DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR THE

MANTECA CIRCULATION ELEMENT UPDATE

DECEMBER 2010

Prepared for:

City of Manteca
Community Development Department
1001 West Center Street
Manteca, CA 95337
(209) 456-8511

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De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

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INTRODUCTION

The City of Manteca has determined that the City of Manteca Circulation Element Update is a "Project" within the definition of CEQA. CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "Project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

The EIR contains a description of the project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR.

PROJECT DESCRIPTION

The proposed project is the adoption and implementation of the City of Manteca Circulation Element Update (hereinafter "proposed project"). The proposed project embodies goals, objectives, policies, and implementation measures covering seven transportation topics: Level of Service Standards, Major Street Master Plan, Parking, Bicycle and Pedestrian Systems, Public Transit, Goods Movement, and Transportation Demand Management. A discussion of each of these seven topics are described in Section 2 along with the complete list of goals, objectives, policies, and implementation measures from the proposed project.

The proposed project reflects the broader goals of the City's General Plan. These include improvement of the existing community, economic development, expanded tourism, improved aesthetic quality in the built environment, better public and personal health, improved safety, improved quality of life, and environmental protection.

The City's existing circulation system is a reflection of the City's historic development pattern, which has been focused on moving cars quickly through and around the City. This type of circulation system provides a high degree of mobility and access to those who have cars, but it does not adequately serve residents who cannot or choose not to drive and it is expensive to build and maintain. Additional emphasis has recently been given to alternative modes of transportation, such as bicycling, walking, and public transit. Examples include the construction of the Tidewater Bikeway, the adoption and implementation of a Bicycle Master Plan, streetscape improvements in Downtown, new street standards with improved pedestrian facilities, and the initiation of the City's own transit service. This Circulation Element stresses the need for a balanced circulation system based on the concept of "complete streets."

Complete streets describes a comprehensive approach to the practice of mobility planning. The complete street concept recognizes that transportation corridors have multiple users with different abilities and mode preferences (e.g., driving, biking, walking, and taking transit). A well-integrated street system considers the complementary relationship between land use, local and regional travel needs, and the context that it serves. Complete streets apply equally to facilities like Yosemite Avenue through downtown and commercial corridors like Main Street near the State Route 120 interchange. Complete streets consider the full range of users including vehicles, trucks, pedestrians, bicycles, children, the disabled, and seniors.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the proposed project that are known to Manteca, were raised during the Notice of Preparation (NOP) process, or raised during preparation of the Draft EIR. This Draft EIR discusses potentially significant impacts associated with agricultural resources, air quality, biological resources, cultural resources, greenhouse gas emissions, land use and population, noise, and transportation. During the NOP process, comments were received from the California Energy Commission, California Department of Transportation, California Energy Commission, City of Lathrop, Public Utilities Commission, Ripon Consolidated Fire District, City of Ripon, San Joaquin Valley Air Pollution Control District, and the San Joaquin Council of Governments.

California Energy Commission (CEC). The CEC noted that they would like to assist with the reduction of energy usage associated with the Circulation Element Update. Included in the comment letter was Appendix F of the California Environmental Quality Act for how to achieve energy conservation. The CEC also noted that the CEC's Energy Aware Planning Guide is also a planning tool that is available for land use planning efforts.

California Department of Transportation (Caltrans). Caltrans provided information on system planning for various freeway segments. The commentor noted that the concept facility and the Ultimate Transportation Concept (UTC) from I-205 to State Route (SR) 120 to north of Lathrop is 10 lanes, and other treatments such as High Occupancy Vehicle (HOV) and ramp meters will be needed. On SR 120, the concept facility is a 6 lane freeway and the UTC is an 8 lane freeway. On SR 99 from north of Lathrop to south of SR 120, the concept and UTC is an 8 lane freeway. Further widening of this segment is not feasible due to right of way needs. Lastly, the commentor noted that the circulation element should address mitigating additional traffic in light of restrictions imposed by insufficient right of way available to accommodate forecasted traffic volumes on these facilities.

City of Lathrop. The City of Lathrop indicated that they do not oppose the Circulation Element provided that impacts to their community are appropriately addressed and mitigated. The City of Lathrop specifically noted public services/utilities, and transportation impacts. They requested that current and future impacts on public services, specifically police and public works services, be addressed. They are concerned that Manteca residents would use Louise Ave, E. Lathrop Rd., and Roth Rd. as short-cut pass through routes between I-5 and Manteca, and that these trips would have direct and indirect impacts on public services. The City of Lathrop also requested the

preparation of a comprehensive circulation/traffic impact analysis that addresses the current and long-range impacts on the following roadways: Roth Road (between Airport Way and I-5), Lathrop Road (between Airport Way and I-5), Louise Avenue (between Airport Way and I-5), and Yosemite Avenue (between Airport Way and SR 120). Lastly, the City of Lathrop requests that they can review the vehicle distribution patterns work scope relative to these roadways and that they receive notification of all project hearings and meetings related to the project.

Public Utilities Commission (PUC). The PUC noted that they are the State agency responsible for rail safety and that they recommend that development projects proposed near rail corridors be planned with the safety of these corridors in mind. The PUC identified several consequences of development, and suggested that working with the PUC staff early in the planning process would help identify potential project impacts and appropriate mitigation. The PUC noted that the traffic impact study within the Draft EIR needs to consider safety issues to at-grade railroad crossings, as well as cumulative rail safety-related impacts created by other projects. The PUC provided a variety of measures that could reduce adverse impacts to rail safety. Lastly, the PUC noted that any modification to existing highway-rail crossings or the construction of a new crossing would require PUC approval.

Ripon Consolidated Fire District (RCFPD). The RCFPD noted that the project includes areas that lie within their jurisdiction and the jurisdiction of the Lathrop Manteca Fire District, which receives service from the RCFPD. The RCFPD requested adequate notification of future meetings that may involve their agency.

City of Ripon. The City of Ripon identified concerns with the inter-regional connectivity between Manteca and Ripon. The commentor noted that cooperation amongst the two agencies has important impacts on both communities that should be addressed within the Draft EIR. The City of Ripon provided a historical account of the State Route 99 Feasibility Study that was prepared in coordination with Manteca and Ripon, among other agencies, and indicates that the Figure 3 Manteca Major Street Master Plan provided in the NOP does not reflect the location of the McKinley interchange or how it complies with the requirements for one mile spacing between interchanges. The commentor requests that the Caltrans spacing requirements between interchanges be addressed in the Draft EIR. The City of Ripon notes that the cities of Manteca and Ripon entered into a Memorandum of Understanding (MOU) to work cooperatively with one another with regard to planning and land use issues. The commentor indicates that the NOP does not mention this MOU and that it should be addressed within the EIR. Lastly, the City of Ripon requests notification of public hearings regarding this project**.**

San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD notes that their agency will act as Trustee Agency for the proposed project, and potentially as Responsible Agency for individual projects under the proposed project. The commentor notes that individual projects may be subject to various SJVAPCD rules and regulations, and that the project proponent of individual projects should contact the District prior to construction. The SJVAPCD provides a list of various documents that they have prepared to assist local agencies in amending their general plan. Lastly, the commentor indicates that compliance with the Fugitive Dust Prohibition and Indirect Source Review requirements may not be sufficient to reduce individual project level construction

emissions to below the SJVAPCD's thresholds of significance. As such, the SJVAPCD suggests that a policy be included in the proposed project that would mitigate construction impacts to a level below District thresholds or buildout of the proposed project would have cumulatively significant impacts on air quality. The commentor provides a list of various project level construction related impacts.

San Joaquin Council of Governments (SJCOG). SJCOG indicated that their agency is the County's designated Congestion Management Agency, which monitors the roadway network that is adopted within the Regional Congestion Management Program (RCMP). They specifically noted that the following roadways located within the Manteca city limits are monitored as part of the RCMP: Yosemite Avenue, Airport Way, Lathrop Road, and State Routes 99 and 120 (and McKinley Avenue once constructed). SJCOG cited requirements to prepare a Deficiency Plan if a segment becomes deficient, and noted that the proposed project includes policies that may allow a roadway to become deficient under certain circumstances. SJCOG requests that the EIR disclose, mitigate, and make Overriding Considerations, if necessary. Additionally, SJCOG recommends that the mitigation measures include a Deficiency Plan to justify that the deficiencies are "planned." The commentor describes two types of deficiency plans (Direct-fix and System-wide) and that the requirement only applies to deficient roadways that are within the CMP roadway network. Lastly, SJCOG notes that the thresholds Appendix G CEQA Guidelines are required to be used to address potential impacts to roadways.

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the project or to the location of the project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed project. Since the primary objective of the proposed project is to guide long-term transportation improvements citywide, a discussion of alternative sites is not appropriate. The alternatives analyzed in this EIR include the following four alternatives which includes the proposed project:

- No Project (Constrained) Alternative
- No Project (Unconstrained) Alternative
- Alternative Investment Strategy
- Preferred Roadway Network (proposed project)

As summarized in Table ES-1 below, the Preferred Network is the environmentally superior alternative because it provides the greatest reduction of potential impacts in comparison to the other alternatives. The Alternative Investment Strategy is the second best alternative in terms of environmental impacts.

Table ES-1: Comparison Summary of Alternatives to the Proposed Project

ENVIRONMENTAL ISSUE	*NO PROJECT (CONSTRAINED) ALTERNATIVE*	*PREFERRED NETWORK ALTERNATIVE*	*NO PROJECT (UNCONSTRAINED) ALTERNATIVE*	*ALTERNATIVE INVESTMENT STRATEGY*
Agricultural Resources	1 (Best)	3 (Medium)	4 (Worst)	3 (Better)
	The No Project (Constrained) Alternative would result in the lowest potential for adverse impacts on agricultural resources. As roadway infrastructure improvement projects would decrease under this alternative, the potential for development of roadway infrastructure to convert agricultural lands to non-agricultural uses as well as the potential for conflicts with agricultural lands would be less under the No Project (Constrained) Alternative when compared to the other alternatives.			
Air Quality	4 (Worst)	2 (Better)	2 (Better)	1 (Best)
	The Alternative Investment Strategy would result in less construction-related emissions than other alternatives; however, this alternative would not create greater traffic capacity to improve operational level of service on some roadways resulting in more traffic congestion and associated pollutant emissions. The Alternative Investment Strategy is intended to reduce automobile trips, and thus decrease emissions, through shifting trip volume from vehicular trips to transit, bicycle, and pedestrian trips. Overall, this alternative would increase the use of public transit and other alternative modes of transportation, which would also help provide some relief of congestion on the roadway network. This alternative would not improve operational level of service on some roadways resulting in more traffic congestion and associated pollutant emissions; however, the amount of emissions on a per capita basis is expected to be improved because there would be more non-motorized transportation choices for residents which would translate into more use. This alternative is superior to the other alternatives.			
Biological Resources	1 (Best)	3 (Medium)	4 (Worst)	3 (Better)
	The No Project (Constrained) Alternative would result in the lowest potential for adverse impacts on biological resources. As roadway infrastructure improvement projects would decrease there would be fewer construction and infrastructure development projects that would negatively impact special-status species, their habitat, sensitive habitat, migration corridors, and wetlands/riparian resources under the No Project (Constrained) Alternative when compared to the other alternatives.			
Cultural Resources	1 (Best)	3 (Medium)	4 (Worst)	3 (Better)
	The No Project (Constrained) Alternative would result in the lowest potential for adverse impacts on cultural resources. As roadway infrastructure improvement projects would decrease under this alternative, there would be fewer construction and infrastructure development projects that would have the potential to degrade or destroy cultural resources, including archaeological, paleontological, historic, and human remains, under the No Project (Constrained) Alternative when compared to the other alternatives.			
Greenhouse Gases and Climate Change	4 (Worst)	2 (Better)	2 (Better)	1 (Best)
	The Alternative Investment Strategy would result in the lowest potential for adverse impacts from Greenhouse Gases and Climate Change. This alternative would reduce automobile trips, and thus decrease greenhouse gas emissions, through shifting trip volume from vehicular trips to transit, bicycle, and pedestrian trips. Overall, this alternative would increase the use of public transit and other alternative modes of transportation, which would also help provide some relief of congestion on the roadway network. This alternative would not improve operational level of service on some roadways resulting in more traffic congestion and associated pollutant emissions; however, the amount of greenhouse gas emissions on a per capita basis is expected to be improved because there would be more non-motorized transportation choices for residents which would translate into more use. This alternative is superior to the other alternatives.			
Land Use/ Population and Housing	4 (Worst)	2 (Better)	1 (Best)	3 (Medium)
	The No Project (Unconstrained) Alternative would result in the lowest potential for adverse impacts associated with land use/population and housing. While this alternative would have the potential to induce additional growth due to increased roadway capacity, this alternative			

ENVIRONMENTAL ISSUE	*NO PROJECT (CONSTRAINED) ALTERNATIVE*	*PREFERRED NETWORK ALTERNATIVE*	*NO PROJECT (UNCONSTRAINED) ALTERNATIVE*	*ALTERNATIVE INVESTMENT STRATEGY*
	would also be the most consistent with land use planning activities in the City as this alternative would implement the transportation projects necessary to serve planned development as well as provide transportation services at adequate levels. Therefore, the No Project (Unconstrained) Alternative would have less of an impact on land use/population and housing than other alternatives.			
Noise	1 (Equal)	1 (Equal)	1 (Equal)	1 (Equal)
	The four alternatives are equally weighted. Some have slightly better short term noise impacts due to few construction activities, some have slightly improved noise conditions due to new projects, and others have slightly improved noise conditions due to increased traffic volume. Overall, these alternatives are estimated to be equal to each other in terms of noise impacts. Additionally, it is expected that noise impacts can be mitigated to a large extent with an appropriate design that uses noise attenuation.			
Transportation and Circulation	3 (Medium)	2 (Better)	1 (Best)	4 (Worst)
	The No Project (Unconstrained) Alternative would result in more transportation improvements in an effort to address LOS operational deficiencies. As a result, the roadway system would increase capacity and roadway safety such that there would be reduced congestion and improvements to the LOS.			

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the significant effects on the environment. The CEQA Guidelines defines a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations. The definition of "beneficial" effect is not defined in the CEQA Guidelines, but for purposes of this EIR a beneficial effect is one in which an environmental condition is enhanced or improved.

The environmental impacts of the proposed project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
AGRICULTURAL RESOURCES			
Impact 3.1-1: Conversion of Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance	PS	***Adopted General Plan Policies and Implementation Measures*** <u>Policies</u> • *LU-P-41: The City shall encourage the continuation of agricultural uses on lands within the Primary and Secondary Urban Services Boundary lines pending their development as urban uses consistent with the General Plan.* • *LU-P-42: The City will encourage the continuation of small, specialty agricultural operations and demonstration or educational agricultural operations that are compatible with the adjacent urban uses.* • *CD-P-48: Allow pockets of agricultural activity to remain within the urban areas of the city where such uses are compatible with the surrounding urban use.* • *CD-P-49: Allow use of small under-utilized parcels or undeveloped portions of parcels for temporary, seasonal agricultural activity, such as truck farms, strawberries, and small orchards.* • *RC-P-19: The City shall support the continuation of agricultural uses on lands designated for urban use, until urban development is imminent.* • *RC-P-20: The City shall provide an orderly and phased development pattern so that farmland is not subjected to premature development pressure.* • *RC-P-21: In approving urban development near existing agricultural lands, the City shall take actions so that such development will not unnecessarily constrain agricultural practices or adversely affect the viability of nearby agricultural operations.* • *RC-P-22: Nonagricultural uses in areas designated for agriculture should be redirected to urban areas.* • *RC-P-23: Protect designated agricultural lands, without placing an undue burden*	SU

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PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		on agricultural landowners. • *RC-P-24: Provide buffers at the interface of urban development and farmland; in order to minimize conflicts between these uses.* • *RC-P-25: The City shall ensure, in approving urban development near existing agricultural lands, that such development will not unnecessarily constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations.* • *RC-P-26: The City shall restrict the fragmentation of agricultural land parcels into small rural residential parcels except in areas designated for estate type development in the General Plan Land Use Diagram.* • *RC-P-28: The City shall not extend water and sewer lines to premature urban development that would adversely affect agricultural operations.* • *RC-P-29: The City shall encourage Manteca Unified School District and the Delta Community College District to maintain the school farm facilities and associated education programs in the City.* • *RC-P-30: The City of Manteca will participate in a county-wide program to mitigate the conversion of Prime Farmland and Farmlands of Statewide Importance to urban uses.* *Implementation Measures* • *LU-I-1. The City shall maintain a growth management system that provides a mechanism for the annual allocation of the amount of residential, commercial, and industrial development that may occur. The growth management system shall have the following objectives:* o *Maintain, and where necessary enhance, the community's current public services and facilities;* o *Protect against the construction of development projects which will require sewage treatment capacity in excess of that determined available by the City Council;*	

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		○ *Preserve and protect the environment;* ○ *Preserve and protect the quality of life and character of the community.* ○ *Provide for the orderly and adequate expansion of the City's housing stock in order to advance housing opportunities and to accommodate a reasonable share of expected regional growth.* ○ *Provide for the adequate and orderly expansion of the City's commercial and employment development base in balance with the city's housing stock;* ○ *Provide for a balance between multi-family and single family residential development;* ○ *Conserve viable agricultural and open space lands; and* ○ *Encourage and facilitate development proposals that accomplish the goals, policies, and programs of the General Plan through development innovations that cannot be accomplished by conventional zoning.* • *RC-I-30. Apply the following conditions of approval where urban development occurs next to farmland.* ○ *Require notifications in urban property deeds that agricultural operations are in the vicinity, in keeping with the City's right-to farm ordinance.* ○ *Require adequate and secure fencing at the interface of urban and agricultural use.* ○ *Require phasing of new residential subdivisions; so as to include an interim buffer between residential and agricultural use.* • *RC-I-31. Work with San Joaquin County on the following issues:* ○ *Pesticide application and types of agricultural operations adjacent to urban uses.* ○ *Support the continuation of County agricultural zoning in areas designated for agricultural land use in the Area Plan.*	

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.1-2: Conflict with Existing Agricultural Zoning or Williamson Act Contracts	PS	***Adopted General Plan Policies and Implementation Measures*** <u>*Policies*</u> • *RC-P-27: The City shall discourage the cancellation of Williamson Act contracts outside the Primary Urban Service Boundary line.* <u>*Implementation Measures*</u> • *LU-I-1. The City shall maintain a growth management system that provides a mechanism for the annual allocation of the amount of residential, commercial, and industrial development that may occur. The growth management system shall have the following objectives:* o *Maintain, and where necessary enhance, the community's current public services and facilities;* o *Protect against the construction of development projects which will require sewage treatment capacity in excess of that determined available by the City Council;* o *Preserve and protect the environment;* o *Preserve and protect the quality of life and character of the community.* o *Provide for the orderly and adequate expansion of the City's housing stock in order to advance housing opportunities and to accommodate a reasonable share of expected regional growth.* o *Provide for the adequate and orderly expansion of the City's commercial and employment development base in balance with the city's housing stock;* o *Provide for a balance between multi-family and single family residential development;* o *Conserve viable agricultural and open space lands; and* o *Encourage and facilitate development proposals that accomplish the goals, policies, and programs of the General Plan through development innovations*	SU

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		that cannot be accomplished by conventional zoning. • *RC-I-30. Apply the following conditions of approval where urban development occurs next to farmland.* ○ *Require notifications in urban property deeds that agricultural operations are in the vicinity, in keeping with the City's right-to farm ordinance.* ○ *Require adequate and secure fencing at the interface of urban and agricultural use.* ○ *Require phasing of new residential subdivisions; so as to include an interim buffer between residential and agricultural use.* • *RC-I-31. Work with San Joaquin County on the following issues:* ○ *Pesticide application and types of agricultural operations adjacent to urban uses.* ○ *Support the continuation of County agricultural zoning in areas designated for agricultural land use in the Area Plan.*	
AIR QUALITY			
Impact 3.2-1: Conflict with, or Obstruct, the Applicable Air Quality Plan, Cause a Violation of Air Quality Standards, Contribute Substantially to an Existing Air Quality Violation, or Result in a Cumulatively Considerable Net Increase of a Criteria Pollutant in a Non-Attainment Area	PS		SU
Impact 3.2-2: Short-term - Conflict with, or Obstruct, the Applicable Air Quality Plan, Cause a Violation of Air Quality Standards, Contribute Substantially to an Existing Air Quality Violation, or Result in a Cumulatively	PS	***Mitigation Measure 3.2-1:*** *The City of Manteca shall design Circulation Element projects to avoid significant amounts of haul material, such as excavated soil and construction debris -- construction sites should employ a balanced cut/fill ratio to the extent possible. The implementing agency shall prepare and submit a Dust Control Plan to the SJVAPCD at least 48 hours prior to any earthmoving or construction activities. The*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Considerable Net Increase of a Criteria Pollutant in a Non-Attainment Area		*implementing agency shall implement the following measures:* • *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 miles per hour or less.* • *Pave all construction access roads at least 100 feet on to the site from permanent roadways.* • *Cover all haul trucks.*	
Impact 3.2-3: Occasional Localized Carbon Monoxide Concentrations from Traffic	PS	***Mitigation Measure 3.2-2:*** *The City of Manteca shall screen individual projects at the time of design for localized CO hotspot concentrations and if necessary incorporate project-specific measures into the project design to reduce or alleviate CO hotspot*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Conditions at Some Individual Locations		*concentrations.*	
Impact 3.2-4: Create Objectionable Odors Affecting a Substantial Number of People	LS		--
Impact 3.2-5: Contribute Substantially to, or Result in a Cumulatively Considerable Net Increase of Mobile Source Air Toxics	LS		--
Impact 3.2-6: Potential to release asbestos from earth movement or structural asbestos from demolition/renovation of existing structures	PS	***Mitigation Measure 3.2-3:*** *Prior to construction of Circulation Element projects, the City of Manteca shall assess the site for the presence of asbestos including asbestos from structures such as road base, bridges, and other structures. In the event that asbestos is present, the City of Manteca shall comply with applicable state and local regulations regarding asbestos, including CARB's asbestos airborne toxic control measure (ATCM) (Title 17, CCR § 93105 and 93106), to ensure that exposure to construction workers and the public is reduced to an acceptable level. This may include the preparation of an Asbestos Hazard Dust Mitigation Plan to be implemented during construction activities.*	LS
BIOLOGICAL RESOURCES			
Impact 3.3-1: Direct or Indirect Effects on Candidate, Sensitive, or Special-Status Species including their Habitat or Movement Corridors	PS	***Mitigation Measure 3.3-1:*** *Prior to final design approval of individual projects, the City of Manteca shall coordinate with the SJMSCP administrator (SJCOG, Inc.) to verify whether construction within the study area would require a permit. The permit process will require a field reconnaissance of the project study area by an SJCOG approved biologist in an effort to identify any biological constraints, including HCP covered species or habitat. If the biologist identifies HCP covered species or habitat within the limits of the project study area the City of Manteca shall implement all minimization measures and pay the appropriate mitigation fees or provide land in lieu of fees as established by the SJCOG, Inc. If the biologist identifies species or habitat within the project study area that are not covered by the HCP, the City of Manteca shall coordinate with the appropriate regulatory agency (USFWS, NMFS, or CDFG) to obtain the appropriate permits prior to any disturbance to the species or their habitat.* ***Adopted General Plan Policies and Implementation Measures***	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		Policies • *RC-P-32 Protect special status species and other species that are sensitive to human activities.* *Implementation Measures* • *RC-I-32 Continue to support and comply with the requirements of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) when reviewing proposed public and private land use changes.* • *RC-I-34 Project proponents who opt not to participate in the SJMSCP shall satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies.*	
Impact 3.3-2: Adverse Effects on Riparian Habitat or Other Sensitive Natural Community Identified in Local or Regional Plans, Policies, Regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service, or on Federally Protected Wetlands as Defined by Section 404 of the Clean Water Act through Direct Removal, Filling, Hydrological Interruption, or Other Means	PS	***Mitigation Measure 3.3.2.*** *Prior to approval of individual projects, the City of Manteca shall retain a qualified biologist to perform an assessment of the project area to identify wetlands, riparian, and other sensitive aquatic environments. If wetlands are present the qualified biologist shall perform a wetland delineation following the 1987 Army Corps of Engineers Wetlands Delineation Manual. The wetland delineation shall be submitted to the ACOE for verification.* ***Mitigation Measure 3.3.3.*** *If wetlands, riparian, or other sensitive aquatic environments are found within the project area for a individual project, the City of Manteca shall design or modify the project to avoid direct and indirect impacts on these habitats, if feasible. Additionally, the City of Manteca shall minimize the loss of riparian vegetation by trimming rather than removal where feasible.* *Prior to construction, the City of Manteca shall install orange construction barrier fencing to identify environmentally sensitive areas around the wetland (20' from edge), riparian area (100' from edge), and other aquatic habitats (250' from edge of vernal pool). The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The fencing will be installed before construction activities are initiated and will be maintained throughout the construction*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		period. The following paragraph will be included in the construction specifications: *The Contractor's attention is directed to the areas designated as "environmentally sensitive areas." These areas are protected, and no entry by the Contractor for any purpose will be allowed unless specifically authorized in writing by the City of Manteca. The Contractor will take measures to ensure that Contractor's forces do not enter or disturb these areas, including giving written notice to employees and subcontractors.* *Temporary fences around the environmentally sensitive areas will be installed as the first order of work. Temporary fences will be furnished, constructed, maintained, and removed as shown on the plans, as specified in the special provisions, and as directed by the project engineer. The fencing will be commercial-quality woven polypropylene, orange in color, and at least 4 feet high (Tensor Polygrid or equivalent). The fencing will be tightly strung on posts with a maximum 10-foot spacing.* *Immediately upon completion of construction activities the contractor shall stabilize exposed soil/slopes. On highly erodible soils/slopes, use a nonvegetative material that binds the soil initially and breaks down within a few years. If more aggressive erosion control treatments are needed, geotextile mats, excelsior blankets, or other soil stabilization products will be used. All stabilization efforts should include habitat restoration efforts.* ***Mitigation Measure 3.3.4:*** *If wetlands or riparian habitat are disturbed as part of the individual projects, the City of Manteca shall compensate for the disturbance to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state, federal, and local agencies as part of the permitting process for the project. The compensation shall be at a minimum ratio of 3 acres restored, created, and/or preserved for every 1 acre disturbed. Compensation may comprise onsite restoration/creation, off-site restoration, preservation, or mitigation credits (or a combination of these elements). The City of Manteca shall develop and implement a restoration and monitoring plan that describes how the habitat shall be created and monitored over a minimum period of time.* ***Adopted General Plan Policies and Implementation Measures*** *Policies*	

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		• *BR-P-30 Condition new development in the vicinity of the San Joaquin River and Walthall Slough to promote and protect riparian habitat, wetlands, and other native vegetation and wildlife community.* • *BR-P-34 Consider the development of new drainage channels planted with native vegetation, which would provide habitat as well as drainage.* <u>*Implementation Measures*</u> • *RC-I-32 Continue to support and comply with the requirements of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) when reviewing proposed public and private land use changes.* • *RC-I-33 For project proponents who opt against participation in the SJMSCP, require site-specific research, and ground surveys for proposed development projects. This research must include a detailed inventory of all biological resources onsite, and appropriate mitigation measures for avoiding or reducing impact to these biological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.* • *RC-I-34 Project proponents who opt not to participate in the SJMSCP shall satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies.* • *BR-I-36 Limit the access of pedestrians and cyclists to wetland areas so that access is compatible with long-term protection of these natural resources.* • *BR-I-38 Until such time that a Clean Water Act regional general permit or its equivalent is issued for coverage under the SJMSCP, acquisition of a Section 404 permit by project proponents will continue to occur as required by existing regulations. Project proponents shall comply with all requirements for protecting federally protected wetlands.*	
Impact 3.3-3: Interference with the Movement	PS	***Mitigation Measure 3.3-5:*** *Prior to design approval of individual projects that contain*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
of 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		*movement habitat, the City of Manteca shall incorporate economically viable design measures, as applicable and necessary, to allow wildlife or fish to move through the transportation corridor, both during construction activities and post construction. Such measures may include appropriately spaced breaks in a center barrier, or other measures that are designed to allow wildlife to move through the transportation corridor. If the project cannot be designed with these design measures (i.e. due to traffic safety, etc.) the City of Manteca shall coordinate with the appropriate regulatory agency (i.e. USFWS, NMFS, CDFG) to obtain regulatory permits and implement alternative project-specific mitigation prior to any construction activities.* ***Adopted General Plan Policies and Implementation Measures*** *Policies* • *RC-P-31. Minimize impact of new development on native vegetation and wildlife.* • *RC-P-32. Condition new development in the vicinity of the San Joaquin River and Walthall Slough to protect riparian habitat, wetlands, and other native vegetation and wildlife communities and habitats.* • *RC-P-34. Protect special status species and other species that are sensitive to human activities.* • *RC-P-35. Allow contiguous habitat areas.* • *RC-P-36. Consider the development of new drainage channels planted with native vegetation, which would provide habitat as well as drainage.* *Implementation Measures* • *RC-I-32. Continue to support and comply with the requirements of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) when reviewing proposed public and private land use changes.* • *RC-I-33. Project proponents who opt not to participate in the SJMSCP shall:* ○ *Satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and*	

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies. o *Provide site-specific research and ground surveys for proposed development projects. This research must include a detailed inventory of all biological resources onsite, and appropriate mitigation measures for avoiding or reducing impact to these biological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.*	
Impact 3.3-4: Potential Introduction or Spread of Noxious Weeds Associated with the Transportation Projects	PS	***Mitigation Measure 3.3.6:*** *Prior to approval of transportation projects, the City of Manteca shall retain a qualified botanist determine whether noxious weeds are an issue for the project. If the botanist determines that noxious weeds are an issue, the City of Manteca shall review the noxious weed list from the County Agricultural Commission, California Department of Food and Agriculture, and the California Exotic Pest Plant Council to identify target weed species for a field survey. Noxious weed infestations shall be mapped and documented. The City of Manteca shall incorporate the following measures into project plans and specifications:* • *Certified, weed-free, imported erosion-control materials (or rice straw in upland areas) will be used.* • *The project sponsor will coordinate with the county agricultural commissioner and land management agencies to ensure that the appropriate BMPs are implemented.* • *Construction supervisors and managers will be educated about noxious weed identification and the importance of controlling and preventing their spread.* • *Equipment will be cleaned at designated wash stations after leaving noxious weed infestation areas.*	LS
Impact 3.3-5: Conflicts with an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, Recovery Plan, or Local Policies or Ordinances Protecting Biological Resources	PS	*Implement Mitigation Measure 3.3-1.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
CULTURAL RESOURCES			
Impact 3.4-1: Damage to or the Destruction of Archaeological Resources	PS	***Adopted General Plan Policies and Implementation Measures*** <u>*Policies*</u> • *RC-P-37. The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without consulting the California Archaeological Inventory at Stanislaus State University, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by the California Environmental Quality Act (CEQA) and the National Historic Preservation Act (NHPA).* • *RC-P-38. The City shall require that the proponent of any development proposal in an area with potential archaeological resources, and specifically near the San Joaquin River and Walthall Slough, and on the east side of State Highway 99 at the Louise Avenue crossing, shall consult with the California Archaeological Inventory, Stanislaus State University to determine the potential for discovery of cultural resources, conduct a site evaluation as may be indicated, and mitigate any adverse impacts according to the recommendation of a qualified archaeologist. The survey and mitigation shall be developer funded.* <u>*Implementation Measures*</u> • *RC-I-38. Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, or cultural resources and/or to determine the potential for discovery of additional cultural resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.* • *RC-I-39. Require that sponsors of proposed development projects on sites where probable cause for discovery of archaeological resources (as indicated by records search and where resources have been discovered in the vicinity of the project) retain a consulting archaeologist to survey the project site. If unique resources, as defined by California State law, are found, a qualified archaeologist or historian shall be called to evaluate the find and to recommend proper action. Require a*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		monitoring plan for the project to ensure that mitigation measures are implemented. • *RC-I-40. When feasible, incorporate significant archaeological sites into open space areas.*	
Impact 3.4-2: Inadvertent Discovery of Human Remains	PS	***Adopted General Plan Implementation Measure*** *Implementation Measure* • *RC-I-46. If human remains are discovered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to their origin and disposition pursuant to Public Resource code Section 5097.98. If the Coroner determines that no investigation of the cause of death is required, and if the remains are of Native American origin, the Coroner will notify the Native American Heritage Commission, which in turn will inform a most likely descendent. The descendent will then recommend to the landowner appropriate disposition of the remains and any grave goods.*	LS
Impact 3.4-3: Damage to or the Destruction of Paleontological Resources from Construction of Transportation Projects	PS	***Implement General Plan Policies and Implementation measures listed under Impact 3.4-1.***	LS
Impact 3.4-4: Damage to or the Destruction of Historical Resources	PS	***Adopted General Plan Implementation Measure*** *Policies* • *RC-P-39. The City shall set as a priority the protection and enhancement of Manteca's historically and architecturally significant buildings.* • *RC-P-40. The City shall work with property owners seeking registration of historical structures as Historic Landmarks or listing on the Register of Historic Sites.* • *RC-P-41. The City shall prepare and adopt a Historical Preservation Ordinance.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		• *RC-P-42. The City and Redevelopment Agency shall support the efforts of property owners to preserve and renovate historic and architecturally significant structures. Where such buildings cannot be preserved intact, the City shall seek to preserve the building facades.* *Implementation Measures* • *RC-I-38. Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, or cultural resources and/or to determine the potential for discovery of additional cultural resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.* • *RC-I-39. Require that sponsors of proposed development projects on sites where probable cause for discovery of archaeological resources (as indicated by records search and where resources have been discovered in the vicinity of the project) retain a consulting archaeologist to survey the project site. If unique resources, as defined by California State law, are found, a qualified archaeologist or historian shall be called to evaluate the find and to recommend proper action. Require a monitoring plan for the project to ensure that mitigation measures are implemented.* • *RC-I-41. The City should continue its inventory of all historic sites throughout the City. The inventory should contain a narrative of the significant facts regarding the historic events or persons associated with the site, and pictures of the site.* • *RC-I-42. The City shall continue to support the local historical society in their efforts to* archive historic information, including photographs, publications, oral histories and other materials, and to make the information available to the public for viewing and research. • *RC-I-43. All City permits for reconstruction or modification of existing buildings will require submittal of a photograph of the existing structure or site. The intent is to*	

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		create a record of the buildings in the City over time. A photograph will also be required for vacant sites that will be modified with new construction of new buildings or other above ground improvements. • *RC-I-44. Encourage the placement of monuments or plaques that recognize and celebrate historic sites, structures, and events.* • *RC-I-45. The City shall adopt and implement a historic building code, as authorized by state law.*	
GREENHOUSE GASES AND CLIMATE CHANGE			
Impact 3.5.1: CO2 Emission Effects on Climate Change and Global Warming	PS	***Mitigation Measure 3.5-1:*** *Coordinate with the SJCOG as they develop a Sustainable Communities Strategy (SCS) in compliance with SB 375. This will involve county-wide land use scenarios that reflect different population distributions and land use (mix and density), and multimodal transportation strategies, utilizing the SJCOG regional travel demand model in coordination with a rapid fire tool similar to I-Places. Land use scenarios for Manteca should demonstrate potential reductions in vehicle miles traveled (VMT) and total vehicle miles; GHG, conventional and toxic air pollutant emissions; long distance commute trips; and other such factors consistent with state and federal law.* ***Mitigation Measure 3.5-2:*** *Coordinate with the San Joaquin Council of Governments as they develop and implement a Congestion Management Plan to provide a consistent and coordinated approach for responding to congestion through the investment in roadway capacity increasing measures once all reasonable non-capacity measures have been employed.* ***Mitigation Measure 3.5-3:*** *Participate in the SJCOG Smart Growth Incentive Program. The Measure K Renewal Smart Growth Incentive Program funds are available for infrastructure improvements and planning grants that will assist local agencies in better integrating transportation and land use, such as street calming, walkable community projects, transit amenities and alternative modes of transportation. These funds promote infill development in walkable areas thereby increasing living and transportation choices while reducing reliance on automobiles, and to reward*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		jurisdictions that approve new housing and mixed-use development in urban locations near transit hubs (station, transit center, bus stops serving two or more routes). ***Mitigation Measure 3.5-4:*** *Insure that planning efforts include the following:* • *Support development patterns that are amenable to transit, bicycle and pedestrian facilities* • *Continue to encourage use of transit* • *Incorporate bicycle facilities into transportation projects* • *Implement Complete Streets design concepts* • *Seek funding for bicycle projects and maintenance from local, state and federal sources* • *Assist and encourage employers to promote the use of bicycle facilities and safety* ***Mitigation Measure 3.5-5:*** *Seek funding for the development of a Climate Action Plan (CAP) and insure that Manteca's planning efforts address climate change and greenhouse gas emissions. Once funded, the CAP should include the following components* • *Baseline inventory of GHG emissions from municipal sources.* • *A target reduction goal consistent with AB 32.* • *Policies and measures to reduce GHG emissions.* • *Quantification of the effectiveness of the proposed policies and measures.* • *A monitoring program to track the effectiveness and implementation of the CAP.*	
Impact 3.5.2: Energy Consumption Effects on Climate Change and Global Warming	PS	***Mitigation Measure 3.5-6:*** *Consistent with Appendix F of the CEQA Guidelines, the City of Manteca should:* • *Promote measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, maintenance and/or removal of projects. As the individual projects are designed there should be an explanation as to why certain measures were incorporated in the project and why other measures were dismissed.*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		• *Site, orient, and design projects to minimize energy consumption, increase water conservation and reduce solid-waste.* • *Promote efforts to reduce peak energy demand in the design and operation of projects.* • *Promote the use of alternate fuels (particularly renewable ones) or energy systems for projects.* • *Promote efforts to recycle materials used in the construction (including demolition phase) of projects.*	
Impact 3.5.3: Population Effects on Climate Change and Global Warming	PS	*Implement Mitigation Measures 3.5-1 through 3.5-6.*	SU
LAND USE AND PLANNING			
Impact 3.6-1: Physical Division of an Established Community	PS	***Mitigation Measure 3.6.1:*** *Prior to approval of individual projects, the City of Manteca shall review the proposed design to ensure that the project will not physically divide the community. The consultation should include a more detailed project-level analysis of land uses adjacent to proposed improvements to identify specific impacts. The analysis should consider new road widths and specific project locations in relation to existing roads. If it is determined that a project could physically divide a community, the City of Manteca shall redesign the project to avoid the impact, if feasible. The measures could include realignment of the improvements to avoid the affected community. Where avoidance is not feasible, the City of Manteca shall incorporate minimization measures to reduce the impact. The measures could include: alignment modifications, right-of-way reductions, provisions for bicycle, pedestrian, and vehicle facilities, and enhanced landscaping and architecture.*	LS
Impact 3.6-2: Conflicts with Applicable Land Use Plan, Policy, or Regulation Adopted to Avoid or Mitigate an Environmental Effect	LS	***Mitigation Measure 3.6-2:*** *The City of Manteca shall have continued coordination with SJCOG during the development and implementation of the Regional Congestion Management Plan (CMP) to provide a consistent and coordinated approach for responding to congestion on CMP monitored roadways in Manteca through the investment in roadway capacity increasing measures once all reasonable non-capacity*	--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		measures have been employed. The coordination efforts should include: • *Adherence to the SJCOG's level of service standard for all regional CMP roadway facilities, or in the case of "planned" level of service deficiencies approved by the City of Manteca, provide SJCOG with a Deficiency Plan to address the deficiency.* • *Adherence to the SJCOG's standards for the frequency and routing of public transit.* • *Adherence to the SJCOG programs and policies that are designed to reduce automobile trip generation from newly developed residential and employment centers.* • *Adherence to the SJCOG programs and policies that are designed to reduce automobile trip generation from newly developed residential and employment centers.* • *Adherence to the SJCOG's trip reduction and travel demand programs that promotes alternative transportation modes.* • *Provide SJCOG with the opportunity to review all development proposals so that they can comment on their regional impact and appropriate mitigation to address impacts to the regional transportation system.* ***Mitigation Measure 3.6-3:*** *The City of Manteca shall coordinate with SJCOG during the development of the Sustainable Communities Strategy (SCS) for San Joaquin County in compliance with SB 375. This effort will require coordination of Manteca's land use and transportation planning efforts to ensure that SJCOG's regional planning efforts complement each other. This will involve SJCOG's development of a countywide land use scenarios that reflects different population distributions and land use (mix and density), and multimodal transportation strategies, utilizing the SJCOG regional travel demand model in coordination with a rapid fire tool similar to I-Places. Scenarios will be developed to identify the alternatives that demonstrate potential reductions in vehicle miles traveled (VMT) and total vehicle miles; GHG, conventional and toxic air pollutant emissions; long distance commute trips; and other such factors that are consistent with state and federal law. Upon completion of the SCS, the City of Manteca shall present the land use and transportation development scenario to the Manteca City Council for consideration.*	

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.6-3: Conflicts with Any Applicable Habitat Conservation Plan or Natural Community Conservation Plan	PS	*Implement Mitigation Measure 3.3-1*	LS
Impact 3.6-4: Induce Substantial Population Growth in an Area	PS	***Mitigation Measure 3.6-4:*** *The City of Manteca shall coordinate with SJCOG to secure funds for transportation projects through the Measure K Smart Growth Incentive Program. The program seeks the following:* • *A minimum of $65 million in state and federal transportation funding or Measure K funding will be made available for smart growth incentives to local jurisdictions in San Joaquin County. These funds will be made available for infrastructure improvements and planning grants that will assist local agencies in better integrating transportation and land use, such as street calming, walkable community projects, transit amenities and alternative modes of transportation. These funds will be available to enhance infill development, neighborhood revitalization and downtown improvements.* • *The program promotes infill development in walkable areas thereby increasing living and transportation choices while reducing reliance on automobiles, and to reward jurisdictions that approve new housing and mixed-use development in urban locations near transit hubs. Projects to serve cities currently not served by high-frequency transit service that are creating conditions that would allow for increased transit service, encourage livable communities, support mixed use development, and/or support infill and redevelopment of downtown areas are eligible. In high frequency transit areas eligible projects must be within walking distance of transit hubs (station, transit center, bus stops serving two or more routes). Investments in transit hubs themselves are eligible.* • *This program aims to capitalize on public investments in transportation infrastructure, help rebuild and revitalize town centers and main streets, promote infill development, create more walkable communities, encourage transit use, and address regional housing needs. When allocating dollars for housing projects a minimum overall density of 10 units per acre with bonus points for higher densities and affordable housing will be used. Mixed use developments must have an average*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		of 12 units per acre and be at least 50% housing.	
Impact 3.6-5: Displace Substantial Numbers of People or Existing Housing, Necessitating the Construction of Replacement Housing Elsewhere	LS		--
NOISE			
Impact 3.7-1: Grading and Construction Activities Would Intermittently and Temporarily Generate Noise Levels Above Ambient Background Levels	PS	***Mitigation Measure 3.7-1:*** *Subsequent projects under the Circulation Element shall be designed and implemented to reduce adverse construction noise and vibration impacts to sensitive receptors, as feasible. Measures to reduce noise and vibration effects may include, but are not limited to:* • *Construction of temporary sound barriers to shield noise-sensitive land uses.* • *Location of noise-generating stationary equipment (e.g., power generators, compressors, etc.) at the furthest practical distance from nearby noise-sensitive land uses.* • *Phase demolition, earth-moving and ground-impacting operations so as not to occur in the same time period.* • *Use of equipment noise-reduction devices (e.g., mufflers, intake silencers, and engine shrouds) in accordance with manufacturers' recommendations.* • *Substituting noise/vibration-generating equipment with equipment or procedures that would generate lower levels of noise/vibration. For instance, in comparison to impact piles, drilled piles or the use of a sonic or vibratory pile driver are preferred alternatives where geological conditions would permit their use.* • *Limit noise-generating construction activities, excluding those that would result in a safety concern to workers or the public, to the hours of 7 a.m. to 8 p.m., as outlined in Section 9.52.040.K of the City of Manteca Municipal Code.* • *Other specific measures as they are deemed appropriate by the implementing agency to maintain consistency with adopted policies and regulations regarding noise and groundborne vibration levels.*	SU
Impact 3.7-2: Exposure of Noise-Sensitive	PS	*Implement Mitigation Measure 3.9-1*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Land Uses to Noise in Excess of Normally Acceptable Noise Levels or to Substantial Increases in Noise			
Impact 3.7-3: Grading and Construction Activities Would Intermittently and Temporarily Expose Sensitive Receptors to Groundborne Vibration Levels	PS	*Implement Mitigation Measure 3.9-1*	SU
TRANSPORTATION AND CIRCULATION			
Impact 3.8-1: Increase in traffic volumes would increase delay and volume-to-capacity ratio on certain transportation facilities	LS		--
Impact 3.8-2: Increase in traffic volumes would increase delay and/or volume-to-capacity ratios at traffic facilities creating unacceptable operations	PS	***Mitigation Measure 3.8.1:*** *The City of Manteca shall either update the PFF to include additional lanes/wider segments at facilities that are operating at unacceptable levels, or adopt an alternative LOS standard for that particular roadway/intersection.* ***Mitigation Measure 3.8.2:*** *The City of Manteca shall coordinate transportation planning efforts with neighboring jurisdictions to ensure that LOS is maintained at acceptable levels.*	LS
Impact 3.8-3: Implementation of the transportation system may conflict with the City of Ripon General Plan's Circulation Element, which calls for a new interchange one mile north of Jack Tone Road at Olive Expressway	LS		--
Impact 3.8-4: Implementation proposed project could increase traffic volumes in locations that would adversely affect bicycle and pedestrian travel or lead to increased	PS	***Mitigation Measure 3.8.3:*** *The City of Manteca shall coordinate with the City of Ripon and Caltrans to either: 1) develop a design that would accommodate the McKinley Avenue Expressway and the Olive Expressway with collector-distributor ramps, braded ramps, or other geometric considerations, or 2) try to develop an interchange design and*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
bicycle or pedestrian demand in areas where adequate non-motorized facilities do not exist		*location along SR 99 that would accommodate the needs of the both Cities, while meeting the spacing requirements of Caltrans.*	
CUMULATIVE IMPACTS			
Impact 4.1: Cumulative Impact on Agricultural Land and Uses	PS		CC and SU
Impact 4.2: Cumulative Impact on the Region's Air Quality	PS		CC and SU
Cumulative Loss of Biological Resources Including Habitats and Special Status Species	PS		CC and SU
Impact 4.4: Cumulative Impacts on Known and Undiscovered Cultural Resources	LCC		--
Impact 4.5: Increased Transportation Greenhouse Gas Emissions May Contribute to Climate Change	PS		CC and SU
Impact 4.6: Cumulative Impact on Communities and Local Land Uses	LCC		--
Impact 4.7: Cumulative Exposure of Noise-Sensitive Land Uses to Noise in Excess of Normally Acceptable Noise Levels or to Substantial Increases in Noise	PS		CC and SU
Impact 4.8: Cumulative Impact on the Transportation Network	B/LCC		--

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1.1 MANTECA CIRCULATION ELEMENT UPDATE

CIRCULATION ELEMENT

A Circulation Element consists of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities within a community, all correlated with the Land Use Element of the General Plan for that community. (Government Code Section 65302).

The Circulation Element addresses all aspects of transportation including commuter and truck traffic, intra-city vehicle traffic, rail, buses, bicycles, and pedestrians. Circulation master planning has traditionally focused on automobiles and truck traffic by ensuring that the road system will be adequate to accommodate future traffic demands. While automobile and truck traffic will continue to be important modes of transportation in the time horizon for this General Plan, the future is not necessarily a simple continuation of past trends. Several factors suggest that the conventional use of automobiles will change in significant ways within the planning horizon. While these factors cannot be predicted with assurance, the General Plan seeks to provide a balanced transportation system that accommodates all modes of travel, while supporting the City's goals of remaining a vibrant community where people want to live, work, shop, and recreate.

RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

Circulation and land use are closely linked elements that provide the framework for much of the General Plan. The policies and strategies should demonstrate a balance between land uses and the transportation facilities that serve them. The location and intensity of land uses determines the need for circulation system components and, in turn, the capacity of the circulation system often determines the location and feasibility of land use. Within the context of the General Plan, the circulation policies are also interwoven with economic, housing, open space, air quality, noise, and safety policies.

Coordination between the Land Use Element and the Circulation Element:

- encourages walking and bicycle trips by promoting a compact urban form with neighborhood destinations close to residents;
- makes public transit feasible through coordination of the intensity and location of land uses; and
- reduces the length and number of vehicle trips outside of the community by promoting mixed-use development and by providing employment centers, shopping, and services within the city.

RELATIONSHIP TO THE REGIONAL TRANSPORTATION SYSTEM

The Circulation Element is intended to be compatible with the San Joaquin County Regional Transportation Plan and to support local transportation linkages to the regional transportation

network. These linkages include the Altamont Commuter Express train and the regional bus systems as well as future opportunities for rail and bus transportation.

PLANNING HORIZON

Perhaps more than other elements in the General Plan, the Circulation Element must take a very long-term view. Physical infrastructure, such as the road system, establishes a framework that is very difficult to alter. Land uses may change and buildings may be torn down and reconstructed, but the route of the public streets and utility corridors are typically fixed in place over time. Therefore, the circulation system components must be carefully considered for their long-term impacts on land use and community form. Major new roads are relatively expensive and must be planned long in advance in order to obtain sufficient funding and sufficient right-of-way. For these reasons, the Circulation Element must look beyond the twenty-year horizon typical of other elements in the General Plan.

1.2 PURPOSE OF THE EIR

The City of Manteca, as lead agency, determined that the Circulation Element is a "project" within the definition of CEQA. CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project that may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

An EIR must disclose the expected environmental impacts, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize environmental impacts of proposed development, and an obligation to balance a variety of public objectives, including economic, environmental, and social factors.

1.3 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. Section 15168 states:

A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1) Geographically,
2) As logical parts in the chain of contemplated actions,
3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or

4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The program-level analysis considers the broad environmental effects of the proposed project. This EIR will be used to evaluate subsequent projects and activities under the proposed project. This EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering approval of the proposed project, but not to the level of detail to consider approval of each transportation project identified in the proposed project.

Additional environmental review under CEQA may be required for susbsequent projects and would be generally based on the subsequent project's consistency with the proposed project and the analysis in this EIR, as required under CEQA. It may be determined that some future improvements may be exempt from environmental review. When individual subsequent projects or activities under the proposed project are proposed, the lead agency that would approve and/or implement the individual project will examine the projects or activities to determine whether their effects were adequately analyzed in the program EIR (CEQA Guidelines Section 15168). If the projects or activities would have no effects beyond those disclosed in this EIR, no further CEQA compliance would be required.

1.4 INTENDED USES OF THE EIR

The City of Manteca, as the lead agency, has prepared this EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from adoption of the proposed project and subsequent implementation of projects consistent with the proposed project. The environmental review process enables interested parties to evaluate the proposed project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency must balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

This EIR will be used as the primary environmental document to evaluate all subsequent planning and permitting actions associated with the proposed project. Subsequent actions that may be associated with the proposed project are identified in Chapter 2.0, Project Description.

1.5 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the project or an aspect of the project (CEQA Guidelines Section 15381). For the purpose of CEQA, a "Trustee" agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386). While no Responsible Agencies or Trustee Agencies are responsible for approvals associated with adoption of the proposed project, implementation of projects under the proposed

project will require permits and approvals from Trustee and Responsible Agencies, which may include the following:

- California Department of Fish and Game (CDFG)
- California Department of Transportation (Caltrans)
- Central Valley Water Quality Control Board (RWQCB)
- San Joaquin County (Community Development and Public Works Departments)
- San Joaquin Local Agency Formation Commission (LAFCo)
- San Joaquin Council of Governments (SJCOG)
- San Joaquin Valley Unified Air Pollution Control District (SJVAPCD)
- U.S. Army Corps of Engineers (ACOE)
- U.S. Fish and Wildlife Service (USFWS)

1.6 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

NOTICE OF PREPARATION AND INITIAL STUDY

The City of Manteca circulated a Notice of Preparation (NOP) of an EIR for the proposed project and an Initial Study on April 19, 2010 to trustee and responsible agencies, the State Clearinghouse, and the public. A scoping meeting was held on May 11, 2010 in the City of Manteca. Those present at the scoping meeting included representatives from the following: the City of Lathrop, the City of Manteca, and De Novo Planning Group. The NOP, Initial Study, and Scoping Meeting Notes are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of the project's direct and indirect impacts on the environment, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the City of Manteca will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period.

PUBLIC NOTICE/PUBLIC REVIEW

Concurrent with the NOC, the City of Manteca will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA requirements, the review period for this Draft EIR is

forty-five (45) days. Public comment on the Draft EIR will be accepted both in written form and oral form. All comments or questions regarding the Draft EIR should be addressed to:

Mark Meissner
City of Manteca
1001 West Center Street
Manteca, CA 95337

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period and to oral comments during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City of Manteca will review and consider the Final EIR. If the City of Manteca finds that the Final EIR is "adequate and complete", the City Council may certify the Final EIR in accordance with CEQA. The rule of adequacy generally holds that an EIR can be certified if:

1) The EIR shows a good faith effort at full disclosure of environmental information; and

2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

Upon review and consideration of the Final EIR, the City Council may take action to approve, revise, or reject the project. A decision to approve the proposed project, for which this EIR identifies significant environmental effects, must be accompanied by written findings in accordance with State CEQA Guidelines Sections 15091 and 15093. A Mitigation Monitoring Program, as described below, would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment. This Mitigation Monitoring Program will be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

1.7 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Discussion of the environmental issues addressed in the Draft EIR was established through review of environmental and planning documentation developed for the project, environmental and planning documentation prepared for recent projects located within the City of Manteca and San Joaquin County, and responses to the Notice of Preparation (NOP).

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the proposed project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the project's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the proposed project.

CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the proposed project, the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, identifies the scope and organization of the Draft EIR, and summarizes comments received on the NOP.

CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, subsequent projects and activities, and a list of related agency action requirements.

CHAPTER 3.0 - ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addressing a topical area is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the project.

Impacts and Mitigation Measures. Identification of the thresholds of significant by which impacts are determined, a description of project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this section:

- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Greenhouse Gases
- Land Use/Planning
- Noise
- Population/Housing
- Transportation/Traffic

The Initial Study determined that there would be no impact or a less-than-significant impact to the following environmental issue areas: aesthetics, geology and soils, hazards and hazardous

materials, hydrology/water quality, mineral resources, public services, recreation, and utilities. These issues are not discussed in Chapter 3; the basis for the no impact or less than significant determination for each of these topics is described in the Initial Study (Appendix A).

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required topics: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative, and significant and unavoidable environmental effects.

CHAPTER 5.0 - ALTERNATIVES TO THE PROJECT

Chapter 5.0 provides a comparative analysis between the merits of the proposed project and the selected alternatives. State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project, which could feasibly attain the basic objectives of the project and avoid and/or lessen any significant environmental effects of the project.

CHAPTER 6 - REPORT PREPARERS

Chapter 6.0 lists all authors and agencies that assisted in the preparation of the Draft EIR, by name, title, and company or agency affiliation.

APPENDICES

This section includes all notices and other procedural documents pertinent to the Draft EIR, as well as technical material prepared to support the analysis.

1.8 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City of Manteca received several comment letters on the NOP. A copy of each letter is provided in the appendix of this Draft EIR and the comments are summarized below.

California Energy Commission (CEC). The CEC noted that they would like to assist with the reduction of energy usage associated with the Circulation Element Update. Included in the comment letter was Appendix F of the California Environmental Quality Act for how to achieve energy conservation. The CEC also noted that the CEC's Energy Aware Planning Guide is also a planning tool that is available for land use planning efforts.

California Department of Transportation (Caltrans). Caltrans provided information on system planning for various freeway segments. The commentor noted that the concept facility and the Ultimate Transportation Concept (UTC) from I-205 to State Route (SR) 120 to north of Lathrop is 10 lanes, and other treatments such as High Occupancy Vehicle (HOV) and ramp meters will be needed. On SR 120, the concept facility is a 6 lane freeway and the UTC is an 8 lane freeway. On SR 99 from north of Lathrop to south of SR 120, the concept and UTC is an 8 lane freeway. Further widening of this segment is not feasible due to right of way needs. Lastly, the commentor noted that the circulation element should address mitigating additional traffic in light of restrictions

imposed by insufficient right of way available to accommodate forecasted traffic volumes on these facilities.

City of Lathrop. The City of Lathrop indicated that they do not oppose the Circulation Element provided that impacts to their community are appropriately addressed and mitigated. The City of Lathrop specifically noted public services/utilities, and transportation impacts. They requested that current and future impacts on public services, specifically police and public works services, be addressed. They are concerned that Manteca residents would use Louise Ave, E. Lathrop Rd., and Roth Rd. as short-cut pass through routes between I-5 and Manteca, and that these trips would have direct and indirect impacts on public services. The City of Lathrop also requested the preparation of a comprehensive circulation/traffic impact analysis that addresses the current and long-range impacts on the following roadways: Roth Road (between Airport Way and I-5), Lathrop Road (between Airport Way and I-5), Louise Avenue (between Airport Way and I-5), and Yosemite Avenue (between Airport Way and SR 120). Lastly, the City of Lathrop requests that they can review the vehicle distribution patterns work scope relative to these roadways and that they receive notification of all project hearings and meetings related to the project.

Public Utilities Commission (PUC). The PUC noted that they are the State agency responsible for rail safety and that they recommend that development projects proposed near rail corridors be planned with the safety of these corridors in mind. The PUC identified several consequences of development, and suggested that working with the PUC staff early in the planning process would help identify potential project impacts and appropriate mitigation. The PUC noted that the traffic impact study within the Draft EIR needs to consider safety issues to at-grade railroad crossings, as well as cumulative rail safety-related impacts created by other projects. The PUC provided a variety of measures that could reduce adverse impacts to rail safety. Lastly, the PUC noted that any modification to existing highway-rail crossings or the construction of a new crossing would require PUC approval.

Ripon Consolidated Fire District (RCFPD). The RCFPD noted that the project includes areas that lie within their jurisdiction and the jurisdiction of the Lathrop Manteca Fire District, which receives service from the RCFPD. The RCFPD requested adequate notification of future meetings that may involve their agency.

City of Ripon. The City of Ripon identified concerns with the inter-regional connectivity between Manteca and Ripon. The commentor noted that cooperation amongst the two agencies has important impacts on both communities that should be addressed within the Draft EIR. The City of Ripon provided a historical account of the State Route 99 Feasibility Study that was prepared in coordination with Manteca and Ripon, among other agencies, and indicates that the Figure 3 Manteca Major Street Master Plan provided in the NOP does not reflect the location of the McKinley interchange or how it complies with the requirements for one mile spacing between interchanges. The commentor requests that the Caltrans spacing requirements between interchanges be addressed in the Draft EIR. The City of Ripon notes that the cities of Manteca and Ripon entered into a Memorandum of Understanding (MOU) to work cooperatively with one another with regard to planning and land use issues. The commentor indicates that the NOP does

not mention this MOU and that it should be addressed within the EIR. Lastly, the City of Ripon requests notification of public hearings regarding this project**.**

San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD notes that their agency will act as Trustee Agency for the proposed project, and potentially as Responsible Agency for individual projects under the proposed project. The commentor notes that individual projects may be subject to various SJVAPCD rules and regulations, and that the project proponent of individual projects should contact the District prior to construction. The SJVAPCD provides a list of various documents that they have prepared to assist local agencies in amending their general plan. Lastly, the commentor indicates that compliance with the Fugitive Dust Prohibition and Indirect Source Review requirements may not be sufficient to reduce individual project level construction emissions to below the SJVAPCD's thresholds of significance. As such, the SJVAPCD suggests that a policy be included in the proposed project that would mitigate construction impacts to a level below District thresholds or buildout of the proposed project would have cumulatively significant impacts on air quality. The commentor provides a list of various project level construction related impacts.

San Joaquin Council of Governments (SJCOG). SJCOG indicated that their agency is the County's designated Congestion Management Agency, which monitors the roadway network that is adopted within the Regional Congestion Management Program (RCMP). They specifically noted that the following roadways located within the Manteca city limits are monitored as part of the RCMP: Yosemite Avenue, Airport Way, Lathrop Road, and State Routes 99 and 120 (and McKinley Avenue once constructed). SJCOG cited requirements to prepare a Deficiency Plan if a segment becomes deficient, and noted that the proposed project includes policies that may allow a roadway to become deficient under certain circumstances. SJCOG requests that the EIR disclose, mitigate, and make Overriding Considerations, if necessary. Additionally, SJCOG recommends that the mitigation measures include a Deficiency Plan to justify that the deficiencies are "planned." The commentor describes two types of deficiency plans (Direct-fix and System-wide) and that the requirement only applies to deficient roadways that are within the CMP roadway network. Lastly, SJCOG notes that the thresholds Appendix G CEQA Guidelines are required to be used to address potential impacts to roadways.

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This section describes the primary components of the Manteca Circulation Element Update (hereinafter "proposed project") and provides the following information: (1) the location and boundaries of the proposed project on a regional map; (2) a statement of objectives sought by the proposed project; (3) a general description of the project's technical, economic and environmental characteristics; and (4) a statement briefly describing the intended uses of the EIR. Figures referenced throughout this section are located at the end of the section. The full Manteca Circulation Element Update is available for review at the City of Manteca website (www.ci.manteca.ca.us).

2.1 PROJECT LOCATION

REGIONAL SETTING

The City of Manteca is located in the "heartland" of California's Great Central Valley, with historical roots as an important agricultural center. Due to excellent soil, good climate, and access to clean water, Manteca was predominantly an agricultural area for much of the early 20th century. However, the community has transformed from an agricultural base to an urbanized base. The economic growth in south San Joaquin County has been accommodated by the area's advanced transportation infrastructure.

Manteca is located near the northern end of California's San Joaquin Valley at the junction of State Route 99 and State Route 120, approximately 75 miles east of San Francisco and 55 miles south of Sacramento. The area between Manteca and Stockton brings State Route 99 and Interstate 5 to their closest point in San Joaquin County, with State Route 120 connecting them through Manteca. Manteca is located approximately 12 miles south of downtown Stockton, and 14 miles northwest of the City of Modesto. Figure 2.0-1. illustrates the regional location.

The region is characterized by hot, dry summers, and cool winters. Average temperatures during the summer months range from 50 to 94 degrees with winter months averaging 36 to 53 degrees. The rainy season is typically between November and April with the average annual rainfall ranging from eight inches in the southern part of the county to 18 inches in the northern part of the county. The San Joaquin Valley has been designated as a severe non-attainment area for federal air quality standards. Warm temperatures, prevailing winds, and the location of the county within an enclosed valley all contribute to the air quality of the area.

STUDY AREA

The Study Area boundary for the proposed project is consistent with the General Plan Study Area boundary, which follows French Camp Road on the north, the Union Pacific Railroad on the west, Walthall Slough and a line contiguous to Sedan Avenue on the south, and a line approximately one-half mile east of Austin Road on the east. Figure 2.0-2. illustrates the Study Area boundaries and the project vicinity.

Government Code Section 65300 requires a General Plan to include all territory within the city limits as well as "any land outside its boundaries, which in the planning agency's judgment bears

relation to its planning". As such, the Study Area encompasses approximately 25,975 acres within and outside of the existing city limits. The purpose in establishing the Study Area boundary larger than the existing city limits is to identify and evaluate the areas surrounding the city that may affect the future economic viability, traffic, services, and aesthetic quality of the city.

2.2 PROJECT NEED AND GOALS

NEED FOR THE PROPOSED PROJECT

The circulation system goals are, in part a reflection of the City's historic development pattern, which has built a system that is heavily focused on moving cars quickly through and around the City. While this type of circulation system provides a high degree of mobility and access to those who have cars, it does not adequately serve residents who cannot or choose not to drive. Moreover, this type of circulation system is expensive to build and maintain since roadways and intersections are designed to accommodate the traffic volumes that occur during the peak one or two hours of the day. The majority of the time the roads are relatively empty, which promotes high vehicle speeds and decreases the viability of alternative modes.

More recently, additional emphasis has been given to other modes. Examples include the construction of the Tidewater Bikeway, the adoption and implementation of a Bicycle Master Plan, streetscape improvements in Downtown, new street standards with improved pedestrian facilities, and the initiation of the City's own transit service. While the City has made great strides toward developing a circulation system that better serves all modes of travel, this Circulation Element stresses the need for a balanced circulation system based on the concept of "complete streets."

Complete streets describes a comprehensive approach to the practice of mobility planning. The complete street concept recognizes that transportation corridors have multiple users with different abilities and mode preferences (e.g., driving, biking, walking, and taking transit). A well-integrated street system considers the complementary relationship between land use, local and regional travel needs, and the context that it serves. Complete streets apply equally to facilities like Yosemite Avenue through downtown and commercial corridors like Main Street near the State Route 120 interchange. Complete streets consider the full range of users including vehicles, trucks, pedestrians, bicycles, children, the disabled, and seniors.

PROJECT GOALS

The goals for the circulation system reflect the broader goals of the General Plan. These include improvement of the existing community, economic development, expanded tourism, improved aesthetic quality in the built environment, better public and personal health, improved safety, improved quality of life, and environmental protection. The following goals are identified for the Circulation Element.

Goal C-1. Provide for a circulation system that allows for the efficient movement of people, goods, and services within and through Manteca, based on land use and current improvement standards in conformance with the Public Facilities Implementation Plan.

Goal C-2. Balance the level of service for all modes so that residents and visitors have a variety of transportation choices.

Goal C-3. Maintain a safe transportation system for all modes.

Goal C-4. Provide attractive "complete" streets designed to serve a broad spectrum of travel modes, including automobiles, public transit, walking, and bicycling.

Goal C-5. Establish reasonable parking requirements (minimum and maximum rates for uses) that make walking, bicycling, and transit travel viable, while ensuring that vehicle access needs are considered.

Goal C-6. Provide a safe, secure, and convenient bicycle route system that connects to retail, employment centers, public facilities, and parks.

Goal C-7. Maintain coordinated, efficient bus service that provides an effective alternative to automobile use.

Goal C-8. Support and encourage regional transit connections that link Manteca to other Cities in Northern California.

Goal C-9. Provide for safe and convenient pedestrian circulation.

