTP/LTF
Subtotal:					\$167,159,343		
TOTAL:					\$373,980,078		

TABLE 2-3
Candidate Transit Projects
for Inclusion in the MCTC 2011 RTP

Agency Identifier	Project Number	Route	Project Limits	Description	Estimated Cost	Funding Year	Funding Source
CHOWCITY	1	Transit Capital	CATX	Enhancements to CATX Maintenance Facility	\$152,224	2011	Prop 1B-PTMISEA
CHOWCITY	2	Transit Operating	CATX	Operating Assistance	\$328,000	2011	5311/LTF
CHOWCITY	3	Transit Operating	CATX	Operating Assistance	\$337,000	2012	5311/LTF
CHOWCITY	4	Transit Operating	CATX	Operating Assistance	\$346,000	2013	5311/LTF
CHOWCITY	5	Transit Operating	CATX	Operating Assistance	\$355,000	2014	5311/LTF
CHOWCITY	6	Transit Capital	CATX	One (1) Bus	\$80,000	2014	Prop 1B-PTMISEA
CHOWCITY	7	Transit Capital	CATX	Replacement Bus	\$67,000	2015	CMAQ/LTF
CHOWCITY	8	Transit Operating	Chowchilla-Merced	Operating Assistance	\$62,000	2015	CMAQ/LTF
CHOWCITY	9	Transit Capital	CATX	One (1) Bus	\$85,000	2016	Prop 1B-PTMISEA
CHOWCITY	10	Transit Capital	CATX	One (1) Bus	\$97,442	2017	Prop 1B-PTMISEA
MADCITY	11	Transit Capital	MAX/DAR	New Transit Facility	\$2,160,711	2014	Prop 1B-PTMISEA
MADCITY	12	Transit Operating	DAR	Operating Assistance	\$726,000	2011	5307/LTF
MADCITY	13	Transit Operating	MAX	Operating Assistance	\$830,000	2011	5307/LTF
MADCITY	14	Transit Operating	Intermodal Center	Operating Assistance	\$70,000	2011	5307/LTF
MADCITY	15	Transit Operating	DAR	Operating Assistance	\$742,000	2012	5307/LTF
MADCITY	16	Transit Operating	MAX	Operating Assistance	\$846,000	2012	5307/LTF
MADCITY	17	Transit Operating	Intermodal Center	Operating Assistance	\$70,000	2012	5307/LTF
MADCITY	18	Transit Operating	DAR	Operating Assistance	\$756,056	2013	5307/LTF
MADCITY	19	Transit Operating	MAX	Operating Assistance	\$862,000	2013	5307/LTF
MADCITY	20	Transit Operating	Intermodal Center	Operating Assistance	\$70,000	2013	5307/LTF
MADCITY	21	Transit Operating	DAR	Operating Assistance	\$772,000	2014	5307/LTF
MADCITY	22	Transit Operating	MAX	Operating Assistance	\$880,000	2014	5307/LTF
MADCITY	23	Transit Operating	Intermodal Center	Operating Assistance	\$70,000	2014	5307/LTF
MADCITY	24	Transit Operating	DAR	Operating Assistance	\$786,602	2015	5307/LTF
MADCITY	25	Transit Operating	MAX	Operating Assistance	\$897,694	2015	5307/LTF
MADCITY	26	Transit Operating	Intermodal Center	Operating Assistance	\$69,000	2015	5307/LTF
MADCO	27	Transit Operating	MCC	Operating Assistance	\$462,000	2011	5311/LTF
MADCO	28	Transit Capital	MCC	Bus Bike Racks	\$15,000	2011	Prop 1B-PTMISEA
MADCO	29	Transit Capital	MCC	Bus Facility Improvements	\$400,861	2011	Prop 1B-PTMISEA
MADCO	30	Transit Operating	MCC	Operating Assistance	\$462,000	2012	5311/LTF
MADCO	31	Transit Capital	MCC	Park and Ride Lot	\$410,000	2012	Prop 1B-PTMISEA
MADCO	32	Transit Capital	Senior Bus	One (1) Bus	\$100,000	2012	Prop 1B-PTMISEA
MADCO	33	Transit Capital	MCC	Park and Ride Lot	\$415,000	2013	Prop 1B-PTMISEA
MADCO	34	Transit Operating	MCC	Operating Assistance	\$462,000	2013	5311/LTF
MADCO	35	Transit Capital	MCC	Four (4) Buses	\$500,000	2014	Prop 1B-PTMISEA
MADCO	36	Transit Operating	MCC	Operating Assistance	\$462,000	2014	5311/LTF
MADCO	37	Transit Capital	Escort Van	One (1) Van	\$70,000	2015	Prop 1B-PTMISEA
MADCO	38	Amtrak Station	Madera City	Amtrak Station Expansion	\$1,256,169	2017	Prop 1B-PTMISEA
	39	Transit	Various	Transit Operating	\$19,730,298	2011-2020	FTA/Local
	40	Transit	Various	Transit Capital	\$810,000	2011-2020	Prop 1B-CTAF
	41	Transit	Various	Transit Operating	\$52,094,831	2021-2035	FTA/Local
	42	Transit	Various	Transit Capital	\$17,746,163	2021-2035	FTA/Local
TOTAL:					\$107,761,827		

TABLE 2-4
Candidate Pedestrian and Bicycle Facility Projects
for Inclusion in the MCTC 2011 RTP

Agency Identifier	Project Number	Route	Project Limits	Description	Estimated Cost	Funding Year	Funding Source
CHOWCITY	1	Monterey Ave	3rd to 13th Street	Construct Pedestrian Facilities	\$158,333	2014	CMAQ/LTF
CHOWCITY	2	School	Various	Construct Pedestrian Facilities	\$325,000	2012	CMAQ/LTF
MADCITY	3	Tulare St, Cleveland, Raymond Rd	Fresno River to City Limits via Cleveland and Raymond	Class I, II Bicycle Facilities	\$311,000	2014	CMAQ/LTF
MADCITY	4	Cleveland Ave	Schnoor Ave to Granada Ave	Construct Bike/Ped Facilities	\$339,000	2015	CMAQ/LTF
MADCITY	5	Madera	D St to Sierra St	Construct Pedestrian Facilities	\$140,000	2015	CMAQ/LTF
MADCITY	6	Rotary Park	Various	Construct Pedestrian Facilities	\$314,200	2011	CMAQ/LTF
MADCITY	7	Laurel Street	Various	Construct Class I Bicycle Facilities	\$267,700	2014	CMAQ/LTF
MADCITY	8	Fresno River Trail	Gateway & UPRR	Construct Bike/Ped Undercrossing	\$560,000	2011	CMAQ/RTIP(TE)/LTF
MADCITY	9	Fresno River Trail	Schnoor Ave	Construct Bike/Ped Undercrossing	\$384,000	2011	CMAQ/RTIP(TE)/LTF
MADCO	10	Road 225	Creek Dr to Road 228	Construct Pedestrian Facilities	\$181,550	2014	CMAQ/LTF
MADCO	11	Road 426	SR 41 to Road 427	Construct Pedestrian Facilities	\$89,000	2014	CMAQ/LTF
	12	Various	2004 Bike Plan	Class I, II, III Bicycle Facilities	\$2,960,373	2011-2020	CMAQ/Local
	13	Various	2004 Bike Plan	Class I, II, III Bicycle Facilities	\$15,309,782	2021-2035	CMAQ/Local
TOTAL:					\$21,339,938		

TABLE 2-5
Other Transportation Projects
for Inclusion in the MCTC 2011 RTP

Agency Identifier	Project Number	Route	Project Limits	Description	Estimated Cost	Funding Year	Funding Source
CHOWCITY	1	Chowchilla	Roberson Blvd District	Pave alleys	\$301,000	2011	CMAQ/LTF
CHOWCITY	2	Ave 24 1/2	Various	Shoulder Paving	\$300,000	2014	CMAQ/LTF
CHOWCITY	3	Chowchilla	Alternative Fuel Fleet Vehicle	Fleet Conversion	\$62,126	2011	CMAQ/LTF
MADCITY	4	Madera	1 Diesel Front End Loader	Fleet Conversion	\$158,000	2014	CMAQ/LTF
MADCITY	5	Raymond Road	Various	Shoulder Paving	\$304,000	2015	CMAQ/LTF
MADCITY	6	Madera	1 CNG replacement Water Truck	Fleet Conversion	\$187,000	2013	CMAQ/LTF
MADCITY	7	Madera	1 CNG replacement Heavy Duty Dump Truck	Fleet Conversion	\$188,000	2013	CMAQ/LTF
MADCITY	8	Madera	Purchase and Install 1 CNG Compressor	Fleet Conversion	\$338,000	2013	CMAQ/LTF
MADCITY	9	Cleveland	Schnoor	Dual Left Turn Lanes	\$342,000	2014	CMAQ/LTF
MADCITY	10	Tozer	Clinton to MID canal	Shoulder Paving	\$70,000	2015	CMAQ/LTF
MADCO	11	Ave 9	Road 23 to Road 23 1/2	Shoulder Paving	\$99,000	2013	CMAQ/LTF
MADCO	12	Children's Blvd	at Peck Ave	Traffic Signal	\$396,600	2015	CMAQ/LTF
MADCO	13	Road 28	at Ave 14 1/2	Left Turn Lane	\$286,000	2015	CMAQ/LTF
MADCO	14	Glen Oaks	Rancho to Ave 21 1/2	Pave dirt roads	\$98,000	2012	CMAQ/LTF
MADCO	15	Ave 15	SR 41 to Road 36	Shoulder Paving	\$895,000	2015	CMAQ/LTF
MADCO	16	Valley View	Ave 21 to Ave 22	Pave dirt roads	\$98,000	2012	CMAQ/LTF
MADCO	17	Road 23	Ave 8 1/2 to Ave 9 1/2	Shoulder Paving	\$187,000	2014	CMAQ/LTF
MADCO	18	Road 28 1/2	Ave 13 to Ave 15	Shoulder Paving	\$350,000	2015	CMAQ/LTF
MADCO	19	Ave 15	Road 29 to Road 36	Shoulder Paving	\$338,900	2014	CMAQ/LTF
MADCO	20	Ave 25	Road 8 to Road 11	Shoulder Paving	\$497,000	2015	CMAQ/LTF
MADCO	21	Road 30	Ave 12 to 500 ft north	Shoulder Paving	\$70,800	2015	CMAQ/LTF
MADCO	22	Road 407	Willow Creek Bridge to .55 miles west	Pave dirt roads	\$408,000	2014	CMAQ/LTF
MADCO	23	Road 407	Road 600 to .55 miles east	Pave dirt roads	\$408,000	2014	CMAQ/LTF
MADCO	24	Hickory Street	Palm St to end	Pave dirt roads	\$65,000	2011	CMAQ/LTF
MADCO	25	Road 406	Road 400 to 2.5 miles east	Pave dirt roads	\$498,000	2013	CMAQ/LTF
MADCO	26	Valley Lake Ranchos	Various	Pave dirt roads	\$706,000	2011	CMAQ/LTF
MADCO	27	Road 29	Ave 21 to Ave 21 1/2	Pave dirt roads	\$95,000	2012	CMAQ/LTF
MADCO	28	Lomita Road	Ave 21 to Ave 21 1/2	Pave dirt roads	\$95,000	2012	CMAQ/LTF
MADCO	29	Road 29 1/2	Ave 21 to Ave 21 1/2	Pave dirt roads	\$95,000	2012	CMAQ/LTF
MADCO	30	Dennis Road	Ave 21 to Ave 21 1/2	Pave dirt roads	\$95,000	2012	CMAQ/LTF
MUSD	31	MUSD	4 CNG School Buses	Fleet Conversion	\$843,000	2012	CMAQ/LTF
MID	32	MID	2 CNG Dump Trucks	Fleet Conversion	\$250,000	2015	CMAQ/LTF
MCTC	33	Various	To Be Determined	TCMs	\$8,881,118	2011-2020	CMAQ/Local
MCTC	34	Various	To Be Determined	TCMs	\$45,929,346	2021-2035	CMAQ/Local
TOTAL:					\$63,934,890		

Unconstrained projects are not included in the air quality conformity analysis. 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 2011 RTP would be amended and a new assessment of the Plan's conformity with state and federal air quality rules and standards would be undertaken.

Each element in the RTP addresses proposed actions to implement the goals and policies identified in Chapter 3 of the 2011 RTP – Policy Element. These actions outline specifically how the goals of the Plan will be accomplished.

2.4 2011 RTP PROVISIONS

The transportation plan must not only address existing deficiencies, but also anticipate problems over the twenty-five year time frame. Even though there is no shortage of present problems in the region, we are required to look at the future, to see what transportation needs will be, and to create ways to meet those needs. This chapter discusses the various components of the transportation system that will serve population and employment in Madera County to fiscal year 2035, as well as identify the travel trends and the changing demands of the multi-modal transportation system. This chapter focuses on transportation system accomplishments, needs, and actions required to relieve existing deficiencies. In addition, this Chapter provides recommendations for studies and projects that seek ways to satisfy future unmet transportation needs.

Travel to and from Madera County extends well beyond its borders. Vehicular commuting is not the only type of travel that links this Region with others. Freight movement extends well past the borders of Madera County, into adjoining Regions, other states, and even to other countries. Non-work trips for recreational travel and personal business also reach past the Madera County boundary. As a result, the transportation system must be capable of adequately meeting a wide range of needs. But there are often different ways of meeting these needs, some of which are more or less efficient than others, and some of which are more or less expensive than others.

To assess the needs in the Region, a review of future travel characteristics projected for FY 2035, and how the individual components of the system can meet future needs are provided in this Chapter. The systems analyzed include:

- ◆ Highways and Arterials
- ◆ Mass Transportation
- ◆ Aviation
- ◆ Non-Motorized Travel
- ◆ Goods Movement
- ◆ Transportation Demand Management
- ◆ Intelligent Transportation Systems (ITS)

These systems are discussed separately, but must operate as interdependent systems. SAFETEA-LU has required that regions recognize that the transportation system is a system of interdependent parts. This interdependency can be characterized as having physical, fiscal, and behavioral dimensions.

Each mode of transportation strategy is presented in a separate section of Chapter 4 of the 2011 RTP, which includes an inventory of the existing system, an assessment of needs, and proposed actions. The latter will be divided into short-range (0-4 years) and long-range (5-25 years). 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 between 2010/11 to 2014/15. The RTP 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.

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 action plan elements below, have been analyzed to assure that their implementation will contribute to the attainment of improved air quality consistent with adopted SIPs.

The 2011 Regional Transportation Plan's goals and objectives have been developed to serve as the foundation for both short and long-term planning. For purposes of the RTP the following definitions will apply.

Goals and Objectives

Chapter 3 of the 2011 RTP contains the following goals, objectives, and policies to implement the RTP over the 25 year planning period. A definition of each is provided below:

- ◆ **Goal:** A "Goal" is the end toward which the overall effort is directed; it is timeless, general and conceptual. The intent of the overall goals is to provide a framework for subsequent objectives and policies
- ◆ **Objective:** An "Objective" provides clear, concise guidance to obtaining the goal. Objectives are successive levels of achievement in movement toward a goal. They are results to be achieved by a stated point in time. Individual objectives are capable of being quantified and realistically attained

It is important to remember that goals and objectives will at times compete with one another. The framework presented by the goals and objectives should be viewed by the public as a set of guidelines against which the RTP can be assessed. While individual projects contribute to the ability of the RTP to meet these goals and objectives, and the project level information is useful in reviewing the projects, they should not be used to rank the projects against one another. The projects, policies, and systems together create the RTP.

Development of the RTP goals and objectives was a key step during preparation of the plan. The RTP Steering Committee developed the set of goals and objectives based on an extensive review and consideration of their vision

of the regional transportation system over the next twenty-five years, and input from the public. Input from the public was received at public workshops. The results of that outreach effort provided the Steering Committee with additional information needed to refine the goals and objectives. The final version of the goals and objectives therefore, reflects the incorporation of the outreach results in the Committee's deliberations.

This Plan advocates seven goals that have been based on the information provided in federal and State legislation, as well as plans, guidelines, and recommendations developed by State and regional agencies. The goals are broad policy statements that describe the purpose of the plan. The objectives establish specific actions that support the goals. Together, the goals and objectives provide the policy framework for transportation decision-making. Additional detail focusing on implementation strategies is provided in the Action Element for each mode of transportation.

The 2011 RTP goals and objectives described below, are also structured to address requirements in the RTP Guidelines related to the inclusion of "performance based measures or criteria" in the development and implementation of the RTP.

Multimodal Transportation System

GOAL #1: Promote Affordable, Accessible, and Viable Public and Private Transportation Systems Responsive to Current and Future Users

Objectives:

1. Provide people of the region with the transportation mobility options necessary to carry out essential daily activities and support equitable access to the region's opportunities.
2. Improve and maintain the transportation network to relieve localized congestion and reduce safety problems.
3. Promote and conduct effective regular dialogue with users or potential users to help guide investment decisions and maintain and improve the effectiveness of the transportation system.

GOAL #2: Retain and Increase Economic Activity and Competitiveness through Improved Transportation Systems, Including Intelligent Transportation Systems (ITS)

Objectives:

1. Build a sustainable economic future where people, goods and traveler information move freely but also retain the valued features of our urban, suburban and rural areas.
2. Reduce the cost of doing business in the region by providing for the efficient movement of goods, people and information.

GOAL #3: Enhance Transportation System Coordination, Efficiency, and Intermodal Connectivity

Objectives:

1. Strive to create a fully "seamless" intermodal transportation system by addressing critical linkages between modes, including public transit.
2. Embrace promising transportation and information technologies (Intelligent Transportation Systems) that serve to interconnect systems and provide information to travelers.
3. Coordinate land use decisions and transportation systems with other affected agencies.

GOAL #4: Maintain a Safe and Reliable Transportation System in a State of Good Repair

Objectives:

1. Maintain, repair and rehabilitate, to extent feasibly possible, the existing regional transportation system.
2. While attending to backlog repair and maintenance needs, undertake transportation investments that best sustain the future economic viability and performance.
3. Improve safety and remove hazards for the region's travelers and travel modes.

GOAL #5: Encourage the Coordination of Land Use Decisions and Transportation Systems

Objectives:

1. Promote sustainable community design that supports transit use and increases nonmotorized transportation while still meeting the mobility needs of residents and employees.
2. Support goals contained in city and county general plans that strive to enhance urban and community centers, promote the environmentally sensitive use of lands in Madera County, revitalize distressed areas, and ensure that new growth areas are planned in a well-balanced manner.

GOAL #6: Improve the Quality of the Natural and Human Environment through the Implementation of Effective Transportation Systems, Including Intelligent Transportation Systems (ITS)

Objectives:

1. Make transportation decisions that are compatible with air quality conformity objectives and the sustainable preservation of key regional ecosystems.
2. Fulfill national mandates for environmentally sensitive planning, including the development of attractive alternatives to single-occupant driving and support for walking and bicycling.
3. Support cooperative interagency and public-private environmental conservation efforts.
4. Avoid disproportionately high adverse environmental impacts upon low-income individuals, the elderly, and persons with disabilities or minority populations.

Transportation Financing

GOAL #7: Maximize Funding to Maintain and Improve the Transportation Network

Objectives:

1. Assess the effectiveness of existing financing mechanisms to meet the region's transportation needs.
2. Develop appropriate funding mechanisms to finance significant regional facilities.
3. Encourage the use of developer-funded strategies to finance growth-related capacity needs.

Projected 2035 Travel Characteristics

The Regionally Significant Road System is reflected in Figure 2-2. As stated in Chapter III, these facilities are consistent with the Functional Classification System developed by the Federal Highway Administration (FHWA). These facilities, along with other major streets and highways, are included in the Madera County Regional Traffic Model network for the Year 2035. The traffic model has recently been revised to reflect expected growth and development within the County as projected by the State Department of Finance (DOF) and derived by the Madera County Transportation Commission (MCTC) and other local agency staff. In addition, the street and highway network was revised to accurately reflect the required improvements in the County needed to accommodate traffic to the year 2035. Use of the highway and arterial system in the year 2035 is reflected in Exhibits 4-1A and 4-1B in Section 4 of the 2011 RTP. The results show Average Daily Traffic (ADT) along the major streets and highways within the Region.

The future year (2035) socioeconomic data forecasts used to generate trips along the street and highway network are reflected in Table 2-6. The forecast of traffic generated by the projected population, housing and employment indicates that total vehicle trips will increase by about 177%. This is attributed to continued use of major transportation corridors in the Region. Furthermore, vehicle miles of travel (VMT) in 2035 are forecast to increase by approximately 176%, far greater than the increase in highway vehicle trips and the increase in population. Much of this increase in VMT is due to longer distance trips. Vehicle hours of travel (VHT) are forecast to grow by 354%, evidence of growing system-wide congestion.

Under a "No-Build" scenario, if additional street and highway projects are not identified beyond those included in the current STIP/FTIP, the street and road system is projected to experience significant congestion by the year 2035, given the expected increase in population, housing and employment referenced in Chapter III. Specifically, a significant number of segments along the Regionally Significant Road System would experience major (LOS) deficiencies resulting from implementation of a No Build scenario. These impacts are considered to be significant given the amount of average daily traffic that is projected by 2035. Significant delay and congestion well beyond the traffic capacity of these segments would be realized resulting in significant environmental and economic impacts. Segments projected to fall to LOS "D", "E" or "F" along the State highway system or to LOS "E" or "F" along the local street and highway system under this projected alternative are identified in Figures 3-11 and 3-12 in Section 3 of this Draft SEIR and further described in the 2011 RTP.

In addition to street and highway impacts, major impacts upon other modes of transportation would also be realized. Without implementation of planned mass transportation, aviation, non-motorized, and goods movement improvements, the transportation/circulation system would be severely impacted. These impacts would further reduce the ability of Madera County and the associated Air Basin to meet air quality standards and improve levels of congestion and delay.

A major objective of this RTP is to identify a transportation strategy that will improve mobility between 2010 and 2035, while at the same time reducing the negative environmental impacts of travel.

TABLE 2-6
Madera County Development Projections
2010, 2020 and 2035

Analysis Area	2010 Pop.	2010 Households	2010 Employ.	2020 Pop.	2020 Households	2020 Employ.	2035 Pop.	2035 Households	2035 Employ.
Rural Area	8,479	2,645	2,463	10,873	3,391	3,155	15,167	4,731	4,402
Mountain Area	57,337	17,884	13,218	73,521	22,932	16,947	102,555	31,989	23,640
Madera									
Ranchos Area	17,059	5,321	5,969	21,875	6,823	7,654	30,513	9,518	10,676
Chowchilla	15,117	4,715	4,593	19,384	6,047	5,889	27,039	8,434	8,215
Madera	77,139	24,061	26,583	98,914	30,853	34,086	137,975	43,037	47,548
Total	175,131	54,626	52,826	224,567	70,046	67,731	313,250	97,707	94,480

Source: MCTC Regional Traffic Model Socioeconomic Profile, January 20, 2010

RTP System Accomplishments, Needs and Actions

Individual components of the regional transportation system, including highways and arterials, mass transportation, non-motorized transportation systems, aviation systems, goods movement, transportation demand management, and Intelligent Transportation Systems (ITS), are addressed in the following section. These systems comprise the Region's multimodal transportation system and identify the ways in which they will meet future demand and needs.

Highways and Arterials

It is assumed that the regional highway system will continue to carry the vast majority of person-trip travel and will be an important part of the freight movement system. Streets and highways also will be the same routes for buses, and carpools and vanpools, resulting in a highway network that is an integral part of the public transit system. The street and highway system will also serve the needs of tourist travel and recreational travel.

Because the highway system must continue to provide reasonable service throughout the plan period, it is essential to keep it well maintained. It is also important to plan for capacity increases only where future traffic will exceed capacity and where highway expansion is determined to be the best solution. The functional classification system will be an important guide for road improvements. It will be important for the Region and the State to identify those arterials that are of strategic importance for commerce, tourism, and commuter travel.

From a traffic service perspective, the purpose of these strategic highways will need to be tailored to their location in the Region. In both the urban and rural areas of Madera County, this type of system will, for the most part, be comprised of existing routes with available opportunity for expansion. There should also be improvements to relieve bottlenecks at intersections and efforts made to allow passing opportunities around slow-moving vehicles in the mountain areas of the County. This will particularly help with goods movement. The ability to receive and send deliveries in a timely fashion is essential if the area is to remain competitive. It is therefore, important to plan for trucks carrying a variety of cargo (manufactured goods, raw materials and fuels) to have direct and safe access to the Region's principal highways and arterials.

Highway and Arterial Accomplishments have improved mobility in the County and have increased safety. For a complete listing of the projects completed throughout the County, reference Chapter 4 (Action Element) of the 2011 RTP.

Capacity-Increasing Street and Highway Project Needs and Actions

New freeway and other street and highway capacity-increasing improvement projects have the greatest potential for causing significant adverse environmental effects versus other modes of transportation. The 2011 RTP proposes the widening or modification of existing streets and highways, changes to the designation of regional streets and highways, and new interchange facilities along new or existing freeways. Other projects include signalization improvements (new signals, signal modifications, and signal synchronization). Based upon the results of the performance evaluation process described above, a list of candidate capacity-increasing street and highway projects proposed to be implemented by the year 2035 was prepared and is reflected in Table 2-1 and depicted in Figures 2-3 and 2-4.

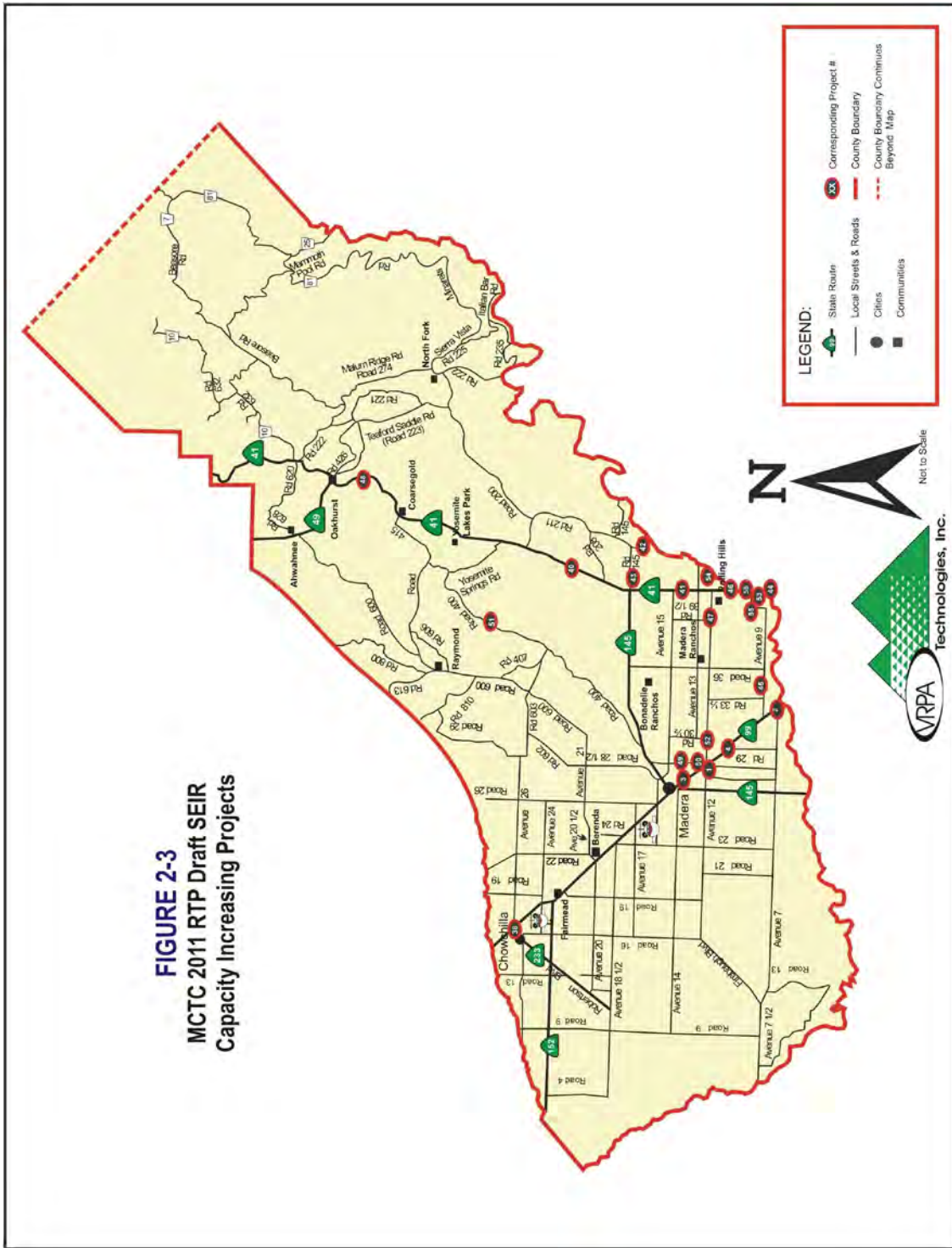
Referencing Table 2-1, over \$1.2 billion in capacity-increasing highway and arterial improvement projects is planned in the RTP. This figure includes all lane widenings, interchange improvements, new signals, and signal coordination systems adjusted to Year of Expenditure dollars. Approximately \$730 million has been allocated for State Highway improvements along SR 41, SR 99 and SR 145. In addition, new or improved interchange projects are planned along SR 41, SR 99 and SR 145. These projects are intended to relieve bottlenecks during peak use, to close gaps, and to increase capacity along congested freeways, such as SR 41 and SR 99, which provide access to major population and employment opportunities within the San Joaquin Valley.

Strategic capacity improvements can be combined with improved management of the regional freeway system and peak period travel demand reduction strategies to effectively meet the Region's travel needs. The Region needs innovative capacity enhancements, but as always, innovations must meet a benefit-cost test.

For implementation purposes, it is understood that Caltrans and the local agencies have the discretion to program projects from Table 2-1 considering the availability of funding. While funding timeframes have been identified in Table 2-1, the years shown are only estimates of when funding may become available and programmed for a certain project.

Major Corridor Deficiencies/Needs/Actions

The two major deficiencies identified from the LOS analysis for Year 2035 with RTP projects include SR 41 north of the San Joaquin River, and SR 99 between the San Joaquin River and the Merced County Line. These deficiencies/needs, together with other issues described below set the stage for a set of actions that will be carried out by MCTC and the affected local agencies and Caltrans over the next twenty-five years.



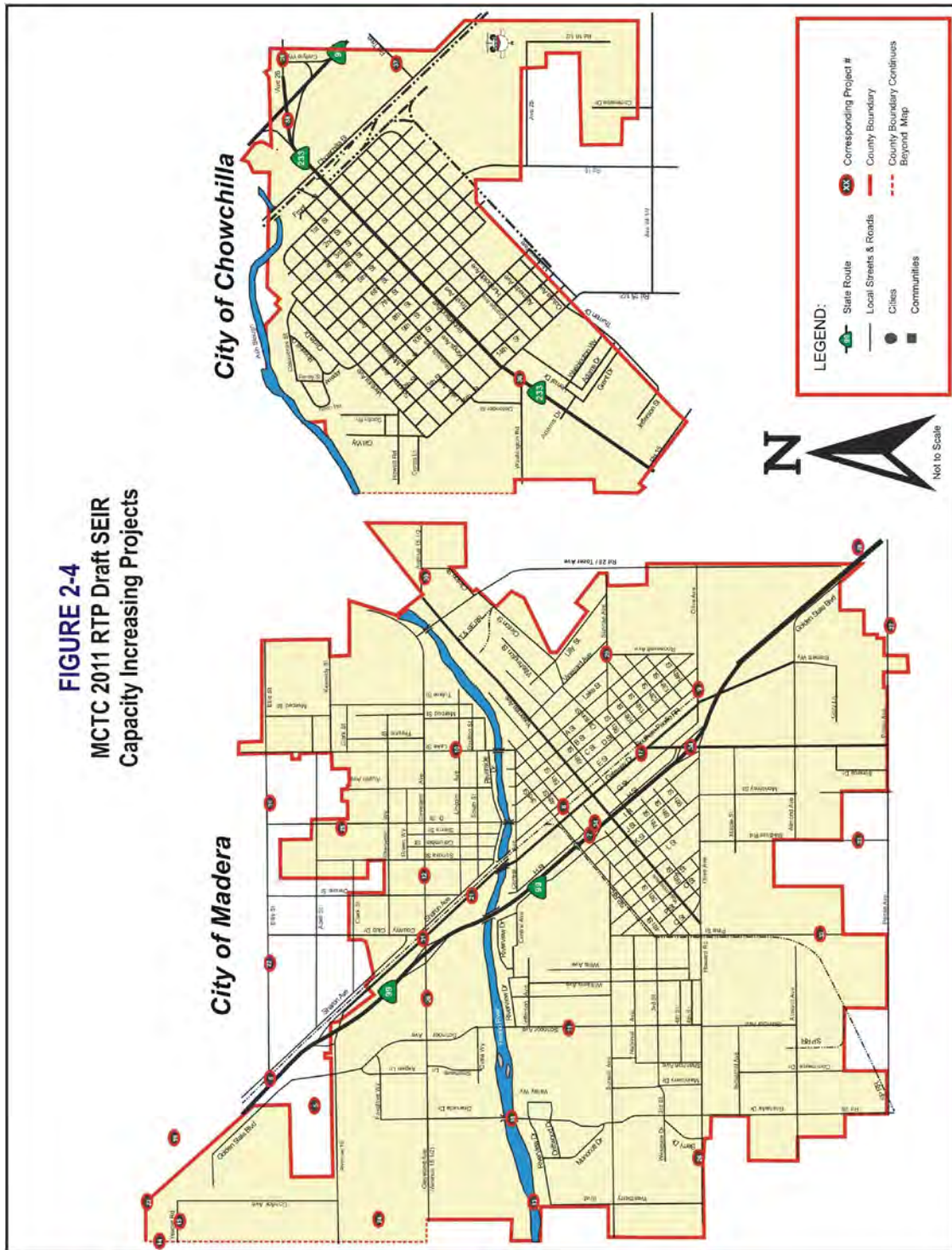


FIGURE 2-4
 MCTC 2011 RTP Draft SEIR
 Capacity Increasing Projects

- ◆ **SR 99** – The deficiencies along SR 99 are considered an “inter-regional” issue or problem. The need for an 8-lane facility along SR 99 between Madera and Fresno County is primarily caused by the highway’s position as the preeminent travel corridor for commuting, recreation, and goods movement purposes in the San Joaquin Valley. In addition, planned residential, industrial and commercial development is anticipated in this corridor. Continued development of the State Center Community College campus on Avenue 12 will generate additional regional scale travel.

To address the LOS deficiencies along this corridor, MCTC will coordinate with Caltrans, District 06 and other representatives of the other seven Valley Transportation Planning Agencies to identify alternative strategies that will address travel demand along the corridor.

- ◆ **SR 41 Fresno County Line to SR 145** – The severe deficiency along SR 41 between the San Joaquin River and Avenue 10 is in response to planned growth and development in southeastern Madera County. Caltrans and Madera County have been working together to address congestion along this segment with construction of a 4-lane freeway, which opened in 1999. Further, the County of Madera has adopted a new Road Impact Fee program to address appropriate improvements along the SR 41 corridor. The SR 41 bridge over the San Joaquin River can only accommodate 6 lanes (3 in each direction) and still meet federal design standards. As a result, the LOS deficiency cannot be mitigated without continued coordination between the affected agencies. This coordination, and the identification of potential solutions, cannot be accomplished during this RTP Update process. It is this process, however, that must identify the issues that need to be resolved. Even with the financially constrained projects included in this RTP, the segment between the Madera County Line and Ave 12 will require lane widening and/or the identification of alternate routes of travel to relieve the projected LOS deficiencies.
- ◆ **North SR 41 Corridor** – The level of service will continue to deteriorate north of SR 145 to the Madera/Mariposa County Line (LOS D, E and F); however, funding realities dictate that improvements will be limited to necessary operational improvements and limited development of passing lanes.
- ◆ **City of Madera Circulation Needs** – maintaining east/west mobility across the Freeway 99/Union Pacific (UP) Railroad corridor is a continuing problem. Madera has developed and is implementing an effective program with projects on Cleveland Avenue, Avenue 16/Ellis Avenue, and at SR 99/4th Street including the widening of 4th Street to 4-lanes. The need to study the relocation of SR 145 (Yosemite Avenue) in Madera should also be a priority given the deficiencies along the corridor and the inability to increase capacity given the right-of-way constraints.
- ◆ **Local Facilities**

Urban arterial, rural highway, and mountain arterial streets and roads within Madera County carry a majority of all traffic and account for a vast majority of the County’s roadway system. As it becomes more difficult to add lanes to the SR 41 and SR 99 freeway systems, maximizing the capacity of the Region’s arterials will become a priority.

Referencing Table 2-1 and Figures 2-3 and 2-4, numerous arterial improvements within each subarea of the County are planned, including lane widening on Avenues 9, 12, 13 and 16, Roads 29, 145, 206, 400 and others, and other major facilities such as Ellis, Lake, Gateway, Cleveland and additional facilities in the Cities of Madera and Chowchilla.

Finally, in addition to lane widening, interchange enhancements, and arterial widening projects, a number of new traffic signals and signal coordination systems are planned within the County including those at Avenue 7 and SR 145, Avenue 9 and SR 99, Avenue 9 and Road 30 ½, and Road 36 and Avenue 15.

In addition to the SR 41 Fee Program, the County of Madera has revised its Countywide Local Transportation Impact Fee program. The purpose of this update is three-fold:

- To address revised growth projections
- To identify projected transportation needs and costs
- To update the fee schedule to insure that transportation needs are addressed over time

◆ **Other Issues/Actions**

➤ **East/West Corridor**

Traffic modeling indicates that the San Joaquin River crossing and segments of SR 41 (north to south) will experience levels of service that surpass the maximum allowable LOS of "C". This demand may be accommodated by the Caltrans project along SR 65 currently under study (reference detail below). This RTP indicates that with the candidate projects in this RTP that add lanes to SR 145, and Avenues 9 and 12, will accommodate projected east-west traffic demand. Fresno COG is addressing travel demand in both counties with studies including the Herndon Avenue Specific Study and the Fresno-Madera County East/West Corridor Study. Phase 1 of the East-West Study has been completed and identified four corridor alternatives to be further evaluated as part of Phase 2. Phase 2 is focusing on an evaluation of bridge crossing along the San Joaquin River between the SR 41 San Joaquin River Bridge and Rank Island to the north.

Madera County is currently monitoring East/West Corridor Phase 2 meetings since the alternatives under consideration involve expansion of facilities within Madera County. The need for communication between Fresno agencies and Madera County regarding east/west circulation is recognized and continues through participation in the East/West Corridor Study, as well as through the many collaborative working groups referenced in this RTP. It is through involvement in these transportation planning groups and in special studies that MCTC ensures a comprehensive, coordinated transportation planning process. It should be noted that east-west travel will be an issue in Madera County even if additional access over the San Joaquin River is not provided. As a result, adequate right-of-way along east-west routes in southeastern Madera County should be reserved for future widening to the extent possible.

➤ **Emergency Access in Mountain Communities**

To address the issue of emergency access in the mountain communities of Madera County, the County prepared a study, which recommended projects to improve emergency access in the Oakhurst and a few other areas. The study was presented to the Board of Supervisors; however, direction was never given to implement the recommendations.

To address the issue of emergency access, the County:

- Requires new development to have two points of access
- Has established a maximum cul-de-sac length
- Implements projects to improve access as funds are available

It should be noted that there are many public right-of-way roads in the mountain areas that are not on the County maintained list of roads. They were built prior to when the design requirements listed above were established. The County has limited funding sources that can address these roads that are not on their list to maintain.

➤ **SR 65 Route Concept Report Study**

Caltrans is currently in the process of preparing a Route Concept Report (RCR) study to identify the needs for SR 65 along the eastern portion of the Central San Joaquin Valley as an alternative means of accommodating north-south travel demand. SR 65 currently begins in Kern County and ends in Tulare County at its intersection with SR 198. The RCR is considering the extension of this facility north through Fresno and into Madera County where it would ultimately connect to SR 99.

➤ **Land Use Coordination**

Over the next twenty-five years, it will be important for MCTC and its member agencies (the cities and the County) to coordinate with responsible agencies (federal, State, and other local agencies, including those in other counties) to insure that issues regarding the impact of growth and development on the transportation system that connects the counties can be defined and addressed. It is important to note that MCTC is involved in various groups that insure effective communication and coordination with other Valley counties on issues related to land use, air quality, and transportation. These groups include the Valley Councils of Government (COG) Directors' Association, the Valley Modelers Group, and others. In addition, the eight San Joaquin Valley counties have already implemented an aggressive program of coordinated Valleywide planning. In September of 1992, the eight Valley Regional Transportation Planning Agencies (RTPAs), including MCTC, entered into a memorandum of understanding (MOU) to ensure a coordinated regional approach to transportation and air quality planning efforts. The MOU goes well beyond the requirements of state and federal transportation planning acts by establishing a system of coordination of plans, programs, traffic and emissions modeling, transportation planning, air quality planning, and consistency in data analysis/forecasting.

Development of the MOU and the ongoing process of coordinated planning has improved upon an already close working relationship between the eight Valley RTPAs and the representatives of the California Department of Transportation (Caltrans), California Air Resources Board, State Office of Planning and Research, San Joaquin Valley Air Pollution Control District (SJVAPCD), and the Federal Highway Administration.

➤ **Private Development Improvements**

Several street and road improvements listed in Table 2-1 will be financed through local development contributions as conditions of approval. Additional improvements to address LOS deficiencies will be necessary and are assumed to be addressed through private funding as new development in the respective plan areas takes place.

➤ **Ramp Metering**

Caltrans, through its correspondence with the County Road Department, has indicated that it intends to meter all on-ramps to State routes in such a manner as to mimic traffic patterns in the Year 2000. Caltrans' primary concern is to maintain the best operating condition on the mainline highways. The use of ramp meters, according to Caltrans, helps to improve the flow of traffic on the mainline. There is concern however, that while improving the mainline freeways within Madera County, significant back-up or queuing of traffic will occur on the local streets and roads that connect to the freeway system. Further coordination between Caltrans and affected local agencies should be provided regarding operations of the potential use of ramp meters along the State freeway system in Madera County.

Street and Highway Rehabilitation/Safety Project Needs and Actions

In addition to LOS deficiencies, Caltrans and local agencies are also facing the difficult task of maintaining regional streets and highways with inadequate funding. With increased congestion expected in the future, the typical road will require some maintenance every five to ten years, and major rehabilitation every ten to 20 years. If rehabilitation and maintenance activities are not implemented, county residents will continue to experience increased accident rates and reduced systemwide efficiency. Table 2-2 provides a list of planned rehabilitation and safety projects.

◆ **Enhanced Rehabilitation and Safety Improvements**

With the current backlog of highway and arterial maintenance and the pavement deterioration that goes with an aging roadway system, costs will increase dramatically through the RTP horizon year to keep the highway system operational. The Plan identifies additional funds principally for arterials that minimize roadway and bridge decay. Recent studies have also identified the increased cost to users as under-maintained roadways degrade tires and shock absorbers, creating wear and tear on engines and connections throughout the vehicle. Providing additional funding to improve pavement conditions before roadbed deterioration requires full rehabilitation would result in substantial maintenance savings to the Region.

Preliminary analysis indicates that the benefits of an investment in proper ongoing maintenance would pay dividends of more than triple the cost. The funding estimates for the 2011 RTP call for \$150.6 million in investments for rehabilitation and safety projects and \$223.3 million in operations and maintenance.

Mass Transportation

Mass transportation is a transportation mode that moves large numbers of people from one destination to another. It provides an economical means of travel that reduces single-occupancy vehicle trips, improves air quality, and enhances the overall quality of life. Mass transportation in Madera County consists of public transit services provided by both the public and private sectors and Amtrak passenger rail service. The Mass Transportation Action Element provides an overview of the following:

- ◆ Mass transportation accomplishments
- ◆ Mass transportation needs and issues

Mass Transportation Accomplishments

Significant progress has been made over the past four years to improve public transportation services for residents throughout Madera County. Transit improvements have been and continue to be addressed through a structured planning process coordinated through the MCTC. Most recently, major fixed-route and demand-responsive service changes within the City of Madera and its environs have evolved through a series of in-depth assessments of transit needs. These studies, combined with MCTC's commitment to ensure unmet transit needs are effectively addressed, have resulted in the following service improvements and planning analyses, as summarized below.

- ◆ The *Madera County Transit Needs Assessment* was developed by Nelson/Nygaard Consulting Associates in 1995 to identify and evaluate the extent of public transit needs throughout Madera County. The study recommended increasing Madera Dial-A-Ride service hours, introducing a fixed-route service in the City of Madera, inter-city service linking Madera and Chowchilla, and introducing transit service in Eastern Madera County for the elderly and disabled. Based on recommendations of this study, the City of Madera decided to implement fixed-route transit system as a demonstration project in FY1998-99 with continued Dial-A-Ride service.
- ◆ The *Fixed-Route Feasibility Study* was completed in May 1996 by Nelson/Nygaard Consulting Associates to examine the feasibility of fixed-route service in the Madera urban area. The study found that fixed-route service designed to link residential areas with commercial centers, social service agencies, schools, and medical facilities would be feasible in Madera and recommended initiation of fixed-route service in FY1998-99.
- ◆ The *Madera County Strategic Implementation Plan* was completed in May 2007 by Moore & Associates. The plan offers several recommendations for improved efficiency on the Madera County Connection and identifies long-term opportunities for transit system expansion in the County.
- ◆ **Implementation of City of Madera Fixed-Route Service:** The City of Madera Fixed-Route Implementation Plan was completed in July 1997 by Moy and Associates, in close coordination with the City of Madera and MCTC

staff. It provided the City of Madera with specific guidance to implement a fixed-route service beginning in FY1998-99. The MCTC Social Service Transit Advisory Council (SSTAC), City of Madera Transit Advisory Board (TAB), and the Madera County Economic Development Commission also were involved in developing the Plan. The proposed fixed-route system was developed through extensive local planning, evaluation, coordination, and public outreach efforts.