2.3 STREET NETWORK AND CLASSIFICATION

Manteca is built on a grid of major streets spaced at intervals of about one mile. This grid forms the backbone of the local street system and defines the boundaries of many residential neighborhoods. Between the major streets are a series of minor streets that provide access to neighborhoods, offices, and industrial areas. Along with the City's trail system, the sidewalks and bike lanes on these streets also serve pedestrian and bicycle modes. Transit and goods movement needs are also served on the City's street network. The street system in Manteca consists of four general classes of streets: expressways; arterial streets; major collector streets; minor collector streets; and local, small scale streets that serve residential neighborhoods.

Each street classification is designed to standards appropriate to the conditions and intended use. In general, the standards use the minimum level of street cross-section needed for traffic safety and emergency access and evacuation.

The Circulation Element does not establish street standards that specify the widths of overall pavement, travel lanes, medians, corridors, bike lanes, or sidewalk dimensions. Such standards may be adjusted over time to accommodate different needs and new conditions, and are therefore adopted as separate improvement standards. The Circulation Element establishes the general parameters and intent for each street classification.

Beyond fundamental traffic safety concerns, street design should emphasize ease and expense of maintenance, simplicity of construction, visual character, and multi-modal access. Street widths should be designed at the minimum necessary curb-to-curb width that can safely accommodate

the number of vehicle lanes, bicycle lanes, and parking needed for the street. All streets should also feature sidewalks and/or multi-use paths on both sides where right-of-way is available.

EXPRESSWAYS

Manteca currently does not have any expressways; however, the proposed McKinley Avenue extension between State Route (SR) 120 and SR 99 is planned as an expressway in some sections. Expressways are high-capacity routes designed to serve through traffic. Expressway access would be limited to intersections with arterials and collectors with intersection spacing of at least 1,200 feet. Based on the posted speed limit of the expressway, bicycle travel should be accommodated with either Class II bike lanes or a parallel off-street bike trail. Sidewalks should be provided on both sides of the street (or on one side if a bike trail is present on the opposite side). Roundabouts should be considered at intersections to reduce maintenance and operations costs associated with traffic signals.

ARTERIAL STREETS

Arterial streets are designed to serve through traffic and major local traffic generators such as high density housing areas, commercial, industrial, and institutional uses. Examples of arterials include Airport Way and Lathrop Road.

Arterial streets are intended to provide high-capacity routes to serve vehicle, transit, and goods movement. The streets should have an aesthetically appealing character with curbside landscaping and landscaped median islands, where appropriate. Existing arterial streets should provide sidewalks and bike lanes where space is available. Additional space may be provided by re-striping with narrower lanes to accommodate sidewalks and bike lanes to complete connections or close gaps in the bicycle and pedestrian systems.

In general, new arterial streets should be designed to accommodate both bike and pedestrian facilities on both sides of the street while balancing concerns regarding traffic volumes, operations, and the safety of drivers, bicyclists, and pedestrians. Arterial streets shall also be designed to accommodate public transit routes by providing adequate lane widths and corner radii for safe operation of trucks and buses and bus turnouts where deemed appropriate.

MAJOR COLLECTOR STREETS

Major collector streets serve as smaller-scale parallel routes to arterial streets and provide access to neighborhoods. Collector streets will typically provide two travel lanes, a Class II bike lane and a sidewalk on both sides. Median islands and turn lanes may be appropriate in certain conditions. For newly constructed major collector streets, on-street parking should be prohibited to reduce pavement width, pedestrian crossing distances, and maintenance costs. On-street parking for existing major collector streets should be restricted or limited by eliminating the parking lane or through the use of bulb-outs to minimize the cross section and discourage speeding..

MINOR COLLECTOR STREETS

Minor collector streets serve as the backbone circulation routes within larger neighborhoods and commercial/industrial areas. These streets provide primary access to light industrial and office properties and provide a link between low volume residential streets and larger collector and arterial streets. The minor collector street should be small scale, two lane streets. The streets should be wide enough to safely accommodate the traffic flows, but not so wide as to encourage high-speed travel. On-street parking should be restricted or limited by eliminating the parking lane or through the use of bulb-outs to minimize the cross section and discourage speeding. Depending on the surrounding land uses (e.g., office, commercial, or residential areas), the minor collector may accommodate Class II bike lanes. Sidewalks should be provided on each side of the street.

RESIDENTIAL STREETS

While they carry relatively light traffic loads, residential streets constitute the majority of Manteca's street system. These streets are intended to serve residential driveways, providing access between homes and larger streets. In general, these streets should include narrow travel and parking lanes to slow travel and discourage through trips. Features like corner bulb-outs and traffic circles (which are a smaller version of a roundabout) should be incorporated to improve the aesthetic quality of the street, while calming traffic. Class II bike lanes should not be included on residential streets as volumes and speeds are slow enough to safely accommodate bikes and cars. However, Class III bike routes and special pavement markings for bicycles may be appropriate to provide continuity for the bicycle system. Sidewalks should be provided on both sides of the street. Where a residential street ends in a cul-de-sac, a shared bicycle/pedestrian path should be constructed (as appropriate and where right-of-way is available) to connect the cul-de-sac to other residential, collector, or arterial streets. These bicycle and pedestrian connections shorten travel distances and encourage the use of these modes.

INTERSECTIONS OF CITY STREETS

Intersections are critical components of the street network since they tend to define how well the system operates. Drivers and transit users typically experience most of their traveling delay at intersections. In addition, intersections are important for pedestrians and bicycles since they provide controlled points where these modes can cross major roadways. The City's Standard Plans should be updated to include a set of typical intersection treatments.

In general, intersections should have minimum lane widths to serve the type of vehicles expected on the roadway (e.g., lanes should be sufficiently wide to accommodate trucks in industrial areas). Narrower lanes pose less of a barrier for pedestrians to cross and reduce maintenance costs. In addition, u-turn movements should be accommodated in the intersection design to the extent feasible to extend the length of landscaped medians. Also, bus bays should be included in intersection designs for expressways, arterials, and major collectors to maintain traffic flow while busses are loading and unloading.

TRAFFIC CALMING

Traffic speed is a concern where local and collector streets are relatively straight and there are few intersections. Within the developed portions of the city, in residential and school areas, and

where there are substantial numbers of pedestrians, it is desirable to maintain traffic flow at safe speeds. This may be accomplished through "traffic calming" measures. These may include modified signing and striping, roundabouts and traffic circles, bulb-outs, and other physical improvements that cause drivers to slow and be more aware of other vehicles and pedestrian or bicycle traffic. To assist in determining where and what type of traffic calming measures are appropriate, the City of Manteca has a Neighborhood Traffic Calming Program that is based on public participation. This "bottom up" approach is common throughout California and relies on neighborhood participation to identify issues and solutions.

2.4 PROJECT DESCRIPTION

The proposed project is the adoption and implementation of the City of Manteca Circulation Element Update (hereinafter "proposed project"). The proposed project identifies policies and implementation measures covering seven transportation topics: Level of Service Standards, Major Street Master Plan, Parking, Bicycle and Pedestrian Systems, Public Transit, Goods Movement, and Transportation Demand Management. A discussion of each of these seven topics are described in the following paragraphs along with the policies and implementation measures from the proposed project.

LEVEL OF SERVICE STANDARDS

Level of Service (LOS) is a qualitative measure used to describe operations on transportation facilities for different user types, including vehicles, transit riders, bicyclists, and pedestrians. The Highway Capacity Manual provides guidance on state-of-the-practice methods to measure LOS. Traditionally, the City has evaluated vehicular LOS on roadway facilities. This analysis compares existing or projected traffic volumes with the theoretical capacity of the street or intersection. Factors taken into consideration include volume of traffic, street and intersection design, signal timing, and other variables.

Each LOS is assigned a letter, ranging from "A" (free flow conditions) to "F" (severe congestion). Vehicular LOS letter "grades" should not necessarily be viewed like school grades where A is best and F is worst. Striving to provide free flow traffic conditions (LOS A) at all hours of the day requires wide streets, large intersections, substantial right-of-way, and considerable funds to construct and maintain these streets. "Good" vehicular LOS also tends to lead to poor LOS for bicycle and pedestrian modes since the larger streets and intersections, higher speeds, and longer waiting times to cross streets makes bicycling and walking more uncomfortable and less safe. Thus vehicular LOS must be balanced against mobility needs for other modes, environmental impact, and construction and maintenance costs. This General Plan establishes an LOS Standard that will guide street improvements in the City while meeting the City's goals of developing an efficient circulation system that promotes travel via other modes.

Policies: Level of Service

C-P-1: The City shall strive to balance levels of service (LOS) for all modes (vehicle, transit, bicycle, and pedestrian) to maintain a high level of access and mobility, while developing a complete and efficient circulation system. The impact of new

development and land use proposals on LOS and accessibility for all modes should be considered in the review process.

C-P-2: To the extent feasible, the City shall strive for a vehicular LOS of D or better at all streets and intersections, except in the Downtown area where pedestrian, bicycle, and transit mobility are most important and vehicular LOS is not a consideration. See Figure 4.1 (within the General Plan) for a map defining the Downtown area.

C-P-3: At the discretion of City staff, certain locations may be allowed to fall below the City's LOS standard under the following circumstances:

a. Where constructing facilities with enough capacity to provide LOS D is found to be unreasonably expensive. This applies to facilities, for example, on which it would cost significantly more per dwelling unit equivalent (DUE) to provide LOS D than is deemed reasonable by City staff.

b. Where it is difficult or impossible to maintain LOS D because surrounding facilities in other jurisdictions operate at LOS E or worse.

c. Where maintaining LOS D will be a disincentive to use of existing alternative modes or to the implementation of new transportation modes that would reduce vehicle travel. Examples include roadway or intersection widening in areas with substantial pedestrian activity or near major transit centers.

d. In the Downtown area the City cannot maintain the vehicular LOS D standard because of the historic nature of development and limited street right-of-way. However, it is the City's goal to maintain high quality access and mobility in the area with a priority toward non-auto modes. Therefore, the City shall require new development that adds auto trips to the Downtown area to participate in enhancing access and mobility for transit, bicycle, and pedestrian modes. These enhancements may include, but are not limited to:

- Enhancing sidewalks to create a high quality pedestrian environment, including wider sidewalks and improved crosswalks, landscaping, buffers between sidewalks and vehicle travel lanes, enhanced pedestrian lighting, increased availability of benches, provisions for café-style seating, and usage of monument elements and other public art.

- Improving bicycle facilities to include attractive and secure bicycle parking, installation of bike lockers in appropriate locations, and provision of bicycle lanes along appropriate roadways.

- Enhancing transit stops through high quality, well maintained shelters, and provision of wayfinding signage and transit timetables.

- Providing off-street parking with high quality access to Downtown businesses, and which is well-maintained and provides amenities like shade streets, canopies, adequate lighting, and wayfinding signage.

- Supporting the development of a Downtown Business Improvement District or similar mechanism to help fund ongoing maintenance of the streetscape enhancements.

Implementation: Level of Service

C-I-1: The City shall maintain a master list of multimodal volume data for key intersections and roadway segments. This master list shall be updated regularly with traffic counts (for autos, transit, bicycles, and pedestrians) taken in conjunction with project traffic studies and by special counts conducted by the City as necessary.

C-I-2: Perform periodic evaluation of the mobility and access on major streets, which could include evaluation of vehicular LOS conditions, as well as access and mobility issues faced by transit riders, bicyclists, and pedestrians. The use of multimodal LOS analysis techniques could also be included.

C-I-3: The City shall develop Transportation Impact Analysis (TIA) Guidelines to provide guidance on identifying deficiencies and impacts on all modes of transportation caused by new development. The TIA guidelines will also provide guidance on the types of mitigation measures that would be appropriate to mitigate project-related impacts to transportation facilities in the City. The TIA guidelines will address impact thresholds for vehicular, transit, bicycle, and pedestrian facilities.

C-I-4: The City shall develop a pedestrian, bicycle, and transit improvement plan for the Downtown area to facilitate implementation of level of service policy C-P-3 d. This plan will develop a list of multi-modal improvements in the Downtown area to increase the viability and encourage the use of non-auto modes.

MAJOR STREETS MASTER PLAN

The Major Streets Master Plan defines the framework of major streets. It is intended that the City will retain the existing compact form, with development occurring in a concentric pattern. Infill development is also encouraged in the Land Use Element as a means of accommodating new growth. Consequently, selected existing streets will continue to function as the major streets. Nonetheless, there are potential growth areas within and adjacent to the existing City boundary that will require new major roads, roadway capacity expansion, transit, bicycle, and pedestrian improvements where development is permitted.

Figure 2.0-3 is a schematic diagram of the anticipated alignment of these major streets. This street system is intended to comply with the LOS standard established in this General Plan; however, as the plan develops some modifications may be necessary to accommodate specific development

projects. The PFF will be the main implementing tool for collecting and allocating funds to implement roadway improvements consistent with the Major Streets Master Plan.

Figure 2.0-3 illustrates the approximate alignment of several future major streets in the portions of the City that are just beginning to develop.

Policies: Street System

C-P-4: Streets shall be dedicated, widened, extended, and constructed according to street cross-section diagrams established in the City Standard Plans.

C-P-5: Major circulation improvements shall be completed as abutting lands develop or redevelop, with dedication of right-of-way and construction of improvements, or participation in construction of such improvements, required as a condition of approval.

C-P-6: New development shall pay a fair share of the costs of street and other transportation improvements based on impacts to LOS and other modes in conformance with the goals and policies established in this Circulation Element and the Public Facilities Fee (PFF) program.

C-P-7: The street system shall be expanded in a contiguous and concentric manner to serve new development areas and to provide improved circulation for existing residents.

C-P-8: Street improvements will be designed to provide multiple, direct and convenient routes.

C-P-9: Residential and collector street intersections with collector and arterial streets shall be aligned with other residential and collector streets, where feasible, to maintain a high degree of connectivity between neighborhoods, minimize circuitous travel, and to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another without using major streets.

C-P-10: Access for bicycles and pedestrians shall be provided at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

C-P-11: Signals, roundabouts, traffic circles and other traffic management techniques shall be applied at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another.

C-P-12: Where traffic congestion, pedestrian travel, collision history, or other factors warrant the installation of a traffic signal, the feasibility of a roundabout shall also be evaluated. In general, a roundabout should be installed at these locations unless right of way, cost, design limitations, or other issues preclude the installation of a roundabout.

C-P-13: The City shall promote development of a future roadway system as shown in the Major Streets Master Plan.

C-P-14: The City may allow development of private streets in new residential projects that demonstrate the ability to facilitate police patrol, emergency access, and solid waste collection as well as fund on-going maintenance.

C-P-15: The City shall promote infill development that completes gaps in the circulation system.

C-P-16: Residential subdivisions with lots fronting on an existing arterial street should provide for separate roadway access. Ideally, access to residential lots should be from residential or collector streets. For those properties that currently front arterial streets, consideration should be given to providing separate roadway access as a condition of approval for any redevelopment or subdivision of the property.

C-P-17: Residential subdivisions along arterials and freeways shall be buffered by a noise attenuation measure (sound wall, berm, greenbelt, etc.) as determined by a noise study. Any noise attenuation measure should be designed in a way that it does not discourage pedestrian or bicycle travel be creating barriers between neighborhoods.

C-P-18: The City shall aggressively pursue state and federal funding to augment the PFF and implement the City's Circulation Element.

C-P-19: The City shall coordinate with neighboring jurisdictions, including Caltrans, San Joaquin Council of Governments (SJCOG), San Joaquin County, the City of Lathrop, and the City of Ripon to pursue funding for the following regional facilities:

- A new interchange at McKinley Avenue and SR 120;
- A new interchange at Austin Road/McKinley Avenue and SR 99;
- A new interchange on SR 99 between Lathrop Road and French Camp Road;
- An easterly extension of the SR 120 freeway towards Oakdale; and
- Regional bicycle lanes and bicycle paths.

Implementation: Street System

C-I-5: The City shall maintain a Major Street Master Plan showing the existing and proposed ultimate right-of-way and street width for each road segment within the City's Sphere of Influence. The Major Street Master Plan shall also indicate the necessary right-of-way to be acquired or dedicated and the expected method of financing roadway improvements (i.e., City-funded or property owner/developer-funded). The Major Street Master Plan shall be regularly updated.

C-I-6: When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a Class I bike path, as opposed to bike lanes along a major arterial. Pedestrian districts like downtown or near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

C-I-7: The City shall require new development to participate in the implementation of transportation improvements identified in the Major Street Master Plan. Participation could include the construction of roadways, improvements to roadways, payment into the PFF program, payment into other fee programs, or fair-share payments. In general, the infrastructure needs and methods of participation will be determined through an environmental impact report or transportation impact analysis.

C-I-8: The City will coordinate with Caltrans and SJCOG to make sure that projects in the City's Circulation Element and Major Street Master Plan are included in long range planning documents, including the Caltrans Long Range Plan, the SJCOG Regional Transportation Plan, and the San Joaquin County Congestion Management Program.

C-I-9: Appropriate sound attenuation measures shall be determined by a noise study. Walls and berms shall be attractive and developed to minimize maintenance. Bicycle and pedestrian access shall be provided through walls and berms to minimize travel distances and increase the viability walking and bicycling.

C-I-10: To support the City's goals of minimizing maintenance costs and encouraging non-auto modes of transportation, any new or substantially modified roadway shall be as narrow as feasible while being consistent with LOS and goods movement policies. In general, this implementation measure can be achieved by constructing narrower traffic lanes, except in areas with significant heavy truck volumes.

Policies: Transportation Safety

C-P-20: The creation or continuance of traffic, bicycle, and pedestrian hazards shall be discouraged in new development, infill development, and redevelopment areas.

C-P-21: In the development of new projects, the City shall give special attention to maintaining/ensuring adequate corner-sight distances appropriate for the speed and type of facility, including intersections of city streets and private access drives and roadways.

C-P-22: The City shall encourage the development of landscape separated sidewalks along roadways (particularly arterials and non-residential streets) when feasible to discourage pedestrian/vehicle conflicts and be consistent with complete streets concepts.

Implementation: Transportation Safety

C-I-11: Maintain a program of identification and surveillance of high traffic, bicycle, and pedestrian collision locations, with emphasis on early detection and correction of conditions which could potentially constitute safety hazards.

C-I-12: The City shall identify and remove, as feasible, obstacles limiting corner-sight distances at existing street corners.

C-I-13: The City shall maintain a program of identification and surveillance of high vehicle, bicycle, and pedestrian collision locations, with emphasis on early detection and correction of conditions that could potentially constitute safety hazards.

C-I-14: All new signs, roadway striping, and traffic signals shall be consistent with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).

PARKING

Parking demand is generated by existing businesses, new business, and residents, and is varies by the time of day, time of year, and presence of special events. Guiding new business and residential development is a fundamental purpose in this General Plan. The success of the Economic Development Element will rely, in part, on the ability to accommodate the traffic and parking associated with new businesses and special events.

Policies: Parking

C-P-23: Future growth in traffic volumes may necessitate removal of on-street parking spaces to provide additional traffic lanes.

C-P-24: New development shall provide an adequate number of off-street parking spaces to accommodate the typical parking demands of the type of development on the site. The City may dictate both minimum and maximum amounts of parking; the use of shared parking is encouraged to reduce overall land consumed by parking areas. In the Downtown area, parking supply and demand will be managed through a coordinated approach led by the City.

C-P-25: The City may allow for changes to the parking requirements under certain circumstances. In such cases, the City may require provision of off-site parking, participation in a parking district or payment of an in-lieu fee to cover the costs of land acquisition and construction of parking spaces.

C-P-26: In the Downtown area, the Redevelopment Agency shall assist in the provision of off-street parking. Parking facilities in the Downtown area should be within easy walking distance of the businesses

C-P-27: Ensure that there is adequate parking for normal commercial activities.

C-P-28: Ensure that there is adequate parking for special events where deemed appropriate.

Implementation: Parking

C-I-15: The City shall review and revise, as necessary, off-street parking standards of the Zoning Ordinance. Such revision shall be based on a survey of the parking requirements of other Northern California communities, the requirements of the Housing Element to achieve specified residential density levels, and an assessment of the adequacy of the City's current standards.

C-I-16: Work with local merchants to improve on-street and off-street parking conditions.

C-I-17: The City will consider preparing a Parking Management Plan for the Downtown area to ensure that parking facilities are provided in a coordinated manner which maximizes access to local businesses and connectivity with non-auto modes, including transit, bicycles, and pedestrian facilities.

C-I-18: The City shall require a shared parking analysis for all proposed mixed-use developments and new projects in the Downtown area to ensure that parking is not oversupplied.

C-I-19: To maintain adequate parking supply for businesses, the City may restrict parking on public streets through permit programs, time limits, or parking meters, where appropriate.

C-I-20: If roadway widening requires the removal of on-street parking, a parking supply study should be conducted to determine if the loss of on-street parking spaces will create a parking shortage. If so, the parking supply study should also discuss the feasibility of replacing the lost parking spaces.

BIKEWAY AND PEDESTRIAN SYSTEMS

The bikeway and pedestrian systems in Manteca are critical elements in the transportation network. After driving, walking and biking are the second most common means of travel in Manteca, particularly for recreational purposes. Encouraging these modes of transportation is important for the convenience and enjoyment of Manteca residents and enhancing public health and the quality of life.

The existing bikeway and pedestrian network should be enhanced to further encourage bicycling and walking in the City. This is accomplished in part by encouraging the continuity of the existing compact land use pattern in the Land Use Element, and by the creation of new bike routes and sidewalks wherever new streets are installed or existing streets are upgraded.

Policies: Bikeways and Pedestrian Facilities

C-P-29: Through regular updates to the City's Bicycle Master Plan, the City shall establish a safe and convenient network of identified bicycle routes connecting residential areas with recreation, shopping, and employment areas within the city.

C-P-30: Provide adequate bicycle parking facilities at commercial, business/professional and light industrial uses.

C-P-31: The City shall strive to expand the existing network of off-street bicycle facilities as shown in the City's Bicycle Master Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop a "city-loop" Class I bike path that links Austin Road, Atherton Drive, Airport Way and a route along or near Lathrop Road to the Tidewater bike path and its extensions

C-P-32: The City shall strive to provide on-street Class II bike lanes along major collector and arterial streets whenever feasible.

C-P-33: Bicycle travel through residential streets shall be facilitated as much as possible without the use of Class II bike lanes. In general, residential streets have sufficiently low volumes as to not require bike lanes and the narrower street cross section will assist in calming traffic.

C-P-34: The City shall extend the existing Class I bicycle route north of Lathrop Road along the former Tidewater Southern Railway right-of-way, and any branch or connecting link where right-of-way is available.

C-P-35: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing shade trees and controlling traffic speeds by implementing narrow lanes on appropriate streets.

C-P-36: Provide walkways connecting to the residential neighborhoods and primary public destinations.

C-P-37: Route sidewalks so that they connect to major public parking areas, transit stops, and intersections with the bikeway system.

C-P-38: Provide sidewalks along all new streets in the City.

Implementation: Bikeways and Pedestrian Facilities

C-I-21: The City shall update its Bicycle Master Plan to include all areas envisioned for development by this General Plan. The Bicycle Master Plan will establish future bicycle routes and provide standards for bicycle facilities, including bicycle paths and bicycle lanes.

C-I-22: Utilize the standards set forth in the MUTCD and AASHTO Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike lanes in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

C-I-23: Increase bicycle safety by:

- Providing bicycle paths and lanes that promote bicycle travel.

- Sweeping and repairing bicycle lanes and paths on a continuing, regular basis.
- Ensuring that bikeways are delineated and signed in accordance with AASHTO standards and lighting is provided, where feasible.
- Ensuring that all new and improved streets have bicycle-safe drainage grates and are free of hazards such as uneven pavement or gravel.

C-I-24: Add bike lanes whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

C-I-25: Update the City Standard Plans to include bike lanes on collector and arterial streets, as defined by the Bicycle Master Plan.

C-I-26: Encourage resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths.

C-I-27: Update the standard plans to specify a set of roadways with narrower lanes to calm traffic and increase pedestrian and bicycle comfort. These narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to major truck routes).

C-I-28: The City shall develop a Pedestrian Master Plan, which encompasses all areas envisioned for development by this General Plan. The Pedestrian Master Plan will identify existing deficiencies and establish standards for future pedestrian facilities, including sidewalks, crosswalks, and pedestrian pathways.

C-I-29: Update the standard plans to include landscape separated sidewalks where appropriate and feasible.

C-I-30: Provide for pedestrian access in the Downtown area, along Yosemite Avenue, Main Street, and in other high-use areas by:

- Constructing wide sidewalks where feasible to accommodate increased pedestrian use.
- Providing improved crosswalks, landscaping, buffers between sidewalks and vehicle travel lanes, enhanced pedestrian lighting.
- Improving the walking environment by providing benches, allowing for café seating, and constructing monument elements and other public art.
- Providing improvements that enhance pedestrian safety and convenience, such as bulb-outs extending into intersections and at crosswalks to reduce walking distances and provide a safe peninsula for pedestrians.

C-I-31: Provide for enhanced pedestrian environments in new subdivisions by:

- Providing bulb-outs at intersections to reduce crossing distances and calm traffic.

- Providing marked (and signalized, if appropriate) mid-block crossings near schools, parks, or other neighborhood attractions. A landscaped median refuge island may also be provided.

- Providing landscape buffer separated sidewalks.

PUBLIC TRANSIT

Manteca is located at a major ground transportation hub in the state and has the opportunity to expand both rail service and bus service. The opportunities will grow with increasing population, and higher costs of travel by automobile. The City can enhance these opportunities by encouraging the use of public transit by Manteca residents and by implementing additional transit routes and services. But the most significant means of enhancing public transit opportunities is in planning land use and circulation networks.

By locating higher density housing, commercial, employment, recreational, education and institutional facilities along major thoroughfares and by providing safe, convenient pedestrian routes to these facilities the City can make public transit more effective and viable. Sound land planning can produce benefits equal to a substantial investment in the labor and capital expenditures of a bus system.

In addition to locating major development along the existing major thoroughfares, the land plan anticipates the development of small concentrations of commercial, high-density housing and public uses in the new growth areas. These concentrations are located at logical intervals along potential public transit routes. At full development of the land uses in the new growth areas new transit routes would be within a one-quarter mile walk of a substantial percentage of the new households.

The City can further enhance the use of existing and future transit facilities by providing a local shuttle or small bus network linking residents to activity centers at or near the transit facility. Such transit facilities can provide connections to more than one form of transportation (a multi-modal center) or to a single transportation node.

Policies: Public Transportation

C-P-39: The City shall encourage the expansion of interstate bus service in the Manteca area.

C-P-40: The City shall encourage commuter and regional passenger rail service that will benefit the businesses and residents of Manteca. Examples include Amtrak, the Altamont Commuter Express (ACE), and high-speed rail.

C-P-41: The City shall identify and implement means of enhancing the opportunities for residents to commute from residential neighborhoods to the ACE station or other transit facilities that may develop in the City.

C-P-42: Establish a plan of primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas.

C-P-43: Encourage programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents.

C-P-44: The City shall promote the development of park-and-ride facilities near I-5, SR 120, and SR 99.

C-P-45: The City shall establish and maintain a working relationship between the City administration and the local management of the Union Pacific Railroad regarding expansion of freight and passenger rail service and economic development of the region.

C-P-46: The City shall design future roadways to accommodate transit facilities, as appropriate. These design elements would include installation of transit stops adjacent to intersections and provision of bus bays and sheltered stops.

Implementation: Public Transportation

C-I-32: The City shall periodically review transit needs in the city and adjust bus routes to accommodate changing land use and transit demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.

C-I-33: The City shall explore the opportunities for, and encourage the development of, a multi-modal bus/train/bike/auto facility in the downtown area.

C-I-34: The City shall explore a transit connections study that would identify improvements to connections and access to the existing ACE station and the planned multi-modal downtown transit facility.

C-I-35: The City's standard plans shall be updated to include the option for bus bays at intersections of major streets.

C-I-36: The City shall consider alternatives to conventional bus systems, such as smaller shuttle buses that connect neighborhood centers to local activity centers.

C-I-37: The City should explore with the Manteca School District opportunities for joint-use public transit that would provide both student transportation and local transit service.

GOODS MOVEMENT

Manteca's central location and accessibility from major highways and rail lines has made the city a major center for goods movement. The transportation system needs to facilitate the goods movement industries in the City to ensure safety for all modes of travel and to facilitate this important sector of the City's economy.

Figure 2.0-3 shows a map of existing and future truck routes throughout Manteca. These truck routes are designed to facilitate the movement of goods from the regional transportation system

to the goods movement industries in the City. These roads shall be designed to accommodate STAA trucks through adequate corner radii, appropriate lane widths, and other design features.

Policies: Goods Movement

C-P-47: The City shall require that new industrial development pay a fair share toward improvements required to accommodate heavy vehicles, including increased pavement wear.

C-P-48: Roads identified on the City's truck route map shall be designed to accommodate STAA trucks.

C-P-49: The City shall encourage the provision of freight rail service into industrial developments.

C-P-50: The City shall work with Caltrans and SJCOG to secure interregional, state, and federal funding for goods movement projects like widened state highways, increased pavement maintenance funding, intermodal and truck safety improvements.

C-P-51: The City should consider vehicle weight limit restrictions on roadways near sensitive uses like schools and residential neighborhoods to discourage cut-through truck traffic.

Implementation: Goods Movement

C-I-38: The City shall periodically update its truck route map to remain consistent with changing land use and transportation patterns.

C-I-39: The City shall place signs along STAA truck routes consistent with MUTCD standards.

C-I-40: The City shall pursue state and federal funding to construct grade separated railroad crossings throughout the city.

C-I-41: New industrial developments should be approved only if they are near existing or planned truck routes to minimize impacts on roadways with narrower lanes and to minimize the construction and maintenance cost of new roads.

C-I-42: All roundabouts in the City shall be designed to accommodate truck movements.

TRANSPORTATION DEMAND MANAGEMENT

The increase in traffic congestion within Manteca and throughout the region has intensified the need to promote alternative transportation modes. Transportation Demand Management (TDM) refers to measures designed to reduce the number and length of automobile trips, particularly during peak commute hours. TDM measures typically include ridesharing, vanpools, and a variety of management techniques applied by larger employers in metropolitan areas. Typical TDM measures are most effective where they can be implemented by large employers.

In communities where there is a significant number of workers commuting out to a larger metropolitan area the TDM measures focus on ridesharing and vanpooling to reduce the number of single occupant vehicle trips. Reduced vehicle travel can help reduce peak hour traffic congestion, reduce future air pollution concentrations, and reduce consumption of energy for transportation uses. Moreover, it can help reduce individual transportation costs for Manteca residents, yielding potentially significant savings as the cost of fuel rises.

Policies: Transportation Demand Management

C-P-52: The City shall establish a requirement for a TDM program in any business park, industrial or commercial land use that employs more than 50 full time equivalent employees.

C-P-53: The City shall provide information about transit services, ridesharing, van-pools, and other transportation alternatives to single occupant vehicles at City Hall, the library, and on the City website.

C-P-54: The City shall encourage employers to provide alternative mode subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, and work-at-home programs employee education and preferential parking for carpools/vanpools.

C-P-55: Partner with SJCOG to develop a regional TDM plan.

2.5 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed project.

CITY OF MANTECA

The City of Manteca is the lead agency for the proposed project. The proposed project will be presented to City Council for comment, review, and recommendations. The City Council has the sole discretionary authority to approve the proposed project. In order to approve the proposed project, the City Council would consider the following actions:

- Certification of the Manteca Circulation Element Update EIR;
- Adoption of required CEQA findings for the above action;
- Adoption of a Mitigation Monitoring and Reporting Program; and
- Approval of the General Plan Amendment to adopt the Manteca Circulation Element Update.

SUBSEQUENT USE OF THE EIR

This EIR provides a review of environmental effects associated with implementation of the proposed project. When considering approval of subsequent activities under the proposed project

the City of Manteca would utilize this EIR as the basis in determining potential environmental effects and the appropriate level of environmental review, if any, of a subsequent activity. The City of Manteca may perform or consider the following subsequent activities to implement the RTP:

- Feasibility, planning and design studies;
- Various fee and financing programs; and
- Carrying out various infrastructure improvement projects including, but not limited to, intersection improvements, roadway widening, roadway extensions, new roadways, transit stops and facilities, and bicycle/pedestrian routes and facilities.

OTHER GOVERNMENTAL AGENCY APPROVALS

City approval of the proposed project would not require any actions or approvals by other public agencies. Subsequent capital improvement projects and other actions to support implementation of the proposed project would require actions, including permits and approvals, by other public agencies that may include, but are not necessarily limited to:

- California Department of Fish and Game (CDFG) approval of potential future streambed alteration agreements, pursuant to Fish and Game Code. Approval of any future potential take of state-listed wildlife and plant species covered under the California Endangered Species Act.
- California Department of Transportation (Caltrans) approval of projects and encroachment permits for projects affecting state highway facilities.
- Central Valley Water Quality Control Board (RWQCB) approval for National Pollution Discharge Elimination System compliance, including permits and Storm Water Pollution Prevention Plan approval and monitoring.
- San Joaquin County coordination and approvals for projects that encroach on County owned rights of way and coordination with County-wide regional planning efforts.
- San Joaquin Local Agency Formation Commission (LAFCo) approvals for annexation of any lands associated with transportation improvements.
- San Joaquin Council of Governments (SJCOG) coordination and approval for projects planned under the Regional Transportation Plan.
- San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) approval of dust control plans and other permits for subsequent projects.
- U.S. Army Corps of Engineers (ACOE) approval of any future wetland fill activities, pursuant to the Clean Water Act.
- U.S. Fish and Wildlife Service (USFWS) approvals involving any future potential take of federally listed wildlife and plant species and their habitats, pursuant to the Federal Endangered Species Act.



Manteca Circulation Element Update EIR

Figure 2.1-1: Regional Location

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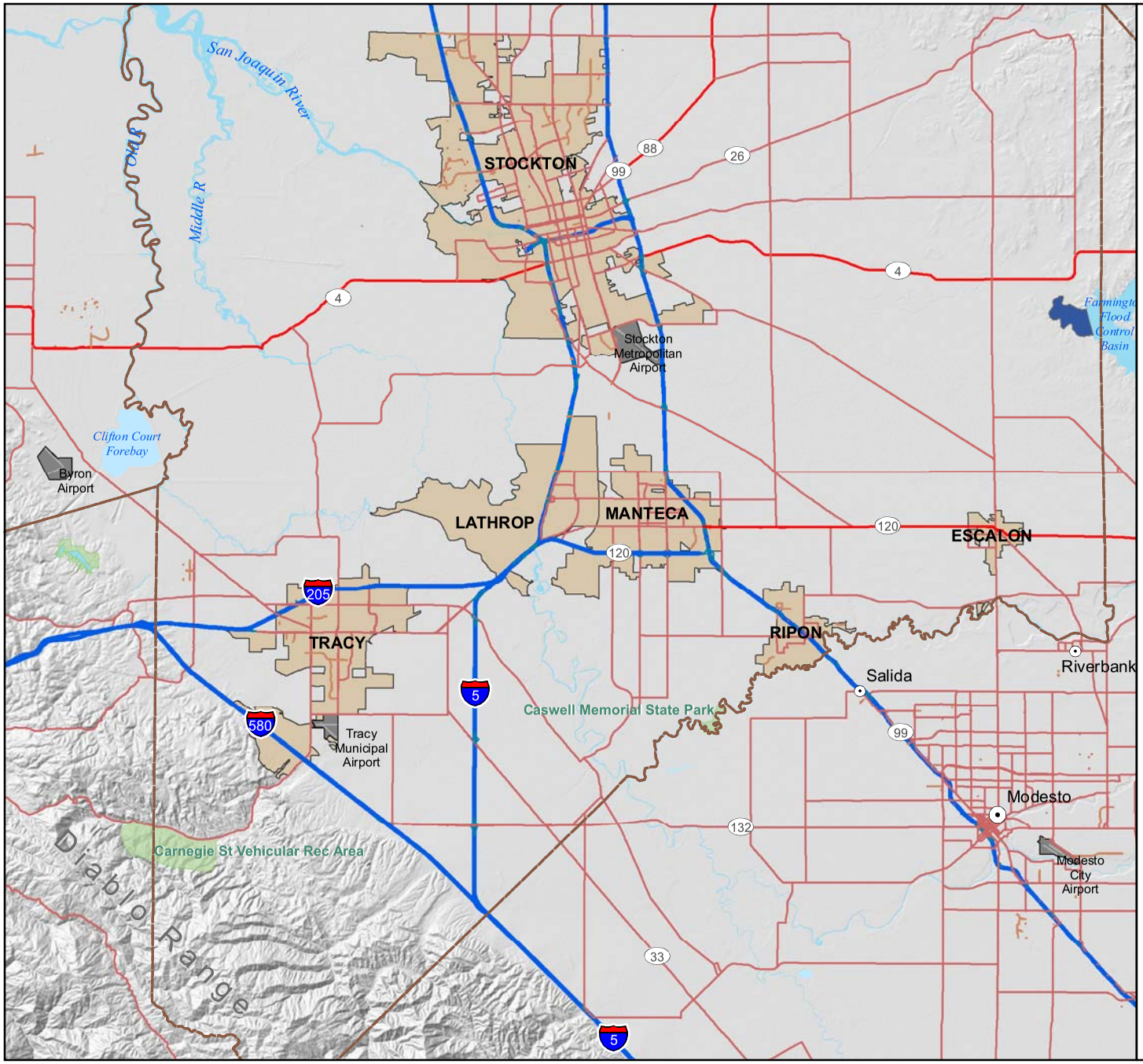
0 5 10 20 30 40 Miles

1:1,500,000

Data source: California Spatial Information Library
Map date: June 5, 2010

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Manteca Circulation Element Update EIR

Figure 2.1-2: Vicinity Map

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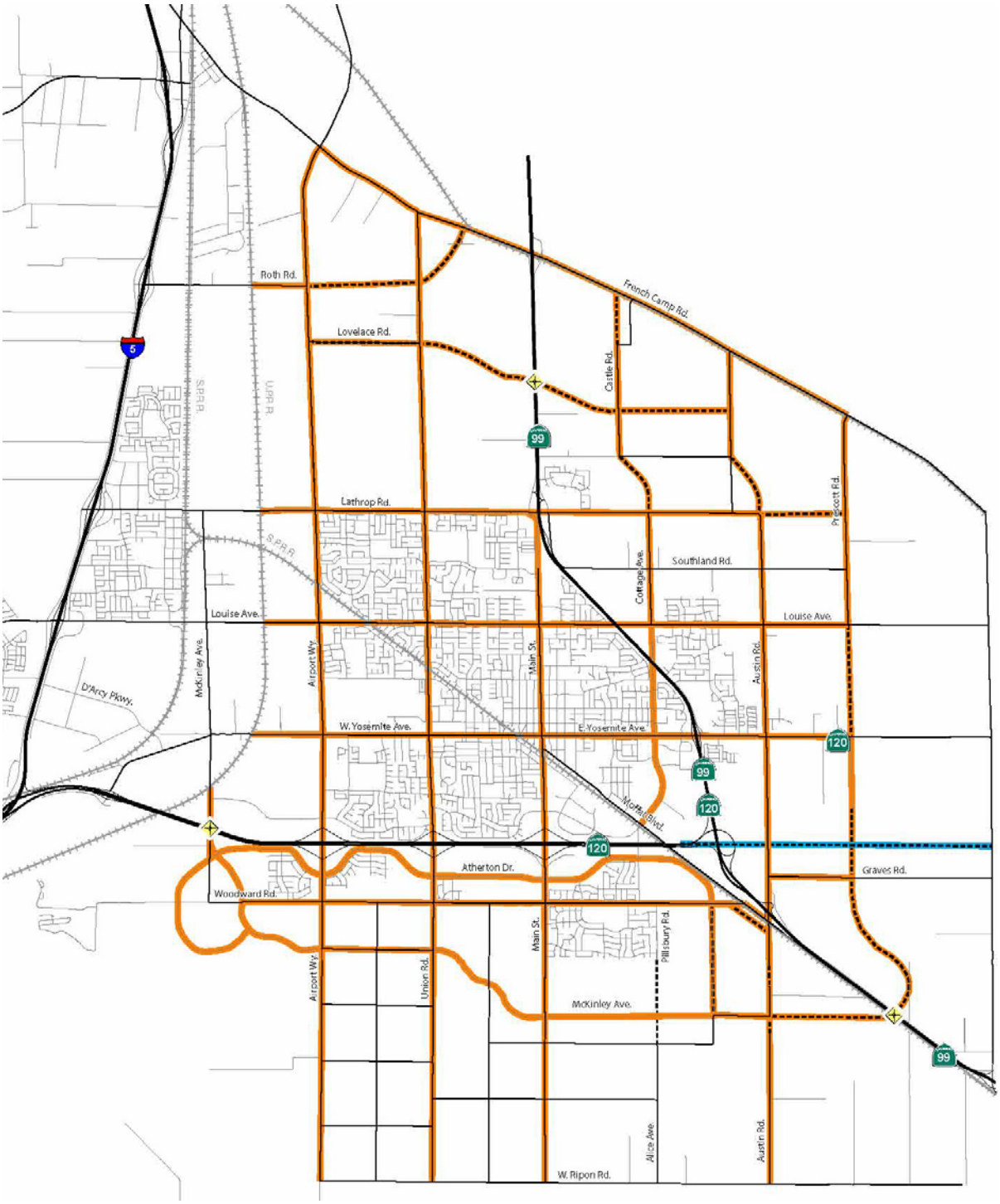
0 2.5 5 10 Miles

1:350,000

Data sources: California Spatial Information Library and ESRI StreetMap North America.
Map date: June 5, 2010

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LEGEND

- Major Street (Typically a 4-6 lane high capacity arterial with limited access points)
- Future Road
- Freeway Extension
- New Interchange

Data sources: Fehr and Peers, 2010.

Manteca Circulation Element Update EIR

Figure 2.1-3: Major Streets Map

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This section provides an overview of the agricultural lands, production and values, soils, and the important farmland mapping program. This section concludes with an evaluation of the project's impacts on agricultural resources and recommendations for mitigating significant impacts. No NOP comments regarding agricultural resources were received during the public review period.

3.1.1 ENVIRONMENTAL SETTING

SOILS SUITABLE FOR AGRICULTURE

San Joaquin County includes some of the best agricultural resources in the world. The General Plan encompasses such a large area of similar land uses that the project size, water resources availability, surrounding agriculture and surrounding protected resources would be comparable for all areas of the study area. The significant factors are the Land Capability Classification and the Storie Index. Both the Storie Index and the Land Capability Classification are provided in the Soil Survey of San Joaquin County, California, USDA Soil Conservation Service (now Natural Resources Conservation Service).

The Storie Index expresses numerically the relative degree of suitability of a soil for general intensive agricultural uses. Four general factors are used in determining the index rating, which ranges from 1-100: (A) permeability, available water capacity, and depth of the soil; (B) texture of surface soil; (C) dominant slope of soils body; and (X) other conditions more readily subject to management or modification by land user. The Storie Index is incorporated into the farmland category systems discussed below under Important Farmland Inventory, and Farmland Mapping and Monitoring Program.

LAND CAPABILITY CLASSIFICATION SYSTEM

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) is a primary source of information concerning the suitability of soils for agricultural use. The NRCS Land Capability Classification System organizes soils into eight categories designated by Roman numerals (Class I-VIII). Generally, soils receiving a Class I or II rating are designated Prime Farmland. The eight categories are defined as:

- Class I Soils have few limitations that restrict their use.
- Class II Soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
- Class III Soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.
- Class IV Soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.
- Class V Soils are not likely to erode but have other limitations, impractical to remove, that limit their use.
- Class VI Soils have severe limitations that make them generally unsuitable for cultivation.
- Class VII Soils have very severe limitations that make them unsuitable for cultivation.

Table 3.1-1 shows the soils that are present within the study area. One (1) soil series, the Honcut series, is a Class I soil (few limitations), and is considered prime farmland where irrigated. Nine (9) of the study area Soil Series are Class II soils (moderate limitations), and are considered prime farmland where irrigated. The remainder of the soils in the study area are Class III soils where irrigated (severe limitations, and are not considered prime farmland).

TABLE 3.1-1: SOILS PRESENT IN STUDY AREA

SOIL	*PRIME FARMLAND*	*LAND CAPABILITY CLASSIFICATION*	*EXPANSIVE*
108 Arents	No	III irrigated; IV non-irrigated	Information not available.
109 Bisgani	No	III irrigated; IV non-irrigated	low
130 Columbia	Yes (where irrigated)	II irrigated; IV non-irrigated	low
131 Columbia	Yes (where irrigated)	II irrigated; IV non-irrigated	low
141 Delhi	No	III irrigated; IV non-irrigated	low
142 Delhi	No	III irrigated; IV non-irrigated	low
143 Delhi-Urban	No	III irrigated; IV non-irrigated	low
144 Dello	No	III irrigated; IV non-irrigated	low
145 Dello	No	III irrigated; IV non-irrigated	low
152 Egbert	Yes (where irrigated)	II irrigated; IV non-irrigated	moderate-high
153 Egbert	Yes (where irrigated)	II irrigated; IV non-irrigated	moderate-high
160 Galt	No	III irrigated; IV non-irrigated	high
166 Grangeville	Yes (where irrigated)	II irrigated; IV non-irrigated	low
169 Guard	Yes (where irrigated)	II irrigated; IV non-irrigated	moderate
175 Honcut	Yes (where irrigated)	I irrigated; IV non-irrigated	low
196 Manteca	No	III irrigated; IV non-irrigated	low
197 Merritt	Yes (where irrigated)	II irrigated; IV non-irrigated	low
254 Timor	No	III irrigated; IV non-irrigated	low
255 Tinnin	No	III irrigated; IV non-irrigated	low
260 Urban Land	-	-	-
265 Veritas	Yes (where irrigated)	II irrigated; IV non-irrigated	low
266 Veritas	Yes (where irrigated)	II irrigated; IV non-irrigated	low

SOURCE: EXTRACTED FROM SOIL SURVEY OF SAN JOAQUIN COUNTY, CALIFORNIA. OCTOBER 1992. U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE.

IMPORTANT FARMLANDS

The Farmland Mapping and Monitoring Program (FMMP) is a farmland classification system administered by the California Department of Conservation. Important farmland maps are based on the Land Inventory and Monitoring criteria, which classify a land's suitability for agricultural production based on both the physical and chemical characteristics of soils, and the actual land use. The system maps five categories of agricultural land, which include important farmlands (prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance) and grazing land, as well as three categories of non-agricultural land, which include

urban and built-up land, other land, and water area. Definitions of these types of farmland are provided below.

PRIME FARMLAND

Prime farmland is farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

FARMLAND OF STATEWIDE IMPORTANCE

Farmland of statewide importance is farmland with characteristics similar to those of prime farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

UNIQUE FARMLAND

Unique farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

FARMLAND OF LOCAL IMPORTANCE

Farmland of local importance is land of importance to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee. All farmable land within San Joaquin County not meeting the definitions of "Prime Farmland," "Farmland of Statewide Importance," or "Unique Farmland" is considered farmland of local importance. This includes land that is or has been used for irrigated pasture, dryland farming, confined livestock or dairy facilities, aquaculture, poultry facilities, and dry grazing. It also includes soils previously designated by soil characteristics as "Prime Farmland," "Farmland of Statewide Importance," and "Unique Farmland" that have since become idle.

GRAZING LAND

Grazing land is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

URBAN AND BUILT-UP LAND

Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards,

cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

OTHER LAND

Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

WATER

Water is considered perennial water bodies with an extent of at least 40 acres.

Important Farmlands in San Joaquin County

Data from Department of Conservation for 2006 indicates that within the county, Prime Farmland encompassed approximately 53% of total county agricultural land. The remaining agricultural land comprises Farmland of Statewide Importance (12%), Unique Farmland (8%), Farmlands of Local Importance (8%), and Grazing Land (19%) (California Department of Conservation 2009). The types and acreages of farmland totals for 1990 through 2006 are shown below in Table 3.1-2. Figure 3.1-1 illustrates the Important Farmlands located within the County.

TABLE 3.1-2: SAN JOAQUIN COUNTY FARMLANDS AND OTHER LANDS BY LAND USE CATEGORY

LAND USE CATEGORY	*1990*	*2000*	*2002*	*2004*	*2006*	*1990-2006 NET CHANGE*	*ANNUAL CHANGE*
Prime Farmland	437,859	419,227	416,307	412,548	407,609	-30,250	-1,891
Farmland of Statewide Importance	100,277	93,739	92,559	91,225	89,273	-11,004	-688
Unique Farmland	46,863	59,118	61,030	62,534	63,231	16,368	1,023
Farmland of Local Importance	53,145	58,906	56,506	57,808	59,957	6,812	426
Important Farmland Subtotal	638,144	630,990	626,402	624,115	620,070	-18,074	-1,130
Grazing Land	157,874	150,341	148,712	147,653	144,933	-12,941	-809
Agricultural Land Subtotal	796,018	781,331	775,114	771,768	765,003	-31,015	-1,938
Urban and Built-Up Land	63,777	74,149	80,360	83,407	87,833	24,056	1,504
Other Land	42,618	45,473	45,480	45,777	47,991	5,373	336
Water Area	10,187	11,648	11,648	11,648	11,773	1,586	99
Total Area Inventoried	912,600	912,601	912,602	912,600	912,600	0	0

SOURCE: CA DEPARTMENT OF CONSERVATION, FARMLAND MAPPING AND MONITORING PROGRAM, 2010

Important Farmlands in Manteca

Table 3.1-3 summarizes the important farmlands in San Joaquin County and in the General Plan study area. Figure 3-1 shows the distribution of these farmland categories within the County, and Figure 3-2 shows the distribution of these farmland categories within the Manteca General Plan 2023 study area.

TABLE 3.1-3: IMPORTANT FARMLANDS IN SAN JOAQUIN COUNTY AND THE MANTECA STUDY AREA

LAND USE CATEGORY	*SAN JOAQUIN COUNTY (ACRES)*	*MANTECA STUDY AREA (ACRES)*	*MANTECA STUDY AREA (PERCENT)*
Prime Farmland	407,607.28	2,703.08	0.66%
Farmland of Statewide Importance	89,273.42	8,859.02	9.92%
Unique Farmland	63,231.80	2.18	0.00%
Farmland of Local Importance	54,402.13	179.85	0.33%
Important Farmland Subtotal	**614,514.63**	**11,744.13**	
Grazing	144,932.57	0.00	0.0%
Agricultural Land	**759,447.20**	**11,744.13**	
Urban and Built-Up Land	87,832.37	7,530.82	8.57%
Other Land	53,543.79	915.06	1.71%
Water	11,772.89	167.18	1.42%
Total Area Inventoried	912,596.25	20,357.18	2.23%

SOURCE: CA DEPARTMENT OF CONSERVATION, FARMLAND MAPPING AND MONITORING PROGRAM, 2010

AGRICULTURAL PRODUCTION AND VALUE

Agricultural land uses are a major component of San Joaquin County's resource land base. They are also a major element in defining the quality of life available to the residents of San Joaquin County. The County's total land area in farms was 812,629 acres in 2007. This farmland consists of 574,752 acres of cropland, 520,172 acres of which is irrigated. There are a total of 4,026 farms with an average of 202 acres per farm. The average workforce in the industry is 16,800, with a seasonal high in June of 28,400 workers.

San Joaquin County's gross agricultural production was over $2 billion in 2007, which ranks as the seventh leading agricultural county in the state. The leading ten commodities in San Joaquin County are milk, grapes, cherries, almond meats, walnuts, tomatoes, cattle, hay, nurseries, and apples, with over $1.5 billion generated from these commodities in 2007. Approximately $500 million was also generated from other commodities within the County. Table 3.1-1 lists the top ten commodities in San Joaquin County in 2007.

TABLE 3.1-4: SUMMARY COMPARISON OF CROP VALUES

PRODUCT	*2007*
Milk	$466,159,000
Grapes	$216,914,000
Cherries	$201,694,000
Almond Meats	$158,932,000
Walnuts	$129,363,000
Tomatoes	$125,326,000
Cattle & Calves	$103,483,000
Hay	$96,646,000
Nursery	$55,692,000
Apples	$38,457,000
Other	$433,125,000
Grand Total	$2,005,793,000

SOURCE: 2008 SAN JOAQUIN COUNTY AGRICULTURAL REPORT (2007 DATA)

3.1.2 REGULATORY SETTING

FEDERAL

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It ensures that, to the extent practicable, federal programs are compatible with state and local units of government as well as private programs and policies to protect farmland. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for crop production. In fact, the land can be forest land, pastureland, cropland, or other land but does not include water bodies or land developed for urban land uses (i.e., residential, commercial, or industrial uses).

The Natural Resource Conservation Service (NRCS) administers the Farmland Protection Program. NRCS uses a land evaluation and site assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of Federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. The assessment is completed on form AD-1006, Farmland Conversion Impact Rating. The sponsoring agency completes the site assessment portion of the AD-1006, which assesses non-soil related criteria such as the potential for impact on the local agricultural economy if the land is converted to non-farm use and compatibility with existing agricultural use.

STATE

Williamson Act

The California Land Conservation Act of 1965, commonly known as the Williamson Act, was established based on numerous State legislative findings regarding the importance of agricultural lands in an urbanizing society. Policies emanating from those findings include those that discourage premature and unnecessary conversion of agricultural land to urban uses and discourage discontinuous urban development patterns, which unnecessarily increase the costs of community services to community residents.

The Williamson Act authorizes each County to establish an agricultural preserve. Land that is within the agricultural preserve is eligible to be placed under a contract between the property owner and County that would restrict the use of the land to agriculture in exchange for a tax assessment that is based on the yearly production yield. The contracts have a 10-year term that is automatically renewed each year, unless the property owner requests a non-renewal or the contract is cancelled. If the contract is cancelled the property owner is assessed a fee of up to 12.5 percent of the property value. Acreage within San Joaquin County under Williamson Act contracts is shown below in Table 3.1-5.

Farmland Security Zones

In 1998 the state legislature established the Farmland Security Zone (FSZ) program. FSZs are similar to Williamson Act contracts, in that the intention is to protect farmland from conversion. The main difference however, is that the FSZ must be designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The term of the contract is a minimum of 20 years. The property owners are offered an incentive of greater property tax reductions when compared to the Williamson Act contract tax incentives; the incentives were developed to encourage conservation of prime farmland through FSZs. The non-renewal and cancellation procedures are similar to those for Williamson Act contracts. Acreage within San Joaquin County under the FSZ program is shown below in Table 3.1-5.

TABLE 3.1-5: FSZ AND WILLIAMSON ACT CONTRACTS IN SAN JOAQUIN COUNTY - 2007

CATEGORY	*SAN JOAQUIN CO. (ACRES)*	*SAN JOAQUIN CO. (PERCENTAGE)**	*MANTECA STUDY AREA (ACRES)*	*MANTECA STUDY AREA (PERCENTAGE OF COUNTY)*
Farmland Security Zone	62,981.02	6.90%	0.00	0.00%
Williamson Act – Prime, Statewide, Unique	560,112.51	61.38%	11,564.28	2.06%
Williamson Act – Local and Grazing	199,334.70	21.84%	179.85	0.09%
TOTAL	**822,428.23**	**90.12%**	**11,744.13**	

SOURCE: THE CALIFORNIA LAND CONSERVATION (WILLIAMSON) ACT STATUS REPORT

**BASED ON COUNTY TOTAL 912,600 ACRES*

LOCAL

City of Manteca General Plan

- Policy LU-P-41: The City shall encourage the continuation of agricultural uses on lands within the Primary and Secondary Urban Services Boundary lines pending their development as urban uses consistent with the General Plan.
- Policy LU-P-42: The City will encourage the continuation of small, specialty agricultural operations and demonstration or educational agricultural operations that are compatible with the adjacent urban uses.
- Policy CD-P-48: Allow pockets of agricultural activity to remain within the urban areas of the city where such uses are compatible with the surrounding urban use.
- Policy CD-P-49: Allow use of small under-utilized parcels or undeveloped portions of parcels for temporary, seasonal agricultural activity, such as truck farms, strawberries, and small orchards.
- Policy RC-P-19: The City shall support the continuation of agricultural uses on lands designated for urban use, until urban development is imminent.
- Policy RC-P-20: The City shall provide an orderly and phased development pattern so that farmland is not subjected to premature development pressure.
- Policy RC-P-21: In approving urban development near existing agricultural lands, the City shall take actions so that such development will not unnecessarily constrain agricultural practices or adversely affect the viability of nearby agricultural operations.
- Policy RC-P-22: Nonagricultural uses in areas designated for agriculture should be redirected to urban areas.
- Policy RC-P-23: Protect designated agricultural lands, without placing an undue burden on agricultural landowners.
- Policy RC-P-24: Provide buffers at the interface of urban development and farmland; in order to minimize conflicts between these uses.
- Policy RC-P-25: The City shall ensure, in approving urban development near existing agricultural lands, that such development will not unnecessarily constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations.
- Policy RC-P-26: The City shall restrict the fragmentation of agricultural land parcels into small rural residential parcels except in areas designated for estate type development in the General Plan Land Use Diagram.
- Policy RC-P-27: The City shall discourage the cancellation of Williamson Act contracts outside the Primary Urban Service Boundary line.
- Policy RC-P-28: The City shall not extend water and sewer lines to premature urban development that would adversely affect agricultural operations.

- Policy RC-P-29: The City shall encourage Manteca Unified School District and the Delta Community College District to maintain the school farm facilities and associated education programs in the City.
- Policy RC-P-30: The City of Manteca will participate in a county-wide program to mitigate the conversion of Prime Farmland and Farmlands of Statewide Importance to urban uses.

City of Manteca Right to Farm Ordinance

Chapter 8.24 of the Manteca Municipal Code is a "Right to Farm" Ordinance intended to protect agricultural productivity in the City. The Ordinance states:

> *"It is the policy of this City to preserve, protect and encourage the use of viable agricultural lands for the production of food and other agricultural products. When nonagricultural land-uses extend into or approach agricultural areas, conflicts often arise between such land-uses and agricultural operations. Such conflicts often result in the involuntary curtailment or cessation of agricultural operations, and discourage investment in such operations. This chapter is intended to reduce the occurrence of conflicts between nonagricultural and agricultural land uses within the City."*

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the agricultural resources if it will:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmlands), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Conversion of Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance (significant and unavoidable)

Implementation of Circulation Element projects have the potential to directly and indirectly result in the conversion of farmlands, including important farmlands, to nonagricultural uses. Some Circulation Element projects would occur within or adjacent to existing rights-of-way, which would result in a negligible, if any direct impact, to important farmland located adjacent to these improvements. Other Circulation Element projects would occur outside of existing rights-of-way,

which would result in direct impacts to important farmlands. Additionally, the Circulation Element plans for the transportation systems that are necessary for existing conditions as well as deficiencies that would result from buildout of the 2023 General Plan. Some Circulation Element projects are necessary to facilitate planned growth. Such projects would have an indirect impact to important farmlands.

The 2023 General Plan EIR estimated that a total of 5,912.8 acres of important farmland existing in 2002 would be converted to nonagricultural uses and 11,489.0 acres of important farmland would remain in agricultural use at full buildout of the General Plan 2023. There is currently 11,744.1 acres of important farmland in the General Plan study area, which is 57.7 percent of the total land within the General Plan study area. The current totals are consistent with the 2023 General Plan EIR projections. Table 3.1-6 presents a comparison of the important farmlands located within the General Plan study area in 2002 and 2010.

TABLE 3.1-6: IMPORTANT FARMLANDS IN SAN JOAQUIN COUNTY AND THE MANTECA STUDY AREA

LAND USE CATEGORY	*MANTECA STUDY AREA IN 2002 (ACRES)*	*MANTECA STUDY AREA IN 2010 (ACRES)*	*MANTECA STUDY AREA IN 2010 (PERCENT)*
Prime Farmland	5,265.1	2,703.08	0.66%
Farmland of Statewide Importance	11,863.2	8,859.02	9.92%
Unique Farmland	0.0	2.18	0.00%
Farmland of Local Importance	273.5	179.85	0.33%
Important Farmland Subtotal	**17,401.8**	**11,744.13**	**57.7%**

SOURCE: CA DEPARTMENT OF CONSERVATION, FARMLAND MAPPING AND MONITORING PROGRAM, 2010

The Circulation Element is a long range planning document, therefore the Circulation Element projects have not been designed and the precise location and development footprint of some facilities have not yet been determined. However, each Circulation Element project would be required to be consistent with the 2023 General Plan including the goal, policies, and implementation measures that were developed to lessen the impact from conversion of the agricultural resources.

Implementation of the following policies and implementation measures would ensure consistency with the 2023 General Plan and would reduce impacts to agricultural resources by managing growth, supporting a continuation of agricultural uses, providing buffers from urban land, protecting agricultural land, and requiring compensatory mitigation for loss of important farmland. The proposed project is consistent with, and is an element of the 2023 General Plan, and some individual improvements are necessary to facilitate planned growth. The 2023 General Plan EIR found that although conformance with the adopted goals, policies, and implementation measures from the 2023 General Plan would lessen the impact from conversion of the agricultural resources to some extent, the impact would remain significant. As such, the Circulation Element would also have a ***significant and unavoidable*** impact on agricultural resources.

ADOPTED GENERAL PLAN POLICIES AND IMPLEMENTATION MEASURES

Policies

- *LU-P-41: The City shall encourage the continuation of agricultural uses on lands within the Primary and Secondary Urban Services Boundary lines pending their development as urban uses consistent with the General Plan.*
- *LU-P-42: The City will encourage the continuation of small, specialty agricultural operations and demonstration or educational agricultural operations that are compatible with the adjacent urban uses.*
- *CD-P-48: Allow pockets of agricultural activity to remain within the urban areas of the city where such uses are compatible with the surrounding urban use.*
- *CD-P-49: Allow use of small under-utilized parcels or undeveloped portions of parcels for temporary, seasonal agricultural activity, such as truck farms, strawberries, and small orchards.*
- *RC-P-19: The City shall support the continuation of agricultural uses on lands designated for urban use, until urban development is imminent.*
- *RC-P-20: The City shall provide an orderly and phased development pattern so that farmland is not subjected to premature development pressure.*
- *RC-P-21: In approving urban development near existing agricultural lands, the City shall take actions so that such development will not unnecessarily constrain agricultural practices or adversely affect the viability of nearby agricultural operations.*
- *RC-P-22: Nonagricultural uses in areas designated for agriculture should be redirected to urban areas.*
- *RC-P-23: Protect designated agricultural lands, without placing an undue burden on agricultural landowners.*
- *RC-P-24: Provide buffers at the interface of urban development and farmland; in order to minimize conflicts between these uses.*
- *RC-P-25: The City shall ensure, in approving urban development near existing agricultural lands, that such development will not unnecessarily constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations.*
- *RC-P-26: The City shall restrict the fragmentation of agricultural land parcels into small rural residential parcels except in areas designated for estate type development in the General Plan Land Use Diagram.*
- *RC-P-28: The City shall not extend water and sewer lines to premature urban development that would adversely affect agricultural operations.*
- *RC-P-29: The City shall encourage Manteca Unified School District and the Delta Community College District to maintain the school farm facilities and associated education programs in the City.*
- *RC-P-30: The City of Manteca will participate in a county-wide program to mitigate the conversion of Prime Farmland and Farmlands of Statewide Importance to urban uses.*

Implementation Measures

- *LU-I-1. The City shall maintain a growth management system that provides a mechanism for the annual allocation of the amount of residential, commercial, and industrial development that may occur. The growth management system shall have the following objectives:*
  - *Maintain, and where necessary enhance, the community's current public services and facilities;*
  - *Protect against the construction of development projects which will require sewage treatment capacity in excess of that determined available by the City Council;*
  - *Preserve and protect the environment;*
  - *Preserve and protect the quality of life and character of the community.*
  - *Provide for the orderly and adequate expansion of the City's housing stock in order to advance housing opportunities and to accommodate a reasonable share of expected regional growth.*
  - *Provide for the adequate and orderly expansion of the City's commercial and employment development base in balance with the city's housing stock;*
  - *Provide for a balance between multi-family and single family residential development;*
  - *Conserve viable agricultural and open space lands; and*
  - *Encourage and facilitate development proposals that accomplish the goals, policies, and programs of the General Plan through development innovations that cannot be accomplished by conventional zoning.*

- *RC-I-30. Apply the following conditions of approval where urban development occurs next to farmland.*
  - *Require notifications in urban property deeds that agricultural operations are in the vicinity, in keeping with the City's right-to farm ordinance.*
  - *Require adequate and secure fencing at the interface of urban and agricultural use.*
  - *Require phasing of new residential subdivisions; so as to include an interim buffer between residential and agricultural use.*

- *RC-I-31. Work with San Joaquin County on the following issues:*
  - *Pesticide application and types of agricultural operations adjacent to urban uses.*
  - *Support the continuation of County agricultural zoning in areas designated for agricultural land use in the Area Plan.*

Impact 3.1-2: Conflict with Existing Agricultural Zoning or Williamson Act Contracts (significant and unavoidable)

Implementation of Circulation Element projects have the potential to directly and indirectly result in conflicts with agricultural zoning or Williamson Act contracts. Circulation Element projects that would occur within existing rights-of-way, would result in no direct conflicts, while Circulation Element projects that occur outside of existing rights-of-way could result in direct conflicts. Additionally, Circulation Element projects that facilitate development could indirectly conflict with agricultural zoning or Williamson Act contracts.

Generally speaking, agricultural operations throughout the county would benefit from improved movement of their commodities from the farm to the marketplace as a result of the improvements to the transportation systems. Transportation improvements are typically compatible with agricultural land uses, including those designated for agricultural uses.

The precise number of acres subject to a Williamson Act contract varies from year-to-year as individual contracts are added or removed through the non-renewal process. In 2007 there was 11,744.13 acres of Williamson Act contracts within the General Plan study area. There is an undetermined number of these contracts that have filed for non-renewal. Table 3.1-7 presents the acreage under Williamson Act contracts within the General Plan study area.

TABLE 3.1-7: FSZ AND WILLIAMSON ACT CONTRACTS IN SAN JOAQUIN COUNTY - 2007

CATEGORY	*MANTECA STUDY AREA (ACRES)*
Farmland Security Zone	0.00
Williamson Act – Prime, Statewide, Unique	11,564.28
Williamson Act – Local and Grazing	179.85
TOTAL	**11,744.13**

SOURCE: THE CALIFORNIA LAND CONSERVATION (WILLIAMSON) ACT STATUS REPORT

As previously stated, the Circulation Element is a long range planning document and the Circulation Element projects have not been designed and cannot be analyzed on a project-level. However, each Circulation Element project would be required to be consistent with the 2023 General Plan including the goal, policies, and implementation measures that were developed to lessen the impact from conflicts with agricultural zoning and Williamson Act contracts.