- ◆ Implementation of Chowchilla Area Transit Express Demand-Response Service: The City of Chowchilla initiated demand-response service, Chowchilla Area Transit Express (CATX), in 1995. This service is designed to meet the needs of Chowchilla and its surrounding unincorporated areas, including the community of Fairmead.
- ◆ Implementation of Inter-City Public Transportation Service: The County of Madera received a grant from the Madera County Children & Families Commission to implement two inter-city fixed-routes on a one-year demonstration basis beginning in July 2001. One route will operate to and from Eastern Madera County to Downtown Madera while the other will operate from the City of Chowchilla to Downtown Madera. Both routes also will provide service to the Madera Community College, Madera Ranchos, and Valley Children's Hospital where connections can be made with Fresno Area Express.
- ◆ The County of Madera has entered into a contract with the Fresno County Rural Transit Agency (FCRTA) to provide inter-city demand-response service to the community of East Acres beginning in July 2001. This service will provide transportation primarily for seniors in East Acres to access the City of Firebaugh Senior Center.
- ◆ The Yosemite Area Regional Transportation Strategy (YARTS) was formed in 1992 in an effort to reduce the dependence on single-family vehicles and improve transportation service within the Yosemite Region with a bus service. Madera County was on the Management Board until April 1999 when it withdrew from further participation in the YARTS planning efforts. The YARTS Management Board consists of Mariposa County, Merced County, and Mono County. The mission is to provide a positive alternative choice for access to Yosemite National Park for visitors, employees, and residents. YARTS initiated service in the summer of 2000.
- ◆ San Joaquin Valley Express Transit Study. In 2008, Merced County Association of Governments retained Nelson/Nygaard to prepare a San Joaquin Valley Express Transit Study. Drawing on applicable case studies, statewide traffic model data, and input from local stakeholders, the study identified several potential options for expanded commuter-oriented public transit service in the Valley. The study recommends the prioritization and promotion of vanpool opportunities on the Madera-Fresno commute corridor.
- ◆ Evaluation of Short-Range County-Wide Transportation Needs: The Madera County Short-Range Transit Development Plan was updated in 2009. This plan provides an overview of the status of existing public transit services and identifies issues and concerns, operational and capital strategies and approaches for consideration over the next five years, and proposed funding of existing and new transit services.
- ◆ Human-Services Public Transit Coordinated Transportation Plan: The Coordinated Plan was adopted by MCTC in April 2007 in response to requirements established by SAFETEA-LU. This document outlines existing public and private social service transportation systems within Madera County and offers strategies for improvement of transportation service through increased coordination and consolidation.

Evaluation of Unmet Transit Needs within Madera County

In FY2000-01, the MCTC Social Services Transportation Advisory Council (SSTAC) recommended that Madera County undertake a study of Eastern Madera County senior transit needs to determine the feasibility of expanding services. The "Eastern Madera County Senior Transportation Needs Study" found a need to intensively market existing services to increase ridership prior to implementing Senior Bus and Escort Program service improvements.

The Transportation Needs of Madera Commuters and Welfare-to-Work Participants study was completed by Moy & Associates in July 1999. The purpose of the study was to determine the extent and character of commuter transportation needs as well as the needs of those participating in welfare-to-work programs. The study found that the majority of general commuters in the County study area commute by car and is satisfied with their mode of transportation. Nearly half of welfare-to-work participants, however, do not have their own means of transportation and expressed an overwhelming desire to use public transportation if available. A general conclusion was that future planning for potential new services, whether new or expanded fixed-route services, shuttle services or carpooling programs, must consider that no one solution will satisfy the diverse transportation needs of both groups.

The Unmet Transit Needs within Madera County are evaluated annually through the MCTC's Social Services Transportation Advisory Council (SSTAC). Requests, comments, and testimony are formally documented in the fourth quarter of each fiscal year and closely considered in the development of transit services.

Evaluation of Passenger Rail Needs

The relocation of the Amtrak station has been evaluated by the MCTC and its member agencies to determine the potential for improving and/or relocating the station now located in northeast Madera on Avenue 15 ½ and Road 29. The primary goal is to increase visibility, access, and security of the station to encourage higher usage to ensure continuation of Amtrak service to the community. Relocation of the station to north Madera at Road 26 will continue to be a viable alternative and can be implemented in the short-term without waiting for the long-term decisions on high-speed rail alignments. Madera County recently signed agreements with Caltrans, Amtrak, and the BNSF railway to begin construction.

MCTC and the County of Madera are participating in the California High Speed Rail Authority's implementation of a high-speed rail system from Southern California to the Bay Area via the San Joaquin Valley. This system would be designed to accommodate rail speeds up to 220 miles per hour. Of significant importance is the discussion of alternative alignments for high-speed rail in the Central Valley. The High Speed Rail Authority identified a preferred high-speed rail corridor along SR 99; however, no specific alignment has been identified.

Mass Transportation Needs and Actions

Madera County has made significant progress in addressing many public transit needs throughout the Region. MCTC's "Unmet Transit Needs" process has determined that transit services within the Madera County are meeting the reasonable transit needs of the public. These transit systems provide vital transportation services while reducing single-occupancy vehicle trips, improving air quality, and enhancing the overall quality of life for residents throughout the County. Table 2-3 provides a listing of planned transit improvements over the 25 year timeframe of the Plan totaling approximately \$108 million.

Mass transportation services, however, must respond effectively in the context of projected growth and development throughout Madera County and as the population and character of the Region evolves. The level of public transit services should reflect the County's demand for mobility, typically related to population growth, population densities, age and income characteristics, accessibility to key origins and destinations, trip lengths, design and condition of streets and highways, etc. Madera County's projected population growth over the next twenty years, combined with the poverty levels and numbers of transit-dependent residents, undoubtedly will increase demand for transit services.

Effective public relations, marketing and outreach activities are an integral part of ensuring successful transit operations and heightening public awareness of transit services. Marketing should be conducted on an on-going basis. Marketing activities are now conducted by Madera County transit systems on a system-by-system basis. While these marketing efforts are designed to educate the public on available transit services and to encourage increased transit usage, achieving major modifications in travel behavior will continue to be a significant challenge that cannot be reached through public relations alone.

This effort will require the convergence of many factors, including those related to population densities, population characteristics, congestion, gas pricing, road conditions, etc.

The RTP projects a 15 percent increase in funding for transit service improvements every five years through FY 2035, above and beyond projected capital improvements. Long-term commitments will evolve through the planning development process. Given the shortfall in funds for all transportation improvements identified in the RTP, local government bodies must continue to prioritize projects based on valid criteria, combined with major community input and collaboration. If there is a significant shift in public sentiment for transit services, the transit planning process must prioritize improvements and identify funding sources. This process, ultimately, will lead to increased levels of transit services, as warranted.

There will be many short-term and long-term mass transportation needs and actions that should be addressed through a coordinated and collaborative process, as highlighted below:

◆ **Public Transit**

- Expanding and improving fixed-route services (i.e., MAX) as demand increases commensurate with growth in the Region, including a larger service area, increased number of routes, increased days and hours of operations, and improved route frequencies
- Expanding and improving demand-response services (i.e., Madera Dial-A-Ride and CATX)
- Addressing inter-city transit needs, including those in Eastern Madera County, Chowchilla/Fairmead, and other rural areas of the County
- Addressing inter-county transit needs; i.e., transportation access to Fresno County and Merced County transit services
- Coordinating with social service agencies to identify and address client needs
- Evaluating transportation needs of youth and seniors with poor or no access to public transit in all areas of the County
- Coordinating with educational and employment sites and other key generators that would benefit from public transportation services

- Remaining in compliance with ADA requirements
- Identifying sufficient operating and capital funding
- Facilitating transit interface with other transit properties, park-and-ride lots, and other transportation modes, including passenger rail, bicycling, carpooling, etc.
- Promoting the continuation of the Madera County Connection fixed-route pilot project in Eastern Madera County and the Chowchilla/Fairmead area based on acceptable performance indicators
- Identifying ancillary transit facilities and passenger amenities
- Providing transit information on the Internet
- Monitoring of existing transit services for maximum efficiency and effectiveness
- Monitoring of and being positioned to implement affordable new transit technologies, including alternative fuels, computerized dispatching, automatic vehicle locating equipment, etc.
- Developing effective outreach and targeted marketing; i.e., marketing to the general population, social service clients, health care providers, employers, etc.; developing a County-wide transportation internet web-site reflecting mass transportation services
- Participating in the annual Unmet Transit Needs process and ensuring adequate allocation of funding based on reasonable needs

◆ **Inter-City Rail**

- Evaluating Amtrak station improvements/relocation
- Monitoring and coordination of rail consolidation issues with Fresno County
- Participating in high-speed rail planning

◆ **Funding**

- Maintaining existing mass transportation services as cost effectively as possible while meeting the demand for new services and identification of sufficient future funding

Aviation

Increased air service demand will 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* prepared by MCTC in June 1994.

Aviation System Needs and Actions

- ◆ Implement the list of improvement projects identified from the cities' Airport Master Plans
- ◆ Continue to seek funding of airport projects
- ◆ Maintain and improve existing airport facilities. Review and revise the Airport Master Plans
- ◆ Provide for the interface of airport systems planning with other transportation networks to insure a balanced, multi-modal system

- ◆ Support development of the City of Madera and City of Chowchilla airports per actions outlined in their respective Master Plans
- ◆ Support land use policies and special projects aimed at mitigating structural, noise and other environmental limitations associated with the Region's airports
- ◆ Pursue sophisticated approach and landing systems for the Madera Municipal Airport
- ◆ Support expansion of capital improvement funds and sources for rural airports
- ◆ Both the City of Madera and the City of Chowchilla are taking action to avoid noise conflicts concerning their respective airports
- ◆ Local airport managers in Madera County consider the current regulations adequate for ensuring a safe aviation environment. The Division of Aeronautics inspects all public airports in the Madera Region on a yearly basis

Airport Land Use Commission

The purpose of an Airport Land Use Commission (ALUC) is to provide for the orderly development of public airports and to ensure compatible land uses in the vicinity of airports. The ALUC consists of seven members, representing each of the Cities, County and Airports within the County. The Madera County ALUC meets on as needed basis, generally to review the airport master plans; general plans developed by the cities and proposed land use changes near the airports.

To ensure compatible land uses in Madera County, the Madera County ALUC has developed the *Madera County Comprehensive Airport Land Use Plan*. The plan consists of:

- ◆ Policies which guide height restriction, safety, noise, and other land use considerations
- ◆ Individual airport compatibility maps
- ◆ Plan implementation procedures
- ◆ Other information

Forecasts

Based on the forecasts for airport operations, none of the airports in the County will exceed operation capacity over the next 25 years.

Non-Motorized Systems

MCTC recognizes that increased bicycling, walking and equestrian activities can reduce traffic congestion, air and noise pollution and fuel consumption. As a result, these modes effectively contribute to the quality of life in the Region. Bicycle travel has emerged as an increasingly popular form of recreation in the Region. Commuting to work has also increased in the urbanized areas of Madera County. Bicycles are essentially pollution-free, use no fossil fuels, are quiet, and take up very little space either in operation or in storage. Bicycling is of interest to the individual because it promotes health, is enjoyable and inexpensive, and, in the congested of the County, bicycling can be the fastest way of getting to work or to any destination, especially during the peak periods.

These same advantages can be said for those who travel by walking. Bicycle and pedestrian mode disadvantages include almost no protection in case of collision, limited carrying capacity, increased travel time for longer trips, and direct exposure to inclement weather, especially during fog in the winter and high temperatures in the summer months.

It is particularly important to improve bicycle and pedestrian access to intermodal facilities (rail stations and transit centers). Using non-motorized forms of transportation reduce engine cold starts and short vehicle trips, which contribute significantly to air pollution. The provision of new or improved access to such facilities could be made by bicycle or pedestrian modes and replace short automobile trips. To increase the bicycle mode share, in particular, significant publicity and marketing efforts are necessary, as well as a new approach by transportation agencies to planning facilities for both bicyclists and pedestrians. This approach increases attention to these modes and focuses on intermodal connections. A listing of non-motorized system accomplishments can be found in the 2011 RTP Chapter 4, Action Element.

Non-Motorized System Needs and Actions

The Cities of Chowchilla and Madera and Madera County have prepared bicycle plans. Table 2-4 identifies the planned routes for bike lanes and paths. The plans stress the importance of making the road system compatible for bicycle and pedestrian transportation. In addition, the State of California has been working to improve and promote on-street bicycle commuting to urban cores and to support bicycle access to transit and passenger rail modes.

The Madera County 2004 Bicycle Transportation Plan addresses the needs of both commuting and recreational cyclists throughout the county, identifies safe and convenient routes to key locations throughout the county, and suggests needed improvements and additions to the bikeway routes and facilities. MCTC staff will focus on the implementation program of the plan.

Although it is difficult to prioritize proposed bikeway and pedestrian projects countywide due to funding fluctuations, coordination with larger street improvement projects and relative private development schedule changes, the plan divides proposals into short-term (5 to 10 years from implementation) or long-range (more than 10 years) implementation priority.

The plan proposes a regional bikeway network to connect urban areas and communities in Madera County with adjoining County systems in Fresno, Merced and Mariposa County. The focus of the internal network in Madera County includes the City of Madera, City of Chowchilla, the urban unincorporated communities of Madera and Bonnadelle Ranchos, and the foothill/mountain community of Oakhurst.

The Madera County 2004 Bicycle Transportation Plan will serve as the basis for future investment in bicycle and pedestrian infrastructure. The plan identifies development priorities, funding sources, and grant opportunities.

Non-motorized travel should continue to increase in popularity due to public awareness of health and environmental benefits. There are four needs related to bike facilities the implementation plan:

- ◆ Need for education and enforcement programs to ensure safe and proper use of proposed bike lanes and routes
- ◆ Lack of adequate shoulders to allow for safe bicycle travel on State Highways 41, 49 and 145 (and similar constraints on other State Highways and County roadways of regional significance)
- ◆ Provision of bike route facilities and services, particularly in rural areas
- ◆ Bike parking and storage facilities in urban centers and air and water supplies at rural stops were generally suggested

Bicycle and Trail Improvements

To enable the vision of non-motorized linkages to activity centers within the Region, the local agencies have requested approximately \$21.3 million for non-motorized projects in the 2011 RTP (reference Table 2-4).

Regional decision makers should continue to promote the integration of non-motorized modes into the transportation planning process; the County should continue to implement the County Bikeway Plan; agencies should work together to continue implementation of the Fresno River Trail; and all responsible agencies should take steps to move beyond conceptual planning and development to implementation of plans and strategies. The following actions are recommended to facilitate the achievement of these goals:

- ◆ Determine the status of existing non-motorized system to achieve the desired vision, goals, objectives and update and implement the existing Bikeway Plans as appropriate
- ◆ Implement recreational trails within the mountain communities that connect major activity centers and provide alternatives to driving between the communities
- ◆ As part of the Bikeway Plan Update process, identify and develop strategies to address institutional, transportation, funding, infrastructure and other barriers to the effective use of non-motorized transportation for commute purposes
- ◆ Identify strategies to link non-motorized transportation funding programs to standards for transit programs
- ◆ Fund the development and implementation of bicycle safety and education programs aimed at cyclists of all ages, potential bike commuters and motorists
- ◆ Sponsor legislation and or ordinances to increase enforcement of bicycling and driving laws to provide a safer climate for bicycle use
- ◆ Develop and implement bicycle incentive programs that recognize and reward employees for bicycle use similar to those that reward transit use
- ◆ Assist local governments in the implementation of nonmotorized facilities consistent with the Madera County 2004 Bicycle Transportation Plan
- ◆ Encourage the use of nonmotorized facilities as a transportation control measure
- ◆ Continue to allocate funds for nonmotorized projects promoting both bicycle and pedestrian facilities
- ◆ Encourage local jurisdictions to consider adopting land use policies that promote non-motorized transportation and reduce dependence on the automobile for work, shopping, social and recreational purposes consistent with *the Madera County 2004 Bicycle Transportation Plan*. The SJVAPCD's [Air Quality Guidelines for General Plans](#) is available for use by local agencies to assist in the efforts to coordinate transportation, land use and air quality planning

Pedestrian Improvements

There are several strategies that will serve to improve conditions for existing pedestrians and to induce others to join them. These measures include:

- ◆ Routine maintenance of existing sidewalks and curbing, including smoothing uneven surfaces, improving drainage, trimming vegetation, removing intrusive street furniture, including signs, sweeping and shoveling
- ◆ Building new sidewalks to provide continuity
- ◆ Providing 'pedestrian-friendly' intersection design (appropriate signal-head placement, signal intervals, curb ramps, signed and painted crosswalks, adequate lighting, etc.)
- ◆ Increased emphasis on access to transit. In all these areas, access for the physically disabled must also be part of the program
- ◆ Providing safe and direct pedestrian routes and bikeways between places
- ◆ Promoting walking and bike riding for transportation and recreation

In general, all new roadway projects and all reconstruction projects should be constructed so as to provide increased safety and mobility for all users, including people who walk and bicycle.

Goods Movement

Goods movement in Madera County is primarily made along the network of highways and railroads. After many years of decline due to increased competition from trucks, rail freight is reasserting itself as an important component of the transportation system. While cartage by truck will remain an important component of a competitive and multimodal freight network, an efficient, high capacity freight rail system is also essential to ensure the seamless movement of goods between Madera County and markets and manufacturers in the north, south and east. While local freight distribution within the San Joaquin Valley, including Madera County, will continue to be handled mostly by trucks, railroads will serve some industries along the railroad lines. Improvements made to rail rights-of-way, generally for passenger travel, should also help the freight railroads by allowing faster, smoother travel.

Goods Movement Needs and Actions

An important goal of the 2011 RTP is to ensure smooth connections between regional communities, the rest of the Valley, the State, and the nation. The purpose of the regional goods movement program is to improve the efficiency of all modes—truck, rail freight, and air cargo; and for all kinds of freight—domestic import/export, container, break-bulk, and bulk cargo. In addition, the Region recognizes the importance of ancillary facilities such as airports and intermodal terminals and supporting functions including freight forwarding, parcel consolidation, and warehousing. The intent is to ensure a more efficient system, with greater throughput, elimination of bottlenecks, reduced congestion, lower environmental impacts, and corresponding economic benefits for the Region.

Improvements to the regional goods movement transportation, terminal, and intermodal transfer facilities will require a combination of traditional public sector and private sector funding. For instance, introduction of new and more powerful but lower-polluting railroad locomotives, main line track capacity, and rail yard operational improvements are the responsibility of the private freight railroads. Most roadway and traffic signaling improvements used by trucks are

provided by the public sector and financed by fuel taxes, other user fees, and private development. Still other improvements to transportation infrastructure serving airports may be funded using a mix of airport revenues, other public funds, and privately generated capital.

Development of a modern, efficient goods movement system for the Region is a cooperative venture, including all of the freight modal providers, airport operators, the federal, State, and local governments, and many other parties. While air cargo operations at the Chowchilla and Madera Municipal Airports are desirable, the feasibility of transporting goods by air is questionable. According to *the Regional Aviation System Plan* for Madera County prepared by MCTC in June 1994, most of the products from agribusiness are transported by truck or by train. In addition to those actions contained in Chapter 4 of the RTP, the following actions are also recommended to address improvements in the area of rail-highway grade crossings and goods movement modeling. The most obvious issues related to goods movement include the following:

- ◆ Trucking will continue to be the most inexpensive form of goods movement and will continue to add highway congestion
- ◆ Air and rail services are under-utilized for the movement of goods
- ◆ It is anticipated that rail transport will continue to increase because of its flexibility and speed

Grade Separation Improvements

Regional rail freight movements often conflict with highway commuter and goods movement traffic. With the anticipated increase in truck and train movements, substantial additional delay for passenger vehicles and trucks can be expected at grade crossings. To avoid these delays, grade separations carrying arterials under or over rail lines carrying substantial amounts of freight is recommended along critical routes such as SR 99 near SR 152 and near Avenue 16. In order to support rail/highway grade crossing conflicts, MCTC intends to support the local agencies' in obtaining funds for grade crossing studies, support the construction of grade separations where streets and highways cross regional rail lines, and recognize the need for additional funding for grade crossing improvement projects to relieve truck and other highway congestion because current program funding needs exceed available public and private funding.

Goods Movement Modeling

The Regional Transportation Planning Agencies in the San Joaquin Valley have developed Phase 1 of the *San Joaquin Valley Goods Movement Study*, which focused on issues related to the movement of goods from farm to market, congestion, railroad crossings, roadway geometry, parking/rest area problems, route restriction, and signal timing. Phase 2 of the Study will focus on building a Valleywide truck model that can be integrated into the Traffic Modeling process.

The following list of actions is designed to address regional needs related to goods movement:

- ◆ Continue to evaluate and designate truck routes
- ◆ Coordinate and consult with private sector providers to identify obstacles to the efficient movement of goods and develop alternative strategies

- ◆ Identify funding sources in support of the transport of goods from farm to market
- ◆ Identify and implement railroad crossing safety improvements
- ◆ Assist in implementing State and federally-funded rail projects, as required
- ◆ Seek strict enforcement of transportation regulations concerning the transport of hazardous substances
- ◆ Consider locating industrial development near railroads, airports, and major highways in the lane-use element of local general plans
- ◆ Encourage the use of rail, air and buses for the transportation of goods
- ◆ Provide technical assistance to local jurisdictions for industrial and wholesale land use and transportation planning
- ◆ Coordinate planning efforts to ensure efficient, economical and environmentally sound movement of goods
- ◆ Encourage the use of rail, air and buses for the transportation of goods
- ◆ Encourage coordination and consultation between the public and private sectors to explore innovative strategies for the efficient movement of goods
- ◆ Support intermodal linkage of truck on rail as a technique of reducing traffic on selected corridors
- ◆ Pursue additional funding for street, road, highway, and air and rail projects by working with the League of California Cities and the County Supervisors Association of California to ensure the efficient movement of goods
- ◆ Oppose higher cargo weights for trucking industry
- ◆ Encourage and support strict enforcement of transportation regulations concerning the transportation of hazardous material
- ◆ Support and work with districts, local jurisdictions, regional agencies and the private sector to provide improved intermodal freight transfer facilities and access at major airports and rail terminals
- ◆ Assess and incorporate, where appropriate, innovative intermodal linkage of truck on rail as a technique of reducing truck annual average daily traffic on select highway corridors
- ◆ Encourage more stringent emissions controls on trucks, buses, trains, and airplanes operating in California

Transportation Demand Management

Transportation demand management (TDM) is the all-inclusive term given to a variety of measures used to improve the efficiency of the existing transportation system by managing travel demand. Travel behavior may be influenced by mode, reliability, frequency, route, time, and costs, support programs/facilities and education. TDM strategies encourage the use of alternatives to the single occupant vehicle such as carpools, vanpools, bus, rail, bikes, and walking. Alternative work hour programs such as compressed work week programs, flextime, and telecommuting (teleworking) are also TDM strategies as are parking management tactics such as preferential parking for carpools and parking pricing.

Transportation Demand Management Needs and Actions

To make the most of TDM in reducing travel demand in Madera County, MCTC should:

- ◆ Work with Caltrans to develop a master plan for the Region's park and ride system
- ◆ Support the implementation of strategies to enhance the use of under-utilized park and ride lots focusing on increased security, marketing and outreach, lot siting and transit service

- ◆ Support the development and implementation of marketing and outreach strategies for the park and ride system
- ◆ Provide for adequate funding for park and ride lots to ensure proper system operation and safety, maintenance, marketing and development
- ◆ Establish an on-going mechanism to explore park-and-ride lot funding and to assure that the Region's facilities will continue to be fully integrated with transit, ridesharing, and bicycling programs
- ◆ Support the maintenance of the existing carpool market share and an increase in ridesharing
- ◆ Continue to support Central Valley Ridesharing operations and services provided by Fresno COG
- ◆ Continue to support funding for education and outreach to the general public in order to increase awareness and participation in ridesharing
- ◆ Support the allocation of funding toward the conversion of fleet vehicles from gasoline powered engines to other cleaner burning energy sources, including Compressed Natural Gas (CNG) and electric-powered vehicles
- ◆ Support development of telecommunications infrastructure in new residential developments to facilitate reductions in peak hour trips

Intelligent Transportation Systems

In addition to traditional lane widening and signal system improvements, the need to further enhance the capacity of the existing and future system using ITS will be important.

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).

Today, applications of ITS technologies allow the monitoring of traffic conditions and the dynamic adjustment of traffic signals to reduce unnecessary delay, the automated collection of tolls, advanced detection and television cameras to detect, assess and respond to traffic accidents and incidents. In the future, ITS technologies will automate transit fare collection and parking payments, use vehicle location systems to track trains and buses to give users "real time" arrival and departure information and use onboard systems to detect and avoid collisions.

Intelligent Transportation Systems Needs and Actions

The *San Joaquin Valley Strategic Deployment Plan*, a collaborate effort between the eight Valley counties and Caltrans, was completed in 2001. The plan includes specific strategies and implementation program for ITS applications in Madera County. Chapter II and Chapter IV provide additional detail regarding ITS opportunities in Madera County and throughout the Valley.

MCTC continues to participate in the deployment of 511 traveler information technology in the San Joaquin Valley.

Land Use and Transportation Planning Coordination

Madera County participated with Caltrans, Fresno County, the Cities of Fresno and Clovis, and various stakeholder groups in Phase III of the San Joaquin Valley Growth Response Study. Phase III of the Study focused on development of a land use allocation model and a visualization/indicator model for use with the current transportation demand models. These modeling tools will assist the cities of Fresno and Clovis and the counties of Fresno and Madera in reviewing the urban landscape, considering alternative growth scenarios, and making policy changes to successfully implement their planning documents. The tools will provide information on the land use patterns that could enhance transit, reduce vehicle miles traveled, and address air quality issues.

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. Refer to Chapter 6 of the 2011 RTP for more detail regarding the Regional Blueprint planning process.

2.5 RELATIONSHIP TO OTHER PLANS AND PROGRAMS

The RTP is a planning guide containing transportation policy and projects through Fiscal Year 2034/35). 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 the City of Chowchilla and the City of Madera. 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 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 addresses the effects of planned growth and development on the existing and planned transportation system. The resultant analysis documents existing and future year (Year 2035) multimodal transportation system conditions. Modes studied include highways and arterials, public transit, non-motorized systems, passenger and freight rail, and aviation.

Revenues generated through the Measure represent one additional funding source to address transportation goals, objectives and policies, and infrastructure and funding needs described in the RTP.

2.6 EIR AND REGIONAL TRANSPORTATION PLAN APPROVAL PROCESS

The process to approve the RTP and associated EIR includes (1) assessing Madera County's transportation needs, identifying Measure projects to address the needs, and addressing air quality conformity requirements in the Draft and Final EIR; (2) seeking comments on the EIR, (3) certifying the 2011 RTP Draft SEIR; and (4) approval of the 2011 RTP by MCTC. Public involvement will be encouraged throughout the process.

2.7 CONTENTS OF THE RTP

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 will be addressed by this EIR. The RTP is also used as a transportation planning document by each of the three (3) member jurisdictions of MCTC.

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.

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

- ◆ Chapter 1. Executive Summary
- ◆ Chapter 2. San Joaquin Valley Regional Transportation Overview
- ◆ Chapter 2. Regional Setting, State and Planning Assumptions
- ◆ Chapter 3. Policy Element
- ◆ Chapter 4. Action Element
- ◆ Chapter 5. Financial Element
- ◆ Chapter 6. Blueprint Planning
- ◆ Chapter 7. Environmental Considerations and Environmental Justice
- ◆ Chapter 8. Performance Monitoring Program

2.8 INTENDED EIR USES

As a Program EIR, which is a type of first-tier document (CEQA Guidelines Sec. 15152, 15168), the 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 Program EIR 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 – the Investment Plan considering projects contained in the 2011 RTP 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 EIR were identified from the Notice of Preparation (NOP), which is included as Appendix A. 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 EIR¹ for:

- ◆ Investment 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 EIR for the potential permits/actions:

- ◆ California Dept. of Fish and Game -- *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, Redevelopment Agency, Planning Commission, Airport Land Use Commission, and County staff) -- *regional transportation planning, Capital Improvement Program budgeting and 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*

¹ 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).

- ◆ Madera County Transportation Authority -- *Development and implementation of the Investment 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. -- *funding review and subsequent improvement projects funding and U.S. Endangered Species Act*
- ◆ Economic Development Commission -- *Strategic Plan development, identification of infrastructure and road improvements*

2.9 APPROVALS REQUIRED TO IMPLEMENT THE PROJECT

MCTC will consider certifying the 2011 RTP SEIR. Following certification, MCTC will consider approval of the 2011 RTP.

2.10 EIR DEVELOPMENT/APPROVAL PROCESS

- | | |
|---|-----------------|
| ◆ Draft SEIR submitted to MCTC for distribution | April 28, 2010 |
| ◆ Draft SEIR Notice of Completion submitted to the State Clearinghouse for distribution to state agencies | April 28, 2010 |
| ◆ Availability of Draft SEIR for public review published In local newspapers and on MCTC website | April 30, 2010 |
| ◆ Draft SEIR available at Madera County Libraries, and MCTC offices | April 30, 2010 |
| ◆ Draft SEIR emailed to organizations, agencies and individuals for review and comment | April 30, 2010 |
| ◆ Public Workshops on Draft SEIR | May 2010 |
| ◆ Draft 45-day public comment period closed | June 14, 2010 |
| ◆ Final EIR submitted to MCTC for distribution | July 1, 2010 |
| ◆ Review of Final EIR by local agencies | July 1-21, 2010 |
| ◆ Public Hearing on Final EIR by MCTC | July 21, 2010 |

2.11 ORGANIZATION OF THE EIR

This EIR 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 Long-Term Effects
- 6.0 List of Preparers, Organization, and Agencies Referenced or Consulted

Appendices

- A Notice of Preparation (NOP)
- B NOP Comments

Table 2.7 compares the required contents of an EIR to this Draft EIR. When the required EIR elements are not separated into distinct sections, the document must include a statement where each element is discussed.

TABLE 2.7
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))	Long-Term Effects
Significant Irreversible Changes (CEQA Guidelines 15126.2(c))	Long-Term Effects
Cumulative Impacts	Long-Term Effects
Organizations and Persons Consulted	List of Preparers and Those Consulted

2.12 EIR AND RTP AVAILABILITY

The 2011 RTP and this environmental review document are available at:

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

Comments and questions should be made to:

Mr. Richard Poythress
Transportation Planner
Madera County Transportation Commission
(559) 675-0721
(559) 675-9328 – Fax
richard@maderactc.org

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

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 Appendix B – NOP Comments Letters)
- Particular agency thresholds of significance

The NOP determined that a Subsequent Program Environmental Impact Report (SEIR) 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*
- *Agricultural Resources*
- *Air Quality*
- *Biotic Resources*
- *Climate Change*
- *Cultural Resources*
- *Geology/Soils*
- *Hazards & Hazardous Materials*
- *Hydrology/Water Quality*
- *Land Use/Planning*
- *Noise*
- *Population/Housing*
- *Public Utilities, Other Utilities & Services Systems*
- *Social & Economic Effects*
- *Transportation/Traffic*

The NOP also concluded that adoption of the 2011 RTP would result in less than significant impacts on the following environmental issue areas if applicable policies and standards were applied:

- *Recreation*
- *Mineral Resources*

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

- ◆ *Describe feasible mitigation measures, which would minimize significant adverse impacts. Wherever significant adverse impacts have been identified, mitigation measures are recommended to minimize impacts.*
- ◆ *Prepare an evaluation of the level of significance of individual impacts assuming implementation of the recommended mitigation measures.*

Based on findings identified in this Section of the SEIR, the preferred Project is the Multi-Modal Project Alternative or projects contained in the 2011 RTP. This alternative was analyzed considering 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 modes.

Improvement projects evaluated and identified under this alternative are "financially constrained" in accordance with the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and air quality conformity requirements. Further, this alternative focuses on "traditional" land use planning activities, i.e., designation of planned growth and development consistent with established land use plans and density policies. This includes the designation of urban and rural development consistent with adopted local agency General Plans.

3.1 AESTHETICS

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 Berenda, Chowchilla, Fairmead, Madera, Madera Ranchos, and Ripperdan.

The Valley areas are met in the east and west by foothill and mountain ranges. Eastern 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 Ahwanhee, Coarsegold, North Fork, Oakhurst, O'Neals, and Raymond. Western foothill areas are similar to eastern foothills, but are much drier and contain significantly fewer trees. Mountain areas in the northeast usually include numerous pine trees, some rock formations and changing elevation. Mountain communities include Bass Lake, Wishon, and Yosemite Forks.

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 EIR addresses the general aesthetic landscape of the Madera region and assesses the potential impacts from region-wide construction of at- and above-grade facilities.

Regulatory

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 affect 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.

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

In 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was signed into law. The Act provides guaranteed funding for highways, highway safety, and public transportation totaling \$244.1 billion, representing the largest nationwide surface transportation investment ever. The Act follows two bills that highlighted surface transportation funding needs—the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21), which shaped the highway program to meet changing transportation needs throughout the Nation. SAFETEA-LU addresses challenges such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment. SAFETEA-LU also gives State and local transportation agencies more flexibility to solve transportation problems.

California Environmental Quality Act (CEQA)

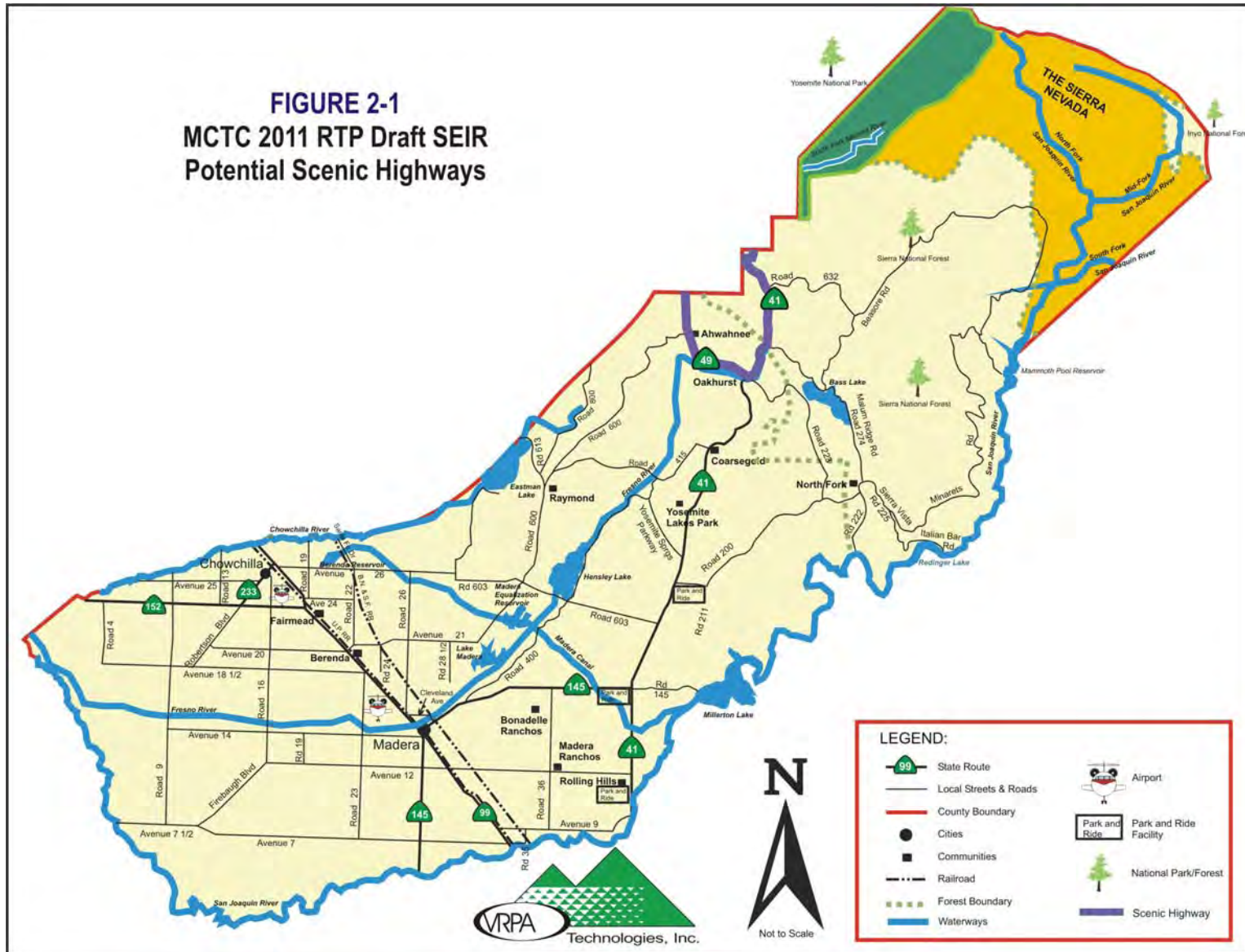
Similar to NEPA, CEQA affords protection for the environment, including aesthetic resources. The CEQA Guidelines provide four criteria that may be used to evaluate the significance of visual quality impacts: negative effects on a scenic vista, damage to scenic resources within a State scenic highway, 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) highways are eligible for designation. The highways are displayed in Figure 3-1 and are listed below:

- ◆ Route 41 between SR 49 to the Madera/Mariposa County lines
- ◆ Route 49 between SR 41 to the Madera/Mariposa County lines

FIGURE 2-1
MCTC 2011 RTP Draft SEIR
Potential Scenic Highways



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

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.
- ◆ Visual Quality: Visual quality is the character, condition, and quality of a scenic landscape or other visual resource and how it is perceived and valued by the public. 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.

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, streams, creeks, 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.

Visual Sensitivity

Madera County has several areas with a high level of visual sensitivity. These areas include:

- ◆ Gateways and travel corridors
- ◆ Cities such as Chowchilla and Madera and communities such as Madera Ranchos within the Valley region
- ◆ The Sierra Foothill communities of Ahwahnee, Coarsegold, Oakhurst, North Fork, and Raymond

Gateways include man-made (bridges, buildings, agricultural vistas), natural features (trees, waterways) and landscaped corridors providing distinct community entrances. Travel corridors are major roadways such as State highways and arterials. Madera County gateways and travel corridors include:

Gateways

- ◆ Northwest - Chowchilla River
- ◆ South - San Joaquin River
- ◆ Northeast - Yosemite National Park
- ◆ East - Sierra Nevada Mountain Range
- ◆ West - Coastal Mountain Range

In addition, several other significant waterways exist in Madera County including: Bass Lake, Eastman Lake, Hensley Lake, Lake Madera and Millerton Lake, as well as a series of canals and creeks throughout the County. These water features are considered recreational sites and form important community amenities.

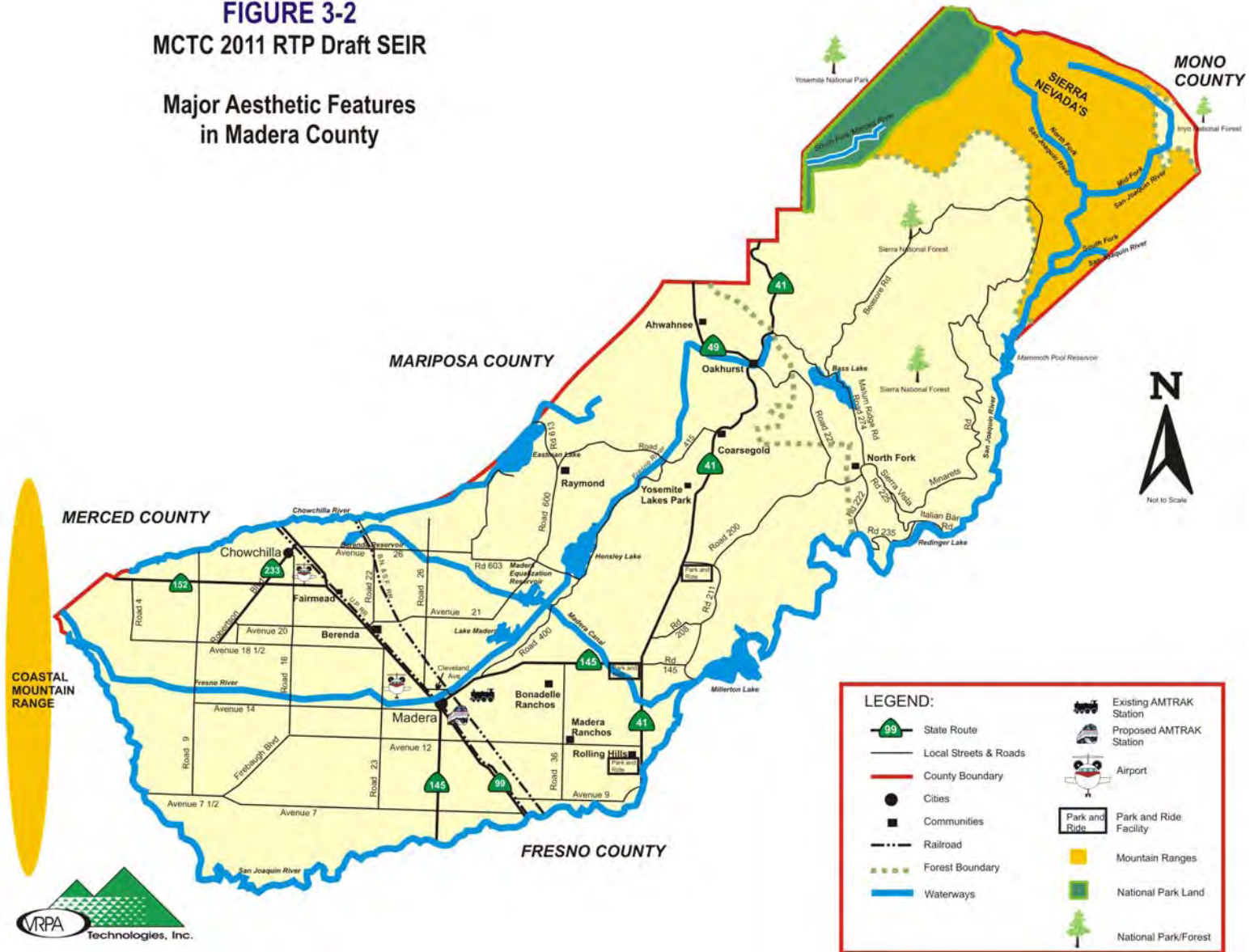
Travel Corridors

- ◆ North - South: SR 99, SR 41 (South Yosemite Hwy.), SR 233, SR 49 and SR 145
- ◆ East - West: SR 145, SR 152, Avenue 12 and Road 200
(SR 145 is listed as both NS and EW)

Figure 3-2 illustrates the major aesthetic features of Madera County.

FIGURE 3-2
MCTC 2011 RTP Draft SEIR

**Major Aesthetic Features
 in Madera County**



Designated State and Local Scenic Highways

There are no designated State Scenic Highways in Madera County, according to the Caltrans California Scenic Highway Mapping System. Two (2) highways have been identified as eligible for designation, State Route 41 and Route 49 as seen in Figure 3-1. When these designations are assigned to a roadway, they 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.

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. Madera County includes two cities (Chowchilla and Madera), 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.

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 included in the RTP financially constrained project lists. 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.

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 contained within the 2011 RTP would result in a significant visual impact if it:

- ◆ Blocks scenic resources (i.e., mountains, ocean, rivers, or significant man-made structures) as seen from an existing transportation facility or from the surrounding area.

- ◆ Alters the appearance of designated scenic resources along or near a state-designated or county-designated scenic highway or vista point.
- ◆ Creates significant contrasts, with the scale, form, line, color and/or overall visual character of the existing landscape setting.
- ◆ Creates a new source of substantial light or glare, which would affect day or nighttime views.
- ◆ Is inconsistent with applicable local guidelines and regulations.

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).

Impacts to scenic resources resulting from these proposed projects would depend on several factors such as the type of individual improvement 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 projects proposing new systems. Specifically, construction and operation of projects proposed within the RTP could significantly impact scenic resources located in the vicinities of these “new system” projects. “Modification projects” would result in short-term, less significant, construction impacts to scenic resources.

Impact 3.1.1 – Obstruction of Views

Construction and implementation of individual 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 could potentially block or impede views of scenic resources in a given area. For example, construction of highways could block or impede views of area mountains 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 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.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The project implementation agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ Implement design guidelines, local policies, and programs aimed at protecting views of scenic corridors and avoiding visual intrusions.
- ◆ 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

This impact is considered significant and unavoidable, because it is likely that there will be situations where visual impacts cannot be mitigated to a less than significant level.

Impact 3.1.2 – Altered Appearance of Scenic Resources

Construction and implementation of the projects could alter the appearance of scenic resources along or near designated scenic highways and vista points. 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 scenic corridor.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The project implementation agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

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

Significance After Mitigation

This impact is considered significant and unavoidable because it is likely that there will be situations where visual impacts cannot be mitigated to a less than significant level.

Impact 3.1.3 – Development of Previously Undeveloped Sites with Visual Qualities

Construction and implementation of the projects 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. 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.

Development of previously undeveloped sites could result in impacts to visual resources. Construction of a new transportation system through a developed area 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

All mitigation measures will be included in project-level analysis, as appropriate. The project implementation agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ Develop design guidelines for each type of transportation facility that make elements of proposed facilities 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 will be designed in a manner where the surrounding landscape dominates
 - Transportation systems 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
- ◆ Project implementation agencies shall design projects to minimize contrasts in scale and massing between the project and surrounding natural forms and development. Project implementation agencies shall 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 shall be designed to add significant natural elements and visual interest to soften the hard-edged, linear travel experience that would otherwise occur.

- ◆ Project implementation agencies shall use natural landscaping to minimize contrasts between the project and surrounding areas. Wherever possible, interchanges and transit lines shall 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 shall replace and renew landscaping to the greatest extent possible along corridors with road widenings, interchange projects, and related improvements. New corridor landscaping shall be designed to respect existing natural and man-made features and to complement the dominant landscaping of surrounding areas.
- ◆ Project implementation agencies shall 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 shall 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

This impact is considered significant and unavoidable, because it is likely that there will be situations where visual impacts cannot be mitigated to a less than significant level.

Impact 3.1.4 – New Sources of Light and Glare

Construction and implementation of individual 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 two 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

All mitigation measures will be included in project-level analysis, as appropriate. The project implementation agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ Develop design guidelines for each type of transportation facility that make light elements of proposed facilities visually compatible with surrounding areas. The following methods will be employed whenever possible:
 - Transportation systems will be designed in a manner where the surrounding landscape dominates
 - Transportation systems 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

This impact is considered significant and unavoidable because it is likely that there will be situations where visual impacts cannot be mitigated to a less than significant level.

Cumulative Impacts 3.1.5

Madera County will experience significant growth and development by 2035. The 2011 RTP influences the pattern of this development, by increasing mobility and including transportation measures. At the regional scale, the 2011 RTP's contribution to impacts on the overall visual character of the existing landscape setting would be cumulatively significant.

The 2011 RTP includes 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 2011 RTP emphasizes focusing development in accordance with applicable general plans, or infill development. Infill 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.

The region will increase in population and employment by 2035. 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 25 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

- ◆ Mitigation measures identified above should also be implemented as applicable to development projects throughout the region.
- ◆ In visually sensitive site areas and prior to project approval, local land use agencies shall apply development standards and guidelines to maintain compatibility with surrounding natural areas, including site coverage, building height and massing, building materials and color, landscaping, site grading, etc.
- ◆ Local agencies should develop design guidelines for each type of transportation facility that make light elements of proposed facilities visually compatible with surrounding areas. The following methods will be employed whenever possible:
 - Transportation systems will be designed in a manner where the surrounding landscape dominates;
 - Transportation systems will be developed to be compatible with the surrounding environment; and
 - Lighting devices will be employed such as downward facing light, light shields, and amber lumens.

Significance After Mitigation

This impact is considered significant and unavoidable because it is likely that there will be situations where visual impacts cannot be mitigated to a less than significant level.

3.2 AGRICULTURAL RESOURCES

Madera County is located in the center of California's San Joaquin Valley, the richest agricultural area in the world. A wide variety of crops and livestock commodities are produced here. Approximately 350 crops are grown in California, about one-third of this number (80 different crops) are produced in Madera County.

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. The total value of agricultural products exceeds \$1 billion and the leading crops are almonds, grapes, milk, pistachios, replacement heifers, alfalfa, cattle and calves, nursery stock, cotton lint and seed, and poultry. The County ranks 13th in the State for agricultural production.

A significant amount of prime and non-prime agricultural land is under Williamson Act contract in Madera County. Prime agricultural land is defined as those lands that contain the best combination of physical and chemical characteristics for the production of crops. The Madera County Planning Department has Williamson Act files for each contract in force. The files are incorporated by reference.

Regulatory

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 BLM manages property within the region. 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.

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 continuing basis. The California Department of Conservation administers the California Land 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 right-of-ways 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 (CDF)**

The CDF reviews and approves plans for timber harvesting on private lands. In addition, through its responsibility for fighting wildland fires, the CDF 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 Game (CDFG)**

The land use mandate of the CDFG is to protect rare, threatened, and endangered species by managing habitat in legally designated ecological reserves or wildlife areas.

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. Land use 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**

In 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**

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 April 2005, the CFCP has funded more than 50 easement projects in California, including nearly 25,000 acres in more than a dozen counties. CFCP has also funded a number of planning grants, including some with regional or statewide value. Within the eight-county study area, CFCP has awarded grants for planning and policy projects within the counties of Kern and Ventura.

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 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 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.

◆ 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).

◆ 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 located in the center of California's San Joaquin Valley, the richest agricultural area in the world. The County is home to 679,729 acres of the world's most productive farmland. Madera County has 1,708 farms, which grow more than 80 different crops, contributing more than \$1 billion to the California economy and supporting 30 percent of all jobs in the Madera area. Many of the County's crops are not grown commercially anywhere else in the nation. Based on the 2007 Agricultural Census, Madera County exhibits the following statistics in these categories:

- ◆ Number of farms – 1,708
- ◆ Harvested cropland – 679,729 acres (updated)
- ◆ Farms with sales of 100,000 or more - 663 farms
- ◆ Irrigated land – 281,658 acres

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. The total value of agricultural products exceeded \$1 billion in 2008, and its leading crops include Figs, grapes (raisin), pistachios, almonds and nectarines.

Williamson Act Lands

Madera County currently contains 539,290 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 3-1 illustrates the type and amount of agricultural land within Madera County.

Table 3-1
Lands Enrolled in Williamson Act Preserve, 2007

		Acres
Land Conservation Act	Prime	205,468
	Non-prime	276,514
Farmland Security Zone	Urban Prime	12,935
	Urban Non-prime	362
	Non-urban Prime	41,593
	Non-urban Non-prime	2,091
Total		539,290

Source: Division of Land Resource Protection, Williamson Act Status Report 2007, Appendix C

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

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Criteria for Significance

Substantial loss of agricultural, open space, or other resource land.

Impact 3.2.1 - Changes in Land Use Patterns

Strategies aimed at addressing the transportation needs of future growth patterns were considered during development of the proposed 2011 RTP. The document promotes alternatives to the automobile through enhanced funding (beyond that identified in the 2011 RTP) for transit and other alternative modes of transportation such as bicycle facilities, trails, airport improvements, and others. Implementation of strategies proposed in the RTP 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. Land use and transportation policies are emphasized in the 2011 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 2011 RTP. 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.

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 projects in the Plan could have significant impacts on land use patterns, potentially causing land use growth and development to occur in areas not previously envisioned for growth and development. This impact could be especially significant on agricultural land uses within the County.

Mitigation Measures

The impact on significant agricultural resources will be evaluated as part of the appropriate improvement project-specific environmental review. Mitigation measures will be identified to minimize impacts. Implementation agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with all mitigation measures.

- ◆ Individual projects will be consistent with local land use plans and policies that designate areas for urban land use and preserve agricultural lands that support the economic viability of agricultural activities.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will conduct the appropriate project-specific environmental review, including consideration of potential land use impacts.

Significance After Mitigation

While implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts, it is probable that such impacts will remain significant and unavoidable.

Impact 3.2.2 – Loss of Agricultural Land

Implementation of the proposed Project could potentially result in the disturbance or loss of significant agricultural resources throughout the Madera region. This would be considered a potentially significant impact.

The Madera region contains areas designated by the State as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. These areas are interspersed throughout urban areas or are located in undeveloped portions of the region. Development of proposed projects could potentially result in the disturbance or loss of some of these

designated areas. Specifically, new projects involving construction would be most likely to result in impacts to these areas.

Mitigation Measures

The impact on significant agricultural resources will be evaluated as part of the appropriate improvement project-specific environmental review. Mitigation measures will be identified to minimize impacts. Implementation agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with all mitigation measures.

- ◆ 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.
- ◆ For projects in agricultural areas, project implementation agencies will contact the California Department of Conservation and the County Agriculture Department's office to identify the location of prime farmlands and lands that support crops considered valuable to the local or regional economy.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will establish conservation easement programs to mitigate impacts to prime farmland.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will avoid impacts to prime farmlands or farmlands that support crops considered valuable to the local or regional economy.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will encourage enrollments of agricultural lands for counties that have Williamson Act programs.

Significance After Mitigation

While implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts, it is probable that such impacts will remain significant and unavoidable.

3.3 AIR QUALITY

Madera County is located in one of the most polluted air basins in the country. The surrounding topography includes foothills and mountains to the east, west, and south. 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, the City of Madera experiences cold temperatures and calm conditions that increase the likelihood of a climate conducive to high CO concentrations.

Surface radiant cooling can also cause temperature inversions. On clear winter nights, the ground loses heat at a rapid rate, causing air in contact with it to cool. Once formed, radiation inversions are similar to subsidence inversions with respect to their effects on pollutant dilution. As a result, conditions in Madera County are conducive to the containment of air pollutants.

Regulatory

Air quality in the County 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 Regulations

◆ National Environmental Policy Act (NEPA)

The National Environmental Policy Act (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.

Federal Agencies

◆ U.S. Environmental Protection Agency (EPA)

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 federal Clean Air Bill Amendments, passed in 1990, share responsibility with the State in reducing emissions from mobile sources. The U.S. Environmental Protection Agency (U.S. EPA) is responsible for enforcing the 1990 amendments.

The Federal Clean Air Act (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, CO, nitrogen dioxide, sulfur dioxide, particulate matter 10 microns in size and smaller (PM₁₀), and lead.

The U.S. EPA requires each state to prepare and submit a State implementation Plan (SIP) that describes how the state will achieve the federal standards by the specified dates, depending on the severity of the air quality within the state or basin. Based on the provisions contained in the 1990 amendment, EPA designated the entire San Joaquin Valley as nonattainment for two pollutants: ozone and particle matter less than 10 microns in size or PM₁₀.

More recently, on April 24, 2004, the EPA reclassified the San Joaquin Valley ozone nonattainment area from its previous severe status to "extreme" at the request of the San Joaquin Valley Air Pollution Control District (SJVAPCD) Board. The SJVAPCD for purposes of this EIR is referred to as the "Air District". Madera County is considered to be in non-attainment of ozone and PM₁₀ standards.

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).

State Agencies

◆ California Air Resources Board (ARB)

In 1988, the State of California passed the California Clean Air Act (CCAA, State 1988 Statutes, Chapter 1568) that established more stringent State ambient air quality standards, and set forth a program for their achievement. State air basins are established by the California Air Resources Board (CARB). CARB implements State ambient air quality standards, as required in the State CCAA, and cooperate with the Federal government in implementing pertinent sections of the federal Clean Air Bill, Amendments. Further, CARB has responsibility for controlling stationary and mobile source air pollutant emissions throughout the State.

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 San Joaquin, Kern, Kings, Fresno, Merced, Stanislaus, and Tulare Counties.

Applicable federal and State standards are provided in Table 3-2.

Regional Agencies

◆ San Joaquin Valley Air Pollution Control District

The Air District 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 Air 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 Air 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 is one (1) air quality-monitoring site located within Madera County. It is Madera – Pump Yard.

Table 3-3 contains the ambient air quality classifications for a monitoring site in Madera and a site in the rural area. Table 3-4 identifies the District attainment status. As indicated, the Valley is nonattainment for Ozone (1 hour and 8 hour) and PM (10 microns and 2.5 microns in size).

Local Controls

◆ Local Control Mechanisms

- *General Plans:* The most comprehensive land use planning for 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 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).
- *Specific, Area, 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 an area plan or specific plan area and contain development standards tailored to the area, as well as systematic implementation of the 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.



FIGURE 3-3
MCTC 2011 RTP Draft SEIR
California Air Basins

TABLE 3-2

Ambient Air Quality Standards							
Pollutant	Averaging Time	California Standards ¹		Federal Standards ²			
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷	
Ozone (O ₃)	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)		0.075 ppm (147 µg/m ³)			
Respirable Particulate Matter (PM ₁₀)	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})	24 Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	15.0 µg/m ³			
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	None	Non-Dispersive Infrared Photometry (NDIR)	
	1 Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)			
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—			
Nitrogen Dioxide (NO ₂) ⁸	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemiluminescence	
	1 Hour	0.18 ppm (339 µg/m ³)		0.100 ppm			0.053 ppm (100 µg/m ³)
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m ³)	—	Spectrophotometry (Pararosaniline Method)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (365 µg/m ³)			
	3 Hour	—		—			0.5 ppm (1300 µg/m ³)
	1 Hour	0.25 ppm (655 µg/m ³)		—			—
Lead ⁹	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	Same as Primary Standard	High Volume Sampler and Atomic Absorption	
	Calendar Quarter	—		1.5 µg/m ³			
	Rolling 3-Month Average ¹⁰	—		0.15 µg/m ³			
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal 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 ⁹	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography				

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (01/27/10)

**This concentration was approved by the Air Resources Board on April 28, 2005 and is expected to become effective in early 2006.*

Footnotes:

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended 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 averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration 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 U.S. EPA for further clarification and current federal 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 procedure 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 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 EPA.
8. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).
9. 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.
10. National lead standard, rolling 3-month average: final rule signed October 15, 2008

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

Pollutant	Time Averaging	2006	2007	2008	Standards	
		Maximums	Maximums	Maximums	National	State
Ozone (O ₃)	1 hour	0.113 ppm	0.091 ppm	0.120 ppm	-	0.09 ppm
Ozone (O ₃)	8 hour	0.095 ppm	0.083 ppm	0.107 ppm	0.08 ppm	-
Carbon Monoxide (CO) ^a	8 hour	3.2 ppm	2.6 ppm	2.34 ppm	9.0 ppm	9.0 ppm
Nitrogen Dioxide (NO ₂)	1 hour	0.051 ppm	0.047 ppm	0.053 ppm	-	.025 ppm
Nitrogen Dioxide (NO ₂)	Annual Average	0.011 ppm	0.010 ppm	0.010 ppm	0.053 ppm	-
Particulates (PM ₁₀) ^a	24 hour	117 mg/m ³	107 mg/m ³	77.7 mg/m ³	150 mg/m ³	50 mg/m ³
Particulates (PM ₁₀) ^a	Federal Annual Arithmetic Mean	37.7 mg/m ³	32.0 mg/m ³	34.4 mg/m ³	50 mg/m ³	20 mg/m ³
Particulates (PM _{2.5}) ^a	24 hour	71.0 mg/m ³	103.8 mg/m ³	79.5 mg/m ³	65 mg/m ³	-
Particulates (PM _{2.5}) ^a	Federal Annual Arithmetic Mean	16.7 mg/m ³	18.8 mg/m ³	17.3 mg/m ³	15 mg/m ³	12 mg/m ³

a. Fresno's 1st Street Monitoring Station

Source: CARB Website, 2010

TABLE 3-4
San Joaquin Valley Air Basin – District Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone- 1 Hour	No Federal Standard	Non-attainment/Severe
Ozone - 8 Hour	Non-attainment	No State Standard
PM ₁₀	Attainment	Non-attainment
PM _{2.5}	Non-attainment	Non-attainment
Carbon Monoxide	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Lead Particulates	No Federal Standard	Attainment

Source: CARB

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.

➤ *Transportation Control Measures:* Transportation Control Measures (TCMs) focus on the reduction of motor vehicle emissions by reduction of vehicle use or changing traffic flow or congestion conditions. The 1994 San Joaquin Valley Transportation Control Measure Program identified the following nine (9) measures determined to still be applicable and reasonably available to local agencies in the Valley:

- Traffic flow improvements
- Public transit
- Passenger rail and support facilities
- Rideshare programs
- Park-and-ride lots
- Bicycling programs
- Trip reduction ordinances
- Telecommuting

- Alternative work schedules

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. Central Valley Ridesharing provides rideshare programs in Madera County and is administered by Fresno COG. It also provides ride matching within the four counties of Fresno, Kings, Madera, and Tulare. ¹

Environmental Setting

This section describes existing air quality within the San Joaquin Valley Air Basin 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 less than 10 microns in size (PM₁₀). A complete description of the current air quality requirements is provided in the 2011 RTP and FTIP Air Quality Conformity Finding. The Conformity Finding provides a review of the current status of air quality planning and implementation, including the status of the current State Implementation Plan (SIP), Rate of Progress (ROP) Plans, and the implementation of various transportation control measures (TCMs) that are committed to in the current SIP and are needed to "offset" nonattainment emission increases associated with the Project.

Geographical 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.

Exhibit 3-3 provides a map of California Air Basins. 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.

For the purpose of regulating and monitoring air quality, Madera County is serviced together with the other seven counties in the SJVAB by the San Joaquin Valley Air Pollution Control District (SJVAPCD), which regulates and monitors air quality within the SJVAB.

Topographic Conditions

Madera County is located within the San Joaquin Valley Air Basin [as determined by the California Air Resources Board (CARB)]. Exhibit 3-3 provides a map of the Air Basin. 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

¹ MCTC – 2011 Regional Transportation Plan (RTP)

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

In addition to topographic conditions, the local climate can also contribute to air quality problems. Light winds and atmospheric stability provide frequent opportunities for pollutants to accumulate in the atmosphere. Wind speed and direction also play an important role in the dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing vertically and by transporting it to other locations.

Ozone is classified as a "regional" pollutant due in part to the time required for ozone formation. Ozone, however, is not a directly emitted pollutant. Ozone is formed when its precursors, nitrogen oxides (NO_x) and volatile organic compounds (VOC), react in the presence of sunlight. Ozone precursors can be easily transported by winds from a source area before ozone concentrations peak. In addition, temperature and solar radiation are important factors in the chemistry of ozone formation because ozone is formed in a photochemical reaction requiring sunlight. Generally, higher temperatures create greater amounts of ozone, since reaction rates increase with temperature. However, extremely hot temperatures can lift or break the inversion layer.

Localized pollutants, carbon monoxide (CO) for example, may form high concentrations when wind speed is low. Temperature inversions can also be caused by surface radiant cooling. On clear winter nights, the ground loses heat at a rapid rate, causing air in contact with it to cool. Once formed, radiation inversions are similar to subsidence inversions with respect to their effects on pollutant dilution. A description of specific climatic factors in the Air Basin is provided below.

Climate in the San Joaquin Valley is Mediterranean with moist cool winters and dry warm summers. Precipitation is confined primarily to the winter months. The Madera County portion of the SJVAB had an average annual rainfall over a 30-year period of approximately 14 inches on the Valley floor. During summer months, wind speed and direction data indicate that winds usually originate at the north end of the Valley and flow in a southerly direction through the Tehachapi Pass into the Mojave Air Basin. These prevailing winds, known as "up-valley winds", originate with coastal breezes that enter the San Joaquin Valley through breaks in the coastal ranges, particularly through the Carquinez Straits in the San Francisco Bay Area and the Sacramento Valley Area; however, sources of air pollution, including stationary, mobile and area sources within the central and southern portions of the San Joaquin Valley, are considered to be a greater influence under most conditions. Peak ozone levels tend to be higher in the southernmost portion of the San Joaquin Valley, as the prevailing summer winds sweep precursors downwind of northern source areas.

During winter months, wind speed and direction data indicate that wind occasionally originates from the south end of the Valley and flows in a northerly direction. Also during the winter, the San Joaquin Valley experiences light variable winds, less than ten miles per hour (mph). Low wind speeds, combined with low inversion layers during the winter, create a climate conducive to high CO concentrations.

Wind speed and direction also change throughout the day. During the day, northerly winds prevail. However, in the late evening through the early morning, wind flow reverses direction due to the effects of cooler drainage wind from surrounding mountains. The interruption of northerly wind, including the evening and morning transition between the two wind flow patterns, is known as an "eddy". This adds to the complexity of regional wind flow and pollutant transport within the SJVAB.

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.

Carbon monoxide emissions overwhelmingly come from mobile sources in the San Joaquin Valley; on-road vehicles contribute 65 percent, while other mobile vehicles, such as trains, planes, and off-road vehicles, contribute another 17 percent. The Air District is the agency empowered to regulate air pollutant emissions. The Air District regulates air quality through its permit authority for most types of stationary emission sources and through its planning and review activities for other sources.

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 Oxides of nitrogen (NO_x) and Reactive Organic Gases (ROG). Mobile sources contribute 64 percent of all NO_x emitted from anthropogenic sources. In addition, mobile sources contribute 53 percent 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. For 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 fugitive windblown dust from "open" fields (38%) and road dust, both paved and unpaved (38%). Farming activities only contribute 14 percent of the PM₁₀.

Air Quality Standards

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

In 1988, the State of California passed the California Clean Air Act [(CCAA), State 1988 Statutes, Chapter 1568], which set forth a program for achieving more stringent California Ambient Air Quality Standards. The California Air Resources Board (ARB) implements State ambient air quality standards, as required in the CCAA, and cooperates with the federal government in implementing pertinent sections of the CAA Amendments (FCAAA). Further, CARB regulates vehicular emissions throughout the State. The Air District regulates stationary sources, as well as some mobile sources. Attainment of the more stringent State PM₁₀ Air Quality Standards is not currently required.

Both National and California Ambient Air Quality Standards have been established for the following five critical pollutants: nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulates (PM₁₀), carbon monoxide (CO), and ozone (O₃). Ozone pollution is the most conspicuous type of air pollution, and is often characterized by visibility-reducing haze, eye irritation, and high oxidant concentrations (i.e., "smog").

The Air District 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 pollutants of importance in Madera County follow.

◆ Ozone (1-hour and 8-hour)

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 amount 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 and lung tissue damage and a reduction in the amount of air inhaled into the lungs.

The standards for Ozone are not being met in the SJVAB for 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 nitrates NO₃. Secondary particles are of greatest concern during the winter months where low inversion layers tend to trap the precursors of secondary particulates.

The CARB 2008 PM_{2.5} Plan builds upon the aggressive emission reduction strategy adopted in the 2007 Ozone Plan and strives to bring the valley into attainment status for the 1997 NAAQS for PM_{2.5}. The 2008 PM_{2.5} Plan indicates that all planned reductions (from the 2007 Ozone Plan and state controls) plus significant reductions from new measures will be needed to attain the annual standard.

The following new controls considered in the 2008 PM_{2.5} Plan include

- ◆ Tighter restrictions on residential wood burning and space heating
- ◆ More stringent limits on PM_{2.5}, SO₂, and NO_x emissions from industrial sources
- ◆ Measures to reduce emissions from prescribed burning and agricultural burning
- ◆ More effective work practices to control PM_{2.5} in fugitive dust

The control strategy in this plan would also bring the valley closer to attainment status for the 2006 daily PM_{2.5} standard. The district presented the draft 2008 PM_{2.5} Plan to the District Governing Board on April 17, 2008, following a 30-day public comment period. This plan was delivered to the EPA in April 2008.

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.

The standards for PM₁₀ are being met in the SJVAB for federal standards but are not being met for state standards. The standards for PM_{2.5} are not being met in the SJVAB for 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.

The standards for Carbon Monoxide are being met in the SJVAB for federal standards.

◆ **Nitrogen Dioxide (NO₂)**

Nitrogen oxides (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.

The standards for Nitrogen Dioxide are being met in the SJVAB for federal and 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.

The standards for SO₂ are being met in the SJVAB.

◆ **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.

The standards for Lead are being met in the SJVAB for state standards.

Existing TCMs and Air Quality Mitigation

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 FCAA and CCAA, air districts were required to implement transportation control measures (TCMs) and were encouraged to adopt indirect source control programs to reduce mobile source emissions. These mandates created the necessity for the District to work closely with cities and counties and with regional transportation planning agencies (RTPAs) to develop new programs.

A description of the various TCMs that have been incorporated into the Air District AQAP, Rate of Progress (ROP) Plans, and the SJVAPCD TCM Program, or have been identified as necessary to provide for positive air quality conformity findings, is included in the latest Air Quality Conformity Finding for the 2011 RTP and Federal Transportation Improvement Program (FTIP), dated October 2009. The Conformity Finding includes a complete description of each TCM contained in the current SIP, the SJVAPCD AQAP, the TCM Program, and in the ROP Plans.

A complete description of the current air quality requirements is provided in the 2011 RTP and the latest Air Quality Conformity Findings are included on the MCTC website at www.maderactc.org.

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 FCAA and CCAA, air districts were required to implement transportation control measures (TCMs) and were encouraged to adopt indirect source control programs to reduce mobile source emissions. These mandates created the necessity for the Air District to work closely with cities and counties and with regional transportation planning agencies (RTPAs) to develop new programs.

A description of various TCMs incorporated into the Air District Air Quality Attainment Plan (AQAP), Rate of Progress (ROP) Plans, and the SJVAPCD TCM Program, together with TCMs that have been identified as necessary to

provide for positive air quality conformity findings is included in 2011 RTP Air Quality Conformity Determination. The Conformity Determination includes a complete description of each TCM contained in the current SIP, the SJVAPCD AQAP, the TCM Program, and in the ROP Plans.

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 EPA and 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 Quality Standards are met.

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.

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.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Methodology

The impact assessment for air quality focuses on potential effects the Project might have on air quality within the Madera region. The assessment is not site or project-specific but is a regional analysis.

Criteria for Significance

The CEQA Guidelines establish that a significant impact would be expected to occur if the project would:

- ◆ Conflict with or obstruct with implementation of an applicable air quality plan
- ◆ Violate any air quality standard or contribute to an existing or projected air quality violation
- ◆ Result in 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
- ◆ Create objectionable odors affecting a substantial number of people

Development of the Project would generate air pollutant emissions from a wide variety of stationary and mobile sources. Stationary source emissions, such as Particulate Matter, would be generated by transportation facility construction activities. Mobile source emissions would be generated by motor vehicle travel associated with construction activities and use of the proposed individual improvement projects. This section of the Air Quality Assessment addresses and analyzes the regional or area-wide and the localized air quality impacts associated with the Project. A discussion of significance criteria and an assessment of construction emissions are presented below based on the methodologies recommended in the SJVAPCD's *Guide for Assessing and Mitigating Air Quality Impacts*.

Short-Term Construction Impacts

Impact 3.3.1 – Project Construction Impacts on Air Quality

Construction activities could increase short-term air emissions. This could be considered a less than significant impact.

Short-term impacts could result from the following construction-related sources:

- ◆ Construction equipment emissions
- ◆ Dust from grading and earthmoving operations
- ◆ Emissions from workers' vehicles traveling to and from construction sites

As individual transportation improvements are constructed, the activity at individual construction sites will involve grading and other earth-moving operations and the use of diesel and gasoline-powered construction equipment. These could generate exhaust emissions of carbon monoxide and nitrogen dioxide at the individual construction sites. Where asphalt is used, volatile organic compounds (VOC) could be released from asphalt when it is applied to the roadways' surfaces. If an individual construction site is located near existing homes or other sensitive receptors, such emissions could have the potential to result in significant short-term impacts at that particular location.

The Air District has developed thresholds of significance for individual construction projects. Project-level analysis conducted for CEQA purposes should estimate construction emissions for each individual improvement project based on the equipment used, vehicle miles traveled, and time allowed to complete the individual improvement project. Mitigation measures to reduce air quality impacts should be established in project-specific environmental documents. Some of the larger projects could have the potential to exceed the significance thresholds established by the District, creating significant short-term impacts. These impacts could occur in localized areas depending on the construction site locations, and could impact land uses, facilities and activities that may be occurring on these properties within vicinity of the projects requiring mitigation

Since the Project proposes more highway and arterial projects than the No Project Alternative, short-term construction emissions could be greater. However, construction-related impacts are expected to be temporary in nature and can generally be reduced to a less than significant level through the use of mitigation measures and through compliance with applicable existing city, county, state, and District regulations for reducing construction-related emissions. Therefore, the increase in construction activities proposed by the Project is expected to constitute a less than significant impact on a programmatic level. Nonetheless, individual projects may exceed the emissions thresholds, which could constitute project-level significant impacts. Individual projects shall be required to implement mitigation measures to reduce construction emissions as determined by the applicable analysis of such air quality project construction impacts.

Mitigation Measures

All mitigation measures shall be included in project-level analysis, as appropriate. The individual improvement project proponent or local jurisdiction shall be responsible for completing an air quality analysis and study to determine the project-specific air quality construction impacts and identify and provide the mitigation measures that shall reduce the impacts to a level of less than significant in accordance with the applicable air quality standards. Such air quality analysis and study shall identify the impacts on land uses, facilities and activities of properties within the vicinity of the project and shall identify and provide the mitigation measures that shall reduce the impacts to a level of less than significant in accordance with the applicable air quality standards. The individual improvement project proponent or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures prior to and during the construction of the project. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with air quality.
- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations, and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors with regards to air quality.
- ◆ Project implementation agencies shall ensure implementation of mitigation measures to reduce PM₁₀ and NO_x emissions from construction sites, including:
 - Maintain on-site truck loading zones
 - Configure on-site construction parking to minimize traffic interference and to ensure emergency vehicle access
 - Provide temporary traffic control during all phases of construction activities to improve traffic flow
 - Use best efforts to minimize truck idling to not more than two minutes during construction
 - Apply non-toxic soil stabilizers (according to manufacturers' specifications) to all inactive construction areas.
 - During construction, replace ground cover in disturbed areas as quickly as possible
 - During construction, enclose, cover, water twice daily or apply non-toxic soil binders (according to manufacturers' specifications) to exposed piles with 5 percent or greater silt content and to all unpaved parking or staging areas or unpaved road surfaces

- During the period of construction, install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip
 - During the period of construction, assure that traffic speeds on all unpaved roads be reduced to 15 mph or less
 - Pave all construction access roads at least 100 feet on to the site from permanent roadways
 - Cover all haul trucks
- ◆ The individual improvement project proponent or local jurisdiction shall address Regulation VIII under the San Joaquin Valley Air District for all construction sites and will constitute sufficient mitigation to reduce PM10 impacts to a level considered less-than significant.

Significance After Mitigation

Less than significant.

Impact 3.3.2 – Point Source Impacts

Traffic conditions at some individual locations may lead to occasional localized carbon monoxide concentrations.

The proposed Project will improve traffic flows and reduce congestion system-wide, reducing the potential for carbon monoxide “hot spots” that can occur from exhaust of idling cars waiting to clear a heavily congested intersection or crossing. The Project is intended to reduce congested conditions throughout the system that is faced with a challenge to accommodate additional traffic generated by an increase in population projected by the Year 2035. While the proposed improvements will respond to this challenge by accommodating additional traffic and reducing congestion (brought by that additional traffic) system-wide, exhaust emissions from cars at localized areas may, at certain times, create a potential for carbon monoxide concentrations, or hot spots, to develop under adverse atmospheric conditions that prevent a rapid dispersion of carbon monoxide. Currently, the Air Basin is in attainment of federal and State standards for carbon monoxide, and the carbon monoxide emissions are not a serious problem in the Basin. Nonetheless, because there is a potential for exhaust emissions from cars at localized areas to create an occasional hot spot, the following mitigation measure is proposed.

Mitigation Measures

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the on-going use and operation of the project and the mitigation of impacts.
- ◆ Prior to commencing on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations; and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors, and all mitigation measures with regards to addressing air quality impacts.
- ◆ At those projects, facilities, and intersection locations near sensitive receptors where carbon monoxide concentrations may exceed federal and State standards based upon individual air quality impact assessments for individual projects, the individual improvement project proponent or local jurisdiction shall reduce or alleviate these concentrations by improving traffic flows through improved signalization, restriping, addition of traffic lanes,

and other improvements identified as part of the environmental review of the project and the applicable mitigation measures.

Significance After Mitigation

The Project will result in beneficial effects of system-wide improvement in traffic flows and reduced congestion, which will reduce the potential for forming carbon monoxide hot spots. At some locations where instances of congested conditions may occur near sensitive receptors, implementation of identified mitigation measures is anticipated to ensure improved traffic flows such that the potential for creating a hot spot will be reduced to a less than significant level.

Long-Term Impacts

Impact 3.3.3 – Long-Term Regional Impacts

Emissions impacts related to the project are not considered to be significant. Table 3-5 identifies results of the air quality conformity results including the projected emissions of hydrocarbons, nitrogen oxides, carbon monoxide, volatile organic gases, and particulate emissions for the Project compared with the base or the emissions budgets. The analysis shows that project emissions do not exceed the base and budget thresholds established by EPA. While the project meets Conformity requirements, the Conformity Finding requires the implementation of TCMs to eventually result in improved air quality within the Valley.

Mitigation Measures

- ◆ The various TCMs that have been incorporated into the Air District AQAP, ROP Plans, and the SJVAPCD TCM Program, or have been identified as necessary to provide for positive air quality conformity findings, as referenced in the latest Air Quality Conformity Finding for the 2011 RTP and Federal Transportation Improvement Program (FTIP).
- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the on-going use and operation of the project and the mitigation of impacts associated with regards to addressing air quality impacts.
- ◆ Prior to commencing on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations; and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors, and all mitigation measures with regards to addressing air quality impacts.
- ◆ All applicable rules and regulations adopted by the Air District shall be followed by responsible and implementing agencies as individual improvement projects are designed, constructed and maintained. MCTC shall be provided with documentation indicating compliance with all project-specific mitigation measures applicable to the on-going use and operation of the project.

**TABLE 3-5
 2011 RTP Project Air Quality Conformity Results**

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		ROG (tons/day)	NOx (tons/day)	ROG	NOx
Ozone	2011 Budget	3.7	12.2		
	2011	3.7	12.2	YES	YES
	2014 Budget	3.1	9.7		
	2014	3.0	9.6	YES	YES
	2017 Budget	2.6	7.7		
	2017	2.5	7.2	YES	YES
	2023	2.2	5.7	YES	YES
	2025	2.1	5.5	YES	YES
	2035	1.8	4.7	YES	YES
PM-10	2020 Budget	4.7	6.5		
	2020	4.6	6.5	YES	YES
	Adjusted 2020 Budget	5.1	5.9		
	2025	5.1	5.7	YES	YES
	Adjusted 2020 Budget	5.8	4.9		
	2035	5.8	4.8	YES	YES

**TABLE 3-5 (Cont.)
 2011 RTP Project Air Quality Conformity Results**

Option 1: Assumes Adequate Conformity Budgets

1997 PM2.5 24-Hour & Annual Standards and 2006 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
		2012 Budget	0.5	11.4	
	2012	0.5	11.4	YES	YES
	2014	0.5	9.7	YES	YES
	2017	0.4	7.3	YES	YES
	2025	0.4	5.5	YES	YES
	2035	0.4	4.6	YES	YES

Option 2: Assumes no EPA action on conformity budgets

1997 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
		2002 Base Year	0.5	13.7	
	2014	0.5	10.1	YES	YES
	2017	0.4	7.6	YES	YES
	2025	0.4	5.7	YES	YES
	2035	0.4	4.8	YES	YES

1997 PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)	PM2.5	NOx
		2002 Base Year	183	5001	
	2014	183	3687	YES	YES
	2017	146	2774	YES	YES
	2025	146	2081	YES	YES
	2035	146	1752	YES	YES

2006 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
		2008 Base Year	0.7	15.8	
	2014	0.5	10.1	YES	YES
	2017	0.4	7.6	YES	YES
	2025	0.4	5.7	YES	YES
	2035	0.4	4.8	YES	YES

Significance After Mitigation

The Project will result in beneficial effects of system-wide improvement in traffic flows and reduced congestion and vehicle trips and vehicle miles traveled, which will reduce the potential for increased air emissions when compared to emissions budgets established by EPA. While TCMs have been identified in the Air Quality Conformity Finding, the TCMs will not result in attainment of all pollutants over time or by the year 2035. As a result, long-term emission impacts cannot be reduced to a less than significant level even with the addition of projects and programs outlined in the RTP.

3.4 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 establishes the basic structure for regulating discharges of pollutants into the waters of the United States. It gives EPA the authority to implement pollution control programs such as setting wastewater standards for industry. The Clean Water Act also continued requirements to set water quality standards for all contaminants in surface waters. The Act made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was 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 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 or eliminated during critical phases of the nesting cycle (1 February to 31 August, 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 of the Interior 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 take 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.

◆ **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 CDFG. 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.

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 (COE)**

The U.S. Army Corps of Engineers (Corps) 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 Corps 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 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.

◆ **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).

◆ **Native Plant Protection Act (NPPA)**

The Native Plant Protection Act directed the Department of Fish and Game (DFG) to preserve protect and enhance rare and endangered plants in California. The NPPA gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protected endangered and rare plants from take.

◆ **Natural Community Preservation Act (NCPA)**

The Natural Community Preservation Act aims at protecting many species using a regional approach to habitat preservation.

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 wildland 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 California Department of Parks and Recreation is a trustee agency that owns and operates all state parks and participates in land use planning affecting state parkland.

◆ **California Department of Fish and Game (CDFG)**

The California Department of Fish and Game (CDFG) 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, CDFG 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 CDFG protects rare, threatened and endangered species by managing habitats in legally designated ecological preserves or wildlife areas of the jurisdiction. Since 1971, state law has required the city or county zoning code to be consistent with the jurisdiction's general plan.

◆ **Regional Water Quality Control Board**

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 CDFG 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 it is referenced. Both the CNDDDB and WHR are available for review in the Fresno Office of CDFG and are hereby incorporated by reference.

Habitat

◆ Habitat Areas

A habitat is the physical environment in which a particular species lives and grows. The CDFG 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 in Table 3-6.

TABLE 3-6
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	

◆ 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 CNDDB, are located within Madera County, including:

- Alkali Desert Scrub;
- Fresh Emergent Wetland;
- Montane Riparian;
- Northern Claypan Vernal Pool;
- Oak Woodlands;
- Riverine;
- Valley Foothill Riparian; and
- Wet Meadow.

Migratory Deer Herd. The Oakhurst Deer herd winters within the Oakhurst Basin and moves to higher elevations in eastern Madera County during the summer.

Significant Natural Areas. Eight significant natural areas have been identified by the California Department of Fish and Game under the Significant Natural Areas program. These areas include northern hardpan vernal pool and alkaline desert scrub, as well as habitat for sensitive species such as the orange lupine, Mariposa pussypaws, and the Paiute cutthroat trout.

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	Nth. 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 including the Valley floor and portions of the Sierra Nevada. 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 Valley floor and foothills of the Sierra Nevada, 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 CDFG 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 3-7 and are shown in Figure 3-4.

TABLE 3-7
Special Status Plants Known or Suspected to Occur in Madera County
Current Listing Status - March 2006

Plant Elements (common name & scientific name)	Global Ranking							State Ranking			CNPS
	T	E	G1	G2	G3	G4	G5	S1	S2	S3	1B
Beaked Clarkia Clarkia Rostrata				♦					♦		♦
Spiny-sepaed Button-celery Eryngium Spinosepalum				♦					♦		♦
Hartweg's Golden Sunburst Pseudobahia Bahiifolia		♦		♦					♦		♦
Heartscale Atriplex Cordulata				♦					♦		♦
Brittlescale Atriplex Depressa				♦					♦		♦
Orange Lupine Lupinus Citrinus Var Citrinus				♦					♦		♦
Tree-anemone Carpenteria Californica	♦			♦					♦		♦
Mariposa Pussypaws Calyptridium Pulchellum	♦		♦					♦			♦
Succulent Owl's-clover Castilleja Campestris SSP Succulenta	♦	♦				♦			♦		♦
Sanford's Arrowhead Sagittaria Sanfordii					♦					♦	♦
San Joaquin Valley Orcutt Grass Orcuttia Inaequalis	♦	♦		♦					♦		♦
Greene's Tuctoria Tuctoria Greenei		♦		♦					♦		♦
Palmate-bracted Bird's-beak Cordylanthus Palmatus		♦	♦					♦			♦
Big Tree Forest					♦				♦		
Boggs Lake Hedge-Hyssop Gratiola Heterosepala		♦			♦					♦	♦
California Linderiella Linderiella Occidentalis				♦	♦				♦	♦	
Fell-Fields Claytonia Claytonia Megarhiza						♦			♦	♦	
Flaming Trumpet Collomia Rawsoniana				♦					♦		♦
Great Valley Mixed Riparian Forest				♦					♦		
Hairy Orcutt Grass Orcuttia Pilosa		♦		♦					♦		♦
Hoover's Calydcadenia Calycadenia Hooveri				♦					♦		♦
Lesser Saltscale Atriplex Minuscula			♦					♦			♦
Madera Linanthus Linthus Serrulatus			♦					♦			♦
Meadow Sedge Carex Praticola							♦		♦		
	Global Ranking							State Ranking			CNPS

Plant Elements (common name and scientific name)	T	E	G1	G2	G3	G4	G5	S1	S2	S3	1B
Munz's Tidy-Tips <i>Layia Munzii</i>			♦					♦			♦
Northern Claypan Vernal Pool			♦					♦			
Northern Hardpan Vernal Pool					♦					♦	
Robbin's Pondweed <i>Potamogeton Robbinsii</i>							♦		♦		
Shuteye Peak Fawn Lily <i>Erythronium Pluriflorum</i>			♦					♦			♦
Small's Southern Clarkia <i>Clarkia Australis</i>				♦					♦		♦
Subtle Orache <i>Atriplex Subtilis</i>				♦					♦		♦
Valley Sacaton Grassland			♦					♦			
Valley Sink Scrub			♦					♦			
Yosemite Lewisia <i>Lewisia Disepala</i>				♦					♦		♦
Yosemite Woolly Sunflower <i>Eriophyllum Nubigenum</i>				♦					♦		♦

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 = 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

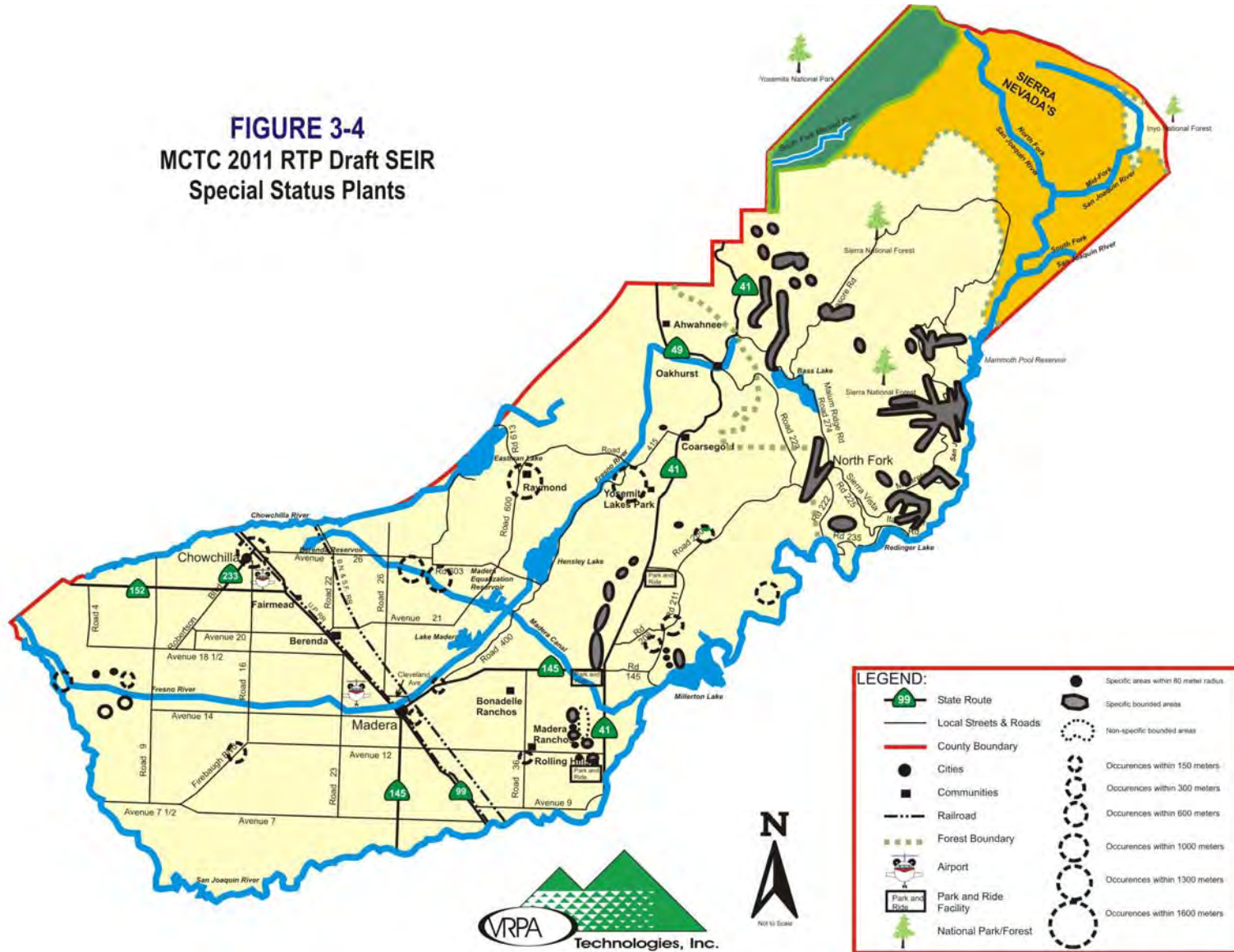
California Native Plant Society (CNPS, 1999)

1A = Plants presumed extinct in California.

Source: California Department of Fish and Game, Natural Heritage Division, Natural Diversity Data Base, August 1999.

California Native Plant Society, Inventory of Rare and Endangered Plants, v7-06a, 1/24/2006.

FIGURE 3-4
MCTC 2011 RTP Draft SEIR
Special Status Plants



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, the Giant Kangaroo Rat, the Fresno Kangaroo Rat, and the Blunt Nosed Leopard Lizard, all listed as Endangered by the United States Fish and Wildlife Service (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, Burrowing Owl, Prairie Falcon, and Swainsons 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, the Longhorn Fairy Shrimp, and the Vernal Pool Tadpole Shrimp, all of which have been recently listed by the USFWS as Endangered

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 CNDDDB. Special-status animals include

- Those species, which are officially candidates for, or are officially designated as, rare, threatened, or endangered classification by the CDFG and USFWS.
- 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 CDFG.

Figure 3-5 and Table 3-8 summarize the numerous animals of special status believed to exist within Madera County with special-status listings by either the USFWS or the CDFG.