Implementation of the following policies and implementation measures would ensure consistency with the 2023 General Plan and would reduce conflicts with agricultural zoning and Williamson Act contracts by managing growth that could put pressure on agricultural uses, supporting a continuation of agricultural uses, providing buffers from urban land, and requiring compensatory mitigation for loss of important farmland. The proposed project is consistent with, and is an element of the 2023 General Plan, and some individual improvements are necessary to facilitate planned growth. The 2023 General Plan EIR found that although conformance with the adopted goals, policies, and implementation measures from the 2023 General Plan would lessen the impact from conflicts with agricultural zoning and Williamson Act contracts to some extent, the impact would remain significant. As such, the Circulation Element would also have a ***significant and unavoidable*** impact on agricultural zoning and Williamson Act contracts.

ADOPTED GENERAL PLAN POLICIES AND IMPLEMENTATION MEASURES

Policies

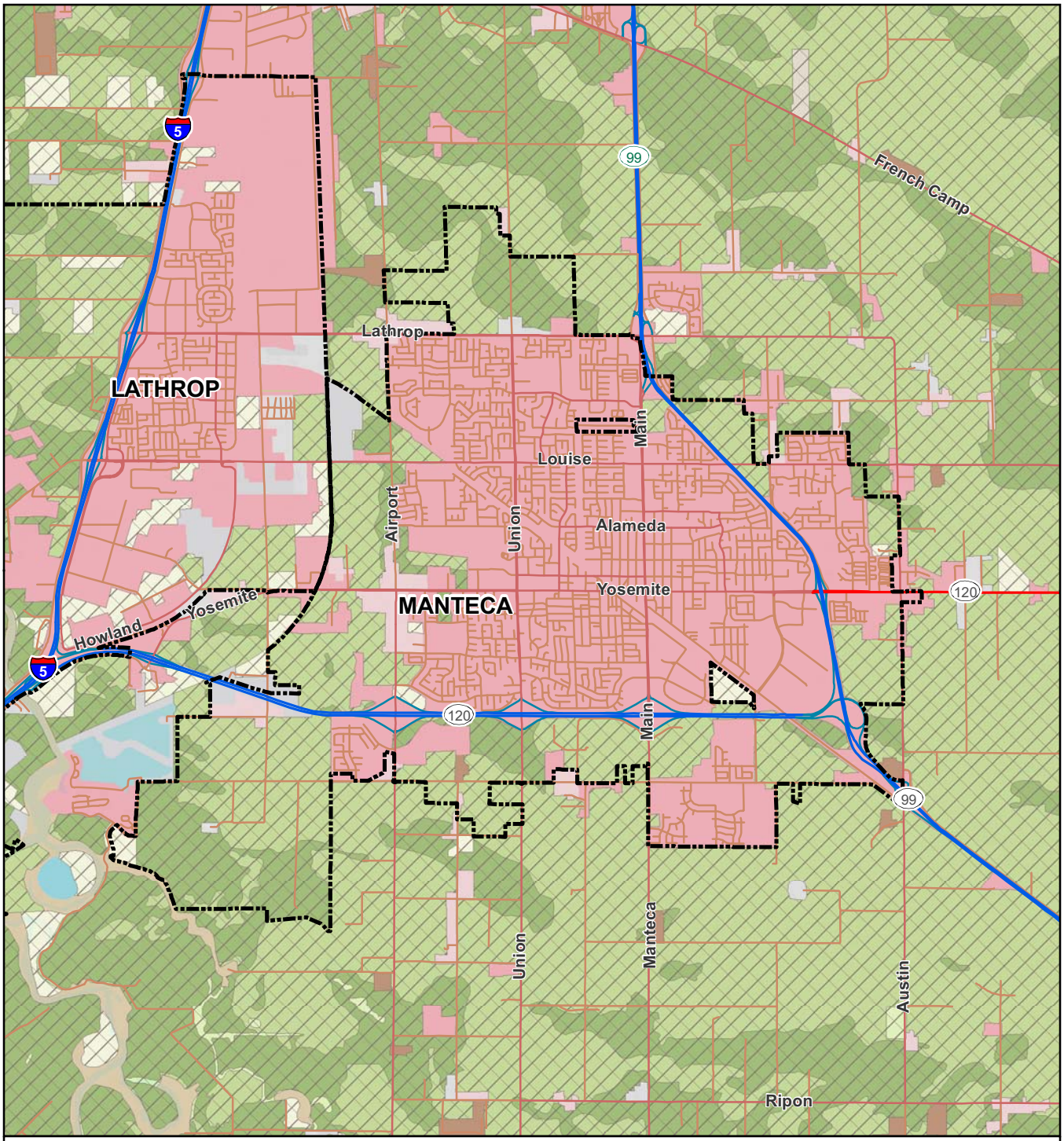
- *RC-P-27: The City shall discourage the cancellation of Williamson Act contracts outside the Primary Urban Service Boundary line.*

Implementation Measures

- *LU-I-1. The City shall maintain a growth management system that provides a mechanism for the annual allocation of the amount of residential, commercial, and industrial development that may occur. The growth management system shall have the following objectives:*
  - *Maintain, and where necessary enhance, the community's current public services and facilities;*
  - *Protect against the construction of development projects which will require sewage treatment capacity in excess of that determined available by the City Council;*
  - *Preserve and protect the environment;*
  - *Preserve and protect the quality of life and character of the community.*
  - *Provide for the orderly and adequate expansion of the City's housing stock in order to advance housing opportunities and to accommodate a reasonable share of expected regional growth.*
  - *Provide for the adequate and orderly expansion of the City's commercial and employment development base in balance with the city's housing stock;*
  - *Provide for a balance between multi-family and single family residential development;*
  - *Conserve viable agricultural and open space lands; and*
  - *Encourage and facilitate development proposals that accomplish the goals, policies, and programs of the General Plan through development innovations that cannot be accomplished by conventional zoning.*

- *RC-I-30. Apply the following conditions of approval where urban development occurs next to farmland.*
  - *Require notifications in urban property deeds that agricultural operations are in the vicinity, in keeping with the City's right-to farm ordinance.*
  - *Require adequate and secure fencing at the interface of urban and agricultural use.*
  - *Require phasing of new residential subdivisions; so as to include an interim buffer between residential and agricultural use.*

- *RC-I-31. Work with San Joaquin County on the following issues:*
  - *Pesticide application and types of agricultural operations adjacent to urban uses.*
  - *Support the continuation of County agricultural zoning in areas designated for agricultural land use in the Area Plan.*



Prime Farmland
Farmland of Statewide Importance
Unique Farmland
Irrigated Farmland
Nonirrigated Farmland
Farmland of Local Importance
Farmland of Local Potential
Grazing Land
Williamson Act Lands
Confined Animal Agriculture
Natural Vegetation
Disturbed Land
Other Land
Rural Residential Land
Urban and Built-Up Land
Water Area
City Boundaries

Data sources: State of California Department of Conservation. Farmland Mapping and Monitoring Program (FMMP), 2006, and Williamson Act, 2009. Background data from ESRI StreetMap North America. City boundaries from sjcmap.org. Map date: June 5, 2010

Manteca Circulation Element Update EIR

Figure 3.1-1: Prime Farmland and Williamson Act Lands

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De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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This section describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from project implementation. Following this discussion is an assessment of consistency of the proposed project with applicable policies and local plans. The Greenhouse Gases and Climate Change analysis is located in Section 3.5. No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.2.1 EXISTING SETTING

SAN JOAQUIN VALLEY AIR BASIN

The City of Manteca is located within the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. Figure 3.2-1 illustrates the location the City within the SJVAB.

The surrounding topographic features restrict air movement through and out of the basin and, as a result, impede the dispersion of pollutants from the basin. Inversion layers are formed in the SJVAB throughout the year. (An inversion layer is created when a mass of warm dry air sits over cooler air near the ground, preventing vertical dispersion of pollutants from the air mass below). During the summer, the San Joaquin Valley experiences daytime temperature inversions at elevations from 2,000 to 2,500 feet above the valley floor. During the winter months, inversions occur from 500 to 1,000 feet above the valley floor (SJVAPCD 1998).

The pollution potential of the San Joaquin Valley is very high. Surrounding elevated terrain in conjunction with temperature inversions frequently restrict lateral and vertical dilution of pollutants. Abundant sunshine and warm temperatures in summer are ideal conditions for the formation of photochemical oxidant, and the Valley is a frequent scene of photochemical pollution.

Climate

The SJVAB has an inland Mediterranean climate with warm, dry summers and cooler winters. The average daily maximum temperature in the Basin is 65° F, with temperature highs of 95° F in July. Average daily minimum temperature is 48° F, with temperature lows of 45° F in January. Normal rainfall level is approximately nine inches per year, and occurs mainly in the winter months from November to April. Thunderstorms occur on approximately 3 to 4 days in the spring, on average.

The climate within Manteca varies some from the rest of the SJVAB due in part to the proximity to the Delta. Temperatures below freezing are unusual. Average high temperatures in the winter are in the 50's (F), but highs in the 30's and 40's can occur with persistent fog and low cloudiness. In summer, high temperatures often exceed 100 degrees, with averages in the low 90's. Summer low temperatures average in the high 50's.

Air Movement

Marine air comes into the basin from the Sacramento River–San Joaquin River Delta, although most air movement is restricted by the surrounding mountains. Winds from the Bay Area flow northeasterly into the Sacramento Valley and southward into San Joaquin County. This results in weak winds from the north and northeast, with an average speed of seven miles per hour.

Wind speed and direction determine the dispersion of air pollutants. During the summer, wind from the north flows south and southeasterly through the Valley, through the Tehachapi Pass and into the Southeast Desert Air Basin. Thus, emissions from the San Francisco Bay Area and the Broader Sacramento air basins are transported into San Joaquin County and the Valley. Emissions in the San Joaquin Valley are then transported to the Southeast Desert and Great Basin Valley Air Basins. In late fall and winter, cold air from the mountains flows into the Valley. This results in winds from the south that flow north and northwesterly. Some emissions from San Joaquin County are transported to the Broader Sacramento air basin during these times. But the winds are relatively light, limiting the dispersion of CO and other pollutants. Thus, high concentrations of CO remain in the Valley.

Seasonal Pollution Variations

Carbon monoxide, oxides of nitrogen, particulate matter, and lead particulate concentrations in the late fall and winter are highest when there is little interchange of air between the valley and the coast and when humidity is high following winter rains. This type of weather is associated with radiation fog, known as tule fog, when temperature inversions at ground level persist over the entire valley for several weeks and air movement is virtually absent.

Pollution potential in the San Joaquin County area is relatively high due to the combination of air pollutant emissions sources, transport of pollutants into the area and meteorological conditions that are conducive to high levels of air pollution. Elevated levels of particulate matter (primarily very small particulates or PM_{10}) and ground-level ozone are of most concern to regional air quality officials.

Local carbon monoxide “hot spots” are important to a lesser extent. Ground-level ozone, the principal component of smog, is not directly emitted into the atmosphere but is formed by the reaction of reactive organic gases (ROG) and nitrogen oxides (NOx) (known as ozone precursor pollutants) in the presence of strong sunlight. Ozone levels are highest in San Joaquin County during late spring through early fall, when weather conditions are conducive and emissions of the precursor pollutants are highest.

Surface-based inversions that form during late fall and winter nights cause localized air pollution problems (PM_{10} and carbon monoxide) near the emission sources because of poor dispersion conditions. Emission sources are primarily from automobiles. Conditions are exacerbated during drought-year winters.

Sunlight

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain original or "primary" pollutants (mainly reactive hydrocarbons and oxides of nitrogen) react to form "secondary" pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind from the emission sources. Because of the prevailing daytime winds and time delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of the San Joaquin Valley.

Temperature Inversions

A temperature inversion is a reversal in the normal decrease of temperature as altitude increases. In most parts of the country, air near ground level is warmer than the air above it. Semi-permanent systems of high barometric pressure fronts establish themselves over the basin, deflecting low-pressure systems that might otherwise bring cleansing rain and winds. The height of the base of the inversion is known as the "mixing height" and controls the volume of air available for the mixing and dispersion of air pollutants.

The interrelationship of air pollutants and climatic factors are most critical on days of greatly reduced atmospheric ventilation. On days such as these, air pollutants accumulate because of the simultaneous occurrence of three favorable factors: low inversions, low maximum mixing heights and low wind speeds. Although these conditions may occur throughout the year, the months of July, August and September generally account for more than 40 percent of these occurrences.

The potential for high contaminant levels varies seasonally for many contaminants. During late spring, summer and early fall, light winds, low mixing heights and sunshine combine to produce conditions favorable for the maximum production of oxidants, mainly ozone. When strong surface inversions are formed on winter nights, especially during the hours before sunrise, coupled with near-calm winds, carbon monoxide from automobile exhausts becomes highly concentrated. The highest yearly concentrations of carbon monoxide and oxides of nitrogen and measured during November, December and January.

CRITERIA POLLUTANTS

The United States Environmental Protection Agency (EPA) uses six "criteria pollutants" as indicators of air quality, and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). Each criteria pollutant is described below.

Ozone (O3) is a photochemical oxidant and the major component of smog. While O3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O3 at ground level are a major health and environmental concern. O3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O3

levels occur typically during the warmer times of the year. Both VOCs and NOx are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents.

The reactivity of O3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Carbon monoxide (CO) is a colorless, odorless and poisonous gas produced by incomplete burning of carbon in fuels. When CO enters the bloodstream, it reduces the delivery of oxygen to the body's organs and tissues. Health threats are most serious for those who suffer from cardiovascular disease, particularly those with angina or peripheral vascular disease. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity, learning ability and performance of complex tasks.

Nitrogen dioxide (NO2) is a brownish, highly reactive gas that is present in all urban atmospheres. NO2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O3) and acid rain, and may affect both terrestrial and aquatic ecosystems. The major mechanism for the formation of NO2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NOx). NOx plays a major role, together with VOCs, in the atmospheric reactions that produce O3. NOx forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO2) affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children and the elderly. SO2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

Particulate matter (PM) includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO2 and VOCs are also considered particulate matter.

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms,

aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death.

Respirable particulate matter (PM_{10}) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural uses (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

Fine particulate matter ($PM_{2.5}$) consists of small particles, which are less than 2.5 microns in size. Similar to PM_{10}, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the EPA created new Federal air quality standards for $PM_{2.5}$.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children. Particulate matter also soils and damages materials, and is a major cause of visibility impairment.

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. Excessive Pb exposure can cause seizures, mental retardation and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

ODORS

Typically odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue,

in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals and schools.

AMBIENT AIR QUALITY

Both the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and California state ambient air quality standards are summarized in Table 3.2-1 for important pollutants. The federal and state ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and particulate matter between 2.5 and 10 microns in diameter (PM_{10}).

The U.S. Environmental Protection Agency established new national air quality standards for ground-level ozone and for fine particulate matter in 1997. The 1-hour ozone standard was phased out and replaced by an 8-hour standard of 0.075 PPM. Implementation of the 8-hour standard was delayed by litigation, but was determined to be valid and enforceable by the U.S. Supreme Court in a decision issued in February of 2001.

TABLE 3.2-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour 8-Hour	-- 0.075 ppm	0.09 ppm 0.070 ppm
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	-- 0.53 ppm	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm --	-- 0.04 ppm 0.25 ppm
PM10	Annual 24-Hour	-- 150 ug/m3	20 ug/m3 50 ug/m3
PM2.5	Annual 24-Hour	35 ug/m3 15 ug/m3	12 ug/m3 --
Lead	30-Day Avg. 3-Month Avg.	-- 1.5 ug/m3	1.5 ug/m3 --

Notes: ppm = parts per million, ug/m3 = Micrograms per Cubic Meter

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2010

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The current PM_{10} standards were to be retained, but the method and form for determining compliance with the standards were revised.

The State of California regularly reviews scientific literature regarding the health effects and exposure to PM and other pollutants. On May 3, 2002, CARB staff recommended lowering the level of the annual standard for PM_{10} and establishing a new annual standard for $PM_{2.5}$. The new standards became effective on July 5, 2003, with another revision on November 29, 2005.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within San Joaquin County and the entire SJVAB are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant

concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone (O3), carbon monoxide (CO), and nitrogen dioxide (NO2) as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide (SO2), areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

San Joaquin County has a state designation of Nonattainment for Ozone, PM_{10}, and $PM_{2.5}$ and is either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of Nonattainment for ozone and $PM_{2.5}$. The County is designated either attainment or unclassified for the remaining national standards. Table 3.2-2 presents the state and nation attainment status for San Joaquin County.

TABLE 3.2-2: STATE AND NATIONAL ATTAINMENT STATUS

CRITERIA POLLUTANTS	*STATE DESIGNATIONS*	*NATIONAL DESIGNATIONS*
Ozone	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	
Lead	Attainment	
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	

SOURCES: CALIFORNIA AIR RESOURCES BOARD (2010).

San Joaquin Valley Air Basin Monitoring

The SJVAB consists of eight counties, from San Joaquin County in the north to Kern County in the south. SJVAPCD and CARB maintain numerous air quality monitoring sites throughout each County in the Air Basin to measure ozone, $PM_{2.5}$, and PM_{10}. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites throughout the SJVAB between 2006 and 2009 is summarized in **Tables 3.2-3 through 3.2-5**.

TABLE 3.2-3 SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - OZONE 2006-2009

Year	Days > Standard				1-Hour Observations			8-Hour Averages				Year Coverage	
	State		National			State	Nat'l	State		National			
	1-Hr	8-Hr	1-Hr	'08 8-Hr	Max.	D.V.[1]	D.V.[2]	Max.	D.V.[1]	Max.	'08 D.V.[2]	Min	Max
2009	82	122	*4*	98	0.135	0.14	*0.14*	0.11	0.124	0.11	0.105	0	100
2008	95	150	*19*	127	0.157	0.15	*0.136*	0.132	0.124	0.132	0.108	65	100
2007	69	138	*3*	110	0.138	0.14	*0.135*	0.11	0.12	0.11	0.107	85	100
2006	90	141	*18*	120	0.141	0.14	*0.135*	0.122	0.117	0.121	0.11	58	100

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. THE NATIONAL 1-HOUR OZONE STANDARD WAS REVOKED IN JUNE 2005 AND IS NO LONGER IN EFFECT. STATISTICS RELATED TO THE REVOKED STANDARD ARE SHOWN IN ITALICS. D.V. [1] = STATE DESIGNATION VALUE . D.V. [2]= NATIONAL DESIGN VALUE.

SOURCES: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2006, 2007, AND 2008.

TABLE 3.2-4 SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - PM 2.5 2006-2009

Year	Est. Days > Nat'l '06 Std.	Annual Average		Nat'l Ann. Std. D.V.[1]	State Annual D.V.[2]	Nat'l '06 Std. 98th Percentile	Nat'l '06 24-Hr Std. D.V.[1]	High 24-Hour Average		Year Coverage	
		Nat'l	State					Nat'l	State	Min.	Max.
2009	42.9	19.3	21.2	21.5	25	65.4	70	82.3	85.5	37	100
2008	66.7	23.5	21.2	21.5	25	72.3	70	100.3	118.8	11	100
2007	65.6	22	25.2	20.3	25	73	69	103.8	154	79	98
2006	38.7	19.3	21.6	18.9	22	64.7	64	87	88.1	83	100

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. D.V. [1] = STATE DESIGNATION VALUE . D.V. [2]= NATIONAL DESIGN VALUE

SOURCES: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2006, 2007, AND 2008.

TABLE 3.2-5: SJVAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - PM 10 2006-2009

Year	Est. Days > Std.		Annual Average		3-Year Average		High 24-Hr Average		Year Coverage
	Nat'l	State	Nat'l	State	Nat'l	State	Nat'l	State	
2009	1.9	123.4	*	46.5	*	56	423.8	139.5	100
2008	4.8	182.2	59.7	55.9	57	56	358.8	353.5	100
2007	1.4	145.1	54.8	48.5	51	56	172	135	100
2006	4.2	166.8	55.4	56.4	47	56	303.9	255	100

NOTES: THE NATIONAL ANNUAL AVERAGE PM_{10} STANDARD WAS REVOKED IN DECEMBER 2006 AND IS NO LONGER IN EFFECT. AN EXCEEDANCE IS NOT NECESSARILY A VIOLATION. STATISTICS MAY INCLUDE DATA THAT ARE RELATED TO AN EXCEPTIONAL EVENT. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. NATIONAL STATISTICS ARE BASED ON STANDARD CONDITIONS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA.

SOURCES: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2006, 2007, AND 2008.

San Joaquin County Air Quality Monitoring

SJVAPCD and CARB maintain three air quality monitoring sites in San Joaquin County: Stockton - Hazelton Street, Tracy - Airport, and Stockton - Wagner Holt School. Two of these monitoring sites

measure ozone 24 hours a day seven days a week, one site measures $PM_{2.5}$, and three of the sites measure PM_{10}. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites between 2006 and 2008 is shown in **Tables 3.2-6 through 3.2-8**.

TABLE 3.2-6: AMBIENT AIR QUALITY MONITORING DATA (STOCKTON – HAZELTON STREET)

POLLUTANT	CAL. PRIMARY STANDARD	FED. PRIMARY STANDARD	YEAR	MAX CONCENTRATION	DAYS EXCEEDED STATE/FED STANDARD
Ozone (O3) (1-hour)	0.09 ppm for 1 hour	NA	2008 2007 2006	0.105 0.093 0.109	2 / (N/A) 0 / (N/A) 6 / (N/A)
Ozone (O3) (8-hour)	0.07 ppm for 8 hour	0.075 ppm for 8 hour	2008 2007 2006	0.091 0.082 0.092	7 / 4 4 / 3 21 / 13
Particulate Matter (PM_{10})	50 ug/m3 for 24 hours	150 ug/m3 for 24 hours	2008 2007 2006	105.0 75.0 85.0	48.6 / 0 23.5 / 0 62.9 / 0
Fine Particulate Matter ($PM_{2.5}$)	No 24 hour State Standard	35 ug/m3 for 24 hours	2008 2007 2006	91.0 66.8 53.3	(N/A) / 27.7 (N/A) / 34.1 (N/A) / 20.8

SOURCES: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2006, 2007, AND 2008.

TABLE 3.2-7: AMBIENT AIR QUALITY MONITORING DATA (TRACY – AIRPORT)

POLLUTANT	CAL. PRIMARY STANDARD	FED. PRIMARY STANDARD	YEAR	MAX CONCENTRATION	DAYS EXCEEDED STATE/FED STANDARD
Ozone (O3) (1-hour)	0.09 ppm for 1 hour	NA	2008 2007 2006	0.120 0.097 0.121	11 / (N/A) 1 / (N/A) 4 / (N/A)
Ozone (O3) (8-hour)	0.07 ppm for 8 hour	0.075 ppm for 8 hour	2008 2007 2006	0.104 0.084 0.104	26 / 16 22 / 6 29 / 22
Particulate Matter (PM_{10})	50 ug/m3 for 24 hours	150 ug/m3 for 24 hours	2008 2007 2006	126.8 75.0 94.2	* / 0 * / 0 * / *
Fine Particulate Matter ($PM_{2.5}$)	No 24 hour State Standard	35 ug/m3 for 24 hours	Not collected at this site.		

SOURCES: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2006, 2007, AND 2008.

TABLE 3.2-8: AMBIENT AIR QUALITY MONITORING DATA (STOCKTON – WAGNER HOLT SCHOOL)

POLLUTANT	CAL. PRIMARY STANDARD	FED. PRIMARY STANDARD	YEAR	MAX CONCENTRATION	DAYS EXCEEDED STATE/FED STANDARD
Ozone (O3) (1-hour)	0.09 ppm for 1 hour	NA	Not collected at this site.		
Ozone (O3) (8-hour)	0.07 ppm for 8 hour	0.075 ppm for 8 hour	Not collected at this site.		
Particulate Matter (PM_{10})	50 ug/m3 for 24 hours	150 ug/m3 for 24 hours	2006 2007 2008	54.0 36.0 236.2	38.5 / 0 25.1 / 0 36.6 / 0
Fine Particulate Matter ($PM_{2.5}$)	No 24 hour State Standard	35 ug/m3 for 24 hours	Not collected at this site.		

SOURCES: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2006, 2007, AND 2008.

Notes:
ppm = parts per million.
Ug/m3 = microns per cubic meter.
NA= not applicable
* = There was insufficient (or no) data available to determine the value

3.2.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the EPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. CARB is the state agency that is responsible for preparing the California SIP.

Transportation Conformity Analysis

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas. Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be

considered in conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

Transportation Control Measures

One particular aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

STATE

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the state. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB's motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations which required auto manufacturers to phase in less polluting vehicles.

California Clean Air Act

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. CARB is the agency responsible for administering the CCAA. CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards. The San Joaquin Valley Air Pollution Control District is one of 35 air quality management districts that have prepared air quality management plans to accomplish a five percent annual reduction in emissions documenting progress toward the state ambient air quality standards.

Air Quality Standards

NAAQS are determined by the EPA. The standards include both primary and secondary ambient air quality standards. Primary standards are established with a safety margin. Secondary standards are more stringent than primary standards and are intended to protect public health and welfare. States have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards.

Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM_{10}) and lead. In addition, California has created standards for pollutants that are not covered by federal standards. The state and federal primary standards for major pollutants are shown in Table 3.2-1.

Tanner Air Toxics Act

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

The AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Upcoming milestones include the low-sulfur diesel-fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide.

LOCAL

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the local agency with primary responsibility for compliance with both the federal and state standards and for ensuring that air quality conditions are maintained. They do this through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The eight counties that comprise the SJVAPCD are divided into three regions. These include:

- Northern Region: Merced, San Joaquin, and Stanislaus Counties
- Central Region: Madera, Fresno, and Kings Counties
- Southern Region: Tulare and Valley portion of Kern Counties

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

The SJVAPCD has prepared the *2007 Ozone Plan* to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone. The *2007 Ozone Plan* provides a comprehensive list of regulatory and incentive-based measures to reduce emissions of ozone and particulate matter precursors throughout the SJVAB. The 2007 Ozone Plan calls for major advancements in pollution control technologies for mobile and stationary sources of air pollution. The *2007 Ozone Plan* calls for a 75-percent reduction in ozone-forming oxides of nitrogen emissions.

The SJVAPCD has also prepared the *2007 PM10 Maintenance Plan and Request for Redesignation* (2007 PM_{10} Plan). On April 24, 2006, the SJVAPCD submitted a Request for Determination of PM_{10} Attainment for the Basin to CARB. CARB concurred with the request and submitted the request to the EPA on May 8, 2006. On October 30, 2006, the EPA issued a Final Rule determining that the Basin had attained the NAAQS for PM_{10}. However, the EPA noted that the Final Rule did not constitute a redesignation to attainment until all of the FCAA requirements under Section 107(d)(3) were met.

The SJVAPCD has prepared the *2008 PM.2.5 Plan* to achieve Federal and State standards for improved air quality in the San Joaquin Valley Air Basin. The *2008 PM.2.5 Plan* provides a comprehensive list of regulatory and incentive based measures to reduce $PM_{2.5}$.

In addition to the *2007 Ozone Plan, the 2008 PM2.5 Plan,* and the *2007 PM10 Plan*, the SJVAPCD prepared the *Guide for Assessing and Mitigation Air Quality Impacts* (GAMAQI). The GAMAQI is an advisory document that provides Lead Agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality impacts in environmental documents. Local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. An update of the GAMAQI was approved on January 10, 2002, and is used as a guidance document for this analysis.

The SJVAPCD 2007 Ozone, 2007 PM-10, 2008 $PM_{2.5}$ as well as the 2004 Revision to the California State Implementation Plan contain statewide technology controls mandated by the CARB. A summary of the CARB mandated control measures applicable to the 2011 RTP can be found in the Draft SJCOG 2011 Conformity Analysis for the 2011 Federal Transportation Improvement Program and the 2011 Regional Transportation Plan (Conformity Analysis). The Draft Conformity Analysis can be found at the following link:

http://www.sjcog.org/docs/pdf/Transportation/AirQuality/Draft2011ConformityAnalysis.pdf.

The SJVAPCD Plans identified above represent that SJVAPCD's plan to achieve both state and federal air quality standards. The regulations and incentives contained in these documents must be legally enforceable and permanent. These plans break emissions reductions and compliance into different emissions source categories. For this Draft EIR only on-road mobile sources are considered as the proposed project does not impact the implementation of any SJVAPCD regulations or incentives on other emissions source categories.

Each of the SJVAPCD plans (2007 Ozone Plan, 2008 $PM_{2.5}$ Plan, and 2007 PM_{10} Maintenance Plan, which relies on the 2003 PM_{10} Plan for emissions reductions measures) identifies a "budget" for measuring progress toward achieving attainment of the national air quality standard. A "budget" is, in effect, an emissions "threshold" or "not to exceed value" for specific years in which progress toward attainment of the standard must be measured. These specific years can also be described as "budget years" and are established to ensure achievement of the "budget" to demonstrate continued progress toward attainment of the national air quality standard. The term "base year" also reflects a "threshold" or "not to exceed" value against which future emissions from the proposed project are measured.

The United States Environmental Protection Agency defines specific years in which attainment of the federal standards must be reached, and therefore each of these SJVAPCD plans for which the San Joaquin Valley Air Basin is nonattainment contains different "budget years" in which progress must be made toward achievement of the federal standards. These years are documented below. Again the emissions budgets in Tables 3.2-9 through 3.2-12 below reflect "thresholds" or "not to exceed" values in the "budget years" for the identified pollutant in order to achieve attainment.

TABLE 3.2-9: ON-ROAD MOTOR VEHICLE CO EMISSIONS BUDGETS

COUNTY	*2018 EMISSIONS (WINTER TONS/DAY)*
San Joaquin	170

SOURCE: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 2007

TABLE 3.2-10: ON-ROAD MOTOR VEHICLE BUDGETS FROM THE 2007 OZONE PLAN (SUMMER TONS/DAY)

	2011		*2014*		*2017*	
	ROG	*NOX*	*ROG*	*NOX*	*ROG*	*NOX*
San Joaquin	12.1	34.7	10.1	27.8	8.6	21.3

SOURCE: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, "2007 OZONE PLAN", 2007

TABLE 3.2-11: ON-ROAD MOTOR VEHICLE PM-10 EMISSIONS BUDGETS (TONS PER AVERAGE ANNUAL DAY)

	2020	
	PM-10	*NOX*
San Joaquin	10.6	17.0

SOURCE: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, "2007 PM_{10} MAINTENANCE PLAN", 2007

TABLE 3.2-12: ON-ROAD MOTOR VEHICLE $PM_{2.5}$ EMISSIONS BUDGETS (TONS PER AVERAGE ANNUAL DAY)

	2012		*2014*	
	$PM_{2.5}$	*NOx*	*$PM_{2.5}$*	*NOx*
San Joaquin	1.4	32.8	0.9	20.3

SOURCE: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, "2008 PM.2.5 PLAN", 2008

SJVAPCD RULES AND REGULATIONS

The SJVAPCD has adopted numerous rules and regulations to implement its air quality plans. Following, are significant rules that will apply to the proposed project.

Regulation VIII – Fugitive PM_{10} Prohibitions

Regulation VIII is comprised of District Rules 8011 through 8081 which are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc.

Rule 8021 – Construction, Demolition, Excavation, and Other Earthmoving Activities

District Rule 8021 requires owners or operators of construction projects to submit a Dust Control Plan to the District if at any time the project involves non-residential developments of five or more acres of disturbed surface area or moving, depositing, or relocating of more than 2,500 cubic yards per day of bulk materials on at least three days of the project. The proposed project will meet these criteria and will be required to submit a Dust Control Plan to the District in order to comply with this rule.

Rule 4641 – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations

If asphalt paving will be used, then paving operations of the proposed project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Cause a violation of 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 in 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;
- Create objectionable odors affecting a substantial number of people.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: Conflict with, or Obstruct, the Applicable Air Quality Plan, Cause a Violation of Air Quality Standards, Contribute Substantially to an Existing Air Quality Violation, or Result in a Cumulatively Considerable Net Increase of a Criteria Pollutant in a Non-Attainment Area (significant and unavoidable)

METHODOLOGY

This impact analysis is based the traffic model developed for the City of Manteca. The Manteca traffic model produced forecasts of total vehicles, vehicle miles traveled (VMT), vehicle trips, speed distributions, lane miles, and other travel related data required for the emission models. The most current approved emissions model, EMFAC 2007 Version 2.3, was used to generate emissions estimates for the City of Manteca.

The emissions estimates are then compared to the emission "budgets" that are established by the SJVAPCD in the 2007 Ozone Plan, 2008 $PM_{2.5}$ Plan, and 2007 PM_{10} Maintenance Plan. The emissions "budget" presented in these plan are, an emissions "threshold" or "not to exceed value" for specific years in which progress toward attainment of the standard must be measured. The "budget" is established for the entire county, therefore, for this analysis the county budget was prorated to a per capita calculation based on population.

Attainment Status: San Joaquin County is state designated nonattainment for Ozone, PM_{10}, and $PM_{2.5}$, and nationally designated nonattainment for Ozone and $PM_{2.5}$. The County is designated either attainment or unclassified for the remaining state national standards. Table 3.2-13 presents the state attainment status for each criteria pollutant.

TABLE 3.2-13: STATE AND NATIONAL ATTAINMENT STATUS

CRITERIA POLLUTANTS	*STATE DESIGNATIONS*	*NATIONAL DESIGNATIONS*
Ozone	**Nonattainment**	**Nonattainment**
PM_{10}	**Nonattainment**	Attainment
$PM_{2.5}$	**Nonattainment**	**Nonattainment**
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	
Lead	Attainment	
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	

SOURCES: CALIFORNIA AIR RESOURCES BOARD (2010).

Ozone Precursors and Carbon Monoxide: The regional emissions analysis and forecasts for ozone precursors (ROG and NOx) and carbon monoxide are summarized in Table 3.2-14 and Table 3.2-15.

The summary of emissions forecasts is derived from outputs of the EMFAC 2007 Version 2.3 model (Appendix C).

TABLE 3.2-14: ROG, CO, AND NOX EMISSIONS (TONS PER DAY) – EXISTING GENERAL PLAN BUILDOUT

ANALYSIS YEAR	ROG EMISSIONS	CO EMISSIONS	NOX EMISSIONS
2010	1.02	11.54	4.46
2015	.87	9.77	3.66
2020	.73	8.11	2.72
2025	.69	7.61	2.28
2030	.67	7.51	2.17

SOURCES: DE NOVO PLANNING GROUP, EMFAC 2007 VERSION 2.3 (2010).

The results from the emissions outputs show that future emissions of the ozone precursors ROG and NOx will be less than the baseline emissions levels in 2010 and continue trending downward through the 2030 analysis horizon. Additionally, current and future carbon monoxide emissions will be below the 2010 baseline levels, and will continue trending downward through the 2030 analysis horizon. This downward trend is connected to a variety of legislative actions in past years that require increased fuel efficiency for motor vehicles to be phased in over time.

TABLE 3.2-15: ROG, CO, AND NOX EMISSIONS (TONS PER DAY) - PROPOSED PROJECT

ANALYSIS YEAR	ROG EMISSIONS	CO EMISSIONS	NOX EMISSIONS
2010	1.02	11.54	4.46
2015	.86	9.65	3.61
2020	.72	7.95	2.66
2025	.68	7.42	2.23
2030	.66	7.29	2.11

SOURCES: DE NOVO PLANNING GROUP, EMFAC 2007 VERSION 2.3 (2010).

The results from the emissions outputs show that future emissions of the ozone precursors ROG and NOx under the proposed project will be less than the business as usual scenario (Existing General Plan buildout). Additionally, future carbon monoxide emissions will be less than the business as usual scenario, and will continue trending downward through the 2030 analysis horizon.

Particulate Matter: The regional emissions analysis and forecasts for particulate matter emissions (PM_{10} and $PM_{2.5}$) are summarized in Table 3.2-16 and Table 3.2-17. The summary of emissions forecasts is derived from outputs of the EMFAC 2007 Version 2.3 model (Appendix C).

TABLE 3.2-16: PARTICULATE MATTER EMISSIONS (TONS PER DAY) – EXISTING GENERAL PLAN BUILDOUT

ANALYSIS YEAR	$PM_{2.5}$ EMISSIONS (TONS PER DAY)	PM_{10} EMISSIONS (TONS PER DAY)
2010	0.15	0.17
2015	0.15	0.16
2020	0.14	0.15
2025	0.15	0.17
2030	0.17	0.18

SOURCES: DE NOVO PLANNING GROUP, EMFAC 2007 VERSION 2.3 (2010).

The results from the emissions outputs show that future emissions of the particulate matter will trend downward for the next ten years before trending upward through the 2030 analysis horizon. Future particulate matter emissions will be at or below the 2010 baseline levels until approximately the end of the 2030 analysis horizon. This downward trend is connected to a variety of legislative actions in past years that require increased fuel efficiency for motor vehicles to be phased in over time. However, the increases in efficiency appear to be outpaced by the growth in VMT that generated an increasing trend of emissions after 2020.

TABLE 3.2-17: PARTICULATE MATTER EMISSIONS (TONS PER DAY) - PROPOSED PROJECT

ANALYSIS YEAR	*$PM_{2.5}$ EMISSIONS (TONS PER DAY)*	*PM_{10} EMISSIONS (TONS PER DAY)*
2010	0.15	0.17
2015	0.15	0.16
2020	0.13	0.14
2025	0.15	0.16
2030	0.16	0.18

SOURCES: DE NOVO PLANNING GROUP, EMFAC 2007 VERSION 2.3 (2010).

The results from the emissions outputs show a similar trend to the business as usual scenario in that future emissions of particulate matter will trend downward for the next ten years before trending upward through the 2030 analysis horizon. Future particulate matter emissions will be at or below the 2010 baseline levels until approximately the end of the 2030 analysis horizon. However, the particulate matter emissions under the proposed project are slightly lower than the business as usual scenario.

Analysis: The ROG emissions in Manteca are 9.1 percent of the total ROG budget (8.6 tons/day) for San Joaquin County in budget year 2017. The population in Manteca during this budget year is approximately 10.5 percent of the total population in the County. This represents ROG emissions per capita that are below Manteca's prorata share of ROGs emissions on a per capita basis.

The NOx emissions in Manteca are 14.7 percent of the total NOx budget (21.3 tons/day) for San Joaquin County in budget year 2017. The population in Manteca during this budget year is approximately 10.5 percent of the total population in the County. This represents NOx emissions per capita that are above Manteca's prorata share of NOx emissions on a per capita basis. This is a **potentially significant** impact.

The CO emissions in Manteca are 5.6 percent of the total NOx budget (170 tons/day) for San Joaquin County in budget year 2018. The population in Manteca during this budget year is approximately 10.5 percent of the total population in the County. This represents CO emissions per capita that are below Manteca's prorata share of CO emissions on a per capita basis. Additionally, the region is currently in attainment for this criteria pollutant.

The PM_{10} emissions in Manteca are 2.3 percent of the total PM_{10} budget (10.6 tons/day) for San Joaquin County in budget year 2020. The population in Manteca during this budget year is approximately 10.8 percent of the total population in the County. This represents PM_{10} emissions per capita that are below Manteca's prorata share of PM_{10} emissions on a per capita basis.

The $PM_{2.5}$ emissions in Manteca are 16 percent of the total $PM_{2.5}$ budget (.9 tons/day) for San Joaquin County in budget year 2014. The population in Manteca during this budget year is approximately 10.8 percent of the total population in the County. This represents $PM_{2.5}$ emissions per capita that are above Manteca's prorata share of $PM_{2.5}$ emissions on a per capita basis. This is a **potentially significant** impact.

CONCLUSION

The Pavely and Low Carbon Fuel Standards that are now in effect will increase fuel efficiency thereby improving emissions. These benefits are not captured in the EMFAC modeling contained within this document. Additionally, traffic models are somewhat limited in their ability to capture VMT reductions from implementing non-motorized and transit improvements. Collectively, these are expected to assist in the efforts to achieve air quality attainment.

The air quality emissions under the proposed project show slight improvements when compared to the emissions under the business as usual scenario (Existing General Plan buildout). Nevertheless, it was found that the NOx and $PM_{2.5}$ emissions in Manteca exceed the emission "budgets" (aka "thresholds") that are established by the SJVAPCD in the 2007 Ozone Plan, 2008 $PM_{2.5}$ Plan, and 2007 PM_{10} Maintenance Plan (calculated on a per capita basis) under the proposed project. While the proposed project results in an improvement from the business as usual scenario, it still exceeds the standards for federal and state air quality. This is a **potentially significant** impact.

The proposed project emissions are a direct result of population growth, which correlates to VMT. The proposed project is designed to reduce VMT on a per capita basis by providing a complete streets network with alternative modes that give the citizens a variety of transportation choices including non-motorized. There are mitigation measures presented in Section 3.5 Greenhouse Gases and Climate Change (Mitigation Measures 3.5-1 through 3.5-6) that promote the use of smart growth and sustainability practices in the design and construction of new projects. While there are beneficial impacts of the proposed project, it does not bring the emission levels down to levels that are consistent with the federal and state standards. There are no mitigation measures that could feasibly reduce emissions, while also meeting the objectives of the proposed project. Therefore, this is a **significant and unavoidable** impact.

Impact 3.2-2: Short-term - Conflict with, or Obstruct, the Applicable Air Quality Plan, Cause a Violation of Air Quality Standards, Contribute Substantially to an Existing Air Quality Violation, or Result in a Cumulatively Considerable Net Increase of a Criteria Pollutant in a Non-Attainment Area (less than significant with mitigation)

Construction activities associated with construction and implementation of the Circulation Element projects would result in temporary short-term emissions associated with vehicle trips from construction workers, operation of construction equipment, and the dust generated during construction activities. These temporary and short-term emissions would generate additional

ozone precursors (ROG and NOx) as well as PM_{10}, which could exacerbate the region's existing non-attainment status for these criteria pollutants.

As Circulation Element projects are constructed, the activity at individual construction sites will involve grading and other earth-moving operations and use of diesel and gasoline-powered construction equipment. Where asphalt is used, volatile organic compounds (VOCs) will 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 SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) indicates $PM_{10}$is primary pollutant of concern from construction activities, and compliance with SJVAPCD Regulation VIII will constitute sufficient mitigation to reduce PM_{10} emissions to less-than-significant levels. The SJVAPCD requires implementation of effective and comprehensive control measures. The amount of PM_{10} emitted during construction activities varies greatly depending on the level of activity, the specific operations taking place, the equipment being operated, soil characteristics, and weather conditions. Despite this variability in emissions, experience has shown that several feasible control measures can be reasonably implemented to reduce PM_{10} emissions during construction.

All construction projects must abide by Regulation VIII. Guidance from SJVAPCD staff indicates that implementation of a Dust Control Plan would satisfy all of the requirements of SJVAPCD Regulation VIII. The City of Manteca will comply with Regulation VIII through implementation of a Dust Control Plan, and such compliance will be sufficient to eliminate any potentially significant air quality effects generated by construction activities. The following mitigation measure would ensure that all subsequent construction activities include SJVAPCD pollution control measures to reduce construction-related air emissions. Implementation of the following mitigation measure would reduce this impact to a ***less-than-significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.2-1: *The City of Manteca shall design Circulation Element projects to avoid significant amounts of haul material, such as excavated soil and construction debris -- construction sites should employ a balanced cut/fill ratio to the extent possible. The implementing agency shall prepare and submit a Dust Control Plan to the SJVAPCD at least 48 hours prior to any earthmoving or construction activities. The implementing agency shall implement the following measures:*

- *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 miles per hour or less.*
- *Pave all construction access roads at least 100 feet on to the site from permanent roadways.*
- *Cover all haul trucks.*

Impact 3.2-3: Occasional Localized Carbon Monoxide Concentrations from Traffic Conditions at Some Individual Locations (less than significant with mitigation)

The individual projects will improve traffic flows and reduce congestion system-wide, reducing the potential for CO "hot spots" that can occur from exhaust of idling cars waiting to clear a heavily congested intersection or crossing. The individual projects are intended to reduce congested conditions throughout the system while accommodating additional traffic generated by the increase in population projected as the City builds out.

While the individual projects will respond to additional traffic and reducing congestion (brought by that additional traffic) system-wide, there is a potential for CO concentrations or hot spots to develop under adverse atmospheric conditions that prevent a rapid dispersion of CO, especially in areas where the level of service degrades. Currently, the SJVAB is in attainment of federal and State standards for CO. Nonetheless, there is a potential for some, albeit, rare instances of congestion and an occasional hot spot. The following mitigation measure would ensure traffic flows near sensitive receptors are improved in order to reduce the potential for the formation of CO hot spots. Implementation of the following mitigation measure would reduce this impact to a ***less-than-significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.2-2: *The City of Manteca shall screen individual projects at the time of design for localized CO hotspot concentrations and if necessary incorporate project-specific measures into the project design to reduce or alleviate CO hotspot concentrations.*

Impact 3.2-4: Create Objectionable Odors Affecting a Substantial Number of People (less than significant)

Implementation of the proposed project would not directly create or generate objectionable odors. Persons residing in the immediate vicinity of proposed improvements may be subject to temporary odors typically associated with roadway construction activities (diesel exhaust, hot

asphalt, etc.). However, any odors generated by construction activities would be minor and would be short and temporary in duration. This is considered a ***less than significant*** impact.

Impact 3.2-5: Contribute Substantially to, or Result in a Cumulatively Considerable Net Increase of Mobile Source Air Toxics (less than significant)

MOBILE SOURCE AIR TOXICS (MSAT) BACKGROUND

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources. In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter.

LOCAL MSAT TRENDS (MONITORING IN SAN JOAQUIN COUNTY)

Estimation of Risk: CARB monitors toxics throughout California, including one site in San Joaquin County: Stockton - Hazelton Street. Data obtained from this monitoring site between 1989 and 2008 is shown in **Tables 3.2-18 through 3.2-27**. The estimated risks shown in CARB's annual toxics summaries in the tables below are estimated chronic cancer risk (acute risks and non-cancer risks are not shown) resulting from the inhalation pathway. These risks are expressed in terms of expected cancer cases per million population based on exposure to the annual mean concentration over 70 years. They are calculated using unit risk factors provided to the Air Resources Board by the California Office of Environmental Health Hazard Assessment.

TABLE 3.2-18: STOCKTON - HAZELTON MONITORING SITE (1, 3, BUTADIENE MEASUREMENTS)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan Dev.	Number of Observations	Detection Limit	Estimated Risk
2008	0.02	0.02	0.047	0.09	0.18	0.039	31	0.04	18
2007	0.02	0.05	0.057	0.12	0.28	0.056	30	0.04	22
2006	0.02	0.02	0.063	0.16	0.22	0.063	30	0.04	24
2005	0.02	0.05	0.085	0.17	0.45	0.092	31	0.04	32
2004	0.02	0.06	0.079	0.15	0.27	0.068	30	0.04	30
2003	0.02	0.06	0.096	0.25	0.39	0.097	30	0.04	36
2002	0.02	0.09	0.146	0.28	0.52	0.118	28	0.04	55
2001	0.02	0.11	0.13	0.2	0.48	0.105	31	0.04	49
2000	0.02	0.09	0.155	0.49	0.77	0.187	31	0.04	58
1999	0.05	0.13	0.18	0.36	0.58	0.137	31	0.04	68
1998	0.07	0.14	0.206	0.44	0.59	0.148	31	0.04	77
1997	0.02	0.15	0.181	0.34	0.56	0.127	31	0.04	68
1996	0.07	0.14	0.206	0.44	0.64	0.148	31	0.04	77
1995	0.06	0.19	0.25	0.54	0.64	0.164	30	0.04	94
1994	0.08	0.2	0.281	0.49	0.8	0.188	31	0.04	106

1993	0.1	0.23	*	0.8	1.2	0.291	32	0.04	*
1992	0.02	0.2	0.217	0.46	0.76	0.164	28	0.04	82
1991	0.02	0.16	0.321	0.7	0.95	0.27	29	0.04	121
1990	0.07	0.29	0.336	0.7	0.87	0.228	29	0.04	126
1989	0.13	0.29	0.388	0.82	1.3	0.302	22	0.04	146

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2010

TABLE 3.2-19: STOCKTON - HAZELTON MONITORING SITE (BENZENE MEASUREMENTS)

Year	Minimum	Median	Mean	90th Percentile	Max	Stan. Dev.	Number of Observations	Detection Limit	Estimated Risk
2008	0.09	0.17	0.241	0.46	0.63	0.136	31	0.05	22
2007	0.08	0.22	0.271	0.51	1	0.201	30	0.05	25
2006	0.11	0.21	0.317	0.67	0.87	0.215	30	0.05	29
2005	0.11	0.25	0.358	0.75	1.3	0.297	31	0.05	33
2004	0.13	0.29	0.37	0.71	1	0.236	30	0.05	34
2003	0.16	0.3	0.437	0.87	1.1	0.274	30	0.05	40
2002	0.18	0.36	0.521	0.96	1.5	0.348	28	0.05	48
2001	0.15	0.4	0.454	0.7	1.6	0.317	31	0.05	42
2000	0.1	0.3	0.58	1.7	2.3	0.59	31	0.2	54
1999	0.1	0.5	0.65	1.2	1.8	0.43	31	0.2	60
1998	0.1	0.5	0.69	1.5	1.8	0.47	31	0.2	64
1997	0.1	0.5	0.52	0.9	1.9	0.41	30	0.2	48
1996	0.25	0.25	0.64	1.5	2.2	0.58	33	0.5	60
1995	0.25	1	1.05	2.4	2.9	0.87	30	0.5	97
1994	0.25	1	1.23	2.1	3.4	0.89	31	0.5	113
1993	0.25	1	*	2.6	4.6	1.08	33	0.5	*
1992	0.25	1.4	1.37	2.2	3.5	0.81	28	0.5	127
1991	0.25	1.5	1.95	3.8	4.7	1.25	29	0.5	181
1990	0.8	1.9	2.01	3.5	4.5	1.07	30	0.5	186
1989	1	2.1	*	4.5	7.2	1.44	22	0.5	*

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2010

TABLE 3.2-20: STOCKTON - HAZELTON MONITORING SITE (FORMALDEHYDE MEASUREMENTS)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan. Dev.	Number of Observations	Detection Limit	Estimated Risk
2008	0.5	1.8	1.96	3.2	5.1	1.11	33	0.1	14
2007	0.4	1.9	2.02	3.7	4.1	0.98	32	0.1	15
2006	0.4	1.8	2.16	3.5	7.6	1.39	31	0.1	16
2005	0.5	1.7	1.94	3.4	4	1.02	36	0.1	14
2004	0.4	1.7	1.79	3	7.7	1.37	32	0.1	13
2003	0.2	1.6	1.91	3.4	5.8	1.32	37	0.1	14
2002	0.6	1.8	2.07	3.6	6.1	1.25	32	0.1	15
2001	0.6	1.3	1.48	2.4	3.8	0.73	33	0.1	11
2000	0.3	1.5	1.61	2.5	4.2	0.84	30	0.1	12
1999	1.3	2.4	2.68	3.9	6.1	1.12	30	0.1	20
1998	0.05	2	2.33	4.4	6.9	1.47	32	0.1	17
1997	0.7	2.2	2.24	3.3	4.4	0.89	30	0.1	16
1996	0.9	2	2.35	3.9	5.7	1.28	33	0.1	17
1995	0.6	1.5	*	4.3	4.8	1.41	28	0.1	*
1994	0.3	1.5	1.56	2.8	4.1	0.85	37	0.1	12
1993	0.1	1.2	1.38	2.6	3.8	0.92	29	0.1	10
1992	0.3	1	1.24	2.5	3.8	0.86	31	0.1	9
1991	0.05	1.6	1.88	2.7	5.6	1.04	31	0.1	14
1990	0.05	1.6	1.81	3.2	4.2	0.99	32	0.1	13
1989	1	3.3	3.58	6	7.4	1.85	24	0.1	26

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2010

TABLE 3.2-21: STOCKTON - HAZELTON MONITORING SITE (ACROLEIN MEASUREMENTS)

Year	Minimum	Median	Mean	90th Percentile	Maximum	Standard Deviation	Number of Observations	Detection Limit
2008	0.15	0.5	0.54	0.7	1.1	0.2	32	0.3
2007	0.15	0.4	0.52	1.1	1.7	0.42	30	0.3
2006	0.15	0.5	0.71	1.1	6	1.06	30	0.3
2005	0.15	0.4	0.48	0.8	1.3	0.28	31	0.3
2004	0.15	0.5	0.52	0.8	1.2	0.25	30	0.3
2003	0.15	0.5	*	1.3	1.7	0.42	15	0.3

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2010

TABLE 3.2-22: STOCKTON - HAZELTON MONITORING SITE (BENZO(A)PYRENE-10)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan. Dev.	Number of Observations	Detection Limit	Estimated Risk
2005	0.025	*	*	*	0.33	0.128	5	0.05	*
2004	0.025	0.025	0.086	0.18	0.58	0.134	30	0.05	0.1
2003	0.025	0.025	0.126	0.4	0.71	0.188	31	0.05	0.1
2002	0.025	0.025	0.139	0.42	0.78	0.19	30	0.05	0.2
2001	0.025	0.025	0.13	0.31	1.1	0.212	31	0.05	0.1
2000	0.025	0.025	0.185	0.52	1.3	0.346	30	0.05	0.2
1999	0.025	0.025	0.171	0.53	1.1	0.27	30	0.05	0.2
1998	0.025	0.05	0.263	0.86	2.2	0.538	31	0.05	0.3
1997	0.025	0.025	0.118	0.3	0.72	0.162	30	0.05	0.1
1996	0.025	0.025	0.111	0.19	0.74	0.189	24	0.05	0.1
1995	0.025	0.07	*	0.61	0.91	0.271	20	0.05	*
1994	0.025	0.29	*	1	1.1	0.36	14	0.05	*
1993	0.025	0.08	0.408	1.56	2	0.633	23	0.05	0.4
1992	0.025	0.05	0.225	0.38	1.9	0.437	24	0.05	0.2
1991	0.025	0.06	0.243	0.74	1.6	0.396	24	0.05	0.3
1990	0.025	0.12	0.461	1.05	4.3	0.913	24	0.05	0.5
1989	0.025	0.025	0.901	1.3	6.5	1.48	23	0.05	1

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2010

TABLE 3.2-23: STOCKTON - HAZELTON MONITORING SITE (BENZO(B)FLUORANTHENE-10)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan. Dev.	Number of Observations	Detection Limit	Estimated Risk
2005	0.08	*	*	*	0.42	0.133	5	0.05	*
2004	0.025	0.06	0.145	0.34	0.83	0.213	30	0.05	0.02
2003	0.025	0.09	0.158	0.38	0.79	0.198	31	0.05	0.02
2002	0.025	0.06	0.186	0.52	1	0.246	30	0.05	0.02
2001	0.025	0.06	0.183	0.39	1.3	0.269	31	0.05	0.02
2000	0.025	0.025	0.222	0.66	1.5	0.387	30	0.05	0.02
1999	0.025	0.09	0.221	0.67	1.4	0.327	30	0.05	0.02
1998	0.025	0.08	0.329	0.81	2.4	0.597	31	0.05	0.04
1997	0.025	0.06	0.169	0.49	1.1	0.239	30	0.05	0.02
1996	0.025	0.06	0.134	0.31	0.68	0.165	24	0.05	0.01
1995	0.025	0.11	*	0.68	1.2	0.333	20	0.05	*
1994	0.05	0.44	*	1.17	1.7	0.471	14	0.05	*
1993	0.025	0.12	0.529	1.38	2.8	0.739	23	0.05	0.06
1992	0.025	0.09	0.273	0.48	2.1	0.497	24	0.05	0.03
1991	0.025	0.1	0.315	0.95	1.7	0.428	24	0.05	0.03
1990	0.025	0.21	0.606	1.61	4	0.996	24	0.05	0.07
1989	0.025	0.11	*	0.99	6	1.4	18	0.05	*

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2010

TABLE 3.2-24: STOCKTON - HAZELTON MONITORING SITE (BENZO(G,H,I)PERYLENE-10)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan. Dev.	Number of Observations	Detection Limit	Estimated Risk
2005	0.14	*	*	*	0.73	0.221	5	0.05	
2004	0.025	0.14	0.238	0.66	1.6	0.335	30	0.05	
2003	0.025	0.16	0.295	0.73	1.4	0.345	31	0.05	
2002	0.025	0.13	0.344	0.92	1.4	0.405	30	0.05	
2001	0.025	0.12	0.321	0.78	1.8	0.387	31	0.05	
2000	0.025	0.11	0.37	1.02	2.1	0.546	30	0.05	
1999	0.025	0.16	0.416	1.12	2.3	0.544	30	0.05	
1998	0.025	0.21	0.573	1.6	3.5	0.797	31	0.05	
1997	0.025	0.13	0.354	1.01	1.5	0.411	30	0.05	
1996	0.025	0.16	0.294	0.58	1.3	0.324	24	0.05	
1995	0.07	0.32	*	1.13	2	0.513	20	0.05	
1994	0.18	1.05	*	2.47	2.6	0.802	14	0.05	
1993	0.1	0.41	1.01	2.62	5.2	1.29	23	0.05	
1992	0.07	0.26	0.598	1.07	4.2	0.921	24	0.05	
1991	0.08	0.27	0.782	2.17	3.7	0.986	24	0.05	
1990	0.22	*	*	*	4.2	1.35	8	0.05	
1989	*	*	*	*	*	*	0	*	

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2010

TABLE 3.2-25: STOCKTON - HAZELTON MONITORING SITE (BENZO(K)FLUORANTHENE-10)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan. Dev.	Number of Observations	Detection Limit	Estimated Risk
2005	0.025	*	*	*	0.16	0.056	5	0.05	*
2004	0.025	0.025	0.061	0.15	0.34	0.078	30	0.05	0.007
2003	0.025	0.025	0.07	0.17	0.34	0.087	31	0.05	0.008
2002	0.025	0.025	0.086	0.22	0.47	0.106	30	0.05	0.009
2001	0.025	0.025	0.082	0.17	0.53	0.106	31	0.05	0.009
2000	0.025	0.025	0.095	0.25	0.61	0.155	30	0.05	0.01
1999	0.025	0.025	0.089	0.27	0.53	0.128	30	0.05	0.01
1998	0.025	0.025	0.136	0.35	1	0.241	31	0.05	0.01
1997	0.025	0.025	0.074	0.19	0.42	0.088	30	0.05	0.008
1996	0.025	0.025	0.057	0.1	0.28	0.063	24	0.05	0.006
1995	0.025	0.025	*	0.28	0.39	0.12	20	0.05	*
1994	0.025	0.15	*	0.47	0.67	0.186	14	0.05	*
1993	0.025	0.05	0.22	0.62	1.2	0.319	23	0.05	0.02
1992	0.025	0.025	0.126	0.23	1	0.23	24	0.05	0.01
1991	0.025	0.025	0.115	0.36	0.68	0.167	24	0.05	0.01
1990	0.025	0.08	0.225	0.52	1.8	0.402	24	0.05	0.02
1989	0.025	0.025	*	0.32	1.9	0.441	18	0.05	*

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2010

TABLE 3.2-26: STOCKTON - HAZELTON MONITORING SITE (DIBENZ(A,H)ANTHRACENE-10)

Year	Minimum	Median	Mean	90th Percentile	Max.	Stan. Dev.	Number of Observations	Detection Limit	Estimated Risk
2005	0.025	*	*	*	0.07	0.02	5	0.05	*
2004	0.025	0.025	0.031	0.05	0.09	0.017	30	0.05	0.01

2003	0.025	0.025	0.035	0.09	0.11	0.026	31	0.05	0.01
2002	0.025	0.025	0.039	0.07	0.16	0.031	30	0.05	0.02
2001	0.025	0.025	0.039	0.07	0.16	0.033	31	0.05	0.02
2000	0.025	0.025	0.038	0.07	0.15	0.031	30	0.05	0.01
1999	0.025	0.025	0.04	0.07	0.27	0.047	30	0.05	0.02
1998	0.025	0.025	0.037	0.025	0.22	0.049	31	0.05	0.01
1997	0.025	0.025	0.027	0.025	0.07	0.008	30	0.05	0.01
1996	0.025	0.025	0.026	0.025	0.06	0.007	24	0.05	0.01
1995	0.025	0.025	*	0.025	0.14	0.026	20	0.05	*
1994	0.025	0.025	*	0.06	0.09	0.021	14	0.05	*
1993	0.025	0.025	0.054	0.11	0.22	0.054	23	0.05	0.02
1992	0.025	0.025	0.039	0.06	0.17	0.038	24	0.05	0.02
1991	0.025	0.025	0.081	0.31	0.39	0.117	24	0.05	0.03
1990	0.025	*	*	*	1.2	0.403	8	0.05	*
1989	*	*	*	*	*	*	0	*	*

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2010

TABLE 3.2-27: STOCKTON - HAZELTON MONITORING SITE (INDENO(1,2,3-CD)PYRENE-10)

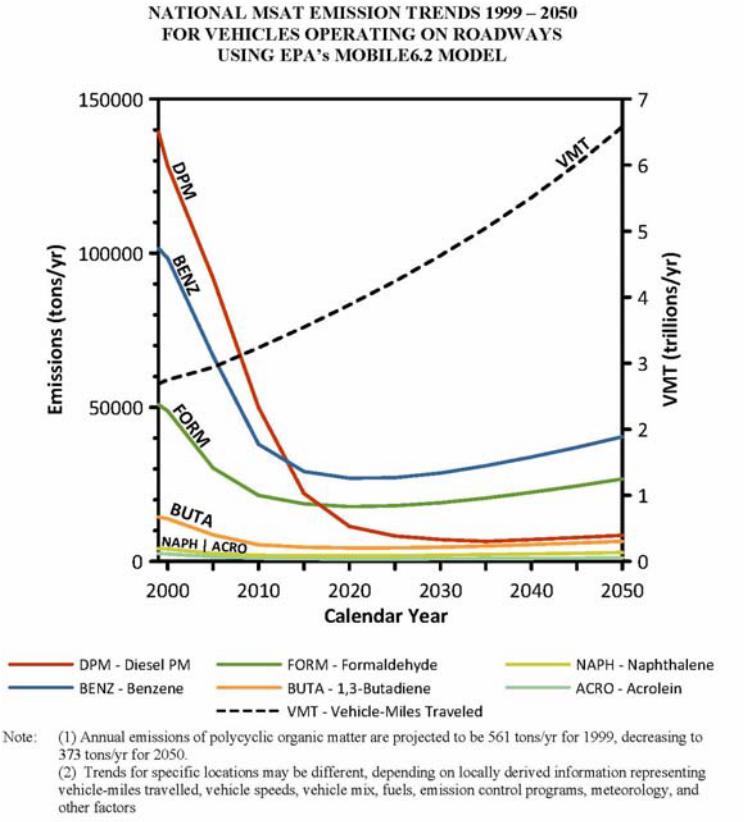
Year	Minimum	Median	Mean	90th Percentile	Max.	Stan. Dev.	Number of Observations	Detection Limit	Estimated Risk
2005	0.07	*	*	*	0.5	0.157	5	0.05	*
2004	0.025	0.025	0.131	0.31	0.67	0.173	30	0.05	0.01
2003	0.025	0.11	0.173	0.52	0.81	0.209	31	0.05	0.02
2002	0.025	0.06	0.201	0.47	1.2	0.279	30	0.05	0.02
2001	0.025	0.06	0.204	0.54	1.4	0.289	31	0.05	0.02
2000	0.025	0.06	0.249	0.75	1.5	0.415	30	0.05	0.03
1999	0.025	0.09	0.243	0.78	1.2	0.33	30	0.05	0.03
1998	0.025	0.1	0.378	1	2.5	0.636	31	0.05	0.04
1997	0.025	0.07	0.182	0.54	0.82	0.226	30	0.05	0.02
1996	0.025	0.08	0.17	0.42	0.72	0.202	24	0.05	0.02
1995	0.025	0.11	*	0.72	1.1	0.307	20	0.05	*
1994	0.06	0.49	*	1.37	1.4	0.452	14	0.05	*
1993	0.025	0.15	0.543	1.56	2.9	0.756	23	0.05	0.06
1992	0.025	0.15	0.35	0.66	2.7	0.613	24	0.05	0.04
1991	0.025	0.18	0.426	1.2	2.1	0.56	24	0.05	0.05
1990	0.08	*	*	*	4.8	1.52	8	0.05	*
1989	*	*	*	*	*	*	0	*	*

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2010

NATIONAL MSAT TRENDS

The 2007 EPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050, as shown below in Exhibit 3.2-1.

EXHIBIT 3.2-1: NATIONAL MSAT EMISSION TRENDS 1999 – 2050 FOR VEHICLES OPERATING ON ROADWAYS USING EPA'S MOBILE6.2 MODEL



MSAT ASSESSMENT

The U.S. EPA has published an MSAT assessment that demonstrates a national decreasing trend for MSATs including, acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. California maintains stricter standards for clean fuels and emissions compared to the national standards, therefore it is expected that MSAT trends in California will decrease consistent with or more than the U.S. EPA's national projections. Implementation of the proposed project will not result in an increase in MSATs. As air toxics research continues, new tools and techniques will be developed for assessing health outcomes as a result of lifetime MSAT exposure. The potential health risks posed by MSAT exposure should continue to be factored into project-level decision-making in the context of environmental review. Implementation of the proposed project will have a ***less than significant*** impact.

Impact 3.2-6: Potential to release asbestos from earth movement or structural asbestos from demolition/renovation of existing structures (less than significant with mitigation)

Asbestos is naturally occurring material that has been used in a variety of transportation facilities, including bridges, walls, and road base. Demolition and excavation activities of facilities containing

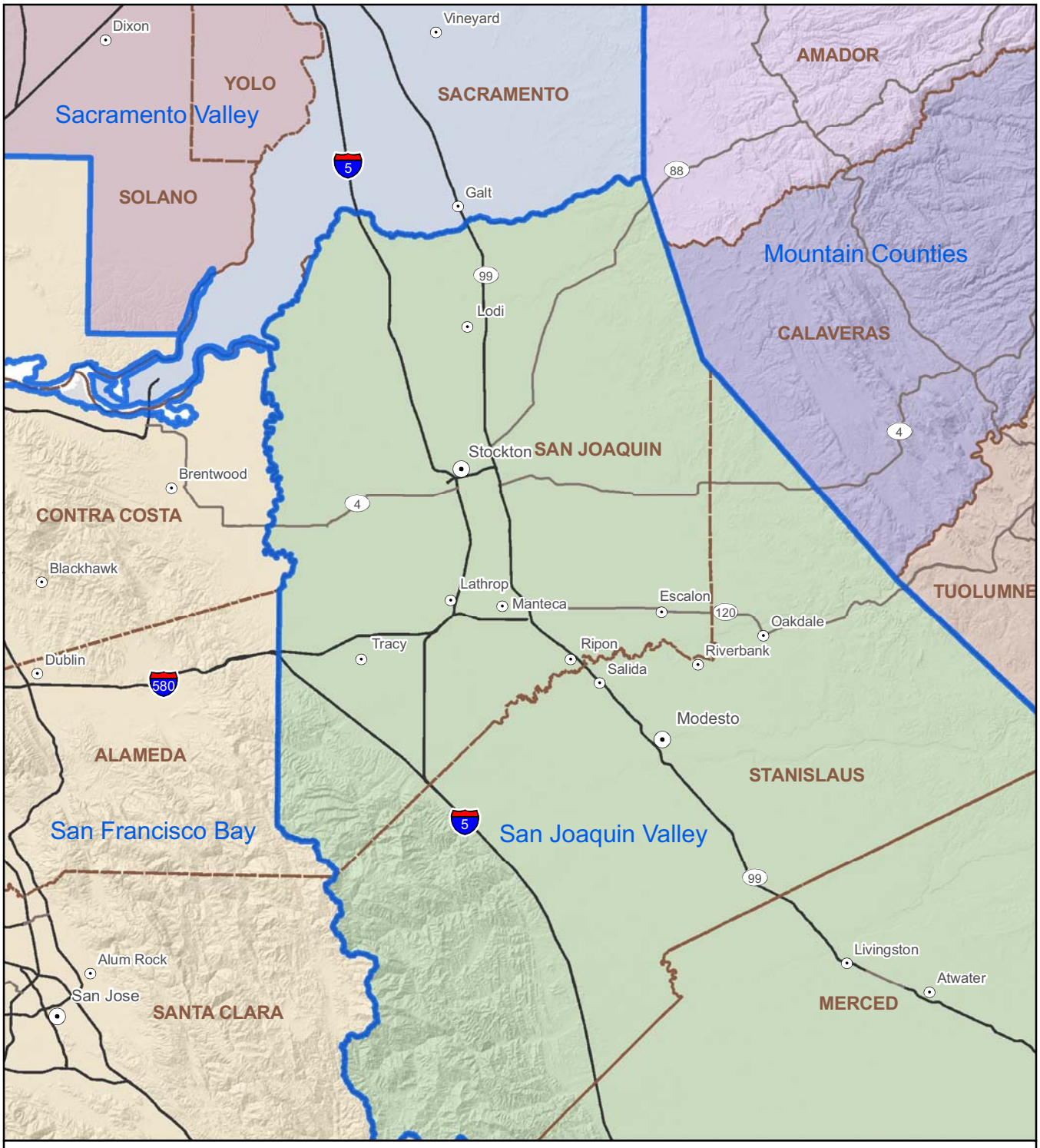
asbestos requires monitoring to insure that they are properly removed and disposed in accordance with local and state regulations. There is no areas documented in Manteca by the California Geological Survey as having naturally occurring asbestos in the soil. This type of soil is usually associated with the foothill and mountainous regions to the west or east of Manteca, but is not known in the alluvial soils of the valley. It is likely that buildings and transportation facilities located in Manteca have asbestos materials.

Based upon the city-wide nature of the proposed project, development of detailed, site-specific information on this impact at a General Plan planning level is not feasible. The City of Manteca will conduct appropriate project-level assessments for individual projects and will be responsible for consideration of mitigation measures for significant effects on the environment. If asbestos is deemed present naturally, or in existing facilities, an Asbestos Hazard Dust Mitigation Plan would be prepared to ensure that adequate dust control and asbestos hazard mitigation measures are implemented during project construction. The following mitigation measure would ensure that any construction activities that may result in the release of asbestos would include appropriate measures contained within an Asbestos Hazard Dust Mitigation Plan to ensure that exposure to construction workers and the public is minimized to acceptable State and local levels. Implementation of the following mitigation measure would ensure that this potential impact is reduced to a ***less-than-significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.2-3: *Prior to construction of Circulation Element projects, the City of Manteca shall assess the site for the presence of asbestos including asbestos from structures such as road base, bridges, and other structures. In the event that asbestos is present, the City of Manteca shall comply with applicable state and local regulations regarding asbestos, including CARB's asbestos airborne toxic control measure (ATCM) (Title 17, CCR § 93105 and 93106), to ensure that exposure to construction workers and the public is reduced to an acceptable level. This may include the preparation of an Asbestos Hazard Dust Mitigation Plan to be implemented during construction activities.*

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Air Districts
- Amador
- Bay Area
- Calaveras
- Sacramento Metro
- San Joaquin Valley Unified
- Tuolumne
- Yolo-Solano

Air Basins
County Boundaries

Manteca Circulation Element Update EIR

Figure 3.2-1: Air Basins and Districts

N
W E
S

0 2.5 5 10 15 20 Miles

1:750,000

Data sources: California Enviornmental Protection Agency. Air Resources Board.
Shaded relief from the California Spatial Information Library. Map date: June 7, 2010

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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This section describes the regulatory setting, regional biological resources, and impacts to biological resources that are likely to result from project implementation. No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.3.1 ENVIRONMENTAL SETTING

REGIONAL AND LOCAL SETTING

The City of Manteca is located in San Joaquin County, which is within the San Joaquin Valley between the Sierra Nevada mountain range in the east and the Sacramento River–San Joaquin River Delta in the west. The County is characterized by an extensive north-south trending valley floor through the central County with gentle foothills rising along the eastern County, the Delta in the northwest, and the beginning of the coastal foothills to the southwest. Sacramento County borders the County to the north, while Stanislaus County is located to the south. Contra Costa and Alameda Counties are located to the west, and Amador, Calaveras and Stanislaus counties border San Joaquin County on the east.

The region was formerly dominated by riparian woodland, oak savannah, wetlands, saltbush, and perennial grassland communities that harbored an abundance of endemic wildlife and plant species. The region is now a vast agricultural region with a marked reduction of native habitats and the associated populations of plants and wildlife. Urban and industrial development has also contributed to the major habitat losses, which have occurred since the boom in agricultural development in the late 1800s. Less than four percent of the original native habitat remains of that estimated in historic times.

The majority of the County consists of a combination of agricultural and urban environments that have been drastically altered from their native state by human activities. Native terrestrial habitat types that still exist in the County include chaparral, grassland, oak woodland/savannah, and riparian woodland. Aquatic habitat types remaining in the County are represented by lakes, streams, rivers, and wetlands such as sloughs, marshes, and vernal pools and this aquatic environment supports a rich fishery. Climatic and physiographic differences distinguish the various terrestrial and aquatic communities. Unique biological resources are contained within each of these habitats. In addition to providing habitat for resident wildlife and plant species, this region also functions as an important dispersal corridor for wildlife and a vital link in the migratory pathway of the Pacific Flyway.

The City of Manteca is situated in the southern portion of San Joaquin County at an elevation of approximately 38 feet above mean sea level (msl). The climate is Mediterranean, with cool, wet winters (often blanketed with fog) and hot, dry summers. Precipitation is normally in the form of rain and ranges from approximately 11 to 25 inches per year.

Manteca's core is urbanized and a mixture of agricultural operations surround the city. Agricultural activities of the region include: alfalfa fields, hay, row crops, orchards, annual grasslands, and pasture.

GEOMORPHIC PROVINCES

California's geomorphic provinces are naturally defined geologic regions that display a distinct landscape or landform. Earth scientists recognize eleven provinces in California. Each region displays unique, defining features based on geology, faults, topographic relief and climate. These geomorphic provinces are remarkably diverse. They provide spectacular vistas and unique opportunities to learn about earth's geologic processes and history. The City of Manteca is located in the Great Valley geomorphic province of California.

GREAT VALLEY. The Great Valley is an alluvial plain about 50 miles wide and 400 miles long in the central part of California. Its northern part is the Sacramento Valley, drained by the Sacramento River and its southern part is the San Joaquin Valley drained by the San Joaquin River. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic (about 160 million years ago). Great oil fields have been found in southernmost San Joaquin Valley and along anticlinal uplifts on its southwestern margin. In the Sacramento Valley, the Sutter Buttes, the remnants of an isolated Pliocene volcano, rise above the valley floor.

BIOREGIONS

The City of Manteca is located within the Bay Area/Delta bioregion and is surrounded by four different bioregions: Sacramento Valley to the north, Sierra to the east, San Joaquin Valley to the South, and the Central Coast to the southwest. Figure 3.3-1 illustrates the boundaries of the bioregions within the region. A brief description of the Bay Area/Delta bioregion is presented below.

BAY AREA/DELTA BIOREGION. The Bay Area/Delta Bioregion extends from the Pacific Ocean to the Sacramento Valley and San Joaquin Valley bioregions to the northeast and southeast, and a short stretch of the eastern boundary joins the Sierra Bioregion at Amador and Calaveras counties. The bioregion is bounded by the Klamath/North Coast on the north and the Central Coast Bioregion to the south. The Bay Area/Delta Bioregion is one of the most populous areas of the state, encompassing the San Francisco Bay Area and the Sacramento-San Joaquin River Delta. The water that flows through the Delta supplies two-thirds of California's drinking water, irrigating farmland, and sustaining fish and wildlife and their habitat. The bioregion fans out from San Francisco Bay in a jagged semi-circle that takes in all or part of 12 counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Clara, Solano, Sonoma, and parts of Sacramento, and Yolo. The habitats and vegetation of the Bay Area/Delta Bioregion are as varied as the geography.

CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

The California Wildlife Habitat Relationship (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly-occurring birds, mammals, reptiles and amphibians. When first published in 1988, the classification scheme had 53 habitats. At present, there are 59 wildlife habitats in the CWHR System: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated.

Within the City of Manteca, agricultural communities provide the primary habitat for biological resources. While natural communities are limited in the region, they also provide some important habitat. According to the CWHR there are eight wildlife habitat classifications in Manteca out of 59 found in the state. The Manteca area is considered to have low biological diversity. The habitat classifications in Manteca include: Agriculture, Annual Grassland, Freshwater Emergent Wetland, Lacustrine, Riverine, Urban, Valley Foothill Riparian, and Water. Below is a brief description of each habitat that is found is Manteca. Figure 3.3-2 illustrates the land cover types within Manteca.

Developed

Agricultural land may be defined broadly as land used primarily for production of food and fiber. This habitat can generally be broken into the following categories: cropland, dryland grain crops, irrigated grain crops, irrigated hayfield, irrigated row and field crops, rice, orchard - vineyard, deciduous orchard, evergreen orchard, and vineyard. On satellite imagery, the chief indications of agricultural activity are distinctive geometric field and road patterns on the landscape and the traces produced by livestock or mechanized equipment. However, pasture and other lands where such equipment is used infrequently may not show as well-defined shapes as other areas. The number of building complexes is smaller and the density of the road and highway network is much lower in Agricultural land than in Urban land.

Urban habitats are not limited to any particular physical setting. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily-developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs. There is a progression outward of decreasing development and increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species.

Herbaceous

Annual grassland habitat occurs mostly on flat plains to gently rolling foothills. Climatic conditions are typically Mediterranean, with cool, wet winters and dry, hot summers. The length of the frost free season averages 250 to 300 days (18 to 21 fortnights). Annual precipitation is highest in northern California.

Fresh emergent wetland habitats occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. They are most common on level to gently rolling topography. They are found in various depressions or at the edge of rivers or lakes. Soils are predominantly silt and clay, although coarser sediments and organic material may be intermixed. In some areas organic soils (peat) may constitute the primary growth medium. Climatic conditions are highly variable and range from the extreme summer heat to winter temperatures well below freezing.

Hardwood Woodland

Valley-foothill riparian habitats are found in valleys bordered by sloping alluvial fans, slightly dissected terraces, lower foothills, and coastal plains. They are generally associated with low velocity flows, flood plains, and gentle topography. Valleys provide deep alluvial soils and a high water table. The substrate is coarse, gravelly or rocky soils more or less permanently moist, but probably well aerated. Frost and short periods of freezing occur in winter (200 to 350 frost-free days). This habitat is characterized by hot, dry summers, mild and wet winters. Temperatures range from 75 to 102 F in the summer to 29 to 44 F in the winter. Average precipitation ranges from 6-30 inches, with little or no snow. The growing season is 7 to 11 months.

Aquatic

Riverine habitats can occur in association with many terrestrial habitats. Riparian habitats are found adjacent to many rivers and streams. Riverine habitats are also found contiguous to lacustrine and fresh emergent wetland habitats. This habitat requires intermittent or continually running water generally originating at some elevated source, such as a spring or lake, and flows downward at a rate relative to slope or gradient and the volume of surface runoff or discharge. Velocity generally declines at progressively lower altitudes, and the volume of water increases until the enlarged stream finally becomes sluggish. Over this transition from a rapid, surging stream to a slow, sluggish river, water temperature and turbidity will tend to increase, dissolved oxygen will decrease and the bottom will change from rocky to muddy

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water. These habitats may occur in association with any terrestrial habitats, Riverine or Fresh Emergent Wetlands. They may vary from small ponds less than one hectare to large areas covering several square kilometers. Depth can vary from a few centimeters to hundreds of meters. Typical lacustrine habitats include permanently flooded lakes and reservoirs, intermittent lakes and ponds (including vernal pools) so shallow that rooted plants can grow over the bottom. Most permanent lacustrine systems support fish life; intermittent types usually do not.

Water habitats can include a variety of aquatic habitats including natural and manmade features.

SALMON AND STEELHEAD TROUT FISHERIES

Salmon and steelhead trout are anadromous fish species that are present in the Bay Delta and San Joaquin and Sacramento River Basins. Anadromous fish are born in freshwater rivers and streams, and then migrate to the Pacific Ocean to grow and mature before returning to their place of origin to spawn. The San Joaquin and Sacramento River system produces most of the Chinook salmon (*Oncorhynchus tshawytscha*) and a large percentage of the steelhead trout (*Oncorhynchus mykiss*) in California.

Anadromous fish resources once flourished naturally in the San Joaquin and Sacramento River system, but as a result of habitat destruction from water storage/diversion projects, mining, sedimentation, and bank degradation, they are protected species under the Endangered Species Act. The San Joaquin and Sacramento River system has historically supported steelhead trout and

four distinct spawning runs of Chinook salmon: fall, late fall, winter, and spring. The salmon runs have declined since the late 1800s and are now characterized as episodic. The Central Valley steelhead was federally listed as threatened in 2003. The fall/late fall-run salmon is a federal and state species of concern, and a candidate species for federal listing. The spring-run Chinook salmon population is listed as threatened by both federal and state agencies. Winter-run Chinook salmon population is listed as a federally and state endangered species. Populations of Central Valley Steelhead and Chinook salmon are supported by hatcheries within the San Joaquin and Sacramento River Basin.

Water remaining behind the dams by the start of the spawning run in October is often warmed by summer heat. Warm water and low water elevation are harmful to most coldwater anadromous fish species. Riparian vegetation is critical for the maintenance of high quality fish habitat. It provides cover, controls temperature, stabilizes stream banks, provides food, and buffers streams from erosion and impacts of adjacent land uses. Riparian vegetation also affects stream depth, current velocity, and substrate composition. The decline of riparian communities in California is a factor contributing to the loss of high quality fish habitat.

NOXIOUS WEEDS

For the purpose of this analysis and future Project-specific assessments, a noxious weed is defined as a plant that could displace native plants and natural habitats, affect the quality of forage on rangelands, or affect cropland productivity. The California Department of Food and Agriculture (CDFA) lists weeds and assigns ratings (A–C) to each species on the list. The ratings reflect CDFA's view of the statewide importance of the pest, the likelihood that eradication or control efforts would be successful, and the present distribution of the pest in the state. These ratings are guidelines that indicate the most appropriate action to take against a pest under general circumstances. The rating system is explained below:

- A: an organism of known economic importance subject to state (or commissioner, when acting as a state agent) enforced action involving eradication, quarantine, containment, rejection, or other holding action.
- B: an organism of known economic importance subject to eradication, containment, control, or other holding action at the discretion of the individual county agricultural commissioner, or an organism of known economic importance subject to state-endorsed holding action and eradication only when found in a nursery.
- C: an organism subject to no state-enforced action outside of nurseries except to retard spread at the discretion of the commissioner, or an organism subject to no state-enforced action except to provide for pest cleanliness in nurseries.

SPECIAL-STATUS SPECIES

Special-status species are generally defined as: 1) species listed as a candidate, threatened, or endangered under the federal or state Endangered Species Act; 2) species considered rare or endangered under the California Environmental Quality Act; 3) species covered by the San Joaquin Multi-species Habitat and Open Space Conservation Plan; plants listed as rare under California Fish

and Game Code; 4) plants considered “rare, threatened, or endangered in California” by the California Native Plant Society (Lists 1B and 2); 5) animal listed as "species of special concern" by the state; and 6) animals fully protected in California by the Fish and Game Code.

The following discussion is based on a background search of special-status species that are documented in the California Natural Diversity Database (CNDDB), the California Native Plant Society’s (CNPS) Inventory of Rare and Endangered Plants, and the U.S. Fish and Wildlife Service’s (USFWS) endangered and threatened species lists. The background search was regional in scope and focused on the documented occurrences within the boundaries of San Joaquin County.

The search revealed 127 special status species within the region: 48 plants, 71 wildlife, and eight fish. Of the species that are known to occur within the region, 15 special status species are known to occur within a five mile radius of Manteca. Table 3.3-1 provides a list of special-status plant species that are documented within five miles of Manteca, their habitat, and current protective status. Table 3.3-2 provides a list of special-status wildlife and fish species that are documented within five miles of Manteca, their habitat, and current protective status. In addition to these species status species the search revealed three sensitive natural communities.

TABLE 3.3-1: SPECIAL-STATUS PLANT SPECIES WHICH MAY OCCUR IN PROJECT AREA

SPECIES	STATUS (FED./CA/ CNPS/SJMCP)	GEOGRAPHIC DISTRIBUTION	HABITAT	BLOOMING PERIOD	POTENTIAL TO OCCUR IN PROJECT AREA
Suisun Marsh aster *Aster lentus*	--/--/1B.2/Yes	Sacramento-San Joaquin Delta, Suisun Marsh, Suisun Bay: Contra Costa, Napa, Sacramento, San Joaquin, and Solano Counties	Brackish and freshwater marshes and swamps; below 3 m	May-November	Known to occur in project area. Potential habitat present within project area.
Slough thistle *Cirsium crassicaule*	--/--/1B.1/Yes	San Joaquin Valley: Kings, Kern, and San Joaquin Counties	Freshwater sloughs and marshes; 3-100 m	May-August	Known to occur in project area. Potential habitat present within project area.
Delta button-celery *Eryngium racemosum*	--/E/1B.1/Yes	San Joaquin River delta floodplains and adjacent Sierra Nevada foothills: Calaveras, Merced, San Joaquin, and Stanislaus Counties	Riparian scrub, seasonally inundated depressions along floodplains on clay soils; below 75 m	June-August	Historically known from project area. Potential habitat present within project area.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	--/--/2.1/Yes	Scattered locations in the Central Valley; southern coast of Texas	Floodplains, moist places, on alkaline soils; below 450 m	May-September	Historically known from project area. Potential habitat present within project area.

Notes: CNPS = California Native Plant Society
SJMSCP = San Joaquin Multi-Species Habitat Conservation and Open Space Plan

Federal
E = endangered under the federal Endangered Species Act.
T = threatened under the federal Endangered Species Act.
State
E = endangered under the California Endangered Species Act.
T = threatened under the federal California Endangered Species Act.
R = rare under the California Endangered Species Act

California Native Plant Society
1B = rare, threatened, or endangered in California and elsewhere.
2 = rare, threatened, or endangered in California, but more common elsewhere.
.1 = seriously endangered in California (over 80% of occurrences threatened-high degree and immediacy of threat).
.2 = fairly endangered in California (20-80% occurrences threatened).
.3 = not very endangered in California (<20% of occurrences threatened).

TABLE 3.3-2: SPECIAL-STATUS WILDLIFE AND FISH SPECIES KNOWN TO OCCUR IN PROJECT AREA

SPECIES	STATUS (FED/CA/ SJMCP)	GEOGRAPHIC DISTRIBUTION	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT AREA
Invertebrates				
Moestan blister beetle *Lytta moesta*	--/--/Yes	Distribution of this species is poorly known.	Annual grasslands, foothill woodlands or saltbush scrub.	Known to occur in project area. Potential habitat present within project area.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/--/Yes	Stream side habitats below 3,000 feet throughout the Central Valley	Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant.	Known to occur in project area. Potential habitat present within project area.

SPECIES	STATUS (FED/CA/ SJMCP)	GEOGRAPHIC DISTRIBUTION	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT AREA
Sacramento anthicid beetle *Anthicus sacramento*	--/--/No	Found in several locations along the Sacramento and San Joaquin rivers, from Shasta to San Joaquin counties, and at one site along the Feather River at Nicolaus.	Restricted to sand dune areas. Inhabit sand slifpfaces among bamboo and willow, but may not depend on presence of these plant species.	Known to occur in project area. Potential habitat present within project area.
Amphibians				
California tiger salamander *Ambystoma californiense (=A. tigrinum c.)*	T/SSC/Yes	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grass-lands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy.	Known to occur in project area. Potential habitat present within project area.
Birds				
Swainson's hawk *Buteo swainsoni*	--/T/Yes	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields	Known to occur in region. Potential nesting and foraging habitat present within project area.
Western burrowing owl *Athene cunicularia hypugea*	--/SSC/Yes	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows	Known to occur in region. Potential nesting and foraging habitat present within project area.
Yellow-headed blackbird *Xanthocephalus xanthocephalus*	--/SSC/No	Breeds from central British Columbia, northern Alberta, and Wisconsin south to southern California, northern New Mexico, and Illinois. Spends winters in southern U.S. and northern Mexico. Nests in freshwater marshes; during migration and winter prefers open, cultivated lands, fields, and pastures.	Nests in freshwater emergent wetlands with dense vegetation & deep water. Often along borders of lakes or ponds. Nests only where large insects such as odonata are abundant. Nesting timed with maximum emergence of aquatic insects.	Known to occur in region. Potential nesting and foraging habitat present within project area.
Tricolored blackbird *Agelaius tricolor*	--/SSC/Yes	Permanent resident in the Central Valley from Butte to Kern County. Breeds at scattered coastal locations from Marin Co. south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony	Known to occur in region. Potential nesting and foraging habitat present within project area.
Mammals				
Riparian (San Joaquin Valley) woodrat *Neotoma fuscipes riparia*	E/SSC, FP/Yes	Historical distribution along the San Joaquin, Stanislaus, and Tuolumne Rivers, and Caswell State Park in San Joaquin, Stanislaus, and Merced Counties; presently limited to San Joaquin County at Caswell State Park and a possible second population near Vernalis	Riparian habitats with dense shrub cover, willow thickets, and an oak overstory	Known to occur in project area. Potential habitat present within project area.

SPECIES	STATUS (FED/CA/ SJMCP)	GEOGRAPHIC DISTRIBUTION	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT AREA
Riparian brush rabbit *Sylvilagus bachmani riparius*	E/E/Yes	Limited to San Joaquin Co. at Caswell State Park near the confluence of the Stanislaus and San Joaquin Rivers and Paradise Cut area on Union Pacific right-of-way lands	Native valley riparian habitats with large clumps of dense shrubs, low-growing vines, and some tall shrubs and trees	Known to occur in project area. Potential habitat present within project area.
Fish				
Delta smelt *Hypomesus transpacificus*	T/T/Yes	Primarily in the Sacramento–San Joaquin Estuary but has been found upstream at the mouth of the American River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay.	Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand.	Known to occur in project area. Potential habitat present within project area.
Central Valley steelhead *Oncorhynchus mykiss*	T/--/No	Sacramento River and tributary Central Valley rivers.	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 7.8°C to 18°C. Habitat types are riffles, runs, and pools.	Known to occur in project area. Potential habitat present within project area.
Central Valley fall-/late fall-run Chinook salmon *Oncorhynchus tshawytscha*	-/SSC/No	Sacramento and San Joaquin Rivers and tributary Central Valley rivers.	Requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees Celsius for spawning.	Known to occur in project area. Potential habitat present within project area.
Central Valley spring-run Chinook salmon *Oncorhynchus tshawytscha*	T/T/No	Sacramento and San Joaquin Rivers and tributary Central Valley rivers.	Requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees Celsius for spawning.	Known to occur in project area. Potential habitat present within project area.
Sacramento winter-run ESU Chinook salmon *Oncorhynchus tshawytscha*	E/E/No	Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in Tributary streams.	Requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees Celsius for spawning.	Known to occur in project area. Potential habitat present within project area.
Green sturgeon *Acipenser medirostris*	T/SSC/No	Sacramento, lower Feather, and Klamath and Trinity Rivers.	Spawns in well-oxygenated, cool, riverine habitat with water temperatures from 8°C to 14°C.	Outside of known range.
Longfin smelt *Spirinchus thaleichthys*	-/SSC/No	Occurs in estuaries along the California coast. Adults concentrated in Suisun, San Pablo, and North San Francisco Bays.	Prior to spawning, these fish aggregate in deepwater habitats available in the northern Delta, including, primarily, the channel habitats of Suisun Bay and the Sacramento River. Spawning occurs in fresh water on the San Joaquin River below Medford Island and on the Sacramento River below Rio Vista.	Documented in the region, but not known to occur in project area.
River lamprey *Lampetra ayresii*	-/SSC/No	Sacramento, San Joaquin, and Napa Rivers; tributaries of San Francisco Bay (Moyle 2002; Moyle et al. 1995)	Adults live in the ocean and migrate into fresh water to spawn	Documented in the region, but not known to occur in project area.
Hardhead *Mylopharodon conocephalus*	-/SSC/No	Tributary streams in the San Joaquin drainage; large tributary streams in the Sacramento River and the main stem	Reside in low to mid-elevation streams and prefer clear, deep pools and runs with slow velocities. Also occur in reservoirs.	Known to occur in project area. Potential habitat present within project area.

SPECIES	*STATUS (FED/CA/ SJMCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*	*POTENTIAL TO OCCUR IN PROJECT AREA*
Natural Communities				
Great Valley Cottonwood Riparian Forest	--/--/No	Formerly extensive along the major low-gradient (depositional) streams throughout the Great Valley, but now reduced to scattered, isolated remnants or young stands because of flood control, water diversion, agricultural development, and urban expansion; typically below about 1,000 feet in the north, 3000 feet in the south.	Fine-grained alluvial soils near perennial or nearly-perennial streams that provide subsurface irrigation even when the channel is dry. These sites are inundated yearly during spring, resulting in annual input of nutrients, soil, and new germination sites. Intergrades at sites higher and farther from the river with Great Valley Mixed Riparian Forest; and with Great Valley Willow Scrub on sites closer to the river that are subject to more severe flooding disturbance.	Known to occur in project area. Potential habitat present within project area.
Great Valley Mixed Riparian Forest	--/--/No	Floodplains of low-gradient, depositional streams of the Great Valley, usually below about 500 feet. Formerly very extensive in the Sacramento and northern San Joaquin valleys, this forest largely has been cleared for agriculture, flood control, and urban expansion.	Relatively fine-textured alluvium somewhat back from active river channels. These sites experience overbank flooding (with abundant alluvial deposition and groundwater recharge) but not too severe physical battering or erosion. Intergrades closer to the river with Great Valley Cottonwood Riparian Forest where disturbance is both more frequent and more severe; intergrades farther away from the river with Great Valley Valley Oak Riparian Forest where such disturbance is less.	Known to occur in project area. Potential habitat present within project area.
Great Valley Valley Oak Riparian Forest	--/--/No	Formerly extensive on low-gradient, depositional reaches of the major streams of the Sacramento and northern San Joaquin valleys. More scattered in the San Joaquin watershed and on the floodplains of the Kings and Kaweah rivers. Now virtually eliminated by agriculture and firewood harvesting.	Restricted to the highest parts of floodplains, most distant from or higher above active river channels and therefore less subject to physical disturbance from flooding, but still receiving annual inputs of silty alluvium and subsurface irrigation. Intergrades closer to the river with Great Valley Mixed Riparian Forest.	Known to occur in project area. Potential habitat present within project area.

Status explanations:

Federal

E = endangered under the federal Endangered Species Act.
T = threatened under the federal Endangered Species Act.
PE = proposed for endangered under the federal Endangered Species Act.
PT = proposed for threatened under the federal Endangered Species Act.
C = candidate species for listing under the federal Endangered Species Act.
D = delisted from federal listing status.

State

E = endangered under the California Endangered Species Act.
T = threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.

3.4.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the natural resources of the state and nation including the CDFG, USFWS, USACOE, and the National Marine Fisheries Service. These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The following is an overview of the federal, state and local regulations that are applicable to subsequent projects under the proposed project.

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA), passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Once a species is listed it is fully protected from a "take" unless a take permit is issued by the USFWS. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

Migratory Bird Treaty Act

To kill, posses, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Federal Bald and Golden Eagle Protection Act

The Federal Bald and Golden Eagle Protection Act provides regulations to protect bald and golden eagles as well as their nests and eggs from willful damage or injury.

Clean Water Act – Section 404

Section 404 of the CWA regulates all discharges of dredged or fill material into waters of the U.S. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the USACOE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

The USACOE is the agency responsible for administering the permit process for activities that affect waters of the U.S. Executive Order 11990 is a federal implementation policy, which is intended to result in no net loss of wetlands.

Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board. To obtain the water quality certification, the Regional Water Quality Control Board must indicate that the proposed fill would be consistent with the standards set forth by the state.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. Requires authorization from the Corps for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

Department of Transportation Act - Section 4(f)

Section 4(f) has been part of Federal law since 1966. It was enacted as Section 4(f) of the Department of Transportation (DOT) Act of 1966 and set forth in Title 49 United States Code (U.S.C.), Section 1653(f). In January 1983, as part of an overall recodification of the DOT Act, Section 4(f) was amended and codified in 49 U.S.C. Section 303. This law established policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites as follows:

> *It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities. The Secretary of Transportation may approve a transportation program or project (other than any project for a park road or parkway under section 204 of title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of a historic site of national, state, or local significance (as determined by the Federal,*

state, or local officials having jurisdiction over the park, area, refuge, or site) only if: a) There is no prudent and feasible alternative to using that land; and b) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

STATE

Fish and Game Code §2050-2097 - California Endangered Species Act

The California Endangered Species Act (CESA) protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

Fish and Game Code §1900-1913 California Native Plant Protection Act

In 1977 the State Legislature passed the Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the state. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFG 10 days in advance of approving a building site.

Fish and Game Code §3503, 3503.5, 3800 - Predatory Birds

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called “raptors,” are protected. The law indicates that it is unlawful to take, posses, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

Fish and Game Code §1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFG has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a “Streambed Alteration Agreement” from CDFG prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFG may impose conditions to limit and fully mitigate impacts on

fish and wildlife resources. These agreements are usually initiated through the local CDFG warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Public Resources Code § 21000 - California Environmental Quality Act

The California Environmental Quality Act (CEQA) identifies that a species that is not listed on the federal or state endangered species list may be considered rare or endangered if the species meets certain criteria. Under CEQA public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e. candidate, or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFG. Additionally, the California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere. List 3 contains plants where additional information is needed. List 4 contains plants with a limited distribution.

Public Resources Code § 21083.4 - Oak woodlands conservation

In 2004, the California legislature enacted SB 1334, which added oak woodland conservation regulations to the Public Resources Code. This new law requires a County to determine whether a project, within its jurisdiction, may result in a conversion of oak woodlands that will have a significant effect on the environment. If a County determines that there may be a significant effect to oak woodlands, the County must require oak woodland mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. Such mitigation alternatives include: conservation through the use of conservation easements; planting and maintaining an appropriate number of replacement trees; contribution of funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements; and/or other mitigation measures developed by the County.

California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and federal wetland conservation programs.

- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act provides long-term protection of species and habitats through regional, multi-species planning before the special measures of the CESA become necessary.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the SWRCB to regulate state water quality and protect beneficial uses.

LOCAL

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

A Habitat Conservation Plan (HCP) is a federal planning document that is prepared pursuant to Section 10 of the Federal Endangered Species Act (FESA). An approved HCP within a defined plan area allows for the incidental take of species and habitat that are otherwise protected under FESA during development activities.

A Natural Community Conservation Plan (NCCP) is a state planning document administered by CDFG. An approved NCCP within a defined plan area allows for the incidental take of species and habitat that are otherwise protected under CESA during growth and development activities.

Background: The key purpose of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), is to provide a strategy for balancing the need to conserve Open Space and the need to Convert Open Space to non-Open Space uses while protecting the region's agricultural economy; preserving landowner property rights; providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA); providing and maintaining multiple-use Open Spaces which contribute to the quality of life of the residents of San Joaquin County; and accommodating a growing population while minimizing costs to Project Proponents and society at large.

San Joaquin County's past and future (2001-2051) growth has affected and will continue to affect 97 special status plant, fish and wildlife species in 52 vegetative communities scattered throughout San Joaquin County's 1,400+ square miles and 900,000+ acres, which include 43% of the Sacramento-San Joaquin Delta's Primary Zone. The SJMSCP, in accordance with ESA Section 10(a)(1)(B) and CESA Section 2081(b) Incidental Take Permits, provides compensation for the

Conversion of Open Space to non-Open Space uses which affect the plant, fish and wildlife species covered by the Plan, hereinafter referred to as "SJMSCP Covered Species". In addition, the SJMSCP provides compensation to offset the impacts of Open Space land Conversions on non-wildlife related resources such as recreation, agriculture, scenic values and other beneficial Open Space uses.

The SJMSCP compensates for Conversions of Open Space for the following activities: urban development, mining, expansion of existing urban boundaries, non-agricultural activities occurring outside of urban boundaries, levee maintenance undertaken by the San Joaquin Area Flood Control Agency, transportation projects, school expansions, non-federal flood control projects, new parks and trails, maintenance of existing facilities for non-federal irrigation district projects, utility installation, maintenance activities, managing Preserves, and similar public agency projects. These activities will be undertaken by both public and private individuals and agencies throughout San Joaquin County and within the County's incorporated cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton and Tracy. Public agencies including Caltrans (for transportation projects), and the San Joaquin Council of Governments (for transportation projects) also will undertake activities which will be covered by the SJMSCP.

Species coverage will be variable under the SJMSCP and will range from full coverage under federal and state law to CEQA coverage only. The 97 SJMSCP Covered Species include 25 state and/or federally listed species. The SJMSCP Covered Species includes 27 plants (6 listed), 4 fish (2 listed), 4 amphibians (1 listed), 4 reptiles (1 listed), 33 birds (7 listed), 15 mammals (3 listed) and 10 invertebrates (5 listed).

Implementation: SJCOG, Inc. administers the SJMSCP and holds the mitigation land. Project applicants are given the option of participating in the SJMSCP as a way to streamline compliance with required local, State and federal laws regarding biological resources, and typically avoid having to approach each agency independently. According to the SJMSCP, adoption and implementation by local planning jurisdictions provides adequate compensation and mitigation for impacts to plants, fish and wildlife. SJMSCP-permitted activities within the boundaries of San Joaquin County fulfill conservation and open space obligations and policies of local general plans, resolution, ordinances and other regulations as they pertain to plants, fish and wildlife. Adoption and implementation of the SJMSCP also secures compliance pursuant to the state and federal laws such as CEQA, the National Environmental Policy Act (NEPA), the Planning and Zoning Law, the State Subdivision Map Act, the Porter-Cologne Act and the Cortese-Knox Act in regards to species covered under the SJMSCP.

Applicants pay mitigation fees or provides land in-lieu of fees on a per-acre basis, as established by the SJCOG, Inc. according to the measures needed to mitigate impacts to the various habitat and biological resources. Different types of land require different levels of mitigation; i.e., one category requires that one acre of a similar land type be preserved for each acre developed, while another type requires that two acres be preserved for each acre developed. The entire County is mapped according to these categories so that land owners, project proponents and project reviewers are easily aware of the applicable SJMSCP fees for the proposed project.

The appropriate fees are collected or land in lieu is detained and remitted to SJCOG for administration. SJCOG uses the funds to preserve open space land of comparable types throughout the County, often coordinating with other private or public land trusts to purchase conservation easements or buy land outright for preservation. Development occurring on land that has been classified under the SJMSCP as "no-pay" would not be required to pay a fee. This category usually refers to already urbanized land and infill development areas. Although the fees are automatically adjusted on an annual basis, based on the construction cost index, they often cannot keep pace with the rapidly rising land prices in the Central Valley. Therefore, SJCOG is currently in the process of updating the mitigation fee schedule to more accurately match the market value of the various land types.

General Plan

Biological Resources Policies

RC-P-31. Minimize impact of new development on native vegetation and wildlife.

RC-P-32. Condition new development in the vicinity of the San Joaquin River and Walthall Slough to protect riparian habitat, wetlands, and other native vegetation and wildlife communities and habitats.

RC-P-33. Discourage the premature removal of orchard trees in advance of development, and discourage the removal of other existing healthy mature trees, both native and introduced.

RC-P-34. Protect special status species and other species that are sensitive to human activities.

RC-P-35. Allow contiguous habitat areas.

RC-P-36. Consider the development of new drainage channels planted with native vegetation, which would provide habitat as well as drainage.

Biological Resources Implementation Measures

RC-I-32. Continue to support and comply with the requirements of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) when reviewing proposed public and private land use changes.

RC-I-33. Project proponents who opt not to participate in the SJMSCP shall:

- Satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies.
- Provide site-specific research and ground surveys for proposed development projects. This research must include a detailed inventory of all biological resources onsite, and appropriate mitigation measures for avoiding or reducing impact to these biological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

RC-I-34. Until such time that a Clean Water Act regional general permit or its equivalent is issued for coverage under the SJMSCP, acquisition of a Section 404 permit by project proponents will continue to occur as required by existing regulations. Project proponents shall comply with all requirements for protecting federally protected wetlands.

RC-I-35. Continue to enforce the City's heritage tree ordinance which defines and identifies mature trees to be protected, and establishes regulations for their protection and removal.

RC-I-36. Limit the access of pedestrians and bicyclists to wetland areas so that access is compatible with long-term protection of these natural resources.

RC-I-37. The City shall implement multiple use of resource areas, where feasible, that includes passive recreational and educational opportunities with the protection of wildlife and vegetation habitat areas.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on biological resources if it will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department 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 removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

IMPACTS AND MITIGATION

Impact 3.3-1: Direct or Indirect Effects on Candidate, Sensitive, or Special-Status Species including their Habitat or Movement Corridors (less than significant with mitigation)

A California Natural Diversity Data Base (CNDDB) search revealed 127 special status species within the region: 48 plants, 71 wildlife, and eight fish. Of the species that are known to occur within the region, 15 special status species are known to occur within a five mile radius of Manteca. Table 3.3-1 provides a list of special-status plant species that are documented within five miles of Manteca, their habitat, and current protective status. Table 3.3-2 provides a list of special-status wildlife and fish species that are documented within five miles of Manteca, their habitat, and current protective status. In addition to these species status species the search revealed three sensitive natural communities. Below is a brief description of the special status species that are present in the region and their habitat requirements.

Invertebrates. There are 3 special-status invertebrate species that are documented within a five mile radius of Manteca. Each species is discussed below.

Sacramento anthicid beetle (*Anthicus sacramento*). This species is found in several locations along the Sacramento and San Joaquin rivers, from Shasta to San Joaquin counties, and at one site along the Feather River at Nicolaus. The species may once have been more widely distributed in loose sands along the Sacramento River, but man-made alterations to the riverbank have probably reduced its preferred habitat. However, dredging of the river channel has also created suitable habitat by depositing loose dredge material along the banks.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). The valley elderberry longhorn beetle's current distribution is patchy throughout the remaining habitat of the Central Valley from Redding to Bakersfield. Two areas along the American River in the Sacramento metropolitan area have been designated as critical habitat for the beetle. In addition, an area along Putah Creek, Solano County, and the area east of Nimbus Dam along the American River Parkway, Sacramento County, are identified as important habitat in the recovery plan for the species. The beetle is dependent on its host plant, elderberry (*Sambucus species*), which is a common component of the remaining riparian forests of the Central Valley.

Within San Joaquin County distribution of the valley elderberry longhorn beetle includes elderberry savanna and all valley floor riparian and foothill habitats that support elderberry. The HCP Database includes 9 records used to identify occupied habitat. An additional 246 records indicate suspected presence of the valley elderberry longhorn beetle based on the presence of elderberry bushes. Most of these bushes were noted during recent systematic surveys in the Delta.

Moestan Blister Beetle (*Lytta moesta*). The biology of these species is poorly known, but the species are presumed to be extant and may be discovered in annual grasslands, foothill woodlands or saltbush (Atriplex) scrub which remain in patches within the historical occupation site of these species.

Amphibians. There is one special-status amphibian species that is documented within a five mile radius of Manteca. This species is discussed below.

California tiger salamander (*Ambystoma californiense*). The California tiger salamander is known from the Central Valley and Coast Ranges of California. Most records are reported from elevations below 1,000 ft (300 m). There are records for this species on both the west side and east side of San Joaquin County; the HCP database includes 38 occurrences, of which 30 define occupied habitat. The California tiger salamander inhabits grasslands, and requires temporary pools (such as vernal pools or stock ponds) for successful reproduction. Pools holding water for several months are adequate for larval transformation; permanent pools generally contain important predators of larval salamanders (such as introduced fish and bullfrogs) and are therefore unsuitable for breeding purposes. After the breeding season, tiger salamanders return to estivation burrows created by ground squirrels and other animals. Although these estivation sites may be as far as 3,000 ft (1,000 m) from the breeding ponds, they are usually much closer.

California tiger salamanders need both aquatic and terrestrial habitat to complete their life cycle, and cannot exist in a landscape that does not provide proper conditions for both. California tiger salamanders breed in wetlands, where they lay eggs, and where their aquatic larvae complete their development and metamorphose into mobile juvenile salamanders. At the onset of the dry season, metamorphose juveniles and adults retreat to burrows in nearby uplands and enter a state of inactivity (estivation) that lasts approximately 9 months, after which adults migrate back to breeding ponds. Migration distances between estivation and breeding sites vary widely, but have been observed to vary from 330 feet to 1 mile, with an average distance of approximately 3,000 feet.

Birds. There are 4 special-status bird species that are documented within a five mile radius of Manteca. Each species is discussed below.

Tricolored blackbird (*Agelaius tricolor*). Tricolored blackbirds occur in California in the Central Valley, surrounding foothills, coastal areas, and scattered inland areas of northern and southern California . It is estimated that in the 35 years prior to 1972, the Central Valley population of tricolored blackbird had declined, "perhaps by more than 50 percent." Today the total population is declining. There are 29 records for the tricolored blackbird in San Joaquin County, of which 22 define occupied habitat. For breeding, tricolored blackbirds historically have been reported from dense tule marshes or patches of tules, cattails, or other emergent vegetation; more recently, the trend has been for more colonies to occur in blackberry thickets, and certain spiny grain crops such as wheat and barley. Breeding marshes may be wet or dry.

Swainson's hawk (Buteo swainsoni). Swainson's hawks were once found throughout California except in the mountainous regions of the state, including the Central Valley, all of the Coast Ranges south of Marin County, the Tehachapi Range, the Colorado River area, the Mojave Desert, the Great Basin, and the Modoc Plateau. Today Swainson's hawks are mainly limited to a few areas of the Central Valley and the Great Basin. In historic times (ca. 1900) Swainson's hawks may have maintained a population in excess of 17,000 pairs. Today the statewide population is estimated to be only about 550 pairs. There are hundreds of records of Swainson's hawks for San Joaquin

County, including many nests in isolated trees. However, the best habitat is concentrated along permanent waterways with a more or less continuous canopy of trees with grassland, irrigated pasture, alfalfa or grain fields nearby. Swainson's hawks require large trees in which to nest, and nearby open grasslands, pastures, grain or alfalfa fields in which to forage. Vineyards, orchards, rice and cotton crops are unsuitable foraging habitat for this species.

Burrowing owl (*Speotyto cunicularia*). Burrowing owls inhabit open grasslands and shrublands in the Central Valley, coastal regions, and deserts of California. They live and breed in burrows created by badgers and ground squirrels. They occur in a patchy distribution throughout San Joaquin County, but recent studies have shown a decline of over 50 percent in the number of breeding pairs in the Central Valley. There are 88 records in San Joaquin County, of which 46 define occupied habitat. Burrowing owls occur in open ground and forage on small rodents and larger insects. They require burrows dug by fossorial mammals; burrowing owls take over when the burrows are abandoned by the original resident.

Yellow-headed blackbird (*Xanthocephalus xanthocephalus*). This species breeds widely and abundantly across western Canada and the United States, but is patchily distributed in the southwestern portion of its breeding range. Migrates broadly across western and central North America, to wintering grounds largely in western and northern Mexico. Greatest breeding densities are found in regions with large and productive marshes, particularly in the eastern Prairies and Great Plains. Occurs primarily as a migrant and summer resident from April to early October; breeds from mid-April to late July. Small numbers winter, mainly in the southern Central Valley and the Imperial and Colorado River valleys.

Mammals. There are 2 special-status mammal species that are documented within a five mile radius of Manteca. Each species is discussed below.

Riparian brush rabbit (*Sylvilagus bachmani riparius*). The historic range of the riparian brush rabbit is believed to have extended along the San Joaquin River from Stanislaus County to the Delta region. One of two presently known populations is found on the lower Stanislaus River in Caswell State Park. Pursuant to recent studies, a second population has been identified near Stewart Tract along the San Joaquin River and its tributaries. The habitat for this species apparently is the dense brush and nearby openings associated with the banks of the Stanislaus River and San Joaquin River. In 1985, the total population at Caswell was estimated at less than 100 individuals although this number may change with the recent discovery of a new population.

The riparian brush rabbit is considered the most sensitive mammal in California because of its susceptibility to floods, fire, disease, predations, human disturbance, and flood control activities. A census conducted during January 1993 found that the Caswell State Park population at that time was 213 to 312 individuals. The floods of January 1997 left 85 percent of Caswell State Park under 2-10 feet of water for more than two weeks. Visual surveys in March and April found some signs of the rabbit. Trapping surveys initiated in May 1997, after flood waters had completely receded, also resulted in a visual sighting, fresh rabbit tracks and other signs, but no rabbits were successfully trapped. While it is evident some number of rabbits survived the flood event, the current population size at Caswell State Park is unknown.

Unlike other rabbits, the riparian brush rabbit occupies riparian forests within the natural floodplains, which have an ample brushy understory in association with the forest, plus suitable upland areas for cover and retreat from annual floods. This habitat can be restored through a comprehensive program that strives to restore or reactivate ecological processes, functions, and habitat elements on a systematic basis. Overall, the decline of the riparian brush rabbit has resulted from the destruction, fragmentation, and degradation of the San Joaquin Valley native riparian forest habitat within the rabbit=s historic range, with less than 6% of the original habitat remaining. Furthermore, due to the fragmentation of suitable remaining habitat, the rabbit has no means of dispersing from Caswell State Park to other areas. A genetic comparison of the Caswell State Park and Stewart Tract populations which may shed light on the relationship between the two populations is pending.

Consistent with the USFWS's Draft San Joaquin Recovery Plan, the SJMSCP emphasizes the establishment of other viable populations within the species' historical range. Potential translocation sites exist on state and federal lands, and lands covered by federal plant, fish and/or wildlife habitat easements along or adjacent to several stretches of the Stanislaus and San Joaquin Rivers. This species would also benefit from flood protection measures, limits on wood cutting near occupation sites, retention of logs and limbs, and curtailment of livestock grazing, especially along several stretches of the Stanislaus River downstream from Caswell State Park.

Riparian woodrat (*Neotoma fuscipes riparia*). The San Joaquin Valley woodrat, also known as the riparian woodrat, historically occupied extensive riparian forests on the floor of the San Joaquin Valley and along the San Joaquin and Tuolumne Rivers. Today, they are known to exist in and immediately adjacent to Caswell Memorial State Park, along the Stanislaus River in San Joaquin County. Pursuant to recent studies, the species also exists in at least one additional location downstream from Caswell on the Stanislaus River. The extent of remaining habitat is not known specifically, but undoubtedly is extremely small. This species requires healthy riparian growth. Regulation of stream flow, stream channelization, cultivation of floodplains, and brush and tree removal have diminished available riparian habitat. This species nests in cavities in trees, snags, or logs, spaces in talus, or lodges built of downed woody materials. Students at California State University Stanislaus have noted that woodrats occasionally use nest boxes placed in trees for wood ducks along the lower San Joaquin and Tuolumne rivers. If current trends continue, additional habitat losses can be expected along with associated decline in riparian woodrat populations. During floods, there are few or no refuges for woodrats as nearly all land bordering the river is cultivated. Urban and rural home construction, agricultural fields, gold dredging, gravel and sand mining, and dams have collectively Converted potential habitat for the San Joaquin woodrat. Unlike many other sensitive species in the San Joaquin Valley, the life history of the riparian woodrat is well known through studies on another subspecies, the dusky-footed woodrat.

Fish. There is one special-status fish species that is documented within a five mile radius of Manteca. In addition, there are several fish species that are known to occur within the San Joaquin River, but not currently documented within the CNDDB near Manteca. Each species is discussed below.

Chinook salmon (*Oncorhynchus tshawytscha*). Four distinct runs of Chinook salmon spawn in the Sacramento-San Joaquin River system, named for the season when the majority of the run enters freshwater as adults (spring, fall, late-fall, and winter-run). Spring-run Chinook enter the Sacramento River from late March through September. Adults hold in cool water habitats through the summer, then spawn in the fall from mid-August through early October. Fall-run Chinook migrate upstream as adults from July through December and spawn from early October through late December. The timing of runs varies from stream to stream. Late fall-run Chinook migrate into the rivers from mid-October through December and spawn from January through mid-April. Winter-run Chinook migrate into the Sacramento River from December through early August and spawn in the upper Sacramento River from mid-April through August.

Spring-run juveniles migrate soon after emergence as young-of-the-year, or remain in freshwater and migrate as yearlings. Fall and late-fall run juveniles migrate to the ocean during the first few months following emergence, although some may remain in freshwater and migrate as yearlings. Winter-run juveniles migrate downstream from July through March through the Sacramento River, reaching the Delta from September through June.

Fall-run Chinook are currently the most abundant of the Central Valley races, contributing to large commercial and recreational fisheries in the ocean and popular sport fisheries in the freshwater streams. Spring-run Chinook were historically the most abundant race in the Central Valley. Now only remnant runs remain in Butte, Mill, Deer, Antelope, and Beegum Creeks, tributaries to the Sacramento River. Historically, winter-run Chinook spawned in the upper reaches of Sacramento River tributaries, including the McCloud, Pit, and Little Sacramento Rivers, but Shasta and Keswick dams now block access to the historic spawning areas.

Steelhead Trout *(Oncorhynchus mykiss irideus).* The majority of adult steelhead enter the river in the fall or winter and spawn in early winter or spring. Summer steelhead enter their natal rivers in the spring or summer, and hold there until winter or spring when they spawn. Along with their vulnerability to poaching, the history of water diversions and other habitat alterations have taken a toll on the runs of steelhead. These altered conditions have reduced many runs to critically low numbers and some runs have been eliminated.

Steelhead trout can live up to 11 years and reach up to 55 pounds (25 kg) in weight and 45 inches (120 cm) in length, though average size is much smaller. They are usually dark-olive in color, shading to silvery-white on the underside with a heavily speckled body and a pink to red stripe running along their sides. They are a unique species; individuals develop differently depending on their environment. While all individuals hatch in gravel-bottomed, fast-flowing, well-oxygenated rivers and streams, some stay in fresh water all their lives. These fish are called rainbow trout. The steelhead that migrate to the ocean develop a much more pointed head, become more silvery in color, and typically grow much larger than the rainbow trout that remain in fresh water.

Delta Smelt (*Hypomesus transpacificus*). Delta smelt are small, short-lived estuarine fish that migrate between shallow freshwater stream habitats in which they spawn, and brackish reaches of the San Francisco Estuary. Delta smelt also spawn at the terminal ends of tidal creeks in fresh-brackish tidal marshes. Downstream habitat is primarily limited to intertidal and subtidal habitats

of Suisun Bay and its tidal marshes, but they occur also in San Pablo Bay, particularly during and after heavy freshwater flows. They may persist in tributaries of San Pablo Bay during periods of reduced salinity. They generally are limited to estuarine salinity below 10 to 14 parts per thousand, and are usually found in tidewater salinity 2 parts per thousand or less. Their abundance in the Estuary is variable, and appears to be related to both Delta outflows and food supplied by plankton production.

Longfin Smelt (*Spirinchus thaleichthys*). The longfin smelt is a medium-sized fish, usually growing to about 10 centimeters as an adult. It is translucent silver on the sides and olive to iridescent pink on the back. Its most distinctive characteristic is its long pectoral fins, which give the species its common name. Primary habitat is the open water of estuaries, both in seawater and freshwater areas, typically in the middle or deeper areas of the water column. This species migrates to suitable spawning habitat (estuaries in fresh or slightly brackish water over sandy or gravel substrates) between January and March. After hatching, longfin smelt larvae disperse widely throughout the estuary. Larval longfin smelt appear to move up and down in the water column, synchronizing with tides to adjust or maintain their geographic position in the estuary. Larvae metamorphose into juveniles about 30 to 60 days after hatching, depending on water temperature. The smelt generally mature at the end of their second year, at which point they migrate to spawn. The favored food of longfin smelt is opossum shrimp, but they will eat a variety of small crustaceans.

Green sturgeon (*Acipenser medirostris*). Green sturgeon are found in ocean waters from Mexico to the Bering Sea and Japan, and also in the lower reaches of large rivers north from the Sacramento-San Joaquin Delta. Green sturgeon are much less abundant than white sturgeon, and little is known about their life history. They seem to spend less time in estuaries and fresh waters than do white sturgeon, and seldom penetrate as far upstream. Juveniles are found in freshwater areas of the Sacramento-San Joaquin Delta, so it is presumed that green sturgeon spawn in this system. Their diet is similar to that of white sturgeon, which includes small fish and epibenthic invertebrates. Green sturgeon are known to occur in San Pablo Bay. Degradation of water quality due to pesticide runoff and untreated wastewater and changes in flow regimes due to diversion of water from tributaries are probably the major causes for the decline of this species.

River lamprey (*Lampetra ayresii*). Lampreys are anadromous, like salmon and steelhead, they hatch in freshwater streams, migrate out to the ocean, and return to fresh water as mature adults to spawn. River lamprey eggs hatch and remain in freshwater for approximately three to five years in silty backwaters or stream edges where they bury in the sediments and filter feed on various microorganisms. Transformation to adult typically begins when they are nearly 5 inches long and occurs in the summer over a period of nine to ten months. Young adults enter the ocean in late spring and spend three to four months there before migrating back to freshwater. Adult lamprey prey on other fish and may reach a total length of around 17cm. While in freshwater, lampreys are often found to coexist with steelhead and salmon, indicating that these species share similar habitat requirements. Juveniles require muddy bottoms, backwater areas, and low gradient areas, and it is therefore likely that rapid or frequent drops in flow deprive them of habitat and force

them to move into open water, where they are vulnerable to predation. Due to the migratory behavior of the species, lamprey distribution within watersheds is also affected by barriers.

Hardhead (*Mylopharodon conocephalus*). Hardhead are typically found in small to large streams at low- to mid-elevation. Hardhead usually occur in the same habitats as Sacramento sucker and Sacramento pikeminnow. Based on occurrence, hardhead prefer warmer water temperatures than salmonids; reported optimal water temperatures for hardhead range from 75.2 to 82.4ºF (24 to 28ºC). Most hardhead reach sexual maturity at 3 years and spawn in spring (May and April); however, spawning may take place as late as August. Hardhead in small streams spawn in near their resident pools, whereas hardhead in larger streams and lakes may move 30 to 75 km to find suitable spawning grounds. Spawning may occur in pools, runs, or riffles typically on gravel and rocky substrate. The early life history of hardhead is not well known. It is believed that larval and postlarval hardhead remain under dense, flooded vegetative cover or fallen branches along stream or lake edges. As the juveniles grow, they move into deeper water.

Plants. There are 4 special-status plant species that are documented within a five mile radius of Manteca. Each species is discussed below.

Suisun Marsh aster *(Aster lentus).* This species is a perennial herb in the aster, or sunflower, family. It is known strictly from five counties in the Delta region. There are 95 records for this species in the HCP database in San Joaquin County, primarily the Bouldin Island, Isleton, Holt, Terminous, and Woodward Island quads. Forty-seven of those records are considered robust enough to define occupied habitat. The habitat for the species is at the water's edge, in places where water is brackish and there is some tidal influence.

Slough thistle (*Cirsium crassicaule*). This species is an annual member of the aster, or sunflower family, is known from the central portions of the San Joaquin Valley in Kings, Kern and San Joaquin counties. Within San Joaquin County, there are seven records from the Lathrop and Vernalis quads; all but two of these sites are located in areas that are now cultivated or urbanized. The habitat for slough thistle is freshwater marshes, sloughs, and slow moving water. It apparently occurs both in natural water ways and occasionally in agricultural waterways. The population is reported to fluctuate widely from year to year.

Delta button-celery (*Eryngium racemosum*). This species is an annual or perennial herb in the carrot, or celery, family. Its historic range is somewhat disjunct within the San Joaquin Valley and eastern foothills of the Sierra Nevada: Calaveras, Fresno, San Joaquin and Stanislaus counties. However, populations in the latter two counties are considered by the California Native Plant Society to have been extirpated. The HCP database includes 11 collections from the Clifton Court Forebay, Lathrop, Peters, Ripon, and Vernalis quads; however, none is used to define occupied habitat. The habitat of this species consists of vernally mesic clay depressions, often associated with riparian scrub.

Wright's trichocoronis (*Trichocoronis wrightii var. wrightii*). This species is an annual member of the aster, or sunflower, family. Its historic range is in the Central Valley from Sutter and Colusa counties south to Merced County, a disjunct population in Riverside County, and from Texas.

Taxonomic problems appear to exist; it is not clear whether the California populations constitute a separate species. In any case, it is presumed extirpated from all known localities in the Central Valley, including the single record from the Lathrop quad. The habitat for Trichocoronis wrightii var. wrightii is reported as moist places, mudflats, and shores.

Sensitive Natural Communities. Some of the terrestrial and wetlands resources found in the region are of global as well as regional significance and are therefore considered sensitive natural communities. Wetlands, including vernal pools scattered throughout San Joaquin County, riparian habitat along the San Joaquin, and Stanislaus Rivers and other tributaries, and the entire Delta region in western San Joaquin County all provide essential habitat for a host of endangered and threatened plant and animal species. Many other organisms, without official status, depend upon wetlands to complete their lifecycles. The sensitive natural communities within the area that are currently rare enough to be listed in the CNDDB include the following: Great valley cottonwood riparian forest, Great valley mixed riparian forest, Great valley valley oak riparian forest.

Discussion. Construction and maintenance activities associated with the individual subsequent projects could result in the direct and indirect loss or indirect disturbance of special-status wildlife species or their habitats that are known to occur, or have potential to occur, in the City or its surroundings. Impacts on special-status wildlife species or their habitat could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Significant impacts on special-status wildlife species associated with individual projects include:

- increased mortality caused by higher numbers of automobiles on new or widened roads;
- direct mortality from the collapse of underground burrows, resulting from soil compaction;
- direct mortality resulting from the movement of equipment and vehicles through the Project area;
- direct mortality resulting from removal of trees with active nests;
- direct mortality or loss of suitable habitat resulting from the trimming or removal of obligate host plants;
- direct mortality resulting from fill of wetlands features;
- loss of breeding and foraging habitat resulting from the filling of seasonal or perennial wetlands;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- loss of suitable habitat for vernal pool invertebrates resulting from the destruction or degradation of vernal pools or seasonal wetlands;
- abandoned eggs or young and subsequent nest failure for special-status nesting birds, including raptors, and other non-special status migratory birds resulting from construction-related noises;
- loss or disturbance of rookeries and other colonial nests;
- loss of suitable foraging habitat for special-status raptor species; and
- loss of migration corridors resulting from the construction of permanent structures or features.

- impacts to fisheries/species associated with waterways

The design process for each improvement will involve a level of field reconnaissance to precisely identify the potential for impacts to special status species and to identify project specific design measures that can be employed to avoid or lessen an impact. The City of Manteca participates in the SJMSCP for projects that involve take of protected species. Consistency with the SJMSCP, and City policies that protect special-status species, including their habitat, is the first step to ensure that appropriate design measures, including avoidance, if appropriate, are incorporated into the design of each improvement project. Additionally, the SJMSCP provides a mechanism for mitigating impacts to special-status species and their habitats through the purchase of conservation easements at appropriate ratios, which are defined by species, when avoidance is not feasible.

The proposed project is a planning document and thus, no direct physical changes will occur to the environment. Most individual transportation projects would result in improvements to existing transportation facilities, rather than new facilities. Improvements to existing facilities are less likely to result in impacts to biological resources due to the already developed/urbanized nature of the community. However, there is a reasonable chance that special status species will be impacted throughout the buildout of transportation projects identified in the proposed project due to the extent of special status species throughout the region. The following mitigation measure and adopted General Plan policies would ensure that all future projects are designed to avoid sensitive biological resources to the greatest extent feasible. Where full avoidance is not possible, the participation in pre-established habitat and special status species protection programs would offset any potential impacts associated with project implementation. Adherence to the requirements in this mitigation measure would reduce this impact to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.3-1: *Prior to final design approval of individual projects, the City of Manteca shall coordinate with the SJMSCP administrator (SJCOG, Inc.) to verify whether construction within the study area would require a permit. The permit process will require a field reconnaissance of the project study area by an SJCOG approved biologist in an effort to identify any biological constraints, including HCP covered species or habitat. If the biologist identifies HCP covered species or habitat within the limits of the project study area the City of Manteca shall implement all minimization measures and pay the appropriate mitigation fees or provide land in lieu of fees as established by the SJCOG, Inc. If the biologist identifies species or habitat within the project study area that are not covered by the HCP, the City of Manteca shall coordinate with the appropriate regulatory agency (USFWS, NMFS, or CDFG) to obtain the appropriate permits prior to any disturbance to the species or their habitat.*

ADOPTED GENERAL PLAN POLICIES AND IMPLEMENTATION MEASURES

Policies

- *RC-P-32 Protect special status species and other species that are sensitive to human activities.*

Implementation Measures

- *RC-I-32 Continue to support and comply with the requirements of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) when reviewing proposed public and private land use changes.*
- *RC-I-34 Project proponents who opt not to participate in the SJMSCP shall satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies.*

Impact 3.3-2: Adverse Effects on Riparian Habitat or Other Sensitive Natural Community Identified in Local or Regional Plans, Policies, Regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service, or on Federally Protected Wetlands as Defined by Section 404 of the Clean Water Act through Direct Removal, Filling, Hydrological Interruption, or Other Means (less than significant with mitigation)

The planning area contains sensitive natural communities, such as riparian, streams, rivers, wet meadows, and vernal pools. Additionally, the planning areas contains CNDDB documented Great valley cottonwood riparian forest, Great valley mixed riparian forest, and Great valley valley oak riparian forest.

Streams, rivers, wet meadows, and vernal pools (wetlands and jurisdictional waters) are of high concern because they provide unique aquatic habitat (perennial and ephemeral) for many endemic species, including special-status plants, birds, invertebrates, and amphibians. These aquatic habitats oftentimes qualify as protected wetlands or jurisdictional waters and are protected from disturbance through the CWA.

The planning area contains numerous aquatic habitats that qualify as federally protected wetlands and jurisdictional waters. Section 404 of the CWA requires any project that involves disturbance to a wetland or water of the U.S. to obtain a permit that authorizes the disturbance. If a wetland or jurisdictional water is determined to be present, then a permit must be obtained from the USACE to authorize a disturbance to the wetland. Although subsequent improvements may disturb protected wetlands and/or jurisdictional waters, the regulatory process that is established through Section 404 of the CWA ensures that there is “no net loss” of wetlands or jurisdictional waters. If, through the design process, it is determined that an improvement project cannot avoid a wetland or jurisdictional water, then the USACE would require that there be an equal amount of wetland created elsewhere to mitigate any loss of wetland.

Construction activities associated with individual projects could result in the disturbance or loss of waters of the United States. This includes perennial and intermittent drainages; unnamed drainages; vernal pools; freshwater marshes; and other types of seasonal and perennial wetland communities. Wetlands and other waters of the United States could be affected through direct

removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, and other construction-related activities.

Detailed plans of the individual projects have not been developed. Consistency with the applicable SJMSCP as well as City policies would ensure that appropriate design measures, including avoidance, if appropriate, are incorporated into the design of each individual project. Because the proposed project is a planning document and thus, no physical changes will occur to the environment, adoption of the proposed project would not directly impact the environment. There is a reasonable chance that natural communities, including wetlands, riparian, or other sensitive natural communities will be impacted throughout the buildout of the individual projects. This impact is could result in adverse effects on wetlands, riparian, or other sensitive natural communities.

The following mitigation measures would ensure that all future projects are designed to avoid sensitive habitat and wetlands to the greatest extent feasible. Where full avoidance is not possible, the participation in pre-established habitat protection programs or state/federal permit mitigation programs would offset any potential impacts associated with project implementation. Adherence to the requirements in these mitigation measures and Mitigation Measure 3.3.1 would reduce this impact to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.3.2. *Prior to approval of individual projects, the City of Manteca shall retain a qualified biologist to perform an assessment of the project area to identify wetlands, riparian, and other sensitive aquatic environments. If wetlands are present the qualified biologist shall perform a wetland delineation following the 1987 Army Corps of Engineers Wetlands Delineation Manual. The wetland delineation shall be submitted to the ACOE for verification.*

Mitigation Measure 3.3.3. *If wetlands, riparian, or other sensitive aquatic environments are found within the project area for a individual project, the City of Manteca shall design or modify the project to avoid direct and indirect impacts on these habitats, if feasible. Additionally, the City of Manteca shall minimize the loss of riparian vegetation by trimming rather than removal where feasible.*

Prior to construction, the City of Manteca shall install orange construction barrier fencing to identify environmentally sensitive areas around the wetland (20' from edge), riparian area (100' from edge), and other aquatic habitats (250' from edge of vernal pool). The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The fencing will be installed before construction activities are initiated and will be maintained throughout the construction period. The following paragraph will be included in the construction specifications:

> *The Contractor's attention is directed to the areas designated as "environmentally sensitive areas." These areas are protected, and no entry by the Contractor for any purpose will be allowed unless specifically authorized in writing by the City of Manteca.*

The Contractor will take measures to ensure that Contractor's forces do not enter or disturb these areas, including giving written notice to employees and subcontractors.