TABLE 3-8
Special Status Animals Known or Suspected to Occur in Madera County
and Current Listing Status - March 2006

	Federal Status/Global							State Status		
	E	T	G1	G2	G3	G4	G5	S1	S2	S3
Amphibians/Reptiles (common name and scientific name)										
Silvery Legless Lizard Anniella Pulchra Pulchra			♦	♦				♦	♦	
Blunt Nosed Leopard Lizard Gambelia Silus	♦		♦					♦		
Amphibians/Reptiles (common name and scientific name)										
Federal Status/Global										
State Status										
	E	T	G1	G2	G3	G4	G5	S1	S2	S3
Yosemite Toad Bufo Canorus				♦					♦	
Western Spadefoot Scaphiopus Hammondii					♦					♦
California Tiger Salamander Ambystoma Californiense	♦			♦					♦	
Foothill Yellow-legged Frog Rana Boylii					♦				♦	
Western Pond Turtle Clemmys Marmorata						♦				♦
Giant Garter Snake Thamnophis Gigas		♦		♦					♦	
Fish (common name and scientific name)										
Hardhead Mylopharodon Conocephalus					♦					♦
Central Valley Drainage Hardhead/Squawfish Stream						?			?	
Mount Lyell Salamander Hydromantes Platycephalus					♦				♦	
Central Valley Drainage Rainbow Trout/ Cyprinid Stream						?		?		
Central Valley Drainage Resident Rainbow Trout Stream						?		?		
Lahontan Cutthroat Trout Oncorhynchus Clarki Henshawi		♦				♦			♦	
Vernal Pool Fairy Shrimp Branchinecta Lynchi	♦	♦		♦					♦	
Paiute Cutthroat Trout Oncorhynchus Clarki Seleniris		♦				♦		♦		
Birds (common name and scientific name)										
Bald Eagle Haliaeetus Leucocephalus (Nesting & Wintering)	♦	♦				♦			♦	
California Horned Lark Eremophila Alpestris Actia						♦			♦	
Great Grey Owl Strix Nebulosa (Nesting)	♦						♦	♦		
Golden Eagle Aquila Chrysaetos						♦				
Willow Flycatcher Empidonax Traillii							♦	♦		
Bank Swallow Riparia Riparia							♦		♦	

Swainsons Hawk Buteo Swainsoni						♦				♦	
Prairie Falcon Falco Mexicanus								♦			♦
Burrowing Owl Athene Cunicularia						♦				♦	
Tricolored Blackbird Agelaius Tricolor					♦						♦
Western Yellow Billed Cuckoo Coccyzus Americanus Occidentalis								♦	♦		
Pacific Fisher Martes Pennanti Pacifica						♦				♦	
	Federal Status/Global							State Status			
Mammels (common name and scientific name)	E	T	G1	G2	G3	G4	G5	S1	S2	S3	
San Joaquin Kit Fox Vulpes Macrotis Mutica	♦					♦			♦		
San Joaquin Pocket Mouse Perognathus Inornatus Inornatus						♦			♦		
Fresno Kangaroo Rat Dipodomys Nitratoides Exilis	♦				♦			♦			
California Wolverine Gulo Gulo Lueus						♦			♦		
Sierra Nevada Red Fox Vulpes Vulpes Necator						♦		♦			
Insects (common name and scientific name)											
Sierra Pygmy Grasshopper Tetrix Sierrana			♦	♦				♦	♦		
Molestan Blister Beetle Lytta Molesta				♦					♦		
Valley Elderberry Longhorn Beetle Desmocerus Californicus Dimorphus		♦			♦				♦		

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 = 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

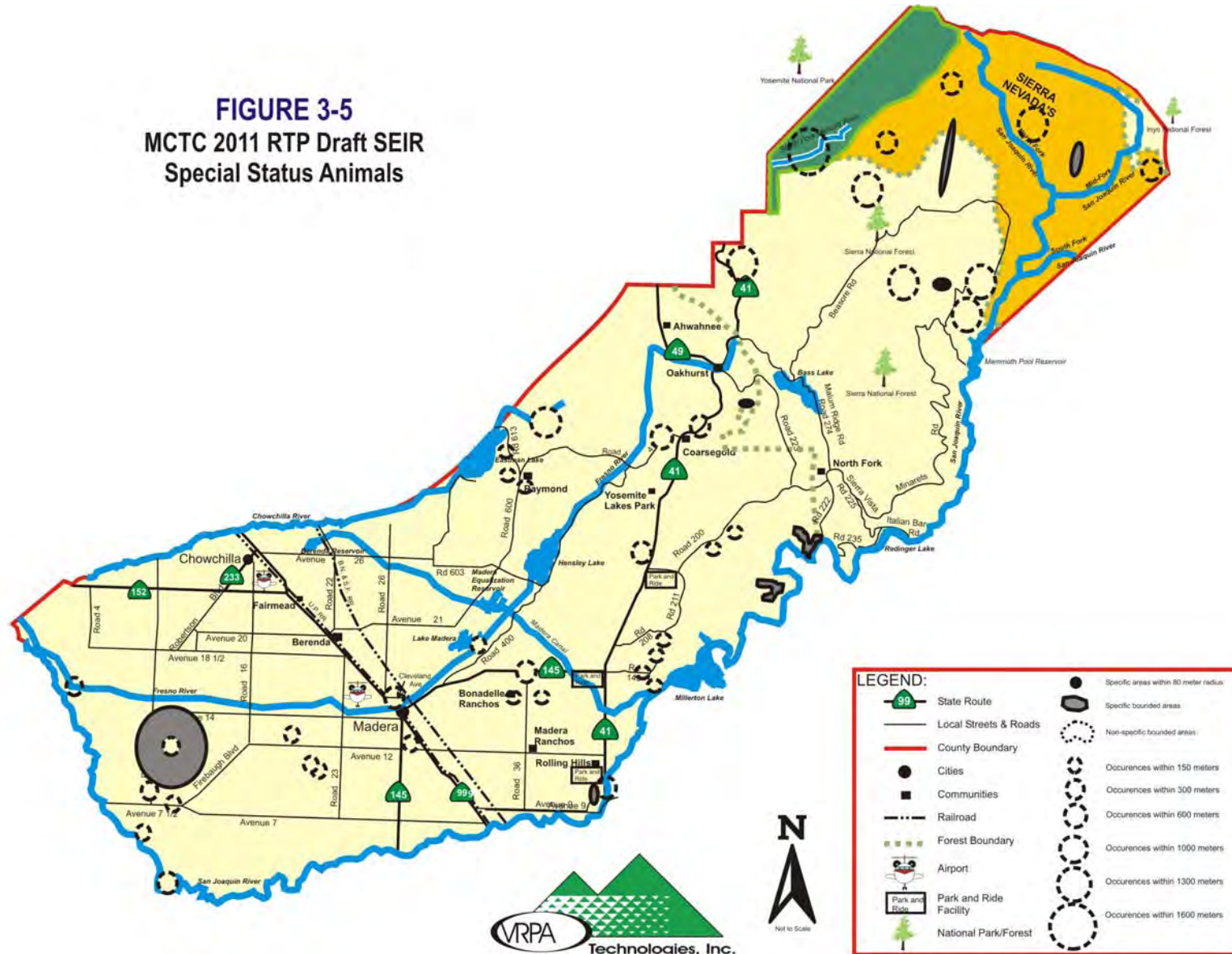
S3 = 21-100 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres

Source: California Department of Fish and Game, Natural Heritage Division, Natural Diversity DataBase, August 1999.

? USFWS or CDFG does not have enough data to determine status.

Source: California Department of Fish and Game, Natural Heritage Division, Natural Diversity DataBase, March 2006.

FIGURE 3-5
 MCTC 2011 RTP Draft SEIR
 Special Status Animals



Species of Special Concern" (SSC) status applies to animals not listed under the federal Endangered Species Act or the California Endangered Species Act, but which nonetheless 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist.

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

To determine the actual potential for significant impacts on biotics resulting from implementation of transportation improvements, project-specific studies would be necessary. 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 could cause water quality impacts, because the 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.

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 result 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.

Short-term and long-term indirect impacts on special status species from the construction and operation of transportation facilities include edge effects such as noise and lighting. These impacts may be less than significant for improvement projects on already-existing transportation facilities 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 in nature and are generally considered not significant.

Criteria for Significance

The CEQA Guidelines establish that a significant impact would be expected to occur if the project would:

- ◆ Impact species of special status or special concern
- ◆ Impact riparian or sensitive habitat
- ◆ Impact federally protected wetlands
- ◆ Impact native resident or migratory wildlife or wildlife areas

- ◆ Conflict with local, state, regional or federal conservation or preservation plans

Impact 3.4.1 – Removal or Degradation of Sensitive Natural Communities

The RTP includes 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

All mitigation measures will be included in subsequent project-level environmental analysis, as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for compliance with the mitigation measures during all phases of construction, as appropriate. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ When applicable to federally funded projects, MCTC and responsible agencies shall 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. MCTC and affected state and local agencies shall 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 shall 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.
- ◆ Construction and operational Best Management Practices (BMPs) will be identified, installed and maintained 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, sand bag check dams, dry season construction, etc.
- ◆ Native soils in construction areas will be removed, stockpiled separately, and replaced in those areas where onsite revegetation of the native habitat is planned.
- ◆ Any disturbed natural areas will be replanted with appropriate native vegetation following the completion of construction activities.
- ◆ During the individual improvement project design phase, impacts to jurisdictional waters and wetlands will be minimized to the greatest extent feasible.
- ◆ Project proponents will obtain and comply with appropriate regulatory requirements prior to construction.

Significance After Mitigation

These mitigation measures would require individual improvement project proponents to avoid or mitigate impacts to sensitive habitats, including jurisdictional waters and wetlands. However, due to the size and potentially large number of resources that could be disturbed as a result of the Project, impacts to these resources would remain a potentially significant impact at a regional level.

Impact 3.4.2 – Direct Impacts on Rare, Threatened, or Endangered Plant & Wildlife Species

The RTP includes projects that may result in direct impacts to plant and wildlife species including rare, threatened and/or endangered species during construction and operation of the proposed transportation facilities through the removal of native habitat.

Mitigation Measures

All mitigation measures will be included in subsequent project-level environmental analysis, as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for compliance with the mitigation measures during all phases of construction as appropriate. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ Each proposed individual improvement project will consider the displacement of sensitive habitat and sensitive species during the individual improvement project design phase.
- ◆ When avoidance of native vegetation removal is not possible, each transportation project 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).
- ◆ Focused sensitive plant and wildlife species surveys will be conducted within suitable habitat to determine the distribution of sensitive species within the biological impact area of the proposed individual improvement project. Sensitive plant surveys will be conducted during the appropriate flowering season for sensitive plant species with the potential to occur within the individual improvement project area.
- ◆ If sensitive plant or wildlife species 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, silt fencing, exclusion fencing and/or appropriate compensation where impacts cannot be fully avoided.
- ◆ Individual transportation projects shall include offsite habitat enhancement or restoration to compensate for unavoidable habitat losses from the project site.
- ◆ Locations of sensitive species and sensitive habitats 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.
- ◆ Temporary access roads and staging areas will not be located within areas containing sensitive plant or wildlife species wherever feasible, so as to avoid or minimize impacts to these species.
- ◆ 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.
- ◆ All vegetation (including tall grasses) will be removed between August 16 and February 14, 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 abandon the nest.

- ◆ A Worker Awareness Program (environmental education) shall be developed and implemented to inform project workers of their responsibilities in regards to avoiding and minimizing impacts on sensitive biological resources.
- ◆ 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.
- ◆ 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.
- ◆ Sensitive habitats (native vegetative communities identified as rare and/or sensitive by the CDFG) 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.
- ◆ 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.
- ◆ 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.

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 individual improvement project proponents to avoid or mitigate impacts to sensitive plant and wildlife species. However, due to the size and potentially large number of resources that could be disturbed as a result of the Project, impacts to these resources would remain a potentially significant impact at a regional level.

Impact 3.4.3 – Impacts on Rare, Threatened, or Endangered Species from Project Noise, Lighting and Deterrents

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.

Mitigation Measures

All mitigation measures will be included in subsequent project-level environmental analysis as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for compliance with the mitigation measures during all phases of construction as appropriate. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ 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.
- ◆ Road noise minimization methods such as native brush and tree planting adjacent to heavy noise producing transportation facilities or will be incorporated where feasible.

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 individual improvement project proponents to avoid or mitigate impacts to sensitive plant and wildlife species. However, due to the size and potentially large number of resources that could be disturbed as a result of the Project, impacts to these resources would remain potentially significant at a regional level.

Impact 3.4.4 - Temporary and Permanent Impacts to Terrestrial and Aquatic Wildlife Movement

The Project would result in temporary and permanent impacts to terrestrial and aquatic wildlife movement. The linear nature of transportation projects 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 than with improvements to existing facilities, because the existing facility has already formed a barrier, and the addition of new lanes for example, may only slightly increase the barrier effect.

Mitigation Measures

All mitigation measures will be included in subsequent project-level environmental analysis as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for compliance with the mitigation measures during all phases of construction as appropriate. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ During final design, implementing agencies will design, construct, and maintain terrestrial wildlife crossings in order to minimize barrier effects and habitat fragmentation created by the individual improvement project.
- ◆ 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 individual improvement project proponents to avoid or mitigate impacts to wildlife movement. However, due to the size and potentially large number of movement corridors that could be disturbed as a result of the Project, impacts to these resources would remain potentially significant at a regional level.

Impact 3.4.5 – Conflicts with an Adopted Habitat Conservation Plan

The Project could potentially conflict with an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Planning (NCCP) program or other approved local, regional or state HCP.

Mitigation Measure

All mitigation measures will be included in subsequent project-level environmental analysis as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for compliance with the mitigation measures during all phases of construction as appropriate. MCTC will be provided with documentation indicating compliance with mitigation measures.

- ◆ Construction and operation of the proposed individual improvement project will comply with the requirements of all adopted HCPs and other preserved areas.

Significance After Mitigation

With the incorporation of the mitigation measure listed above, this impact would be less than significant.

Impact 3.4.6 – Increased Siltation Impacts

The 2011 RTP would potentially increase siltation of streams and other water resources from exposures of erodible soils during construction activities. Excessive siltation can significantly degrade habitat for fish and other aquatic organisms. Heavy sediment deposition can bury slow-moving or sessile bottom-dwelling organisms, fish eggs and larval forms of many aquatic organisms. These losses are not only of direct concern, but also represent a loss of food sources for larger fishes and other organisms, such as birds and mammals, that are not directly affected by sediments.

Increased sediment can also decrease light penetration for aquatic plant production and increase water temperature from greater insulation. Higher water temperatures can affect aquatic organisms through direct stress of temperature-sensitive organisms (e.g., steelhead require cold water streams), and by increasing nitrate productivity which can exacerbate eutrophication if the sediments contain or are accompanied by excessive nutrients (i.e., algal blooms). The degree of this impact would depend on several factors including the following:

- ◆ *Length of occurrence.* The longer the period of sedimentation, the greater the potential for significance.
- ◆ *Timing of occurrence.* The effect would be of greater significance during particularly sensitive times of year, such as during fish spawning seasons when the eggs and larvae which are particularly sensitive to siltation would be present; and,
- ◆ *Significance of Resource.* The effect would be of greater significance where a special status species might be affected, such as near a steelhead spawning stream.

This impact would be significant.

Mitigation Measures

- ◆ Individual projects near water resources shall implement Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport.
- ◆ Individual projects shall schedule construction activities to avoid sensitive times for biological resources (e.g. steelhead spawning periods during the winter and spring) and to avoid the rainy season when erosion and sediment transport is increased.

Significance After Mitigation

Full implementation of each of these mitigation measures would not avoid the siltation impacts. The impact remains significant.

Cumulative Impacts 3.4.7

Growth and development in Madera County will increase substantially by 2035. The 2011 RTP, by increasing mobility and including transportation measures, could potentially influence the pattern of this growth and development. The 2011 RTP's influence on growth could potentially contribute 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, and
- ◆ Siltation.

The amount of new developed acreage (consuming previously vacant land) may 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 Impacts 3.4.1 through 3.4.6 above.

These indirect impacts on biological resources are associated with population, employment, and household growth forecast by MCTC, and they are considered a potential significant cumulative impact.

Mitigation Measures

The cumulative impacts to biological resources, due to the forecast urban development associated with the 2011 RTP, would be mitigated using the same measures detailed for Impacts 3.4.1 through 3.4.6, in addition to the following measure:

- ◆ Future impacts to biotic resources shall 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 2011 RTP's transportation improvement projects to accommodate growth and development in Madera County (as reflected in adopted local agency general plans) could potentially contribute to biotic resource impacts. Such impacts to biotic resources from the 2011 RTP would be cumulatively considerable.

3.5 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 impacts.

Climate 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 shift in the climate of the earth as a whole. It does occur naturally as in the case of the ice age. According to 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 (GHG's). 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 GHG's. 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 anthropocentric activities. Other GHG's (e.g., fluorinated gases) are created and emitted solely through human activities.

Since the Industrial Revolution (approximately 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 fast it will occur, and how the warming will affect the rest of the climate system including weather events.

The United Nations Intergovernmental Panel on Climate Change constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The Panel 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 2004, CO₂ accounted for approximately 84 percent of total GHG emissions in the state (CEC, 2006);
- ◆ **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. Anthropogenic sources currently account for more than 60 percent of the total global emissions; and
- ◆ **Other regulated GHGs include Nitrous Oxide (N₂O), Sulfur Hexafluoride (S₆), 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 in 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.

However, the understanding of GHG emissions, particulate matter, and aerosols on global climate trends remains uncertain. In addition to uncertainties about the extent to which human activity rather than solar or volcanic activity is responsible for increasing warming, there is also evidence that some human activity has cooling, rather than warming, effects, as discussed in detail in numerous publications by the International Panel on Climate Change (IPCC), namely "Climate Change 2001, The Scientific Basis"(2001).

Climate change modeling shows that further warming could occur, which would induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include, but are not limited to:

GHGs have the potential to affect the environment because such emissions are believed to cumulatively contribute to global climate change. Although GHG emissions from one single project will not by itself 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 speculated that global climate change could contribute to rising sea levels, which can inundate low-lying areas; impact rainfall and snowfall, which could change water supply, affect habitat which could affect biological resources, along with other unknown affects.

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 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.

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 468 MMT of CO₂E GHG emissions were produced in California in 2004. CARB also found transportation to be the source of 38 percent of the state's GHG emissions; followed by electricity generation at 25 percent and industrial sources at 20 percent.

Global climate change is a problem caused by cumulative worldwide GHG emissions. Mitigating global climate change will require worldwide solutions. Combined gases in the earth's GHGs plays a critical role in the earth's radiation budget by trapping infrared radiation emitted from its surface, which otherwise could have escaped to space. Prominent GHGs contributing to this process include water vapor, carbon dioxide, methane, ozone, nitrous oxide, and certain fluorocarbons. This phenomenon, known as the "greenhouse effect", keeps the earth's atmosphere near the surface warmer than it would be under other circumstances. Increases in these gases leads to higher radiation absorption, thereby warming the lower atmosphere and increasing evaporation rates and temperatures near the surface.

Emissions of the GHGs in excess of natural ambient concentrations are thought to be responsible for enhancing the greenhouse effect and contribute to what is termed "global warming", or the unnatural warming of the earth's natural climate. Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors). Worldwide, California is the 12th to 16th largest emitter of carbon dioxide (CO₂), according to the California Energy Commission (CEC), and is responsible for approximately 2% of the world's CO₂ emissions.

The Intergovernmental Panel on Climate Change (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 the natural environment in California 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
- ◆ Increase 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

Changes in California's climate and ecosystems are occurring at a time when the State's population is expected to increase from 34 to 59 million by 2040, according to the CEC. 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.

Similar changes would also occur in other parts of the world with regional variations in resources affected and vulnerability to adverse effects. According to the CEC, GHG emissions in California are attributable to human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors, as well as natural processes. Transportation is responsible for 41% of the state's GHG emissions, followed by the industrial sector (23%), electricity generation (20%), agriculture and forestry (8%) and other sources (8%). Emissions of carbon dioxide and nitrous oxide are byproducts of fossil fuel combustion, among other sources. 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.

The State of California GHG Inventory performed by the CARB compiled statewide human sources of GHG emissions. It includes estimates for CO₂, CH₄, N₂O, SF₆, HFCs, and PFCs. The current inventory covers the years 1990 to 2004, and is summarized in Table 3-9. 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 and federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the Intergovernmental Panel on Climate Change (IPCC). The 1990 emissions level is the sum total of sources from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in the inventory. These sectors include: Agriculture; Commercial; Electricity Generation; Forestry; Industrial; Residential; and Transportation.

TABLE 3-9
State of California GHG Emissions By Sector¹

SECTOR	TOTAL 1990 EMISSIONS (MMT CO ₂ E ²)	PERCENT OF TOTAL 1990 EMISSIONS	TOTAL 2004 EMISSIONS (MMT CO ₂ E)	PERCENT OF TOTAL 2004 EMISSIONS
Agriculture	23.4	5%	27.9	6%
Commercial	14.4	3%	12.8	3%
Electricity Generation	110.6	26%	119.8	25%
Forestry	0.2	<1%	0.2	<1%
Industrial	103.0	24%	96.2	20%
Residential	29.7	7%	29.1	6%
Transportation	150.7	35%	182.4	38%
Forestry Sinks (Absorption)	(6.7)		(4.7)	
Total	432	100%	468	100%

¹Source: Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, California Air Resources Board, November 16, 2007.

²MMT CO₂E refers to million metric tons of CO₂ equivalent emissions.

Regulatory

Federal

In 1988, the United Nations established the Intergovernmental Panel on Climate Change 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 accord with the goal of controlling greenhouse gas emissions.

The Climate Change Action Plan was developed as a result to address the 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).

Recently, in *Massachusetts v. EPA* (April 2, 2007), the U.S. Supreme Court held that GHG's fall within the Clean Air Act's definition of an "air pollutant" and directed the EPA to deem whether GHG's are affecting climate change. The EPA must regulate GHG emissions from automobiles under the Clean Air Act if it is determined GHG's do affect climate change. Currently, the EPA has not yet begun rule-making proceedings to judge whether GHG's are contributing to climate change. In addition, Congress has enlarged the corporate average fuel economy (CAFE) of the U.S. automotive fleet. In December 2007, President Bush signed a bill increasing the minimum average miles per gallon for cars, sport utility vehicles and light trucks to 35 miles per gallon by 2020. This rise in CAFE standard will result in a significant reduction in GHG emissions from automobiles, which are the largest single emitting GHG group in California.

On April 17, 2009, EPA issued its proposed endangerment finding for GHG emissions. EPA is proposing to find that greenhouse gases in the atmosphere endanger the public health and welfare of current and future generations. Concentrations of greenhouse gases are at unprecedented levels compared to the recent and distant past. EPA has stated that these high atmospheric levels are the unambiguous result of human emissions, and are very likely the cause of the observed increase in average temperatures and other climatic changes. The effects of climate change observed to date and projected to occur in the future – including but not limited to the increased likelihood of more frequent and intense heat waves, more wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea level rise, more intense storms, harm to water resources, harm to agriculture, and harm to wildlife and ecosystems – are effects on public health and welfare within the meaning of the CAA.

The 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*.

◆ **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 vehicle 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.

State

Various statewide and local initiatives to reduce California's contribution to GHG emissions 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. There are currently no state regulations in California that establish ambient air quality standards for GHGs. However, the state of California has passed legislation directing CARB to develop actions to reduce GHG emissions.

◆ **Assembly Bill 1493 (Pavley)**

California Assembly Bill 1493 (Pavley) enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Regulations adopted by ARB would apply to 2009 and later model year vehicles. CARB estimated that the regulation would reduce climate change emissions from light duty passenger vehicle fleet by an estimated 18% in 2020 and by 27% in 2030 (AEP 2007). In 2005, the CARB requested a waiver from EPA to enforce the regulation, as required under the Clean Air Act. 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 and is considering the case.

◆ **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
- 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 California 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 secretary of Cal/EPA created the CAT, made up of members from various state agencies and commissions. The team released its first report in March 2006. The report 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.

◆ **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). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes 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 enough 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.

◆ **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 as part of the effort 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. The LCFS is designed to reduce California's dependence on petroleum, create a lasting market for clean transportation technology, and stimulate the production and use of alternative, low-carbon fuels in California. The LCFS is designed to provide a durable framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The 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"; that is, there are more reductions 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.

◆ **Senate Bill 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 directs the Governor's Office of Planning and Research (OPR), which is part of the state Resources Agency, 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 is required to certify and adopt those guidelines by January 1, 2010. SB 97 also removes, 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 will be repealed by operation of law on January 1, 2010; at that time, any such projects that remain unapproved will 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, 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 the CEQA Guidelines, which will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state.

◆ **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 programmed after January 1, 2012.

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."

◆ **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 and standards are set to be phased in summer 2009. 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 White Paper**

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 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”
- A General Plan for the project area exists that is in compliance with AB 32
- 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**

On December 11, 2008, CARB adopted its 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 has estimated that the 1990 GHG emissions level was 427 MMT net CO₂e (CARB 2007b). CARB estimates that a reduction of 173 MMT net CO₂e emissions below BAU would be required by 2020 to meet the 1990 levels (CARB, 2007b). This amounts to a 15 percent reduction from today’s levels, and a 30 percent reduction from projected BAU levels in 2020 (CARB, 2008a).

CARB’s Scoping Plan calculates 2020 BAU emissions as those expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors, i.e. transportation, electrical power, commercial and residential, industrial etc. CARB used three-year average emissions, by sector, for 2002-2004 to forecast emissions to 2020. At the time CARB’s Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB’s Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32. CARB’s Scoping Plan also breaks down the amount of GHG emissions reductions CARB recommends for each emissions sector of the state’s GHG inventory. CARB’s Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO₂E)
- The LCFS (15.0 MMT CO₂E)
- Energy efficiency measures in buildings and appliances, and the widespread development of combined heat and power systems (26.3 MMT CO₂E)
- A renewable portfolio standard for electricity production (21.3 MMT CO₂E). CARB has identified a GHG reduction target of 5 MMT (of the 174 MMT total) for local land use changes (Table 2 of CARB's Scoping Plan), by Implementation of Reduction Strategy T-3 regarding Regional Transportation-Related GHG Targets. Additional land use reductions may be achieved as SB 375 is implemented. CARB's Scoping Plan states that successful implementation of the plan relies on local governments' land use, planning, and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. CARB further acknowledges that decisions on how land is used will have large effects on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. CARB's Scoping Plan does not include any direct discussion about GHG emissions generated by construction activity. The measures approved by the Board will be developed over the next two years and be in place by 2012. CARB's Scoping Plan expands the list of nine Discrete Early Action Measures to a list of 39 Recommended Actions contained in Appendices C and E of CARB's Scoping Plan

◆ **OPR June 2008 Technical Advisory on CEQA and Climate Change**

SB 97 directs the Governor's Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions or the effects of GHG emissions under CEQA. OPR is required to prepare and transmit these guidelines by July 1, 2009 for certification and adoption by January 1, 2010. In the interim, a June 2008 Technical Advisory provides informal guidance for public agencies as they address the issue of climate change in their CEQA documents. The June 2008 Technical Advisory offers recommendations for identifying GHG emissions, determining significance under CEQA, and mitigating impacts.

The June 2008 OPR Advisory states that lead agencies under CEQA should develop their own approach to performing a climate change analysis for projects that generate GHG emissions. The June 2008 OPR Advisory also states that the lead agency should assess whether project emissions are individually or cumulatively significant, and implement strategies to avoid, reduce, or otherwise mitigate the impacts of those emissions when impacts are potentially significant. However, CARB's subsequently released draft thresholds acknowledge that the GHG analysis be on a cumulative basis as GHG is a global phenomena.

Regional agencies can attempt to reduce GHG emissions through their planning processes. For example, regional transportation planning agencies can adopt plans and programs that address congestion relief and reduce VMT.

In April 2009, OPR published its proposed revisions to CEQA to address GHG emissions. The amendments to CEQA indicate the following:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of

significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment

- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines
- OPR is clear to state that “to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation”
- OPR emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach

EIRs must specifically consider a project's energy use and energy efficiency potential.

◆ **OPR January 8, 2009 Preliminary Draft CEQA Guideline Amendments for GHG Emissions**

In January 2009, OPR released preliminary proposed amendments to the *CEQA Guidelines* regarding GHG emissions. No significance threshold is included in the draft and the guidelines afford the customary deference provided to lead agencies in their analysis and methodologies. The introductory preface to the amendments recommends that CARB set state-wide thresholds of significance. CARB released draft thresholds, as referenced below. OPR emphasized the necessity of having a consistent threshold available to analyze projects, and the analyses should be performed based on the best available information. For example, if a lead agency determines that GHGs may be generated by a proposed Project, the agency is responsible for quantifying estimated GHG emissions by type and source. The preliminary draft guidelines provide the following recommendations for determining the significance of GHG emissions under draft section 15064.4:

- a. The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
 1. Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; or
 2. Rely on a qualitative analysis or performance based standards.
- b. A lead agency may consider the following when assessing the significance of impacts from greenhouse gas emissions on the environment:
 1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
 2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
 3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such

regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The proposed amendments reiterate that the analysis of GHG impacts is cumulative. Section 15130 (f) provides that an EIR shall analyze GHG emissions resulting from a proposed Project when the incremental contribution of those emissions may be cumulatively considerable. On April 13, 2009, OPR submitted its proposed amendments to the state *CEQA Guidelines* for GHG emissions to the Secretary for Natural Resources, as required by Senate Bill 97 (Chapter 185, 2007). The Natural Resources Agency will conduct formal rulemaking in 2009, prior to certifying and adopting the amendments, as required by Senate Bill 97. The draft guidelines are not scheduled to be adopted until 2010 and are prospective in application. Therefore, any new amendments addressing GHG emissions would not be applicable to the proposed Project.

◆ **CARB Preliminary Draft Staff Proposal, October 2008**

Separate from CARB's Scoping Plan approved in December 2008, CARB issued a Staff Proposal in October 2008, as its first step toward developing recommended statewide interim thresholds of significance for GHGs that may be adopted by local agencies for their own use. The proposal does not attempt to address every type of project that may be subject to CEQA, but instead focuses on common project types that, collectively, are responsible for substantial GHG emissions – specifically, industrial, residential, and commercial projects. CARB is developing thresholds in these sectors to advance climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. These draft thresholds are under revision in response to voluminous comments received. Finalized thresholds are expected sometime in 2009.

CARB staff's objective in this proposal is to develop a threshold of significance that would require the vast majority (approximately 90 percent statewide) of GHG emissions from new industrial projects to be subject to CEQA's requirement to impose feasible mitigation. CARB believes this can be accomplished with a threshold that allows small projects to be considered insignificant. CARB staff used existing data for the industrial sector to derive a proposed hybrid threshold. The threshold consists of a quantitative threshold of 7,000 metric tons of CO₂E per year (MT/year CO₂E) for operational emissions (excluding transportation), and performance standards for construction and transportation emissions. These performance standards have not yet been developed.

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 (District) 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 Impacts, Mitigation Measures and Significance After Mitigation

Methodology

Climate change is a significant global cumulative impact that could also have a substantial effect on the natural environment of California and within Madera County. The potential contribution of the 2011 RTP to this cumulative impact is discussed below.

State action on climate change is mandated by AB 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 outlined in the 2011 RTP will be required to adhere to any future applicable mandatory regulations regarding global warming resulting from the passage of AB 32, but the exact character of such future implementing strategies is not known at this time.

While the cumulative significance of climate change has been established, in absence of established project-level significance thresholds, MCTC considers it speculative at this time to determine whether the GHG emissions related to transportation in Madera County represents a considerable contribution to a significant cumulative impact. MCTC does find that implementation of the 2011 RTP is likely to reduce emissions relative to the No-Build Alternative because of increased funding for transit improvements and improved traffic levels of service.

Although the COGs 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 are working on a significant public outreach project called the San Joaquin Valley Blueprint, providing education on the effects urban sprawl. The process will ultimately identify a preferred land use scenario separate from the local government general plan process. Dependent upon the success of the educational effort now underway, the process could result in a vision for the San Joaquin Valley that is more energy efficient than historic growth trends in the region.

As previously indicated, neither CEQA nor the CEQA Guidelines mention or provide any methodology for analysis of "greenhouse gases," including CO₂, nor do they provide any 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, and MCTC analyzed CO₂ emissions resulting from the Proposed Plan. Even though the total VMT slightly increases under the Project Alternative, the proposed Plan results in a reduction in CO₂ emissions and would represent an improvement over the No Project Alternative as shown in Table 3-10. The improvement in operations compared to the No Project Alternative, particularly higher speed and reduced vehicle hours traveled (VHT), has a beneficial cumulative impact on CO₂ emissions due to improved traffic flow, resulting in more efficient vehicle operation, which is consistent with the results for the analysis of the other criteria pollutants. The Proposed Plan would result in a positive cumulative effect on the reduction of CO₂ levels and would not require mitigation.

TABLE 3-10
Future CO₂ Emissions (Tons Per Day in 000s)

Scenarios	CO ₂
Project Alternative (2035)	7.08
Project Alt. Lower than No Build Alt.?	Yes
No-Build Alternative	7.48
Difference	0.40

The impact assessment for GHG emissions focuses on potential effects the Project might have on GHG emissions within the Madera Region. The assessment is not site or individual improvement project-specific but is a regional analysis.

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. The preliminary draft amendments OPR issued included an introduction letter in which OPR indicated that OPR intends to rely on CARB to recommend a method for setting significance thresholds.

Global Warming

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 2011 RTP. 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 2011 RTP is designed to complement, rather than change, the plans adopted by the local agencies. Thus, the ultimate effect of the 2011 RTP 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.

Based upon the findings described in Table 3-10, MCTC finds that 2011 RTP would not result in increased CO₂ impacts compared to the No Build Alternative.

Impact 3.5.1

Increased Transportation GHG Emissions May Cause Climate Change

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 2011 RTP. 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 2011 RTP is designed to complement, rather than change, the plans adopted by the local agencies. Thus, the ultimate effect of the 2011 RTP 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.

Impact 3.5.2

Cumulative GHG Emission Impact

It is possible that local transportation GHG emissions within Madera County, when combined with emissions throughout California and the world, might contribute to climate change. Based upon analysis conducted by the IPCC, climate change is a significant cumulative impact, given the ramifications for air quality, climate, public health, water resources, flooding, sea level, agricultural productivity, and biological resources, among other potential effects. However, no agreed-upon methodology is currently available under CEQA to adequately identify when project-level GHG emissions contribute considerably to this significant cumulative impact.

Also, the ultimate sources of increased transportation emissions in Madera County are population and employment growth, which will increase with or without projects included in the 2011 RTP. MCTC does not implement land use policy in Madera County; rather, this is under the jurisdiction of the County and the various cities. As such, decisions about the place, pace, and scale of growth and development are reflected in local agency general plans and project approvals approved by those agencies. The 2011 RTP is designed to complement, rather than change the plans adopted at the County and city levels. Thus, the ultimate effect of the 2011 RTP on transportation emissions is not to increase the amount of travel per se, but rather to influence where and how travel occurs within the County. Thus, comparison of emissions between what exists today and what would exist in 2035 with the 2011 RTP is not a true measure of the effect of the project on GHG emissions. A better identification of the effect of the project is to compare the emissions potential with the project against the No-Project Alternative as well as other alternatives. As previously noted, the proposed project would result in lower emissions of criteria pollutants than the No-Project Alternative.

Mitigation Measures

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 2011 RTP. 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 2011 RTP is designed to complement, rather than change, the plans adopted by the local agencies. Thus, the ultimate effect of the 2011 RTP 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.

As of the writing of this Draft Subsequent EIR, the agencies with jurisdiction over air quality regulation and GHG emissions (CARB and the San Joaquin Valley Air Pollution Control District) have not established regulations, guidance, methodologies, significance thresholds, standards, CEQA protocols or mitigation measures that specify the

type of analysis, or mitigation measures, that can be included in a program EIR, or other CEQA document. In addition, no emission inventories or emission baselines have been established that would allow for an appropriate analysis to evaluate an existing setting and impact analysis for the proposed implementation of the Madera County RTP because of climate change. MCTC adheres to the rules and guidelines currently in place at the local, State and federal level, and will adhere to any future regulations regarding global warming resulting from the legislative approval of AB 32 and AB 1493, when available.

A number of mitigation measures are included in Section 3.3 of the Draft EIR to address criteria emissions. Public transit has been enhanced in the 2011 RTP compared to the current RTP (adopted in 2007). Such improvements will help mitigate expected increases in emissions resulting from increased population and employment and the impact of planned growth and development on the regional transportation system. The RTP also includes references to a number of studies. The Plan contains a number of projects and significant funding for various forms of transportation in addition to streets and highways. MCTC is in the process of developing a Regional Blueprint for the year 2050. MCTC is coordinating development of the Blueprint with the other seven counties within the San Joaquin Valley. All eight counties are located in the same Air Basin (San Joaquin Valley Air Basin) and received the grant for Blueprint development from the State of California. According to Sunne Wright McPeak, former State Secretary of the Business, Housing, and Transportation Agency, the Blueprint programs in California are designed to address the three "E"s of Regional Blueprint Planning; that is, Energy Efficiency, the Environment, and Economic Development. The Regional Blueprint will identify a preferred land use scenario and transportation system for Madera County considering the application of alternative growth strategies. The Plan will identify a vision, values, goals, objectives, and implementing strategies that can be planned by MCTC and implemented by local agencies within the County to reduce vehicle trips, vehicle miles traveled (VMT), and support increased walkability, passenger rail, public transit systems, and bicycling. MCTC is now working with the other Valley COGs to develop a Blueprint implementation plan, which will be complete by October 2010.

Further, public transit over the next 20 years has been enhanced in the 2011 RTP over existing conditions and even when compared to the current RTP (adopted in 2007). Such improvements will help mitigate expected increases in emissions resulting from increased population and employment and the impact of planned growth and development on the regional transportation system. Furthermore, the RTP includes references to a number of studies (some of which are described above). The Project improvements are expected to reduce VMT and vehicle trips and as a result, GHG emissions.

MCTC cannot require that local agencies, Caltrans, the Air District or other agencies that use diesel-powered vehicles and equipment apply retrofit emission control devices, such as diesel oxidation catalysts and diesel particulate filters verified by CARB. MCTC also cannot require that the same agencies use alternative forms of cement and asphalt that have lower GHG emissions. It is recommended however, that responsible agencies (local agencies, the Air District, Caltrans, and others) consider the implementation of such measures during individual project development and construction.

Both MCTC and responsible agencies implementing projects outlined in the 2011 RTP will be required to adhere to any future applicable mandatory regulations regarding global warming resulting from the passage of AB 32 and AB 1493, but the exact character of such future implementing strategies is not known at this time. MCTC and the local agencies will quantify GHG emissions consistent with Guidelines and requirements developed by CARB. Once the Guidelines are available, MCTC will address GHG emissions and global warming impacts of projects contained in the 2011 RTP.

All mitigation measures will be included in project-level analysis, as appropriate. The individual improvement project proponent or local jurisdiction will be responsible for ensuring adherence to the mitigation measures.

- ◆ Implementation agencies will ensure implementation of the following mitigation measures to reduce GHG emissions:
 - Develop land use patterns, which encourage people to walk, bicycle, or use public transit for a significant number of their daily trips
 - Use comprehensive community plans and specific plans to ensure development is consistent and well connected by alternative transportation modes
 - Adopt transit-oriented or pedestrian-oriented design strategies and select areas appropriate for these designs in the general plan
 - Support higher density development in proximity to commonly used services and transportation facilities
 - Develop in a compact, efficient form to reduce vehicle miles traveled and to improve the efficiency of alternatives to the automobile
 - Use the control of public services to direct development to the most appropriate locations
 - Promote infill of vacant land and redevelopment sites
 - Encourage project site designs and subdivision street and lot designs that support walking, bicycling, and transit use
 - Adopt design guidelines and standards promoting plans that encourage alternative transportation modes
 - Require certain sites to be created to allow convenient access by transit, bicycle, and walking
- ◆ Prior to or in conjunction with the adoption of the proposed 2014 RTP, MCTC will develop a GHG Emissions Reduction Plan that includes the following:
 - General discussion of the potential impacts that GCC poses to the Madera County region, with particular focus on potential impacts related to RTP facilities, to the extent that such information is available
 - A baseline inventory of total GHG emissions directly and indirectly from transportation in the County that currently exist, and review of potential targets and timelines for achieving GHG reductions
 - Development of feasible GHG emissions reduction measures and strategies to achieve reductions in RTP GHG emissions. Such reduction measures may include construction of new transportation projects, modification of existing facilities or services, incentive or funding programs, pricing strategies, regulations or any other actions that reduce GHG emissions associated with RTP activities
 - State protocols and GHG emissions inventory mechanisms are necessary tools to track and monitor GHG emissions at the local level. MCTC and member agencies must determine, in cooperation with the state, the solutions that will best minimize its potential risks and maximize its potential benefits
- ◆ Intelligent Transportation
 - Developing an Intelligent Transportation Systems strategy to implement the Integrated Performance Management Systems Network that will:
 - Interconnect the region's local transportation management centers, including the use of cameras, and computer hardware and software to detect and clear accidents
 - 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

◆ Create Alternative Fuel Vehicle and Infrastructure Toolkit for Local Governments

MCTC will develop an Alternative Fuel Vehicle (AFV) and Infrastructure Toolkit for member agencies that will contain best practices related to ordinances, analytical tools, financing opportunities, codes, and standards related to reducing GHG emissions. MCTC will identify the alternative fuel vehicle(s) (e.g. neighborhood electric vehicles) and alternative fuel infrastructure with the potential to result in the greatest GHG emission reductions. MCTC will conduct a public education program for local governments and other public agencies, as appropriate to encourage the use of alternative fuel vehicles and infrastructure.

MCTC will work with its member agencies to increase the number of AFVs (i.e., vehicles not powered strictly by gasoline or diesel fuel) both in municipally owned vehicles, as well as those owned by franchisees of these cities, such as trash haulers, green waste haulers, street sweepers, and curbside recyclable haulers. Such AFVs shall have GHG emissions at least 10 percent lower than comparable gasoline- or diesel-powered vehicles. The Alternative Fuel Vehicle and Infrastructure Toolkit described above will include best practices strategies to aid in the transformation of municipally owned or contracted fleets, including vehicle fleets operated and/or funded, at least in part by MCTC.

◆ Adopt Transportation Pricing Policy

MCTC will prepare an analysis on the impacts and the viability of using pricing policies with the transit system and selected portions of the road network to encourage people to drive less and use transit, walking, and bicycling modes more. This study will identify strategies to reduce GHG emissions that will include, but are not limited to, free or reduced transit fares during "spare the air" days; fare-free zones on the transit system; transit vouchers; days on which transit is free; congestion pricing options for portions of the road system, such as tolls on freeways and highways; and congestion-pricing to enter certain high-traffic areas served by public transit (e.g. downtown areas). MCTC shall adopt a transportation pricing policy based upon these strategies, and shall conduct seminars with local government staff, planning commissioners and elected officials and members of the private development, planning, engineering and design communities to disseminate these strategies.

◆ Create a Public Education Program on Individual Transportation Behavior and Climate Change

In conjunction with key partners such as local air districts, public utility providers, area chambers of commerce and others, MCTC will create a public information program to educate the public about the connection between individual transportation behavior and global climate change, including transportation behavior modifications the public can make to reduce their GHG emissions over time. MCTC shall include information on its website that is focused on global climate change. The website shall identify actions the public can take to reduce their carbon footprint, and provide web links to sources of information designed to promote alternative mode use (carpools, vanpools, public transit, bicycling, walking, telecommuting) and other travel demand management strategies.

◆ Provide Funding for Workshop on Global Climate Change for Local Government Officials and Create GHG Emissions Reduction Strategies Toolkit

MCTC will provide funding for a workshop on global climate change for local government officials that will focus on practical techniques that local governments can implement to reduce greenhouse gas emissions at the city and county level. Workshop topics shall include, but are not limited to the following:

- The basic science behind climate change and its effects on the Madera County Region
- Addressing the California Environmental Quality Act (CEQA) and the effects of AB 32
- What cities and counties are doing to address climate change and CEQA

- Cost effective actions cities can take to reduce greenhouse emissions
- Actions being taken in the Madera County area to advance and support innovative “green” business

MCTC in conjunction with other key partners, shall produce a toolkit for local governments to use to take effective actions to reduce greenhouse gas emissions over time. The toolkit will incorporate recommendations by the workshop participants to identify which issues are important for the region and the tools and resources they would like to have available to reduce greenhouse emissions .

- ◆ Adopt Safe Routes to School Policy and Implement Pilot Program and Conduct Workshop with Cities, Counties and School Districts to Identify other Opportunities for Collaboration that may reduce Greenhouse Emissions

Within 3 years from the adoption of the 2011 RTP, MCTC shall adopt a Safe Routes to Schools (SRTS) policy to promote the practice of safe bicycling and walking to and from schools throughout the Plan Area in order to reduce traffic congestion, improve air quality, and enhance neighborhood safety. There are both federal and state funding programs for SRTS. As a regional agency, MCTC is an eligible applicant under the federal program for both infrastructure and non-infrastructure projects. Under the state program, only cities and counties are eligible applicants for infrastructure projects only. (Caltrans, 2007) With the passage of the Safe Routes to School bill (AB 1475), a “one third” distribution formula for federal safety funds to be allocated in equal amounts to: state highways, local roads, and Safe Routes to School (SRTS) construction program was established.

The federal Safe Routes to School program (SRTS) was authorized by Section 1404 of the *SAFETEA-LU (the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users)*. MCTC should apply for federal funds from the Federal Highway Administration through Caltrans to implement at least one SRTS pilot program within the Plan Area. The State-legislated Safe Routes to School program (SR2S) is contained in Streets & Highways Code Section 2330-2334. MCTC shall encourage its member agencies to apply for funds available through the State Highway Safety Improvement fund for eligible infrastructure projects in order to improve bicycle and pedestrian safety for school children.

MCTC shall also join the Safe Routes to School National Partnership, a network of more than 300 nonprofit organizations, government agencies, schools, and professionals working together to advance the Safe Routes to School movement in the United States.

In addition, MCTC will host a regional workshop for all cities, counties, school districts and transit operators within the region to identify other potential opportunities for collaboration that would reduce greenhouse gas impacts. At a minimum, the issues discussed will include the findings from the Safe Routes to School activities described above, opportunities to increase the number of students with bus or other transit options to get to and from school, and integrating school siting practices with goals of promoting walkable neighborhoods with a wide range of easily accessible services.

Establish a baseline for MCTC’s own GHG Impacts

Starting in calendar year 2011, MCTC shall measure and record the GHG emissions associated with its own operations in an accurate manner and in a format consistent with the California Climate Action Registry’s own reporting protocol in order to establish a baseline against which any future GHG reductions may be applied. The report shall be independently audited by a State and Registry approved certifier. The report shall include the following elements:

- Indirect emissions from electricity and natural gas use
- Direct emissions from mobile source combustion (agency vehicles)

- Indirect emissions from business-related employee air travel
- Direct and Indirect emissions from employee commuting
- Indirect emissions associated with MCTC purchasing practices

MCTC shall continue to report on its own GHG emissions consistent with this format in subsequent years and track its progress in reducing emissions. Emissions reductions in future years will comply with the goals set in the Regional Climate Change Action Plan.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent regional program-specific and individual improvement project-specific mitigation designed to avoid or reduce the identified significant project impacts to a less than significant level; however, it is unlikely that mitigation measures would reduce GHG emissions below existing conditions (let alone to 1990 levels as required by AB 32) due to anticipated population growth. As such, significant and unavoidable impacts on global warming will occur.

3.6 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 slightly more than 2,000 recorded archeological sites in the county, most of which are located in the foothills and mountains. Recorded prehistoric artifacts include village sites, camp sites, 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).

The purpose of this section is to discuss the potential for significant archaeological and historic sites within Madera County and describe possible conflicts between these resources and projects proposed by the Madera County RTP. Data collected for this evaluation is derived from the Madera County General Plan EIR, resource discussions from various project EIRs, and from the State Office of Historic Preservation.

Madera County contains a wealth of cultural resources, due to the County's history and diverse population. Numerous government agencies are tasked with identifying and protecting those resources, which are discussed below.

Regulatory

Federal Regulations

Various federal laws, regulations, and guidelines specify how cultural resources are to be managed in the context of projects that are considered "federal undertakings" (per 36 CFR 800). These federal statutes and guideline may be relevant to the proposed projects 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 Indian 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 State Historic Preservation Officer (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).

◆ **Department of Transportation Act of 1966. Section 4(f)**

Cultural resources are also protected under regulations of the of the 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.

◆ **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 review seek to avoid or minimize adverse effects of proposed actions, and also 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.

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*
- *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.

State Agencies

◆ California Department of Parks and Recreation (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 on obtaining information on, and issues recommendations for the documentation of, Native American heritage resources.

◆ **California Department of Transportation (Caltrans) Regulations**

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.