Temporary fences around the environmentally sensitive areas will be installed as the first order of work. Temporary fences will be furnished, constructed, maintained, and removed as shown on the plans, as specified in the special provisions, and as directed by the project engineer. The fencing will be commercial-quality woven polypropylene, orange in color, and at least 4 feet high (Tensor Polygrid or equivalent). The fencing will be tightly strung on posts with a maximum 10-foot spacing.

Immediately upon completion of construction activities the contractor shall stabilize exposed soil/slopes. On highly erodible soils/slopes, use a nonvegetative material that binds the soil initially and breaks down within a few years. If more aggressive erosion control treatments are needed, geotextile mats, excelsior blankets, or other soil stabilization products will be used. All stabilization efforts should include habitat restoration efforts.

***Mitigation Measure 3.3.4:** If wetlands or riparian habitat are disturbed as part of the individual projects, the City of Manteca shall compensate for the disturbance to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state, federal, and local agencies as part of the permitting process for the project. The compensation shall be at a minimum ratio of 3 acres restored, created, and/or preserved for every 1 acre disturbed. Compensation may comprise onsite restoration/creation, off-site restoration, preservation, or mitigation credits (or a combination of these elements). The City of Manteca shall develop and implement a restoration and monitoring plan that describes how the habitat shall be created and monitored over a minimum period of time.*

ADOPTED GENERAL PLAN POLICIES AND IMPLEMENTATION MEASURES

Policies

- *BR-P-30 Condition new development in the vicinity of the San Joaquin River and Walthall Slough to promote and protect riparian habitat, wetlands, and other native vegetation and wildlife community.*
- *BR-P-34 Consider the development of new drainage channels planted with native vegetation, which would provide habitat as well as drainage.*

Implementation Measures

- *RC-I-32 Continue to support and comply with the requirements of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) when reviewing proposed public and private land use changes.*
- *RC-I-33 For project proponents who opt against participation in the SJMSCP, require site-specific research, and ground surveys for proposed development projects. This research must include a detailed inventory of all biological resources onsite, and appropriate mitigation measures for avoiding or reducing impact to these biological resources. This requirement may*

be waived if determined by the City that the proposed project area is already sufficiently surveyed.

- *RC-I-34 Project proponents who opt not to participate in the SJMSCP shall satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies.*
- *BR-I-36 Limit the access of pedestrians and cyclists to wetland areas so that access is compatible with long-term protection of these natural resources.*
- *BR-I-38 Until such time that a Clean Water Act regional general permit or its equivalent is issued for coverage under the SJMSCP, acquisition of a Section 404 permit by project proponents will continue to occur as required by existing regulations. Project proponents shall comply with all requirements for protecting federally protected wetlands.*

Impact 3.3-3: Interference with the Movement of 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 (less than significant with mitigation)

There are many native fish and wildlife species within the County that migrate or utilize movement corridors. The most notable for their protection status include the Chinook salmon (*Oncorhynchus tshawytscha*) and steelhead trout (*Oncorhynchus mykiss*). Salmon and steelhead trout are anadromous fish species that are present in the San Joaquin and Sacramento River Basins. The Sacramento River system has historically supported steelhead trout and four distinct spawning runs of Chinook salmon: fall, late fall, winter, and spring. The Central Valley steelhead was federally listed as threatened in 2003.

The fall/late fall-run salmon is a federal and state species of concern, and a candidate species for federal listing. The spring-run Chinook salmon population is listed as threatened by both federal and state agencies. Winter-run Chinook salmon population is listed as a federally and state endangered species. Populations of Central Valley Steelhead and Chinook salmon have been supported by hatcheries within the San Joaquin River Basin.

Individual transportation improvements have not been designed or approved. Each project will be designed consistent with the applicable City policies to ensure that appropriate design measures, including avoidance, if appropriate, are incorporated into the design of each individual project. It will be important that each transportation project review the potential for impacts to riparian habitat, which is critical for the maintenance of high quality habitat. It provides cover, controls temperature, stabilizes stream banks, provides food, and buffers streams from erosion and impacts of adjacent land uses. Riparian vegetation also affects stream depth, current velocity, and substrate composition.

Because the proposed project is a planning document and thus, no physical changes will occur to the environment, adoption of the proposed project would not directly impact the environment.

There is a reasonable chance that protected migratory species, including the four distinct salmon runs, and steelhead may be impacted if an individual subsequent project is located in or adjacent to the habitat for this species. The following mitigation measure would ensure that all future projects are designed to facilitate the movement of sensitive species to the greatest extent feasible. Where full design mitigation is not feasible, compliance with state and federal permit requirements would offset any potential impacts associated with project implementation. Adherence to the requirements this mitigation measure would reduce this impact to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.3-5: *Prior to design approval of individual projects that contain movement habitat, the City of Manteca shall incorporate economically viable design measures, as applicable and necessary, to allow wildlife or fish to move through the transportation corridor, both during construction activities and post construction. Such measures may include appropriately spaced breaks in a center barrier, or other measures that are designed to allow wildlife to move through the transportation corridor. If the project cannot be designed with these design measures (i.e. due to traffic safety, etc.) the City of Manteca shall coordinate with the appropriate regulatory agency (i.e. USFWS, NMFS, CDFG) to obtain regulatory permits and implement alternative project-specific mitigation prior to any construction activities.*

ADOPTED GENERAL PLAN POLICIES AND IMPLEMENTATION MEASURES

Policies

- *RC-P-31. Minimize impact of new development on native vegetation and wildlife.*
- *RC-P-32. Condition new development in the vicinity of the San Joaquin River and Walthall Slough to protect riparian habitat, wetlands, and other native vegetation and wildlife communities and habitats.*
- *RC-P-34. Protect special status species and other species that are sensitive to human activities.*
- *RC-P-35. Allow contiguous habitat areas.*
- *RC-P-36. Consider the development of new drainage channels planted with native vegetation, which would provide habitat as well as drainage.*

Implementation Measures

- *RC-I-32. Continue to support and comply with the requirements of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) when reviewing proposed public and private land use changes.*
- *RC-I-33. Project proponents who opt not to participate in the SJMSCP shall:*
    - *Satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies.*
    - *Provide site-specific research and ground surveys for proposed development projects. This research must include a detailed inventory of all biological resources onsite, and*

appropriate mitigation measures for avoiding or reducing impact to these biological resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

Impact 3.3-4: Potential Introduction or Spread of Noxious Weeds Associated with the Transportation Projects (Less than Significant with Mitigation Incorporated)

Construction activities associated with transportation projects could introduce noxious weeds or result in their spread into currently uninfested areas, possibly resulting in the displacement of special-status plant species and degradation of habitat for special-status wildlife species. These projects may include, but are not limited to the congestion relief projects, roadway safety projects, bus and pedestrian/bicycle projects such as the construction of pedestrian/bicycle trails and park-and-ride lots, and the construction of railroad crossing safety projects. Plants or seeds may be dispersed via construction equipment if appropriate measures are not implemented. This impact is considered potentially significant because the introduction or spread of noxious weeds could result in a substantial reduction or elimination of species diversity or abundance. The following mitigation measure would require a qualified botanist to perform a field survey to determine the presence of noxious weed infestations in the project area for individual transportation projects. Additionally, this mitigation measure requires plans and specifications to include specific measures that reduce the likelyhood of new noxious weed infestations after construction is completed. Implementation of the following mitigation measure would reduce this impact to a ***less-than-significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.3.6: *Prior to approval of transportation projects, the City of Manteca shall retain a qualified botanist determine whether noxious weeds are an issue for the project. If the botanist determines that noxious weeds are an issue, the City of Manteca shall review the noxious weed list from the County Agricultural Commission, California Department of Food and Agriculture, and the California Exotic Pest Plant Council to identify target weed species for a field survey. Noxious weed infestations shall be mapped and documented. The City of Manteca shall incorporate the following measures into project plans and specifications:*

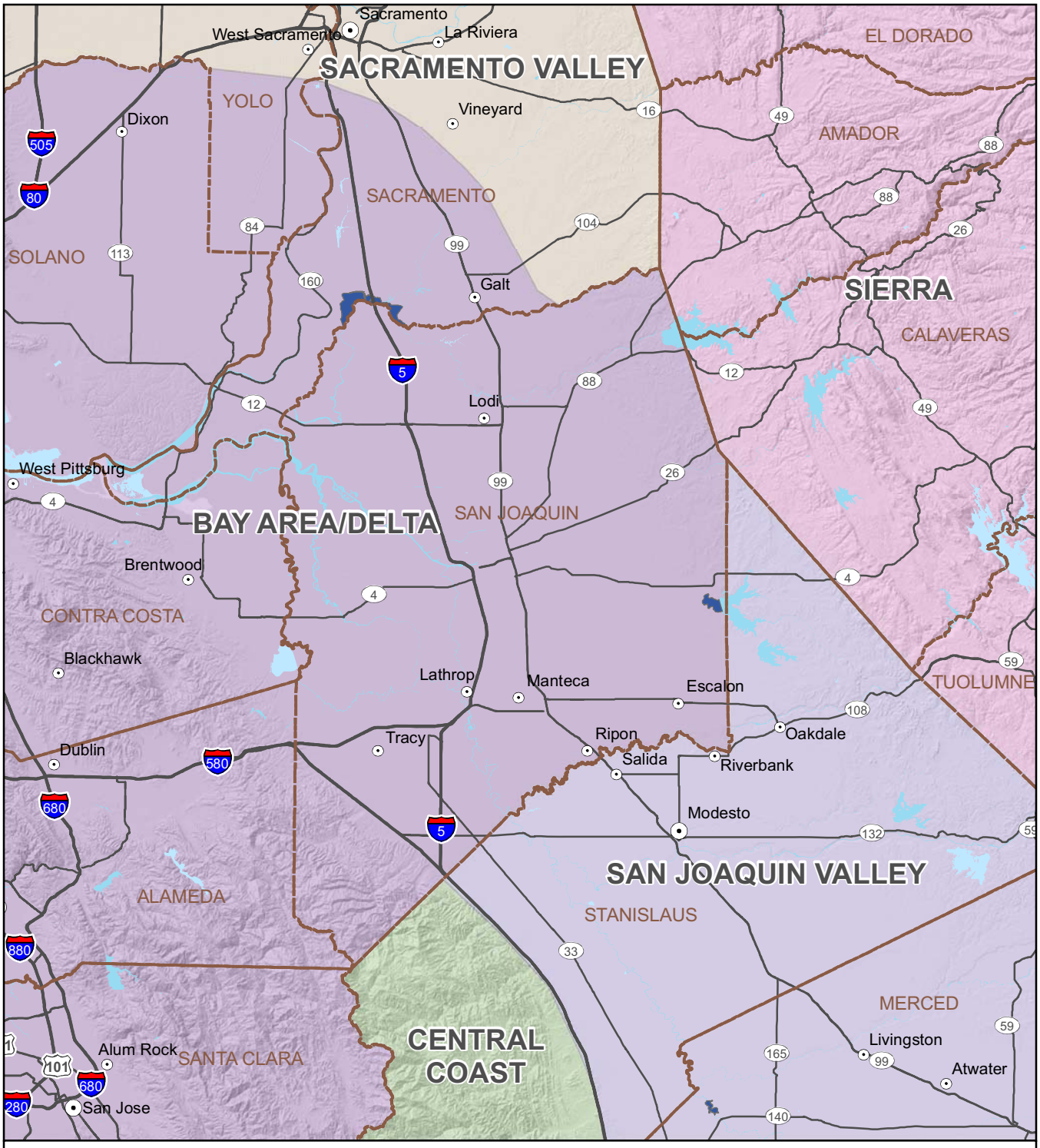
- *Certified, weed-free, imported erosion-control materials (or rice straw in upland areas) will be used.*
- *The project sponsor will coordinate with the county agricultural commissioner and land management agencies to ensure that the appropriate BMPs are implemented.*
- *Construction supervisors and managers will be educated about noxious weed identification and the importance of controlling and preventing their spread.*
- *Equipment will be cleaned at designated wash stations after leaving noxious weed infestation areas.*

Impact 3.3-5: Conflicts with an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, Recovery Plan, or Local Policies or Ordinances Protecting Biological Resources (less than significant with mitigation)

The individual projects are subject to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The individual projects will be reviewed by a Technical Advisory Committee (TAC) to ensure that the biological impacts are within the parameters established by the SJMSCP and the Biological Opinion. If the TAC confirms that the individual project is consistent with the SJMSCP, they will recommend to the Joint Powers Authority that the project receive coverage under the SJMSCP. The individual projects will be reviewed for the following:

- Coverage for the proposed project is consistent with the overall SJMSCP biological intent and conservation program.
- Coverage for the proposed project is consistent with the SJMSCP Biological Opinion.
- Biological impacts and Incidental Take associated with the proposed project are within the scope of the environmental analyses adopted in conjunction with the SJMSCP.
- The project does not introduce significant new biological conditions into the Plan Area (i.e., impacts of the proposed project are less than or equal to those described in the SJMSCP and its supporting environmental documents).
- The project acres have been analyzed based on habitat type (e.g., Natural Land, Agricultural Habitat Land or Multi-Purpose Open Space Land) and sufficient take acres remain for each habitat type to allow coverage of the proposed project as permitted under the SJMSCP.
- The project is adjacent to existing city limits; or
- The project is not one of the projects specifically exempted from SJMSCP Coverage as identified in the SJMSCP.
- The project does not disrupt a corridor used by the giant garter snake, riparian brush rabbit, riparian woo drat, the San Joaquin kit fox or fisheries as indentified in the SJMSCP.
- The project does not interfere with the San Joaquin River Wildlife Corridor.
- The project does not include installation of a linear barrier to species dispersal as defined in the SJMSCP.

The individual projects will require a recommendation for coverage by the SJMSCP Technical Advisory Committee and an approval of coverage by the SJMSCP Joint Powers Authority prior to any activities, unless it is determined to be exempt. An approval of coverage by the Joint Powers Authority, issuance of Incidental Take Minimization Measures by the SJCOG, and implementation of previous mitigation measures would ensure that this impact is reduced to a ***less than significant*** level.



Manteca Circulation Element Update EIR

Figure 3.3-1: Bioregions Map

- BAY AREA/DELTA
- CENTRAL COAST
- SACRAMENTO VALLEY
- SAN JOAQUIN VALLEY
- SIERRA
- County Boundaries

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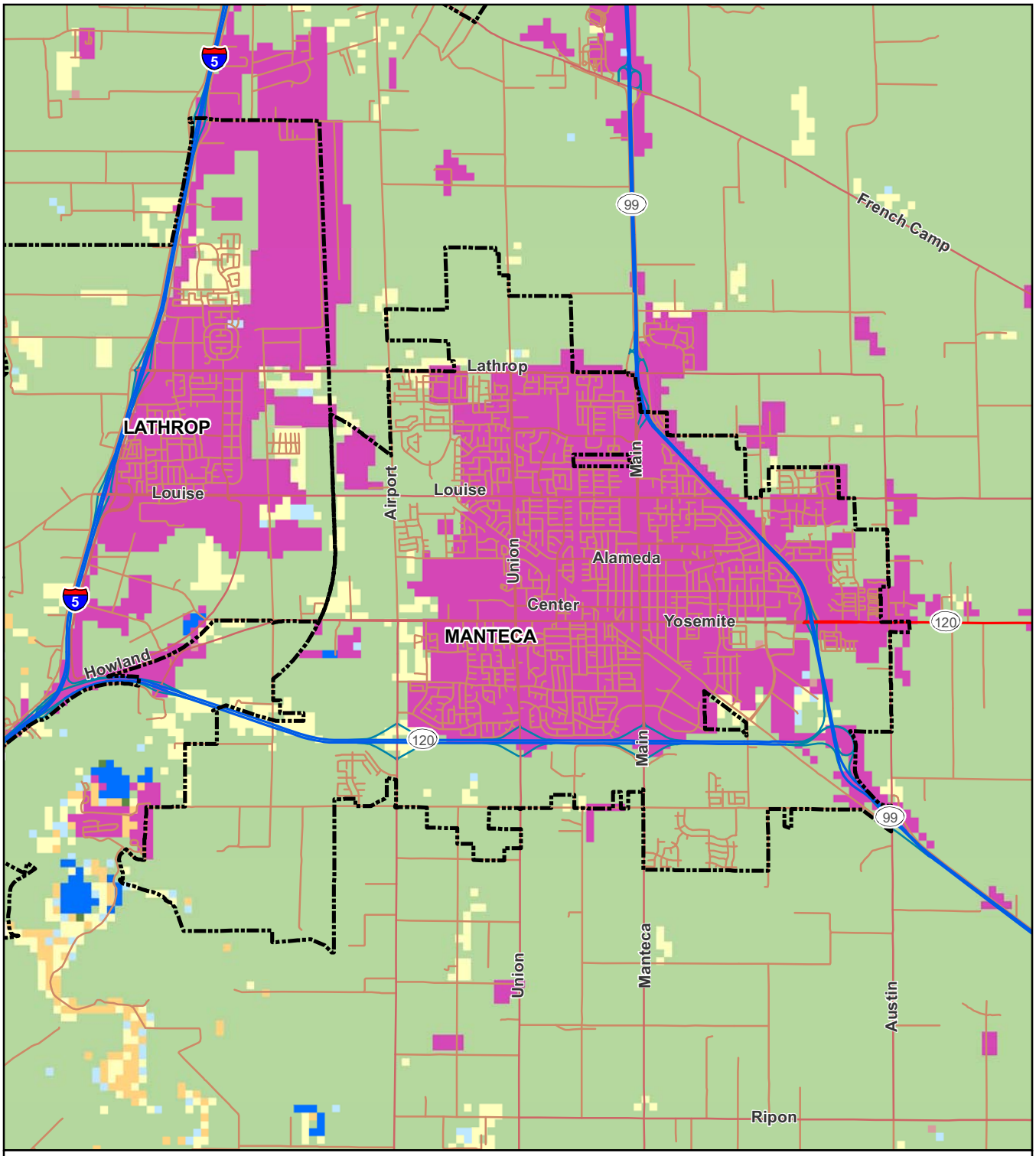
0 5 10 20 Miles

1:750,000

Data sources: California Department of Forestry and Fire Protection, Bioregions (INACC Regions), publication date 2004. Shaded relief from the California Spatial Information Library. Map date: June 7, 2010

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Agriculture
Annual Grassland
Freshwater Emergent Wetland
Lacustrine
Riverine
Urban
Valley Foothill Riparian
Water

Data sources: California Department of Forestry and Fire Protection, Multi-Source Landcover Data (v02_2), publication date 2002. Shaded relief from the California Spatial Information Library. City boundaries from sjcmap.org. Map date: July 20, 2010

Manteca Circulation Element Update EIR

Figure 3.3-2: Land Cover Types

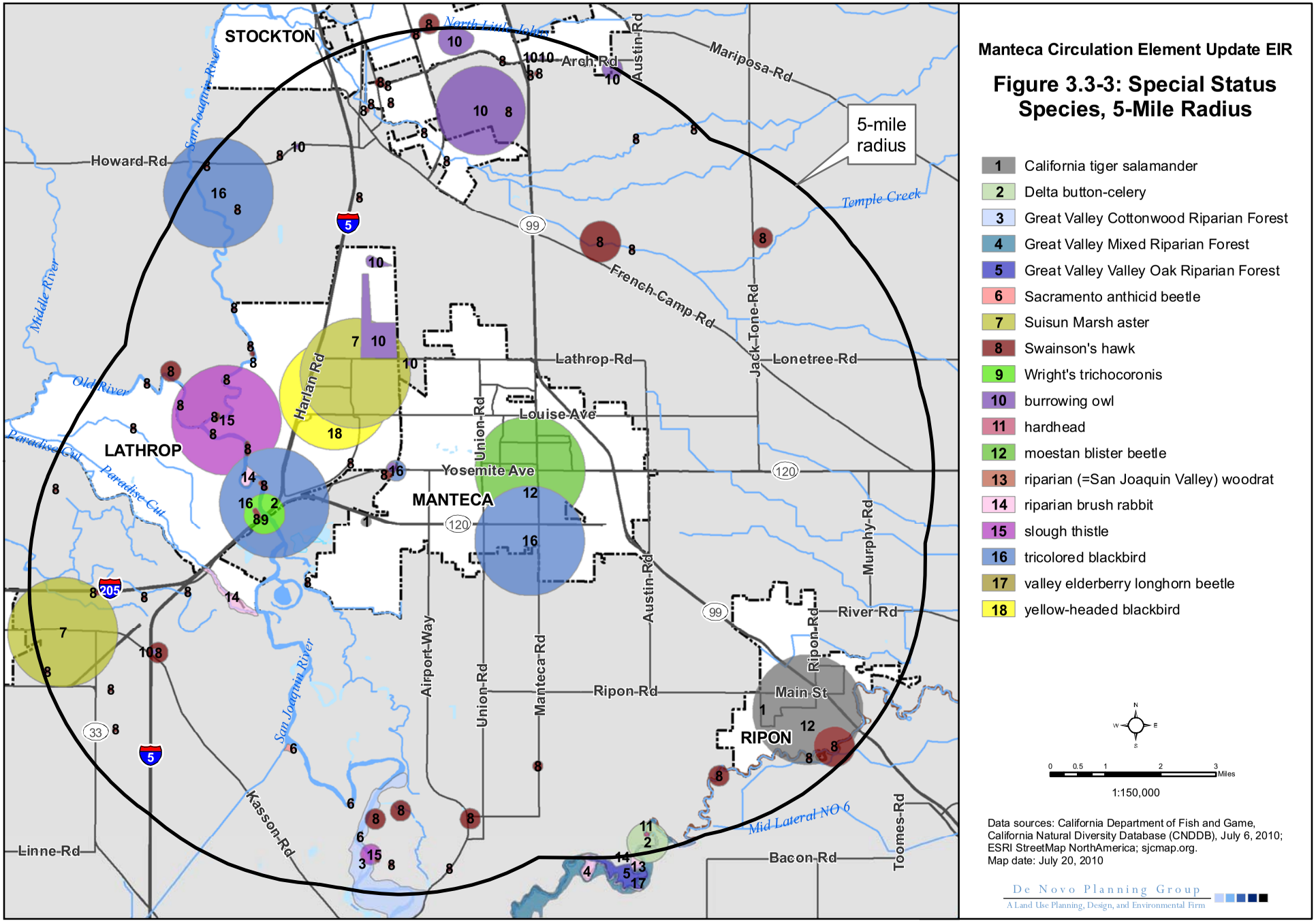
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Manteca Circulation Element Update EIR

Figure 3.3-3: Special Status Species, 5-Mile Radius

1. California tiger salamander
2. Delta button-celery
3. Great Valley Cottonwood Riparian Forest
4. Great Valley Mixed Riparian Forest
5. Great Valley Valley Oak Riparian Forest
6. Sacramento anthicid beetle
7. Suisun Marsh aster
8. Swainson's hawk
9. Wright's trichocoronis
10. burrowing owl
11. hardhead
12. moestan blister beetle
13. riparian (=San Joaquin Valley) woodrat
14. riparian brush rabbit
15. slough thistle
16. tricolored blackbird
17. valley elderberry longhorn beetle
18. yellow-headed blackbird

Data sources: California Department of Fish and Game, California Natural Diversity Database (CNDDB), July 6, 2010; ESRI StreetMap NorthAmerica; sjcmap.org.
Map date: July 20, 2010

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This section provides a background discussion of the prehistoric period background, ethnographic background, historic period background, known cultural resources in the region, the regulatory setting, an impact analysis, and mitigation measures. No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.4.1 ENVIRONMENTAL SETTING

PREHISTORIC SETTING

Human occupation of the northern San Joaquin Valley is believed to date prior to the terminal Pleistocene Epoch—12,000 years before present (BP). Although few archaeological sites demonstrate evidence of human occupation of the San Joaquin Valley during the late Pleistocene and early Holocene (12,000–6,500 BP), this is likely a product of the archaeological record itself rather than lack of use of this area. Most Pleistocene- and early Holocene-epoch sites are deeply buried in accumulated gravels and silts or have eroded away. (Moratto 1984.) The earliest sites close to the project area are believed to be the Farmington Complex sites in San Joaquin and Stanislaus counties, the Clark Flat sites (CACal-342 and CA-Cal-347), and possibly the Sky Rocket site, CA-Cal-629/630 (Dillon 2002). These sites are located east of the project area on the San Joaquin Valley–Sierra Nevada foothills interface. Artifacts associated with this time period are dominated by stemmed points and formed flake tools with diagnostic shapes; plant-processing stone tools are evident at CA-CAL-342 between 6750 and 6500 BP (Jones & Stokes 2001).

Archaeological evidence from the Middle Holocene (6500–4500 BP) for the northern San Joaquin Valley is also limited to the San Joaquin Valley–foothills interface. Near the Project area three sites (CA-Cal-342, CA-Cal-347, and CACal-286) have produced artifacts that date to the Middle Holocene. Artifacts from CA-Cal-342 include stemmed projectile points and formed flake tools of the Early Holocene with the addition of Pinto Series projectile points (Jones & Stokes 2001).

The Early Period (4500–2500 BP) of the Late Holocene (4500 BP–present), attributed to the Windmiller Pattern, is known from several lower Sacramento Valley sites (CA-SJo-56, CA-SJo-68, SA-SJo-142, CA-Sac-107, and CA-Sac-127) and one Stockton area site (CA-SJo-112) (Jones & Stokes 2001). The Windmiller Pattern is characterized by the exploitation of a wide variety of terrestrial mammals, fish, and birds, and by an emphasis on hard-seed procurement. The artifact assemblage includes large spear and projectile points; trident fish spears; at least two types of fishhooks; quartz crystals and a diversity of charmstone styles; and a baked clay net sinkers, pecan-shaped fish-line sinkers, and cooking balls. Groundstone items include both the handstone and millingslab, and the mortar and pestle. The bone tools include awls, needles, and flakers. Utilitarian items were often acquired as finished products through trade with outlying areas. Formal cemeteries appear to have been located both within and away from the village, and the deceased were often buried with red ochre and rich grave offerings. A common burial position is ventral extension with a western orientation, although dorsal extensions, flexed burials, and cremations are also recorded. The Windmiller Pattern purportedly reflects a lakeside and/or marsh adaptation. This subsistence strategy may have enabled Windmiller peoples to migrate and settle throughout the expansive delta environment. (Moratto 1984.)

The Middle Period extended from approximately 2500 to 1300 BP in Central California and is commonly identified with the Berkeley Pattern. The primary difference between the Berkeley Pattern and the Windmiller Pattern is the greater emphasis on acorn consumption within the Berkeley Pattern, reflected by more numerous and varied mortars and pestles. The Berkeley Pattern also possessed a well-developed bone industry and such technological innovations as ribbon flaking of chipped stone artifacts. Also, the arrow point replaced the dart point in the later reaches of this period. During this time interval, the predominant burial position was flexed, and the use of grave goods generally declined. (Moratto 1984.)

The final prehistoric period is the Late Period (450–100 BP) identified with the Augustine Pattern (Moratto 1984). The Augustine Pattern appears to be related to the Berkeley Pattern, and the differences between the two may be the result of the combination of Berkeley traits with those carried into the central California region by migrating populations from the north, an event that began approximately 1800 BP (Jones & Stokes 2001). The Augustine Pattern exhibited great elaboration of ceremonial and social organization. Exchange became well developed, and acorns were exploited with even greater intensity, as evidenced by shaped mortars and pestles and numerous hopper mortars. Other notable elements of the material culture assemblage included smaller arrow points, flanged tubular smoking pipes (cloud blowers); harpoons; an especially elaborate baked clay industry, including figures and pottery vessels (Cosumnes Brownware); and clamshell disk beads. Other traits included the introduction of preinterment burning of offerings in a grave pit during the mortuary ritual, increased village sedentism, population growth, and an incipient monetary economy in which beads were used as a standard of exchange. (Moratto 1984.)

ETHNOGRAPHIC BACKGROUND

Northern Valley Yokuts

The project area is located in the territory of the Northern Valley Yokuts. Northern Valley Yokuts territory is bounded roughly by the crest of the Diablo Range on the west and the foothills of the Sierra Nevada on the east. The southern boundary is approximately where the San Joaquin River bends northward, and the northern boundary is roughly halfway between the Calaveras and Mokelumne Rivers. (Wallace 1978)

Population estimates for the Northern Valley Yokuts vary from 11,000 to more than 31,000 individuals. Populations were concentrated along waterways and on the better-watered east side of the San Joaquin River. Clusters of villages made up tribelets that were governed by headmen. The number of tribelets is estimated at 30 to 40; each tribe spoke their own dialect of the Yokuts language. (Wallace 1978.)

Principal settlements were located on the tops of low mounds, on or near the banks of the larger watercourses. Settlements were composed of single-family dwellings, sweathouses, and ceremonial assembly chambers. Dwellings were small and lightly constructed, semi-subterranean, and oval. The public structures were large and earth-covered. Sedentism was fostered by the abundance of riverine resources in the area. (Wallace 1978.)

Subsistence among the Northern Valley Yokuts revolved around the waterways and marshes of the lower San Joaquin Valley. Fishing with dragnets, harpoons, and hook and line yielded salmon, white sturgeon, river perch, and other species of edible fish. Waterfowl and small game that were attracted to the riverine environment also provided sources of protein. The contribution of big game to the diet was probably minimal. Vegetal staples included acorns, tule roots, and seeds. (Wallace 1978.)

Goods not available locally were obtained through trade. Paiute and Shoshone groups on the eastern side of the Sierra were suppliers of obsidian. Shell beads and mussels were obtained from coastal Salinan and Costanoan groups. Trading relations with Miwok groups to the north yielded baskets, and bows and arrows. A network of trails facilitated overland transport, and tule rafts were used for water transport. (Wallace 1978.)

Plains Miwok

The Plains Miwok inhabited the lower reaches of the Mokelumne and Cosumnes Rivers and the banks of the Sacramento River, from Rio Vista to Freeport and south nearly to Stockton. The primary sociopolitical unit was the tribelet, comprising the residents of several base settlements and their associated seasonal camps. (Bennyhoff 1977; Levy 1978)

The basic subsistence strategy of the Plains Miwok was seasonally mobile hunting and gathering. The only cultivated crop was tobacco and the only domesticated animal was the dog. Plant foods included acorns, buckeyes, laurel nuts, hazelnuts, seeds, roots, greens, and berries. Acorns, the primary staple, were gathered in the fall and stored through the winter. Seeds were gathered from May through August. Intentional, periodic burning in August ensured an ample supply of seed-bearing annuals and forage for game. The Miwok ate more meat in the winter, when the only plant resources available were those that had been stored. Hunting was accomplished with the aid of the bow and arrow, traps, and snares. Animal foods consisted of deer; elk; antelope; rodents; waterfowl; quail, pigeons, flickers, and other birds; freshwater mussels and clams; land snails; fish; and insects. Salt was obtained from springs or through trade with people from the Mono Lake area. (Bennyhoff 1977; Levy 1978.)

Miwok technology included tools of bone, stone, antler, wood, and textile. Typical basketry items were seed beaters; cradles; sifters; rackets used in ball games; and baskets for storing, winnowing, parching, and carrying burdens. Other textiles included mats and cordage. Plains Miwok constructed several types of structures, such as conical habitation structures fashioned from tule matting, earth-covered semisubterranean winter dwellings, acorn granaries, menstrual huts, sweathouses, and conical grinding huts over bedrock mortars. Two assembly structures also were built: large semisubterranean structures for ritual and social gatherings and circular brush structures used for summer mourning ceremonies. (Levy 1978.)

HISTORIC PERIOD BACKGROUND

The first Europeans to arrive in the area, in 1769, were deserters from the Spanish military. In 1813, Spanish Franciscan friars, accompanied by soldiers, entered the San Joaquin Valley to round up the deserters, convert the Native Americans to Catholicism, and search for suitable mission

sites. Although the Yokuts at first coexisted with the Europeans, they were eventually exploited by the newcomers and fought with the settlers. Two notable conflicts took place on the banks of the Stanislaus River, about one and one-half miles upstream from its confluence with the San Joaquin River. In the first battle on May 5, 1829, the combined Spanish forces from San Jose and San Francisco were defeated by the Indians, lead by Chief Estanislao. The Spanish later named the Stanislaus River after the Indian chief. General Vallejo returned to the area and on May 19, 1829, defeated the Yokuts, inflicting great losses.

In 1832, Colonel Warner, a member of a trapping expedition, reported finding numerous Indian villages along the San Joaquin River. Upon his return, he found the villages greatly depopulated due to a smallpox epidemic. Disease, war, and the displacement of Indians from their original hunting and fishing grounds had brought them to virtual extinction.

Euro-American settlements in California increased sharply with the Gold Rush of 1848. French Camp, located approximately two miles north of the study area, was one of these first settlements and is one of the oldest existing settlements in San Joaquin County. French Camp was the terminus of the Oregon-California Trail used by French Canadian trappers employed by the Hudson Bay Company from about 1832-1845. On January 14, 1844, the Governor of California issued a land grant to Charles Weber and William Gulnac. The grant included French Camp and present day Stockton.

The first structures, including a public house, store, and adobe structure were erected in French Camp in August 1849. French Camp grew rapidly between 1851 and 1853 as French Camp Road was the only passable all-weather route for thousands of miners working in the Mother Lode. By 1854, a post office was established. As roads between Stockton and the Mother Lode improved, business in French Camp declined.

In addition to the discovery of gold in 1848 and the start of the Gold Rush in 1849, American annexation of California in 1846 and California statehood in 1850 contributed to the transformation of the Manteca area. Many gold seekers of 1850 turned their attention to the soil when they realized gold would not earn them a living.

Ranchers who remained prominent in local agriculture for decades – John McMullin, Cutler Salmon, James Reynolds, Peter Clapp, George and Orseamis Sperry, and Joshua Cowell – were all well established by the mid-1860s.

The major outside influence on the area changed from gold mining in the Sierra Foothills, which slowed in the 1860s, to the railroad, which arrived in the 1870s. Lathrop, at the junction of two rail lines heading to Stockton, replaced French Camp as the Manteca area's major town. Manteca did not yet exist, although the railroad set up a flag stop, Powell's Station, at the present location of downtown. Community life within Manteca's present City limits focused on the corner of Louise Avenue and Union Road. The East Union School was moved there in 1857. A new school building, erected in 1865, had a second floor for church services and public events. A cemetery was established on another corner in 1872, and a church was constructed on a third corner in 1885.

The economy of Manteca was tied to the vast international grain combine. When prices collapsed in the 1890's, the entire country descended into a severe economic depression. To stay in business, local ranchers promoted irrigation for their farmland, which allowed more intense and more profitable use of the land. In 1909, the South San Joaquin Irrigation District was formed. The district delivered its first water in 1913.

Another agricultural development of the period was deeper land cultivation. This practice led to a widespread cultivation of watermelons on local ranches.

Cowell's Station, at first just an unwheeled boxcar, became the shipping point for local produce. It offered a convenient place at the junction of tow wagon roads. In 1896, a skimming station for raw milk was added. Additional enterprises followed. Soon, the Southern Pacific acknowledged the growing commercial activity by giving its station a more formal name, "Manteca", and replaced the boxcar with a small building.

Between 1905 and 1911, Manteca's downtown was the site for its first brick building, a winery, followed by its first telephone exchange, a post office and a hotel, the town's first two-story building. A board of trade was set up on 1909. In 1910, a branch library and the town's first lumberyard were opened. Manteca was electrified in 1911, along with construction of a bank, a larger train depot, a pair of two-story brick buildings, and concrete sidewalks.

In 1914, the Manteca Canning Company was founded and a large plant for dairy products opened. In the next few years, three more canneries went into operation. In 1916, the Board of Trade succeeded in bringing a Spreckels sugar factory to town. The new plant, complete with office buildings, a clubhouse, landscaped grounds, and housing, opened in 1918.

The City of Manteca was incorporated on May 28, 1918. Residential neighborhoods, laid out on an irregular north-south grid, were beginning to fill in by 1918. In just ten (10) years, Manteca grew from a few buildings around a railroad stop to a fullfledged city with public services, manufacturing facilities, and more than 60 businesses.

Residential construction continued strong in the 1920s. Weaknesses in Manteca's agricultural base slowed the town's growth. Despite setbacks, the town continued to grow. Its population rose 25 percent during the 1920s. The economic depression of the 1930s did not prevent further growth. A restart of the Spreckels Company's sugar plant and the opening of a Kraft Foods cheese factory boosted the local economy.

The United States as a whole enjoyed unprecedented prosperity after the end of World War II, and Manteca was no exception. During the 1950's, the City grew even faster, as Manteca's inexpensive housing and small-town atmosphere drew workers from the Sharpe Army Depot in Lathrop and industrial plants in outlying areas.

At various times in its history, Manteca has been known as the "watermelon capital of the world", "sugar beet town," "tomatoville," "sunflower center," and "dairy center of California".

KNOWN CULTURAL RESOURCES

This section summarizes known historical and archaeological resources within and adjacent to the Study Area. This section is based upon and incorporates a cultural resources report prepared during preparation of the 2023 General Plan authored by Ric Windmiller, Consulting Archaeologist, entitled "City of Manteca – General Plan Update: Background Report on Archaeological Resources and Historical Resources." Mr. Windmiller's research includes a record search requested from the Central California Information Center, California State University, Stanislaus, and a 1982 unpublished City of Manteca Historical Survey.

Archaeological Resources

Known archaeological sites within the region consist of prehistoric artifact scatters, bedrock milling stations, midden mounds, internments, rock art locations, and village sites, as well as historic habitation sites and artifactual deposits. In general, the known sites tend to occur most frequently on the higher ground along the rivers, streams, and sloughs of the region, but changing stream courses and other alterations to the landscape make it difficult to predict where sites may occur. For example, the presence of unrecorded prehistoric resources that are buried by deep alluvial sediments is considered to be a distinct possibility in the region. There are eight (8) recorded cultural archaeological resources for the Study Area. Because of the sensitive, non-renewable nature of these resources, locational information and other details on the archaeological sites of the area are not provided.

Historical Resources

Current information on Manteca's historical resources is scattered and incomplete. One survey has produced a thorough analysis of buildings near the intersection of East Yosemite Avenue and Austin Road. Another provides preliminary information on ranch structures south of Manteca. The State Historic Resources Inventory also has entries for four small downtown commercial buildings. In addition, the Manteca Historical Society has recognized sixteen important buildings and sites on its "*Historical Walking Trail*." The most useful source is probably *Manteca: Selected Chapters from Its History*, by Evelyn Prouty, which furnishes information on many historic properties that were still standing at the time of publication in 1980.

COMMERCIAL AND INDUSTRIAL RESOURCES

Manteca has perhaps 100 commercial buildings remaining from the period before 1960. Nearly all are arrayed along Yosemite Avenue and crossing streets. These buildings include the former Jacot Department Store (1911), Oddfellows Hall (1911), the former Wiggin Hotel (1908), and the Pacific Motel (circa 1935).

The number of industrial buildings from the period is much smaller. Most are located on Oak Street. Facing Oak Street are the two most important remaining buildings, and the only ones constructed of brick: Archille Bacilieri's old winery (1905) and former Kraft Cheese Factory (1937). A few other buildings, corrugated metal with no architectural detailing, also remain in the area.

INSTITUTIONAL RESOURCES

Manteca retains a number of civic and religious buildings constructed in the 1950s and earlier. All of the major government buildings remain in altered form, including the former Irrigation District Headquarters (circa 1922), City Hall (1923), and Post Office (1939).

The schools, when they have survived, have fared much better. The most striking is the Lindbergh School (1928); a well executed example of the Late Gothic Revival. Two school buildings constructed after World War II – Lincoln School (1948) and Yosemite School (1950) – illustrate small-scale International Style design from the period. The small and apparently unaltered American Legion Hall (circa 1925) represents no architectural style but has vaguely classical detailing.

The most notable remaining church building is the former First Methodist Episcopal Church (1918), now home of the Manteca Historical Society. The building has a simple Gothic Revival design, which has been weakened somewhat by the application of plastic siding.

RESIDENTIAL RESOURCES

Manteca has a fairly diverse collection of residential buildings. Nearly all have wood frames and were built for single families. Most have only one story and represent architectural styles or design ideas popular at the time of their construction. Those dating from before 1955 were usually constructed individually. Because most blocks filled in over several decades, houses of different ages and styles often sit on adjacent parcels. Manteca's old residential neighborhoods do not differ much from one another, though there may be a few more large houses northwest of downtown than elsewhere.

The older remaining houses date from after the turn of the last century. They are small, unadorned, and very few in number. The simple hipped-roofed cottage (circa 1905) on Willow Avenue may be the oldest house in the City.

By 1910, when substantial residential construction got underway in Manteca, the Craftsman style had come into vogue throughout California. An informal, often sprawling appearance typifies this style, which got its start in the Los Angeles area.

After World War I, so-called "period revival" styles enjoyed great popularity in California. Houses in these styles emulated those that were built in Europe in earlier times. The Tudor Revival proved the most popular in Manteca, probably because houses in this style could be small and inexpensive.

A revival to the period styles of the 1920s was the California Bungalow. Houses of this type resembled simplified Craftsman buildings.

California saw the arrival of modern styles in the 1930's and 1940's, most notably the California Ranch House and the International Style. Manteca also has a number of houses from this period.

Nearly all residential buildings in Manteca are single-family houses, with a few duplexes put up around World War II. Actual apartment houses were seldom constructed. One of Manteca's most striking buildings, however, was always intended for multiple occupancy: the ten-unit Walser or Sherman Apartments (circa 1920) on North Sherman Avenue.

RESOURCES IN OUTLYING AREAS

Most resources outside the City Limits but within Manteca's present Study Area are connected to agriculture. By 1950, the number of large farm structures (houses, barns, water tanks) within the area might well have totaled 200. Maybe half remain today. A few date from the late nineteenth century, when wheat dominated local agriculture. The most notable of these structures have been well documented by historians. Most outlying agricultural buildings, however, come from the era of dairying and the raising of orchard crops. Some ranches are still in operation.

Other resources outside the City Limits include a few school buildings arrayed along Airport Way and East Yosemite Avenue in East Manteca. Structures associated with the South San Joaquin Irrigation District may also remain.

HISTORIC BUILDINGS

There are (10) buildings and structures previously recorded within the Study Area:

1. Jesse Building
2. Warren's Shoes
3. Manteca Drug
4. Home Run Hot Dogs
5. Craftsman Style bungalow, constructed in the late 1920s
6. Spanish Colonial Revival Style home, constructed in 1947
7. Craftsman Style bungalow, constructed circa 1930
8. Craftsman Style bungalow, constructed circa 1915
9. Period Revival Style house with minor Spanish Colonial Revival influences, constructed circa 1930
10. Calla High School

HISTORIC RANCHES

There are 24 documented historic ranches within the Study Area.

PALEONTOLOGICAL RESOURCES

Paleontology is a branch of geology that studies prehistoric life forms other than humans, through the study of plant and animal fossils. Paleontological resources are fossilized remains of organisms that lived in the region in the geologic past and therefore preserve an aspect of the County's prehistory which is important in understanding the development of the region as a whole, as many of these species are now extinct. Like archaeological sites and objects (which pertain to human occupation), paleontological sites and fossils are non-renewable resources. They are found

primarily in sedimentary rock deposits and are most easily found in regions that may have been uplifted and eroded, but they may also be found anywhere that subsurface excavation is being carried out (e.g., streambeds, under roads). Most of the San Joaquin Valley Basin is composed of sedimentary deposits.

The Hollister Field Office (Central California) of the Bureau of Land Management reports that significant fossil bearing deposits in the region occur in the Diablo Range of the Coast Mountain Ranges, primarily along the west side of the San Joaquin Valley. Sixty-five million years ago, the San Joaquin Valley was part of the Pacific Ocean and the Coast Mountain ranges were a series of islands that isolated whole groups of organisms. These island residents included many rare and unique animals of the Cretaceous Period and of the Oligocene and Miocene Epochs of the Tertiary Period. Some of the fossils recovered from and/or documented in the Hollister Field Office include: mollusk, shark, bony fish, turtle, sea lion, coral, deer, oyster, horse, weasel, whale, rhinoceros, sponge, camel, bear, and dinosaur.

The San Joaquin Valley contains exceptionally productive Pliocene-age (approximately 2 to 4.5 million years old) fossil-bearing beds, particularly in the western portions of the region. The rock deposits in this area produce a world famous supply of paleontological treasures, including but not limited to abundant and perfectly preserved sand dollars, Pectens and various fresh water mollusks. These fossils are entombed in the sediments deposited within a complex intergrading of fresh water, estuarine and marine paleoconditions directly related to the last great inland sea that periodically inundated the modern Central Valley of California.

Fossils and Their Associated Formations

Geologic formations are the matrix in which most fossils are found, occasionally in buried paleosols (ancient soils). These formations are totally different from modern soils and cannot be correlated with soil maps that depict modern surface soils representing only a thin veneer on the surface of the earth. Geologic formations may range in thickness from a few feet to hundreds of thousands of feet, and form complex relationships below the surface. Geologic maps (available through the U.S. Geological Survey [USGS] or California Geological Survey) show the surface expression (in two dimensions) of geologic formations along with other geologic features such as faults, folds, and landslides. Although sedimentary formations were initially deposited one atop the other, much like a layer cake, over time the layers have been squeezed, tilted, folded, cut by faults and vertically and horizontally displaced, so that today, any one rock unit does not usually extend in a simple horizontal layer. If a sensitive formation bearing fossils can be found at the surface in an outcrop, chances are that same formation may extend not only many feet into the ground straight down, it may well extend for miles just below the surface. Consequently, predicting which areas are paleontologically sensitive is a difficult task.

Determining Paleontological Potential

The most general paleontological information can be obtained from geologic maps, but geologic cross sections (slices of the layer cake to view the third dimension) must be reviewed for each area in question. These usually accompany geologic maps or technical reports. Once it can be determined which formations may be present in the subsurface, the question of paleontological

resources must be addressed. Even though a formation is known to contain fossils, they are not usually distributed uniformly throughout the many square miles the formation may cover. If the fossils were part of a bay environment when they died, perhaps a scattered layer of shells will be preserved over large areas. If on the other hand, a whale died in this bay, you might expect to find fossil whalebone only in one small area of less than a few hundred square feet. Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories and site-specific field surveys.

3.4.2 REGULATORY SETTING

FEDERAL

National Historic Preservation Act

The National Historic Preservation Act was enacted in 1966 as a means to protect cultural resources that are eligible to be listed on the National Register of Historic Places (NRHP). The law sets forth criterion that is used to evaluate the eligibility of cultural resources. The NRHP is composed of districts, sites, buildings, structures, objects, architecture, archaeology, engineering, and culture that are significant to American History.

Virtually any physical evidence of past human activity can be considered a cultural resource. Although not all such resources are considered to be significant and eligible for listing, they often provide the only means of reconstructing the human history of a given site or region, particularly where there is no written history of that area or that period. Consequently, their significance is judged largely in terms of their historical or archaeological interpretive values. Along with research values, cultural resources can be significant, in part, for their aesthetic, educational, cultural and religious values.

Section 106 of the National Historic Preservation Act

Specific regulations regarding compliance with Section 106 of the NHPA state that, although the tasks necessary to comply with Section 106 may be delegated to others, the federal agency is ultimately responsible for ensuring that the Section 106 process is completed according to statute. The Section 106 process is a consultation process that involves the State Historic Preservation Officer (SHPO) throughout; the process also calls for including Native American Tribes and interested members of the public, as appropriate, throughout the process. Implementing regulations for Section 106 (36 CFR 800) detail the following five basic steps.

1. Initiate the Section 106 process.

2. Identify and evaluate historic properties.

3. Assess the effects of the undertaking on historic properties within the area of potential effects (APE).

4. If historic properties are subject to adverse effects, the federal agency, the SHPO, and any other consulting parties (including Native American tribes) continue consultation to

seek ways to avoid, minimize, or mitigate the adverse effect. A memorandum of agreement (MOA) is usually developed to document the measures agreed upon to resolve the adverse effects.

5. Proceed in accordance with the terms of the MOA.

Department of Transportation Act - Section 4(f)

The Department of Transportation (DOT) Act of 1966, is set forth in Title 49 United States Code (U.S.C.). This law established that it is the policy of the United States Government to make a special effort to preserve historic sites. The Secretary of Transportation may approve a transportation program or project that requires the use of a historic site of national, state, or local significance only if: a) There is no prudent and feasible alternative to using that land; and b) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

STATE

California Register of Historic Resources

The California Register of Historical Resources (CRHR) was established in 1992 and codified in the Public Resource Code §5020, 5024 and 21085. The law creates several categories of properties that may be eligible for the CRHR. Certain properties are included in the program automatically, including: properties listed in the NRHP; properties eligible for listing in the NRHP; and certain classes of State Historical Landmarks. Determining the CRHR eligibility of historic and prehistoric properties is guided by CCR §15064.5(b) and Public Resources Code (PRC) §21083.2 and 21084.1. NRHP eligibility is based on similar criteria outlined in Section 106 of the NHPA (16 U.S. Code [USC] 470).

Cultural resources, under CRHR and NRHP guidelines, are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. A cultural resource may be eligible for listing on the CRHR and/or NRHP if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our 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; or
- has yielded, or may be likely to yield, information important in prehistory or history.

If a prehistoric or historic period cultural resource does not meet any of the four CRHR criteria, but does meet the definition of a "unique" site as outlined in PRC §21083.2, it may still be treated as a significant resource if it is: an archaeological artifact, object or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- it contains information needed to answer important scientific research questions and that
- there is a demonstrable public interest in that information,
- it has a special and particular quality such as being the oldest of its type or the best available example of its type, or
- it is directly associated with a scientifically recognized important prehistoric or historic event.

California Environmental Quality Act

CEQA Guidelines §15064.5 provides guidance for determining the significance of impacts to archaeological and historical resources. Demolition or material alteration of a historical resource, including archaeological sites, is generally considered a significant impact. Determining the CRHR eligibility of historic and prehistoric properties is guided by CCR §15064.5(b) and Public Resources Code (PRC) §21083.2 and 21084.1. NRHP eligibility is based on similar criteria outlined in Section 106 of the NHPA (16 U.S. Code [USC] 470).

CEQA also provides for the protection of Native American human remains (CCR §15064.5[d]). Native American human remains are also protected under the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001 et seq.), which requires federal agencies and certain recipients of federal funds to document Native American human remains and cultural items within their collections, notify Native American groups of their holdings, and provide an opportunity for repatriation of these materials. This act also requires plans for dealing with potential future collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony that might be uncovered as a result of development projects overseen or funded by the federal government.

Assembly Bill 978

In 2001, Assembly Bill (AB) 978 expanded the reach of Native American Graves Protection and Repatriation Act of 1990 and established a state commission with statutory powers to assure that federal and state laws regarding the repatriation of Native American human remains and items of patrimony are fully complied with. In addition, AB 978 also included non-federally recognized tribes for repatriation.

LOCAL

City of Manteca General Plan

- RC-P-37: The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without consulting the California Archaeological Inventory at Stanislaus State University, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by the California Environmental Quality Act (CEQA) and the National Historic Preservation Act (NHPA).
- RC-P-38: The City shall require that the proponent of any development proposal in an area with potential archaeological resources, and specifically near the San Joaquin River and

Walthall Slough, and on the east side of State Highway 99 at the Louise Avenue crossing, shall consult with the California Archaeological Inventory, Stanislaus State University to determine the potential for discovery of cultural resources, conduct a site evaluation as may be indicated, and mitigate any adverse impacts according to the recommendation of a qualified archaeologist. The survey and mitigation shall be developer funded.

- RC-P-39: The City shall set as a priority the protection and enhancement of Manteca's historically and architecturally significant buildings.
- RC-P-40: The City shall work with property owners seeking registration of historical structures as Historic Landmarks or listing on the Register of Historic Sites.
- RC-P-41: The City shall prepare and adopt a Historical Preservation Ordinance.
- RC-P-42: The City and Redevelopment Agency shall support the efforts of property owners to preserve and renovate historic and architecturally significant structures. Where such buildings cannot be preserved intact, the City shall seek to preserve the building facades.

San Joaquin County General Plan

- Policy 1: The County shall continue to encourage efforts, both public and private, to preserve its historical and cultural heritage.
- Policy 2: Significant archaeological and historical resources shall be identified and protected from destruction. If evidence of such resources appears after development begins, an assessment shall be made of the appropriate actions to preserve or remove resources.
- Policy 3: No significant architectural, historical, archaeological or cultural resources shall be knowingly destroyed through County action.
- Policy 4: Reuse of architecturally interesting or historical buildings shall be encouraged.
- Policy 6: The County shall promote public awareness of and support for historic preservation.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project is considered to have a significant impact on cultural resources if it will:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5;
- Cause a substantial adverse change in the significance of archaeological resource pursuant to CEQA Guidelines §15064.5;
- Directly or indirectly destroy a unique paleontological resource;
- Disturb any human remains, including those interred outside of formal cemeteries.

IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Damage to or the Destruction of Archaeological Resources (Less than Significant)

Most of the projects associated with the Circulation Element would be constructed within or immediately adjacent to the existing rights-of-way. Improvements and modifications within existing rights-of-way would have less potential to encounter previously unknown archaeological resources relative to projects in undisturbed areas since the former right-of-way areas have already been disturbed. Improvements and modifications within existing rights-of-way still have potential to adversely affect archaeological resources, either directly or indirectly. Additionally, some Circulation Element projects, such as new roadways, would be constructed in previously undisturbed areas. As Circulation Element projects are designed and reviewed, the projects will undergo technical analysis to evaluate any potential impacts to cultural resources within their area of potential effect.

Based upon the general planning nature of the Circulation Element, development of detailed, site-specific information on this impact at this planning level is not feasible. However, damage to or destruction of archaeological resources that are considered significant under local, state, or federal criteria would be a significant impact. Implementation of the following general plan policies and implementation measures would ensure that all Circulation Element projects either avoid known archaeological resources, or take steps to implement amelioration methods to reduce impacts to known archaeological resources. These policies and implementation measures would also require investigations and avoidance methods in the event that a previously undiscovered archeological resource is encountered during construction activities. Adherence to the following adopted General Plan policies and implementation measures would ensure that this impact would be ***less than significant***.

ADOPTED GENERAL PLAN POLICIES AND IMPLEMENTATION MEASURES

Policies

- *RC-P-37. The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without consulting the California Archaeological Inventory at Stanislaus State University, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by the California Environmental Quality Act (CEQA) and the National Historic Preservation Act (NHPA).*
- *RC-P-38. The City shall require that the proponent of any development proposal in an area with potential archaeological resources, and specifically near the San Joaquin River and Walthall Slough, and on the east side of State Highway 99 at the Louise Avenue crossing, shall consult with the California Archaeological Inventory, Stanislaus State University to determine the potential for discovery of cultural resources, conduct a site evaluation as may be indicated, and mitigate any adverse impacts according to the recommendation of a qualified archaeologist. The survey and mitigation shall be developer funded.*

Implementation Measures

- *RC-I-38. Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, or cultural resources and/or to determine the potential for discovery of additional cultural resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.*
- *RC-I-39. Require that sponsors of proposed development projects on sites where probable cause for discovery of archaeological resources (as indicated by records search and where resources have been discovered in the vicinity of the project) retain a consulting archaeologist to survey the project site. If unique resources, as defined by California State law, are found, a qualified archaeologist or historian shall be called to evaluate the find and to recommend proper action. Require a monitoring plan for the project to ensure that mitigation measures are implemented.*
- *RC-I-40. When feasible, incorporate significant archaeological sites into open space areas.*

Impact 3.4-2: Inadvertent Discovery of Human Remains (Less than Significant)

Indications are that humans have occupied San Joaquin 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, excavation and construction activities, regardless of depth, may yield human remains that may not be marked in formal burials. Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Additionally, Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that human remains are inadvertently discovered during project implementation. Implementation of the following general plan implementation measure would ensure that all Circulation Element projects that inadvertently discover human remains implement state required consultation methods to determine the disposition and historical significance of any discovered human remains. Adherence to the following adopted General Plan policies and implementation measures would ensure that this impact would be ***less than significant***.

ADOPTED GENERAL PLAN IMPLEMENTATION MEASURE

Implementation Measure

- *RC-I-46. If human remains are discovered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to their origin and disposition pursuant to Public Resource code Section 5097.98. If the Coroner determines that no investigation of the cause of death is required, and if the remains are of Native American origin, the Coroner will notify the Native American Heritage Commission, which in turn will inform a most likely descendent. The descendent will then recommend to the landowner appropriate disposition of the remains and any grave goods.*

Impact 3.4-3: Damage to or the Destruction of Paleontological Resources from Construction of Transportation Projects (Less than Significant)

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. Paleontological resources are known to exist within San Joaquin County within the Diablo range, however, none are documented within the City of Manteca. The General Plan includes adopted policies and implementation measures (previously presented) that would require the protection of cultural resources, including paleontological resources, if they are found during construction in areas where they were not known or expected to be found. Adherence to the adopted General Plan policies and implementation measures presented previously would ensure that this impact would be ***less than significant***.

Impact 3.4-4: Damage to or the Destruction of Historical Resources (Less than Significant)

Implementation of Circulation Element projects may occur near or in close vicinity to architectural resources (buildings/structures/features) that are 50 years old or older. Given the age of these resources, it is possible they are historically significant and eligible for listing in the California Register of Historic Resources (CRHR) or the National Register of Historic Places (NRHP).

Based upon the general planning nature of the Circulation Element, development of detailed, site-specific information on this impact at this planning level is not feasible. Nevertheless, the construction of subsequent projects may lead to physical demolition, destruction, relocation, or alteration of potential historical resources. The impact on architectural and historical resources could be potentially significant and further studies would be required to determine the level of significance of this impact. Implementation of the following general plan policies and implementation measures would ensure that all Circulation Element projects either avoid known historical resources, or take steps to implement amelioration methods to reduce impacts to known historical resources. These policies and implementation measures would also require investigations and avoidance methods in the event that a previously undiscovered historical resource is encountered during construction activities. Adherence to the following adopted General Plan policies and implementation measures would ensure that this impact would be ***less than significant***.

ADOPTED GENERAL PLAN POLICIES AND IMPLEMENTATION MEASURES

Policies

- *RC-P-39. The City shall set as a priority the protection and enhancement of Manteca's historically and architecturally significant buildings.*
- *RC-P-40. The City shall work with property owners seeking registration of historical structures as Historic Landmarks or listing on the Register of Historic Sites.*
- *RC-P-41. The City shall prepare and adopt a Historical Preservation Ordinance.*

- *RC-P-42. The City and Redevelopment Agency shall support the efforts of property owners to preserve and renovate historic and architecturally significant structures. Where such buildings cannot be preserved intact, the City shall seek to preserve the building facades.*

Implementation Measures

- *RC-I-38. Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, or cultural resources and/or to determine the potential for discovery of additional cultural resources. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.*
- *RC-I-39. Require that sponsors of proposed development projects on sites where probable cause for discovery of archaeological resources (as indicated by records search and where resources have been discovered in the vicinity of the project) retain a consulting archaeologist to survey the project site. If unique resources, as defined by California State law, are found, a qualified archaeologist or historian shall be called to evaluate the find and to recommend proper action. Require a monitoring plan for the project to ensure that mitigation measures are implemented.*
- *RC-I-41. The City should continue its inventory of all historic sites throughout the City. The inventory should contain a narrative of the significant facts regarding the historic events or persons associated with the site, and pictures of the site.*
- *RC-I-42. The City shall continue to support the local historical society in their efforts to archive historic information, including photographs, publications, oral histories and other materials, and to make the information available to the public for viewing and research.*
- *RC-I-43. All City permits for reconstruction or modification of existing buildings will require submittal of a photograph of the existing structure or site. The intent is to create a record of the buildings in the City over time. A photograph will also be required for vacant sites that will be modified with new construction of new buildings or other above ground improvements.*
- *RC-I-44. Encourage the placement of monuments or plaques that recognize and celebrate historic sites, structures, and events.*
- *RC-I-45. The City shall adopt and implement a historic building code, as authorized by state law.*

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This section describes the regional green house gas (GHG) emissions, climate change, and impacts that could result from project implementation. Following this discussion is an assessment of consistency of the proposed project with applicable policies and local plans. There was a comment received from the California Energy Commission (CEC) during the public review period for the Notice of Preparation regarding this topic. The CEC noted that they would like to assist with the reduction of energy usage associated with the Circulation Element Update. Included in the comment letter was Appendix F of the California Environmental Quality Act for how to achieve energy conservation. The CEC also noted that the CEC's Energy Aware Planning Guide is also a planning tool that is available for land use planning efforts.

3.5.1 GREENHOUSE GASES AND CLIMATE CHANGE

ENVIRONMENTAL SETTING

Greenhouse Gases and Climate Change Linkages

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Human-caused emissions of these GHGs, in excess of natural ambient concentrations, are responsible for enhancing the greenhouse effect (Ahrens 2003). Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors (California Energy Commission 2006a). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (California Energy Commission 2006a).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California is the 12th to 16th largest emitter of CO_2 in the world and produced 492 million gross metric tons of carbon dioxide equivalents in 2004 (California Energy Commission 2006a).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also

dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2004, accounting for 40.7% of total GHG emissions in the state (California Energy Commission 2006a). This category was followed by the electric power sector (including both in-state and out of-state sources) (22.2%) and the industrial sector (20.5%) (California Energy Commission 2006a).

Effects of Global Climate Change

The effects of increasing global temperature are far reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change and has found that increases in the ambient global temperature as a result of increased GHGs is anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion. This also threatens levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state. According to a California Energy Commission report, the snowpack portion of the supply could potentially decline by 70% to 90% by the end of the 21st century (CEC 2006c). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the state; however, since this could increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and, according to the CEC report, it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (CEC 2006c). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands (CEC 2006c). As the existing climate throughout California changes over times, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the Climate Scenarios report (California Climate Change Center 2006), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

PUBLIC HEALTH

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25 to 35 percent under the lower warming range, to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels

increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

WATER RESOURCES

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The state's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major state fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25 percent of the water supply they need; and decrease the potential for hydropower production within the state (although the effects on hydropower are uncertain).

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70 to 90 percent. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, and hamper hydropower generation.

AGRICULTURE

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development will change, as will the intensity and frequency of pest and

disease outbreaks. Rising temperatures could worsen ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products that could be most affected include wine grapes, fruits and nuts, and milk.

In addition, continued global warming could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued global warming could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

FORESTS AND LANDSCAPES

Global warming is expected to intensify this threat by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30 percent toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90 percent.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the state. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests is also expected to decrease as a result of global warming.

RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the state's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

3.5.2 REGULATORY SETTING

FEDERAL

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States (U.S.). Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the U.S. Environmental Protection Agency (EPA), was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Federal Climate Change Policy

According to the EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The federal government's goal is to reduce the greenhouse gas (GHG) intensity (a measurement of GHG emissions per unit of economic activity) of the American economy by 18 percent over the 10-year period from 2002 to 2012. In addition, the EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The EPA Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6)--in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The EPA Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the EPA's proposed greenhouse gas emission standards for light-duty vehicles, which EPA proposed in a joint proposal including the Department of Transportation's proposed CAFE standards on September 15, 2009.

STATE

California Strategy to Reduce Petroleum Dependence (AB 2076)

In response to the requirements of AB 2076 (Chapter 936, Statutes of 2000), the CEC and the CARB developed a strategy to reduce petroleum dependence in California. The strategy, *Reducing California's Petroleum Dependence*, was adopted by the CEC and CARB in 2003. The strategy recommends that California reduce on-road gasoline and diesel fuel demand to 15 percent below 2003 demand levels by 2020 and maintain that level for the foreseeable future; the Governor and Legislature work to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks, and sport utility vehicles (SUVs); and increase the use of non- petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

Assembly Bill 1493

In response to AB 1493, CARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961), and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016. For passenger cars and light-duty trucks 3,750 pounds or less loaded vehicle weight (LVW), the 2016 GHG emission limits are approximately 37 percent lower than during the first year of the regulations in 2009. For medium-duty passenger vehicles and light-duty trucks 3,751 LVW to 8,500 pounds gross vehicle weight (GVW), GHG emissions are reduced approximately 24 percent between 2009 and 2016.

CARB requested a waiver of federal preemption of California's Greenhouse Gas Emissions Standards. The intent of the waiver is to allow California to enact emissions standards to reduce carbon dioxide and other greenhouse gas emissions from automobiles in accordance with the regulation amendments to the CCRs that fulfill the requirements of AB 1493. The EPA granted a waiver to California to implement its greenhouse gas emissions standards for cars.

California Executive Orders S-3-05 and S-20-06, and Assembly Bill 32

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% below the 1990 levels by the year 2050.

In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

Assembly Bill 1007

Assembly Bill 1007, (Pavley, Chapter 371, Statutes of 2005) directed the CEC to prepare a plan to increase the use of alternative fuels in California. As a result, the CEC prepared the State Alternative Fuels Plan in consultation with the state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce greenhouse gas emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Bioenergy Action Plan – Executive Order #S-06-06

Executive Order #S-06-06 establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The executive order also calls for the state to meet a target for use of biomass electricity.

Governor's Low Carbon Fuel Standard (Executive Order #S-01-07)

Executive Order #S-01-07 establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through establishment of a Low Carbon Fuel Standard. The Low Carbon Fuel Standard is incorporated into the State Alternative Fuels Plan and is one of the proposed discrete early action GHG reduction measures identified by CARB pursuant to AB 32.

Climate Action Program at Caltrans

The California Department of Transportation, Business, Transportation, and Housing Agency, prepared a Climate Action Program in response to new regulatory directives. The goal of the Climate Action Program is to promote clean and energy efficient transportation, and provide guidance for mainstreaming energy and climate change issues into business operations. The overall approach to lower fuel consumption and CO2 from transportation is twofold: (1) reduce congestion and improve efficiency of transportation systems through smart land use, operational improvements, and Intelligent Transportation Systems; and (2) institutionalize energy efficiency and GHG emission reduction measures and technology into planning, project development, operations, and maintenance of transportation facilities, fleets, buildings, and equipment.

The reasoning underlying the Climate Action Program is the conclusion that "the most effective approach to addressing GHG reduction, in the short-to-medium term, is strong technology policy and market mechanisms to encourage innovations. Rapid development and availability of alternative fuels and vehicles, increased efficiency in new cars and trucks (light and heavy duty), and super clean fuels are the most direct approach to reducing GHG emissions from motor vehicles (emission performance standards and fuel or carbon performance standards)."