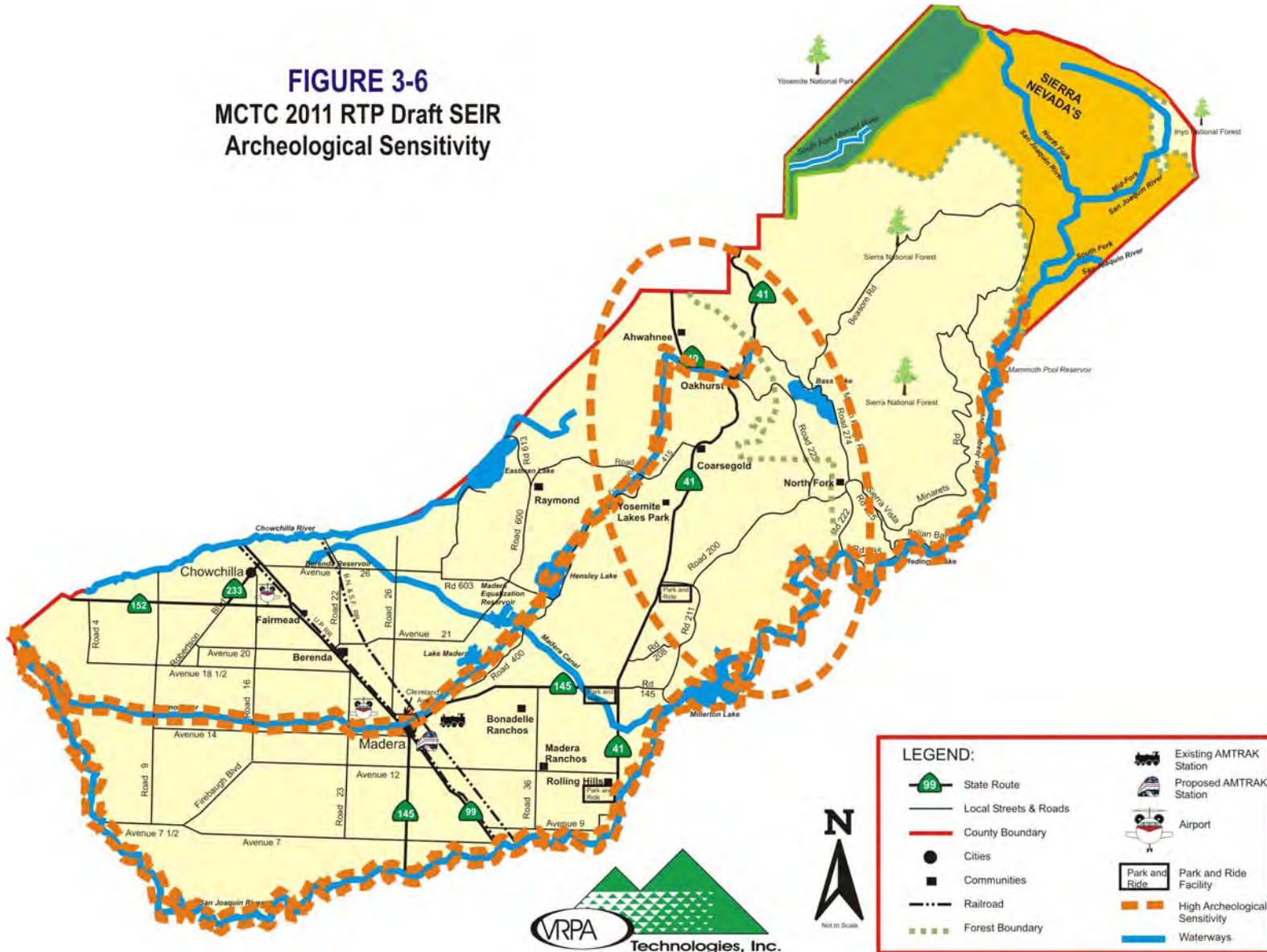
Environmental Setting

Archaeological Resources

The patterns of human occupation 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 3-6.

- ◆ **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 Indian tribes 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 destroyed many archaeological sites in this area.

FIGURE 3-6
MCTC 2011 RTP Draft SEIR
Archeological Sensitivity



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 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. 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

Many historic sites have been identified in Madera County and are protected by various State and federal agencies. The listings in the National Register and the California Register (updated regularly) of all existing and potential historic objects, sites, buildings, and districts are available from the CHRC and the NPS. A complete list of historic sites in Madera County is identified on the National Register and the California Register as of March 2006.

Madera County 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). 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. California's Office of Historic Preservation has also 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 the most emotional of archaeological resource issues. Such sites are often on private land, and project development is 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.

Section 4(f) Requirements

Historic and cultural resources are also protected under regulations of the National Historic Preservation Act and the 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 required in project-level environmental assessments.

Applicable Policies and Regulations

Archaeologic and paleontologic resources are frequently uncovered during construction of development projects, while historic resources are generally known. Strict mitigation and protection measures are required whenever such resources are discovered. In addition, there is a general requirement that a cultural resource survey and environmental analysis be 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.

Environmental Impacts, Mitigation Measures, and Criteria for Significance

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. 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 is, therefore, based upon cultural resource impacts that are generally associated with any activities that involve ground-disturbing activities.

Criteria for Significance

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 as yet 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 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.

CEQA (*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, was 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

Since some excavation is involved in all of the above mentioned project types, 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.

Impact 3.6.1 – Impacts on Historic Resources

Development of highway, arterial, bridge crossing and transit projects may impact historic resources. This would be considered a significant impact. 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, and arterials and interchange projects, which entail the development of new lanes, and right-of-way acquisition.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The individual improvement project proponent or local jurisdiction 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 will identify potential impacts to historic resources. A record search at the appropriate Information Center will be conducted to determine whether the individual improvement project area has been previously surveyed and whether resources were identified.
- ◆ As necessary, prior to construction activities, the project implementation 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 improvement project area for cultural resources.
- ◆ The project implementation 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 measure may include, but are not limited to the following:
 - The project implementation agencies will 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.

- ◆ In some instances, the following mitigation measure may be appropriate in lieu of the previous mitigation measure:
 - The project implementation agencies will 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

This impact is considered less than significant after mitigation, because the recommended mitigation would require the local jurisdiction to follow a comprehensive procedure to assess the magnitude of the impact, and to avoid or mitigate the impacts, if necessary.

Impact 3.6.2 – Construction Impacts on Archaeological Resources

Construction activities involving excavation and earthmoving may encounter 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, the resources are collected, documented and curated at an educational institution, such as a school or a museum. The curation facility is usually appropriated by the landowner or lead agency. A unique archaeological resource includes artifacts or sites in which it can be demonstrated that, without merely adding to the current body of knowledge, there is a high probability that 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 and a number of interchanges. 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 rights-of-way and right-of-way maintenance (such as pothole repair), would have less of an impact to archaeological resources because these individual improvement project locations have previously been disturbed. However, construction of additional lanes, 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.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The individual improvement project proponent or local jurisdiction 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. Project proponents will implement the following measures as part of the individual improvement project review process for proposed transportation projects:

- ◆ As part of the appropriate environmental review of individual projects, the project 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 individual improvement project site.
- ◆ Prior to construction activities, the project 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 individual improvement project area has been previously surveyed and whether resources were identified.
- ◆ As necessary prior to construction activities, the project 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 individual improvement project area for cultural resources.
- ◆ If the record search indicates that the individual improvement project is located in an area rich with cultural materials, the individual improvement project proponent 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.
- ◆ 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 project 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.
- ◆ 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 recommended mitigation would require individual improvement project proponents to follow a comprehensive procedure to assess the magnitude of the impact, and to avoid or mitigate the impacts, if necessary. However, due to the size and potentially large number of archaeological sites that could be disturbed as a result of the combined projects, this impact would remain a potentially significant impact to archaeological resources at a regional level.

Impact 3.6.3 – Construction Impacts on Paleontological Resources

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 rights-of-way 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 individual improvement project proponent or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with mitigation measures. Project proponents in the Madera region will implement the following measures as part of the review process for proposed transportation projects:

- ◆ 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.
- ◆ 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 measures recommended above require the individual improvement project proponents to assess the magnitude of the impact to resources, and to avoid or mitigate impacts. However, due to the size and potentially large number of paleontological localities that could be disturbed as a result of the combined projects, this impact would remain a potentially significant impact at a regional level.

Impact 3.6.4 – Impacts on Human Remains

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 and interchanges. 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 would have less of an impact because these individual improvement project locations have previously been disturbed. However, construction of additional lanes, 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 used as a paved transportation facility.

Mitigation Measures

All mitigation measures will be included in project-level analysis, as appropriate. The individual improvement project proponent or local jurisdiction 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 individual improvement 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 coroner of the county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required

- ◆ 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.
- ◆ 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

This impact is considered less than significant after mitigation, because the recommended mitigation would require the individual improvement project proponent to follow a comprehensive procedure to assess the magnitude of the impact, and to avoid or mitigate the impacts, if necessary.

Cumulative Impacts 3.6.5

Growth and development in Madera County will increase substantially by 2035. The 2011 RTP, by increasing mobility and by inclusion of transportation measures, potentially influences the pattern of this development. The 2011 RTP's influence on growth could potentially contribute to regional impacts to existing historic resources and previously undisturbed and undiscovered cultural resources, as described in Impacts 3.6.1 thru 3.6.4 above.

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 2011 RTP would be considerable when compared to the No Build or No Project Alternatives. 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 where cultural 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 3.6.1 thru 3.6.4 above.

These effects are considered a significant cumulative impact.

Mitigation Measures

The cumulative impacts to cultural resources, due to the forecast growth and development associated with the 2011 RTP, would be mitigated using the same measures detailed for Impacts 3.6.1 thru 3.6.4, in addition to the following measure.

- ◆ Future impacts to cultural resources shall be minimized through cooperation and information sharing between the implementation agency and affected resource agencies.

Significance After Mitigation

The impacts to cultural resources due to regional scale growth would be reduced through application of the mitigation measures, however implementation of the 2011 RTP's transportation improvement projects to accommodate growth and development in Madera County (as reflected in adopted local agency general plans) could potentially contribute to cultural resource impacts. Impacts to cultural resources from the 2011 RTP would be cumulatively considerable.

3.7 GEOLOGY & SOILS

Madera County encompasses 2,147 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 3,500 feet in the Coastal Ranges 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 (Figure 3-6). 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.²

- ◆ 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 are 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.
- ◆ 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.

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.

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

² California Division of Mines and Geology, Mines and Mineral Resources of Madera County, California, County Report 1 (1962)

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**

The Alquist-Priolo Earthquake Fault Zoning Act of 1971 requires that special geologic studies be conducted to locate and assess any active fault traces in and around known active fault areas prior to development of structures for human occupancy. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures.

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.

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

Seismic and Geologic Hazards

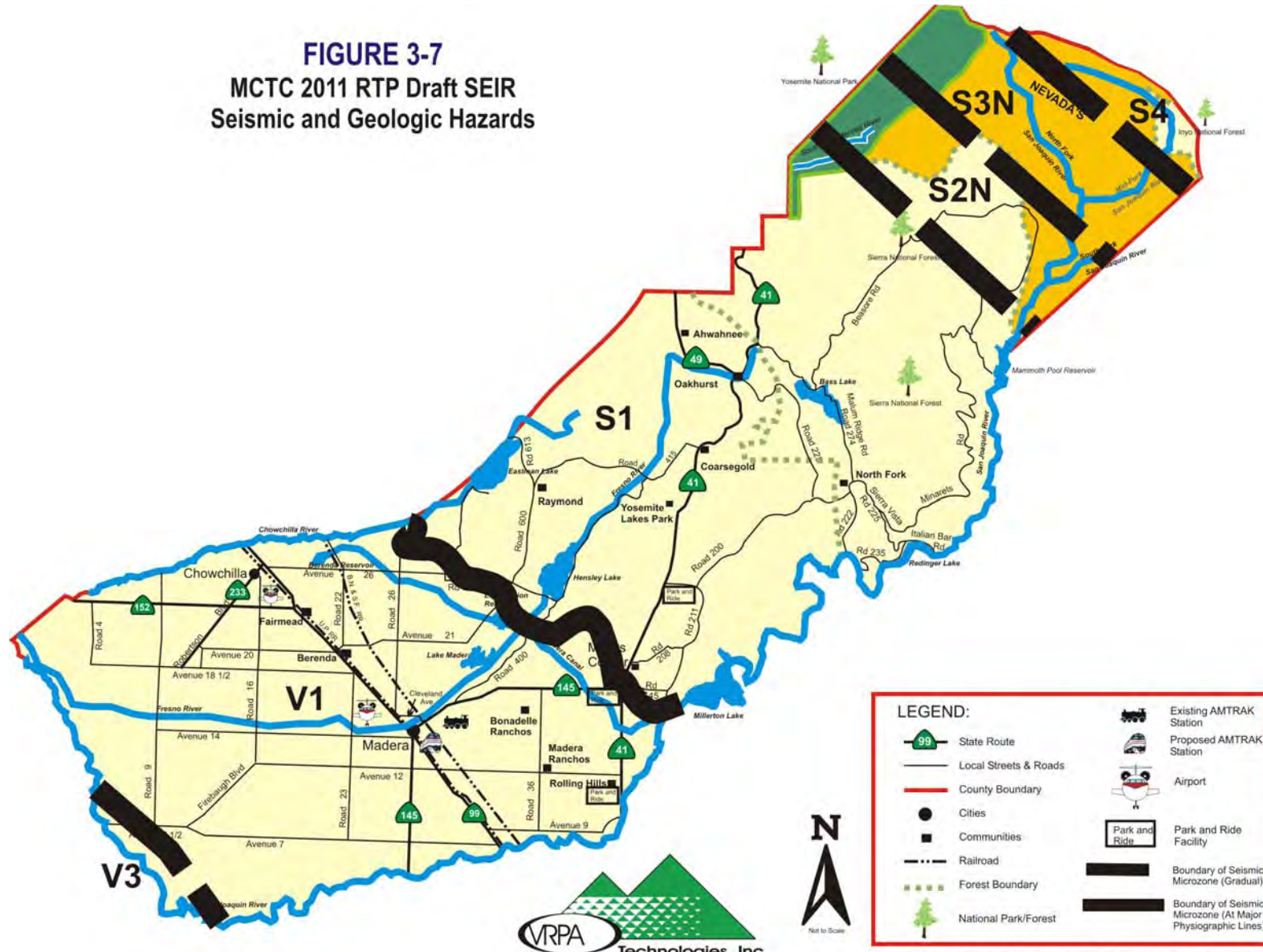
Madera County is subject to several types of hazards associated with seismic and geological conditions. These include earthquake faults, ground shaking, and ground failure.

◆ **Faults**

A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. Madera County is subject to risks associated with several major fault systems currently identified in the region (see Figure 3-7).

The San Andreas Fault, a primary concern in determining seismic activity within the Valley, lies to the West of Madera County, approximately 45 miles from the County line. In addition, the Clovis Fault, which lies approximately six miles south of the Madera County line, is considered to be "potentially active". The San Andreas Fault is at least 600 miles long and runs along the western edge of the County. The San Andreas Fault is considered to be the boundary between the North American Plate and the Pacific Plate and the system holds a great potential in terms of the size of potential movement.

FIGURE 3-7
MCTC 2011 RTP Draft SEIR
Seismic and Geologic Hazards



Source: Five County Seismic Safety Element (1974); Modified from Wesnousky (1986)

The Mammoth Lakes fault lies 75 miles to the east of the City of Madera in the central Sierra Nevada.

Other faults of regional significance include the Owens Valley Fault located east of the County. Significant seismic events associated with other faults in the region could impact Madera County depending on the specific characteristics of the event.

◆ 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.

At any given location, the amount of resulting shaking motion caused by the sudden movement depends to a large extent upon 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. Madera County lies on or near active faults, which has the potential to produce high-magnitude earthquakes with moderate intensity groundshaking in Madera County. Also, since the valley portions of Madera County are composed of alluvial deposits, the intensity of groundshaking would be greater than the foothill or mountain areas in the County that are composed of rock.

Ground shaking hazards exist due to 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 apart. 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.

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The Five County Seismic Safety Element was prepared for Fresno, 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) has recently compiled their Probabilistic Seismic Hazard Map, which is based on a 10 percent probability of earthquake occurrence in 50 years for California. The Madera County portion of that map can be viewed on Figure 3-7.

◆ 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.
- 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 willow 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

Madera County soils are among the richest and most productive in the nation. The unique combination of soils, climate, water and technology make this region one of the premier agricultural areas in the world. Soil types within Madera County are as diverse as the County's climate, topography and underlying geology. There are numerous mapping units on the General Soil Map for the county, named for the major soils series that occur within each unit.³ A soil series is a group of soils that have similar characteristics and layers.

³United States Department of Agriculture Soil Conservation Service, Report and General Soil Map of 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.
- ◆ 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.

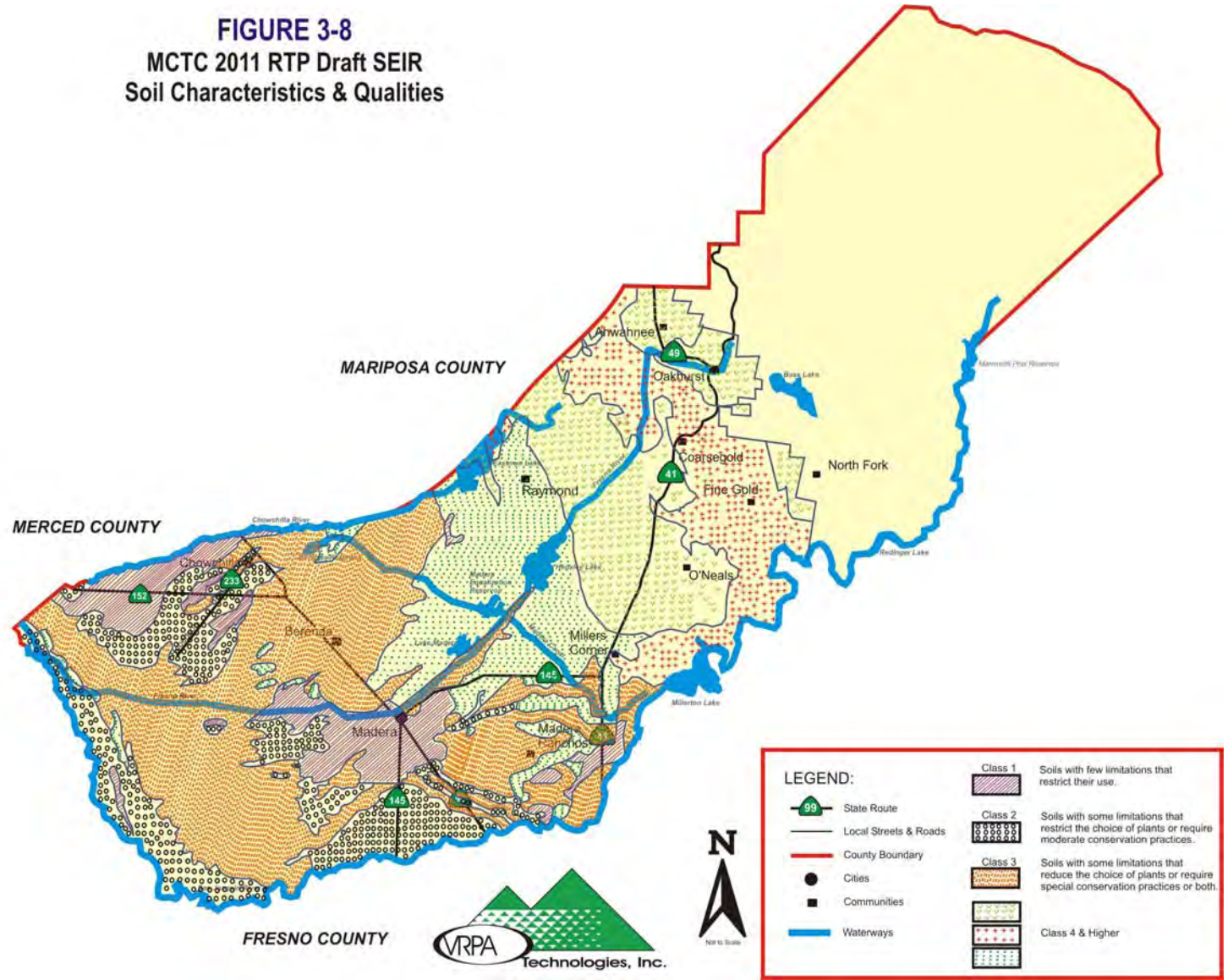
As indicated above, Soil Groups 3, 4, 6 and 7 present the greatest constraints to development or construction because of severe shrink-swell potential and the high corrosiveness of associated soils. Group 8 also contains severe limitations because of the potential for flooding and erosion. These groups are shown in Figure 3-8.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Impact 3.7.1 – Damaged transportation Infrastructure from Seismic Activity

Seismic events can damage transportation infrastructure through ground shaking, liquefaction, surface rupture and land sliding.

FIGURE 3-8
MCTC 2011 RTP Draft SEIR
Soil Characteristics & Qualities



Property and public safety from seismic activity would be considered a significant impact in some cases.

Mitigation Measures

- ◆ Project structures will be built by responsible agencies to the seismic standards contained in the most recent edition of the Uniform Building Code (UBC).
- ◆ Implementing agencies will ensure that improvement 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.
- ◆ The project implementing agencies will guarantee that geotechnical analysis is conducted within construction areas to establish soil types and local faulting prior to individual improvement project design preparation.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Impact 3.7.2 – Slope Failure and Erosion Due to Project Construction

Some improvement projects require significant earthwork, increasing potential slope failure and long-term erosion. Earthwork can also alter unique geologic features. Individual improvement project impacts would be considered significant in some cases.

Several 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 project implementing agencies will ensure that individual improvement project designs provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion.
- ◆ Design features will include measures to reduce erosion from storm water.

- ◆ Road cuts will be designed to maximize the potential for revegetation.
- ◆ Implementing agencies will ensure that projects avoid landslide areas and potentially unstable slopes wherever feasible.
- ◆ Where practicable, routes and individual improvement project designs that would permanently alter unique geologic features will be avoided.

Significance After Mitigation

Given the topography, ecology and meteorology of Madera County, long-term erosion and the potential for slope-failure will remain significant.

Impact 3.7.3 - Subsidence and the Presence of Expansive Soils

Local geology can affect transportation infrastructure. Potentially significant impacts to property and public safety could occur due to subsidence and the presence of expansive soils. Mitigation measures would reduce these impacts to less than significant levels.

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 must include appropriate reinforcement to minimize potential impacts from subsidence in areas where such activity has not been witnessed. In addition, 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 improvement project areas extensively prior to construction. Each new improvement project 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. Many of the improvement projects would occur within existing transportation corridors, where expansive soils may be expected to have already been removed.

Mitigation Measures

- ◆ Implementing agencies will ensure that geotechnical investigations are conducted by a qualified geologist to identify the potential for subsidence and expansive soils.
- ◆ Recommended corrective measures, such as structural reinforcement and replacing soil with engineered fill, will be implemented in individual improvement project designs.
- ◆ Implementing agencies will ensure that, prior to preparing individual improvement project designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils.

Impact 3.7.4 – Susceptibility to Seismic Action

Because of Madera County's moderately high level of seismic activity (reference Figure 3-6), construction projects may be susceptible to fault rupture and severe ground shaking. Project susceptibility and potential damage to structures resulting from seismic action is considered a significant impact.

Mitigation Measure

- ◆ Project structures will be constructed by responsible agencies to the seismic standards contained in the most recent edition of the Uniform Building Code (UBC).
- ◆ Implementing agencies shall ensure that projects are designed in accordance with county and city code requirements for seismic ground shaking. The design of projects shall consider seismicity of the site, soil response at the site, and dynamic characteristics of the structure, in compliance with the appropriate California Building Code and State of California design standards for construction in or near fault zones, as well as all standard design, grading, and construction practices in order to avoid or reduce geologic hazards.
- ◆ Implementing agencies shall ensure that projects located within or across Alquist- Priolo Zones comply with design requirements provided in Special Publication 117, published by the California Geological Survey, as well as relevant local, regional, state, and federal design criteria for construction in seismic areas.
- ◆ The project implementing agencies shall ensure that geotechnical analyses from qualified geotechnical experts are conducted within construction areas to ascertain soil types and local faulting prior to preparation of project designs. These investigations would identify areas of potential failure and recommend remedial geotechnical measures to eliminate any problems.

Significance After Mitigation

Implementation and monitoring of the above mitigation measure will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Impact 3.7.5 – Geotechnical Impacts

As discussed in the Environmental Setting Section, soil types and bedrock formations within Madera County range widely in terms of their potential for geologic hazards. Although the scope of study performed for this EIR evaluation did not include a determination for project-specific liquefaction or seismic settlement potential, it is possible that liquefiable soils or soils susceptible to seismic compaction during ground shaking exist within areas of planned transportation improvement projects. This is a potentially significant impact, which will require analysis as part of subsequent project-specific environmental review.

In addition, individual transportation project construction will require removal of vegetative cover and exposure of site soils to wind and surface water runoff. High erosion rates are typical of disturbed sites. Because of the high erosion potential of some categories of soils, risk of erosion is considered a significant impact.

Implementation of proposed Project could potentially have short-term and long-term effects on water quality downstream from specific project sites. The short-term impacts relate to the grading and construction phases of

project implementation that may cause erosion, while the long-term impacts may result from increased runoff flows from larger areas of asphalt.

Mitigation Measures

- ◆ Improvement projects with significant cuts or fill should include a geotechnical investigation to identify adverse soil conditions and develop recommendations for design and construction that would limit the effects of adverse soil and bedrock conditions.
- ◆ Cut and fill plans will be prepared for all improvement projects where cut and fill will be reburied, so that all fill materials are properly designed, placed, and compacted.
- ◆ Preparation of a detailed erosion control plan will be prepared to limit the effects of soil erosion and water degradation during improvement project construction, in accordance with permit conditions and requirements of the State Water Resources Control Board's Best Management Practices (BMPs), or equally effective measures will be employed.

Significance After Mitigation

Given the topography, ecology and meteorology of Madera County, long-term erosion and the potential for slope-failure will remain significant.

Impact 3.7.6 – Impacts on State-Owned and State Minerals Reserved Lands

Some street and highway projects may be proposed along alignments that will affect State-owned and State minerals reserved lands.

Mitigation Measure

- ◆ Where possible, improvement projects will be designed by responsible agencies to limit potential impacts on State-owned or State mineral-reserved lands.

Significance After Mitigation

Given the extent of State-owned and State mineral-reserved lands within Madera County, the Project has the potential of causing significant impacts even with specific-project design. As a result, the impact will remain significant.

Cumulative Impact 3.7.7

Growth and development in Madera County would increase substantially by 2035. The 2011 RTP, by increasing mobility and including transportation measures, potentially influences the pattern of this urbanization. Implementation of the 2011 RTP 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 2011 RTP, the cumulative

impacts of the 2011 RTP on geological units and soils as well as the potential exposure to substantial adverse effects to people and property would be significant.

Mitigation Measures

Mitigation measures 3.7.1 through 3.7.6 would be applied to this impact in addition to the following measure:

- ◆ Future impacts to geologic resources shall 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 2011 RTP's transportation improvement projects to accommodate growth and development in Madera County (as reflected in adopted local agency general plans) could potentially contribute to geologic resource impacts. Impacts to geologic resources from the 2011 RTP would be cumulatively considerable.

3.8 HAZARDOUS MATERIALS

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.*

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"); and
- 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; and
- 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.

◆ **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. 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

Environmental Setting

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.

Hazardous Waste Management and Transportation

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 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 Integrated Plan.

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; and/or
- ◆ 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. There are five (5) hazardous waste sites in Madera County according to the State of California, Department of Toxic and Substances Control.

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.

The western part of the County contains three of the four hazardous waste transportation routes (SR 99, 145 and 152). Because the valley part of the County is largely agricultural, the use and storage of pesticides is prominent. The foothills/mountainous areas of the county contain few problems related to hazardous materials.

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.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Criteria for Significance

The proposed Project could create a potential significant impact if the following conditions are present:

- ◆ Hazardous waste is generated from construction and maintenance of transportation facilities that cannot be recycled or reused
- ◆ Potential safety risks exist with the transport of hazardous materials

Impact 3.8.1- Hazardous Solvent and Architectural Coatings

Construction and maintenance activities associated with the implementation of the 2011 RTP could potentially result in solvent and architectural coating activities that may be considered hazardous if not used, stored, or disposed of properly. Any excesses in these materials, which exist upon completion of transportation projects in the RTP could be considered hazardous materials or wastes that may need to be disposed of properly. This is a potential impact. However, these left over materials can likely be stored properly and used for other transportation projects or purposes. Such use or reuse would reduce the amount of excess materials that would require disposal. In addition, steps can be taken to minimize the risk associated with handling hazardous materials in the process of transportation facility construction. Therefore, the potential impact is considered less than significant and no mitigation is required.

Mitigation Measures

Not applicable.

Significance After Mitigation

Less than significant.

Impact 3.8.2 – Decreased Safety Risks

Implementation of the RTP could potentially result in decreased safety risks as a result of enhanced hazardous materials transport options.

The Project could result in one of two outcomes where the transport of hazardous material is concerned:

- ◆ It is likely that potential routes for the transport of hazardous materials will become safer due to proposed improvements in the RTP. Hazardous materials are generally transported along the regional roadway network. Exceptions include gasoline and other fuels, which are often transported to their destinations along on local streets and roads. The RTP includes congestion reduction measures to improve transportation facilities in a number of corridors throughout the County. This is considered a potential beneficial effect, because these facilities could become safer due to reduced congestion levels resulting in fewer accidents.
- ◆ Congestion is projected to decrease in 25 years as a result of the proposed Project improvements. The Plan indicates that congestion is expected to decrease compared to the No Project and No Build Alternatives. This is considered a potential beneficial effect, because the decrease in congestion could contribute to reductions in accident rates, including those corridors where no transportation improvement projects are proposed.

Mitigation Measures

Beneficial impact. No mitigation needed.

Significance After Mitigation

Less than significant.

Impact 3.8.3

The implementation of the 2011 RTP could create a hazard to the public or the environment through the disturbance of contaminated property during the construction of new transportation or expansion of existing transportation facilities.

Construction of the projects in the 2011 RTP 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.

Because of the potential number of contaminated sites and the risk associated with encountering and cleaning up these sites, this impact is considered to be significant.

Mitigation Measures

- ◆ Prior to approval of any RTP 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 2011 RTP. If contamination is found the implementing agency shall coordinate clean up and/or maintenance activities.
- ◆ 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.
- ◆ Local agencies should contact the Chevron Environmental Management Company (CEMC) to determine whether an improvement project may be in the vicinity of the Tidewater Oil Company or Standard Oil Company historical pipeline alignments.

Significance After Mitigation

The mitigation measures would assure that contaminated properties are identified and appropriate steps taken to minimize human exposure and prevent any further environmental contamination. The impact after mitigation would be less than significant.

Cumulative Impact 3.8.4

Implementation of the investments and policies in the 2011 RTP 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 2011 RTP's influence on mobility and its transportation measures could potentially influence population distribution, potentially contributing to a cumulatively considerable impact related to disturbance of contaminated sites by new urban development. With additional pressure for infill development, reuse of "brownfields" properties may become more common as the region grows.

This impact is considered to be significant.

Mitigation Measures

Mitigation Measures 3.8.1 through 3.8.3 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.

3.9 HYDROLOGY & WATER QUALITY

Issues related to surface-water resources, flooding, ground-water resources, storm water runoff, and water quality are addressed in this section. Further discussion of water supply can be found in the Public Utilities, Other Utilities, and Services Systems section.

Regulatory

Water resources in the County are regulated at the federal, state, and local levels as follows:

Federal Regulations

- ◆ **Clean Water Act (CWA)** - Enacted by Congress in 1972, the Clean Water Act 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 Clean Water Act 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 Clean Water Act 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

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. Environmental Protection Agency is the federal agency responsible for water quality management and administration of the federal Clean Water Act (CWA). In California, the EPA has delegated most of the administration of the CWA to the State Water Resources Control Board (SWRCB).
- ◆ **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 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 Regional Water Quality Control Board 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 Game (CDFG)** - The mandate of the California Department of Fish and Game 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, CDFG 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 CDFG protects rare, threatened and endangered species by managing habitat in legally designated ecological reserves or wildlife areas.
- ◆ **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 Health³³ (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 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.

Environmental Setting

Hydrology

◆ **Drainage Patterns**

Madera County encompasses a large portion of the San Joaquin Valley hydrologic region. There are three major rivers in Madera County: the Chowchilla River, the Fresno River and the San Joaquin River. In addition, there are several creeks in the foothills and mountain areas of the County. The eastern one-third of the County drains west into the San Joaquin Valley, while the western two-thirds drains east into the Valley, converging generally at the San Joaquin River.

◆ **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 and the Fresno River are the primary natural surface water sources within Madera County. Both rivers originate in the Sierra Nevada's and flow toward the valley floor. The San Joaquin River's approximate annual run-off is 1,600,000 acre-feet (an acre-foot is 325,851 gallons). The Fresno River's annual run-off is very similar to that of the San Joaquin River.

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 the Biotics section of this report.

The San Joaquin River and the Fresno River are the only two 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 on average 14 inches of precipitation annually, while the mountainous areas can receive up to 70 inches per year. Flooding in Madera County can occur as a result of heavy rains, dam failure, excessive snowmelt and runoff, levee failure, and localized drainage problems. Flooding usually occurs during the late fall and winter due to rainfall, and during late spring to early summer due to snowmelt.

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.

Urban areas employ complex systems of flood control facilities to prevent localized flooding. These can include: street gutters, underground storm drains, retention/detention basins, pumping stations, and open channels to collect and control stormwater runoff.

Despite flood prevention activities, some flooding does occur. Accordingly, the U.S. Department of Housing and Urban Development (HUD) has designated portions of Madera County as special Flood Hazard areas (reference Figure 3-9). 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. This type of flood is determined for the purposes of 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. The 100-year flood boundaries, as determined by FEMA, are identified in Figure 3-9.

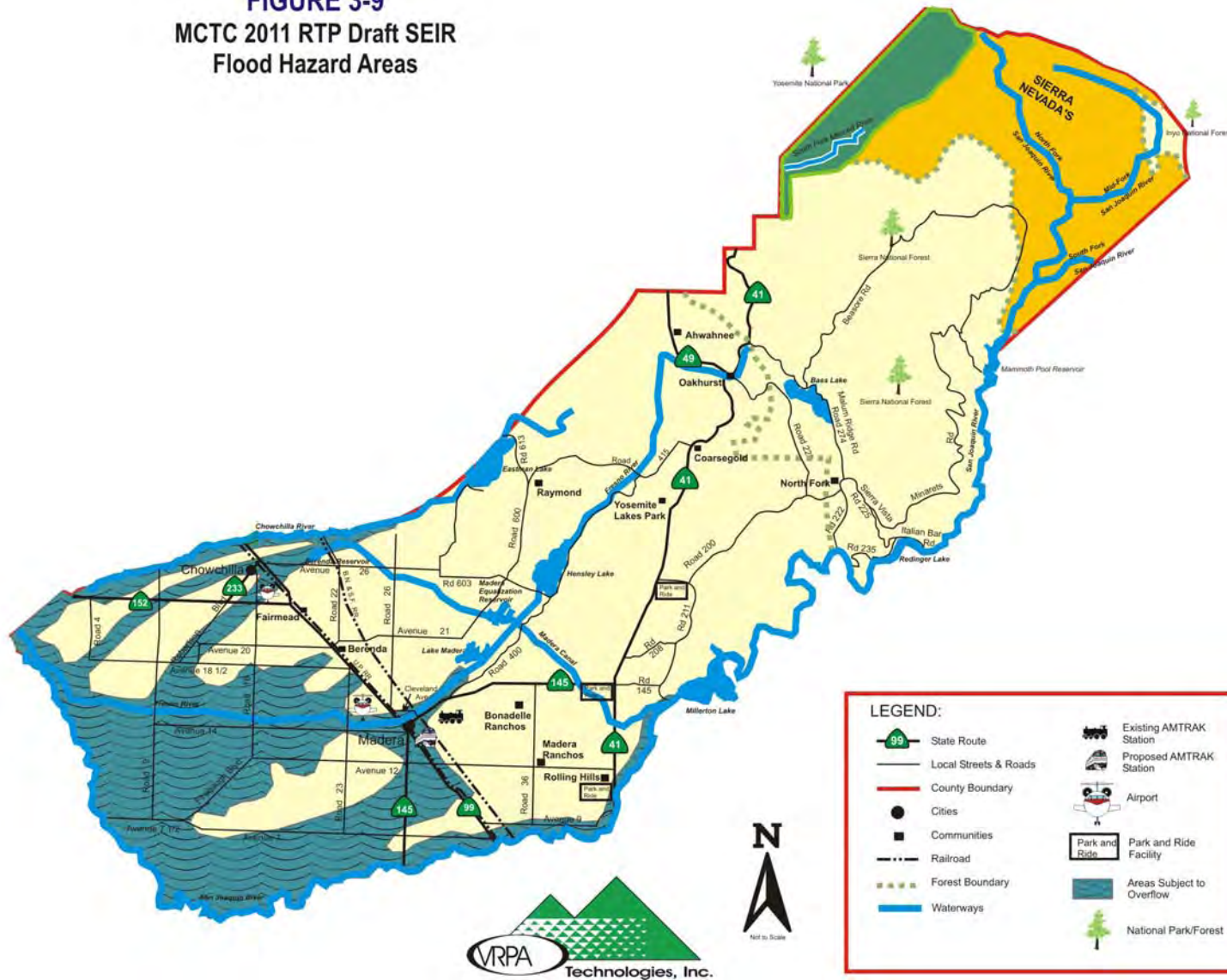
Dam failure is another cause of substantial flooding. There are sixteen dams in Madera County. Dam failure could result from earthquakes, erosion, improper siting, rapidly rising floodwaters and structural and design flaws.

◆ **Groundwater Resources 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 and the nation, as well as meeting the needs of its approximately 120,000 inhabitants. Approximately 80 percent of the water is consumed by residential inhabitants and the remaining 20 percent for other purposes.

The source of the majority of water, approximately 85%, used in Madera County is 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. In reaction to drought conditions, nearly all communities in the region have introduced water conservation programs.

FIGURE 3-9
MCTC 2011 RTP Draft SEIR
Flood Hazard Areas



In addition to groundwater, water is also supplied from surface water systems. Most 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. 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.

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 Water Plan Update 2005 identifies the San Joaquin Lake Basin 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 this 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.

Water quality is generally determined by the concentrations of harmful trace elements and the condition of salinity.

According to the California Department of Water Resources surface water in Madera County is typically of good quality for most urban and agricultural uses with only local impairments. The primary items of concern include: Total Dissolved Solids (TDS), nitrate, boron, chloride, and organic compounds.

In general, the groundwater situation in the Valley is ideal; high clay content and other impervious sediments in the soils, combined with a low water table, make it difficult for contaminants to reach the groundwater supply. However, in October of 1990, the Department of Water Resources published *Natural Radioactivity in Ground Water of the Western Sierra Nevada*, which reported the quality of water sampled from 20 wells in the mountain and foothill areas of Mariposa and Madera counties. The highest concentrations of radon, uranium, and radium are found in wells drilled in granitic rock, while lower concentrations are associated with metamorphic rock formations. A notable radon and uranium "hot spot" in the region is near Bass Lake in Madera County.

◆ 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 Hensley Lake and Eastman Lake on the Kings 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. 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.

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.

◆ 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 quality resulting from implementation of transportation improvements, project-specific studies would be necessary. However, some general impacts can be identified based on the nature of the individual transportation improvements. Projects 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 could cause water quality impacts, because the individual improvement projects 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.

A proposed individual improvement project would be likely to have a greater impact on water resources in areas where proposed transportation 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

The 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 situation 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 to control
- ◆ Otherwise substantially degrade water quality
- ◆ Place within a 100-year floodplain structures, which would impede or redirect flood flows

Short-Term Impacts

Short-term impacts are temporary and generally related to construction activities. Construction activities undertaken to implement transportation improvements 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 projects' 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 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 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 could have minor effects on the amount of surface water that filters into the ground. Pollutants in the runoff from proposed transportation facilities could affect groundwater basins.

Impact 3.9.1 – Impacts on Water Quality

Local surface water quality could be affected by increased urban runoff and construction runoff. Increasing impervious surface area could 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 Measure

- ◆ Improvement projects along existing facilities 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

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than a significant level.

Impact 3.9.2 – Impacts on Groundwater

The installation of transportation infrastructure and expansion of Project facilities could encounter groundwater. Individual projects may require dewatering during construction and for the life of the Project.

Mitigation Measures

- ◆ Transportation network improvements will comply with local, state and federal floodplain regulations. Proposed transportation improvements 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.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than a significant level.

Impact: 3.9.3 – Increased Flood Hazards

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. In addition, placing new structures within an existing floodplain can impede floodwaters, altering the flood elevations upstream and downstream.

Mitigation Measures

- ◆ 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. Drainage systems should be designed to maximize the use of detention basins, vegetated areas, and velocity dissipaters to reduce peak flows where possible. Transportation 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.
- ◆ Responsible agencies shall 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.
- ◆ 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

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than a significant level.

Impact: 3.9.4 - Impacts from Construction Runoff

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 Measure

- ◆ Improvement projects along existing facilities 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

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than a significant level.

Cumulative Impact 3.9.5

Growth and development will increase substantially by 2035. The 2011 RTP, by increasing mobility and by including transportation measures, potentially influences the pattern of this development. The 2011 RTP's influence on growth could potentially contribute to the conversion of undeveloped land, resulting in impacts to water quality, stormwater infiltration and groundwater recharge, flood hazard impacts, and wastewater treatment services, and water demand.

The growth projection associated with the 2011 RTP would increase the amount of developed land in the County. With the 2011 RTP, the amount of new developed acreage (consuming previously vacant land) would be considerable.

Mitigation Measures

Mitigation Measures 3.9.1 through 3.9.4 shall be applied to all development projects, as feasible, in addition to the following measures:

- ◆ Local governments should encourage Low Impact Development and natural spaces that reduce, treat, infiltrate and manage stormwater runoff flows in all new developments.
- ◆ Local governments 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.
- ◆ Local governments 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.
- ◆ Developers, local governments, 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.
- ◆ Future impacts to water quality shall be avoided through cooperative planning, information sharing, and comprehensive pollution control measure development.
- ◆ Local jurisdictions and water agencies are encouraged to continue regional-scale planning for improved stormwater management and groundwater recharge. Future adverse impacts shall be avoided through cooperative planning, information sharing, and comprehensive implementation efforts.
- ◆ Local governments should prevent development in flood hazard areas that do not have appropriate protections, especially in alluvial fan areas of the region.
- ◆ 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.
- ◆ Wastewater treatment agencies are encouraged to have expansion plans, approvals and financing in place once their facilities are operating at 80 percent of capacity.

- ◆ 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.
- ◆ 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.
- ◆ Local water agencies shall continue to evaluate future water demands and establish the necessary supply and infrastructure to meet that demand.
- ◆ Developers, local governments, and water agencies should include conjunctive use as a water management strategy when feasible.
- ◆ 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.
- ◆ Future impacts to water supply shall be minimized through cooperation, information sharing, and program development.

Significance After Mitigation

New development expected by 2035 could potentially create adverse impacts on water quality, stormwater infiltration and groundwater recharge, flood hazard impacts, and wastewater treatment service and water demand impacts. The 2011 RTP's influence on growth distribution is a cumulatively considerable contribution to this significant impact.

3.10 LAND USE & PLANNING

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. 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

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.

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 (COE)**

The U.S. Army Corps of Engineers (Corps) 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 Corps 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.

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).

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 California Department of Parks and Recreation 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 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 Game (CDFG)**

The California Department of Fish and Game (CDFG) 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, CDFG 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 CDFG 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.

◆ **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).

Area, Specific, and Master Plans: Area, 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.

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.

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 several 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 high densities.

The largest residential category within the County is rural residential. This category permits one dwelling unit on parcels ranging from one (1) acre to over 20 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**

Remaining areas of the County are zoned for industry, agriculture, open space, and other special uses. A majority of the land in the eastern portion of the County is under the jurisdiction of the State and federal government.

◆ **Unincorporated Areas**

Unincorporated areas of the County contain a population of approximately 68,800 persons, or 56 percent of Madera County's total population. In addition to large State and federally owned areas, a number of 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. These communities, as well as other unincorporated areas are governed by the Madera County General Plan adopted in 1995. These communities include Ahwahnee, Coarsegold, Oakhurst, North Fork, and Raymond.

Regulatory Framework

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.

Growth in the county is expected in the cities of Chowchilla and Madera, along both sides of SR 41 between the San Joaquin River and SR 145, between the City of Madera and SR 41 along both sides of the Avenue 12 corridor, and in the foothill communities.

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 and provides the criteria for evaluating land use compatibility between proposed development in the vicinity of the County's public-use, general aviation airport facilities. These airports are:

- ◆ Madera Municipal Airport (General Aviation)
- ◆ Chowchilla Municipal Airport (Basic Utility)

Future Land Use

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. The cities of Madera and Chowchilla will remain the predominant urban centers in Madera County, with the other communities in the County representing a second tier of urban land use. 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.

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 particular type of land use 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.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Criteria for Significance

In order to determine potentially significant land use impacts resulting from the RTP, the following significance criteria were used. Measure projects would produce significant adverse land use impacts if the following circumstances occurred:

- ◆ Substantial loss of agricultural, open space, or other resource land.
- ◆ Inconsistency with applicable adopted land use plans and policies.
- ◆ Incompatibility with adjacent land uses, including impacts to sensitive receptors.
- ◆ Physically divide an established community.

Impact 3.10.1 - Land Use Impacts

Strategies aimed at addressing the transportation needs of future growth patterns were considered during development of the proposed RTP. The document promotes alternatives to the automobile through enhanced funding (beyond that identified in the 2011 RTP) for transit and other alternative modes of transportation such as bicycle facilities, trails, airport improvements, and others. Implementation of strategies proposed in the RTP 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. Land use and transportation policies are emphasized in the 2011 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. 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, addressing 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 the mixed-use developments would result in a concentration of jobs and residences in close proximity to one another.

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 projects in the RTP could have significant impacts on land use patterns, potentially causing land use growth and development to occur in areas not previously envisioned for growth and development. This impact could be especially significant on agricultural land uses within the County.

Mitigation Measures

The individual improvement project proponent or local jurisdiction shall identify and evaluate the impacts on significant agricultural resources as part of the appropriate improvement project-specific environmental review and shall identify mitigation measures to reduce the impacts to a level of less than significant. In addition, the individual improvement project proponent or local jurisdiction shall identify and evaluate the impacts of growth and development on the ability of local agencies and special districts or other agencies, to provide the public service and facilities to accommodate growth and development pursuant to their adopted short- and long-range master plans, as part of the appropriate improvement project-specific environmental review and shall identify mitigation measures to reduce the impacts to a level of less than significant. The project implementing agency or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the land use plans, policies, requirements, rules and regulations that may be applicable to the project and the mitigation of impacts following construction of the project in terms of the ability of local agencies to provide public services and facilities required by the growth inducing and development affects of the project.
- ◆ Following construction of the project, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county land use plans, policies, requirements, rules and regulations, and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors applicable to the project and the mitigation of impacts of the project in terms of the ability of local agencies to provide public services and facilities required by the growth inducing and development affects of the project.
- ◆ Prior to final approval of each individual improvement project, the individual improvement project proponent or local jurisdiction shall conduct the appropriate project-specific environmental review, including consideration of potential land use impacts and specific impacts on sensitive receptors in vicinity of the project, and identify mitigation measures to reduce the impacts to a level of less than significant applicable to the on-going use and operation of the project.

- ◆ Prior to final approval of each individual improvement project, the project implementing agency or local jurisdiction shall conduct the appropriate project-specific environmental review, including consideration of potential land use and public services demands and impacts resulting from the potential growth inducement of the project and shall identify mitigation measures that will reduce the impacts to a level of less than significant.

Significance After Mitigation

While implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts, it is probable that such impacts will remain significant and unavoidable.

Impact 3.10.2 – Impacts on Sensitive Receptors

There are many sensitive receptors located in the urban and rural areas of the County. A “sensitive receptor” includes, but is not limited to residential units and land uses, educational facilities and schools, medical facilities, places of worship or other land uses that may require a higher level of protection and mitigation from the impacts of construction. These sensitive receptors may be sensitive to noise, vibration, air pollutants, and other conditions that impact our environment. Sensitive receptors located in the vicinities of proposed improvement projects could be impacted by construction and implementation of the proposed highway, arterial and transit projects due to noise, dust, vibration, etc. This could be considered a potentially significant impact.

Construction of new parkways and connectors, widening of existing highways and the construction of new interchanges are some of the highway and arterial projects. Many other types of transportation projects will not involve construction activities. Many proposed public transit projects involve service alterations along existing streets, highways, and rail lines. The impacts of projects on sensitive receptors will depend on several factors such as the type of project individual improvement project proposed for the given area, the projected and existing land uses of a given area, the activities and operations of sensitive receptors, the proximity of sensitive receptors to the project, and duration of proposed construction activities.

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).

Mitigation Measures

Impacts to sensitive receptors shall be identified and specifically studied and evaluated as part of the project-specific environmental review, and mitigation measures shall be identified to reduce the impacts to a level of less than significant. The individual improvement project proponent or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures following construction of the project. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures following construction of the project:

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify

and determine the land use plans, policies, requirements, rules and regulations that may be applicable to the project and the mitigation of impacts following construction of the project.

- ◆ Following construction of the project, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county land use plans, policies, requirements, rules and regulations, and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors applicable to the on-going use and operation of the project
- ◆ Prior to final approval of each individual improvement project, the individual improvement project proponent or local jurisdiction shall conduct the appropriate project-specific environmental review, including consideration of potential land use impacts and specific impacts on sensitive receptors in vicinity of the project, and identify mitigation measures to reduce the impacts to a level of less than significant applicable to the on-going use and operation of the project.
- ◆ Potential significant impacts to sensitive receptors and land uses within vicinity of the project shall be mitigated to a level of less than significant as applicable to the on-going use and operation of the project.

Significance After Mitigation

Less than significant on a project-specific level. However, this impact may be significant and unavoidable after mitigation because of the large number of individual projects that may potentially affect sensitive receptors within close vicinity.

Impact 3.10.3 – Loss of Open Space and Community Recreation Areas

Construction and implementation of projects would result in the loss of open space and community recreation areas. This would be considered a potentially significant impact. Pockets of open space vary in size and location throughout the County and within the cities. Open space land uses include agricultural areas, public parks, recreational facilities, and areas planned for such uses.

The Project includes highway, arterial and transit projects proposed to be located in or adjacent to areas designated for open space. The potential for significant impacts to natural habitats and community recreation exists, since these projects may be constructed in areas that have habitat and recreational value. Development of RTP projects and programs could result in the disturbance or loss of open space and recreational resources. Specifically, new projects involving construction would be most likely to result in impacts to open space areas.

Mitigation Measures

The impact on open space and community recreation areas will be evaluated as part of the appropriate project-specific environmental review and mitigation measures will be identified to minimize impacts. Implementation agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with all mitigation measures.

- ◆ Project implementation agencies will ensure that projects are consistent with federal, state, and local plans that preserve open space and recreation.

- ◆ Project implementation agencies will identify open space and recreation areas that could be preserved and will include mitigation measures (such as dedication or payment of in-lieu fees) for the loss of open space.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will conduct the appropriate project-specific environmental review, including consideration of loss of open space and recreation.
- ◆ Potential significant impacts to open space will be mitigated.
- ◆ For projects that require approval or funding by the U.S. Department of Transportation, project implementation agencies will comply with Section 4(f) of the U.S. Department of Transportation Act.

Significance After Mitigation

It is anticipated that implementation of the Project could potentially result in the loss or disturbance of open space; therefore, this impact would remain significant and unavoidable.

Impact 3.10.4 – Loss of Agricultural Resources

Implementation of the proposed RTP could potentially result in the disturbance or loss of significant agricultural resources throughout the Madera region. This would be considered a potentially significant impact. The County contains areas designated by the State as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. These areas are interspersed throughout urban areas or are located in undeveloped portions of the region. Development of highway, arterial and transit projects proposed under the RTP could potentially result in the disturbance or loss of some of these designated areas. Specifically, new projects involving construction would be most likely to result in impacts to these areas.

Mitigation Measures

The impact on significant agricultural resources will be evaluated as part of the appropriate project-specific environmental review, and mitigation measures will be identified to minimize impacts. Implementation agencies will be responsible for ensuring adherence to the mitigation measures prior to construction. MCTC will be provided with documentation indicating compliance with all mitigation measures.

- ◆ 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.
- ◆ For projects in agricultural areas, project implementation agencies will contact the California Department of Conservation and the County Agricultural Commissioner's office to identify the location of prime farmlands and lands that support crops considered valuable to the local or regional economy.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will establish conservation easement programs to mitigate impacts to prime farmland.
- ◆ Prior to final approval of each individual improvement project, the implementing agency will avoid impacts to prime farmlands or farmlands that support crops considered valuable to the local or regional economy.

- ◆ Prior to final approval of each individual improvement project, the implementing agency will encourage enrollments of agricultural lands in the Williamson Act.

Significance After Mitigation

It is anticipated that implementation of the Project could potentially result in the loss or disturbance of significant agricultural resources; therefore, this impact would be considered significant and unavoidable.

Impact 3.10.5 – Inconsistency with Local Land Use Plans

The Project has the potential to conflict with applicable adopted local land use plans and policies.

Most of the projects submitted for inclusion in the RTP, are developed through a local review process that involves local jurisdictions working with MCTC. For this reason, it is unlikely that any individual improvement project submitted would be inconsistent with a local jurisdiction's plan.

Mitigation Measures

- ◆ No mitigation measures are necessary.

Significance After Mitigation

Not applicable.

Cumulative Impact 3.10.6

Growth and development in the County will increase substantially by 2035. The 2011 RTP, by increasing mobility and including transportation measures, potentially influences the pattern of this development. The 2011 RTP's influence on growth could potentially contribute to cumulatively considerable impacts to land use and could change the intensity of land use in some areas.

Mitigation Measures

The mitigation measures listed above for Impacts 3.10.1 through 3.10.5 would be applied as mitigation for this impact. In addition, the following measure would apply.

- ◆ 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 2035, the region may need to change land uses and increase the intensity of some existing land use. The cumulative impact would remain significant.

3.11 NOISE

This section provides information about the effects of noise from the Project. The methodology and the criteria used to evaluate the significance of noise-related impacts as well as mitigation measures are discussed.

Description of Noise and Terminology

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 noise.

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. 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.

Two composite noise descriptors are in common use today: Ldn (Day-night Average Level) and CNEL (Community Noise Equivalent Level). The Ldn is based upon the average hourly Leq over a 24-hour day, with a +10 decibel weighting applied to nighttime (10:00 p.m. to 7:00 a.m.) Leq values. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. 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.

Regulatory

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, motor boats 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 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. 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. Aircraft manufacturers must comply with these regulations prior to certification of the aircraft. Similarly, locomotives are also subject to federal standards.

◆ **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, taking into account 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.

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 Vibration Policies.**

The Federal Railway Administration (FRA) and the Federal Transit Administration (FTA) have published guidance relative to vibration impacts. 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.

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.

◆ **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.

◆ **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 freeways, 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. Four northbound and four southbound passenger rail operations occur each day on the BNSF lines.

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 branchlines in Madera County.

◆ Airport Noise

Madera County is home to two airports. 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.

There are two airport facilities in Madera County (reference the 2011 RTP). 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.

◆ **Other Noise Sources**

There is a wide variety of industrial and other non-transportation noise sources in the County, including manufacturing operations, power plants, food packaging and processing facilities, lumber mills, aggregate mining and processing plants, race tracks, shooting ranges, amphitheatres, 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.

Noise Barriers

Shielding by barriers can be obtained by placing walls, berms or other structures between the traffic 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 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. 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.

Methodology

Since noise is a highly localized impact, specific and detailed analyses are most appropriate at the individual improvement project level. Subsequent project-specific EIRs will be required to further analyze the transportation improvements proposed by the Project to determine the magnitude of noise and vibration impacts, and to identify appropriate potential mitigations for each individual improvement project.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Criteria For Significance

The Project will result in a significant noise impact if short-term construction or long-term operations of transportation improvement projects proposed by it will:

- ◆ Result in noise levels that approach or exceed the FHWA Noise Abatement Criteria or increase substantially above existing levels (a 3 dB change would be considered noticeable).
- ◆ Result in extended, substantial construction noise in the vicinity of sensitive receptors.
- ◆ Expose people to generation of excessive ground borne vibrations or ground borne noise.

Impact 3.11.1 – Transportation Construction Noise Impacts

Grading and construction activities associated with the proposed highway, arterial, and transit projects would intermittently and temporarily generate noise levels and vibration occurrences above ambient background levels. Noise and vibration levels in the immediate vicinity of the construction sites could increase substantially sometimes for extended durations. This would be considered a potentially significant impact.

Generally, proposed projects are of the following two types:

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

Construction activities associated with the project could result in temporary noise and vibration increases at nearby sensitive receptors. The impacts of projects on sensitive receptors will depend on several factors such as the type of individual improvement project proposed for the given area, the projected and existing land use of the given area, the activities and operations of sensitive receptors, the proximity of sensitive receptors to the project, and duration of proposed construction activities, etc.. Additionally, construction noise and vibration levels could fluctuate depending on the construction phase, equipment type, and duration of use; distance between the noise and vibration source and sensitive receptors; and presence or absence of barriers between noise and vibration source and sensitive receptors. In general, sensitive receptors could be significantly impacted by projects involving new systems (new facilities, truck lanes, rail corridors, interchanges, underground rail lines). Specifically, sensitive receptors located in the vicinity of these projects could be significantly impacted by construction of the proposed improvement projects. Additionally, modification projects could result in short-term construction impacts to sensitive receptors.

Mitigation Measures

As part of project-specific environmental review, the individual improvement project proponent or local jurisdiction shall be responsible for completing a noise and vibration analysis and study to determine the project-specific notice

and vibration construction and provide the mitigation measures that shall reduce the impacts to a level of less than significant in accordance with the applicable noise and vibration standards. Such noise and vibration analysis and study shall identify the impacts on land uses, facilities and activities of properties within the vicinity of the project and shall identify and provide the mitigation measures that shall reduce the impacts to a level of less than significant in accordance with the applicable noise and vibration standards. The project implementing agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to and during the construction. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with noise and vibration.
- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations, and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors with regards to noise and vibration.
- ◆ The individual improvement project proponent or local jurisdiction shall comply with all local sound control, vibration, and noise level policies, requirements, rules, regulations, and ordinances.
- ◆ The individual improvement project proponent or local jurisdiction shall limit the hours of construction to between 6:00 a.m. and 8:00 p.m. on Monday through Friday and between 7:00 a.m. and 8:00 p.m. on weekends. In the event that noise or vibration affects public sensitive receptors, specific hours of construction shall be agreed upon between the individual improvement project proponent or local jurisdiction and the entities that are responsible and oversee public sensitive receptors to minimize the noise and vibration impacts on sensitive receptors.
- ◆ Equipment and trucks used for construction shall utilize the best available noise and vibration control techniques (including mufflers, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) in order to minimize construction noise and vibration impacts.
- ◆ Impact equipment (e.g., jackhammers, pavement breakers, and rock drills) used for individual improvement project construction shall be hydraulically or electrical powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible to a reduction of 5 dBA. Quieter procedures shall be used such as drilling rather than impact equipment whenever feasible.
- ◆ The individual improvement project proponent or local jurisdiction shall ensure that stationary noise and vibration sources shall be located as far from sensitive receptors as possible. If they must be located near existing sensitive receptors, they shall be adequately muffled so that the noise level at the property line of sensitive receptors shall not exceed 65 dBA and there is no significant vibration within the structures of the sensitive receptors.

- ◆ The individual improvement project proponent or local jurisdiction shall designate a complaint coordinator responsible for responding to noise and vibration complaints received during the construction phase. The name and phone number of the complaint coordinator shall be conspicuously posted at construction areas and on all advanced notifications. Entities that are responsible and oversee sensitive receptors within vicinity of the project shall be given written notification of the dates and times of construction during which noise and vibration may occur in conjunction with the project. The compliant coordinator shall be responsible for taking steps required to resolve complaints, including periodic noise and vibration monitoring, if necessary.
- ◆ Noise generated from any rock-crushing or screening operations performed within 3,000 feet of any occupied residence and sensitive receptor shall be mitigated by the individual improvement project proponent or local jurisdiction by strategic placement of material stockpiles between the operation and the affected properties or by other means approved by the individual improvement project proponent local jurisdiction.
- ◆ The individual improvement project proponent or local jurisdiction shall direct contractors to implement appropriate additional noise and vibration mitigation measures including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents and entities that are responsible and oversee sensitive receptors within vicinity of the project in advance of construction work, and installing acoustic barriers around stationary construction noise sources to comply with local noise control requirements.
- ◆ The individual improvement project proponent or local jurisdiction shall implement use of portable barriers during construction of subsurface barriers, debris basins, and storm water drainage facilities.
- ◆ No pile-driving or blasting operations will be performed within 3,000 feet of an occupied residence and sensitive receptor on Sundays, legal holidays, or between the hours of 8:00 p.m. and 8:00 a.m. on other days. Any variance from this condition shall be obtained from the individual improvement project proponent or local jurisdiction and shall be approved by the local jurisdiction. In the event that such operations affect sensitive receptors, specific hours of construction shall be agreed upon between the individual improvement project proponent or local jurisdiction and the entities that are responsible and oversee sensitive receptors to minimize the noise and vibration impacts on sensitive receptors.
- ◆ Wherever possible, sonic or vibratory pile drivers shall be used instead of impact pile drivers, (sonic pile drivers are only effective in some soils). If sonic or vibratory pile drivers are not feasible, acoustical enclosures shall be provided as necessary to ensure that pile-driving noise does not exceed speech interference criterion at the closest sensitive receptor, and that the noise level at the property line of sensitive receptors shall not exceed 65 dBA and there is no significant vibration within the structures of the sensitive receptor.
- ◆ In residential areas, pile driving shall be limited to construction to between 6:00 a.m. and 8:00 p.m. on Monday through Friday and between 7:00 a.m. and 8:00 p.m. on weekends.
- ◆ Engine and pneumatic exhaust controls on pile drivers shall be required as necessary to ensure that exhaust noise from pile driver engines are minimized to the extent feasible.
- ◆ Where feasible, pile holes will be pre-drilled to reduce potential noise and vibration impacts.

Significance After Mitigation

It is anticipated that implementation of the Project could potentially result in significant noise impacts; therefore, this impact would be considered significant and unavoidable.

Impact 3.11.2

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.).

At the regional scale, the noise impacts of new highways, highway widening, new HOV lanes, new transit corridors, and increased frequency along existing transit corridors may exceed the significance criteria when they occur near sensitive receptors. Arterials, transportation demand management projects, operations and maintenance projects, grade crossings, ramp and interchange improvements, county-wide bus route expansions, and transit facility improvements are not specifically considered here because noise impacts already occur in the vicinity of these facilities, and determining increases in noise requires greater precision of information.

Mitigation Measures

- ◆ As part of the appropriate environmental review of each project, a project specific noise evaluation shall be conducted and appropriate mitigation identified and implemented.
- ◆ Project implementation agencies shall 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.
- ◆ Project implementation 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 new noise generating facilities.
- ◆ Project implementation agencies shall 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.
- ◆ Project implementation 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.
- ◆ The project implementation 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.
- ◆ Passenger stations, central maintenance facilities, decentralized maintenance facilities, and electric substations should be located away from sensitive receptors.

Significance After Mitigation

Although mitigation measures are implemented for the impact, it may not reduce noise levels to below regulatory levels in all circumstances. This impact would remain significant.

Cumulative Impact 3.11.3

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 (i.e., increased traffic resulting from new highways, addition of highway lanes, roadways, ramps, and new use of new transit facilities as well as increased use of existing transit facilities, etc.).

The projects included in the 2011 RTP could have a significant impact on noise in the region. As described under Impact 3.11.1, many of the projects involve construction which could 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.

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.

Mitigation Measures

Mitigation measures intended to reduce the noise impacts on sensitive receptors are part of the 2011 RTP. These include: site design, buffers, soundwalls, etc.

Further reduction in noise impacts would be obtained through the implementation of the measures described in 3.11.1 and 3.11.2.

Significance After Mitigation

Mitigation measures 3.11.1 and 3.11.2 may not reduce noise levels to below regulatory levels in all cases. Therefore, the impact would be significant.

3.12 POPULATION, HOUSING & EMPLOYMENT

This section provides information about population, housing, and employment in the Madera region. 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 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

Location of population, housing and employment follow land use regulations, see Section 3.10

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, south Madera, Chowchilla 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 Urban Area 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. The current set of MCTC population and employment projections are provided in Table 3-11. Employment projections are also shown. These projections reflect a consensus of local government agencies on anticipated development of the region over the next 20 to 25-year period. The projections are used for transportation and air quality planning purposes, particularly for the development of the RTP.

Leading Growth Areas

The projections indicate that population in the Madera region is expected to grow by more than 90,000 people, an increase of nearly 40 percent, between 2010 and 2035. Total population in the Madera region in 2035 is projected to be approximately 315,250.

TABLE 3-11
Population, Housing and Employment Estimates and Projections

Analysis Area	2010 Pop.	2010 Households	2010 Employ.	2020 Pop.	2020 Households	2020 Employ.	2035 Pop.	2035 Households	2035 Employ.
Rural Area	8,479	2,645	2,463	10,873	3,391	3,155	15,167	4,731	4,402
Mountain Area	57,337	17,884	13,218	73,521	22,932	16,947	102,555	31,989	23,640
Madera Ranchos Area	17,059	5,321	5,969	21,875	6,823	7,654	30,513	9,518	10,676
Chowchilla	15,117	4,715	4,593	19,384	6,047	5,889	27,039	8,434	8,215
Madera	77,139	24,061	26,583	98,914	30,853	34,086	137,975	43,037	47,548
Total	175,131	54,626	52,826	224,567	70,046	67,731	313,250	97,707	94,480

Source: Madera 2011 RTP

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.

Methodology

To identify and evaluate impacts associated with the Project, improvements were reviewed to identify the projects that might affect population or housing. The evaluation of impacts is based on general descriptions of projects contained in the Project and is regional in nature. The evaluation is not project-specific, and is intended to serve as a resource to jurisdictions and Caltrans for conducting site-specific environmental review for specific projects.

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 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.
- ◆ **Contributes to dispersion of population or employment growth.** Implementation of the Project would have a potentially significant impact if it would induce substantial growth in areas currently zoned for agriculture or open space at the expense of growth within areas zoned for growth.
- ◆ **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.

Impact 3.12.1 – Impacts on Regional Growth and Dispersion

The Project could potentially affect overall population, housing and employment growth and dispersion 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 developed to meet, among other goals, the long-term socioeconomic conditions of the region. One of the strategic issues is growth. Between the years, 2010 and 2035, residential population is expected to increase. The growth 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 inevitable. The Project provides for the anticipated transportation needs of projected growth. The Project is based on a projected population in the Madera region in 2035 of 313,250 people and associated employment. The MCTC projected population growth does not exceed the Department of Finance (DOF) regional forecast and is acceptable under State law.

It is not anticipated that the majority of changes to the transportation network included in the Project may significantly change population, employment and household rates of growth or distribution of growth. Transportation is just one factor that can affect growth. Other factors include the cost of housing, the location of jobs, the economy, and the climate. Factors that account for population growth include natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population, compared to 10 births per 1,000 population in West Virginia, the state with the lowest projected birth rate. 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. In the case of the Project, the Plan itself is considered to be, overall, a response to growth; however, individual 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 could 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 potentially 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. The lack of new or improved facilities in some areas could also result in increased growth in areas with existing transportation infrastructure, or growth that may not have been anticipated in the local general planning process. From this standpoint, the lack of new transportation facilities in the Project could also be considered growth inducing in some other localities.

Major regional capacity-enhancing projects, may have the potential to attract major new growth, and could be seen as potentially growth inducing at the regional level. If these projects open up new areas for urban development, particularly through the development of interchanges and new road connections that are in addition to those proposed by the Project, then the dispersion of population, housing and employment growth in the region can differ from that predicted in the regional growth assumptions.

The Project could also potentially displace or relocate residences and businesses through acquisition of land and buildings necessary for highway, arterial, and transit improvement. This could be considered a potentially significant impact.

The proposed transportation improvements in the Project 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. In other cases, certain transportation improvements 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 are addressed in the design and development of mitigation programs.

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, and arterial improvements have the potential to impact residential units and businesses. Depending on the alignments selected, they have the potential to traverse through residential or commercial areas and construction of these projects may require acquisition of new rights-of-way. 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 individual improvement project proponent or local jurisdiction shall identify and evaluate the impacts on population and job displacement as part of the appropriate improvement project-specific environmental review and shall identify mitigation measures to reduce the impacts to a level of less than significant. The project implementing agency or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the policies, requirements, rules and regulations that may be applicable to the project and the mitigation of impacts following construction of the project in terms of the ability of local agencies to address growth, development, population and housing, and displacement of housing and jobs affected by the development affects of the project.
- ◆ Following construction of the project, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county land use plans, policies, requirements, rules and regulations, and all plans, policies, requirements, rules and requirements of the agencies, districts, and

entities that are responsible and oversee sensitive receptors applicable to the to the project and the mitigation of impacts of the project in terms of the ability of local agencies to address growth, development, population and housing, and displacement of housing and jobs affected by the development affects of the project.

- ◆ For projects with the potential to displace homes or businesses, the individual improvement project proponent or local jurisdiction shall evaluate alternate route alignments and transportation facilities that minimize the displacement of homes and businesses. Potential impacts shall be minimized to the extent feasible. If possible, existing rights-of-way shall be used.
- ◆ The individual improvement project proponent or local jurisdiction shall identify businesses and residences to be displaced. As required by law, relocation and assistance shall be identified and provided to displaced residents and businesses, in accordance with the federal Uniform Relocation and Real Property Acquisition Policies Act of 1970, the State of California Relocation Assistance Act, and any other applicable federal state city and County policies, rules, regulations, requirements and laws.
- ◆ The individual improvement project proponent or local jurisdiction shall develop a construction schedule that minimizes potential neighborhood deterioration from protracted waiting periods between right-of-way acquisition and construction.

Significance After Mitigation

The impact could remain significant and unavoidable after mitigation due to the potentially large number of displacements that could occur with construction of all of the proposed improvement projects.

Impact 3.12.2 – Disrupt or Divide Communities

Projects have 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. In addition, the project that divides a community may also separate public facilities, including schools from the service area that they serve, causing disruption and requiring school districts to adjust attendance areas. Due to the dividing of a community by a project, unsafe and hazardous access/egress pedestrian, bicycle, school transportation and private vehicle routes any be created

Mitigation Measures

The individual improvement project proponent or local jurisdiction shall identify and evaluate the impacts associated with the disruption and division of a neighborhood or community as a part of the appropriate improvement project-specific environmental review and shall identify mitigation measures to reduce the impacts to a level of less than significant. The project implementing agency or local jurisdiction shall be responsible for ensuring adherence to the

mitigation measures. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies, and all agencies, districts, and entities that are responsible and oversee sensitive receptors to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the project and the mitigation of impacts following construction of the project in terms of the impacts of projects associated with the disruption and division of neighborhoods and communities and the ability of local agencies to provide public services and facilities required after the disruption and divisions of the neighborhood or community.
- ◆ Following construction of the project, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county plans, policies, requirements, rules and regulations, and all plans, policies, requirements, rules and requirements of the agencies, districts, and entities that are responsible and oversee sensitive receptors applicable to the project and the mitigation of impacts of the project in terms of the impacts of projects associated with the disruption and division of neighborhoods and communities and the ability of local agencies to provide public services and facilities required after the disruption and divisions of the neighborhood or community.
- ◆ The individual improvement project proponent or local jurisdiction shall design new transportation facilities to protect access/egress to and from existing community public facilities. During the design phase of the individual improvement project, community amenities and public facilities shall be identified and access/egress to and from them shall be considered in the design of the individual improvement project.
- ◆ The individual improvement project proponent or local jurisdiction shall design roadway improvements, in a manner that minimizes barriers to pedestrians and bicyclists. During the design phase, pedestrian and bicycle routes shall be determined that permit easy connections to community public facilities nearby in order not to divide the communities.
- ◆ The individual improvement project proponent or local jurisdiction shall evaluate school pedestrian, bicycle, school district transportation, and private passenger transportation routes to school facilities and identify mitigation measures to provide for the safe, hazard free, and efficient routes to minimize the disruption to neighborhood and community schools.

Significance After Mitigation

The Project proposes programs and improvement projects in the majority of urbanized areas within the region, and as such, the potential to disrupt or divide communities remains a significant unavoidable impact even with mitigation measures.

Cumulative Impact 3.12.3

Growth and development in the County will increase substantially by 2035. The 2011 RTP, by increasing mobility and including transportation measures, could potentially influence the pattern of this development. The 2011 RTP's influence on growth could contribute to regional cumulatively considerable impacts to population, housing and employment and could change the intensity of land use in some areas.

Mitigation Measures

The mitigation measures listed above for Impacts 3.12.1 and 3.12.2 would be applied as mitigation for this impact. In addition, the following measure would apply.

- ◆ 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 2035, the region will may need to change land uses and increase the intensity of some existing land use. The cumulative impact would remain significant.

3.13 PUBLIC UTILITIES, OTHER UTILITIES & SERVICES SYSTEMS

Even though they often share right-of-way or are built and maintained in easements adjacent to transportation facilities, public utilities in the region are operated and maintained by various agencies separately from the transportation system. Identified in this section are the public utilities, other utilities and services systems that come into contact with, on a regular basis, agencies responsible for transportation system construction and maintenance.

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 mostly in the older and larger cities within the County. 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 and emergency services are provided by the County Fire Department to the unincorporated areas of the County as well as those municipalities that contract with the County for fire protection. As is the case with police services, it is more common to find City Fire Departments among older and/or larger municipalities. Various fire districts and/or the U.S. Forest Service and the State Department of Forestry also provide fire suppression services to urban areas, as well as in rural areas of the County and/or in federal and State Park preserve and recreation areas.

Emergency Services

A number of agencies throughout the County provide emergency medical services. Various fire districts have the responsibility of fire suppression, which also often employ paramedics for emergency medical services. For the most part, private companies are contracted for ambulance services.

Gas and Electric

Pacific Gas and Electric (PG&E) operates in Madera County.

Telephone

Local phone service is provided primarily by Southern Bell Companies (SBC), although a number of independent telephone companies also operate within the County. Long distance telephone service is provided by several carriers, including AT&T, MCI, and Sprint among others. Throughout much of the County, cellular telephone service is provided by Cingular, Nextel, Sprint PCS, T-Mobile, Verizon Wireless and others.

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.

Water Supply and Demand

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 Agencies and Regulations**

40 CFR, Part 258 Subtitle D of the Resource Conservation and Recovery Act (RCRA) establishes minimum location standards for siting municipal solid waste landfills. Because California laws and regulations governing the approval of solid waste landfills meet the requirements of Subtitle D, the U.S. Environmental Protection Agency has delegated the enforcement responsibility to the State of California. California laws and regulations governing these facilities are summarized below.

◆ **California Integrated Waste Management Act**

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. 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. Senate Bill 2202 mandates that jurisdictions continue 50 percent diversion on and after January 1, 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.

◆ **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 above 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 is 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.

◆ **Household Hazardous Waste Element (HHWE)**

Each city and county is 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 is 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).

◆ **Federal Safe Drinking Water Act**

Enacted in 1974 and implemented by the EPA, the Federal Safe Drinking Water Act imposes water quality and infrastructure standards for potable water delivery systems nationwide. The primary standards are health-based thresholds established for numerous toxic substances. Secondary standards are recommended thresholds for taste and mineral content.

◆ **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.

◆ **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.

Solid Waste

Regulatory Setting

◆ **Clean Water Act (CWA)**

Enacted in 1972, The Clean Air Act is federal legislation to completely revise the pre-existing Water Pollution Control Act. 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 Pollution 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.

◆ **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.

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 projects.

Potential Environmental Impacts and Recommended Mitigation Measures

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. Significance criteria were developed based on State CEQA guidelines. Public services and utilities would experience significant adverse impacts if improvement projects would:

- ◆ Substantially diminish established regional levels of fire and police protection services.
- ◆ Create a substantial need within the region for additional fire and police stations, department personnel and/or equipment.

- ◆ Result in a major regional reduction or interruption of utility service to consumers.
- ◆ Generate a substantial amount of wastewater that exceeds the capacity of the region's available infrastructure to handle and dispose of the wastewater.
- ◆ Generate a substantial amount of solid waste that exceeds the capacity of the region's available landfill to handle and dispose of the waste.
- ◆ Generate a substantial increase in the amount of potable water demand that exceeds the region's available infrastructure capacity to provide water service.

Impact 3.13.1 – Construction Impacts on Utilities and Service Systems

Construction and implementation of improvement projects could affect the level of police, fire and medical services in the County. With mitigation, this may be a less than significant impact.

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, several of the proposed improvement projects, including arterials, interchanges, and auxiliary lanes could delay emergency response times or otherwise disrupt delivery of emergency services. Emergency routes could be impaired if one or more lanes of a roadway in Madera County were closed off for construction. Traffic delays and prevention of access to calls for service could potentially be caused by the closure of these lanes.

In addition, school districts provide student transportation to and from residential land uses and school facilities based on established bus routes and schedules. Depending upon the timing, location, and duration of construction activities, proposed improvement projects, including but not limited to arterials, interchanges, and auxiliary lanes could delay school district bus routes and schedules or otherwise disrupt delivery of school bus transportation services. School district routes could be impaired if one or more lanes of a roadway in Madera County were closed off for construction. Traffic delays and school district schedules could potentially be caused by the closure of these lanes. In addition, employees and students of school district schools could be delayed due to disruption of traffic patterns thereby impacting the provisions of educational service.

While these impacts may be short-term in nature, they could be potentially significant. The individual improvement project proponent or local jurisdiction shall be responsible for completing an analysis and study to determine the project-specific impact to emergency services and school district transportation routes and access to schools, as part of project-specific environmental review. Adherence to road encroachment permits by the individual improvement project proponent or local jurisdiction could reduce individual improvement project construction-related impacts to emergency vehicle access and response times, and school district transportation routes and access to schools. As part of the construction mitigation strategy, the individual improvement project proponent or local jurisdiction shall prepare a traffic control plan to further reduce impacts on traffic, emergency response vehicles, and school district transportation routes and access to schools. Additionally, there may be a potential need for increased police, fire, and medical services at the construction sites of projects for safety purposes, and police traffic enforcement and control. The impact of the construction sites themselves on police, fire, and emergency medical services, and school district transportation routes and access to schools is anticipated to be short-term in nature and less than significant.

The Project includes several types of improvement projects that, upon completion, could 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 could involve the construction of transit stations. Upon completion, these transit stations could 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, could involve an increased need for police, fire, and emergency medical services for protection and rescue services.

Rail projects, other than transit stations, 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, could require minimal amounts of additional police, fire, and emergency medical services. If restrooms or drinking fountains are incorporated into non-motorized transportation projects, these uses could 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 will not generate a substantial need for additional police, fire, and emergency medical services, except potentially in cases where new facilities are constructed. Local jurisdictions are expected to be equipped to handle any increased demands for fire and medical services generated by facilities, like transit stations. 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 Population and Housing section of this EIR, population in the County will increase over the next 25 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, several of the transportation projects in the less developed areas of the region could experience a corresponding increase in demand because of the Project. 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 will be reduced to a level of insignificance.

Mitigation Measures

As part of project-specific environmental review, the individual improvement project proponent or local jurisdiction shall be responsible for completing a police, fire, and medical services analysis and study to determine the project-specific impacts on police, fire and emergency services in the County and provide the mitigation measures that shall reduce the impacts to a level of less than significant. The project implementing agency or local jurisdiction will be responsible for ensuring adherence to the mitigation measures prior to and during constructions. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with traffic delays and rerouting during construction.
- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, and rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with traffic delays and rerouting during construction.
- ◆ Prior to construction, the individual improvement project proponent or local jurisdiction shall ensure that all necessary local and state road and railroad encroachment permits are obtained. The individual improvement

project proponent or local jurisdiction also shall comply with all applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits shall require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Traffic control plans shall include the following requirements:

- Identify all roadway locations where special construction techniques (e.g., directional drilling or night construction) will 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.
 - Install traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.
 - Develop and implement access and routing plans for highly sensitive land uses such as police and fire stations, and hospitals. Access plans shall be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions shall be asked to identify detours for emergency vehicles, which will then be posted by the contractor. The facility owner or operator shall 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.
- ◆ Projects requiring police protection, fire service, and emergency medical service shall coordinate with the local fire department and police department to ensure that the existing public services and utilities will be able to handle the increase in demand for their services. If the current levels of service at the individual improvement project 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.
 - ◆ The growth inducing potential of individual projects will be carefully evaluated so that the full implications of the Project are understood. Individual environmental documents shall quantify indirect impacts (growth that could be facilitated or induced) on public services and utilities.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Impact 3.13.2 – Increased Demand for Solid Waste, Wastewater, and Potable Water

Demand for solid waste, wastewater, and potable water services in the County could be affected by construction and implementation of the projects. This would be a less than significant impact with mitigation.

Several of the 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 Project 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 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 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 or stops in many cases. Incremental amounts of potable water would be generated at 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

As part of project-specific environmental review, project implementation agencies will evaluate the impacts on demand for solid waste, wastewater, and potable water services in the County. Appropriate mitigation measures should be identified for all impacts. The project implementation agencies or local jurisdiction will be responsible for ensuring adherence to the mitigation measures. MCTC will be provided with documentation indicating compliance to mitigation measures.

- ◆ Projects requiring wastewater service, solid waste collection, or potable water service will coordinate with the local public works department to ensure that the existing public services and utilities would be able to handle the increase. If the current infrastructure servicing the individual improvement project site is found to be inadequate, infrastructure improvements for the appropriate public service utility will be identified in each individual improvement project's CEQA documentation.
- ◆ Reclaimed water will be used for landscaping purposes instead of potable water wherever feasible.
- ◆ Each of the proposed projects will comply with applicable regulations related to solid waste disposal.

- ◆ The construction contractor will work with the County Recycling Coordinator to ensure that source reduction techniques and recycling measures are incorporated into individual improvement project construction.
- ◆ 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

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Impact 3.13.3 – Construction Materials Impacts

The transportation of construction materials to and from the sites during individual improvement project construction could cause accumulation of soil on roadways surrounding the construction sites. This will be a less than significant impact with mitigation.

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 in a particular area, increased soil on local streets could increase the demand for street cleaning. The incorporation of the following mitigation measure will reduce this impact to a level less than significant.

Mitigation Measures

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with soil accumulation.
- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations, to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with soil accumulation.
- ◆ As part of project-specific environmental review, the individual improvement project proponent or local jurisdiction shall evaluate the impacts resulting from soil accumulation during construction of the projects within the areas of construction and in areas outside of construction zones and mitigation measures shall be identified to reduce the impacts to a level of less than significant. The individual improvement project proponent or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures during construction.
- ◆ Implement appropriate measures, including washing of construction vehicles undercarriages before leaving the construction site or increasing the use of street cleaning machines, as well as other activities as appropriate, to reduce the amount of soil on local roadways as a result of construction.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Impact 3.13.4 – Impacts on Underground Utilities

It is possible that underground utility lines (sewer, gas, electricity, telephone and water) could be uncovered and potentially severed because of construction of projects. This would be considered a less than significant impact with mitigation.

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 project implementation agency would be required to incorporate the locations of existing utility lines into the construction schedule. Prior knowledge and avoidance of existing utility lines during construction would reduce this impact to a level less than significant.

Mitigation Measures

- ◆ As part of project-specific environmental review, project implementation agencies will evaluate the impacts resulting from the potential for severing underground utility lines during construction of the projects. Appropriate mitigation measures will be identified for all impacts. The project implementation agencies or local jurisdiction will be responsible for ensuring adherence to mitigation measures. MCTC will be provided with documentation indicating compliance with mitigation measures.
- ◆ 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

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

Cumulative Impact 3.13.5

Growth and development in the County will increase substantially by 2035. The 2011 RTP, by increasing mobility and including transportation measures, could potentially influence the pattern of this development. The 2011 RTP's influence on growth could contribute to regionally cumulative 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 services, and additional solid waste services. Such needs will be determined on a project-level basis by individual service providers.

Mitigation Measures

- ◆ The growth inducing potential of individual projects shall be carefully evaluated so that the full implications of the projects are understood. Individual environmental documents shall quantify indirect impacts (growth that could be facilitated or induced) on public services and utilities to the extent feasible.
- ◆ The California Integrated Waste Management Board shall continue to enforce solid waste diversion mandates that are enacted by the Legislature.
- ◆ Local jurisdictions shall continue to adopt programs to comply with state solid waste diversion rate mandates and, where possible, shall encourage further recycling to exceed these rates.
- ◆ 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.
- ◆ Project implementation agencies shall coordinate regional approaches and strategic siting of waste management facilities.
- ◆ Project implementation agencies shall 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.
- ◆ Project implementation agencies shall 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

The cumulative impacts of providing additional public services would remain significant.

3.14 TRANSPORTATION/TRAFFIC

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 mass transportation services and 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.

Regulatory

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.

◆ Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

In 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was signed into law. The Act provides guaranteed funding for highways, highway safety, and public transportation totaling \$244.1 billion, representing the largest surface transportation investment ever. The Act follows two bills that highlighted surface transportation funding needs—the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21), which shaped the highway program to meet changing transportation needs throughout the Nation. SAFETEA-LU addresses challenges such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment. SAFETEA-LU also gives State and local transportation agencies more flexibility to solve transportation problems.

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).

Environmental Setting

The existing conditions section for the transportation and circulation systems within Madera County have been broken down into six subsections, and are described in greater detail below.

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 systems 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 EIR. These planned projects are considered to be "financially constrained"; therefore, the likelihood for implementation over the next twenty-five (25) years 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.

A number of on-going studies will affect the regionally system as it evolves over the next twenty-five (25) years. For example, the Fresno-Madera Transportation Study will identify various transportation alternatives for improved access between the Counties. The study is focused on transportation needs considering planned land use and probable growth issues.

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 County'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. One approach currently being taken involves enhancement of park and ride facilities and transit. Moreover, procurement of existing right-of-way along major transportation corridors could be used to accommodate multimodal travel.

Madera County commuters are becoming more aware of the regions' growing population and related impacts on transportation and the environment. This increased awareness is facilitating a change in ridership patterns.

In addition to these concerns, expanded improvements to the daily AMTRAK service are currently being explored in Madera County. The various improvements include an increased number of daily trains to the County, acquisition of significant funding for station facilities, enhancing freight service, and providing for accessible stations from existing transportation networks.

Achievement of some 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 most advanced cities. In these areas, land use densities and developed systems of 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 these areas, one can walk to the subway line, travel on the subway, resurface to a waiting bus, travel to a commuter train or airport terminal complete with shuttle, and so on.

This trip has been likened to the multi-modalism of our mail system. In the Central Valley, where cities have received much of their growth since the invention of the automobile, residential densities tend to be comparatively low, with streets and land uses designed to facilitate the use and storage of the personal automobile. During the hot summer days when upper temperatures can remain around the 100-degree mark, the attractiveness of the air-conditioned car is strong. It will require even stronger commitment to the goals of air quality and the quality of life in this County to make the changes needed to implement the “seamless” multimodal system. It involves people making conscious choices to use alternative transportation modes, and the provision of those alternate systems in a manner, which encourages their use. To succeed, those efforts would have to focus on long-term changes:

- ◆ Increasing land use intensity and residential densities, particularly along corridors used for transit or planned for future light rail 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
- ◆ Expanding transit systems and the frequency of services.
- ◆ Developing connecting bikeway systems and facilitating and encouraging their use.
- ◆ Improving connectivity between 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.

Highways, Streets and Roads

◆ Regionally Significant Road System

Regional access to Madera County is provided by six state highways; SR 41, 49, 99, 145 and 233, with SR 41 and SR 99 being the main source of north-south travel. Madera County’s Street network generally consists of a series of freeways, expressways, arterials and collectors. The City of Chowchilla is located in north central Madera County along the west side of the SR 99 and straddles SR 233 connecting to SR 152 south of the City.

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.

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.

◆ **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 3-11A defines the functional classes in urban areas and Table 3-10B defines functional classes in rural areas.

TABLE 3-11A
Urban Functional Classification System-Definitions

Classification	Primary Function	Direct Land Access	Speed Limit	Parking
Fwy/Exprwy	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 3-11B
Rural Functional Classification System-Definitions

Classification	Primary Function	Direct Land Access*	Speed Limit**	Parking***
Fwy/Exprwy	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.

◆ Level of Service (LOS) Analysis

Level of Service (LOS) Standards are used by the MCTC to quantitatively assess the Regionally Significant System's performance. To determine the type and number of transportation projects that may be necessary to accommodate Madera County's expected growth, the level of service (LOS) was assessed along the existing Regionally Significant Roads System.

According to the 2005 Highway Capacity Manual (HCM), LOS is categorized by two parameters of traffic, uninterrupted and interrupted flow. Uninterrupted flow facilities do not have fixed elements such as traffic signals that cause interruptions in traffic flow. Interrupted flow facilities have fixed elements that cause an interruption in the flow of traffic such as stop signs, signalized intersections, and arterial roads⁴. Table 3-12 provides a definition of segment LOS.

TABLE 3-12
Segment Level of Service Definitions (2005 Highway Capacity Manual)

Level of Service	Definition
A	Represents free flow. Individual vehicles are virtually unaffected by the presence of others in the traffic stream.
B	Is in the range of stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
C	Is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual vehicles becomes significantly affected by interactions with other vehicles in the traffic stream.
D	Is a crowded segment of roadway with a large number of vehicles restricting mobility and a stable flow? Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
E	Represents operating conditions at or near the level capacity. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.
F	Is used to define forced or breakdown flow (stop-and-go gridlock). This condition exists when the amount of traffic approaches a point that exceeds the amount that can travel to a destination. Operations within the queues are characterized by stop and go waves, and they are extremely unstable.

The goal is to maintain acceptable levels of service along the highways, streets, and roads network. For purposes of this environmental analysis, a minimum LOS of "D" is assumed along the Regionally Significant Roads System consistent with most local General Plan Circulation Elements. Existing levels of service are provided in Chapter 4 of the 2011 RTP.

⁴ Transportation Research Board, 1997

Mass Transportation Existing Conditions

Existing mass transportation 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, and others.

Transit services include inter-city, fixed-route and demand-responsive operations. Three demand response transit systems and one fixed route system are maintained in Madera County. The City of Madera operates the fixed route along with Madera Dial-A-Ride, which serves the general Madera urbanized area and is jointly funded by the City of Madera and the County using local transportation funds. Chowchilla provides service within its urbanized area. The Madera County Action Committee provides county funded service in the Oakhurst and eastern Madera County area.

Common carriers within Madera County include AMTRAK, Greyhound, Transportes Intercalifornias, California Yosemite Tours, and Orange Belt Stage Lines.

Aviation

The City of Madera owns and operates the Madera County Municipal Airport, which provides aviation services to approximately 120 fixed-base operators. The City of Chowchilla operates the Chowchilla Municipal Airport with 34 fixed-base operators. The Fresno Air Terminal (FAT) in Fresno County is the primary passenger airport facility in the region.

Non-Motorized Existing Conditions

The cities and Madera County continue to be involved in implementing bicycle lanes. Local planning efforts also include equestrian and hiking trail systems and pedestrian facilities. Pedestrian facilities are essentially site-specific and local, and hold particular importance in community design and redesign in working toward a more livable environment. Equestrian facilities are essentially recreational in nature. Neither pedestrian nor equestrian facilities are regional in function and, following the direction of the District 6 System Management Plan, the 2011 RTP does not consider them as alternative transportation modes at the regional level. Nevertheless, the RTP recognizes the value of equestrian and hiking trail systems for recreational purposes, as enhancements to the multimodal transportation system, and for their contribution to an improved quality of life in Madera County and, therefore, supports their continued development.

For many, the use of bicycles as a means of transportation has several appealing aspects. Bicycling has positive air quality, energy, economic and health impacts and can reduce automobile congestion. From an air quality perspective, every bicycle trip which substitutes for auto travel, results in cleaner air. Bicycles do not consume scarce fuel, maintenance is low, and bicycling can be used for commuting as well as for recreational purposes while it promotes physical exercise.

The bicycle's door-to-door capability for shorter trips makes it an attractive alternative mode of transportation in the Madera region when the climate is mild, because the flat terrain is ideal for riding. Implementation of a bikeway system will provide connectivity between cities and access to destinations of regional interest, as well as commuter lanes in the Madera Metropolitan Area and in many smaller cities within the county.

Goals for the development of bicycle transportation in Madera County are as follows:

- ◆ Planning - The recognition and integration of the bicycle as a valid transportation mode in transportation planning activities.
- ◆ Physical Facilities - Safe, convenient, and continuous routes for bicyclists of all types that interface with and complement a multimodal transportation system.
- ◆ Safety and Education - Improved bicycle safety through education and enforcement.
- ◆ Encouragement - Increased acceptance of bicycling both as a legitimate transportation mode on public roads and highways and as a transportation mode that is a viable alternative to the automobile.
- ◆ Implementation - Increased development of the regional bikeways system and related facilities by maximizing funding opportunities.

The planned bikeways regional system is shown in the 2011 RTP. The plan calls for community routes and routes that link communities and provide access to activity centers, including major commercial and employment centers, major recreational sites, and schools. All of the cities in the County and the County itself have planned bikeway facilities, although limited available funding has had an impact on their construction. Nevertheless, local agencies continue to add to the inventory of completed bikeways on an ongoing basis, particularly in conjunction with new development.

Railroad and Goods Movement

The San Joaquin AMTRAK route provides passenger rail service to Oakland and Bakersfield seven (7) times a day. AMTRAK also provides bus service from various rail stations along the San Joaquin route to cities that are not accessible by rail, such as Los Angeles, Sacramento, San Francisco, and San Jose. The largest ridership along the San Joaquin route is in Fresno.

The City of Madera opened its Intermodal Station in November 1994. This facility provides space for the Dial-A-Ride operation, the Madera fixed route system, and Greyhound intercity services.