Senate Bill 97 (SB 97)

Senate Bill 97 (Chapter 185, 2007) required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. OPR prepared its recommended amendments to the State CEQA Guidelines to provide guidance to public agencies regarding the analysis and mitigation of greenhouse gas emissions and the effects of greenhouse gas emissions in draft CEQA documents. The Amendments became effective on March 18, 2010.

Senate Bill 375

SB 375 requires the CARB to develop regional greenhouse gas emission reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035. The 18 MPOs in California will prepare a "sustainable communities strategy" to reduce the amount of greenhouse gas emission in their respective regions and demonstrate the ability for the region to attain CARB's reduction targets. CARB would later determine if each region is on track to meet their reduction targets. In addition, cities would get extra time -- eight years instead of five -- to update housing plans required by the state.

LOCAL

San Joaquin Valley Unified Air Pollution Control District

In August 2008, the San Joaquin Valley Unified Air Pollution Control District's (SJVUAPCD) Governing Board adopted the Climate Change Action Plan (CCAP). The CCAP directed the SJVUAPCD's Air Pollution Control Officer to develop guidance to assist District staff, valley businesses, land–use agencies, and other permitting agencies in addressing GHG emissions as part of the CEQA process.

In support of this guidance, District staff has prepared a staff report, *Addressing Greenhouse Gas Emissions under the California Environmental Quality Act*, that provides a summary of background information on Global Climate Change, the current regulatory environment surrounding GHG emissions, and the various concepts in addressing the potential impacts of Global Climate Change under CEQA. The report also evaluates different approaches for estimating impacts, and summarizes potential GHG emission reduction measures. As presented in the Staff Report, District staff concludes that existing science is inadequate to support quantification of impacts that project specific GHG emissions have on global climatic change. This is readily understood when one considers that global climatic change is the result of the sum total of GHG emissions, both manmade and natural that occurred in the past; that is occurring now; and will occur in the future.

SJVUAPCD BEST PERFORMANCE STANDARDS (BPS)

The SJVUAPCD published *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* in December 2009. This guidance document defines Best Performance Standards (BPS) as the most effective achieved in-practice means of reducing or limiting GHG emissions from a GHG emissions source. The document includes BPSs for both traditional stationary source projects, and development projects. For stationary sources, BPSs includes equipment type, equipment design, and operational and maintenance practices for the identified service, operation, or emissions unit class and category. For development projects, BPS focuses on measures that improve energy efficiency and those that reduce vehicle miles traveled.

San Joaquin County Regional Blueprint Process

The primary purpose of San Joaquin County Regional Blueprint is to establish a coordinated long-range (year 2050) regional vision between transportation, land use, and the environment from an

overall quality of life perspective. The Blueprint process included input from residents from the unincorporated communities as well as the incorporated cities, including Manteca. The Blueprint encompasses the incorporated and unincorporated areas of the County. As a vision, the Blueprint recognizes that economic, environmental, and social issues are interdependent and only integrated approaches will effect needed changes. The location of jobs, housing, and commerce affects the transportation system, the nature of the transportation system affects air quality, and air quality affects health outcomes. Below are the three key products developed during the Blueprint process.

Regional Vision Statement: Creative community planning, combined with a shared regional vision, will result in a superior quality of life for all San Joaquin County residents, now and as we move forward. Sustainability in action as well as in vision will ensure this quality of life for future generations.

Guiding Principles: The Blueprint Guiding Principles were developed based, primarily, on citizen-identified visions, values, and aspirations for San Joaquin County from the Phase I workshops. In turn, the Blueprint Guiding Principles provided the foundation upon which the Phase II Blueprint Vision choices were built.

1. Sustainable Planning and Growth
2. Housing Choices
3. Transportation and Mobility Options
4. Farming and Agriculture
5. Preservation of the Environment
6. Economic Development
7. Education and Workforce Development
8. Cultural Richness and Unique Attractions

Preferred 2050 Regional Blueprint Scenario: The Blueprint process included a quantitative and qualitative technical analysis of a Baseline Vision and three (3) Alternatives. These four (4) Visions were used to compare possible outcomes and contrast associated tradeoffs. Choice three was supported by 62% of the votes.

CHOICE (3) PLANNING THEMES:

- Moderate mix of land uses in new areas; expanded housing options.
- Best air quality.
- Least amount of traffic congestion.
- Moderate decrease in average residential lot size.
- Higher increase in public transit usage.
- Moderate decrease in residential water and energy use.
- Higher increase in acres available for agricultural use.

After additional discussions by the Blueprint committees, a hybrid Blueprint scenario was created for the County of San Joaquin utilizing the planning themes of Choice 3, while trying to maximize

economic development potential and investments in other forms of travel modes outside single occupancy vehicle.

Performance Measures & Indicators (PMIs): The Blueprint professional committees established over 68 regional Performance Measures across the eight (8) Blueprint Guiding Principles to be considered for use in gauging progress towards meeting the intent of the Blueprint from a regional perspective.

SUSTAINABLE PLANNING & GROWTH

- Average dwelling units per acre
- Use of infill opportunities to support new development

HOUSING CHOICES

- Percentage of single-family to multi-family new housing
- Percentage of home owner/renter's income used to support housing. (e.g., mortgage, rent, insurance, utilities, taxes)

TRANSPORTATION & MOBILITY OPTIONS

- Relationship of reduced Single Occupancy Vehicle (SOV) use to other travel modes
    - Strive to keep the increase in on-road Vehicle Miles Traveled (VMT) to an annual rate that is = to or < the increase in population
- Residents traveling outside the region for work compared to year 2000 levels
    - Mean travel time to work in minutes compared to year 2000 levels

FARMING & AGRICULTURE

- Acres of prime & statewide farmland used to support new development
- Total value of agriculture within San Joaquin County

PRESERVATION OF THE ENVIRONMENT

- Reduce CO2 attributable to on-road mobile sources (tons per day)
- Reduce residential Water Use in the SJC Region
- Measureable increase in agricultural water use efficiencies through a variety of methods, including, but not limited to, reducing evapotranspiration, conversion of irrigation systems, efficiencies aimed at increased reuse of recoverable flows, and support for other supplier and on-farm technological improvements to reduce irrecoverable loss of applied water
- Acres preserved through a variety of sources, including the San Joaquin Multi-Species Open Space Conservation Plan (SJMSCP)

ECONOMIC DEVELOPMENT

- Median annual non-inflation adjusted household earnings ($1,000s)
- Average non-inflation adjusted individual earnings ($1,000s)
- Unemployment rate (annualized)
- Value of new non-residential construction (In Thousands)
- Total annualized regional taxable sales transactions (In Billions)
- Center line miles of STAA terminal access routes in the rural and urban areas

EDUCATION & WORKFORCE DEVELOPMENT

- Rate of high school enrollment to graduation level

- College going Bachelor & advanced degree recipients rates towards State average

CULTURAL RICHNESS & UNIQUE ATTRACTIONS

- Transient Occupancy Tax Receipts (non-inflation adjusted)
    - Total Direct Visitor Spending in San Joaquin County (non-inflation adjusted)
- A qualitative approached will be used to demonstrate progress towards promoting community and countywide identity...past and present

CONGESTION MANAGEMENT PLAN

Congestion management serves as a regional guide for the Metropolitan Planning Organization and/or Regional Transportation Planning Agency (SJCOG) to implement near-term and long-term regional transportation improvements. Federal guidelines prohibit projects that increase capacity for single occupant vehicles unless the project results from a congestion management process. The CMP enables SJCOG to bring objectivity to a process that will elevate transportation investments that will offer the greatest benefit to the region. Furthermore, the process provides a consistent and coordinated approach for responding to congestion through the investment in roadway capacity increasing measures once all reasonable non-capacity measures have been employed.

The CMP process may have an indirect impact on vehicle miles traveled and vehicle hours of delay, which can provide benefits to greenhouse gas emission throughout the region. For example, investments in alternative modes of transportation and investments in the urban core of existing communities may indirectly lead to land use developments or redevelopments with higher densities, a mix of land uses and an emphasis on transit use over single-occupancy vehicle use, while investments in capacity increasing roadway improvements, especially in suburban regions, may indirectly lead to land use developments with low densities that make it difficult to support alternative modes of transportation. SJCOG encourages and promotes the incorporation of Smart Growth and sustainability principles into local agency land use planning decisions by providing incentives for local agencies to expand Smart Growth principles in their land use planning decisions. The City of Manteca cooperates with SJCOG for CMP projects.

3.5.3 IMPACTS AND MITIGATION MEASURES

GHG THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

Methodology

The SJVUAPCD provides a methodology for addressing Greenhouse Gas Emission for Stationary Sources and for Development projects in *Addressing Greenhouse Gas Emissions under the California Environmental Quality Act*. The methodology relies on the use of performance based standards that would be applicable to projects that result in increased GHG emissions. The SJVUAPCD notes that the use of performance based standards is not a method of mitigating emissions, rather it is a method of determining significance of project specific GHG emission impacts using established specifications or project design elements: Best Performance Standards (BPS).

In the SJVUAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* it states that projects implementing Best Performance Standards in accordance with the guidance would be determined to have a less than significant individual and cumulative impact on global climate change and would not require project specific quantification of GHG emissions. Projects exempt from the requirements of CEQA, and projects complying with an approved GHG emission reduction plan or mitigation program would also be determined to have a less than significant individual or cumulative impact. Projects not implementing BPS would require quantification of project specific GHG emissions. To be determined to have a less than significant individual and cumulative impact on global climate changes, such projects must be determined to have reduced or mitigated GHG emissions by 29%, consistent with GHG emission reduction targets established in ARB's AB 32 Scoping Plan. Furthermore, quantification of GHG emissions would be expected for all projects for which the lead agency has determined that an Environmental Impact Report is required, regardless of whether the project incorporates Best Performance Standards.

While this methodology is deemed appropriate for project-level analysis and could apply to the project-level analysis for individual projects as they are designed and reviewed, it is not a methodology for program-level analysis. The SJVUAPCD does not include a methodology recommendation for program-level analysis. Instead, this analysis quantifies the green house gas emission associated with the proposed project. It should be noted that this GHG analysis does not look at GHG emission sources that are non-transportation related (i.e. industrial, commercial, etc.).

The Air Resources Board vehicle emissions model, EMFAC2007, was used in the analysis of CO2 and fuel consumption impacts from on-road travel. The analysis includes city-wide and county-wide levels of GHGs associated with on-road vehicle travel, which were estimated based on the population estimates adopted by SJCOG in 2009.

Thresholds of Significance

As described previously, the State Legislature and the global scientific community have found that global climate change poses significant adverse effects to the environment of California and the entire world. To mitigate these adverse effects the State Legislature enacted AB 32 which requires statewide GHG reductions to 1990 levels by 2020.

AB 32 and S-3-05 target the reduction of statewide emissions. It should be made clear that AB 32 and S-3-05 do not specify that the emissions reductions should be achieved through uniform reduction by geographic location or by emission source characteristics. Consistency with AB 32 will be used to assess significance with respect to greenhouse gas (GHG) emissions.

GHG IMPACTS AND MITIGATION MEASURES

Impact 3.5.1: CO2 Emission Effects on Climate Change and Global Warming (significant and unavoidable)

The combustion of fossil fuels during vehicle operations is the primary source of GHG emissions in California. GHG emissions also result from the carbon dioxide, methane, and nitrous oxide that

are released during the combustion of gasoline and diesel fuel in construction equipment, vehicles, buses, trucks, and trains; and the use of natural gas to power transit buses and other vehicles. Historical and current global GHG emissions are known by the State and the global scientific community to be causing global climate change, and future increases in GHG emissions associated with buildout of the General Plan could exacerbate climate change and contribute to the significant adverse environmental effects. Furthermore, increased GHG emissions associated with the proposed project could impact implementation of the State's mandatory requirement under AB 32 to reduce statewide GHG emissions to 1990 levels by 2020.

CO2 EMISSIONS FOR EXISTING GENERAL PLAN BUILDOUT

Transportation sector CO2 emissions were projected from a baseline year of 2010 through the existing General Plan buildout year of 2030 using EMFAC 2007 Version 2.3 model. Table 3.5-1 quantifies the projected CO2 emissions in tons per day using EMFAC data.

TABLE 3.5-1: VEHICLES, VMT, DAILY TRIPS, AND CO2 (2010 THROUGH 2030) – EXISTING GENERAL PLAN BUILDOUT

GHG EMISSION DATA					
Year	**2010**	**2015**	**2020**	**2025**	**2030**
Vehicles	44,447	54,550	64,653	74,756	76,689
Total Daily VMT	2,341,000	3,128,000	3,915,000	4,702,000	5,488,000
Total Daily Trips	212,600	262,750	312,900	363,050	413,200
CO2 emissions (tons/day)	1,410	1,910	2,400	3,090	3,590

SOURCES: DE NOVO PLANNING GROUP, EMFAC 2007 VERSION 2.3 (2010).

The total VMT is projected to increase from 2,341,000 in 2010 to 5,488,000 in 2030, representing an increase of 134 percent over 20 years. The total daily trips are projected to increase from 212,600 trips in 2010 to 413,200 trips in 2020, representing an increase of 94 percent over 20 years. The total CO2 Emissions are projected to increase from 1,410 tons per day in 2010 to 3,590 tons per day in 2030, representing an increase of 155 percent over 20 years.

CO2 EMISSIONS FOR PROPOSED PROJECT

Transportation sector CO2 emissions were projected for the proposed project from a baseline year of 2010 through the General Plan buildout year of 2030 using EMFAC 2007 Version 2.3 model. Table 3.5-2 quantifies the projected CO2 emissions in tons per day using EMFAC data.

TABLE 3.5-2: VEHICLES, VMT, DAILY TRIPS, AND CO2 (2010 THROUGH 2030) - PROPOSED PROJECT

GHG EMISSION DATA					
Year	**2010**	**2015**	**2020**	**2025**	**2030**
Vehicles	44,447	54,550	64,653	74,756	76,689
Total Daily VMT	2,341,000	3,082,000	3,823,000	4,564,000	5,305,000
Total Daily Trips	212,600	262,850	313,100	363,350	413,600
CO2 emissions (tons/day)	1,410	1,880	2,350	3,000	3,470

SOURCES: DE NOVO PLANNING GROUP, EMFAC 2007 VERSION 2.3 (2010).

The total VMT is projected to increase from 2,341,000 in 2010 to 5,305,000 in 2030, representing an increase of 127 percent over 20 years. The total daily trips are projected to increase from 212,600 trips in 2010 to 413,600 trips in 2020, representing an increase of 95 percent over 20 years. The total CO2 Emissions are projected to increase from 1,410 tons per day in 2010 to 3,470 tons per day in 2030, representing an increase of 146 percent over 20 years.

Conclusion: The proposed project is intended to provide improvements to the circulation system in the City of Manteca. The proposed project includes policies that are designed provide a complete streets system with network of alternative modes that relieves traffic congestion. Mitigation measures are presented below that will assist in the promotion and implementation of Smart Growth and sustainable planning practices by Manteca. Adherence to the requirements of these mitigation measures would provide beneficial impacts related to GHG emissions.

It should be noted that the Low Carbon Fuel Standard and Pavely Greenhouse Gas Vehicle Standards are now effective and will provide future CO2 emissions reductions that are not captured in the modeling above. That withstanding, the modeling shows that implementation of the proposed project would provide a seven percent reduction in total VMT and a nine percent reduction in total CO2 when compared to buildout of the current General Plan. While this is an improvement to the business as usual scenario ("General Plan buildout"), it still represents an increase in total CO2 emissions. This is largely due to the population growth that is anticipated in Manteca, which is correlated to VMT growth. As such, implementation of the proposed project will have a ***significant and unavoidable*** impact on climate change from CO2 emission.

MITIGATION MEASURES

Mitigation Measure 3.5-1: *Coordinate with the SJCOG as they develop a Sustainable Communities Strategy (SCS) in compliance with SB 375. This will involve county-wide land use scenarios that reflect different population distributions and land use (mix and density), and multimodal transportation strategies, utilizing the SJCOG regional travel demand model in coordination with a rapid fire tool similar to I-Places. Land use scenarios for Manteca should demonstrate potential reductions in vehicle miles traveled (VMT) and total vehicle miles; GHG, conventional and toxic air pollutant emissions; long distance commute trips; and other such factors consistent with state and federal law.*

Mitigation Measure 3.5-2: *Coordinate with the San Joaquin Council of Governments as they develop and implement a Congestion Management Plan to provide a consistent and coordinated approach for responding to congestion through the investment in roadway capacity increasing measures once all reasonable non-capacity measures have been employed.*

Mitigation Measure 3.5-3: *Participate in the SJCOG Smart Growth Incentive Program. The Measure K Renewal Smart Growth Incentive Program funds are available for infrastructure improvements and planning grants that will assist local agencies in better integrating transportation and land use, such as street calming, walkable community projects, transit amenities and alternative modes of transportation. These funds promote infill development in walkable areas thereby increasing living and transportation choices while reducing reliance on automobiles, and to reward jurisdictions that approve new housing and mixed-use development in urban locations near transit hubs (station, transit center, bus stops serving two or more routes).*

Mitigation Measure 3.5-4: *Insure that planning efforts include the following:*

- *Support development patterns that are amenable to transit, bicycle and pedestrian facilities*
- *Continue to encourage use of transit*
- *Incorporate bicycle facilities into transportation projects*
- *Implement Complete Streets design concepts*
- *Seek funding for bicycle projects and maintenance from local, state and federal sources*
- *Assist and encourage employers to promote the use of bicycle facilities and safety*

Mitigation Measure 3.5-5: *Seek funding for the development of a Climate Action Plan (CAP) and insure that Manteca's planning efforts address climate change and greenhouse gas emissions. Once funded, the CAP should include the following components*

- *Baseline inventory of GHG emissions from municipal sources.*
- *A target reduction goal consistent with AB 32.*
- *Policies and measures to reduce GHG emissions.*
- *Quantification of the effectiveness of the proposed policies and measures.*
- *A monitoring program to track the effectiveness and implementation of the CAP.*

Impact 3.5.2: Energy Consumption Effects on Climate Change and Global Warming (significant and unavoidable)

ENERGY CONSUMPTION FOR GENERAL PLAN BUILDOUT

Vehicle fuel consumption was projected from a baseline year of 2010 through the existing General Plan buildout year of 2030 using EMFAC 2007 Version 2.3 model. Table 3.5-3 quantifies the projected vehicle fuel consumption in gallons per day using EMFAC data under buildout of the existing General Plan.

TABLE 3.5-3: MANTECA VEHICLE FUEL CONSUMPTION (2010 THROUGH 2030) – EXISTING GENERAL PLAN BUILDOUT

GHG Emission Data					
Year	**2010**	**2015**	**2020**	**2025**	**2030**
Gasoline (gallons)	104,760	142,950	176,960	231,660	270,690
Diesel (gallons)	36,250	47,350	61,870	75,790	86,020
Total Fuel (gal/day)	141,010	190,300	238,830	307,450	356,710
Total Fuel per capita (gal/day)	3.17	3.49	3.69	4.11	4.65

SOURCES: DE NOVO PLANNING GROUP, EMFAC 2007 VERSION 2.3 (2010).

The total fuel consumption is projected to increase from 141,010 gallons per day in 2010 to 356,710 gallons in 2030, representing an increase of 153 percent over 20 years. The largest increase is projected in gasoline with a 158 percent increase over 20 years, while diesel fuel consumption is projected to increase by 137 percent during the same time. The fuel consumption outputs reflect an increasing trend of fuel consumption per capita. It should be noted that this fuel consumption estimate does not capture the benefits of Pavely and Low Carbon Fuels, which are now in effect and will have an impact on fleet efficiency.

ENERGY CONSUMPTION FOR PROPOSED PROJECT

Vehicle fuel consumption was projected for the proposed project from a baseline year of 2010 through the General Plan buildout year of 2030 using EMFAC 2007 Version 2.3 model. Table 3.5-4 quantifies the projected vehicle fuel consumption in gallons per day using EMFAC data under the proposed project.

TABLE 3.5-4: CITY OF MANTECA VEHICLE FUEL CONSUMPTION (2010 THROUGH 2030) - PROPOSED PROJECT

GHG Emission Data					
Year	**2010**	**2015**	**2020**	**2025**	**2030**
Gasoline (gallons)	104,760	140,900	172,890	224,970	261,770
Diesel (gallons)	36,250	46,670	60,440	73,600	83,180
Total Fuel (gal/day)	141,010	187,570	233,330	298,570	344,950
Total Fuel per capita (gal/day)	3.17	3.44	3.61	3.99	4.50

SOURCES: DE NOVO PLANNING GROUP, EMFAC 2007 VERSION 2.3 (2010).

The total fuel consumption is projected to increase from 141,010 gallons per day in 2010 to 344,950 gallons in 2030, representing an increase of 145 percent over 20 years. The largest increase is projected in gasoline with a 150 percent increase over 20 years, while diesel fuel consumption is projected to increase by 129 percent during the same time. The fuel consumption outputs reflect an increasing trend of fuel consumption per capita. As previously noted, these fuel consumption estimates do not capture the benefits of Pavely and Low Carbon Fuels, which are now in effect and will have an impact on fleet efficiency.

Conclusion: The proposed project provides a policy framework and transportation improvements that are designed to improve the circulation system in the City of Manteca. These include a

complete streets system with a network of alternative modes of transportation, which collectively provide citizens with transportation choices, as opposed to automobile only transportation. Mitigation measures 3.5-1 through 3.5-5 promote smart growth and sustainable planning practices that are consistent with this intent and adherence to the requirements of these mitigation measures would provide beneficial impacts related to fuel consumption. Additionally, a mitigation measure is presented below that is consistent with Appendix F of the CEQA Guidelines, and is specifically aimed at energy conservation.

As previously noted, the Low Carbon Fuel Standard and Pavely Greenhouse Gas Vehicle Standards are now effective and will provide future improvements to fuel efficiency, which are not captured in the fuel consumption modeling. That withstanding, the modeling shows that implementation of the proposed project would provide an eight percent reduction in gasoline consumption, an eight percent reduction in diesel consumption, and an eight percent overall reduction in total fuel consumption when compared to buildout of the current General Plan. While this is an improvement to the business as usual scenario ("General Plan buildout"), it still represents an increase in total fuel consumption. This is largely due to the population growth that is anticipated in Manteca, which is correlated to fuel consumption increases. As such, implementation of the proposed project will have a ***significant and unavoidable*** impact on climate change from fuel consumption.

MITIGATION MEASURES

Mitigation Measure 3.5-6: *Consistent with Appendix F of the CEQA Guidelines, the City of Manteca should:*

- *Promote measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, maintenance and/or removal of projects. As the individual projects are designed there should be an explanation as to why certain measures were incorporated in the project and why other measures were dismissed.*
- *Site, orient, and design projects to minimize energy consumption, increase water conservation and reduce solid-waste.*
- *Promote efforts to reduce peak energy demand in the design and operation of projects.*
- *Promote the use of alternate fuels (particularly renewable ones) or energy systems for projects.*
- *Promote efforts to recycle materials used in the construction (including demolition phase) of projects.*

Impact 3.5.3: Population Effects on Climate Change and Global Warming (significant and unavoidable)

POPULATION GROWTH

Between 2000 and 2010, San Joaquin County and its incorporated cities have experienced a wide range of development and population growth. Over the next 20 years, the San Joaquin region will continue to grow rapidly. SJCOG projects a total employment of 294,359 for San Joaquin County

by 2030. This will accompany an increase in population in the County of 251,980 persons between 2010 and 2030, an increase of 37 percent over the 20-year period. In 2030, the estimated total population for San Joaquin County is 934,503 persons. Table 3.5-5 presents the employment projections from 2000 through 2030 and table 3.5-6 presents the population projections from 2000 through 2030.

TABLE 3.5-5: EMPLOYMENT PROJECTIONS (2000-2030)

	*2000**	*2010*	*2015*	*2020*	*2025*	*2030*
Escalon	1,905	1,674	1,763	1,863	1,950	2,053
Lathrop	4,495	4,710	5,400	5,816	6,204	6,626
Lodi	21,450	22,093	24,949	26,619	28,222	30,012
Manteca	**11,905**	**14,823**	**16,527**	**17,815**	**19,043**	**20,401**
Ripon	2,925	3,171	3,387	3,639	3,872	4,118
Stockton	88,645	100,835	115,283	124,547	133,352	142,813
Tracy	16,360	16,939	17,825	19,246	20,575	21,996
County	48,025	49,711	55,016	58,952	62,567	66,340
Total	**195,710**	**213,956**	**240,150**	**258,497**	**275,785**	**294,359**

**CENSUS 2000 POPULATION COUNTS NOTE: NUMBERS REFLECT THE NUMBER OF JOBS, NOT NUMBER OF EMPLOYED RESIDENTS*

SOURCE: SAN JOAQUIN COUNCIL OF GOVERNMENTS, 2009

TABLE 3.5-6: POPULATION PROJECTIONS (2000 - 2030)

	*2000**	*2010*	*2015*	*2020*	*2025*	*2030*
Escalon	5,963	7,535	8,444	9,272	10,155	11,023
Lathrop	10,455	18,164	20,896	23,747	25,557	27,133
Lodi	56,999	61,684	63,959	66,588	69,643	72,644
Manteca	**49,258**	**67,477**	**78,146**	**87,471**	**97,410**	**107,766**
Ripon	10,146	15,496	18,023	21,139	23,902	26,899
Stockton	243,771	296,643	319,827	348,977	377,058	404,840
Tracy	56,929	82,337	94,620	103,456	113,295	122,790
County	130,087	133,187	140,544	149,035	155,940	161,408
Total	**563,608**	**682,523**	**744,459**	**809,685**	**872,960**	**934,503**

**CENSUS 2000 POPULATION COUNTS*

SOURCE: SAN JOAQUIN COUNCIL OF GOVERNMENTS, 2009

Conclusion: The City of Manteca is estimated to grow in population by an estimated 40,289 persons between 2010 and 2030. GHG emissions in Manteca are primarily related to a projected increase in VMT as a result of projected growth in the population. Land use decisions can control population growth to some extent, economic forces provide large incentives for population growth through labor costs, jobs availability, housing prices, the cost of goods and services, etc. Manteca's ability to mitigate for climate change impacts from population growth is largely limited to Smart Growth Incentives, a focus on the sustainable development, and improvements in alternative modes of transportation that may result in decreases in VMT per capita.

The proposed project provides a policy framework and transportation improvements that are designed to improve the circulation system in the City of Manteca through a complete streets system that includes a network of alternative modes of transportation. This system will provide citizens with new and convenient transportation choices, as opposed to the singular choice of automobile only transportation. Mitigation measures 3.5-1 through 3.5-5 promote smart growth and sustainable planning practices. While these planning efforts will provide an improvement to the business as usual scenario ("General Plan buildout"), it still represents an increase in

population, which correlates to increased impacts on climate change from greenhouse gas emissions and fuel consumption. As such, implementation of the proposed project will have a ***significant and unavoidable*** impact on climate change from population growth.

This section describes the existing land uses and land use regulations, and evaluates the environmental effects on land use, planning, and population issues of implementing the proposed project. No Notice of Preparation comments regarding land use and population were received.

3.6.1 ENVIRONMENTAL SETTING

EXISTING PHYSICAL ENVIRONMENT

San Joaquin County is located in the San Joaquin Valley in what is considered the Central Valley of California. The county covers approximately 1,440 square miles and is predominantly flat land with some gently rolling hills. The county is bordered to the southwest by the Diablo Range and to the east by the Sierra Nevada foothills. The county contains a combination of metropolitan and rural area with a long history of agricultural activities. Incorporated cities within San Joaquin County include the cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy. San Joaquin County is considered the fastest growing region in the Central Valley, with the population expected to reach 1.7 million people by the year 2050.

The City of Manteca is located in southern San Joaquin County, approximately 15 miles from Stockton and Tracy and 18 miles from Modesto. State Route 99 travels through Manteca near the eastern edge of the city and State Route 120 travels through the city near the southern edge of the city. Manteca occupies an area of just under 16 square miles.

With its relatively low costs and proximity to the San Francisco Bay and Sacramento areas, Manteca has attracted many commercial and industrial businesses. Manteca is also a popular place to live for commuters to the San Francisco Bay area. The Department of Finance estimates Manteca's population to grow from 67,754 persons in 2010 to 117,010 in 2025.

Land Uses

Manteca has generally grown in a compact pattern around the historic center of the city at the crossroads of Yosemite Avenue and Main Street. The City is mostly built out with some large vacant parcels on the edges of the City as well as a number of smaller vacant and underutilized in-fill parcels. Manteca is primarily a low-density residential community, with a small commercial center and sizeable industrial base. Regional commercial uses occur in areas of the City adjacent to State Route 120. Residential neighborhoods have developed within boundaries established by the major streets spaced one mile apart.

There are two large agricultural parcels in the southwest part of the City and numerous agricultural parcels in the Sphere of Influence. There are also a number of vacant and underutilized parcels with in-fill potential.

Neighboring Political Jurisdictions within San Joaquin County

City of Lathrop. The city of Lathrop is located along the San Joaquin River within San Joaquin County. Interstate 5, the major north-south corridor, runs through Lathrop where it intersects

with State Route 120. The City of Lathrop was incorporated in 1989 and is a part of the Stockton-Lodi metropolitan area. Lathrop is located approximately 58 miles south of Sacramento and 47 miles northeast of San Jose. The city is within a 50-minute or less commute from Tracy, Manteca, Stockton, Lodi, Modesto, Livermore, and Pleasanton. Lathrop occupies an area of approximately 16.7 miles.

According to the Department of Finance (DOF), the population of Lathrop as of January 1, 2009 is 17,671. The City of Lathrop is one of Northern California's fastest growing and most comprehensive Master Planned Communities. Lathrop's population is expected to reach 20,000 by 2012, with project build out to raise the population to 70,000.

City of Ripon. The city of Ripon is located along the Stanislaus River, approximately 20 miles south of Stockton and four miles north of Modesto. State Route 99 and the Central Valley route of the Union Pacific Railroad bisect the city. Ripon occupies an area of just over four miles.

Ripon's economic base has long been tied mainly to agriculture and related businesses. While agriculture continues to play a large part in Ripon's economy, during the past ten years, Ripon has begun to transition towards other non-agriculture industries, specifically transportation and traveler accommodation. The Department of Finance estimates Ripon's population at 15,260 persons as of January 1, 2009. According to the City's Housing Element, the population of Ripon is estimated to reach 20,524 by 2020.

City of Stockton. The city of Stockton is the largest urban center in San Joaquin County. Stockton is located in central San Joaquin County and occupies approximately 62 square miles. Interstate 5 and State Route 99 provide north-south regional access through the city. State Route 4 provides an east-west connection between these two routes and areas further east and west. The Southern Pacific Rail Road, the Union Pacific Rail Road and the Stockton Terminal and Eastern Rail Road lines converge in south central Stockton in the industrial district. Major drainage channels run through Stockton and include the San Joaquin River and the Stockton Deep Water Channel that meet near the western edge of the city. The Port of Stockton is an island segment on the western section of the city at the Stockton Deep Water Channel. The Stockton Metropolitan Airport is the County's commercial airport on the southeast section of the city. The Calaveras River travels east-west through north central Stockton.

The majority of land developed within Stockton is for residential uses, followed by commercial and industrial. The Department of Finance estimates Stockton's population at 290,409 persons as of January 1, 2009. According to the Background Report prepared for Stockton's 2035 General Plan, the population of Stockton is expected to reach 374,631 by 2020 and 406,482 by 2025.

MANTECA'S DEMOGRAPHICS AND EMPLOYMENT PROFILE

Demographics

POPULATION

Table 3.6-1 shows the long-term historic population trends for Manteca. Since incorporating in 1918, Manteca has been a rapidly growing city. The city experienced its highest average annual growth rate (AAGR) between 1950 and 1960 when the population grew at an AAGR of 8.04 percent. The population continued to grow at an average rate between 5 and 6 percent over the following decades (1960 to 1990). The population growth slowed slightly between 1990 and 2000, and then increased again through the 2000s. As of 2008 Manteca has a population of 66,451. It should be noted that the boundaries of incorporated cities are not constant and population change over time in a given place reflects not only population growth, but a change in the area of an incorporated city.

TABLE 3.6-1: HISTORICAL POPULATION CHANGE (MANTECA 1920 TO 2000)

YEAR	*POPULATION*	*CHANGE*	*AAGR*
1920	1,286	-	-
1930	1,614	328	2.30%
1940	1,981	367	2.07%
1950	3,804	1,823	6.74%
1960	8,242	4,438	8.04%
1970	13,845	5,603	5.32%
1980	24,925	11,080	6.06%
1990	40,773	15,848	5.04%
2000	49,258	8,485	1.91%
2008	66,451	17,193	3.94%

NOTE: AAGR FOR 2000-2008 CALCULATED FOR 7.75-YEAR PERIOD (APRIL 1, 2000 TO JAN. 1, 2008).

SOURCE: DOF, TABLE 2A HISTORICAL CENSUS POPULATIONS OF CALIFORNIA STATE, COUNTIES, CITIES, PLACES, AND TOWNS

AGE

Table 3.6-2 shows the distribution of Manteca's population by age in 1990 and 2000. As shown in the table, the share of persons between 0-4 and 20-34 years of age declined from 1990 to 2000, while all other age groups remained stable or increased in their share of the overall population. Manteca's population distribution was similar to that of San Joaquin County in 2000, although Manteca had a slightly higher share of persons 35 to 44 and residents 55 and older made up a slightly smaller share of Manteca's population than that of San Joaquin County. In 2000 the median age in Manteca (32.5) was slightly higher than that of the county (31.9) and slightly lower than that of the state (33.3).

TABLE 3.6-2 AGE CHARACTERISTICS (MANTECA 1990 AND 2000)

AGE GROUP	MANTECA				SAN JOAQUIN COUNTY			
	1990		2000		1990		2000	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
0 to 4	3,872	9.5%	3,716	7.5%	42,150	8.8%	44,960	8.0%
5 to 14	7,473	18.3%	9,120	18.5%	79,454	16.5%	100,407	17.8%
15 to 19	2,992	7.3%	4,305	8.7%	34,958	7.3%	47,915	8.5%
20 to 24	2,790	6.8%	2,759	5.6%	35,801	7.4%	37,668	6.7%
25 to 34	7,677	18.8%	6,456	13.1%	83,174	17.3%	75,540	13.4%
35 to 44	6,599	16.2%	8,576	17.4%	71,521	14.9%	86,601	15.4%
45 to 54	3,575	8.8%	6,324	12.8%	44,635	9.3%	68,748	12.2%
55 to 64	2,465	6.0%	3,426	7.0%	35,425	7.4%	41,960	7.4%
65 to 74	2,031	5.0%	2,420	4.9%	31,273	6.5%	30,673	5.4%
75 +	1,299	3.2%	2,156	4.4%	22,237	4.6%	29,126	5.2%
TOTAL	**40,773**	**100.0%**	**49,258**	**100.0%**	**480,628**	**100.0%**	**563,598**	**100.0%**

SOURCE: 1990 AND 2000 U.S. CENSUS

RACE AND ETHNICITY

Table 3.6-3 summarizes U.S. Census data related to the race and ethnicity of residents of Manteca, San Joaquin County, and California in 2000. As shown in the table, white persons made up a much larger share of Manteca's population (74.2 percent) than in San Joaquin County (58.1 percent) and California (59.5 percent). Compared to the county and State, Manteca's population was less racially and ethnically diverse in 2000.

TABLE 3.6-3: POPULATION BY RACE & ETHNICITY (MANTECA, SAN JOAQUIN COUNTY, CALIF 2000)

RACIAL/ETHNIC CATEGORY	MANTECA		SAN JOAQUIN		CALIFORNIA	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
White	36,534	74.2%	327,607	58.1%	20,170,059	59.5%
Black or African American	1,406	2.9%	37,689	6.7%	2,263,882	6.7%
American Indian and Alaska Native	643	1.3%	6,377	1.1%	333,346	1.0%
Asian	1,733	3.5%	64,283	11.4%	3,697,513	10.9%
Native Hawaiian and Other Pacific Islander	179	0.4%	1,955	0.3%	116,961	0.3%
Other1	8,763	17.8%	125,687	22.3%	7,289,887	21.5%
Hispanic or Latino (of any race)	12,363	25.1%	172,073	30.5%	10,966,556	32.4%
TOTAL	**49,258**	**100.0%**	**563,598**	**100.0%**	**33,871,648**	**100.0%**

NOTES: 1"OTHER" INCLUDES BOTH THE "SOME OTHER RACE ALONE" CATEGORY AND PERSONS OF "TWO OR MORE RACES"

SOURCE: 2000 U.S. CENSUS

Income and Employment

Local demand for housing is significantly impacted by income, employment characteristics, and regional job growth. To effectively address the housing and jobs relationship, an understanding of local salary and job profiles is needed. This section analyzes personal income, household income,

and employment characteristics for San Joaquin County and the city of Manteca, when available. Employment data from the California Employment Development Department (EDD) is for the Stockton Metropolitan Statistical Area, which covers the same geographic boundaries as the county.

PERSONAL INCOME

Since the early 1980s San Joaquin County has had a low average per-capita personal income compared to California and national averages. From 1984 to 2006 San Joaquin County's per capita personal income rose 52.7 percent to $27,272 compared to the State of California, which rose approximately 59.6 percent to $39,629. The personal income gap between San Joaquin County and California was four times greater in 2006 ($12,354) than what it was in 1984 ($3,091).

HOUSEHOLD INCOME

Table 3.6-4 shows the distribution of households according to their 1999 incomes for Manteca, San Joaquin County, and California. While 42.4 percent of households in San Joaquin County earned less than $35,000 in 1999, only 34.3 percent of households in Manteca earned under $35,000. Manteca's income distribution is more heavily concentrated in the middle of the income spectrum than the county and state.

Nearly 45 percent of Manteca's households earned between $35,000 and $74,999, while less than 36 percent of the county's households and only 34 percent of households in the state fell within this income range. On the high end of the income spectrum, 10 percent of Manteca households earned more than $100,000 in 1999, compared to 17.3 percent of households in the state.

TABLE 3.6-4: HOUSEHOLD INCOME DISTRIBUTION (MANTECA, SAN JOAQUIN COUNTY, CALIF 2000)

	MANTECA		*SAN JOAQUIN COUNTY*		*CALIFORNIA*	
INCOME	*HOUSEHOLDS*	*PERCENT*	*HOUSEHOLDS*	*PERCENT*	*HOUSEHOLDS*	*PERCENT*
Under $15,000	1,707	10.4%	30,598	16.8%	1,615,869	14.0%
$15,000-$24,999	1,857	11.4%	24,053	13.2%	1,318,246	11.5%
$25,000-$34,999	2,050	12.5%	22,488	12.4%	1,315,085	11.4%
$35,000-$49,999	3,224	19.7%	29,730	16.4%	1,745,961	15.2%
$50,000-$74,999	4,017	24.6%	35,475	19.5%	2,202,873	19.1%
$75,000-$99,999	1,849	11.3%	19,934	11.0%	1,326,569	11.5%
$100,000-$149,000	1,283	7.8%	13,421	7.4%	1,192,618	10.4%
$150,000 or more	373	2.3%	5,913	3.3%	794,799	6.9%
Total Households	**16,360**	**100.0%**	**181,612**	**100.0%**	**11,512,020**	**100.0%**

SOURCE: 2000 U.S. CENSUS

Table 3.6-5 shows the median household and median family incomes in 1999 for Manteca, San Joaquin County, and California. Manteca's median household income ($46,677) was significantly higher than that of the county ($41,282), and slightly lower than that of California ($47,493). Median family incomes followed the same pattern, but were slightly higher for the city, county, and the state.

TABLE 3.6-5 MEDIAN INCOME (MANTECA, SAN JOAQUIN COUNTY, AND CALIFORNIA 2000)

	MANTECA	*SAN JOAQUIN COUNTY*	*CALIFORNIA*
Median Household Income	$46,677	$41,282	$47,493
Median Family Income	$51,587	$46,919	$53,025

SOURCE: 2000 U.S. CENSUS

EMPLOYMENT

Table 3.6-6 shows the estimated employment by occupation in Manteca in 2004. Civilian employed population is counted by where people live. Since many Manteca residents commute to the Bay Area for work, the information in the table is not an indication of the number of jobs in the city of Manteca. Of the total 25,584 employed population in 2004, 28.7 percent (7,346 persons) worked in sales and office-related jobs. Production, transportation, and material moving was the second largest occupation category with 17.7 percent of Manteca residents employed in this occupation.

TABLE 3.6-6: ESTIMATED EMPLOYED POPULATION BY OCCUPATION (16 YRS +, MANTECA 2004)

OCCUPATION	*NUMBER OF PERSONS*	*PERCENT*
Management, Business, and Financial Operations	2,460	9.6%
Professional and Related Occupations	3,978	15.5%
Service	3,581	14.0%
Sales and Office	7,346	28.7%
Farming, Fishing, and Forestry	354	1.4%
Construction, Extraction, and Maintenance	3,330	13.0%
Production, Transportation, and Material Moving	4,535	17.7%
Total	**25,584**	**100.0%**

SOURCE: CLARITAS, INC, JUNE 8, 2004

The Employment Development Department (EDD) estimates the total labor force of cities and counties in California; however, the EDD does not break down employment by industry at the city level. Based on EDD estimates, the number of employed persons in Manteca was 25,800 in 2008. Unemployment in Manteca has increased in recent years, following the statewide trend. Since 2000, the city's unemployment rate has been consistently higher than the state average, but lower than the unemployment rate in the county. Unemployment has increased since 2006; at the same time the housing market has decreased. Some of this unemployment may be related to layoffs in the construction industry as housing starts have nearly come to a stop in Manteca and throughout much of California. As of September 2008, 8.8 percent of Manteca residents were unemployed.

Population and Employment Projections

The San Joaquin Council of Governments (SJCOG) produces projections of population and employment for the cities in San Joaquin County, including the city of Manteca. SJCOG's most recent projections, released in 2009, cover the period from 2000 to 2035. Table 3.6-7 shows the Census population and employment estimates in 2000 and the projected population and number of employees through 2035.

As shown in the table, Manteca's population is projected to increase from 67,477 in 2010 to 117,010 in 2035. Employment growth in Manteca is projected to increase from 14,823 jobs in 2010 to 21,756 jobs in 2035. With population projected to grow faster than employment, the Manteca jobs-to-household ratios will likely decrease, furthering the city's role as a bedroom community.

TABLE 3.6-7: POPULATION AND EMPLOYMENT PROJECTIONS (MANTECA 2000 TO 2035)

YEAR	POPULATION (PERSONS)	EMPLOYMENT (JOBS)
2000	49,258	11,905
2005	57,499	12,809
2010	67,477	14,823
2015	78,146	16,527
2020	87,471	17,815
2025	97,410	19,043
2030	107,766	20,401
2035	117,010	21,756

SOURCE: SAN JOAQUIN COUNCIL OF GOVERNMENTS. POPULATION, EMPLOYMENT, & HOUSING UNIT PROJECTIONS, 2009

REGIONAL DEMOGRAPHICS AND EMPLOYMENT PROFILE

The San Joaquin Valley continues to remain a commuter-oriented county, with 75.0 percent of the workforce driving alone to work based on the 2008 American Community Survey. The average daily commute time in San Joaquin County was almost 30 minutes in 2008, and more than half of the commuters left their home between 6 a.m. and 8:30 a.m. Almost 16 percent have a commute that is one hour or longer each way. Many residents in San Joaquin County spent an average of 1.37 hours one-way daily along the Interstate 205/Altamont Pass and Interstate 580 corridors to the Bay Area. These corridors are currently operating at or near maximum capacity during peak hours.

Population growth continues to be due in part but not limited to:

- Bay Area jobholders taking up residence in the County, creating a market demand for interregional commute alternatives;
- A shortage of affordable housing in neighboring Bay Area counties;
- Significantly less expensive housing costs in the Central Valley;
- Job relocations to the Central Valley due to lower cost of doing business;
- A decentralization of Stockton's commercial and retail businesses;
- An increase in the economic interaction with surrounding counties;
- Major growth in cities neighboring bay area counties.

Regional Population

San Joaquin County population grew at an average annual rate of 2.3 percent during the first part of 2000, one of the fastest rates in the region. According to the 2000 Census, the most rapid

growth occurred in the communities located in the south county, and the largest absolute growth occurred in the City of Stockton with a 32,828 net gain between 1990 and 2000. In the same time period, the population of the City of Tracy grew more than 69 percent, compared to the overall growth of the County of 17.3 percent (2000 Census). Tracy's share of the county's population increased 3.1 percent, while the unincorporated areas' share dropped 2.9 percent. In addition, Tracy and Stockton alone accounted for nearly 70 percent of the absolute population growth in the county from 1990 to 2000.

San Joaquin County can expect this trend to slow to an approximate 2.1 percent annual growth rate due to the current economic recession, and slowed migration to the region. SJCOG contracted with the University of the Pacific to update its population and projection estimates in 2009. These estimates are reflected in the population assumptions adopted by the SJCOG Board found in Table 3.6-8 below.

TABLE 3.6-8: POPULATION PROJECTIONS (2000 - 2035)

	*2000**	*2010*	*2015*	*2020*	*2025*	*2030*	*2035*
Escalon	5,963	7,535	8,444	9,272	10,155	11,023	11,910
Lathrop	10,455	18,164	20,896	23,747	25,557	27,133	28,384
Lodi	56,999	61,684	63,959	66,588	69,643	72,644	75,525
Manteca	49,258	67,477	78,146	87,471	97,410	107,766	117,010
Ripon	10,146	15,496	18,023	21,139	23,902	26,899	29,587
Stockton	243,771	296,643	319,827	348,977	377,058	404,840	430,393
Tracy	56,929	82,337	94,620	103,456	113,295	122,790	131,385
County	130,087	133,187	140,544	149,035	155,940	161,408	165,580
Total	**563,608**	**682,523**	**744,459**	**809,685**	**872,960**	**934,503**	**989,774**

**CENSUS 2000 POPULATION COUNTS*

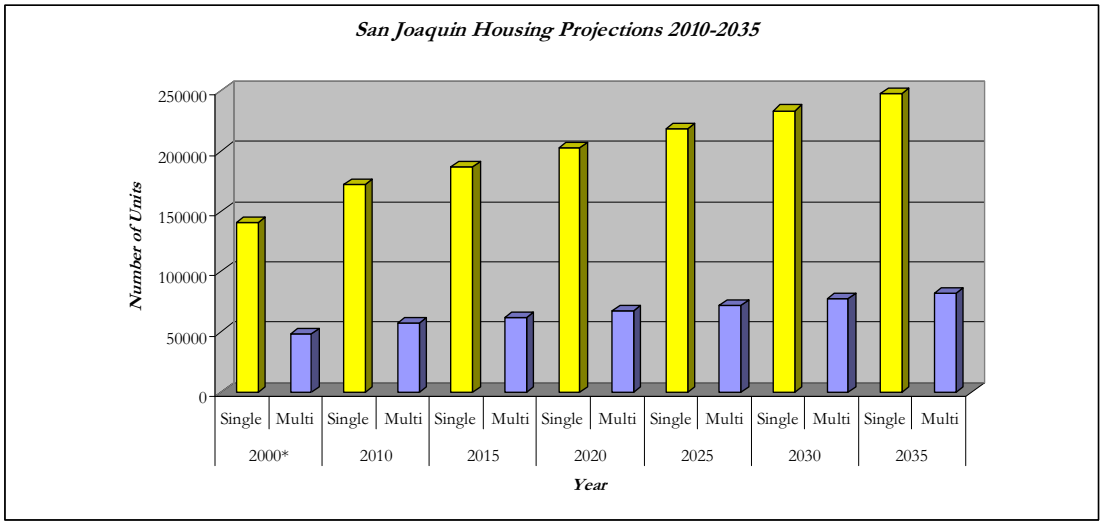
SOURCE: SAN JOAQUIN COUNCIL OF GOVERNMENTS, 2009

Regional Housing

As indicated by population and employment trends, growth pressures are increasing at a significant rate. Because most of this growth comes from outside of the county, in particular employment opportunities in the Bay Area, the growth within San Joaquin County is focused on the development of single-family homes.

San Joaquin's housing forecast illustrates there is a significant difference in the number of multi-family homes versus single family homes. Exhibit 3.6-1 illustrates the housing forecast from 2010 to 2035.

EXHIBIT 3.6-1: SAN JOAQUIN HOUSING PROJECTIONS 2000-2035



SOURCE: SAN JOAQUIN COUNCIL OF GOVERNMENTS, 2009

Regional Employment

Over the next 25 years, the San Joaquin region will continue to grow rapidly. The SJCOG projects a total employment of 312,799 for San Joaquin County by 2035. Regional employment projections adopted by SJCOG are illustrated in Table 3.6-9.

TABLE 3.6-9: EMPLOYMENT PROJECTIONS (2000-2035)

	*2000**	*2010*	*2015*	*2020*	*2025*	*2030*	*2035*
Escalon	1,905	1,674	1,763	1,863	1,950	2,053	2,152
Lathrop	4,495	4,710	5,400	5,816	6,204	6,626	7,028
Lodi	21,450	22,093	24,949	26,619	28,222	30,012	31,887
Manteca	11,905	14,823	16,527	17,815	19,043	20,401	21,756
Ripon	2,925	3,171	3,387	3,639	3,872	4,118	4,347
Stockton	88,645	100,835	115,283	124,547	133,352	142,813	152,323
Tracy	16,360	16,939	17,825	19,246	20,575	21,996	23,389
County	48,025	49,711	55,016	58,952	62,567	66,340	69,917
Total	**195,710**	**213,956**	**240,150**	**258,497**	**275,785**	**294,359**	**312,799**

**CENSUS 2000 POPULATION COUNTS*

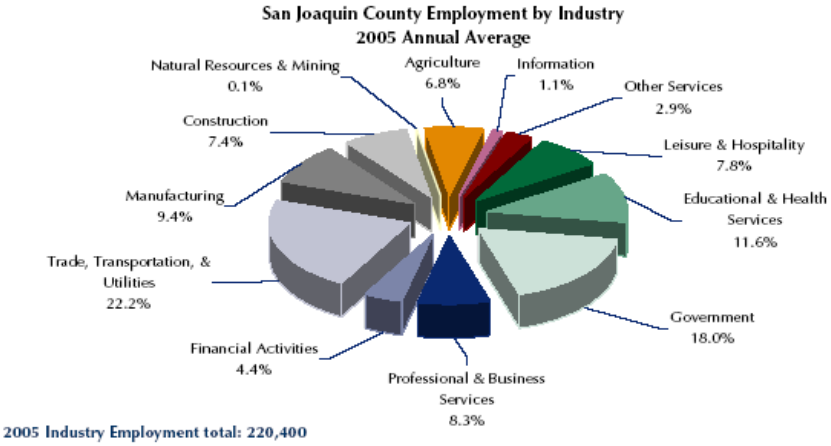
NOTE: NUMBERS REFLECT THE NUMBER OF JOBS, NOT NUMBER OF EMPLOYED RESIDENTS

SOURCE: SAN JOAQUIN COUNCIL OF GOVERNMENTS, 2009

According to the California Employment Development Department's "San Joaquin County Snapshot", industry employment in the County gained 13,600 jobs between 2001 and 2005, representing a 6.6 percent increase. The greatest growth occurred in trade, transportation, and utilities; retail trade and wholesale trade each gained 2,400 jobs. Employment during this same timeframe in educational and health services was up 3,200 jobs, with a majority of growth in health care and social assistance. Despite the loss of 800 jobs in agriculture during 2001-2005, San Joaquin County ranked seventh statewide in total value of leading commodities, including milk,

grapes, almonds, tomatoes, and cherries. Exhibit 3.6-2 below illustrates San Joaquin County Employment by Industry in 2005.

EXHIBIT 3.6-2: SAN JOAQUIN EMPLOYMENT BY INDUSTRY - 2005 ANNUAL AVERAGE



SOURCE: CALIFORNIA EMPLOYMENT DEVELOPMENT DEPARTMENT (WWW.LABORMARKETINFO.EDD.CA.GOV)

A meaningful trend is suggested by the declining ratio of San Joaquin County residents employed in San Joaquin County. The 2008 American Community Survey (US Census Bureau) indicated that only 75 percent of San Joaquin County's labor force worked in San Joaquin County, as opposed to about 83 percent in 1990. In addition, the length of the average commute increased from 22 minutes in 1990 to 29 minutes in 2000. Since a large share of the proposed growth in the local housing supply is concentrated in the southwest county, the proportion of locally employed residents may continue to drop in the short term.

3.6.2 REGULATORY SETTING

FEDERAL AND STATE

Department of Transportation Act - Section 4(f)

The Department of Transportation Act of 1966, which was previously discussed in the Biological Resources section of this EIR, is set forth in Title 49 United States Code (U.S.C.). This law established that it is the policy of the United States Government to make a special effort to preserve the natural beauty of the countryside and public parks and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation may approve a transportation program or project that requires the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of a historic site of national, state, or local significance only if: a) There is no prudent and feasible alternative to using that land; and b) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

California Department of Transportation

The jurisdiction of the California Department of Transportation (Caltrans) 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 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.

Government Code

The Government Code, including Sections 65300 through 65303.4, 65350 through 65362, 65560 through 65570, and 65880 through 65589.8 sets forth the requirements for a General Plan. Section 65302(b)(1) requires that a General Plan include a Circulation Element "consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan."

LOCAL

Local Area Formation Commission

The San Joaquin Local Agency Formation Commission (LAFCO) is a legislatively established commission responsible for coordinating logical and timely changes in local governmental boundaries, conducting special studies that review ways to reorganize, simplify, and streamline governmental structure, and preparing a sphere of influence for each city and special district within each county. LAFCO is directed to see that services are provided efficiently and economically while agricultural and open-space lands are protected.

General Plan

California state law requires each city and county to adopt a General Plan "for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning" (Government Code §65300). The California Supreme Court has called the General Plan the "constitution for future development." The General Plan expresses the community's development goals and embodies public policy relative to the distribution of future land uses, both public and private.

The policies of the General Plan are intended to underlie most land use decisions. Pursuant to state law, subdivisions, capital improvements, development agreements, and many other land use actions must be consistent with the adopted General Plan. In counties and general law cities, zoning and specific plans are also required to conform to the General Plan.

The City of Manteca has an adopted General Plan that governs the land use decisions within their respective jurisdiction. The General Plan includes the following elements: Land Use, Community Design, Circulation, Economic Development, Public Facilities and Services, Safety, Resource Conservation, Noise, Air Quality, Administration and Implementation, and Housing. Each element presents numerous goals, objectives, policies, and implementation measures that control land uses, development, population growth, and the construction and improvement of supporting infrastructure. Policies and implementation programs related to agricultural resources, air quality, biological resources, circulation, cultural resources, noise, and other environmental issues are discussed in the respective sections of this Draft EIR.

Land Use Designations

The Land Use Element establishes 16 land use categories, which are described below. The Land Use Map illustrates the designated land use categories in the City and SOI (see Figure 3.6-1).

Very Low Density Residential allows less than 2 dwelling units per gross acre) The Very Low Density Residential land use category provides for residences on larger lots and small, quasi-agricultural activities, including raising and boarding livestock.

Low Density Residential allows 2.1 to 8.0 dwelling units per gross acre. The Low Density Residential land use establishes a mix of dwelling unit types and character determined by the individual site and market conditions. The type of dwelling units anticipated in this density range include small lots and clustered lots as well as conventional large lot detached residences.

Medium Density Residential allows 8.1 to 15 dwelling units per gross acre. The Medium Density Residential land use category includes single family homes, smaller scale multi-family developments, including garden apartments, townhouses, and cluster housing. The density range accommodates small-lot single family homes that will typically be smaller in size and more affordable to residents.

High Density Residential allows 15.1 to 25 dwelling units per acre. The high density residential use includes multi-family apartment style housing. The multi-family dwelling sites are typically located with direct access to arterial streets. The sites have access to the pedestrian and bikeway network along the street corridor and are located along the conceptual route of a public transportation shuttle route. Most sites are near a neighborhood park and a neighborhood commercial center or larger commercial facility.

Commercial Mixed Use allows 15.1 to 25 dwelling units per acre for residential land uses and a floor area ratio of 1.0 and maximum site coverage of 50% for commercial and office land uses. The Commercial Mixed Use designation accommodates a variety of uses including high density residential, employment centers, retail commercial, and professional offices. The mixed use concept provides for an integration of compatible uses on a single site that include sales, services and activities which residents may need on a daily basis. With pedestrian access, these sites will enable residents to walk or bike for many local trips, instead of driving for convenience trips. Commercial Mixed Use developments in the new urbanizing areas of the city may also develop

primarily as multi-family residential, but are also intended to provide a commercial and office component designed to serve the surrounding neighborhood.

Business Industrial Park allows a floor area ratio of 1.0 and maximum site coverage of 50%. The Business Industrial Park designation is intended to provide sites for large uses in an office park environment that would include multi-tenant buildings. Business parks of this nature are well suited for research and development facilities and also provide an attractive business environment for unrelated businesses. Typical uses permitted within the Business Industrial Park land use include: administrative and general office, corporate or regional headquarters, research and development facilities, medical offices, professional services such as attorneys, accountants and insurance, and light industrial, including manufacturing and assembly. The business industrial park land use will also permit a limited amount of service commercial and retail activities provided for the convenience of the employees within the area. The goal is to provide a mix of basic services in close proximity to employees to reduce daily convenience trips.

Business-Professional allows a floor area ratio of 1.5 and maximum site coverage of 50%. The Business Professional land use is intended primarily for office and related uses in a landscaped site. The use category is specifically intended for the frontage along SR 120, and along other major roads and in the Central Business District to provide an attractive, landscaped setting for one, two and three story office buildings. This designation provides for professional and administrative offices, medical and dental clinics, laboratories, financial institutions, public and quasi-public uses, and similar and compatible uses.

Neighborhood Commercial allows a floor area ratio of 2.0 in the Central Business District (CBD) and 0.6 outside the CBD. This designation provides for locally oriented retail and service uses, offices, restaurants, and service stations, public and quasi-public uses and similar and compatible uses. The mix of uses anticipated in these centers includes supermarket/drug store configuration including associated smaller retail stores and services. Pad sites will provide restaurant and service station opportunities.

General Commercial allows a floor area ratio of 0.6 and maximum site coverage of 40%. The General Commercial category provides for wholesale, warehousing, and heavy commercial uses, highway oriented commercial retail, public and quasi-public uses, and similar and compatible uses. The designation is also intended to accommodate visitor commercial, lodging, commercial recreation and public gathering facilities, such as amphitheaters, or public gardens.

Light Industrial allows a floor area ratio of 0.7 and maximum site coverage of 60%. The Light Industrial designation provides for industrial parks, warehouses, distribution centers, light manufacturing, public and quasi-public uses and similar and compatible uses.

Heavy Industrial allows a floor area ratio of 0.5 and maximum site coverage of 40%. This designation provides for manufacturing, processing, assembling, research, wholesale, and storage uses, trucking terminals, railroad and freight stations, and similar activities that require separation

from residential uses due to noise, vibration or other characteristics incompatible with residential use.

The **Agriculture** designation provides for agricultural uses (such as vineyards, orchards, and row crops), single family homes directly related to the agricultural use of the property, limited industrial uses directly related to agriculture, and similar and compatible uses.

The **Open Space** category encompasses habitat, open space, natural areas, lands of special status species, wetlands and riparian areas. These areas are set aside as permanent open space preserves to protect environmentally sensitive areas.

The **Park** designation provides for neighborhood, community and regional parks, golf courses, and other outdoor recreational facilities within urban development. Specific uses include public recreation sites, including ball fields, tot lots and play apparatus, adult softball and soccer playing fields, swimming pools, community center buildings, meeting facilities, libraries, art centers, after school care facilities, art in public places, facilities for night-time recreation, trails benches, interpretive markers, picnic areas, barbecue facilities, landscaping, irrigation, city wells, trees and natural habitat areas.

The **Public/Quasi-Public** designation provides for government owned facilities, public and private schools, institutions, civic uses and public utilities, and quasi-public uses such as hospitals and churches.

Urban Reserve is applied to many properties around the perimeter of the City. In most instances the Urban Reserve category overlies another land use category. In these instances the underlying land use is the intended use when the land is ultimately annexed to the City. Urban Reserve with no underlying land use indicates that the City intends to expand in the time horizon beyond the current General Plan and that it is premature to indicate a specific future land use in this area. Urban Reserve is shown on the Land Use Map to the north and east of the proposed growth areas.

Land Use Policies

LU-P-1: Growth shall mitigate its own impacts and shall provide a positive benefit to the City of Manteca.

LU-P-2: Growth must contribute to a strong diversified economic base and an effective balance between employment and housing opportunities for all income levels.

LU-P-3: The City shall encourage a pattern of development that promotes the efficient and timely development of public services and facilities.

LU-P-9: The City will consider applications for annexations that:

- are contiguous with city boundaries and provide for a logical expansion of the city;
- create clear and reasonable boundaries;

• ensure the provision of adequate municipal services;

• reflect a long-term fiscal balance to the city and its residents, when reviewed cumulatively with other annexations;

• are consistent with State law and San Joaquin County Local Agency Formation Commission standards; and

• are consistent with the General Plan.

LU-P-10: The City will consider expanding its sphere of influence to incorporate areas that logically should be planned and serviced by Manteca. The City shall consider the following factors when making determinations involving sphere of influence boundaries:

• Present and planned land uses in the area;

• Present and probable need for public facilities and services in the area;

• Present capacity of public facilities and adequacy of public services; and

• Existence of any social or economic communities of interest in the area.

LU-P-11: The City shall manage the rate and type of growth in Manteca according to a growth management program that provides for an annual allocation of residential, commercial and industrial development. The growth management program shall consider the capacities of City facilities and services, and the ability of the community to assimilate new development, and fluctuations in the balance of market demand for new housing and new job development.

LU-P-15: Higher density housing shall be located in areas served by the full range of urban services, preferably along collector and arterial streets, and within walking distance of shopping areas.

LU-P-18: The City shall seek funding to undertake neighborhood improvement programs designed to stabilize and enhance the quality of existing neighborhoods. Such improvements may include, but are not limited to sidewalk upgrade and repair, street tree programs, street lighting, signage, trash collectors, bus stop shelters and benches and similar improvements to the public areas.

LU-P-21: The City shall promote the downtown as a significant pedestrian-oriented, commercial and financial center of Manteca and as the primary civic and cultural center.

LU-P-22: New commercial development serving citywide and regional shopping needs shall be located along major arterial streets.

LU-P-23: New visitor-serving commercial development shall be located in areas with easy access to freeway interchanges.

LU-P-30: The City shall promote, cooperate in, and assist in the maintenance and expansion of Manteca's industrial sector employment development within the City of Manteca and in the south

San Joaquin County area that will help reduce the home-to-work commute distance for Manteca residents.

LU-P-31: New employment centers that may include office, business-professional, research and development, and light industrial or industrial development and shall be located in areas served by full City services or served by suitable facilities approved by the City. Employment centers should be located along major arterials with easy freeway access and with access from public transit, and accessible to bicyclists and pedestrians.

LU-P-46: The City shall allow for higher density housing opportunities along major streets so as to provide residents with access to the public transit system.

LU-P-47: The City shall develop and apply standards for pedestrian circulation that enable residents to select a reasonably direct and safe pedestrian route to schools, parks, transit stops and commercial services.

LU-P-48: Storm drainage systems within new development areas should include open drainage corridors, where feasible, that would provide bike and pedestrian paths, and visual open space within neighborhoods. The pedestrian connection should link parks and open space to residential neighborhoods.

LU-P-53: The City of Manteca shall cooperate with City of Ripon in implementing the principle points of the Memorandum of Understanding regarding future land use and public services and facilities in the area between the two cities.

Zoning

The City of Manteca Zoning Code is the set of detailed requirements that implement the General Plan land use designations and policies at the individual parcel level. 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 the Zoning Code to be consistent with the jurisdiction's General Plan, except in charter cities. Figure 3.6-2 illustrates the Zoning Map for Manteca.

Specific Plans

The City of Manteca may also provide additional specificity in land use planning beyond that identified in their General Plan by developing Specific Plans for smaller, more specific areas within their jurisdiction. These more localized plans, which are often referred to as "Master Planned Communities", 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. Specific Plans are required to be consistent with the General Plan.

Regional Transportation Plan

The San Joaquin Council of Governments (SJCOG) prepares a Regional Transportation Plan (RTP) that covers the entire incorporated and unincorporated county every four years. The RTP is a long-range, 20-year minimum, comprehensive transportation plan for all modes including: highways, local streets and roads, transit, bicycle, aviation, rail and goods movement. The purpose of the RTP is to serve as a foundation for the development of the shorter "action" plans called the Regional Transportation Improvement Program (RTIP), which satisfies California transportation planning requirements, and the federal counterpart referred to as the Federal Transportation Improvement Program (FTIP) for all transportation projects that require federal approval. The RTP includes a list of funded and unfunded projects that are needed.

San Joaquin County Congestion Management Plan

Congestion management is an integral element of the region's transportation planning and programming process. It serves as a guide for implementing both near-term and long-term regional transportation improvements. For Transportation Management Areas (TMAs) that are designated as ozone or carbon monoxide non-attainment areas, the CMP takes on a greater significance. Federal guidelines prohibit projects that increase capacity for single occupant vehicles unless the project results from a congestion management process. The SJCOG has developed the CMP for San Joaquin County in coordination with the local jurisdictions, including Manteca.

San Joaquin County Regional Blueprint Process

The primary purpose of San Joaquin County Regional Blueprint is to establish a coordinated long-range (year 2050) regional vision between transportation, land use, and the environment from an overall quality of life perspective. As a vision, the Blueprint recognizes that economic, environmental, and social issues are interdependent and only integrated approaches will effect needed changes. The location of jobs, housing, and commerce affects the transportation system, the nature of the transportation system affects air quality, and air quality affects health outcomes.

Below are the three key products developed during the Blueprint process.

REGIONAL VISION STATEMENT

Creative community planning, combined with a shared regional vision, will result in a superior quality of life for all San Joaquin County residents, now and as we move forward. Sustainability in action as well as in vision will ensure this quality of life for future generations.

GUIDING PRINCIPLES

The San Joaquin County Regional Blueprint Guiding Principles were developed based, primarily, on citizen-identified visions, values, and aspirations for San Joaquin County from the Phase I workshops. In turn, the Blueprint Guiding Principles provided the foundation upon which the Phase II Blueprint Vision choices were built.

1. Sustainable Planning & Growth
2. Housing Choices
3. Transportation & Mobility Options
4. Farming & Agriculture
5. Preservation of the Environment
6. Economic Development
7. Education & Workforce Development
8. Cultural Richness & Unique Attractions

PREFERRED 2050 REGIONAL BLUEPRINT SCENARIO

The preferred Blueprint scenario was created for the County of San Joaquin utilizing the planning themes of Choice 3, while trying to maximize economic development potential and investments in other forms of travel modes outside single occupancy vehicle. The preferred scenario includes the following planning themes:

- Moderate mix of land uses in new areas; expanded housing options.
- Best air quality.
- Least amount of traffic congestion.
- Moderate decrease in average residential lot size.
- Higher increase in public transit usage.
- Moderate decrease in residential water and energy use.
- Higher increase in acres available for agricultural use.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on land use and planning and population and housing if it will:

- 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;
- Conflict with any applicable habitat conservation plan or natural community conservation plan;
- 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);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or

- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: Physical Division of an Established Community (less than significant with mitigation)

The purpose of the proposed project is to provide an efficient multi-modal transportation system in Manteca that improves the existing deficiencies and accommodates the approved General Plan growth. The majority of individual projects would involve transportation system improvements to existing facilities, which would mostly occur within or in close proximity to existing rights-of-way. Some individual projects will involve new facilities that will occur within or adjacent to existing communities. New facilities may include roadway widening, roadway extensions, bicycle lanes, bicycle/pedestrian paths, bridges, interchanges, and park-n-ride lots. The proposed project is intended to provide Manteca with a complete transportation system that has a broader level of safe transportation choices for the citizens. A complete transportation system with more safe choices and better linkages provides an enhancement to the quality of life within the community.

In many cases, improvements to facilities will occur where communities are already physically divided by existing facilities, including existing highways, roadways, intersections, interchanges, and transit routes. The proposed project is intended to improve connectivity and create new or improved land use linkages. New roadway facilities shown on the Major Street Master Plan (Figure 2.0-3) are generally located in agricultural, undeveloped, and/or rural areas and would not divide existing communities. There are specific projects, such as multimodal stations, and interchange improvements that may be developed within or adjacent to existing communities, although these types of facilities are generally designed with the intent to link two or more existing communities. Additionally, these projects are designed with bike/pedestrian access or crossings such that a physical barrier is not created.

Because the proposed project is a planning document and thus, no physical changes will occur to the environment, adoption of the proposed project would not directly impact the environment. It is assumed that individual projects that affect roads and interchanges present the greatest potential for impacts regarding the division of an established community. The project proposes policies that would ensure that neighborhoods and communities are provided with adequate access, including Policies C-P-10 and C-P-11 which would ensure adequate bicycle and pedestrian access between neighborhoods and Policy C-P-8 which requires that the street system be expanded in a contiguous and concentric manner to serve new development areas and to provide improved circulation for existing residents.. The following mitigation measure would ensure that all individual projects are designed to maintain the cohesiveness of the existing communities to the greatest extent feasible. Where full design mitigation is not feasible, measures would be incorporated into the design to minimize the impacts associated with project implementation.

Adherence to the requirements of this mitigation measure would reduce the potential for a direct impact on existing communities to a ***less than significant*** level.

MITIGATION MEASURES

Mitigation Measure 3.6.1: *Prior to approval of individual projects, the City of Manteca shall review the proposed design to ensure that the project will not physically divide the community. The consultation should include a more detailed project-level analysis of land uses adjacent to proposed improvements to identify specific impacts. The analysis should consider new road widths and specific project locations in relation to existing roads. If it is determined that a project could physically divide a community, the City of Manteca shall redesign the project to avoid the impact, if feasible. The measures could include realignment of the improvements to avoid the affected community. Where avoidance is not feasible, the City of Manteca shall incorporate minimization measures to reduce the impact. The measures could include: alignment modifications, right-of-way reductions, provisions for bicycle, pedestrian, and vehicle facilities, and enhanced landscaping and architecture.*

Impact 3.6-2: Conflicts with Applicable Land Use Plan, Policy, or Regulation Adopted to Avoid or Mitigate an Environmental Effect (less than significant with mitigation)

General Plan: The City of Manteca has an adopted General Plan to guide land use and development decisions, including circulation patterns and improvements. The proposed project is an element of the General Plan and includes individual improvements that address safety and rehabilitation issues necessary to maintain the existing transportation system, as well as accommodate anticipated levels of growth associated with the adopted General Plan. The proposed project is also intended to enhance mobility primarily within Manteca, and provide connectivity between Manteca and its neighboring jurisdictions (i.e. Ripon, Lathrop, Stockton, San Joaquin County). The proposed project has been developed to be consistent with the Land Use Map as well as the goals, policies, and programs of the other General Plan elements. The proposed project would accommodate growth envisioned by the Land Use Map and would assist the City in achieving its economic development, land use, community design, and air quality goals in a manner consistent with the General Plan as a whole. The proposed project does not conflict with the General Plan.

Regional Transportation Plan and Congestion Management Plan: The SJCOG serves as the regional agency responsible for preparing the RTP and the CMP. The RTP is a planning framework that reflects current priorities and practices at the regional, State, and federal levels and provides guidance to policy makers as they make decisions impacting the region's transportation system. It is intended to produce a more coordinated and comprehensive transportation system that effectively and efficiently utilizes the region's resources to the benefit of the region's citizens. The CMP serves as a guide for implementing both near-term and long-term regional transportation

improvements. The primary product that relates to the Circulation Element is the project inventory list for the RTP.

The following roadways located within the Manteca city limits are monitored as part of the CMP: Yosemite Avenue, Airport Way, Lathrop Road, and State Routes 99 and 120 (and McKinley Avenue once constructed). If these roadway segments become deficient the City of Manteca is required to provide a Deficiency Plan to address the deficiency. The proposed project includes level of service standards that would allow a roadway to become deficient under certain circumstances. This "planned" deficiency would require a Deficiency Plan to justify the deficiency. The Deficiency Plan could be one of two types (Direct-fix and System-wide).

San Joaquin County Regional Blueprint: The primary purpose of San Joaquin County Regional Blueprint is to establish a coordinated long-range (year 2050) regional vision between transportation, land use, and the environment from an overall quality of life perspective. As a vision, the Blueprint recognizes that economic, environmental, and social issues are interdependent and only integrated approaches will effect needed changes. The location of jobs, housing, and commerce affects the transportation system, the nature of the transportation system affects air quality, and air quality affects health outcomes. The overall result of the Regional Blueprint is the establishment of a foundation to begin preparing a Sustainable Communities Strategy for the region, and for individual jurisdictions to begin incorporating the Vision, Guiding Principles, Preferred 2050 Regional Blueprint Scenario, and Performance Measures & Indicators into their local planning efforts. The project incorporates sustainability strategies and encourages alternative modes of transportation, consistent with the principles of the Regional Blueprint.

Sustainable Communities Strategy: Transportation planning efforts are generally the result of land use planning decisions; however, they also have the potential to influence land use planning decisions. SB 375 was passed in an effort to coordinate land use and transportation planning on a regional level. This law also allows the SJCOG to incentivize land use decisions that demonstrate reductions in vehicle miles traveled (VMT) and total vehicle miles; greenhouse gas emissions; conventional and toxic air pollutant emissions; long distance commute trips; and other such factors.

SJCOG is required by law to prepare a Sustainable Communities Strategy (SCS) for San Joaquin County in compliance with SB 375. This effort will require SJCOG to coordinate regional land use and transportation planning scenarios with the local jurisdictions, including Manteca. The regional scenarios will reflect different population distributions and land use (mix and density), and multimodal transportation strategies, utilizing a regional travel demand model in coordination with a rapid fire tool similar to I-Places. Scenarios will be developed to identify the alternatives that demonstrate reductions in vehicle miles traveled (VMT) and total vehicle miles; greenhouse gas emissions; conventional and toxic air pollutant emissions; long distance commute trips; and other such factors that are consistent with state and federal law. Upon completion of the SCS, the local jurisdictions, including Manteca, will be incentivized to plan and develop their communities in harmony with the SCS, although it will be at the discretion of the local jurisdiction.

Discussion: Each individual subsequent project will be evaluated by the City of Manteca on a project-specific level during the design and engineering stage of the process. Additionally, each individual project will be reviewed for conformance with the General Plan, Regional Transportation Plan, Congestion Management Plan, Blueprint, and the SCS (once it is approved). Projects will be designed to be compatible with existing land uses and policies. If an individual project requires any changes in land uses as a result of investments in alternative modes of transportation (i.e. grants from Measure K Smart Growth Incentive Program, SCS incentives, etc.), such as a desire for higher densities or land use mixes that emphasize transit use over single-occupancy vehicle use, an amendment to the General Plan and Zoning Code would be prepared and considered by the City of Manteca prior to approval.

The proposed project is intended to accommodate growth envisioned by the General Plan by providing multimodal circulation infrastructure necessary for orderly growth. The proposed project includes policies that ensure consistency with local plans and regulations and a conformance review of individual projects will ensure consistency with adopted policies and regulations. The proposed project would not result in significant conflicts with plans, policies, and regulations adopted to mitigate an environmental effect. The following mitigation measure will reduce the potential for conflicts with local plans and regulations. Adherence to the requirements of these mitigation measures would reduce the potential for an direct and indirect impacts to a ***less than significant*** level.

Mitigation Measure 3.6-2: *The City of Manteca shall have continued coordination with SJCOG during the development and implementation of the Regional Congestion Management Plan (CMP) to provide a consistent and coordinated approach for responding to congestion on CMP monitored roadways in Manteca through the investment in roadway capacity increasing measures once all reasonable non-capacity measures have been employed. The coordination efforts should include:*

- *Adherence to the SJCOG's level of service standard for all regional CMP roadway facilities, or in the case of "planned" level of service deficiencies approved by the City of Manteca, provide SJCOG with a Deficiency Plan to address the deficiency.*
- *Adherence to the SJCOG's standards for the frequency and routing of public transit.*
- *Adherence to the SJCOG programs and policies that are designed to reduce automobile trip generation from newly developed residential and employment centers.*
- *Adherence to the SJCOG programs and policies that are designed to reduce automobile trip generation from newly developed residential and employment centers.*
- *Adherence to the SJCOG's trip reduction and travel demand programs that promotes alternative transportation modes.*

- *Provide SJCOG with the opportunity to review all development proposals so that they can comment on their regional impact and appropriate mitigation to address impacts to the regional transportation system.*

Mitigation Measure 3.6-3: *The City of Manteca shall coordinate with SJCOG during the development of the Sustainable Communities Strategy (SCS) for San Joaquin County in compliance with SB 375. This effort will require coordination of Manteca's land use and transportation planning efforts to ensure that SJCOG's regional planning efforts complement each other. This will involve SJCOG's development of a countywide land use scenarios that reflects different population distributions and land use (mix and density), and multimodal transportation strategies, utilizing the SJCOG regional travel demand model in coordination with a rapid fire tool similar to I-Places. Scenarios will be developed to identify the alternatives that demonstrate potential reductions in vehicle miles traveled (VMT) and total vehicle miles; GHG, conventional and toxic air pollutant emissions; long distance commute trips; and other such factors that are consistent with state and federal law. Upon completion of the SCS, the City of Manteca shall present the land use and transportation development scenario to the Manteca City Council for consideration.*

Impact 3.6-3: Conflicts with Any Applicable Habitat Conservation Plan or Natural Community Conservation Plan (less than significant with mitigation)

The individual projects are subject to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The individual projects will be reviewed by a Technical Advisory Committee (TAC) to ensure that the biological impacts are within the parameters established by the SJMSCP and the Biological Opinion. If the TAC confirms that the individual project is consistent with the SJMSCP, they will recommend to the Joint Powers Authority that the project receive coverage under the SJMSCP. If the project is determined to be inconsistent with the SJMSCP, then the project would need to be modified for consistency prior to a coverage determination by the TAC. The individual projects will be reviewed for the following:

- Coverage for the proposed project is consistent with the overall SJMSCP biological intent and conservation program.
- Coverage for the proposed project is consistent with the SJMSCP Biological Opinion.
- Biological impacts and Incidental Take associated with the proposed project are within the scope of the environmental analyses adopted in conjunction with the SJMSCP.
- The project does not introduce significant new biological conditions into the Plan Area (i.e., impacts of the proposed project are less than or equal to those described in the SJMSCP and its supporting environmental documents).
- The project acres have been analyzed based on habitat type (e.g., Natural Land, Agricultural Habitat Land or Multi-Purpose Open Space Land) and sufficient take acres remain for each habitat type to allow coverage of the proposed project as permitted under the SJMSCP.
- The project is adjacent to existing city limits; or

- The project is not one of the projects specifically exempted from SJMSCP Coverage as identified in the SJMSCP.
- The project does not disrupt a corridor used by the giant garter snake, riparian brush rabbit, riparian woo drat, the San Joaquin kit fox or fisheries as indentified in the SJMSCP.
- The project does not interfere with the San Joaquin River Wildlife Corridor.
- The project does not include installation of a linear barrier to species dispersal as defined in the SJMSCP.

The individual projects will require a recommendation for coverage by the SJMSCP Technical Advisory Committee and an approval of coverage by the SJMSCP Joint Powers Authority prior to any activities, unless it is determined to be exempt. An approval of coverage by the Joint Powers Authority, issuance of Incidental Take Minimization Measures by the SJCOG, and implementation of previously presented mitigation measures would ensure that this impact is reduced to a ***less than significant*** level.

MITIGATION MEASURES

Implement Mitigation Measure 3.3-1. (This mitigation measure is presented in Section 3.3 Biological Resources).

Impact 3.6-4: Induce Substantial Population Growth in an Area (less than significant with mitigation)

Given the historical and current population, housing, and employment trends, growth in the City of Manteca, as well as the entire the region, is inevitable. Two principle factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the Country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and also, transportation.

The proposed project is a transportation plan that is designed to accommodate anticipated levels of growth within the City of Manteca. The proposed project does not involve approvals associated with any development projects, and does not provide infrastructure that could directly facilitate additional development in the region that is not already planned for in the approved General Plan and accommodated under the adopted Circulation Element. The proposed project does not directly induce growth beyond the growth that is planned or being planned by the City of Manteca, or its neighboring jurisdictions.

Transportation projects can have an indirect impact on the type growth that occurs within a community. For example, investments in alternative modes of transportation may indirectly lead to a desire for land use developments with higher densities, a mix of land uses and an emphasis on transit use over single-occupancy vehicle use, while investments in capacity increasing roadway improvements may indirectly lead to land use developments that have been historically typical in San Joaquin County such as suburban development with low densities.

As previously discussed, SJCOG's regional transportation planning efforts includes policy incentives for the local land use agencies, including the City of Manteca, to utilize Smart Growth principles in the development of land use projects. The implementation of Smart Growth principles by the City of Manteca may have a range of beneficial impacts to the transportation system including, but not limited to, reduced vehicle miles traveled per capita, reduced vehicle hours of delay and congestion on area roadways, increased use of alternative modes of transportation, improvements to air quality and public health, and the provision of a range of housing types affordable to low-income households, all while accommodating projected growth. The proposed project is largely reflective of smart growth principals within Manteca and will likely qualify for funding for transportation projects under SJCOG's Measure K Smart Growth Incentive Program.

Mitigation measures that were previously presented will require Manteca to coordinate with SJCOG during the development of a Sustainable Communities Strategy in accordance with SB 375. In addition, the following mitigation measure will require Manteca to coordinate with SJCOG to secure funds for transportation projects through the Measure K Smart Growth Incentive Program. These measures will reduce the potential for growth inducement to a ***less than significant*** level.

Mitigation Measure 3.6-4: *The City of Manteca shall coordinate with SJCOG to secure funds for transportation projects through the Measure K Smart Growth Incentive Program. The program seeks the following:*

- *A minimum of $65 million in state and federal transportation funding or Measure K funding will be made available for smart growth incentives to local jurisdictions in San Joaquin County. These funds will be made available for infrastructure improvements and planning grants that will assist local agencies in better integrating transportation and land use, such as street calming, walkable community projects, transit amenities and alternative modes of transportation. These funds will be available to enhance infill development, neighborhood revitalization and downtown improvements.*

- *The program promotes infill development in walkable areas thereby increasing living and transportation choices while reducing reliance on automobiles, and to reward jurisdictions that approve new housing and mixed-use development in urban locations near transit hubs. Projects to serve cities currently not served by high-frequency transit service that are creating conditions that would allow for increased transit service, encourage livable communities, support mixed use development, and/or support infill and redevelopment of downtown areas are eligible. In high frequency transit areas eligible projects must be within walking distance of transit hubs (station, transit center, bus stops serving two or more routes). Investments in transit hubs themselves are eligible.*

- *This program aims to capitalize on public investments in transportation infrastructure, help rebuild and revitalize town centers and main streets, promote infill development, create more walkable communities, encourage transit use, and address regional housing needs. When allocating dollars for housing projects a minimum overall density of 10 units per acre*

with bonus points for higher densities and affordable housing will be used. Mixed use developments must have an average of 12 units per acre and be at least 50% housing.

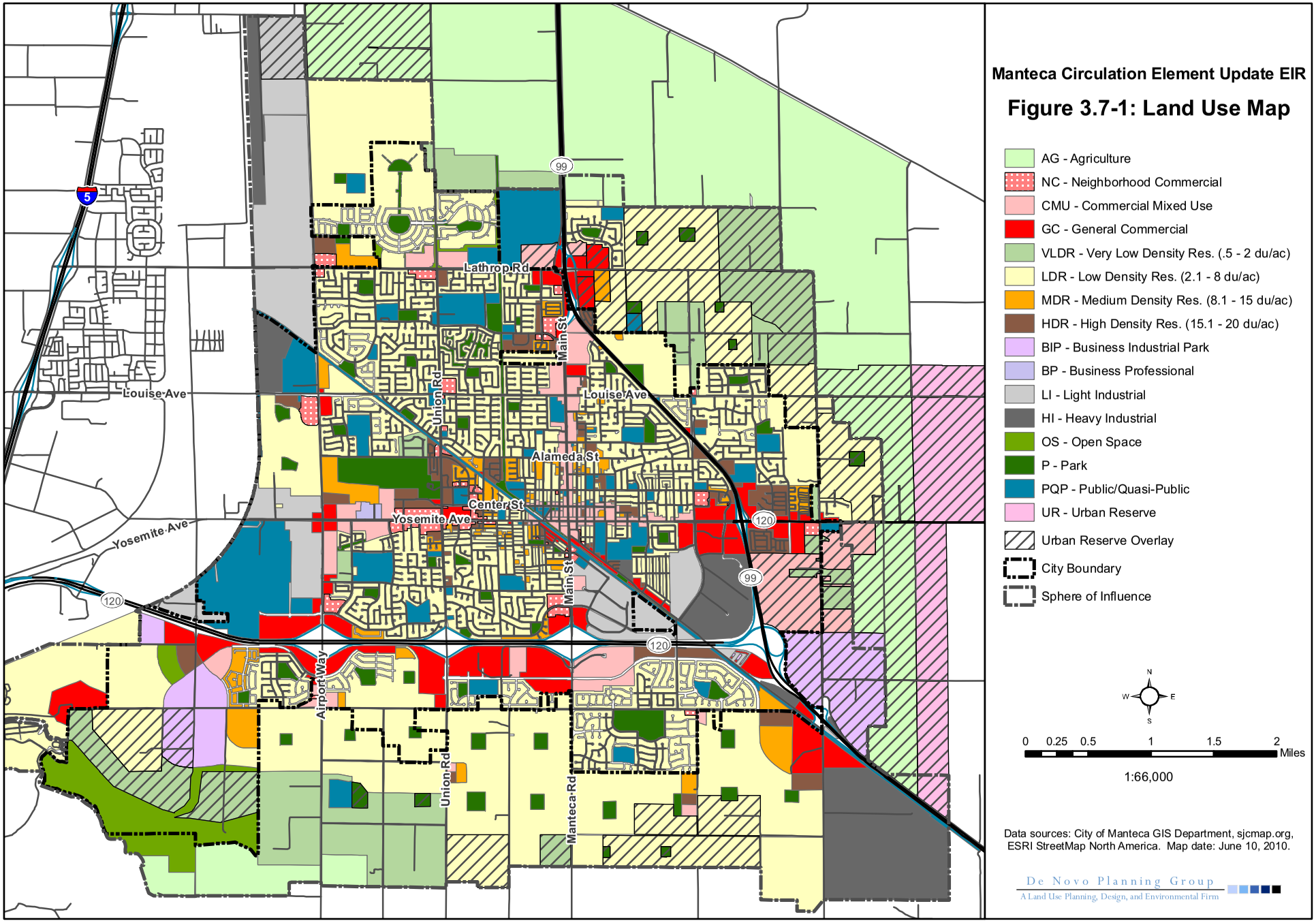
Impact 3.6-5: Displace Substantial Numbers of People or Existing Housing, Necessitating the Construction of Replacement Housing Elsewhere (less than significant)

The proposed project would not, in and of itself, displace substantial numbers of housing units or people. The majority of the individual projects involve work within or adjacent to existing rights-of-way and would not involve acquisition of land and displacement of substantial numbers of persons or housing. This is true of most roadway widening projects, modifications to interchanges, and new railroad undercrossings and overcrossings. These transportation projects will generally not require the displacement of any residences or businesses since the right-of-way has already been acquired.

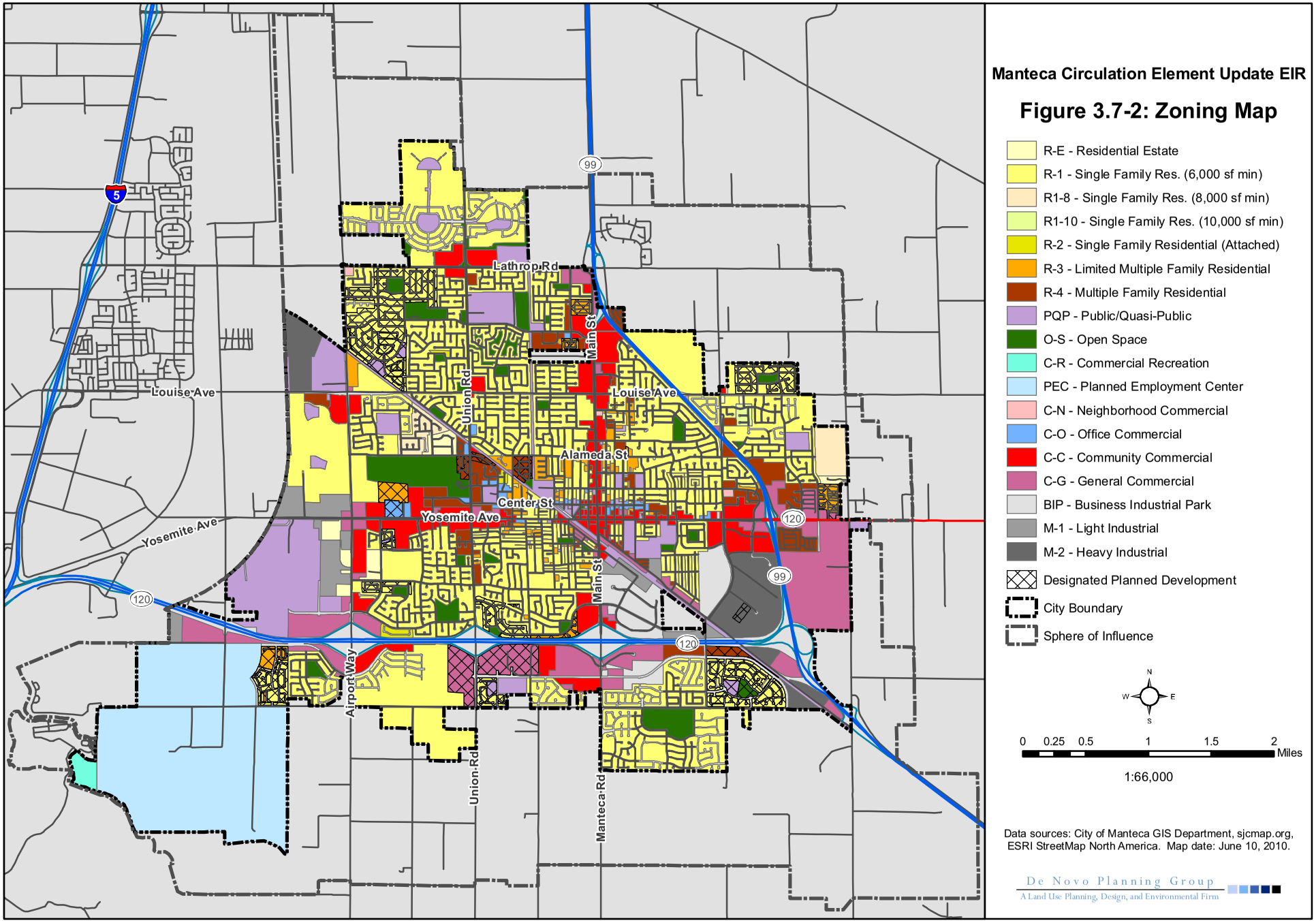
Some of transportation projects (i.e. new highway/street segments, interchanges, park-and-ride lots, multi-modal stations, and airport taxiways improvements) may involve land acquisition. While most of the additional right-of-way acquisition is anticipated to be vacant or undeveloped land, at a few isolated urban locations the land necessary for the improvement may include existing residential units or businesses. This is anticipated to be rare and involve a limited number of residences or businesses and will not impact a significant number of households.

State and federal law require due compensation for property taken to carry out the infrastructure projects. Also required by law, relocation and assistance must be provided to displaced residents and businesses in accordance with the Federal Uniform Relocation and Real Property Acquisition Policies Act of 1970 and the State of California Relocation Assistance Act.

As noted above, individual projects such as new highways, major throughway corridors, rail corridors, airports, or other major transportation corridors would not result in displacement or relocation of a substantial number of homes, businesses, or people. Growth planned in the approved General Plan would result in additional housing opportunities and would more than offset any units removed in association with individual projects. Therefore, impacts related to a substantial displacement of housing units or persons as a result of the proposed project are ***less than significant***. No mitigation measures are necessary.


Manteca Circulation Element Update EIR
Figure 3.7-1: Land Use Map
AG - Agriculture
NC - Neighborhood Commercial
CMU - Commercial Mixed Use
GC - General Commercial
VLDR - Very Low Density Res. (.5 - 2 du/ac)
LDR - Low Density Res. (2.1 - 8 du/ac)
MDR - Medium Density Res. (8.1 - 15 du/ac)
HDR - High Density Res. (15.1 - 20 du/ac)
BIP - Business Industrial Park
BP - Business Professional
LI - Light Industrial
HI - Heavy Industrial
OS - Open Space
P - Park
PQP - Public/Quasi-Public
UR - Urban Reserve
Urban Reserve Overlay
City Boundary
Sphere of Influence
N
W
E
S
0 0.25 0.5 1 1.5 2 Miles
1:66,000
Data sources: City of Manteca GIS Department, sjcmap.org, ESRI StreetMap North America. Map date: June 10, 2010.
De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm
5
99
120
Lathrop Rd
Louise Ave
Union Rd
Main St
Alameda St
Center St
Yosemite Ave
Airport Way
Manteca Rd

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Manteca Circulation Element Update EIR
Figure 3.7-2: Zoning Map
R-E - Residential Estate
R-1 - Single Family Res. (6,000 sf min)
R1-8 - Single Family Res. (8,000 sf min)
R1-10 - Single Family Res. (10,000 sf min)
R-2 - Single Family Residential (Attached)
R-3 - Limited Multiple Family Residential
R-4 - Multiple Family Residential
PQP - Public/Quasi-Public
O-S - Open Space
C-R - Commercial Recreation
PEC - Planned Employment Center
C-N - Neighborhood Commercial
C-O - Office Commercial
C-C - Community Commercial
C-G - General Commercial
BIP - Business Industrial Park
M-1 - Light Industrial
M-2 - Heavy Industrial
Designated Planned Development
City Boundary
Sphere of Influence
N
W
E
S
0 0.25 0.5 1 1.5 2 Miles
1:66,000
Data sources: City of Manteca GIS Department, sjcmap.org, ESRI StreetMap North America. Map date: June 10, 2010.
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Lathrop Rd
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Alameda St
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Yosemite Ave
Airport Way
Manteca Rd

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This section provides a discussion of the regulatory setting, a general description of existing noise sources in the City of Manteca, and a discussion of the impacts and mitigation measures associated with implementation of the City of Manteca Circulation Element Update. The analysis in this section was prepared with assistance from j.c. brennan & associates, Inc. The technical data in support of this EIR section is presented in the appendix.

3.7.1 ENVIRONMENTAL SETTING

ACOUSTIC FUNDAMENTALS

Noise is generally defined as sound that is loud, disagreeable, or unexpected. Sound is mechanical energy transmitted in the form of a wave because of a disturbance or vibration. Sound levels are described in terms of both amplitude and frequency.

Amplitude

Amplitude is defined as the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude is measured in decibels (dB) on a logarithmic scale. For example, a 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). Amplitude is interpreted by the ear as corresponding to different degrees of loudness. Laboratory measurements correlate a 10 dB increase in amplitude with a perceived doubling of loudness and establish a 3 dB change in amplitude as the minimum audible difference perceptible to the average person.

Frequency

The frequency of a sound is defined as the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz (Hz). One Hz equals one cycle per second. The human ear is not equally sensitive to sound of different frequencies. For instance, the human ear is more sensitive to sound in the higher portion of this range than in the lower and sound waves below 16 Hz or above 20,000 Hz cannot be heard at all. To approximate the sensitivity of the human ear to changes in frequency, environmental sound is usually measured in what is referred to as "A-weighted decibels" (dBA). On this scale, the normal range of human hearing extends from about 10 dBA to about 140 dBA. Common community noise sources and associated noise levels, in dBA, are depicted in Figure 3.7-1.

Addition of Decibels

Because decibels are logarithmic units, sound levels cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces a sound level of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together would produce an increase of 5 dB.

Sound Propagation & Attenuation

GEOMETRIC SPREADING

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level decreases (attenuates) at a rate of approximately 6 decibels for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path, and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, depending on ground surface characteristics. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water,), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between a line source and the receiver, such as soft dirt, grass, or scattered bushes and trees), an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation for soft surfaces results in an overall attenuation rate of 4.5 dB per doubling of distance from a line source.

ATMOSPHERIC EFFECTS

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) from the highway due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

SHIELDING BY NATURAL OR HUMAN-MADE FEATURES

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in minimum 5 dB of noise reduction. Taller barriers provide increased noise reduction.

Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the sound-pressure level in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz, and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of

individual frequency bands are weighted, depending on the human sensitivity to those frequencies, which is referred to as the "A-weighted" sound level (dBA). The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-weighted noise scale. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-, C-, and D-scales), but these scales are rarely used in conjunction with environmental noise.

The intensity of environmental noise fluctuates over time, and several descriptors of time-averaged noise levels are typically used. For the evaluation of environmental noise, the most commonly used descriptors are L_{eq}, L_{dn}, CNEL and SEL. The energy-equivalent noise level, L_{eq}, is a measure of the average energy content (intensity) of noise over any given period. Many communities use 24-hour descriptors of noise levels to regulate noise. The day-night average noise level, L_{dn}, is the 24-hour average of the noise intensity, with a 10-dBA "penalty" added for nighttime noise (10 p.m. to 7 a.m.) to account for the greater sensitivity to noise during this period. CNEL, the community equivalent noise level, is similar to L_{dn} but adds an additional 5-dBA penalty for evening noise (7 p.m. to 10 p.m.). Another descriptor that is commonly discussed is the single-event noise exposure level, also referred to as the sound-exposure level, expressed as SEL. The SEL describes a receiver's cumulative noise exposure from a single noise event, which is defined as an acoustical event of short duration (0.5 second), such as a backup beeper, the sound of an airplane traveling overhead, or a train whistle. Common noise level descriptors are summarized in **Table 3.7-1**.

TABLE 3.7-1: COMMON ACOUSTICAL DESCRIPTORS

DESCRIPTOR	DEFINITION
Energy Equivalent Noise Level (L_{eq})	The energy mean (average) noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value (in dBA) is calculated.
Minimum Noise Level (L_{min})	The minimum instantaneous noise level during a specific period of time.
Maximum Noise Level (L_{max})	The maximum instantaneous noise level during a specific period of time.
Day-Night Average Noise Level (DNL or L_{dn})	The DNL was first recommended by the U.S. EPA in 1974 as a "simple, uniform and appropriate way" of measuring long term environmental noise. DNL takes into account both the frequency of occurrence and duration of all noise events during a 24-hour period with a 10 dBA "penalty" for noise events that occur between the more noise-sensitive hours of 10:00 p.m. and 7:00 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours to account for increases sensitivity to noise during these hours.
Community Noise Equivalent Level (CNEL)	The CNEL is similar to the Ldn described above, but with an additional 5 dBA "penalty" added to noise events that occur between the hours of 7:00 p.m. to 10:00 p.m. The calculated CNEL is typically approximately 0.5 dBA higher than the calculated Ldn.
Single Event Level (SEL)	The level of sound accumulated over a given time interval or event. Technically, the sound exposure level is the level of the time-integrated mean square A-weighted sound for a stated time interval or event, with a reference time of one second.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological 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, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases. The acceptability of noise and the threat to public well-being are the basis for land use planning policies preventing exposure to excessive community noise levels.

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and habituation to noise over differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted: the so-called "ambient" environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged. Regarding increases in A-weighted noise levels, knowledge of the following relationships will be helpful in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans;
- Outside of the laboratory, a 3-dB change is considered a just-perceivable difference;
- A change in level of at least 5 dB is required before any noticeable change in community response would be expected. An increase of 5 dB is typically considered substantial;
- A 10-dB change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

SENSITIVE RECEPTORS

Noise-sensitive land uses generally include those uses where exposure to noise would result in adverse effects, as well as, uses where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other noise-sensitive land uses include hospitals, convalescent facilities, parks, hotels, places of worship, libraries, and other uses where low interior noise levels are essential.

MAJOR NOISE SOURCES IN THE CITY OF MANTECA

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. Major transportation and non-transportation noise sources in the City of Manteca are discussed in more detail below.

Transportation Noise Sources

ROADWAY TRAFFIC

There are a number of major transportation noise sources within the City of Manteca including traffic and railroad noise sources. Major roadways include Interstate 5 and State Routes 99 and 120. Other major arterials and collector roadways that also contribute to the ambient noise environment include portions of Lathrop Road, Yosemite Avenue, Louse Avenue, Airport Road, Union Road, Main Street, Austin Road, and Jack Tone Road. Generally, traffic noise levels peak during the morning and evening commute periods. Major highways will generally create the most substantial amount of noise as the traffic volumes, truck volumes, and speeds are much higher when compared to other roadways.

The FHWA Highway Traffic Noise Prediction model (FHWA-RD-77-108) was used to predict traffic noise levels along major area roadways. The FHWA modeling was based upon the CALVENO noise emission factors for automobiles and medium and heavy-duty trucks. Input data used in the model included average-daily traffic volumes, day/night percentages of automobiles and medium and heavy trucks, vehicle speeds, ground attenuation factors, and roadway widths. Traffic volumes obtained from the project traffic study.

Vehicle distribution percentages were based on traffic data obtained during the site reconnaissance, as well as heavy-duty truck distribution percentages for major highways obtained from the California Department of Transportation (Caltrans 2007).

Predicted traffic noise levels for major roadway segments, including distances to the predicted existing 60, 65, and 70-dBA L_{dn}/CNEL noise contours, are summarized in **Table 3.7-2**. Predicted noise contours are approximate and do not take into account shielding or reflection of noise due to intervening terrain or structures. As a result, predicted noise contours should be considered to represent bands of similar noise exposure along roadway segments, rather than absolute lines of demarcation. Although these predicted noise contours are not considered site-specific, they are useful for determining potential land-use conflicts.

TABLE 3.7-2: EXISTING (YEAR 2010) TRAFFIC NOISE LEVELS

ROADWAY	*SEGMENT*	L_{DN}/CNEL *AT 100 FEET FROM CENTERLINE*	*DISTANCE TO TRAFFIC NOISE CONTOURS (FEET)*		
			70 dBA L_{DN}/CNEL	*65* dBA L_{DN}/CNEL	*60* dBA L_{DN}/CNEL
Interstate 5	N. of Roth Rd	81.1	548	1181	2543
Interstate 5	Roth to Lathrop Road	81.1	548	1181	2543
Interstate 5	Lathrop to Louise	81.3	563	1213	2614
Interstate 5	Louise to SR 120	81.3	563	1213	2614
Interstate 5	South of SR 120	83.1	744	1604	3455
SR 120	I5 to Yosemite	77.0	292	629	1355
SR 120	Yosemite to Airport	76.1	255	550	1185
SR 120	Airport to Union	76.0	250	538	1160
SR 120	Union to Main	76.0	250	538	1160
SR 120	Main to SR 99	76.6	274	590	1271
SR 99	N. of Lathrop	78.0	340	733	1580
SR 99	Lathrop to Yosemite	77.9	337	726	1565
SR 99	Yosemite to SR 120	78.9	392	844	1819
SR 99	SR 120 to Jack Tone	80.2	480	1035	2230
Roth Road	I5 to Airport	62.7	33	70	151
Lathrop Road	I5 to McKinley	65.7	52	111	240
Lathrop Road	McKinley to Airport	64.5	43	92	199
Lathrop Road	Airport to Union	63.7	38	82	176
Lathrop Road	Union to Main	64.9	46	98	211
Lathrop Road	Main to Cottage	57.5	15	32	68
Louise Ave.	I5 to McKinley	65.6	51	110	237
Louise Ave.	McKinley to Airport	63.6	37	81	174
Louise Ave.	Airport to Union	63.4	36	79	169
Louise Ave.	Union to Main	63.2	35	76	163
Louise Ave.	Main to Cottage	62.1	30	64	138
Louise Ave.	Cottage to Austin	59.8	21	45	97
Yosemite Ave.	SR 120 to McKinley	62.5	32	69	148
Yosemite Ave.	McKinley to Airport	64.3	42	89	193
Yosemite Ave.	Airport to Union	66.4	58	124	268
Yosemite Ave.	Union to Main	65.0	46	100	215
Yosemite Ave.	Main to Cottage	63.5	37	79	170
Yosemite Ave.	Cottage to Austin	68.9	85	182	393
Yosemite Ave.	Austin to Jack Tone	68.8	83	179	387
Woodward Ave.	McKinley to Airport	57.8	15	33	71
Woodward Ave.	Airport to Union	57.8	15	33	71
Woodward Ave.	Union to Main	59.4	20	42	91
Woodward Ave.	Main to Moffat	61.7	28	60	129
Ripon Road	West of Austin	62.7	33	70	152
Ripon Road	East of Austin	62.7	33	70	152
McKinley Ave.	SR 120 to Woodward	53.6	8	17	37
Airport Way	Roth to Lathrop Road	61.7	28	60	129
Airport Way	Lathrop to Louise	63.0	34	73	157
Airport Way	Louise to Yosemite	63.0	34	73	157

ROADWAY	*SEGMENT*	L_{DN}/CNEL *AT 100 FEET FROM CENTERLINE*	*DISTANCE TO TRAFFIC NOISE CONTOURS (FEET)*		
			70 dBA L_{DN}/CNEL	*65* dBA L_{DN}/CNEL	*60* dBA L_{DN}/CNEL
Airport Way	Yosemite to SR 120	64.9	46	99	214
Airport Way	SR 120 to Woodward	61.4	27	57	124
Union Road	N. of Lathrop	64.3	41	89	192
Union Road	Lathrop to Louise	65.6	51	110	236
Union Road	Louise to Yosemite	65.6	51	110	236
Union Road	Yosemite to SR 120	65.8	52	112	242
Union Road	SR 120 to Woodward	59.2	19	41	88
Union Road	South of Woodward	58.8	18	39	83
Main Street	SR 99 to Louise	64.6	44	95	204
Main Street	Louise to Yosemite	62.4	31	67	145
Main Street	Yosemite to SR 120	64.9	45	98	211
Main Street	SR 120 to Woodward	62.7	33	71	152
Cottage	N. of Louise	57.9	16	34	72
Cottage	Louise to Yosemite	61.4	27	58	124
Spreckles	Yosemite to Moffat	60.1	22	47	101
Austin	Louise to Yosemite	57.8	15	33	71
Austin	Yosemite to SR 99	59.2	19	41	88
Austin	SR 99 to Sedan	60.7	24	52	111
Austin	Sedan to Ripon	57.8	15	33	71
Jack Tone	SR 99 to Ripon	65.1	47	102	220

RAILROADS

The Union Pacific (UP) mainline track runs through the center of Manteca diagonally in a southeast to northwest direction. According to the UP there are about 18-23 freight trains on the track during a typical 24-hour period. The mean Sound Exposure Level (SEL) for a UP freight train more than 1,000 feet from a grade crossing is 96.3 dB at 125 feet. At grade crossings where the warning horn is blown, the mean SEL is 101.3 at 125 feet. The distances to the 60 dB Ldn were calculated based on the mean SEL values and the operational characteristics of the trains.

A branch line of the UP forms the west boundary of the City's' General Plan Study Area. Very few train operations occur on the branch line and the noise exposure is less than 60 dB Ldn outside the railroad right-of-way.

TABLE 3.7-3: UPRR NOISE LEVELS

LDN, BASED UPON DISTANCE FROM RR TRACKS				DISTANCE TO LDN CONTOUR (FEET)			
AT 50'		AT 100'		60 DB		65 DB	
WITH WARNING HORNS	WITHOUT WARNING HORNS	WITH WARNING HORNS	WITHOUT WARNING HORNS	WITH WARNING HORNS	WITHOUT WARNING HORNS	WITH WARNING HORNS	WITHOUT WARNING HORNS
78 dB	73 dB	73 dB	68 dB	780'	362'	362'	168'
Source: The City of Manteca General Plan, 2003.							

Non-Transportation Noise Sources

Major non-transportation noise sources consist predominantly of industrial and commercial land uses, as well as recreational uses. Many industrial processes produce noise, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by federal and state employee health and safety regulations (i.e., regulations of the Occupational Safety and Health Administration of the U.S. Department of Labor [OSHA] and the California Division of Occupational Safety and Health [Cal-OSHA]).

Exterior noise levels that affect neighboring parcels are typically subject to local standards. Commercial, recreational, and public facility activities can also produce noise that may affect adjacent noise-sensitive land uses. These noise sources can be continuous or intermittent and may contain tonal components that are annoying to individuals who live nearby.

The following discussions provide generalized information concerning the relative noise impacts of each source, and identify specific noise sources which should be considered in the review of development proposals where potential noise conflicts could result. Not all industrial noise sources in the City are discussed. Unidentified industries or other major noise sources may exist, which could generate significant noise levels and result in noise-related land use conflicts.

FIXED NOISE SOURCES

- Fans and blowers
- Impact-causing devices, such as:
    - hammers
    - presses
    - bottling equipment
    - loading operations (lumber,
    - pipes)
- Saws, routers, grinders
- Cardboard compactors
- Small engine repair and
- testing
- Auto, motorcycle, boat repair
- and testing
- Car wash equipment
- Vacuums
- Garage pickup
- Garage compactors
- Machine shop equipment
- Barking dogs (kennels)
- Music (in studios)
- Music (in bars and
- restaurants)
- Arcade games
- Carnivals
- Heating and ventilation
- (HVAC) units
- Mobile Noise Sources, such as:
    - Delivery trucks
    - Heavy truck loading and
    - unloading

It is difficult to quantify noise levels produced by the noise sources listed above, as the levels depend upon such variables as the size of the equipment, the amount of noise control engineered into the equipment, the distance to the equipment or activity, and whether the receiver is shielded from the noise by a close structure, a barrier, or an intervening building. In general, however, each of the noise sources listed above has the potential to exceed the provisions of the City of Manteca noise standards.

ECKERT COLD STORAGE:

This industrial facility is located at 757 Moffat Boulevard. The main sources of noise appear to be heat exchanger fans. At a distance of 100 feet, the energy average noise level was 72.1 dBA. The hourly 50 and 55 dBA Leq are approximately 1270 and 720 feet from the industry.

MISCELLANEOUS STATIONARY NOISE SOURCES:

A wide variety of land uses is permitted in light industrial and commercial zones areas. Thus there is the potential for a wide variety of noise sources associated with those uses. However, the noise sources which could be present can be categorized as either fixed or mobile noise sources, and the typical sources of concern can be limited to relatively few. For example, the following list describes typical noise sources of concern in industrial and commercial uses.

3.7.2 REGULATORY SETTING

NOISE

In general, the federal government sets noise standards for transportation noise sources that are related to interstate commerce. These typically include aircraft, railroads, and motor carriers. 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

Noise Control Act of 1972

The Noise Control Act (NCA) of 1972 directed the United States Environmental Protection Agency (U.S. EPA) to promote an environment for all Americans free from noise that jeopardizes their health and welfare. The NCA directed that all federal agencies comply with applicable federal, state, interstate, and local noise control regulations. It also required that the U.S. EPA establish criterion for noise level adequate to protect health and welfare with an adequate margin of safety but without regard to cost or feasibility. In addition, the U.S. EPA was also given the responsibility for coordinating federal research and activities related to noise control, and establishing federal noise emission standards for selected products distributed in interstate commerce. The NCA was subsequently amended by the Quiet Communities Act of 1978, which encouraged the development of noise control programs at the State and community level (Caltrans 2002[a]).

U.S. Environmental Protection Agency

A report published in 1974 by the U.S. EPA, Office of Noise Abatement and Control, continues to be a source of useful background information. Entitled *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, this report is better known as the "Levels Document." The document is intended to "provide state and local governments as well as the federal government and the private sector with an informational point of departure for the purposes of decision-making." Using Yearly Day-Night Average Sound Level (DNL) as a measure of noise acceptability, the document states that "undue interference with activity and annoyance" will not occur if outdoor noise levels in residential areas are below DNL 55 dB and indoor levels are below DNL 45 dB. These thresholds include an "adequate margin of safety" as the document title indicates (U.S. EPA 1974).

Department of Housing and Urban Development (HUD)

HUD guidelines for the acceptability of residential land use are set forth in the Code of Federal Regulations (CFR) Title 24, Part 51, "Environmental Criteria and Standards." These guidelines parallel those suggested in the FICUN report: noise exposure of DNL 65 dB or less is acceptable; between 65 and 75 dB is normally acceptable if appropriate sound attenuation is provided; and above DNL 75 dB is unacceptable. The goal for interior noise levels is DNL 45 dB. These guidelines apply only to new construction supported by HUD grants and are not binding upon local communities (Caltrans 2002[a]).

Federal Highway Administration

Federal Highway Administration (FHWA) regulations (23 CFR 772) specify procedures for evaluating noise impacts associated with federally funded highway projects and for determining whether these impacts are sufficient to justify funding noise abatement actions. The FHWA noise abatement criteria are based on worst hourly Leq sound levels, not L_{dn} or CNEL values. The worst-hour 1-hour L_{eq} criteria for residential, educational, and healthcare facilities are 67 dBA outdoors and 52 dBA indoors. The worst-hour 1-hour L_{eq} criterion for commercial and industrial areas is 72 dB (outdoors).

The FHWA document, *Highway Traffic Noise Analysis and Abatement: Policy and Guidance* (1995), calls for each state highway agency to prepare and adopt written guidelines specific to that state which must demonstrate compliance with 23CFR772. State highway agencies are allowed flexibility to establish their own definitions and quantifications of different criteria and decision items that are used in the guidelines to make noise abatement determinations.

Federal Transit Administration

The Federal Transit Administration (FTA) procedures for the evaluation of noise from transit projects are specified in the document titled, "Transit Noise and Vibration Impact Assessment". The FTA Noise Impact Criteria categorizes noise sensitive land uses as follows (FTA 2006):

- Category 1: buildings or parks where quiet is an essential element of their purpose.

- Category 2: residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.

- Category 3: institutional land uses with primarily daytime and evening use. This category includes schools, libraries, churches, and active parks. L_{dn} is used to characterize noise exposure for residential areas (Category 2). For other noise sensitive land uses, such as outdoor amphitheaters and school buildings (Categories 1 and 3), the maximum 1-hour L_{eq} during the facility's operating period is used. Noise impacts are identified based on absolute predicted noise levels and increases in noise associated with the Project.

STATE

State of California Public Utilities Code

Section 21669, Article 3, Chapter 4, Part 1, Division 9 of the California Public Utilities Code (PUC) (Aeronautics Law) provides the legislative authority to adopt noise standards governing the operation of aircraft and aircraft engines for airports. Caltrans Division of Aeronautics is the agency responsible for compliance with this PUC section. Section 21662.4 (a), Article 3, Chapter 4, Part 1, Division 9 of the PUC exempts emergency service helicopters from local ordinances (Caltrans 2002[a]).

Government Code

Section 65302(f) of the California Government Code (Title 7, Division 1, Chapter 3, Article 5), requires that a noise element be included as part of local general plans. Transportation noise sources are among the noise sources to be analyzed and addressed in general plans. To the extent practical, both current and future noise contours (expressed in terms of either CNEL) are to be included. The noise contours are to be "used as a guide for establishing a pattern of land uses…that minimizes the exposure of community residents to excessive noise (OPR 2003)."

Guidance on the preparation and content of general plan noise elements is provided by the Office of Planning and Research in its General Plan Guidelines (1998). This guidance represents an updated version of guidelines originally published by the State Department of Health Services in 1976. Included in the document are recommended noise compatibility criteria for a variety of land use designations. These standards may be adjusted to reflect noise-source characteristics and to reflect the communities noise control goals and sensitivities to noise pollution (OPR 2003).

LOCAL

General Plan

There are numerous goals, policies, and implementation measures set forth in the City of Manteca General Plan Noise Element that are related to noise. Listed below are the noise goals, policies, and implementation measures that are applicable to the Circulation Element Update:

- Policy N-P-5: In accord with the Table 9-2 standards, the City shall regulate construction-related noise impacts on adjacent uses.
- Policy N-P-12: The City shall require new roadways to be mitigated so as to not exceed the noise levels specified in Table 9-1. Widening or other improvement projects of existing roadways shall be mitigated to the most practical extent.
- Implementation N-I-3. In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are increased by 10 dB or more. An increase from 5-10 dB may be substantial. Factors to be considered in determining the significance of increases from 5-10 dB include:
    - the resulting noise levels
    - the duration and frequency of the noise
    - the number of people affected
    - the land use designation of the affected receptor sites
    - public reactions or controversy as demonstrated at workshops or hearings, or by correspondence
    - prior CEQA determinations by other agencies specific to the project
- Implementation N-I-4. Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours and other techniques. Use noise barriers to attenuate noise to acceptable levels.
- Implementation N-I-5. Evaluate new transportation projects, such a rail or public transit routes, using the standards contained in Table 9-1. However, noise from these projects may be allowed to exceed the standards contained in Table 9-1, if the City Council finds that there are special overriding circumstances.

CITY OF MANTECA GENERAL PLAN NOISE ELEMENT TABLE 9-1:

MAXIMUM ALLOWABLE NOISE EXPOSURE MOBILE NOISE SOURCES

Land Use[4]	Outdoor Activity Areas[1]	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB[3]
Residential	60[2]	45	
Transient Lodging	60[2]	45	
Hospitals, Nursing Homes	60[2]	45	
Theaters, Auditoriums, Music Halls			35
Churches, Music Halls	60[2]		40
Office Buildings	65		45
Schools, Libraries, Museums			45
Playgrounds, Neighborhood Parks	70		

[1]Outdoor activity areas for residential development are considered to be backyard patios or decks of single family dwellings, and the common areas where people generally congregate for multi-family developments. Outdoor activity areas for non-residential developments are considered to be those common areas where people generally congregate, including pedestrian plazas, seating areas, and outside lunch facilities. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[2]In areas where it is not possible to reduce exterior noise levels to 60 dB L_{dn} or below using a practical application of the best noise-reduction technology, an exterior noise level of up to 65 L_{dn} will be allowed.

[3]Determined for a typical worst-case hour during periods of use.

[4]Where a proposed use is not specifically listed on the table, the use shall comply with the noise exposure standards for the nearest similar use as determined by the City.

CITY OF MANTECA GENERAL PLAN NOISE ELEMENT TABLE 9-2:

PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES OR PROJECTS AFFECTED BY STATIONARY NOISE SOURCES[1,2]

Noise Level Descriptor	Daytime	Nighttime
	7 a.m. to 10 p.m.	10 p.m. to 7 a.m.
Hourly Leq, dB	50	45
Maximum Level, dB	70	65

[1]Each of the noise levels specified above should be lowered by five (5) dB for simple noise tones, noises consisting primarily of speech or music, or recurring impulsive noises. Such noises are generally considered by residents to be particularly annoying and are a primary source of noise complaints.

[2]No standards have been included for interior noise levels. Standard construction practices should, with the exterior noise levels identified, result in acceptable interior noise levels.

Municipal Code Noise Ordinance

Section 9.52.030 of the City of Manteca Municipal Code prohibits excessive or annoying noise or vibration to residential and commercial properties in the City. The following general rules are outline in the ordinance:

- **9.52.030 Prohibited noises—General standard.** No person shall make, or cause to suffer, or permit to be made upon any public property, public right-of-way or private property, any unnecessary and unreasonable noises, sounds or vibrations which are physically annoying to reasonable persons of ordinary sensitivity or which are so harsh or so prolonged or unnatural or unusual in their use, time or place as to cause or contribute to the unnecessary and unreasonable discomfort of any persons within the neighborhood from which said noises emanate or which interfere with the peace and comfort of residents or their guests, or the operators or customers in places of business in the vicinity, or which may detrimentally or adversely affect such residences or places of business. (Ord. 1374 § 1(part), 2007)

- **9.52.040 Specific prohibited noises. K. Construction Equipment.** The use or operation of any construction equipment between the hours of eight p.m. and seven a.m. and is sufficiently loud as to be plainly audible at the property line of the property from which the sound is emanating. (Ord. 1374 § 1(part), 2007)

GROUNDBORNE VIBRATION

There are no federal, state, or local regulatory standards for ground-borne vibration. However, various criteria have been established to assist in the evaluation of vibration impacts. However, both the Federal Transit Administration and the California Department of Transportation (Caltrans) have developed vibration criteria based on potential structural damage risks and human annoyance. These criteria differentiate between transient and continuous/frequent vibration sources. Transient sources of ground-borne vibration include intermittent events, such as blasting; whereas, continuous and frequent events would include the operations of equipment, including construction equipment, and vehicle traffic on roadways (Caltrans 2002(b), 2004).

The ground-borne vibration criteria often used for evaluation of potential structural damage are based on building classifications, which take into account the age and condition of the building. For instance, for residential structures and newer buildings, Caltrans considers a minimum peak-particle velocity (ppv) threshold of 0.25 inches per second (in/sec) for transient sources and 0.04 in/sec for continuous/frequent sources to be sufficient to protect against building damage. Continuous ground-borne vibration levels below approximately 0.02 in/sec ppv are unlikely to cause damage to any structure. In terms of human annoyance, continuous vibrations in excess of 0.04 in/sec ppv and transient sources in excess of 0.25 in/sec ppv are identified by Caltrans as the minimum perceptible level for ground vibration. Short periods of ground vibration in excess of 2.0 in/sec ppv can be expected to result in severe annoyance to people. Short periods of ground vibration in excess of 0.1 in/sec ppv (0.2 in/sec ppv within buildings) can be expected to result in increased levels of annoyance (Caltrans 2002[b], 2004).

3.7.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

- Exposure of persons or generation of noise levels in excess of standards in the local general plan or noise ordinances 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
- Expose people residing or working in the project area to excessive noise levels (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).
- Expose people residing or working in the project area to excessive noise levels (for a project within the vicinity of a private airstrip).

The proposed project would not result in any operational changes (e.g., changes in flight patterns) of any local airports or result in the placement of new land uses in the vicinity of any airports. Therefore, exposure to aircraft noise levels would not apply to the proposed project and are not addressed in this section.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Grading and Construction Activities Would Intermittently and Temporarily Generate Noise Levels Above Ambient Background Levels. (significant and unavoidable)

The proposed project does not directly cause a noise impact, although it could indirectly have noise impacts as a result of development and operation of subsequent improvement projects during both the short and long-term. A majority of the proposed improvements identified in the Circulation Element, with the exception of changes in transit operations, transportation demand management, and regional planning, would require some level of construction. Larger construction-related projects, such as interchange improvements, bridge improvements, and road realignment and widening projects, would be of particular concern given the noise and ground-borne vibration generation potential of these projects.

Noise levels typically associated with roadway construction equipment and distances to predicted noise contours are summarized in Table 3.7-4. As indicated, maximum intermittent noise levels associated with construction equipment typically range from approximately 77 to 95 dBA L_{max} at 50 feet. Pile driving and demolition activities involving the use of pavement breakers and jackhammers are among the noisiest of activities associated with transportation improvement and

construction projects. Depending on equipment usage and duration, average-hourly noise levels at this same distance typically range from approximately 73 to 88 dBA L_{eq}. Distances to predicted noise contours would, likewise, vary depending on the specific activities conducted and equipment usage. Delivery vehicles, construction employee vehicle trips, and haul truck trips may also contribute to overall construction noise levels.

Increases in ambient noise levels associated with construction projects located near sensitive land uses can result in increased levels of annoyance, as well as, potential violation of local noise standards. Construction activities occurring during the more noise-sensitive nighttime hours would be of particular concern, given the potential for increased sleep disruption. Impacts to sensitive receptors resulting from proposed transportation improvement and construction projects would depend on several factors, such as the equipment used, surrounding land uses, shielding provided by intervening structures and terrain, and duration of construction activities.

While adopted City policies and federal and state regulations would be required of each improvement project, local regulations do not provide consistent requirements for the mitigation of construction noise for public and/or transportation improvements. Implementation of Mitigation Measure 3.7-1 would require implementing agencies to limit construction to the daytime hours, to the extent feasible, and would require equipment to be properly maintained and muffled.

Although the policy and regulatory controls for noise related impacts are in place in the planning area and Mitigation Measure 3.7-1 would reduce the impacts associated with noise, the potential remains for excessive noise associated with construction activities. The nature of some roadway improvement projects (e.g., lane closures, detours, etc) benefit from nighttime construction activities to reduce potential safety hazards and traffic congestion. Also, some of the projects may be in the vicinity of sensitive receptors and may not be able to be designed to ensure that construction equipment does not adversely affect the sensitive receptors. Therefore, construction related noise impacts from the subsequent improvement projects are **significant and unavoidable**.

MITIGATION MEASURE

Mitigation Measure 3.7-1: Subsequent projects under the Circulation Element shall be designed and implemented to reduce adverse construction noise and vibration impacts to sensitive receptors, as feasible. Measures to reduce noise and vibration effects may include, but are not limited to:

- *Construction of temporary sound barriers to shield noise-sensitive land uses.*
- *Location of noise-generating stationary equipment (e.g., power generators, compressors, etc.) at the furthest practical distance from nearby noise-sensitive land uses.*
- *Phase demolition, earth-moving and ground-impacting operations so as not to occur in the same time period.*
- *Use of equipment noise-reduction devices (e.g., mufflers, intake silencers, and engine shrouds) in accordance with manufacturers' recommendations.*
- *Substituting noise/vibration-generating equipment with equipment or procedures that would generate lower levels of noise/vibration. For instance, in comparison to impact*

piles, drilled piles or the use of a sonic or vibratory pile driver are preferred alternatives where geological conditions would permit their use.

- *Limit noise-generating construction activities, excluding those that would result in a safety concern to workers or the public, to the hours of 7 a.m. to 8 p.m., as outlined in Section 9.52.040.K of the City of Manteca Municipal Code.*
- *Other specific measures as they are deemed appropriate by the implementing agency to maintain consistency with adopted policies and regulations regarding noise and groundborne vibration levels.*

TABLE 3.7-4: CONSTRUCTION EQUIPMENT NOISE LEVELS

EQUIPMENT	TYPICAL NOISE LEVEL (dBA) @ 50 FT		DISTANCE TO NOISE CONTOURS (FT, dBA)		
	LMAX	LEQ	70 DBA	65 DBA	60 DBA
Air Compressor	80	76	105	187	334
Auger/Rock Drill	85	78	133	236	420
Backhoe/Front End Loader	80	76	105	187	334
Blasting	94	74	83	149	265
Boring Hydraulic Jack/Power Unit	80	77	118	210	374
Compactor (Ground)	80	73	74	133	236
Concrete Batch Plant	83	75	94	167	297
Concrete Mixer Truck	85	81	187	334	594
Concrete Mixer (Vibratory)	80	73	74	133	236
Concrete Pump Truck	82	75	94	167	297
Concrete Saw	90	83	236	420	748
Crane	85	77	118	210	374
Dozer/Grader/Excavator/Scraper	85	81	187	334	594
Drill Rig Truck	84	77	118	210	374
Generator	82	79	149	265	472
Gradall	85	81	187	334	594
Hydraulic Break Ram	90	80	167	297	529
Jack Hammer	85	78	133	236	420
Impact Hammer/Hoe Ram (Mounted)	90	83	236	420	748
Pavement Scarifier/Roller	85	78	133	236	420
Paver	85	82	210	374	667
Pile Driver (Impact/Vibratory)	95	88	420	748	1,330
Pneumatic Tools	85	82	210	374	667
Pumps	77	74	83	149	265
Truck (Dump/Flat Bed)	84	80	167	297	529

Based on typical equipment noise levels and default equipment usage rates obtained from the FHWA Road Construction Noise Model (2006). Distances to noise contours are approximate and assume do not include excess ground attenuation or shielding. Actual noise levels and contour distances will vary depending on project and site-specific conditions. Sources: FHWA 2006

Impact 3.7-2: Exposure of Noise-Sensitive Land Uses to Noise in Excess of Normally Acceptable Noise Levels or to Substantial Increases in Noise. (significant and unavoidable)

The proposed Circulation Element does not directly cause a noise impact, although it could indirectly have noise impacts as a result of development and operation of subsequent improvement projects during both the short and long-term. While many of these projects will likely have no effect on the operational noise generation of the facility, some improvement projects, which involve new facilities or capacity enhancements for existing facilities, could affect noise-sensitive land uses. Noise-sensitive land uses could be exposed to noise in excess of normally acceptable noise levels or increases in noise as a result of the operation of expanded or new transportation facilities (i.e., increased traffic resulting from roadway capacity improvements, new transit facilities, etc.).

The FHWA Highway Traffic Noise Prediction model (FHWA-RD-77-108) was used to predict changes in future traffic noise levels along major area roadways attributable to the Cumulative plus project conditions. The FHWA modeling was based upon the CALVENO noise emission factors for automobiles and medium and heavy-duty trucks. Input data used in the model included average-daily traffic volumes, day/night percentages of automobiles and medium and heavy trucks, vehicle speeds, ground attenuation factors, and roadway travel speed. Traffic volumes were provided by the project traffic consultant. Vehicle distribution percentages were based on traffic data obtained during the site reconnaissance, as well as heavy-duty truck distribution percentages for major highways obtained from the California Department of Transportation (Caltrans 2007).

While noise levels would increase in comparison to existing conditions (Table 3.7-2), predicted increases would be primarily associated with future development and not the result of the proposed project. Traffic noise modeling was conducted for the proposed project and predicted future traffic noise contours for the proposed project is summarized in Table 3.7-6.

Based upon the data shown in Table 3.7-5, implementation of the proposed project is generally not expected to result in increases in traffic noise levels exceeding the City's 5-10 dB threshold of significance. Only one segment is predicted to see an increase in noise levels over Cumulative No Project conditions in the 5-10 dB range under either of the proposed project scenarios. The increase in traffic noise levels along this segment is likely to be considered to be significant because the resulting noise levels would exceed the City's 60-65 dB normally acceptable exterior noise level standards at the sensitive residential receptors along McKinley Avenue between SR 120 and Woodward Avenue. For this reason, this increase in ambient noise levels is **significant and unavoidable**.