AMTRAK services are provided on the Burlington Northern & Santa Fe tracks located east of Madera. The San Joaquin AMTRAK route provides passenger rail service to Oakland and Bakersfield four times a day. AMTRAK also provides bus service from various rail stations along the San Joaquin route to cities that are not accessible by rail, such as Los Angeles, Sacramento, San Francisco and San Jose. Planning is underway to look at alternative sites to relocate the AMTRAK station in order to provide a more secure and accessible location.

Specific transportation program highlights and implementing guidelines are described in the 2011 RTP.

Environmental Impacts, Mitigation Measures, and Significance After Mitigation

Criteria for Significance

The CEQA Guidelines establish that a significant impact would be expected to occur if the project would:

- ◆ Increase traffic, which is substantial in relation to the existing traffic load and capacity of the street system.
- ◆ Exceed a level of service standard established.
- ◆ Change air traffic patterns.
- ◆ Increase hazards due to a design feature or incompatible uses.
- ◆ Result in inadequate emergency access.
- ◆ Conflict with adopted policies, plans or programs supporting alternative transportation.

Impact 3.14.1 – Level of Service Deficiencies

To determine the Year 2035 LOS for each segment along the Regionally Significant Roads System, segment LOS was estimated using the capacities resulting from the Regional Traffic Model. The Traffic Model considers the capacity of individual segments based on numerous roadway variables (freeway design speed, signalized intersections per mile, number of lanes, saturation flow, etc.). These variables were identified and applied in the Tables to reflect existing traffic LOS conditions in Madera County. Socioeconomic data incorporated into the traffic modeling is based upon the applicable general plans of the local jurisdictions.

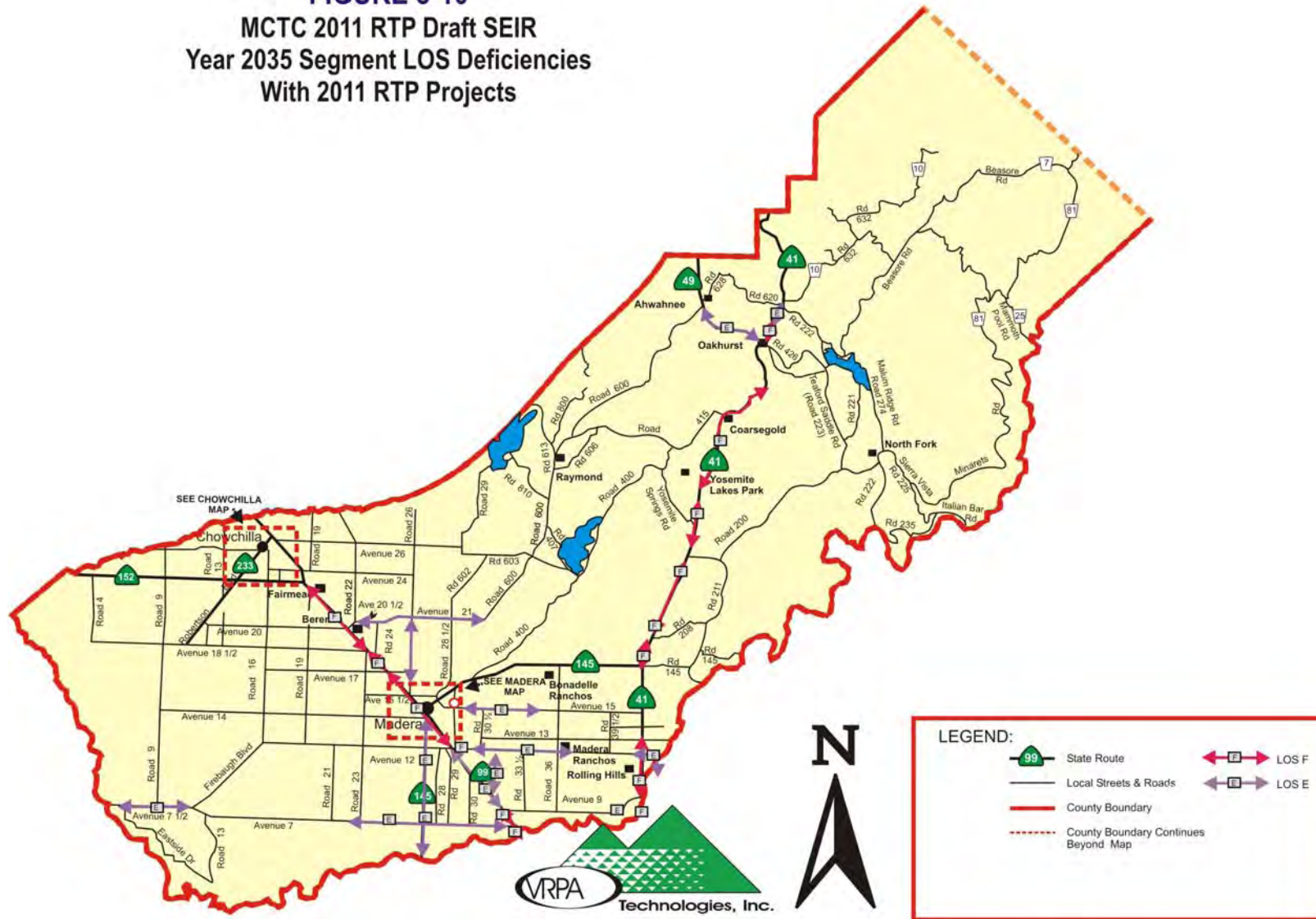
Results of the 2035 LOS segment analysis with the Project along the RTP Regionally Significant Roads System are reflected in Figures 3-10 (City of Madera Urban Area) and Figure 3-11 (Madera County). Traffic model runs were provided by MCTC. Referencing the Figures, results of the LOS analysis with the Project indicate that even with the improvement projects identified in the RTP, LOS deficiencies will still occur by 2035. Considering a No Build condition (the same growth through to the Year 2035 but no additional improvement projects beyond the existing system of streets and highways other than those projects that are currently programmed in the TIP), the LOS deficiencies will be even more considerable by the Year 2035 (reference Figures 12 and 13).

The resultant list of deficient facilities along the Regionally Significant Roads System with and without the Project indicates that when the Project improvements are made to the regionally significant street and highway system, LOS conditions within the Madera Metropolitan Area and within the County will significantly improve.

Congestion decreases and transit use increases significantly with the Project compared to the No Build Alternative. In addition, employment choices are increased for both automobile and transit users. Because one of the stated objectives of the Project is to reduce congestion and improve mobility, this is considered a significant beneficial impact.

While the Project will improve deficient levels of service compared to the No Build or No Project (2007 RTP and Conformity Finding) Alternatives, the Project will not address all deficient levels of service anticipated in the future.

FIGURE 3-10
MCTC 2011 RTP Draft SEIR
Year 2035 Segment LOS Deficiencies
With 2011 RTP Projects



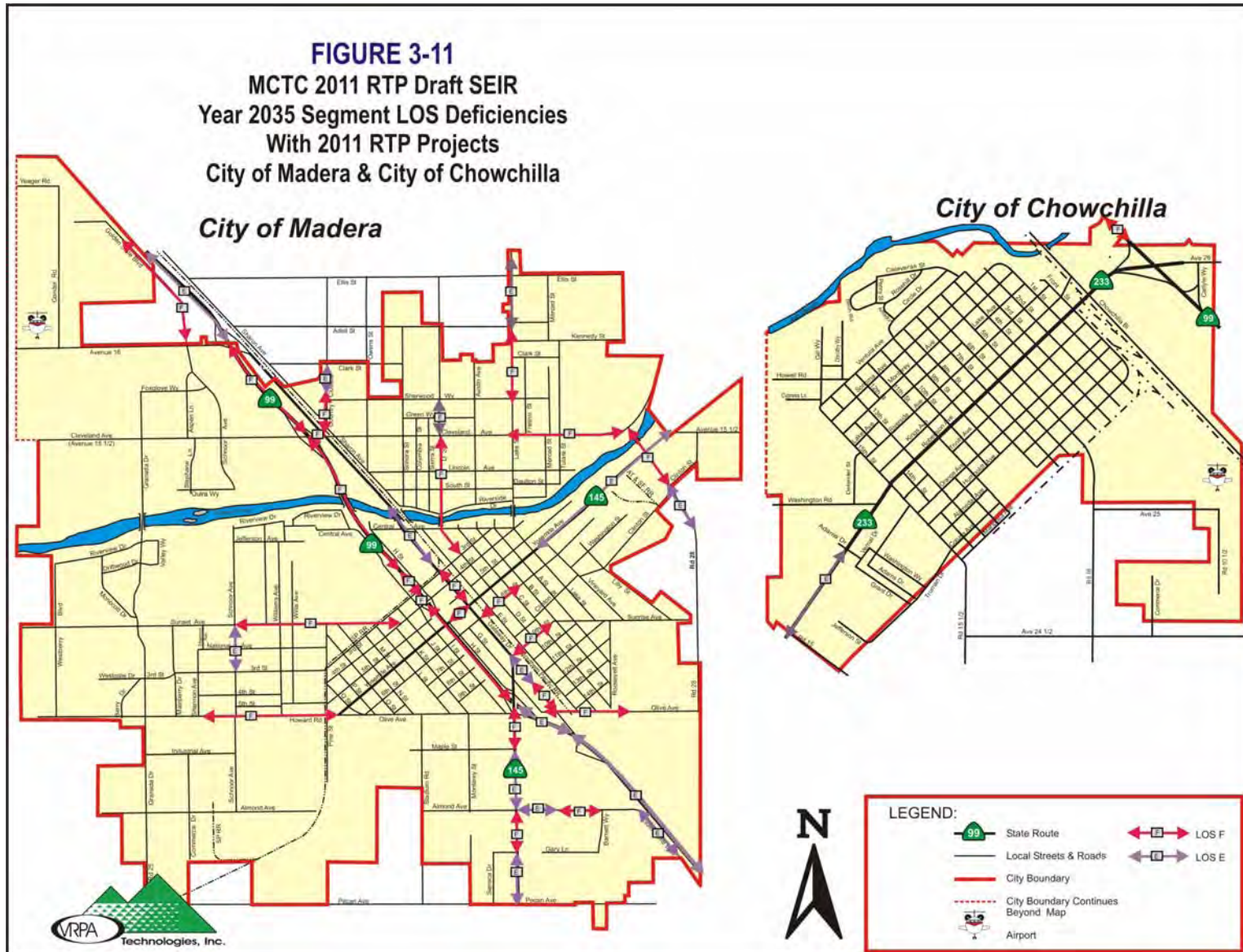


FIGURE 3-12
MCTC 2011 RTP Draft SEIR
Year 2035 Segment LOS Deficiencies
Without 2011 RTP Projects
(No Build)

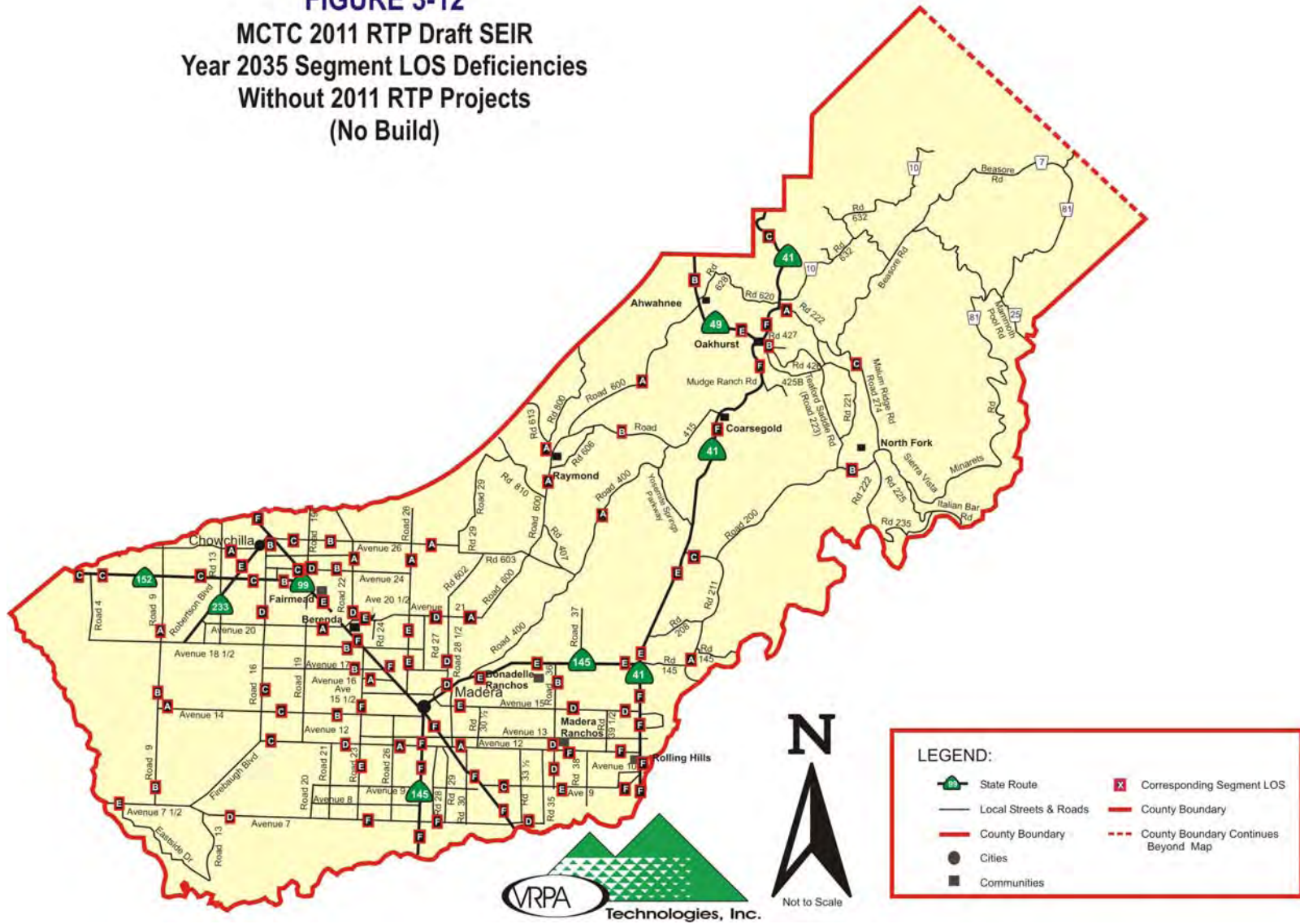
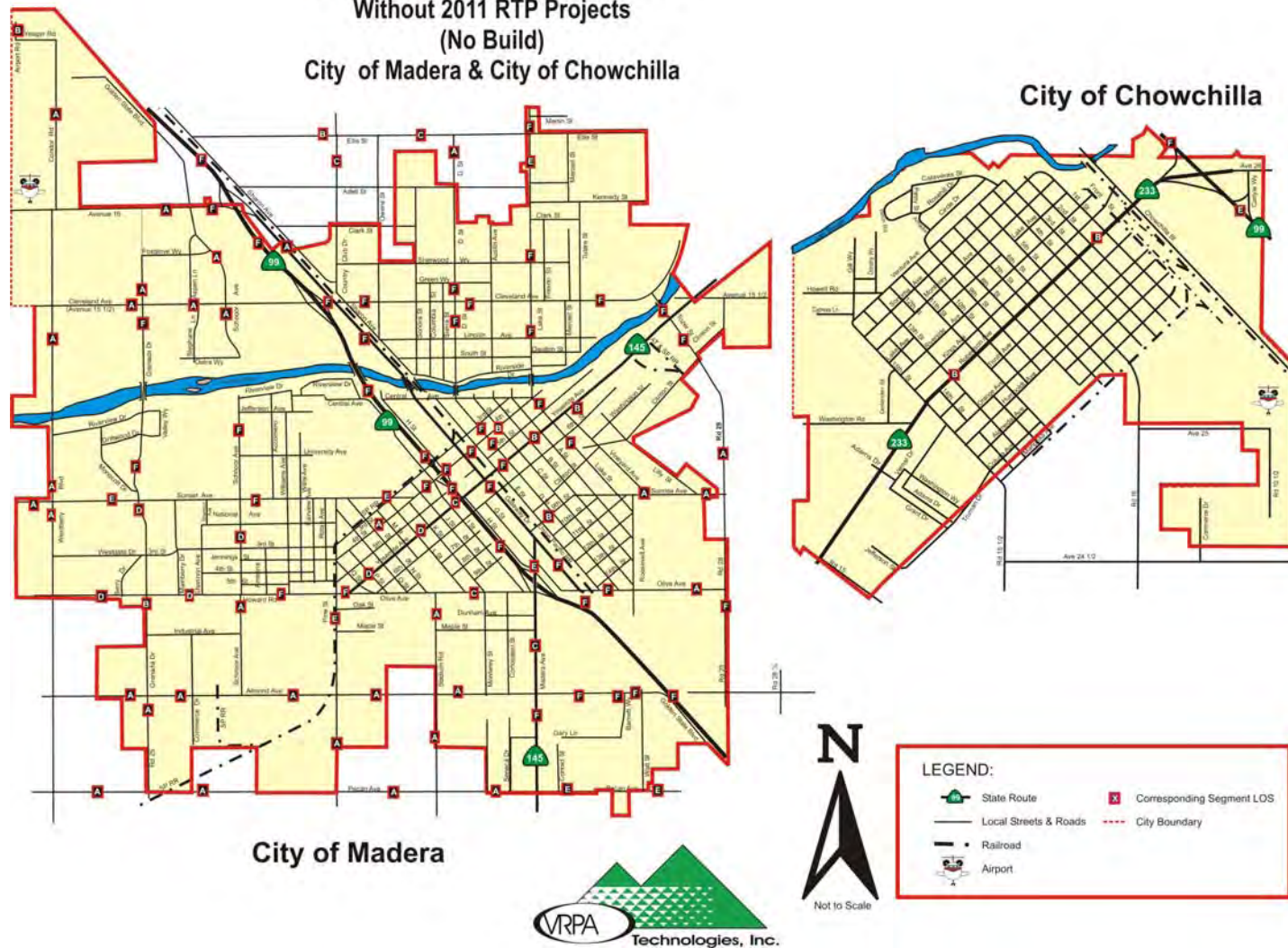


FIGURE 3-13
 MCTC 2011 RTP Draft SEIR
 Year 2035 Segment LOS Deficiencies
 Without 2011 RTP Projects
 (No Build)
 City of Madera & City of Chowchilla



Mitigation Measures

Implementation of street and highway improvement projects and programs generally will serve to improve traffic flows and reduce congestion and delay within Madera County. However, street and highway needs are constrained by limited funding sources that are necessary to implement additional projects along the regional transportation system. As indicated above, LOS deficiencies are projected to occur, even considering the wide range of financially constrained street and highway improvements identified in the 2011 RTP.

To address these and other transportation/circulation related impacts, the following mitigation measures are recommended:

- ◆ A number of local street and road and State Route segments along the regional street and highway system will experience deficient LOS conditions by 2035. Mitigation measures for these segments have not been identified or programmed in the 2011 RTP. Intersection improvements and lane additions would improve deficient levels of service to acceptable levels consistent with minimum LOS policies identified in the 2011 RTP; however, funding to address the improvements is not available or the costs to mitigate the deficiencies are prohibitive. MCTC shall coordinate efforts to identify appropriate strategies that would improve deficient levels of service along the affected streets and highways. MCTC shall continue to work with local agencies and Caltrans, District 06 to identify alternative improvements, associated cost estimates, and an implementation plan and schedule and during update of local general plans and other planning efforts. Various funding sources shall be analyzed as part of implementation plans and findings shall be incorporated into future RTPs.
- ◆ Local agencies should be encouraged to update general, area, community and specific plans to reflect the current status of future street and highway improvements. The timing of improvements should also be regularly updated. These measures will help MCTC identify appropriate and available funding for planned street and highway improvements along the regional street and road system during development of future RTPs.

Significance After Mitigation

While improved mobility will result from implementation of the projects contained in the 2011RTP, some significant unavoidable impacts, considering the regional minimum LOS policy of "D" will occur. LOS deficiencies will result along a number of regional street and highway segments and associated intersections because of the inability to widen such facilities due to funding and other constraints even with RTP projects. It is anticipated that even with implementation of the Project significant LOS deficiencies will continue therefore; this impact would be considered significant and unavoidable.

Impact 3.14.2

The proposed Project includes a series of individual improvement projects and programs (street and highway, transit, bicycle and trail, pedestrian and other projects) to help improve the multi-modal transportation system. Implementation of these projects and programs will improve transportation system performance. In addition, the Project includes numerous individual transportation projects and programs all aimed at implementing the RTP goals. The overall impact of the Project on regional transportation therefore is considered a beneficial impact.

The overarching goal for the Project is to develop a fully integrated, multi-modal transportation system to serve as a catalyst to enhance the quality of life enjoyed by the current and future residents of Madera County. From a transportation and circulation perspective, the implementation of the Project is not anticipated to result in any

perceived negative effect on transportation system performance, but will have the effect of improving transportation system performance regionally.

Mitigation Measures

This impact is considered beneficial; mitigation measures are not required.

Significance After Mitigation

Less than significant.

Impact 3.14.3 – Road Construction

Construction of projects may result in temporary lane closures (for varying durations at different locations) along project corridors. Some construction activities may require alternate one-way traffic flow on two-lane roads to be managed by flaggers. As a result, travel delays by the motoring public, school buses, local public transit vehicles, emergency vehicles, and other public agency vehicles may be experienced during peak and off-peak hours. Rerouting of vehicles may result from the construction of the project.

School districts provide student transportation to and from residential land uses and school facilities based on establish bus routes and schedules. Depending upon the timing, location, and duration of construction activities, proposed improvement projects, including but not limited to arterials, interchanges, and auxiliary lanes could delay school district bus routes and schedules or otherwise disrupt delivery of school bus transportation services. School district routes could be impaired if one or more lanes of a roadway in Madera County were closed off for construction. Traffic delays and school district schedules could potentially be caused by the closure of these lanes. In addition, employees and students of school district schools could be delayed due to disruption of traffic patterns thereby impacting the provisions of educational service.

In addition, project construction may impact pedestrian, bicycle, and private vehicle routes required for student to have safe and hazard free access to schools on routes from residential lands use to school sites. Project construction may create unsafe and hazardous pedestrian, bicycle, and private vehicle routes.

Mitigation Measures

As part of project-specific environmental review, the individual improvement project proponent or local jurisdiction shall be responsible for completing an analysis and study to determine the project-specific impacts on affected local school districts, public transit agencies, emergency service providers, or other affected community service agencies to address potential impacts of a project on an agency's transportation program. The project implementing agency or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures prior to and during construction. MCTC will be provided with documentation indicating compliance with all project-specific mitigation measures.

- ◆ Prior to commencing the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall communicate with applicable federal, state and applicable city and county agencies and applicable school districts responsible for school district bus transportation routing and schedules to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with traffic delays and rerouting during construction.

- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall comply with all applicable federal, state and applicable city and county policies, requirements, rules and regulations, and applicable school districts responsible for school district bus transportation routing and schedules to identify and determine the plans, policies, requirements, rules and regulations that may be applicable to the construction of the project and the mitigation of impacts associated with traffic delays and rerouting during construction.
- ◆ Prior to commencing and during the construction activities on individual projects, the individual improvement project proponent or local jurisdiction shall prepare in conjunction with local school districts, plans and programs to mitigate the impacts of the project on school district bus transportation, and to provide for safe and hazard free pedestrian, bicycle and private vehicle routes and detours required during the construction of the project.
- ◆ The growth inducing potential of individual projects shall be carefully evaluated so that the full implications of the projects are understood. Individual environmental documents shall quantify indirect impacts (growth that could be facilitated or induced) on public services and utilities to the extent feasible. Lead and responsible agencies then will make any necessary adjustments to the applicable General Plan. Any such identified adjustment shall be communicated to MCTC.

Significance After Mitigation

Implementation and monitoring of the above mitigation measures will provide the framework and direction for subsequent project-specific mitigation designed to avoid or reduce the identified significant Project impacts to a less than significant level.

4.0 COMPARISON OF PROJECT ALTERNATIVES

4.1 INTRODUCTION

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. The alternative impact analysis is presented below at a summary level of detail, relying upon the base information presented in Section 3. This section only provides a comparison for the purpose of selecting the environmentally superior alternative. If an alternative is clearly superior to the proposed project, it is to be designated as the 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 OVERVIEW

The impact analyses presented in Section 3 of this SEIR focuses on an analysis of the Project. Three (3) additional alternatives have been developed in this section of the SEIR to ensure that a reasonable range of alternatives to the Project is provided. For purposes of this analysis, Project alternatives include the "No Build", "No Project", and the "Vehicle Miles Traveled (VMT) Reduction" Alternatives.

No Build 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; that is, if improvements are not implemented beyond existing projects and those projects that are currently programmed in the Transportation Improvement Program (TIP). This Project Alternative would, however, consider projected (Year 2035) growth and development.

The No Build Alternative reflects all existing transportation systems, projects contained in the TIPs, projects contained in local agency Capital Improvement Programs (CIPs), and all projects that are considered "exempt" under the Air Quality Conformity Regulations.

Possible significant impacts could result from this alternative. In particular, impacts upon air quality, noise, land use, and the transportation or circulation systems would occur. These impacts are discussed below.

Impact 4.2.1

◆ Air Quality

Transportation improvement projects, if not implemented, will result in significant environmental impacts. In particular, air quality will be significantly impacted. Overall, air quality in future years will be worse without implementation of planned improvement projects scheduled for implementation. A detailed assessment of such impacts is provided in the latest Air Quality Conformity Finding.

Even with significant trip reduction, air quality impacts associated with this project alternative cannot be mitigated. As a result, this project alternative is not considered viable.

◆ **Noise**

Noise impacts are also considered significant. As vehicular travel increases and congestion levels worsen, noise impacts are enhanced. Without implementation of planned transportation improvements, noise levels will increase significantly beyond what can be economically mitigated.

◆ **Land Use**

Land use impacts associated with this alternative could be significant. In order for this alternative to be viable, and not significantly impact existing and planned land use, major trip reduction strategies would be required beyond what may be feasible. Further, major changes in land use planning would be required in order to support enhanced trip reduction.

◆ **Transportation/Circulation**

Numerous segments along the Regionally Significant System would experience major (LOS) deficiencies resulting from implementation of the No Build Project Alternative. These impacts are considered significant given the amount of average daily traffic that is projected by 2035. Significant delay and congestion well beyond the traffic capacity of these segments would be realized resulting in significant environmental and economic impacts. State highway segments projected to fall to LOS "E" or "F" and local agency segments projected to fall to LOS "E" or "F" under this projected alternative are identified in Figures 3-12 and 3-13.

In addition to street and highway impacts, major impacts upon other modes of transportation would also be realized. Without implementation of planned mass transportation, aviation, non-motorized, and goods movement improvements, the transportation/circulation system will be severely impacted. These impacts would further reduce the ability of agencies in Madera County and in the Air Basin to meet air quality standards and improve levels of congestion and delay.

No Project Alternative

California Environmental Quality Act (CEQA), federal SAFETEA-LU, and federal Air Quality Conformity 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 as identified in the 2007 RTP were made. This Project Alternative would, however, consider projected (Year 2035) growth and development.

The No Project Alternative reflects all existing transportation systems, projects contained in the TIPs, projects contained in local agency Capital Improvement Programs (CIPs), and all projects that are considered "exempt" under the Air Quality Conformity Regulations.

Significant impacts could result from this alternative; specifically, impacts upon air quality, noise, land use, and transportation or circulation systems could occur. These impacts are discussed below.

Impact 4.2.2

◆ Air Quality

Transportation improvement projects identified in the 2011 RTP, if not implemented, will result in significant environmental impacts. In particular, air quality will be significantly impacted but not to the extent under the No Build Project Alternative. Overall, air quality in future years will be worse without implementation of the planned improvement projects contained in the 2011 RTP. This alternative would limit the amount of funding to other forms of transportation or to the limits identified in the 2011 RTP. As a result, this project alternative is not considered viable.

◆ Noise

Noise impacts are also considered significant. Under the No Project Alternative, vehicular travel will increase and congestion level will worsen, and noise impacts will be enhanced when compared to the Preferred Project Alternative. Without implementation of planned transportation improvements identified in the 2011 RTP, noise levels will increase significantly beyond what can be economically mitigated.

◆ Land Use

Land use impacts associated with this alternative could be significant. In order for this alternative to be viable, and not significantly impact existing and planned land use, trip reduction strategies would be required. Further, major changes in land use planning would be required in order to support enhanced trip reduction.

◆ Transportation/Circulation

Additional segments along the Regionally Significant System would experience major (LOS) deficiencies resulting from implementation of the No Project Alternative. These impacts are considered significant given the amount of average daily traffic that is projected by 2035. Significant delay and congestion well beyond the traffic capacity of these segments would be realized resulting in significant environmental and economic impacts beyond those identified in the Preferred Project Alternative. State highway segments projected to fall to LOS "E" or "F" and local agency segments projected to fall to LOS "E" or "F" under this projected alternative are identified in the 2007 RTP.

In addition to street and highway impacts, major impacts upon other modes of transportation would also be realized. Without implementation of additional mass transportation, aviation, non-motorized, and goods movement improvements that would be facilitated by funding identified in the 2011 RTP, the transportation/circulation system will continue to rely on automobiles with transit primarily available for the transit dependant. These impacts would further reduce the ability of agencies in Madera County and in the Air Basin to meet air quality standards and improve levels of congestion and delay.

VMT Reduction Project Alternative

This Project Alternative would focus on reducing VMT and vehicle trips (VT) through enhanced improvements in transportation control measures (TCMs) including rail, transit, and others, beyond that considered by the Project. Specifically, this alternative involves additional "mode shift" activities that focus on lessening the use of the single-occupant vehicle (SOV) to "enhanced" alternative forms of transportation. Therefore, this alternative would require either a shift in transportation funds from streets and highways to further enhance the implementation and/or development of alternative transportation modes and TCMs necessary to achieve VMT and VT targets/budgets. How much VMT and VT to reduce has been determined during the Conformity Analysis and considering VMT and VT

targets/budgets for specific years provided by the California Air Resources Board (CARB) and San Joaquin Valley Air Pollution Control District (SJVAPCD).

Impact 4.2.3

◆ Air Quality

In addition to this Alternative's considerable emphasis on trip reduction strategies and alternative forms of transportation to reduce VMT and VT, mechanisms must be in place to ensure that the targets/budgets are achieved. This goal may only be possible if changes in land use planning practices are made by local jurisdictions. Such changes may include the provision for increased densities along major transportation corridors; provisions for "mixed-use" developments that would result in a "jobs to housing balance"; and the appropriate phasing of different types of development projects to ensure that a "jobs to housing balance" can be achieved.

To assist local agencies in addressing air quality concerns during the planning process, the SJVAPCD has prepared the Air Quality Guidelines for General Plans. The SJVAPCD Governing Board adopted the Guidelines on August 20, 1998. The Guidelines provide a resource to local agencies that they can use to implement local air quality programs. The Guidelines also contain a number of goals, objectives, and policies designed to lessen air quality impacts from mobile, area, stationary, and indirect sources.

Based on results of the Air Quality Assessment, documented in Section 3, major adjustments to the planned multi-modal transportation system will not be necessary. Further, because the projects contained in the 2011 RTP must be financially constrained, enhancing the provision of alternative modes of transportation, beyond those improvements included in those documents, will not be possible.

Air quality is also expected to worsen if planned streets and highway projects are not implemented beyond the STIP period, even considering a major shift to enhanced alternative modes of transportation. Referencing Section 3, the planned street and highway projects are benefiting air quality over time because the projects are expected to significantly reduce delay and congestion. A major shift to alternative forms of transportation, beyond that included in the preferred Project alternative, would not be expected to capture all the trips that would be affected. The result would be significant delay and congestion and therefore significant air quality impacts.

◆ Noise

Noise impacts are considered significant under this Alternative. With additional emphasis placed on mass transit, congestion levels along the major streets and roads within the region will increase resulting in increased noise levels. Streets and highways would not be widened due to lack of funding. Further, under this alternative, funding would be provided for a higher level of mass transit projects. The noise impacts related to additional increases in funding to mass transportation projects will be significant.

◆ Land Use

This alternative could also have three types of land use impacts: changes in land use patterns, loss of existing or future land uses to expanded rights-of-way, and impacts associated with compatibility of transit and rail improvements to adjacent land uses.

◆ **Transportation/Circulation**

While it could be argued that project funding for street and highway improvements under SAFETEA-LU could be applied to enhance alternative forms of transportation instead, the amount of funding would not be sufficient enough to significantly reduce trips along the regionally significant streets and highways to a level that would "off-set" major level of service (LOS) deficiencies. In other words, if a further shift in funding from streets and highways to other modes of transportation was accommodated, it is expected that LOS deficiencies would increase, not decrease. This assumption is based upon studies and findings made by other regional agencies with the ability to provide for mode-split analysis.

In addition, initial modeling conducted by other regions in the San Joaquin Valley indicate that a dedicated bus lane Bus Rapid Transit (BRT) route would not carry enough daily boardings needed by 2035 to meet the 20% operating fairbox subsidy requirements [not including right-of-way and equipment costs for a dedicated Bus/High Occupancy Vehicle (HOV) lane]. For now, an enhanced transit option that reduces VMT and vehicle trips does not appear to be financially feasible without a new transit operating funding source.

4.3 ENVIRONMENTALLY PREFERRED ALTERNATIVE

Based on the analysis and results described in Section 3, the preferred alternative is the implementation of the 2011 RTP. This alternative was analyzed considering historical growth rates in VMT and VT, as well as anticipated growth in the use of other forms of transportation such as transit, rail, aviation, and non-motorized. Identification of TCMs, necessary to achieve positive air quality conformity findings, has also been evaluated as part of this alternative.

Improvement projects evaluated and identified under this alternative are "financially constrained" in accordance with the SAFETEA-LU and Air Quality Conformity requirements. This alternative focuses on "traditional" land use planning activities, i.e., designation of planned growth and development consistent with established land use density policies identified in the County General Plan and in local city General Plans.

The Project is considered the "Environmentally Preferred Alternative" because it is feasible, will reduce air pollution, and will provide for improvements consistent with the 2011 RTP Policy and Financial Elements. These improvements are generally located along existing transportation corridors and/or existing rights-of-way. Therefore, impacts are expected to be less significant compared to other project alternatives that will require increased funding and potentially create new transportation corridors in developed and undeveloped areas.

5.0 LONG-TERM 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 SEIR, which 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 individual improvement projects under the Preferred Project Alternative where construction of such projects would use 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 for all of the significant impacts of the proposed Project, where feasible, the projects and programs contained in the 2011 RTP would result in the following impacts that are significant and unavoidable even after implementation of the identified 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 may occur in areas not previously envisioned for growth and development (agricultural areas)
- ◆ Increased emissions during the planning period for the Project
- ◆ 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 projects
- ◆ Displacement or removal of riparian or wetland habitat during construction and operation of improvement projects as a result of edge effects
- ◆ Temporary or permanent impacts to terrestrial and aquatic wildlife movements
- ◆ Potentially increase siltation of streams 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 may encounter 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 of state owned and state mineral-reserve land
- ◆ Cumulative regional impacts on geologic resources
- ◆ Create a hazard to the public or environment thru the release of hazardous materials during transportation
- ◆ Cumulative regional impact on water quality, stormwater infiltration, groundwater recharge, flood hazard, wastewater treatment service, and water demand
- ◆ Impacts on land use patterns, potentially causing land use growth and development to occur in areas not previously envisioned for growth and development
- ◆ 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 and transit facilities would impact sensitive receptors located in the vicinities of the individual improvement 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
- ◆ 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 improvement
- ◆ Disrupted or divided communities by separating community facilities, restricting community access and eliminating community amenities
- ◆ 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

5.2 SIGNIFICANT IRREVERSIBLE IMPACTS

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. 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 Plans would result in the following impacts that are significant and irreversible 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 may occur in areas not previously envisioned for growth and development (agricultural areas)
- ◆ Increased emissions during the planning period for the Project
- ◆ 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 projects
- ◆ Displacement or removal of riparian or wetland habitat during construction and operation of improvement projects as a result of edge effects
- ◆ Temporary or permanent impacts to terrestrial and aquatic wildlife movements
- ◆ Potentially increase 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 may encounter 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 of state owned and state mineral-reserve land
- ◆ Cumulative regional impacts on geologic resources
- ◆ Create a hazard to the public or environment thru the release of hazardous materials during transportation
- ◆ Cumulative regional impact on water quality, stormwater infiltration, groundwater recharge, flood hazard, wastewater treatment service, and water demand
- ◆ Impacts on land use patterns, potentially causing land use growth and development to occur in areas not previously envisioned for growth and development
- ◆ 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 and transit facilities would impact sensitive receptors located in the vicinities of the individual improvement 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
- ◆ 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 improvement
- ◆ Disrupted or divided communities by separating community facilities, restricting community access and eliminating community amenities
- ◆ 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

5.3 GROWTH INDUCING IMPACTS

According to Section 15126.2(d) of the CEQA Guidelines, an EIR is required to evaluate potential growth-inducing impacts of a proposed project. The Guidelines define growth-inducing impacts 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 that exceeds planned growth of an area and results in new development that 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. Environmental effects of induced growth are indirect impacts of the proposed project. Such effects could result in significant, adverse environmental impacts that 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.

Population and employment growth that Madera County has experienced in the past is expected to continue. The Project, in and of itself, is not expected to incur any growth inducing impacts in the region. It is assumed that the region will grow at the same rate, regardless of whether or not the Project is implemented. Specifically, population in Madera County is expected to increase regardless of the Project. Construction projects within the County will be subject to further CEQA review and evaluation of growth inducing impacts, but, as mentioned above, the Project, in and of itself, is not anticipated to have any growth inducing impacts.

5.4 CUMULATIVE IMPACTS

Cumulative effects, are defined as “two or more individual affects 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 (CEQA Guidelines, Section 15255). 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 (CEQA Guidelines Sections 15130(a) and (b)). CEQA Guidelines require that EIRs discuss 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.

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. As such, the Project could have the following cumulative effects:

- ◆ 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 may occur in areas not previously envisioned for growth and development (agricultural areas)
- ◆ Increased emissions during the planning period for the Project
- ◆ 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 projects

- ◆ Displacement or removal of riparian or wetland habitat during construction and operation of improvement projects as a result of edge effects
- ◆ Temporary or permanent impacts to terrestrial and aquatic wildlife movements
- ◆ Potentially increase 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 may encounter 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 of state owned and state mineral-reserve land
- ◆ Cumulative regional impacts on geologic resources
- ◆ Create a hazard to the public or environment thru the release of hazardous materials during transportation
- ◆ Cumulative regional impact on water quality, stormwater infiltration, groundwater recharge, flood hazard, wastewater treatment service, and water demand
- ◆ Impacts on land use patterns, potentially causing land use growth and development to occur in areas not previously envisioned for growth and development
- ◆ 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 and transit facilities would impact sensitive receptors located in the vicinities of the individual improvement 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
- ◆ 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 improvement
- ◆ Disrupted or divided communities by separating community facilities, restricting community access and eliminating community amenities
- ◆ 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

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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Jeff Stine, Director of Operations
Jason Ellard, Transportation Engineer
Erica Thompson, Transportation Engineer
Dena Graham, Research Specialist

6.2 ORGANIZATIONS AND AGENCIES REFERENCED OR CONSULTED

The following provides a list of organizations and agencies referenced or consulted during preparation of this SEIR:

AMTRAK
Burlington, Northern and Santa Fe Railroad
California Air Resources Board
California Building Standards Commission, (CBSC)
California Department of Conservation
California Department of Finance
California Department of Fish and Game
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 Chowchilla (various departments)
City of Madera (various departments)
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
Institute of Transportation Engineers
Madera County (Various Departments)
Madera County LAFCO
Madera County Resource Management Agency
Madera County Transportation Commission
National Park Service
National Forest Service
National Transportation Safety Board
Pacific Gas and Electric (PG&E)
Regional Water Quality Control Board, Central Valley Region
San Joaquin Valley Air Pollution Control District
Southern California Edison
Transportation Research Board
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 States 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 – NOTICE OF PREPARATION



2001 Howard Road, Suite 201
Madera, California 93637

Office: 559-675-0721 Fax: 559-675-9328
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Notice of Preparation

Date: December 8, 2009 (corrected date)

To: Reference List of Recipients

From: Madera County Transportation Commission
2001 Howard Road, Suite 201
Madera, CA 93637

Subject: Notice of Preparation of a Subsequent Environmental Impact Report (SEIR) for the Proposed 2011 Revision of the Regional Transportation Plan (RTP)

The Madera County Transportation Commission (MCTC) will be the Lead Agency and will prepare a Subsequent Environmental Impact Report (SEIR) for the project defined below. 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. Your agency will need to use the SEIR prepared by MCTC when considering your permit or other approvals for the projects to be included in the 2011 RTP.

The project description, locale and probable environmental issues to be addressed in the SEIR are described below. An Initial Study is not attached and is not required.

Your response is requested at the earliest possible date, but not later than 30 days after receipt of this notice.

Please send your response to Mr. Richard Poythress, Project Administrator at the address shown above. Please identify the name and phone number of a contact person at your agency.

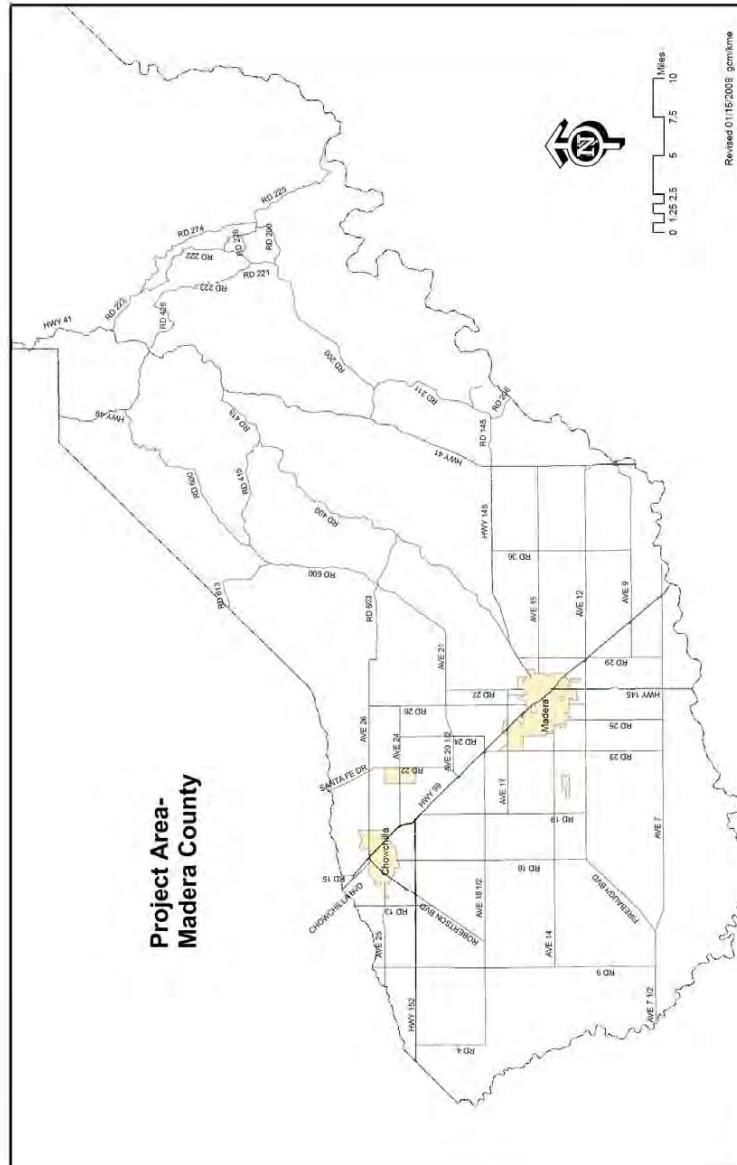
Project Title

Subsequent Environmental Impact Report (SEIR) for the 2011 Revision of the Regional Transportation Plan (RTP).

Location

Corporate limits of Madera County, California including the two incorporated cities and all unincorporated areas (reference the attached map of Madera County identifying the area to be addressed by the SEIR and the RTP).

1



Project Description

Background: MCTC is the Regional Transportation Planning Agency (RTPA) and Metropolitan Planning Organization (MPO) for the Madera County region. As such, MCTC must identify transportation needs in Madera County to prepare the Regional Transportation Plan and subsequent updates of the plan. In addition, MCTC is also responsible for preparing a Program EIR that reflects the general environmental effects of programs and projects to be included in the RTP.

Project Overview: The project, as defined by CEQA Statutes, Section 21065, is the preparation of the 2011 revision of the RTP. MCTC is in the process of preparing the RTP 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 Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The RTP must also meet Transportation Conformity for the Air Quality Attainment Plan per 40 CFR Part 51 and 40 CFR Part 93. In addition, the RTP must address requirements set forth in Assembly Bill 32, the California Global Warming Solutions Act of 2006. Finally, the California Transportation Commission has prepared guidelines (most recently adopted by the Commission on September 20, 2007 plus an Addendum addressing Climate Change and Greenhouse Gas Emissions adopted by the Commission on May 29, 2008) 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 Regional Transportation Plan every four (4) years. The last comprehensive EIR on the RTP was completed in 2007, which addressed transportation improvement projects, programs, and funding reflected in the 2004 RTP together with additional funding from the proposed (now approved) ¼ Cent Sales Tax Measure Extension (Measure "T"). The 2011 revision to the RTP must be 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 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 SEIR. The RTP is also used as a transportation planning document by each of the three member jurisdictions of MCTC. The members include the County of Madera and the cities of Madera and Chowchilla.

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 2011 RTP include Climate Change (including a Climate Change Element), Congestion Management Process, Environmental Justice, Goods Movement, and Blueprint Planning. In addition, the 2011 RTP will include updated project lists and updated performance measures.

The RTP will include the following sections, which may be reorganized or modified as a result of staff and consultant review:

1. San Joaquin Valley Regional Transportation Overview
2. Regional Setting, State and Federal Issues
3. Climate Change Element and Blueprint Issues
4. Policy Element
5. Needs Assessment and Action Element
6. Financial Element

Specific environmental issues to be addressed in the SEIR include:

- | | |
|---------------------------------|--|
| ◆ Aesthetics | ◆ Hydrology/Water Quality |
| ◆ Agricultural Resources | ◆ Land Use/Planning |
| ◆ Air Quality | ◆ Noise |
| ◆ Biotic Resources | ◆ Population/Housing |
| ◆ Climate Change | ◆ Public Utilities, Other Utilities & Services Systems |
| ◆ Cultural Resources | ◆ Transportation/Traffic |
| ◆ Geology/Soils | ◆ Growth Inducement and Cumulative Effects |
| ◆ Hazards & Hazardous Materials | |

The project boundaries are the lawfully adopted borders of MCTC, including the two (2) incorporated cities, and the County (all unincorporated areas).

Requirement to Prepare a Subsequent EIR

According to CEQA, when an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

- ◆ Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- ◆ Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- ◆ New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
 - The project will have one or more significant effects not discussed in the previous EIR or negative declaration
 - Significant effects previously examined will be substantially more severe than shown in the previous EIR
 - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative
 - Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

In this case, MCTC understands that 2011 RTP improvement projects have changed or the timing of those projects has changed since certification of the previous RTP EIR in 2007. As a result of these changes, rather than prepare a complete new EIR, MCTC desires to use the previous EIR and update/change sections to address RTP project changes, as well as greenhouse gas/global warming (Climate Change) issues.

Environmental Issues to be Addressed in the EIR

The programs and projects to be included in the RTP will be analyzed through development of a Program EIR. This will allow MCTC to analyze the regional or general impacts of the programs and projects. A more detailed or project level environmental assessment of the various projects included in the Plan will be conducted by the various responsible agencies including Caltrans, Madera County, and the cities within the County before the projects are constructed or implemented.

The key environmental issues to be addressed in the Program EIR for the 2007 Revision of the RTP include:

- Aesthetics
 - 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
- Agriculture
 - 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 or if the area is not designated on the Important Farmland Series Maps, the conversion of prime agricultural land as defined in Section 51201(C) of the Govt. Code to non-agricultural use
 - Conflict with existing zoning for agriculture use, a Williamson Act contract, or provisions of the Model Farmland Conservation Program
- Air Quality
 - Conflict with or obstruct implementation of the applicable air quality plan
 - Violate any air quality standard or contribute substantially to an existing or projected air quality violation
 - 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)
 - Expose sensitive receptors to substantial pollutant concentrations
- Biological Resources
 - 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 Dept. 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, regulations or by the California Dept. of Fish and Game or U.S. 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 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
- Climate Change
 - The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting
 - Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project
 - The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas

emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

- Cultural Resources
 - Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5
 - Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5
 - Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or culture value
 - Disturb any human remains, including those interred outside of formal cemeteries
 - Disturb unique architectural features or the character of surrounding buildings
- Geology, Soils, and Seismicity
 - Result in substantial soil erosion, slippage, changes in topography, the loss of topsoil or unstable soil conditions from excavation, grading or fill
 - 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
- Hazards and Hazardous Materials
 - 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 or risk of explosion
 - 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 the 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
- Hydrology and Water Quality
 - Violate any water quality standards or waste discharge requirements
 - 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 stormwater drainage systems or provide substantial additional sources of polluted runoff
- Land Use and Planning
 - Physically divide an established community
 - 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
- Noise and Vibration
 - Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
 - Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels
 - A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project
 - A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project
 - 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 expose people residing or working in the project area to excessive noise levels

- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels
- Population and Housing
 - Substantially change the demographics in the area
 - 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)
 - Substantially alter the location, distribution, or density of the area's population
 - Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
 - Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere
- Public or Utility Services
 - Electrical power or natural gas
 - Communication
 - Other public or utility services
- Utilities and Services Systems
 - Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction which could cause significant environmental effects
- Transportation/Traffic
 - Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)
 - Exceed, either individually or cumulatively, a level of service standard established by the County RTP
 - Result in a change in air, rail or water-borne traffic patterns, including either a significant increase in traffic levels or a change in location that results in substantial safety risks
 - Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, hazards or barriers for vehicles, pedestrians, or bicyclists
 - Substantially accelerate physical deterioration of public and/or private roads
- Mandatory Findings of Significance
 - The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened plant or animal species, or eliminate important examples of the major periods of California history or prehistory
 - The project has environmental impacts that are individually limited, but cumulatively considerable
 - The project has environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Prepared by: Georgiana M. Vivian, VRPA Technologies, Inc. – December 8, 2009

Date: _____

Signature: _____
Patricia Taylor

Title: Executive Director

Phone: 559-675-0721

MCTC 2011 Regional Transportation Plan
DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

Form A
Notice of Completion & Environmental Document Transmittal

SCH # _____

Mail to: State Clearinghouse, PO Box 3044, Sacramento, CA 95812-3044 916/445-0613

Project Title: Notice of Preparation of a Subsequent EIR for the 2011 Revision of the Madera County Regional Transportation Plan

Lead Agency: Madera County Transportation Commission Contact Person: Richard Poythress
 Street Address: 2001 Howard Road, Suite 201 Phone: (559) 675-0721
 City: Madera, CA Zip: 93637 County: Fresno

Project Location:

County: All City/Nearest Community: Madera
 Cross Streets: _____ Zip Code: _____ Total Acres: _____
 Assessor's Parcel No. _____ Section: _____ Twp. _____ Range: _____ Base: _____
 Within 2 Miles: State Hwy #: _____ Waterways: _____
 Airports: _____ Railways: _____ Schools: _____

Document Type:

CEQA: NOP Supplement/Subsequent EIR **NEPA:** NOI **Other:** Joint Document
 Early Cons (Prior SCH No.) EA Final Document
 Neg Dec Other _____ Draft EIS Other _____
 Draft EIR FONSI

Local Action Type:

General Plan Update Specific Plan Rezone Annexation
 General Plan Amendment Master Plan Prezone Redevelopment
 General Plan Element Planned Unit Development Use Permit Coastal Permit
 Community Plan Site Plan Land Division (Subdivision, etc.) Other RTP _____

Development Type:

Residential: Units _____ Acres _____ Water Facilities: Type _____ MGD _____
 Office: Sq.ft. _____ Acres _____ Employees _____ Transportation: Type Planned Facilities
 Commercial: Sq.ft. _____ Acres _____ Employees _____ Mining: Mineral _____
 Industrial: Sq.ft. _____ Acres _____ Employees _____ Power: Type _____ Watts _____
 Educational _____ Waste Treatment: Type _____
 Recreational _____ Hazardous Waste: Type _____
 Other: _____

Funding (approx.): Federal \$ _____ State \$ _____ Total \$ _____

Project Issues Discussed in Document:

Aesthetic/Visual Flood Plain/Flooding Schools/Universities Water Quality
 Agricultural Land Forest Land/Fire Hazard Septic Systems Water Supply/Groundwater
 Air Quality Geologic/Seismic Sewer Capacity Wetland/Riparian
 Archeological/Historical Minerals Soil Erosion/Compaction/Grading Wildlife
 Coastal Zone Noise Solid Waste Growth Inducing
 Drainage/Absorption Population/Housing Balance Toxic/Hazardous Landuse
 Economic/Jobs Public Services/Facilities Traffic/Circulation Cumulative Effects
 Fiscal Recreation/Parks Vegetation Other _____

Present Land Use/Zoning/General Plan Designation:

Various

Project Description:

Preparation and approval of the 2011 Revision of the Madera County Regional Transportation Plan (RTP). See attached.

Revised 3-31-99

Reviewing Agencies Checklist

Form A, continued

KEY
S = Document sent by lead agency
X = Document sent by SCH
 ✓ = Suggested distribution

- Resources Agency**
- Boating & Waterways
 - Coastal Commission
 - Coastal Conservancy
 - Colorado River Board
 - Conservation
 - Fish & Game
 - Forestry & Fire Protection
 - Office of Historic Preservation
 - Parks & Recreation
 - Reclamation Board
 - S.F. Bay Conservation & Development Commission
 - Water Resources (DWR)
- Business, Transportation & Housing**
- Aeronautics
 - California Highway Patrol
 - CALTRANS District # _____
 - Department of Transportation Planning (headquarters)
 - Housing & Community Development
- Food & Agriculture**
- Health & Welfare**
- Health Services _____
- State & Consumer Services**
- General Services
 - OLA (Schools)

- Environmental Protection Agency**
- Air Resources Board
 - California Waste Management Board
 - SWRCB: Clean Water Grants
 - SWRCB: Delta Unit
 - SWRCB: Water Quality
 - SWRCB: Water Rights
 - Regional WQCB # _____ (_____)
- Youth & Adult Corrections**
- Corrections
- Independent Commissions & Offices**
- Energy Commission
 - Native American Heritage Commission
 - Public Utilities Commission
 - Santa Monica Mountains Conservancy
 - State Lands Commission
 - Tahoe Regional Planning Agency
- Other _____

Public Review Period (to be filled in by lead agency)

Starting Date December 12, 2009 Ending Date January 11, 2010
 Signature _____ Date December 9, 2009

Lead Agency (Complete if applicable):
 Consulting Firm: VRPA Technologies, Inc.
 Address: 4630 W. Jennifer, Suite 105
 City/State/Zip: Fresno, CA 93722
 Contact: Ms. Georgiena Vivian
 Phone: (559) 271-1200 or (559) 259-9257

Applicant: Madera County Transportation Commission
 Address: 2001 Howard Road, Suite 201
 City/State/Zip: Madera, CA 93637
 Phone: (559) 675-0721

For SCH Use Only:

Date Received at SCH _____
 Date Review Starts _____
 Date to Agencies _____
 Date to SCH _____
 Clearance Date _____
 Notes:

**APPENDIX B – NOTICE OF PREPARATION
COMMENTS RECEIVED**



January 12, 2010

Mr. Richard Poythress, Project Administrator
Madera County Transportation Commission
2001 Howard Road
Suite 201
Madera, California 93637

Subject: **Comments of the Chawanakee Unified School District**
Notice of Preparation of a Subsequent Environmental Impact Report (SEIR) for the
Proposed 2011 Revision of the Regional Transportation Plan (RTP)

Dear Mr. Poythress;

This letter is submitted by Community Systems Associates, Inc. on behalf of the **Chawanakee Unified School District** ("CUSD" or "District"), and is presented as the formal position of the District on the Proposal as described herein. Community Systems Associates, Inc. is the retained consultant of the **Chawanakee Unified School District** and this letter has been authorized to be presented to the Madera County Transportation Commission ("MCTC").

The District is in receipt of the Madera County Transportation Commission ("MCTC") Notice of Preparation of a Subsequent Environmental Impact Report ("Notice" or "NOP") dated September 8, 2009 with regards to the proposed 2010 Revisions of the proposed Regional Transportation Plan ("RTP" or "Proposal" or "Project"). Although the cover letter was dated September 8, 2009, the preparation of the content was stated as having been prepared by Geogiana M. Vivian, VRPA Technologies, Inc. on December 8, 2009, more than 3-months after the date of the letter. In addition, the notice was not signed by Ms. Patricia Taylor, Executive Director of the MCTC.

The Notice provided that the MCTC was requesting input regarding the scope and content of the environmental information which is germane to the District's statutory responsibilities in connection with the proposed Project. The notice provided that such responses were requested at the earliest possible date, but no later than 30-days after receipt of the notice. The District did not receive the notice until late December 2009 during the holidays and did not have an opportunity to address the notice until early January 2010.

On January 8, 2010, I spoke with Derek Winning, Deputy Director advising him of the noticing situation and requested a specific date that responses would be accepted. Mr. Winning returned the call and indicated that responses would be accepted until January 31, 2010. This letter complies with the notice and is responsive to Mr. Winning's information.

• Leaders in facilitating strategic decision-making •
• 4007 Santa Gertrudis • Santa Maria, CA 93362 • (562) 838-9988 • (818) 432-0900 (fax) •
• www.communitysystemsassociates.com •

Mr. Richard Poythress, Project Administrator
Madera County Transportation Commission
January 12, 2010
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The Notice states, in part:

“Project Description

Background: MCTC is the Regional Transportation Planning Agency (RTPA) and Metropolitan Planning Organization (MPO) for the Madera County region. As such, MCTC must identify transportation needs in Madera County to prepare the Regional Transportation Plan and subsequent updates of the plan. In addition, MCTC is also responsible for preparing a Program EIR that reflects the general environmental effects of programs and projects to be included in the RTP.

Project Overview: The project, as defined by CEQA Statutes, Section 21065, is the preparation of the 2011 revision of the RTP. MCTC is in the process of preparing the RTP 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 Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The RTP must also meet Transportation Conformity for the Air Quality Attainment Plan per 40 CFR Part 51 and 40 CFR Part 93. In addition, the RTP must address requirements set forth in Assembly Bill 32, the California Global Warming Solutions Act of 2006. Finally, the California Transportation Commission has prepared guidelines (most recently adopted by the Commission on September 20, 2007 plus an Addendum addressing Climate Change and Greenhouse Gas Emissions adopted by the Commission on May 29, 2008) 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 Regional Transportation Plan every four (4) years. The last comprehensive EIR on the RTP was completed in 2007, which addressed transportation improvement projects, programs, and funding reflected in the 2004 RTP together with additional funding from the proposed (now approved) % Cent Sales Tax Measure Extension (Measure "T"). The 2011 revision to the RTP must be 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 Regional Transportation Improvement Program (RTIP). The RTP 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 SEIR. The RTP is also used as a transportation planning document by each of the three member jurisdictions of MCTC. The members include the County of Madera and the cities of Madera and Chowchilla.

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 2011 RTP include Climate Change (including a Climate Change Element), Congestion Management Process, Environmental Justice, Goods Movement, and Blueprint Planning. In addition, the 2011 RTP will include updated project lists and updated performance measures.

Mr. Richard Poythress, Project Administrator
Madera County Transportation Commission
January 12, 2010
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The RTP will include the following sections, which may be reorganized or modified as a result of staff and consultant review:

1. San Joaquin Valley Regional Transportation Overview
2. Regional Setting, State and Federal Issues
3. Climate Change Element and Blueprint Issues
4. Policy Element
5. Needs Assessment and Action Element
6. Financial Element”

Further, the Notice states, in part:

“Requirement to Prepare a Subsequent EIR

According to CEQA, when an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

- Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
 - The project will have one or more significant effects not discussed in the previous EIR or negative declaration
 - Significant effects previously examined will be substantially more severe than shown in the previous EIR
 - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative

Mr. Richard Poythress, Project Administrator
Madera County Transportation Commission
January 12, 2010
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- Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

In this case, MCTC understands that 2011 RTP improvement projects have changed or the timing of those projects has changed since certification of the previous RTP EIR in 2007. As a result of these changes, rather than prepare a complete new EIR, MCTC desires to use the previous EIR and update/change sections to address RTP project changes, as well as greenhouse gas/global warming (Climate Change) issues.”

The Notice further states, in part:

“Environmental Issues to be Addressed In the EIR

The programs and projects to be included in the RTP will be analyzed through development of a Program EIR. This will allow MCTC to analyze the regional or general impacts of the programs and projects. A more detailed or project level environmental assessment of the various projects Included in the Plan will be conducted by the various responsible agencies including Caltrans, Madera County, and the cities within the County before the projects are constructed or implemented...

The key environmental issues to be addressed in the Program EIR for the 2007 Revision of the RTP include:...”

Public or Utility Services

- Electrical power or natural gas
- Communication
- Other public or utility services...

Transportation/Traffic

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)
- Exceed, either individually or cumulatively, a level of service standard established by the County RTP
- Result in a change in air, rail or water-borne traffic patterns, including either a significant increase in traffic levels or a change in location that results in substantial safety risks

Mr. Richard Poythress, Project Administrator
Madera County Transportation Commission
January 12, 2010
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- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, hazards or barriers for vehicles, pedestrians, or bicyclists
- Substantially accelerate physical deterioration of public and/or private roads...

It is the conclusion of the Notice that a "Program EIR" will be drafted and that the programs and projects that will be included in the RTP will be analyzed through this document. It is understood that a more detailed or project level environmental assessment will be conducted before the projects as set forth in the RTP are constructed and implemented.

Scope and Content per District Request

The District agrees that a Program EIR should be prepared and should address the environmental issues set forth in the Notice. In addition, the District requests and recommends that the SEIR address the following topics:

1. Identify by narrative description and graphic depiction (map) the location and extents of the projects and programs to be included in the RTP, giving enough detail to allow clear and complete understanding of the projects and programs.
2. Identify the specific purpose of each project and program, the specific improvements that will result from the implementation of the project and program, and the traffic volumes that will be accommodated from the construction and implementation of the projects and programs.
3. Identify the current capacity and volumes of the streets, roads, highways, freeways, and other thoroughfares currently within the jurisdiction of the Regional Transportation Plan and the projected maximum capacities and volumes of the streets, roads, highways, freeways, and other thoroughfares that would result from the implementation of the projects and programs set for in the RTP, including the worst case scenario of the carrying capacity of all streets, roads, highways, freeways, and other thoroughfares within the RTP.
4. Identify the current student busing routes of the District's transportation programs in relationship to the RTP projects and programs. Identify the school facilities buildout program of the District and identify the buildout student busing routes of the District's transportation program in relationship to the RTP projects and programs. Identify all conflicts between the District's busing routes and the capacities and volumes of RTP buildout streets, roads, highways, freeways, and other thoroughfares, including, but not limited to hazardous or unsafe conditions, re-routing requirements, and route scheduling and delays that might affect the District's transportation services.
5. In conjunction with identification of the RTP projects and programs and the increased capacity and volumes of the streets, roads, highways, freeways, and other thoroughfares, identify the impacts on existing and future school facilities and sites, and identify the mitigation measures to eliminate or alleviate the impacts to a level of less-than-significant.

Mr. Richard Poythress, Project Administrator
Madera County Transportation Commission
January 12, 2010
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6. Although the projects and programs as contained in the RTP are intended to accommodate growth within the jurisdiction of the MCTC, the RTP and the implementation of the projects and programs contained within the RTP will have growth inducing impacts as defined by the CEQA Guidelines.

Section 15126.2 (d) of the CEQA Guidelines states:

“Consideration and Discussion of Significant Environmental Impacts...

(d) Growth-Inducing Impact of the Proposed Project. Discuss 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. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”

The District request that the SEIR discuss and identify the ways in which the projects and programs of the RTP would foster economic or population growth, and the construction of new housing within the jurisdiction of the MCTC, either directly or indirectly. The District represents that the increase in the population and housing of the County and within the jurisdiction of the District will have significant impacts on the District’s ability to provide educational services and school facilities and will tax existing District service and facilities, requiring construction of new facilities that could cause significant environmental effects. Without the mitigation of the impacts associated with the growth inducing affects of the RTP on the Districts facilities and services, the growth of the jurisdiction within the MCTC accommodated by the projects and programs within the RTP will have an adverse impact on the District in terms of construction, financing, and the provisions of educational services and programs.

In addition, the growth induced impacts will have secondary impacts associated with noise and air quality that would impact the District’s schools and facilities and the employees and students that use such facilities. The SEIR needs to address these noise and air quality impacts on the District’s current and future schools that would be required by the capacity of growth that would be accommodated by the projects and programs contained in the RTP.

The District requests that these topics be addressed and discussed in the SEIR with the level of detail that would provide for a full disclosure and transparency of the current conditions, RTP projects and program impacts, and mitigation measures that would assure the District that the implementation of the RTP will not have an adverse impact on the facilities, services and educational programs of the District.

Mr. Richard Poythress, Project Administrator
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January 12, 2010
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In particular, the District needs a level of assurance that the RTP projects and programs would not adversely affect the District's student transportation programs, create unhealthy or hazardous conditions for the students and employees of the District, and will not have an adverse affect on the District's ability to provide adequate and quality school facility environments and educational programs.

Notification

Following the completion of the Draft SEIR, the District does hereby request the maximum time permitted by law to review the Draft SEIR and offer any comments. We further hereby request that a copy of the Draft SEIR be forwarded to the following for review:

Dr. Stephen Foster, Superintendent
Chawanakee Unified School District
P.O. Box 400
33030 Road 228
North Fork, California 93643

Mr. Marshall B. Krupp
Community Systems Associates, Inc.
3367 Corte Levanto
Costa Mesa, California 92626

The District's representatives are prepared to meet with the MCTC and the environmental consultants to discuss the requests made herein and to provide the data and information that would enable the MCTC and the environmental consultants to prepare the analysis and complete the Draft SEIR to the level of detail that is required by the CEQA Guidelines. Please feel free to contact the District to arrange the necessary meetings and to obtain the information that is required.

The District future requests that all of the related documents associated with the RTP, including text and maps be converted to a pdf file and posted on the MCTC website or that CD's be made available to the District for further review.

CEQA Policies

Section 15003 of the CEQA Guidelines states:

"In addition to the policies declared by the Legislature concerning environmental protection and administration of CEQA in Sections 21000, 21001, 21002, and 21002.1 of the Public Resources Code, the courts of this state have declared the following policies to be implicit in CEQA:

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Thank you for your assistance and consideration.

Sincerely,

Community Systems Associates, Inc.

Marshall Krupp

Mr. Marshall B. Krupp
President
marshallkrupp@communitysystemsassociates.com

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CC: Ms. Patricia Taylor, Executive Director
Madera County Transportation Commission
2001 Howard Road
Suite 201
Madera, California 93637

Dr. Stephen Foster, Superintendent
Chawanakee Unified School District
P.O. Box 400
33030 Road 228
North Fork, California 93643



January 12, 2010

Mr. Richard Poythress, Project Administrator
Madera County Transportation Commission
2001 Howard Road
Suite 201
Madera, California 93637

Subject: **Comments of the Chowchilla Union High School District**
Notice of Preparation of a Subsequent Environmental Impact Report (SEIR) for the
Proposed 2011 Revision of the Regional Transportation Plan (RTP)

Dear Mr. Poythress;

This letter is submitted by Community Systems Associates, Inc. on behalf of the **Chowchilla Union High School District** ("CUHSD" or "District"), and is presented as the formal position of the District on the Proposal as described herein. Community Systems Associates, Inc. is the retained consultant of the **Chowchilla Union High School District** and this letter has been authorized to be presented to the Madera County Transportation Commission ("MCTC").

The District is in receipt of the Madera County Transportation Commission ("MCTC") Notice of Preparation of a Subsequent Environmental Impact Report ("Notice" or "NOP") dated September 8, 2009 with regards to the proposed 2010 Revisions of the proposed Regional Transportation Plan ("RTP" or "Proposal" or "Project"). Although the cover letter was dated September 8, 2009, the preparation of the content was stated as having been prepared by Geogiena M. Vivian, VRPA Technologies, Inc. on December 8, 2009, more than 3-months after the date of the letter. In addition, the notice was not signed by Ms. Patricia Taylor, Executive Director of the MCTC.

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On January 8, 2010, I spoke with Derek Winning, Deputy Director advising him of the noticing situation and requested a specific date that responses would be accepted. Mr. Winning returned the call and indicated that responses would be accepted until January 31, 2010. This letter complies with the notice and is responsive to Mr. Winning's information.

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• www.communitysystemsassociates.com •

Mr. Richard Poythress, Project Administrator
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The Notice states, in part:

“Project Description

Background: MCTC is the Regional Transportation Planning Agency (RTPA) and Metropolitan Planning Organization (MPO) for the Madera County region. As such, MCTC must identify transportation needs in Madera County to prepare the Regional Transportation Plan and subsequent updates of the plan. In addition, MCTC is also responsible for preparing a Program EIR that reflects the general environmental effects of programs and projects to be included in the RTP.

Project Overview: The project, as defined by CEQA Statutes, Section 21065, is the preparation of the 2011 revision of the RTP. MCTC is in the process of preparing the RTP 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 Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The RTP must also meet Transportation Conformity for the Air Quality Attainment Plan per 40 CFR Part 51 and 40 CFR Part 93. In addition, the RTP must address requirements set forth in Assembly Bill 32, the California Global Warming Solutions Act of 2006. Finally, the California Transportation Commission has prepared guidelines (most recently adopted by the Commission on September 20, 2007 plus an Addendum addressing Climate Change and Greenhouse Gas Emissions adopted by the Commission on May 29, 2008) 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 Regional Transportation Plan every four (4) years. The last comprehensive EIR on the RTP was completed in 2007, which addressed transportation improvement projects, programs, and funding reflected in the 2004 RTP together with additional funding from the proposed (now approved) % Cent Sales Tax Measure Extension (Measure "T"). The 2011 revision to the RTP must be 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 Regional Transportation Improvement Program (RTIP). The RTP 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 SEIR. The RTP is also used as a transportation planning document by each of the three member jurisdictions of MCTC. The members include the County of Madera and the cities of Madera and Chowchilla.

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 2011 RTP include Climate Change (including a Climate Change Element), Congestion Management Process, Environmental Justice, Goods Movement, and Blueprint Planning. In addition, the 2011 RTP will include updated project lists and updated performance measures.

Mr. Richard Poythress, Project Administrator
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The RTP will include the following sections, which may be reorganized or modified as a result of staff and consultant review:

1. San Joaquin Valley Regional Transportation Overview
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4. Policy Element
5. Needs Assessment and Action Element
6. Financial Element"

Further, the Notice states, in part:

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- Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
 - The project will have one or more significant effects not discussed in the previous EIR or negative declaration
 - Significant effects previously examined will be substantially more severe than shown in the previous EIR
 - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative

Mr. Richard Poythress, Project Administrator
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- Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

In this case, MCTC understands that 2011 RTP improvement projects have changed or the timing of those projects has changed since certification of the previous RTP EIR in 2007. As a result of these changes, rather than prepare a complete new EIR, MCTC desires to use the previous EIR and update/change sections to address RTP project changes, as well as greenhouse gas/global warming (Climate Change) issues."

The Notice further states, in part:

"Environmental Issues to be Addressed In the EIR

The programs and projects to be included in the RTP will be analyzed through development of a Program EIR. This will allow MCTC to analyze the regional or general impacts of the programs and projects. A more detailed or project level environmental assessment of the various projects Included in the Plan will be conducted by the various responsible agencies including Caltrans, Madera County, and the cities within the County before the projects are constructed or implemented...

The key environmental issues to be addressed in the Program EIR for the 2007 Revision of the RTP include:..."

Public or Utility Services

- Electrical power or natural gas
- Communication
- Other public or utility services...

Transportation/Traffic

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)
- Exceed, either individually or cumulatively, a level of service standard established by the County RTP
- Result in a change in air, rail or water-borne traffic patterns, including either a significant increase in traffic levels or a change in location that results in substantial safety risks

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- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, hazards or barriers for vehicles, pedestrians, or bicyclists
- Substantially accelerate physical deterioration of public and/or private roads..”

It is the conclusion of the Notice that a “Program EIR” will be drafted and that the programs and projects that will be included in the RTP will be analyzed through this document. It is understood that a more detailed or project level environmental assessment will be conducted before the projects as are set forth in the RTP are constructed and implemented.

Scope and Content per District Request

The District agrees that a Program EIR should be prepared and should address the environmental issues set forth in the Notice. In addition, the District requests and recommends that the SEIR address the following topics:

1. Identify by narrative description and graphic depiction (map) the location and extents of the projects and programs to be included in the RTP, giving enough detail to allow clear and complete understanding of the projects and programs.
2. Identify the specific purpose of each project and program, the specific improvements that will result from the implementation of the project and program, and the traffic volumes that will be accommodated from the construction and implementation of the projects and programs.
3. Identify the current capacity and volumes of the streets, roads, highways, freeways, and other thoroughfares currently within the jurisdiction of the Regional Transportation Plan and the projected maximum capacities and volumes of the streets, roads, highways, freeways, and other thoroughfares that would result from the implementation of the projects and programs set for in the RTP, including the worst case scenario of the carrying capacity of all streets, roads, highways, freeways, and other thoroughfares within the RTP.
4. Identify the current student busing routes of the District’s transportation programs in relationship to the RTP projects and programs. Identify the school facilities buildout program of the District and identify the buildout student busing routes of the District’s transportation program in relationship to the RTP projects and programs. Identify all conflicts between the District’s busing routes and the capacities and volumes of RTP buildout streets, roads, highways, freeways, and other thoroughfares, including, but not limited to hazardous or unsafe conditions, re-routing requirements, and route scheduling and delays that might affect the District’s transportation services.
5. In conjunction with identification of the RTP projects and programs and the increased capacity and volumes of the streets, roads, highways, freeways, and other thoroughfares, identify the impacts on existing and future school facilities and sites, and identify the mitigation measures to eliminate or alleviate the impacts to a level of less-than-significant.

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6. Although the projects and programs as contained in the RTP are intended to accommodate growth within the jurisdiction of the MCTC, the RTP and the implementation of the projects and programs contained within the RTP will have growth inducing impacts as defined by the CEQA Guidelines.

Section 15126.2 (d) of the CEQA Guidelines states:

“Consideration and Discussion of Significant Environmental Impacts...

(d) Growth-Inducing Impact of the Proposed Project. Discuss 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. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”

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Chowchilla, California 93610

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Madera County Transportation Commission
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Sincerely,

Community Systems Associates, Inc.

Marshall Krupp

Mr. Marshall B. Krupp
President
marshallkrupp@communitysystemsassociates.com

MBK:mbk
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CC: Ms. Patricia Taylor, Executive Director
Madera County Transportation Commission
2001 Howard Road
Suite 201
Madera, California 93637

Mr. Ron Seals, Superintendent
Chowchilla Union High School District
805 Humboldt Avenue
Chowchilla, California 93610



January 12, 2010

Mr. Richard Poythress, Project Administrator
Madera County Transportation Commission
2001 Howard Road
Suite 201
Madera, California 93637

Subject: **Comments of the Chowchilla Elementary School District**
Notice of Preparation of a Subsequent Environmental Impact Report (SEIR) for the
Proposed 2011 Revision of the Regional Transportation Plan (RTP)

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Madera County Transportation Commission
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- Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

In this case, MCTC understands that 2011 RTP improvement projects have changed or the timing of those projects has changed since certification of the previous RTP EIR in 2007. As a result of these changes, rather than prepare a complete new EIR, MCTC desires to use the previous EIR and update/change sections to address RTP project changes, as well as greenhouse gas/global warming (Climate Change) issues."

The Notice further states, in part:

"Environmental Issues to be Addressed In the EIR

The programs and projects to be included in the RTP will be analyzed through development of a Program EIR. This will allow MCTC to analyze the regional or general impacts of the programs and projects. A more detailed or project level environmental assessment of the various projects included in the Plan will be conducted by the various responsible agencies including Caltrans, Madera County, and the cities within the County before the projects are constructed or implemented...

The key environmental issues to be addressed in the Program EIR for the 2007 Revision of the RTP include:..."

Public or Utility Services

- Electrical power or natural gas
- Communication
- Other public or utility services...

Transportation/Traffic

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)
- Exceed, either individually or cumulatively, a level of service standard established by the County RTP
- Result in a change in air, rail or water-borne traffic patterns, including either a significant increase in traffic levels or a change in location that results in substantial safety risks

Mr. Richard Poythress, Project Administrator
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- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, hazards or barriers for vehicles, pedestrians, or bicyclists
- Substantially accelerate physical deterioration of public and/or private roads...”

It is the conclusion of the Notice that a “Program EIR” will be drafted and that the programs and projects that will be included in the RTP will be analyzed through this document. It is understood that a more detailed or project level environmental assessment will be conducted before the projects as are set forth in the RTP are constructed and implemented.

Scope and Content per District Request

The District agrees that a Program EIR should be prepared and should address the environmental issues set forth in the Notice. In addition, the District requests and recommends that the SEIR address the following topics:

1. Identify by narrative description and graphic depiction (map) the location and extents of the projects and programs to be included in the RTP, giving enough detail to allow clear and complete understanding of the projects and programs.
2. Identify the specific purpose of each project and program, the specific improvements that will result from the implementation of the project and program, and the traffic volumes that will be accommodated from the construction and implementation of the projects and programs.
3. Identify the current capacity and volumes of the streets, roads, highways, freeways, and other thoroughfares currently within the jurisdiction of the Regional Transportation Plan and the projected maximum capacities and volumes of the streets, roads, highways, freeways, and other thoroughfares that would result from the implementation of the projects and programs set for in the RTP, including the worst case scenario of the carrying capacity of all streets, roads, highways, freeways, and other thoroughfares within the RTP.
4. Identify the current student busing routes of the District’s transportation programs in relationship to the RTP projects and programs. Identify the school facilities buildout program of the District and identify the buildout student busing routes of the District’s transportation program in relationship to the RTP projects and programs. Identify all conflicts between the District’s busing routes and the capacities and volumes of RTP buildout streets, roads, highways, freeways, and other thoroughfares, including, but not limited to hazardous or unsafe conditions, re-routing requirements, and route scheduling and delays that might affect the District’s transportation services.
5. In conjunction with identification of the RTP projects and programs and the increased capacity and volumes of the streets, roads, highways, freeways, and other thoroughfares, identify the impacts on existing and future school facilities and sites, and identify the mitigation measures to eliminate or alleviate the impacts to a level of less-than-significant.

Mr. Richard Poythress, Project Administrator
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6. Although the projects and programs as contained in the RTP are intended to accommodate growth within the jurisdiction of the MCTC, the RTP and the implementation of the projects and programs contained within the RTP will have growth inducing impacts as defined by the CEQA Guidelines.

Section 15126.2 (d) of the CEQA Guidelines states:

“Consideration and Discussion of Significant Environmental Impacts...

(d) Growth-Inducing Impact of the Proposed Project. Discuss 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. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”

The District request that the SEIR discuss and identify the ways in which the projects and programs of the RTP would foster economic or population growth, and the construction of new housing within the jurisdiction of the MCTC, either directly or indirectly. The District represents that the increase in the population and housing of the County and within the jurisdiction of the District will have significant impacts on the District’s ability to provide educational services and school facilities and will tax existing District service and facilities, requiring construction of new facilities that could cause significant environmental effects. Without the mitigation of the impacts associated with the growth inducing affects of the RTP on the Districts facilities and services, the growth of the jurisdiction within the MCTC accommodated by the projects and programs within the RTP will have an adverse impact on the District in terms of construction, financing, and the provisions of educational services and programs.

In addition, the growth induced impacts will have secondary impacts associated with noise and air quality that would impact the District’s schools and facilities and the employees and students that use such facilities. The SEIR needs to address these noise and air quality impacts on the District’s current and future schools that would be required by the capacity of growth that would be accommodated by the projects and programs contained in the RTP.

The District requests that these topics be addressed and discussed in the SEIR with the level of detail that would provide for a full disclosure and transparency of the current conditions, RTP projects and program impacts, and mitigation measures that would assure the District that the implementation of the RTP will not have an adverse impact on the facilities, services and educational programs of the District.

Mr. Richard Poythress, Project Administrator
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In particular, the District needs a level of assurance that the RTP projects and programs would not adversely affect the District's student transportation programs, create unhealthy or hazardous conditions for the students and employees of the District, and will not have an adverse affect on the District's ability to provide adequate and quality school facility environments and educational programs.

Notification

Following the completion of the Draft SEIR, the District does hereby request the maximum time permitted by law to review the Draft SEIR and offer any comments. We further hereby request that a copy of the Draft SEIR be forwarded to the following for review:

Dr. Charles Martin, Superintendent
Chowchilla Elementary School District
355 N. 5th Street
Chowchilla, California 93610

Mr. Marshall B. Krupp
Community Systems Associates, Inc.
3367 Corte Levanto
Costa Mesa, California 92626

The District's representatives are prepared to meet with the MCTC and the environmental consultants to discuss the requests made herein and to provide the data and information that would enable the MCTC and the environmental consultants to prepare the analysis and complete the Draft SEIR to the level of detail that is required by the CEQA Guidelines. Please feel free to contact the District to arrange the necessary meetings and to obtain the information that is required.

The District future requests that all of the related documents associated with the RTP, including text and maps be converted to a pdf file and posted on the MCTC website or that CD's be made available to the District for further review.

CEQA Policies

Section 15003 of the CEQA Guidelines states:

"In addition to the policies declared by the Legislature concerning environmental protection and administration of CEQA in Sections 21000, 21001, 21002, and 21002.1 of the Public Resources Code, the courts of this state have declared the following policies to be implicit in CEQA:

- (a) The EIR requirement is the heart of CEQA. (*County of Inyo v. Yorty*, 32 Cal. App. 3d 795.)
- (b) The EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected. (*County of Inyo v. Yorty*, 32 Cal. App. 3d 795.)

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- (c) The EIR is to inform other governmental agencies and the public generally of the environmental impact of a proposed project. (*No Oil, Inc. v. City of Los Angeles*, 13 Cal. 3d 68.)
- (d) The EIR is to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action. (*People ex rel. Department of Public Works v. Bosio*, 47 Cal. App. 3d 495.)
- (e) The EIR process will enable the public to determine the environmental and economic values of their elected and appointed officials thus allowing for appropriate action come election day should a majority of the voters disagree. (*People v. County of Kern*, 39 Cal. App. 3d 830.)
- (f) CEQA was intended to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language. (*Friends of Mammoth v. Board of Supervisors*, 8 Cal. 3d 247.)
- (g) The purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind. (*Bozung v. LAFCO* (1975) 13 Cal.3d 263)
- (h) The lead agency must consider the whole of an action, not simply its constituent parts, when determining whether it will have a significant environmental effect. (*Citizens Assoc. For Sensible Development of Bishop Area v. County of Inyo* (1985) 172 Cal.App.3d 151)
- (i) CEQA does not require technical perfection in an EIR, but rather adequacy, completeness, and a good-faith effort at full disclosure. A court does not pass upon the correctness

The District believes that the policies of CEQA and the CEQA Guidelines provide an adequate foundation to support the District's requests as contained in this letter, and offers further support of the need to prepare adequate environmental documentation on the Proposal.

The District is prepared to meet with the MCTC, the MCTC's consultant and representatives, and the MCTC's environmental consultant to discuss the contents of this letter and to provide information and data that would enable the MCTC's environmental consultant to complete the Draft SEIR in such a way that it addresses the comments contained herein. The District is also prepared to meet with the MCTC to discuss the mitigation measures that would address the District's concerns

Mr. Richard Poythress, Project Administrator
Madera County Transportation Commission
January 12, 2010
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Thank you for your assistance and consideration.

Sincerely,

Community Systems Associates, Inc.

Marshall Krupp

Mr. Marshall B. Krupp
President
marshallkrupp@communitysystemsassociates.com

MBK:mbk
Madera Co - Madera CTC RTP Notice of Preparation 01-08-10.doc

CC: Ms. Patricia Taylor, Executive Director
Madera County Transportation Commission
2001 Howard Road
Suite 201
Madera, California 93637

Dr. Charles Martin, Superintendent
Chowchilla Elementary School District
355 N. 5th Street
Chowchilla, California 93610

MCTC 2011 Regional Transportation Plan
DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
1352 WEST OLIVE AVENUE
FRESNO, CA 93728
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FRESNO, CA 93778-2616
OFFICE (559) 488-4162
FAX (559) 488-4088
TDD (559) 488-4066



January 12, 2010

Gentlemen

As Bicycle Coordinator for Caltrans District 6, which encompasses Madera County, I have the following comment to add in regards to Madera County's RTP NOP.

In an effort to more fully implement AB-32 (Global Warming) and get an aggressive start in the implementation of AB-1358 (Complete Streets - 2014) I recommend that a additional emphasis be placed on non-motorized elements within the Transportation and Land Use elements.

More specifically, greater emphasis should be placed on inter-regional, regional and urban bicycle facilities, end-of-trip bike parking (shopping centers, major office buildings/employers, parks/swimming pools, schools etc.), pedestrian facilities, the opening of cul-de-sacs and other dead-end roadways and coordinating with Caltrans, and the County's Road Department, to provide bikeable/walkable/ADA shoulders on all state and county roadways whenever a the roadway' is constructed or a major re-construction takes place.

If you have any questions regarding this matter, please contact me at (559) 444-2500 or via E-mail at john_cinatl@dot.ca.gov

Sincerely,

A handwritten signature in black ink, appearing to read "John F. Cinatl".

John F. Cinatl, Associate Transportation Planner
North Region and Bicycle Facilities Planning
Caltrans - District 6 - Fresno

Reply to Madera County's 2011 RTP - NOP to DPR (01-12-10).doc

DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS – M.S.#40
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TTY 711



*Flex your power!
Be energy efficient!*

December 24, 2009

Mr. Richard Poythress
Madera County Transportation Commission
2001 Howard Road, Suite 201
Madera, CA 93637

Dear Mr. Poythress:

Re: The Notice of Preparation of a Draft Environmental Impact Report for the 2011 Revision of the Madera County Regional Transportation Plan; SCH# 2001021025

The California Department of Transportation (Caltrans), Division of Aeronautics (Division), reviewed the above-referenced document with respect to airport-related noise and safety impacts and regional aviation land use planning issues pursuant to the California Environmental Quality Act (CEQA). The Division has technical expertise in the areas of airport operations safety and airport land use compatibility. We are a funding agency for airport projects and we have permit authority for public-use and special-use airports and heliports.

The proposal is to update the Madera County Regional Transportation Plan (RTP). The RTP will address the effects of planned growth and development on the existing and planned transportation system.

Within Madera County are numerous airports and heliports including the public use airports, Madera Municipal and Chowchilla. Aviation plays a significant role in California's transportation system. The regional transportation planning process provides the opportunity to discuss the connection between land use and transportation planning and should address regional aviation issues and needs. Strong and effective local, regional, and state policies minimize adverse impacts arising from the encroachment of incompatible land uses around airports, adverse noise impacts on communities near airports, and congestion or delays related to airport ground access.

The protection of airports from incompatible land use encroachment is vital to the safety of airport operations and the well being of the communities around airports. As discussed in the Division's "Aviation Planning Guidelines for Regional Transportation Plans" the best way to preserve and improve airports and their associated economic and quality-of-life benefits is to take timely proactive measures. Incompatible land uses around airports often result in public pressure to restrict operations (curfews, aircraft size limits, etc.), and impose noise, and growth controls. Failure to protect the airport may result in permanent closure, thereby reducing or eliminating its benefits. The Guidelines are available at <http://www.dot.ca.gov/hq/planning/aeronaut/documents/rtp2007guidelines.pdf>. For questions concerning these guidelines, please contact the Division's liaison for Madera County RTP review, Ms. Carol Glatfelter at (916) 654-5253.

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Mr. Richard Poythress
December 24, 2009
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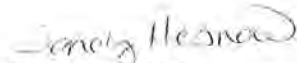
The California Airport Land Use Planning Handbook is also an excellent resource and is available on-line at <http://www.dot.ca.gov/hq/planning/aeronaut/htmlfile/landuse.php>.

Although the need for compatible and safe land uses near airports is both a local and State issue, it is also a regional issue. Airport staff, Airport Land Use Commissions (ALUC) and airport land use compatibility plans are key to protecting an airport and the people residing and working in the vicinity of an airport. Coordinating the RTP with these other agencies should help to relieve future conflicts between airports and their neighbors.

These comments reflect the areas of concern to the Division of Aeronautics with respect to airport-related noise, safety, and regional land use planning issues. We advise you to contact our District 6 office concerning surface transportation issues.

Thank you for the opportunity to review and comment on this proposal. If you have any questions, please call me at (916) 654-5314 or by email at sandy.hesnard@dot.ca.gov.

Sincerely,



SANDY HESNARD
Aviation Environmental Specialist

c: State Clearinghouse, Madera County ALUC

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RESOURCE MANAGEMENT AGENCY
PLANNING DEPARTMENT

Norman L. Allinder, AICP
Director

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• Mail Stop G
• Madera, CA 93637
• (559) 675-7821
• FAX (559) 675-6573
• TDD (559) 675-8070
• mc_planning@madera-county.com

December 30, 2009

Mr. Richard Poythress
Project Administrator
Madera CTC
2001 Howard Road, Suite 201
Madera, CA 93637

RE: SEIR for 2011 RTP

Dear Mr. Poythress:

We have received your Notice of Preparation for the Subsequent Environmental Impact Report for the 2011 Revision to the Regional Transportation Plan. What follows are our comments on that notice.

We would like to see an evaluation based off of any new development that has occurred since the last RTP update in regards to the cumulative effect from transportation, air quality and climate change. Incorporation of mitigation measures related to how the County can reduce its' impact on global warming should be considered.

Any issues related to the Airport Master Plan, whether it is to the plan itself or to any construction on the airport in Chowchilla or Madera, must be brought before the Airport Land Use Commission for consideration of consistency. Please consult with the County's ALUC Staff member for any questions.

We would like to see an evaluation of transportation issues related to the various income levels within the County, especially as they relate to anticipated housing growth.

If you have any questions, please feel free to contact me at (559) 675-7821 extension 226.

Sincerely,

Robert Mansfield, REA
Planner III

cc: Norman L. Allinder, Planning Director

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax



December 29, 2009

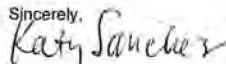
Richard Poythress
Madera County Transportation Commission
2001 Howard Road, Suite 201
Madera, CA 93637

RE: SCH#2001021025 2011 Revision of the Madera County Regional Transportation; Madera County.

Dear Mr. Poythress:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Preparation (NOP) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
 - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
 - If any known cultural resources have already been recorded on or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
 - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
 - A Sacred Lands File Check. **USGS 7.5 minute quadrangle name, township, range and section required.**
 - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached.**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
 - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
 - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
 - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Katy Sanchez
Program Analyst
(916) 653-4040

CC: State Clearinghouse

Native American Contact
Madera County
December 28, 2009

Picayune Rancheria of Chuckchansi
Mary Motola, Cultural Specialist
46575 Road 417 Chuckchansi / Yokut
Coarsegold, CA 93641
mmotola@chukchansi.com
559-683-6633

Chowchilla Tribe of Yokuts
Jerry Brown
10553 N. Rice Road North Valley Yokuts
Fresno, CA 93720
559-434-3160

Esohm Valley Band of Indians/Wuksache Tribe
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct. Foothill Yokuts
Salinas, CA 93906 Mono
831-443-9702

Dumna Tribal Government
Jim Redmoon - Cultural Resources Representative
724 W. Fountain Dumna/Foothill
Fresno, CA 93705 Choinumni
559-243-9926

Southern Sierra Miwuk Nation
Les James, Spiritual Leader
PO Box 1200 Miwok
Mariposa, CA 95338 Pauite
209-966-3690 Northern Valley Yokut

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2001021025 2011 Revision of the Madera County Regional Transportation; Madera County.

DEPARTMENT OF TRANSPORTATION

DIVISION OF AERONAUTICS – M.S.#40
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TTY 711



*Flex your power!
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December 24, 2009

Mr. Richard Poythress
Madera County Transportation Commission
2001 Howard Road, Suite 201
Madera, CA 93637

Dear Mr. Poythress:

Re: The Notice of Preparation of a Draft Environmental Impact Report for the 2011 Revision of the Madera County Regional Transportation Plan; SCH# 2001021025

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Mr. Richard Poythress
December 24, 2009
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These comments reflect the areas of concern to the Division of Aeronautics with respect to airport-related noise, safety, and regional land use planning issues. We advise you to contact our District 6 office concerning surface transportation issues.

Thank you for the opportunity to review and comment on this proposal. If you have any questions, please call me at (916) 654-5314 or by email at sandy.hesnard@dot.ca.gov.

Sincerely,

Original Signed by

SANDY HESNARD
Aviation Environmental Specialist

c: State Clearinghouse, Madera County ALUC
bc: Terri Pencovic-DOTP, Sharri Bender-Ehlert-Dist 6, Michael Navarro-Dist 6

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