TABLE 3.7-5: PREDICTED INCREASES IN FUTURE (YEAR 2030) TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	L_{dn}/CNEL AT 100 FT FROM ROADWAY CENTERLINE				L_{dn}/CNEL AT 100 FT FROM ROADWAY CENTERLINE			
		CUM. NO PROJECT	CUM. + PREFERRED	CHANGE	SIGNIFICANT	CUM. NO PROJECT	CUM. + NON-AUTO	CHANGE	SIGNIFICANT
Interstate 5	N. of Roth Rd	82.7	82.8	0.1	No	82.7	82.7	0.0	No
Interstate 5	Roth to Lathrop Road	83.0	83.1	0.1	No	83.0	83.0	0.0	No
Interstate 5	Lathrop to Louise	83.1	83.2	0.1	No	83.1	83.0	-0.1	No
Interstate 5	Louise to SR 120	84.2	84.3	0.1	No	84.2	84.1	-0.1	No
Interstate 5	South of SR 120	85.9	86.0	0.1	No	85.9	85.9	0.0	No
SR 120	I5 to Yosemite	79.6	79.7	0.1	No	79.6	79.5	-0.1	No
SR 120	Yosemite to Airport	79.1	79.3	0.2	No	79.1	79.1	0.0	No
SR 120	Airport to Union	79.0	79.2	0.2	No	79.0	79.0	0.0	No
SR 120	Union to Main	79.2	79.1	-0.1	No	79.2	79.1	-0.1	No
SR 120	Main to SR 99	79.2	79.1	-0.1	No	79.2	79.1	-0.1	No
SR 99	N. of Lathrop	81.2	81.1	-0.1	No	81.2	81.2	0.0	No
SR 99	Lathrop to Yosemite	81.4	81.3	-0.1	No	81.4	81.4	0.0	No
SR 99	Yosemite to SR 120	81.9	81.8	-0.1	No	81.9	81.8	-0.1	No
SR 99	SR 120 to Jack Tone	83.3	83.2	-0.1	No	83.3	83.2	-0.1	No
Roth Road	I5 to Airport	67.9	67.9	0.0	No	67.9	67.8	-0.1	No
Lathrop Road	I5 to McKinley	67.9	68.7	0.8	No	67.9	67.8	-0.1	No
Lathrop Road	McKinley to Airport	65.7	67.9	2.2	No	65.7	65.6	-0.1	No
Lathrop Road	Airport to Union	65.1	67.6	2.5	No	65.1	65.1	0.0	No
Lathrop Road	Union to Main	66.0	68.0	2.0	No	66.0	65.9	-0.1	No
Lathrop Road	Main to Cottage	59.0	60.7	1.7	No	59.0	59.0	0.0	No
Louise Ave.	I5 to McKinley	67.6	67.7	0.1	No	67.6	66.9	-0.7	No
Louise Ave.	McKinley to Airport	65.6	66.6	1.0	No	65.6	65.4	-0.2	No
Louise Ave.	Airport to Union	65.0	66.3	1.3	No	65.0	64.9	-0.1	No
Louise Ave.	Union to Main	64.1	64.2	0.1	No	64.1	64.1	0.0	No
Louise Ave.	Main to Cottage	63.5	63.0	-0.5	No	63.5	63.4	-0.1	No
Louise Ave.	Cottage to Austin	60.7	60.9	0.2	No	60.7	60.7	0.0	No
Yosemite Ave.	SR 120 to McKinley	66.6	67.2	0.6	No	66.6	66.5	-0.1	No
Yosemite Ave.	McKinley to Airport	66.8	68.0	1.2	No	66.8	66.7	-0.1	No

ROADWAY	SEGMENT	L_{dn}/CNEL AT 100 FT FROM ROADWAY CENTERLINE				L_{dn}/CNEL AT 100 FT FROM ROADWAY CENTERLINE			
		CUM. NO PROJECT	CUM. + PREFERRED	CHANGE	SIGNIFICANT	CUM. NO PROJECT	CUM. + NON-AUTO	CHANGE	SIGNIFICANT
Yosemite Ave.	Airport to Union	68.2	68.4	0.2	No	68.2	67.8	-0.4	No
Yosemite Ave.	Union to Main	65.8	66.1	0.3	No	65.8	65.8	0.0	No
Yosemite Ave.	Main to Cottage	64.9	64.6	-0.3	No	64.9	64.7	-0.2	No
Yosemite Ave.	Cottage to Austin	69.1	69.2	0.1	No	69.1	69.2	0.1	No
Yosemite Ave.	Austin to Jack Tone	70.5	70.5	0.0	No	70.5	70.4	-0.1	No
Woodward Ave.	McKinley to Airport	65.3	57.8	-7.5	No	65.3	65.2	-0.1	No
Woodward Ave.	Airport to Union	65.3	63.4	-1.9	No	65.3	65.1	-0.2	No
Woodward Ave.	Union to Main	64.6	62.7	-1.9	No	64.6	64.3	-0.3	No
Woodward Ave.	Main to Moffat	67.5	68.1	0.6	No	67.5	67.1	-0.4	No
Ripon Road	West of Austin	65.5	65.1	-0.4	No	65.5	62.9	-2.6	No
Ripon Road	East of Austin	65.5	65.1	-0.4	No	65.5	62.9	-2.6	No
McKinley Ave.	SR 120 to Woodward	62.6	68.4	5.8	Yes	62.6	64.8	2.2	No
Airport Way	Roth to Lathrop Road	65.9	66.2	0.3	No	65.9	65.8	-0.1	No
Airport Way	Lathrop to Louise	65.3	66.7	1.4	No	65.3	65.3	0.0	No
Airport Way	Louise to Yosemite	65.3	67.1	1.8	No	65.3	65.3	0.0	No
Airport Way	Yosemite to SR 120	65.8	67.4	1.6	No	65.8	65.6	-0.2	No
Airport Way	SR 120 to Woodward	67.5	67.6	0.1	No	67.5	67.8	0.3	No
Union Road	N. of Lathrop	68.0	68.4	0.4	No	68.0	67.8	-0.2	No
Union Road	Lathrop to Louise	68.1	67.6	-0.5	No	68.1	68.0	-0.1	No
Union Road	Louise to Yosemite	67.0	66.9	-0.1	No	67.0	66.8	-0.2	No
Union Road	Yosemite to SR 120	66.3	66.3	0.0	No	66.3	66.6	0.3	No
Union Road	SR 120 to Woodward	67.5	68.1	0.6	No	67.5	67.6	0.1	No
Union Road	South of Woodward	61.9	61.5	-0.4	No	61.9	61.7	-0.2	No
Main Street	SR 99 to Louise	64.7	64.7	0.0	No	64.7	64.6	-0.1	No
Main Street	Louise to Yosemite	62.4	62.5	0.1	No	62.4	62.4	0.0	No
Main Street	Yosemite to SR 120	66.3	66.4	0.1	No	66.3	66.1	-0.2	No
Main Street	SR 120 to Woodward	66.5	67.3	0.8	No	66.5	67.2	0.7	No
Cottage	N. of Louise	60.6	60.2	-0.4	No	60.6	60.4	-0.2	No
Cottage	Louise to Yosemite	62.4	62.4	0.0	No	62.4	62.2	-0.2	No

ROADWAY	SEGMENT	L_{dn}/CNEL AT 100 FT FROM ROADWAY CENTERLINE				L_{dn}/CNEL AT 100 FT FROM ROADWAY CENTERLINE			
		CUM. NO PROJECT	CUM. + PREFERRED	CHANGE	SIGNIFICANT	CUM. NO PROJECT	CUM. + NON-AUTO	CHANGE	SIGNIFICANT
Spreckles	Yosemite to Moffat	61.7	61.8	0.1	No	61.7	61.2	-0.5	No
Austin	Louise to Yosemite	61.2	61.2	0.0	No	61.2	60.4	-0.8	No
Austin	Yosemite to SR 99	63.2	64.8	1.6	No	63.2	62.7	-0.5	No
Austin	SR 99 to Sedan	69.8	64.9	-4.9	No	69.8	65.3	-4.5	No
Austin	Sedan to Ripon	66.4	66.2	-0.2	No	66.4	65.4	-1.0	No
Jack Tone	SR 99 to Ripon	68.1	66.4	-1.7	No	68.1	66.5	-1.6	No

Significant impacts are based on the following thresholds derived from the City of Manteca General Plan (1998): (1) an increase of 5 dBA, or greater, where traffic noise levels are less than 60 dBA CNEL/Ldn; (2) an increase of3 dBA, or greater, where traffic noise levels range between 60 and 65 dBA CNEL/Ldn; or (3) an increase of 1.5 dBA CNEL/Ldn, or greater, where traffic noise levels are greater than 65 dBA CNEL/Ldn.

TABLE 3.7-6: PREDICTED FUTURE TRAFFIC NOISE CONTOURS

ROADWAY	SEGMENT	DISTANCES (FT) TO NOISE CONTOURS (L_{dn}/CNEL)					
		CUMULATIVE + PREFERRED NETWORK			CUMULATIVE + NON-AUTO INVESTMENT NETWORK		
		70 dBA	65 dBA	60 dBA	70 dBA	65 dBA	60 dBA
Interstate 5	N. of Roth Rd	698	1503	3238	698	1503	3238
Interstate 5	Roth to Lathrop Road	732	1577	3397	732	1577	3397
Interstate 5	Lathrop to Louise	740	1595	3435	740	1595	3435
Interstate 5	Louise to SR 120	876	1886	4064	876	1886	4064
Interstate 5	South of SR 120	1143	2462	5304	1143	2462	5304
SR 120	I5 to Yosemite	432	932	2007	432	932	2007
SR 120	Yosemite to Airport	403	869	1871	403	869	1871
SR 120	Airport to Union	398	856	1845	398	856	1845
SR 120	Union to Main	406	875	1885	406	875	1885
SR 120	Main to SR 99	403	869	1872	403	869	1872
SR 99	N. of Lathrop	556	1198	2580	556	1198	2580
SR 99	Lathrop to Yosemite	571	1231	2651	571	1231	2651
SR 99	Yosemite to SR 120	615	1324	2853	615	1324	2853
SR 99	SR 120 to Jack Tone	760	1636	3525	760	1636	3525

ROADWAY	SEGMENT	DISTANCES (FT) TO NOISE CONTOURS (L_{dn}/CNEL)					
		CUMULATIVE + PREFERRED NETWORK			CUMULATIVE + NON-AUTO INVESTMENT NETWORK		
		70 dBA	65 dBA	60 dBA	70 dBA	65 dBA	60 dBA
Roth Road	I5 to Airport	71	153	329	71	153	329
Lathrop Road	I5 to McKinley	71	154	331	71	154	331
Lathrop Road	McKinley to Airport	51	110	236	51	110	236
Lathrop Road	Airport to Union	47	101	218	47	101	218
Lathrop Road	Union to Main	54	115	249	54	115	249
Lathrop Road	Main to Cottage	19	40	86	19	40	86
Louise Ave.	I5 to McKinley	62	134	289	62	134	289
Louise Ave.	McKinley to Airport	50	107	230	50	107	230
Louise Ave.	Airport to Union	46	99	212	46	99	212
Louise Ave.	Union to Main	41	87	188	41	87	188
Louise Ave.	Main to Cottage	36	78	168	36	78	168
Louise Ave.	Cottage to Austin	25	53	115	24	52	111
Yosemite Ave.	SR 120 to McKinley	65	141	304	59	126	273
Yosemite Ave.	McKinley to Airport	73	158	340	60	129	279
Yosemite Ave.	Airport to Union	78	169	364	72	154	332
Yosemite Ave.	Union to Main	55	119	257	53	113	244
Yosemite Ave.	Main to Cottage	43	94	202	45	96	207
Yosemite Ave.	Cottage to Austin	88	189	408	88	190	409
Yosemite Ave.	Austin to Jack Tone	108	233	503	107	230	496
Woodward Ave.	McKinley to Airport	15	33	71	48	103	223
Woodward Ave.	Airport to Union	36	78	168	47	102	219
Woodward Ave.	Union to Main	33	71	152	42	90	193
Woodward Ave.	Main to Moffat	75	162	349	64	138	297
Ripon Road	West of Austin	47	101	218	34	72	156
Ripon Road	East of Austin	47	101	218	34	72	156
McKinley Ave.	SR 120 to Woodward	78	168	363	45	97	209
Airport Way	Roth to Lathrop Road	56	120	258	52	113	243
Airport Way	Lathrop to Louise	60	130	281	49	105	227

ROADWAY	SEGMENT	DISTANCES (FT) TO NOISE CONTOURS (L_{dn}/CNEL)					
		CUMULATIVE + PREFERRED NETWORK			CUMULATIVE + NON-AUTO INVESTMENT NETWORK		
		70 dBA	65 dBA	60 dBA	70 dBA	65 dBA	60 dBA
Airport Way	Louise to Yosemite	64	138	298	49	105	226
Airport Way	Yosemite to SR 120	67	144	310	51	109	235
Airport Way	SR 120 to Woodward	69	149	321	71	153	329
Union Road	N. of Lathrop	78	169	364	72	155	333
Union Road	Lathrop to Louise	69	149	321	74	158	341
Union Road	Louise to Yosemite	62	133	287	62	133	286
Union Road	Yosemite to SR 120	56	121	261	60	129	277
Union Road	SR 120 to Woodward	74	160	346	69	148	319
Union Road	South of Woodward	27	58	125	28	61	131
Main Street	SR 99 to Louise	44	96	206	44	95	204
Main Street	Louise to Yosemite	32	68	146	31	67	145
Main Street	Yosemite to SR 120	58	124	267	55	119	256
Main Street	SR 120 to Woodward	66	142	306	65	141	303
Cottage	N. of Louise	22	48	104	23	49	106
Cottage	Louise to Yosemite	31	67	145	30	65	141
Spreckles	Yosemite to Moffat	28	61	132	26	55	120
Austin	Louise to Yosemite	26	56	120	23	49	107
Austin	Yosemite to SR 99	45	98	210	33	70	151
Austin	SR 99 to Sedan	46	99	212	49	105	227
Austin	Sedan to Ripon	56	121	260	49	106	228
Jack Tone	SR 99 to Ripon	57	124	267	58	126	271

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Impact 3.7-3: Grading and Construction Activities Would Intermittently and Temporarily Expose Sensitive Receptors to Groundborne Vibration Levels. (significant and unavoidable)

Groundborne vibration and noise levels associated with highway traffic is typically considered to pose no threat to buildings and potential annoyance to people would be minimal. Traffic vibration levels are typically highest associated with truck passbys. Automobile traffic normally generates vibration peaks of one-fifth to one-tenth that of trucks. Based on measurements conducted by Caltrans, even the highest truck generated vibrations, which were measured at approximately 16 feet from the centerline of the near travel-lane, were not found to exceed 0.08 in/sec. This level coincides with the maximum recommended "safe level" for ruins and historical structures (Caltrans 2002(b), 2004).

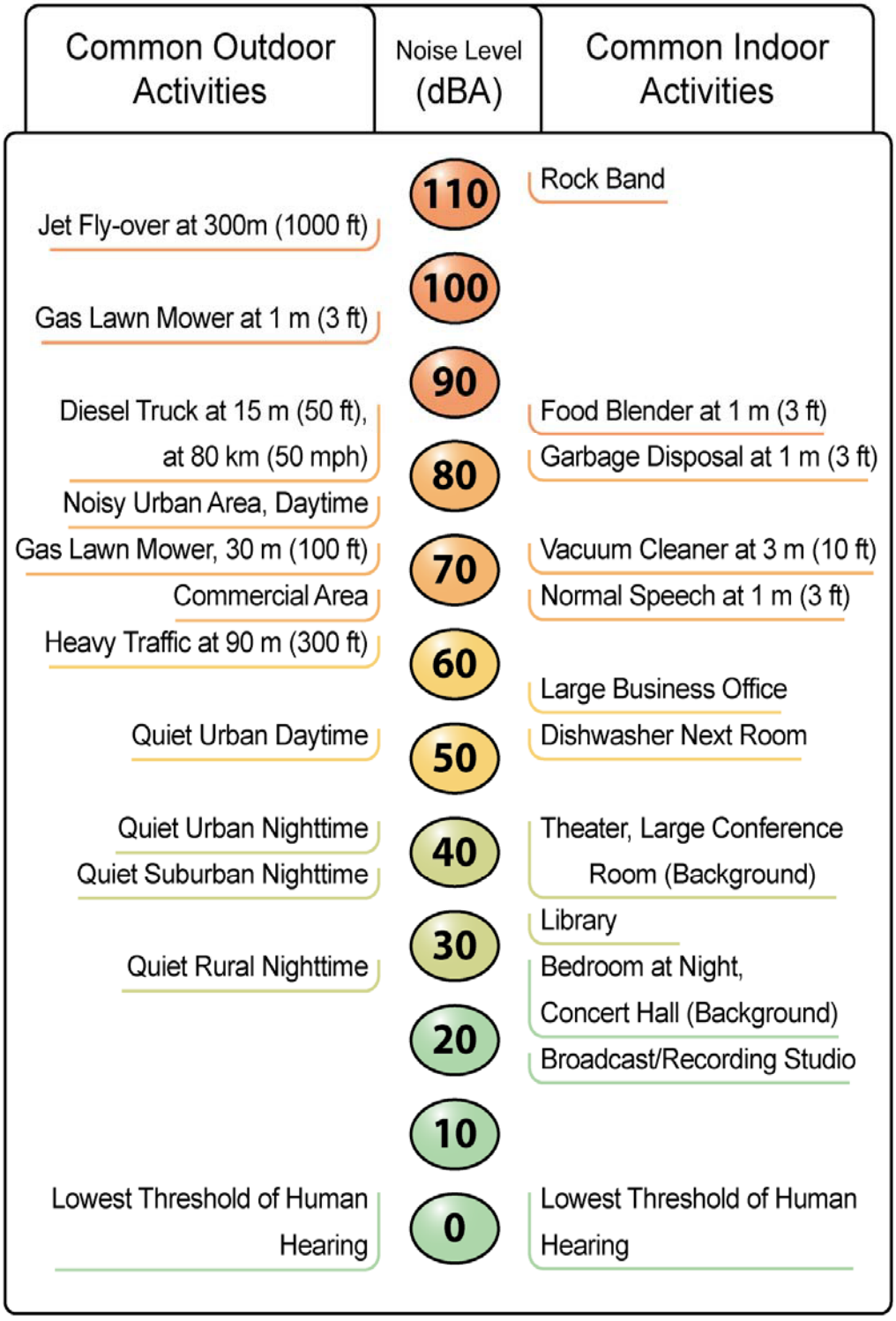
Construction activities would, however, require the use of off-road equipment which could adversely affect nearby land uses. Groundborne vibration levels commonly associated with construction equipment typically associated with transportation projects are summarized in Table 3.7-7. As indicated, the highest groundborne vibration levels would be generated by the use of pile drivers and vibratory rollers. Groundborne vibration levels associated with proposed construction improvement projects could potentially exceed recommended criteria for structural damage and/or human annoyance (0.2 and 0.1 in/sec ppv, respectively) at nearby existing land uses. As a result, exposure to construction-generated groundborne vibration levels would be considered potentially significant.

TABLE 3.7-7: REPRESENTATIVE VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

EQUIPMENT		PEAK PARTICLE VELOCITY AT 25 FEET (IN/SEC)
Pile Driver (Impact)	Upper Range	1.518
	Typical	0.644
Pile Driver (Sonic)	Upper Range	0.734
	Typical	0.170
Vibratory Roller		0.210
Hoe Ram		0.089
Large Bulldozers		0.089
Loaded Trucks		0.076
Jackhammer		0.035
Small Bulldozers		0.003
Source: FTA 2006, Caltrans 2004		

Mitigation Measure 3.7-1 would require implementing agencies to limit construction to the daytime hours and to use equipment with reduced equipment noise/vibration levels, to the extent practical. The level of mitigation would be project and site specific and would include measures normally required by Caltrans, as well as requirements under the General Plan Noise Element and Noise Ordinance that limit the hours of construction activities. For most projects, implementation of Mitigation Measure 3.7-1 would be anticipated to reduce groundborne vibration levels and potential damage to nearby structures to a less than significant level. However, in some instances, feasible mitigation measures may not be available to reduce resultant short-term increases in levels of annoyance to nearby individuals to a less-than-significant level. As a result, this impact would be considered **significant and unavoidable**.

Figure 3.7-1: Common Noise Levels



Source: Caltrans 2009

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This chapter presents the results of a multi-modal transportation analysis performed in association with the proposed update to the City of Manteca Circulation Element. Primarily, the Circulation Element is being updated to ensure that the transportation system is consistent with the development projects and Land Use Element amendments approved since the previous full update of the Manteca General Plan in 2003. In addition, the goals and policies of the Circulation Element are proposed to be updated to better address emerging issues like climate change, multimodal travel, and goods movement. The most important policy update related to this environmental analysis is the update to the City's roadway level of service (LOS) policy, which will be described below. The analysis in this chapter addresses existing transportation conditions in Manteca, as well as future transportation conditions under four future year planning scenarios. Transportation impacts and mitigations are identified for each future year scenario against the relevant policies stated in the City's 2023 General Plan Circulation Element, as well as under the updated policies set forth in the proposed Circulation Element Update.

3.8.1 TRANSPORTATION SETTING

EXISTING ROADWAY NETWORK

As shown in Figure 3.8-1, the City of Manteca has a robust roadway network built on a series of arterial and collector roadways spaced approximately one-half mile apart. In addition, the City is intersected by two major highways; State Route (SR) 120 and SR 99, which provide regional access to the City. A description of these key regional and local roadways is provided below.

Regional Roads

SR 120 is an east-west, four-lane freeway that primarily serves as a connection between I-5 and SR 99. Based on 2008 Caltrans traffic volumes, SR 120 has an existing Average Daily Traffic (ADT) volume of approximately 61,000 vehicles just west of the Main Street interchange. SR 120 features three interchanges in the City of Manteca at Main Street, Union Road, and Airport Way. SR 120 joins SR 99 between the SR 120/SR 99 interchange and Yosemite Avenue where SR 120 heads east to Escalon and eventually Yosemite National Park.

SR 99 is a major north-south freeway located in the eastern portion of the City. SR 99 provides a connection between all of the major cities in the Central Valley, from Sacramento and Stockton in the north to the cities of Modesto, Merced, Fresno, and Bakersfield in the south. SR 99 has three lanes in each direction south of SR 120 and two lanes in each direction north of SR 120. SR 99 has an ADT of approximately 103,000 between Austin Road and the SR 120 interchange.

Based on information from the San Joaquin Council of Governments (SJCOG), both SR 120 and SR 99 are planned to be widened from four to six lanes. SR 99 will be widened between SR 4 in Stockton and SR 120 by year 2015. SR 120 will be widened between SR 99 and I-5 by year 2027.

Several of the interchanges with SR 99 and SR 120 in the City of Manteca are also slated for improvement:

- SR 99/Lathrop Road/Main Street interchange: The existing hook ramps and the partial interchange with Main Street will be replaced with a standard interchange configuration as part of the SR 99 widening project.

- SR 99/Austin Road interchange: This interchange is planned for removal and replacement with a new facility located to the southeast between the existing Austin Road interchange and the Jack Tone Road interchange. This interchange would likely align with an extension of McKinley Avenue Expressway across the southern portion of the City. Based on the latest information from the ongoing Austin Road Interchange Replacement Project Study Report (PSR), which is being led by Caltrans and the City of Manteca, the final location for this replacement interchange has not yet been determined.

- Existing SR 120 interchanges: The Main Street, Union Road and Airport Way interchanges are all planned to be expanded to accommodate planned growth in Southern Manteca and are listed in the SJCOG 2011 Regional Transportation Plan (RTP). The PSR for the Union Road interchange is complete, the PSR for the Airport Way interchange is underway, and the PSR for the Main Street interchange is planned for a later date.

- New Interchange: A new interchange is proposed at SR 120 and McKinley Avenue. This interchange has an approved PSR, however there is currently no active development activity in the area that would warrant this interchange.

Local Roads

Lathrop Road is an east-west arterial which begins at I-5 in the west and extends to Austin Road in the east. Lathrop Road is primarily a two-lane facility within the City of Manteca. Although portions of the roadway have been widened to four lanes or feature a center turn lane. Sidewalks are present on the southern side and for limited portions of the northern side of the roadway within the City Limits. This facility currently serves 13,400 ADT on the segment east of Union Road. Lathrop Road provides access to SR 99 and I-5. This roadway is monitored by the SJCOG as part of the Regional Congestion Management Program (CMP).

Louise Avenue is a generally a four-lane arterial within the City of Manteca. It begins at Ripon Road in the east and extends through Manteca and the City of Lathrop, terminating at Golden Valley Parkway, west of I-5. Sidewalks are provided between SR 99 and Airport Way. Louise Avenue serves approximately 20,600 ADT west of Main Street.

Yosemite Avenue is generally four-lane arterial through Manteca, although two-lanes are provided through Downtown Manteca. On the western end, Yosemite terminates at an interchange with SR 120. Sidewalks are provided throughout much of the Manteca; however there are gaps in the system between Vasconcellos Avenue and Austin Road in the east and between Winters Drive and the Lathrop city limit in the west. Yosemite Avenue has an ADT of approximately 17,000 between Union Road and Airport Way. This roadway is monitored as part of the CMP.

Woodward Avenue is an east-west roadway located south of SR 120. It extends from Moffat Avenue in the east to west of McKinley Avenue near the I-5/SR 120 interchange. Woodward Avenue is primarily a

two-lane rural road with no sidewalks and narrow shoulders; although the facility has been built to urban standards in certain locations where it provides additional lanes and sidewalks. The existing ADT on Woodward Avenue near Main Street is 6,400.

Airport Way is a north-south road that extends from downtown Stockton into Manteca, and continues southerly from State Route (SR) 120 into unincorporated San Joaquin County. Within Manteca, Airport Way is generally a two-lane rural facility narrow shoulders. Very few sidewalks provided on Airport Way; although there is some sidewalk coverage on the east side of the roadway along existing residential subdivisions. Airport Way serves about 15,800 ADT north of SR 120. The portion of Airport Way north of SR 120 is monitored by SJCOG as part of the CMP.

Union Road is a north-south roadway which varies from two-to-four lanes. The roadway extends from French Camp Road in the north to Ripon Road in the south. Union Road is generally built to urban design standards between Del Webb Boulevard and SR 120. Sidewalks are generally provided on both sides of the street. Outside those limits the road is a two lane rural roadway, without bicycle or pedestrian facilities. Union Road currently serves 16,800 ADT north of SR 120.

Main Street is a north-south, two-to-four-lane roadway. Main Street provides access to SR 120 and Downtown Manteca to the north. Between Northgate Drive and SR 120 the Main Street is built to urban standards and includes sidewalks on both sides of the street. South of SR 120, only the east side of Main Street is built to urban standards, with curb, gutter, and sidewalk. South of the City of Manteca, Main Street changes name to South Manteca Road and connects with Ripon Road.

Austin Road is a north-south roadway that extends approximately 15 miles from Mariposa Road, located to the southeast of Stockton, south to Casswell State Park on the Stanislaus River. The vast majority of the roadway, including the portion through the study area, is rural in character with no bicycle or pedestrian facilities .

EXISTING TRANSIT SERVICES

Several transit agencies provide service to the City of Manteca. These agencies include Manteca Transit, which provides three fixed-route services and a Dial-A-Ride component; the San Joaquin Regional Transit District (SJRTD), with fixed-route and flexible-response bus service in San Joaquin County; the Altamont Commuter Express (ACE), which operates a commuter rail service to the Bay Area; and the Modesto Area Express (MAX), which operates fixed-route bus service between Modesto and the Lathrop-Manteca ACE Rail Station. Figure 3.8-2 shows the fixed-route transit service within the study area.

Manteca Transit Route 1 primarily serves the Yosemite Avenue corridor, while Routes 2 and 3 travel in opposite directions on Main Street, Lathrop Road, Union Road, and Atherton Drive. There are two SJRTD routes that serve the City; Route 27 travels on Union Road and Main Street. Route 91 serves Main Street between SR 99 and SR 120.

PEDESTRIAN AND BICYCLE SYSTEM

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. As described in the Existing Roadway Network section, the City has a robust pedestrian network with sidewalks along nearly all the roadways within the City limit. The primary areas that are lacking sidewalk facilities are the former county roadways that traverse the less developed portions of the City.

The Tidewater Bikeway Class I bike path (off-street) runs north-south between Union Road and Main Street from Lathrop Road to the Union Pacific Railroad tracks, then runs parallel to the railroad tracks and crosses SR 120 along Van Ryn Avenue. Class I paths also extend along Spreckels Avenue between Moffat Boulevard and Yosemite Avenue, along portions of Atherton Drive, and along Wellington Avenue between Atherton Drive and Woodward Avenue. Class II bike lanes are provided on many of the arterial and collector roadways, including Lathrop Road, Crom Street, Daniels Street and Mission Ridge Drive. Other roadways are Class III bike routes; these existing primarily in and around Downtown Manteca. Figure 3.8-3 shows the existing bicycle facilities in the City.

RAILROAD FACILITIES AND AT-GRADE CROSSINGS

Manteca has long been a center of freight rail distribution. The City is traversed by two major lines owned by the Union Pacific Railroad (UPRR). One line travels along the Lathrop/Manteca border from SR 120 to French Camp Road. This line carries approximately 13 trains per day and includes at-grade crossings at Roth Road, Lathrop Road, Louise Avenue, and Yosemite Avenue. The other major line runs from the southeast to the northwest portion of the City beginning south of Austin Road and leaving the City near Airport Way between Louise Avenue and Lathrop Road. This line carries approximately 22 trains per day and has at-grade crossings at the following locations:

- Airport Way
- Louise Avenue
- Union Road
- Walnut Avenue
- Center Street
- Yosemite Avenue
- Main Street
- Industrial Park Drive
- Woodward Avenue
- Austin Road

As described above, there are numerous at-grade railroad/roadway crossings in the City of Manteca. A review of Federal Railroad Administration data indicates there have been a total of three rail/vehicle collisions at these crossings between 2004 and 2009. Two of the collisions (one at the Yosemite Avenue crossing in 2006 and one at the Center Street crossing in 2008) were caused by the automobile driver stopping on the railroad tracks. The third collision was the result of a driver maneuvering around the crossing gates and striking the train as it crossed Airport Way in 2008. All the crossings in the City feature advanced warning signs, railroad crossing pavement markings, stop lines, crossing gates, flashing lights, and warning bells.

Table 8-2 of the Railroad Safety Statistics 2007 Final Annual Report (Federal Railroad Administration, April 2009) reported motor vehicle collision rates throughout the United States at public at-grade rail crossings. The data show that the rate of collisions per 100,000-vehicle crossings (i.e., 100k VC) are lower when the crossing has gates, flashing lights, or warning bells versus stop signs or cross bucks (i.e., railroad crossing signs). The reported collision rate for crossings with gates or flashing lights was approximately 0.5 accidents per 100k VC, whereas the rate was about 1.4 accidents per 100k VC for crossings with cross bucks and 4.3 collisions per 100k VC for crossings with stop signs.

This data provides substantial evidence that the warning devices presently in place at the at-grade railroad crossings in the City of Manteca are associated with lower levels of collision rates when considering the entire range of potential warning devices. This conclusion is confirmed by the observed collision records at each location since 2004.

A review of relevant planning information, including the Draft 2011 SJCOG Regional Transportation Plan (RTP) and the Measure K Renewal Expenditure Plan, indicates that the following at-grade crossings are planned to be grade separated over the time span of this analysis: Lathrop Road/Westerly UPRR track and Airport Way/UPRR. Both projects are included in the Tier I RTP project list and the Measure K Renewal project list.

EXISTING CONDITIONS

This section describes the operations of the transportation system within the City under existing conditions. The roadway, bicycle, pedestrian, and transit systems are considered in this analysis. It is worthwhile to note that this existing conditions analysis is provided for informational purposes only, since impacts of the proposed General Plan Circulation Element update and alternative planning scenarios will be assessed against a Cumulative No Project planning scenario.

Roadway System

The roadway operations were evaluated at the following key intersections and freeway facilities:

INTERSECTIONS

1. McKinley Avenue / Woodward Avenue
2. Airport Way / Lathrop Road
3. Airport Way / Yosemite Avenue
4. Union Road / Lathrop Road
5. Union Road / Louise Avenue
6. Union Road / Yosemite Avenue
7. Union Road / Woodward Avenue
8. Main Street / Louise Avenue
9. Main Street / Yosemite Avenue
10. Main Street / Woodward Avenue
11. SR 120 Westbound Ramps / Airport Way
12. SR 120 Eastbound Ramps / Airport Way
13. SR 120 Westbound Ramps / Union Road

14. SR 120 Eastbound Ramps / Union Road
15. SR 120 Westbound Ramps / Main Street
16. SR 120 Eastbound Ramps / Main Street
17. SR 99 Southbound Ramps / Lathrop Road Frontage
18. SR 99 Northbound Ramps / Lathrop Road Frontage
19. SR 99 Southbound Ramps / Yosemite Avenue
20. SR 99 Northbound Ramps / Yosemite Avenue
21. SR 99 Southbound Off-Ramp / Austin Road
22. SR 99 Northbound Ramps / Austin Road

FREEWAY MAINLINE SEGMENTS

1. I-5 between El Dorado Street and Roth Road
2. I-5 between Roth Road and Lathrop Road
3. I-5 between Lathrop Road and Louise Avenue
4. I-5 between Louise Avenue and SR 120
5. I-5 between SR 120 and I-205
6. SR 120 between I-5 and Yosemite Avenue
7. SR 120 between Yosemite Avenue and Airport Way
8. SR 120 between Airport Way and Union Road
9. SR 120 between Union Road and Main Street
10. SR 120 between Main Street and SR 99
11. SR 99 between French Camp Road and Lathrop Road
12. SR 99 between Lathrop Road and Yosemite Avenue
13. SR 99 between Yosemite Avenue and SR 120
14. SR 99 between SR 120 and Austin Road
15. SR 99 between Austin Road and Jack Tone Road

Roadway segments throughout the City were included in the analysis; see Figure 3.8-4 for the complete network. The following roadway segments outside the City were also selected for analysis:

1. Roth Road between I-5 and Airport Way
2. Lathrop Road between I-5 an McKinley Avenue
3. Louise Avenue between I-5 and McKinley Avenue
4. Yosemite Avenue between McKinley Avenue and SR 120
5. Yosemite Avenue between Austin Road and Jack Tone Road
6. Airport Way between Lathrop Road and Roth Road
7. Union Road between Woodward Avenue and Fig Avenue
8. Austin Road between SR 99 and Ripon Road
9. Jack Tone Road between SR 99 and Ripon Road
10. Ripon Road between Main Street and Jack Tone Road

METHODS OF ANALYSIS

The operations of roadway facilities are described in terms of Level of Service (LOS). LOS is a qualitative description of traffic flow based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels are defined, from LOS A and B, which represent uncongested operating conditions, to LOS C and D, which represent moderate levels of congestion, to LOS E, which represents at-capacity conditions. Operations are designated as LOS F when volumes exceed capacity, resulting in stop-and-go conditions.

Signalized Intersections

The LOS methodology approved by the City analyzes traffic operations at signalized intersections based on average vehicular control delay, as calculated using the methods described in Chapter 16 of the *Highway Capacity Manual (HCM)* (Transportation Research Board 2000). Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections was calculated using the Synchro software program and the delay was correlated to a LOS designation, as shown in Table 3.8-1.

TABLE 3.8-1 SIGNALIZED INTERSECTION LEVEL OF SERVICE CRITERIA

LEVEL OF SERVICE	*TYPE OF FLOW*	*GENERAL DESCRIPTION*	*MANEUVERABILITY*	*AVERAGE CONTROL DELAY PER VEHICLE (IN SECONDS)*
A	Free flow	Very slight or no delay. If signalized, conditions are such that no approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.	Turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10.0
B	Stable flow	Slight delay. If signalized, an occasional approach phase is fully utilized.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted in groups of vehicles.	10.1 to 20.0
C	Stable flow	Acceptable delay. If signalized, a few drivers arriving at the end of a phase must wait through one signal cycle.	Backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	20.1 to 35.0
D	Approaching unstable flow	Tolerable delay. Delays may be substantial during short periods, but excessive backups do not occur.	Maneuverability is severely limited during short periods because of temporary backups.	35.1 to 55.0
E	Unstable flow	Intolerable delay. Delay may be great, up to several signal cycles.	There are typically long queues of vehicles waiting upstream of the intersection.	55.1 to 80.0
F	Forced flow	Excessive delay.	Breakdown conditions. Backups from other locations restrict or prevent movement. Volumes may vary widely, depending primarily on downstream conditions.	> 80.0

SOURCE: TRANSPORTATION RESEARCH BOARD 2000

Freeway Mainline Segments

Freeway mainline segments were evaluated using two-way ADT volumes, which were based on 2008 freeway mainline ADT data from the Caltrans Traffic and Vehicle Data Systems Unit. 2008 counts were chosen over Caltrans' 2009 counts since these counts were not available at the time the NOP was prepared. However, 2008 and 2009 ADT counts were compared on the study segments, and for the most part, the counts were similar; however, 2009 counts were slightly higher on SR 120, while 2008 counts were slightly higher on SR 99. The level of service was determined using the thresholds in Table 3.8-2. These thresholds were taken from the City of Stockton General Plan Draft Environmental Impact Report (December 2006) and were derived from density ranges specified in the HCM.

TABLE 3.8-2 MANTECA FREEWAY SEGMENT LEVEL OF SERVICE THRESHOLDS

NUMBER OF LANES	*LOS A*	*LOS B*	*LOS C*	*LOS D*	*LOS E*
4	27,600	45,200	63,600	77,400	86,400
6	41,400	67,800	95,400	116,100	129,600
8	55,200	90,400	127,200	154,800	172,800
10	69,000	113,000	159,000	193,500	216,000

SOURCE: HIGHWAY CAPACITY MANUAL, TRANSPORTATION RESEARCH BOARD, 2000.

As is typical for General Plan environmental analyses, freeway facility impacts are only described at the segment level and detailed freeway ramp merge, diverge, and weaving areas were not included as part of this analysis. This approach is consistent with the intent of CEQA, which does not require "perfection but… adequacy, completeness, and a good-faith effort at full disclosure" (CEQA Guidelines Section 15151).

Roadway Segments

Roadway segments were evaluated using two-way ADT volumes, which were estimated by factoring one-way daily counts from the City of Manteca Traffic Statistics (2009) or by using new ADT traffic counts taken in the spring of 2009 for locations outside of the City of Manteca. The level of service was determined using the thresholds in Table 3.8-3. These thresholds were taken from the City of Stockton General Plan Draft Environmental Impact Report (December 2006) and were derived from density ranges specified in the HCM.

TABLE 3.8-3 MANTECA ROADWAY SEGMENT LEVEL OF SERVICE THRESHOLDS

NUMBER OF LANES	*LOS A*	*LOS B*	*LOS C*	*LOS D*	*LOS E*
2	8,400	9,300	11,800	14,700	17,300
4	18,600	20,600	26,000	32,500	38,200
6	28,800	32,000	40,300	50,400	59,300
8	38,100	42,300	53,300	66,600	78,400

SOURCE: HIGHWAY CAPACITY MANUAL, TRANSPORTATION RESEARCH BOARD, 2000.

SJCOG Congestion Management Plan (CMP) Facilities

The CMP roadway segments, as specified by SJCOG, were evaluated using two-way PM peak hour volumes, which were estimated by factoring daily counts based on peak-hour-to-daily factors from the existing count data. The level of service was determined using the thresholds in 3.8-4. These thresholds

were taken from the Florida Department of Transportation *Quality/Level of Service Handbook* (2002) as specified by SJCOG.

TABLE 3.8-4 CMP FACILITY PEAK HOUR LEVEL OF SERVICE THRESHOLDS

NUMBER OF LANES	*LOS A*	*LOS B*	*LOS C*	*LOS D*	*LOS E*
Major City/County Roadway Segments					
2	-	-	870	1,390	1,480
4	-	-	2,030	2,950	3,120
6	-	-	3,170	4,450	4,690
Freeway Segments					
4	2,050	3,350	4,840	6,250	7,110
6	3,240	5,250	7,600	9,840	11,180
8	4,420	7,160	10,360	13,420	15,240
10	5,600	9,070	13,130	16,980	19,310
12	6,780	10,980	15,890	20,560	23,360

SOURCE: FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) QUALITY/LEVEL OF SERVICE HANDBOOK (2002).

The CMP specifies that certain types of trips on the roadway segment are to be removed before analysis of the segment. These trips include interregional travel, trips from low income or very-low income housing, and certain high-density residential and mixed use developments. To remain conservative, this analysis does not take any reductions for the roadway segments, and only interregional travel is deducted from the freeway segments.

The SJCOG travel demand forecasting (TDF) model was used to determine the percentage of interregional trips on each freeway segment. The following percentages are applied for all four cumulative scenarios:

- I -5: El Dorado Road to SR 120 – 0.29%
- I-5: SR 120 to I-205 – 4.10%
- SR 120: I-5 to SR 99 – 4.30%
- SR 99: French Camp Road to SR 120 – 0.29%
- SR 99: SR 120 to Jack Tone Road – 3.10%

ROADWAY SYSTEM OPERATIONS ANALYSIS RESULTS

Figure 3.8-5 displays the existing AM and PM peak hour turning movement volumes at the 22 study intersections, as well as existing lane configurations. Traffic counts were collected between 2008 and 2010. As shown, 15 intersections are signalized, with the remaining intersections controlled by stop signs.

Study intersections were analyzed in accordance with procedures described previously. Table 3.8-5 summarizes the results of the intersection operations analysis. As shown, only two study intersections currently operate at LOS D during the PM peak hour (all other intersections operate at LOS C or better during both peak hours). Figure 3.8-6 displays the ADT on roadway segments within the City and summarizes the results of the intersection and roadway segment operations analysis.

TABLE 3.8-5 INTERSECTION DELAY AND LEVEL OF SERVICE - EXISTING CONDITIONS

INTERSECTION	TRAFFIC CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		DELAY	LOS	DELAY	LOS
1. McKinley Avenue/Woodward Avenue	Side Street Stop	9	A	9	A
2. Airport Way/Lathrop Road	Signal	30	C	28	C
3. Airport Way/Yosemite Avenue	Signal	26	C	29	C
4. Union Road/Lathrop Avenue	Signal	30	C	28	C
5. Union Road/Louise Avenue	Signal	26	C	30	C
6. Union Road/Yosemite Avenue	Signal	24	C	**39**	**D**
7. Union Road/Woodward Avenue	All Way Stop	10	B	9	A
8. Main Street/Louise Avenue	Signal	28	C	28	C
9. Main Street/Yosemite Avenue	Signal	26	C	**54**	**D**
10. Main Street/Woodward Avenue	All Way Stop	11	B	12	B
11. SR 120 WB Ramps / Airport Way	Signal	11	B	9	A
12. SR 120 EB Ramps / Airport Way	Signal	12	B	16	B
13. SR 120 WB Ramps / Union Road	Signal	12	B	11	B
14. SR 120 EB Ramps / Union Road	Signal	14	B	25	C
15. SR 120 WB Ramps / Main Street	Signal	7	A	5	A
16. SR 120 EB Ramps / Main Street	Signal	16	B	28	C
17. SR 99 SB Ramps / Lathrop Frontage Road	Side Street Stop	11	B	21	C
18. SR 99 NB Ramps / Lathrop Frontage Road	Side Street Stop	11	B	12	B
19. SR 99 SB Ramps / Yosemite Avenue	Signal	27	C	32	C
20. SR 99 NB Ramps / Yosemite Avenue / Button Avenue	Signal	20	B	21	C
21. SR 99 SB Ramps / Moffat Boulevard	Side Street Stop	12	B	13	B
22. SR 99 NB Ramps / Austin Road	Side Street Stop	11	B	10	B

SOURCE: FEHR & PEERS, 2010.

As shown in Table 3.8-6, in assessing roadway segment operations, it was found that 10 of the roadway segments in the City operate at LOS D or worse under existing conditions.

TABLE 3.8-6 CITY OF MANTECA ROADWAY SEGMENT ADT AND LEVEL OF SERVICE - EXISTING CONDITIONS

SEGMENT	NUMBER OF LANES	ADT	LOS
Lathrop Road: I-5 to Airport Way	2	12,200	D
Lathrop Road Main Street to Union Road	2	13,400	D
Lathrop Road: Main Street to SR 99	2	13,000	D
Louise Avenue: Cottage Avenue to Main Street	2	12,200	D
Airport Way: Wawona Street to Yosemite Avenue	2	13,600	D
Yosemite Avenue: Walnut Avenue to Union Road	2	16,200	E
Main Street: Center Street to Yosemite Avenue	2	13,800	D
Airport Way: Yosemite Avenue to Wawona Street	2	14,600	D
Airport Way: Daniels Street to Wawona Street	2	15,800	E
Main Street: North of Northgate Drive	2	13,400	D

SOURCE: FEHR & PEERS, 2010.

Table 3.8-7 displays the existing ADT and results of the roadway segment analysis for segments outside the City limits. As the table shows, all of the roadway facilities that were analyzed outside of the City currently operate at LOS D or better.

TABLE 3.8-7 OUTSIDE OF CITY ROADWAY SEGMENT ADT AND LEVEL OF SERVICE - EXISTING CONDITIONS

SEGMENT	NUMBER OF LANES	ADT	LOS
Roth Road: I-5 to Airport Way	2	6,100	A
Lathrop Road: I-5 to McKinley Avenue	2	12,700	D
Louise Avenue: I-5 to McKinley Avenue	4	12,500	A
Yosemite Avenue: McKinley Avenue to SR 120	2	5,900	A
Yosemite Avenue: Austin Road to Jack Tone Road	2	13,000	D
Airport Way: Roth Road to Daisywood Drive	2	6,400	A
Union Road: Woodward Avenue to Fig Avenue	2	3,300	A
Austin Road: Sedan Avenue to Ripon Road	2	5,100	A
Jack Tone Road: SR 99 to Ripon Road	2	8,900	B
Ripon Road: Main Street to Jack Tone Road	2	5,100	A

SOURCE: FEHR & PEERS, 2010.

Table 3.8-8 displays the freeway segment ADT and LOS. As shown, all study facilities operate at LOS D or better under existing conditions.

TABLE 3.8-8 FREEWAY SEGMENT ADT AND LEVEL OF SERVICE - EXISTING CONDITIONS

FREEWAY	SEGMENT	NUMBER OF LANES	ADT	LOS
I-5	El Dorado St to Roth Road	6	96,000	D
	Roth Road to Lathrop Road	6	96,000	D
	Lathrop Road to Louise Ave	6	100,000	D
	Louise Ave to SR 120	6	100,000	D
	SR 120 to I-205	10	152,00	C
SR 120	I-5 to Yosemite Ave	4	77,000	D
	Yosemite Ave to Airport Way	4	63,000	C
	Airport Way to Union Road	4	61,000	C
	Union Road to Main Street	4	61,000	C
	Main Street to SR 99	4	70,000	D
SR 99	French Camp Road to Lathrop Road	4	68,000	D
	Lathrop Road to Yosemite Ave	4	67,000	D
	Yosemite Ave to SR 120	6	84,000	C
	SR 120 to Austin Road	6	103,000	D
	Austin Road to Jack Tone Road	6	114,000	D

SOURCE: FEHR & PEERS, 2010.

3.8.2 REGULATORY SETTING

This section describes the regulatory setting and the terminology used throughout the report to describe the conditions of the transportation system with and without the proposed project.

FEDERAL AND STATE REGULATIONS

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways in San Joaquin County. Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the state highway system within the City of Manteca need to be approved by Caltrans, and the City of Manteca has no ability to unilaterally make improvements to the state highway system.

LOCAL REGULATIONS AND PLANS

San Joaquin County Regional Transportation Plan

San Joaquin County, through SJCOG, periodically updates the RTP, which outlines countywide transportation expenditures based on funding from sources like the federal government, the State of California, and locally collected funds. The current SJCOG RTP (2011) contains several proposed Tier I improvements that would benefit the regional roadway network within or near the study area, including:

- Widening SR 99 to six lanes between SR 120 in Manteca and SR 4 in Stockton,
- Widening SR 120 to six lanes between Interstate 5 (I-5) and SR 99,
- Adding additional HOV lanes on I-5 between I-205 and Eight Mile Road in Stockton,
- Widening Airport Way from two to four lanes between Roth Road and SR 120,
- Constructing several segments of Atherton Drive to four lanes,
- Widening Lathrop Road from two to four lanes between SR 99 and the UPRR crossing,
- Widening Louise Avenue from two to four lanes between SR 99 and the UPRR crossing,
- Widening McKinley Avenue from two to six lanes between SR 120 and SR 99.

San Joaquin County Congestion Management Program

The San Joaquin County Congestion Management Program requires SJCOG to create, manage, and update a countywide Regional Congestion Management Plan (CMP). The purpose of the CMP is to establish LOS standards for a defined set of freeways, highways, and local roads, as well as to maintain or achieve those standards by increasing capacity on these roadways and/or managing travel demand.

The CMP determines the LOS standard for the following facilities included in this study.

- I-5
- SR 120
- SR 99
- Airport Way
- Lathrop Road
- Yosemite Avenue
- Jack Tone Road
- Ripon Road
- McKinley Avenue

With the exception of SR 120 between Yosemite Avenue and SR 99, all of the facilities listed above have a LOS D standard. Because of existing traffic operations deficiencies on SR 120 between Yosemite Avenue and SR 99, this segment has an LOS F standard.

San Joaquin County Regional Traffic Impact Fee

SJCOG has implemented a regional traffic impact fee that is assessed on developments throughout San Joaquin County. As of 2009, the fee schedule is as follows: $3,102 per single family dwelling unit, $1,801

per multi-family dwelling unit, $1.20 per square foot for retail development, $1.51 per square foot for office development, and $0.90 for industrial development. These fees are adjusted annually to account for inflation and the funds go toward adding capacity on regional roadways and state highways.

Measure K

Measure K is a San Joaquin County measure that funds transportation projects through a half-cent sales tax. Measure K includes substantial funds for transit operations and infrastructure projects like the widening SR 99 to six lanes between Manteca and Stockton, as well as widening SR 120 to six lanes between I-5 and SR 99.

City of Lathrop General Plan

The City of Lathrop General Plan (amended 2004) includes the following relevant planned improvements, goals, and policies relating to its transportation system:

- Improve Roth Road to six lanes from I-5 to Airport Way, along with railroad grade separation structures.
- Improve Lathrop Road to four lanes from I-5 to the Manteca City limits, and provide railroad grade separation structures.

The City's existing General Plan identifies a goal of achieving LOS C operations on City streets and LOS D operations at interchange ramps. However, in previous environmental documents, the City has used a LOS D standard for signalized and all-way stop intersections and a LOS E standard for side-street stop-controlled intersections for the purposes of identifying impacts. For the purpose of this environmental analysis, a LOS D standard will be assumed for Lathrop roads.

According to the City of Lathrop Adopted Budget (Fiscal Year 2009-2010), funds are being collected for the following Capital Improvement Program (CIP) projects:

- Lathrop Road westerly grade-separation. Other sources of funding include Section 190 funds from the PUC, and State Transportation Improvement Program (STIP) funds. Completion expected in 2012.
- I-5/Lathrop Road improvements. The City is pursuing interim improvements as the ultimate improvements are several years away. Funding for ultimate improvements through developer fees, Measure K Renewal, and other sources.

City of Ripon 2040 General Plan

The LOS threshold from the City of Ripon General Plan is relevant to this analysis since some study facilities are within Ripon. The Ripon General Plan circulation element specifies LOS D as the minimum acceptable LOS for transportation facilities within the City.

The Ripon General Plan also calls for the development of a new interchange at Olive Expressway and SR 99. This interchange is proposed to be located one mile north of the existing Jack Tone Road interchange with SR 99.

San Joaquin County General Plan

The LOS threshold from the San Joaquin County General Plan is relevant to this analysis since some study facilities are within unincorporated portions of the County. The San Joaquin General Plan circulation element specifies LOS D as the minimum acceptable LOS for county-owned transportation facilities within the study area.

City of Manteca 2023 General Plan

The City of Manteca General 2023 Plan Circulation Element (adopted in 2003) includes the following policies related to LOS that are relevant to this analysis:

STREET SYSTEM

- Policy C-P-1: The City shall strive to attain the highest possible traffic levels of service (LOS) consistent with the financial resources available and the limits of technical feasibility. The impact of new development and land use proposals on LOS should be considered in the review process.
- Policy C-P-2: Manteca's target for transportation LOS is to provide a Citywide average of LOS of C or better, and a minimum of LOS D at any individual location. This "C average, D minimum" shall be accomplished by attempting to provide LOS C at all locations, but accepting LOS D under the following circumstances:

    a. Where constructing facilities with enough capacity to provide LOS C is found to be unreasonably expensive. This applies to facilities, for example, on which it would cost significantly more per dwelling unit equivalent (DUE) to provide LOS C than to provide LOS D.

    b. Where it is difficult or impossible to maintain LOS C because surrounding facilities in other jurisdictions operate at LOS D or worse.

    c. Where free-flowing roadways or interchange ramps would discourage use of alternate travel modes.

    d. Where maintaining LOS C will be a disincentive to use of existing alternative modes or to the implementation of new transportation modes that would reduce vehicle travel.

    Note that for the purposes of this environmental analysis, the City considers LOS C as the acceptable LOS threshold for all intersections and roadway segments in the City of Manteca.

    The proposed updates to the City's LOS standard and other goals and policies of the proposed Circulation Element update will be described in more detail in Section 3.8.7 of this document. The draft Circulation Element is also included in Appendix. However, for comparison purposes, the proposed LOS standard is summarized below.

- Policy C-P-1: The City shall strive to balance levels of service (LOS) for all modes (vehicle, transit, bicycle, and pedestrian) to maintain a high level of access and mobility, while developing a complete and efficient circulation system. The impact of new development and land use proposals on LOS and accessibility for all modes should be considered in the review process.

- Policy C-P-2: To the extent feasible, the City shall strive for a vehicular LOS of D or better at all streets and intersections, except in the Downtown area where right-of-way is limited, pedestrian, bicycle, and transit mobility are most important and vehicular LOS is not a consideration. See Figure 4.1 for a map defining the Downtown area. While vehicular LOS is not a consideration in the Downtown area, traffic studies shall disclose whether any proposed transportation or land use action will substantially increase traffic at intersections and roadways within this area of the City.
- Policy C-P-3: At the discretion of City staff, certain locations may be allowed to fall below the City's LOS standard under the following circumstances:
    a. Where constructing facilities with enough capacity to provide LOS D is found to be unreasonably expensive. This applies to facilities, for example, on which it would cost significantly more per dwelling unit equivalent (DUE) to provide LOS D than is deemed reasonable by City staff.
    b. Where it is difficult or impossible to maintain LOS D because surrounding facilities in other jurisdictions operate at LOS E or worse.
    c. Where maintaining LOS D will be a disincentive to use of existing alternative modes or to the implementation of new transportation modes that would reduce vehicle travel. Examples include roadway or intersection widening in areas with substantial pedestrian activity or near major transit centers.
    d. In the Downtown area the City cannot maintain the vehicular LOS D standard because of the historic nature of development and limited street right-of-way. However, it is the City's goal to maintain high quality access and mobility in the area with a priority toward non-auto modes. Therefore, the City shall require that new discretionary land use action within the Downtown area, which generate net new PM peak hour auto trips, to participate in enhancing access and mobility for transit, bicycle, and pedestrian modes. These enhancements may include, but are not limited to:
        - Enhancing sidewalks to create a high quality pedestrian environment, including wider sidewalks and improved crosswalks, landscaping, buffers between sidewalks and vehicle travel lanes, enhanced pedestrian lighting, increased availability of benches, provisions for café-style seating, and usage of monument elements and other public art.
        - Improving bicycle facilities to include attractive and secure bicycle parking, installation of bike lockers in appropriate locations, and provision of bicycle lanes along appropriate roadways.
        - Enhancing transit stops through high quality, well maintained shelters, and provision of wayfinding signage and transit timetables.
        - Providing off-street parking with high quality access to Downtown businesses, and which is well-maintained and provides amenities like shade streets, canopies, adequate lighting, and wayfinding signage.

- Supporting the development of a Downtown Business Improvement District or similar mechanism to help fund ongoing maintenance of the streetscape enhancements.

The Public Works Department shall maintain a list of all City intersections and roadway facilities that are exempt from the LOS D standard. This list shall note any alternate LOS standard that is applicable at the exempted locations.

City of Manteca Bicycle Master Plan

The City of Manteca Bicycle Master Plan (City of Manteca 2003) includes the following policies related to bicycle circulation in new development areas that are relevant to this analysis:

- Require new development to construct bikeways included in the proposed system along all roadways included within or adjacent to that development.
- Require new development to provide support facilities such as bicycle racks, personal lockers, and showers at appropriate locations such as parks, major recreational destinations, park-and-ride facilities, employment centers, schools, and commercial centers.
- Provide bicycle crossings at appropriate intervals along new roadways that will adequately serve new large-scale commercial, office, industrial, and residential development.
- Require new development to incorporate parks and schools as important destinations for bicyclists when designing circulation plans for subdivisions and other developments.

City of Manteca Public Facilities Implementation Plan

The City of Manteca's PFIP (City of Manteca 1993) is the implementing document for the City's General Plan policies on public infrastructure facilities. The purpose of the PFIP is to ensure adequate provision of public facilities as the city grows, and that they are developed in accordance with the City's General Plan. The PFIP is based on the City's individual water, sewer, drainage, and transportation facilities master plans. Under the PFIP, development impact fees are collected at or near the time of development and are used to finance the capacity expansion of public facilities (i.e., water, sewer collection, drainage, and transportation) necessary to accommodate the new demands. Public improvements are timed to ensure the LOS targets for each service are reasonably maintained.

Since the 1993 PFIP was not indexed to inflation, the current fees do not cover the costs of building the required transportation infrastructure. The City is currently updating the PFIP (which will be known as the Public Facilities Fee, or PFF program) to develop a new list of infrastructure projects and a revised fee. It is envisioned that the updated PFF fee would fully cover the costs of city roadway improvements needed to accommodate growth through General Plan buildout. In addition, a separate fee (which may or may not be included in the PFF) to cover at least a portion of the costs of interchange construction is being considered. For the purposes of this analysis, it is assumed that the fully funded PFF and interchange programs will be adopted for two of the future year scenarios as described in Section 3.8.5.

3.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with the approach of assuming that the proposed Circulation Element Update would affect only the transportation network and not land use development patterns, the Cumulative No Project (Constrained) scenario will serve as the baseline for identifying operating deficiencies and impacts to transportation facilities in the planning horizon year. The proposed project is considered to have a significant impact on the environment associated with transportation and circulation if it will:

- Cause an increase in traffic which is substantial in relation to the Cumulative No Project (Constrained) conditions 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 LOS standard established by the City of Manteca, neighboring jurisdictions, Caltrans, or the county congestion management agency for designated roads or highways;
- Substantially increase hazards due to design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Interfere substantially with implementation of any adopted non-motorized transportation plan;
- Result in inadequate emergency access.
- Conflict with other relevant plans.

METHODOLOGY

This planning scenario includes improvements to roadway segments and intersections throughout the City that achieve the following:

- Better align transportation infrastructure with planned and reasonably foreseeable development based on project applications that have been submitted to the City since 2003.
- Develops a transportation system that is financially sustainable while meeting changing community goals related to LOS and multimodal travel.
- Preserves the street-oriented character of Downtown Manteca.

Figure 3.8-7 through 3.8-10 summarizes the number of lanes assumed under four planning scenarios (No Project-Constrained, No Project-Unconstrained, Circulation Element "proposed project", and an Alternative Investment Strategy). Several key arterial widening projects for the proposed project are listed below. An analysis of the other three planning scenarios is provided in Section 5.0 Alternatives.

- Airport Way – widened to four lanes from Roth Road to Woodward Avenue (widens to six lanes on the SR 120 interchange between Daniels Street and Atherton Avenue).
- Union Road – widened to four lanes from Lovelace Road to Del Webb Boulevard, widened to six lanes between Daniels Street and Atherton Drive.
- Main Street – widened to six lanes between Industrial Park Drive and Atherton Drive, widened to four lanes from Atherton Drive to just south of Woodward Avenue.
- Lathrop Road – widened to four continuous lanes from McKinley Avenue to SR 99

- Atherton Drive – constructed to four lanes. Begins at Woodward Avenue in the west, continues eastward, parallel to SR 120, before turning towards the south near Moffat Boulevard and intersecting with McKinley Avenue Expressway again near Austin Road.
- McKinley Avenue Expressway – interchange constructed with SR 120, extended south of SR 120, then to the east to an interchange with SR 99. Consists of four lanes between SR 120 and Woodward Avenue, two lanes from Woodward Avenue to Main Street, widens to four lanes from Main St. to Austin Rd., and widens again to six lanes through the interchange with SR 99.

This analysis scenario also includes the same planned regional improvements to neighboring jurisdiction's arterial roadways, SR 120, SR 99, and I-5, as described in the other planning scenarios.

Intersection, roadway, and freeway forecasts were developed using the SJCOG TDF model with the same land use assumptions as the Cumulative No Project (Constrained) scenario. The model roadway network includes all of the improvements listed above. Forecasts were developed using the difference method, as described in the Cumulative No Project (Constrained) scenario section.

In addition to the updated Circulation Element Roadway Map, the Circulation Element updates many of the City's transportation-related goals, policies, and implementation actions. The Appendix presents the proposed Circulation Element, and some of the key policy updates are summarized below:

- New goal related to the development of complete streets to facilitate mobility by all modes.
- Now goal related to developing a downtown area that is highly accessible to all modes of travel focusing primarily on pedestrian, bicycles, and transit riders.
- New LOS policy that strived to maintain LOS D citywide, except in the downtown area where vehicular LOS is not a consideration and access by non-auto modes is a priority. There is an additional provision for the definition of alternative LOS standards for specific intersections and roadways.
- New implementation measures requiring the City to update the Bike Master Plan and develop a Pedestrian Master Plan and ADA Transition Plan.
- New section related to goods movement, identifying new policies and truck routes.
- Updated Transportation Demand Management policies highlighting the SJCOG Commute Connection program.

ROADWAY SYSTEM OPERATIONS ANALYSIS RESULTS

Figures 3.8-12, 3.8-14, 3.8-16, and 3.8-18 displays the proposed project AM and PM peak hour turning movement volumes at the study intersections, as well as the lane configuration assumptions for the four planning scenarios (No Project-Constrained, No Project-Unconstrained, Circulation Element "proposed project", and an Alternative Investment Strategy).

Study intersections were analyzed and impacts were identified using the methodology described in Section 3.8.4 for the proposed project. A full analysis of the other three planning scenarios is provided in Section 5.0 Alternatives. Table 3.8-9 summarizes the results of the intersection operations analysis and indicates that two of 22 intersections would be impacted under this scenario using the Existing General Plan LOS policy and one intersection would be impacted when applying the Proposed General Plan LOS policy.

Figure 3.8-13, 3.8-15, 3.8-17, and 3.8-19 displays the ADT and summarizes the results of the intersection, freeway segment, and roadway segment operations analysis for the four planning scenarios (No Project-Constrained, No Project-Unconstrained, Circulation Element "proposed project", and an Alternative Investment Strategy).

Freeway and roadway segments were analyzed under the Circulation Element Update scenario by applying the same thresholds used for the existing conditions analysis. A full analysis of the other three planning scenarios is provided in Section 5.0 Alternatives. Table 3.8-10 summarizes the roadway segments with identified impacts under either the existing General Plan or the Proposed General Plan. As the table shows, 11 roadway segments in the City would be impacted under this scenario using the Existing General Plan LOS policy. Assuming that the Proposed General Plan LOS policy were in place, two segments would be impacted.

Table 3.8-11 displays the ADT and LOS for roadway segments outside the Manteca city limits under this scenario. As discussed previously, several of these segments are assumed to be widened and as such the table displays the number of lanes for each segment. As shown in the table, this scenario would result in two impacts to roadway segments outside of the City.

Table 3.8-12 and Figure 3.8-17 indicate that many of the freeway mainline segments will operate unacceptably at LOS E or F under the proposed project. However, because this scenario provides more local roadway capacity, which encourages fewer local trips to use the freeway system, only three freeway mainline segments would be impacted under this scenario:

- I-5: between Louise Avenue and SR 120
- SR 120: Yosemite Avenue to Airport Way
- SR 99: Yosemite Avenue to SR 120

The CMP analysis methodology described in previous sections was used to analyze all CMP-designated freeway and roadway segments within the study area and to identify impacts under the proposed project. Table 3.8-13 displays the PM peak hour forecast and LOS for all CMP facilities within the study area under this scenario. As shown, while several segments would operate unacceptably, only four segments would be impacted.

Based on the LOS policies described in Section 3.8.3, along with the results of other EIRs prepared in the area, the following LOS thresholds will be used to determine impacts related to the Circulation Element update alternatives:

- Caltrans: LOS D
- SJCOG CMP: LOS D, except for SR 120 between Yosemite Avenue and SR 99
- Lathrop: LOS D
- Ripon: LOS D
- San Joaquin County: LOS D
- City of Manteca (Existing General Plan): LOS C
- City of Manteca (Proposed General Plan): LOS D for City facilities outside of Downtown

TABLE 3.8-9 INTERSECTION DELAY AND LEVEL OF SERVICE - CUMULATIVE WITH CIRCULATION ELEMENT UPDATE

INTERSECTION	TRAFFIC CONTROL[1]	NO PROJECT (CONSTRAINED)				CIRCULATION ELEMENT UPDATE				IMPACT?	
		AM PEAK HOUR		AM PEAK HOUR		AM PEAK HOUR		AM PEAK HOUR			
		DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	2023 GP	PROP GP
1. McKinley Avenue Expressway /Woodward Avenue	Signal	>150	F	>150	F	23	C	28	C		
2. Airport Way/Lathrop Road	Signal	96	F	147	F	48	D	71	E		
3. Airport Way/Yosemite Avenue	Signal	42	D	63	E	29	C	38	D		
4. Union Road/Lathrop Avenue	Signal	44	D	37	D	67	E	55	E	X	X
5. Union Road/Louise Avenue	Signal	31	C	45	D	30	C	46	D		
6. Union Road/Yosemite Avenue	Signal	38	D	67	E	28	C	53	D		
7. Union Road/Woodward Avenue	Signal	>150	F	>150	F	28	C	24	C		
8. Main Street/Louise Avenue	Signal	33	C	32	C	29	C	38	D	X	
9. Main Street/Yosemite Avenue[2]	Signal	46	D	104	F	39	D	103	F		
10. Main Street/Woodward Avenue	Signal	118	F	>150	F	23	C	24	C		
11. SR 120 WB Ramps / Airport Way	Signal	121	F	>150	F	9	A	12	B		
12. SR 120 EB Ramps / Airport Way	Signal	107	F	>150	F	6	A	9	A		
13. SR 120 WB Ramps / Union Road	Signal	>150	F	54	D	6	A	9	A		
14. SR 120 EB Ramps / Union Road	Signal	>150	F	>150	F	7	A	14	B		
15. SR 120 WB Ramps / Main Street	Signal	25	C	23	C	4	A	5	A		
16. SR 120 EB Ramps / Main Street	Signal	48	D	97	F	10	B	14	B		
17. SR 99 SB Ramps / Lathrop Frontage Road	Signal	18	B	21	C	22	C	24	C		
18. SR 99 NB Ramps / Lathrop Frontage Road	Signal	12	B	11	B	16	B	14	B		
19. SR 99 SB Ramps / Yosemite Avenue	Signal	40	D	38	D	33	C	45	D		
20. SR 99 NB Ramps / Yosemite Avenue / Button Avenue	Signal	28	C	38	D	28	C	50	D		
21. SR 99 SB Ramps / Moffat Boulevard	-	>150	F	>150	F	-	-	-	-		
22. SR 99 NB Ramps / Austin Road	-	>150	F	>150	F	-	-	-	-		

NOTES: ">150" IS REPORTED WHEN THE DELAY IS OUTSIDE THE RANGE OF THE SOFTWARE.

[1] 2030 WITH CIRCULATION ELEMENT UPDATE.

[2] INTERSECTION IS CONSIDERED A PART OF DOWNTOWN MANTECA, WHICH IS NOT SUBJECT TO LOS REQUIREMENTS UNDER THE PROPOSED GENERAL PLAN.

SOURCE: FEHR & PEERS, 2010.

TABLE 3.8-10 CITY OF MANTECA ROADWAY SEGMENT ADT AND LEVEL OF SERVICE - CUMULATIVE CONDITIONS WITH CIRCULATION ELEMENT UPDATE

SEGMENT	*NUMBER OF LANES 1*	*NO PROJECT (CONSTRAINED)*		*CIRCULATION ELEMENT UPDATE*		*IMPACT?*	
		ADT	*LOS*	*ADT*	*LOS*	*2023 GP*	*PROP GP*
Lathrop Road: London Avenue to Airport Way	4	14,100	D	26,200	D	X	
Union Road: Dell Webb to Lathrop Road	4	29,500	D	30,300	D	X	
Lathrop Road: Main Street to SR 99	4	22,900	C	31,800	D	X	
Main Street: Center Street to Yosemite Avenue[2]	2	16,900	E	18,000	F	X	
McKinley Avenue Expressway: SR 120 to Woodward Avenue	4	11,800	C	40,500	F	X	X
McKinley Avenue Expressway: Woodward Avenue to Airport Way	2	3,900	A	12,700	D	X	
McKinley Avenue Expressway: Airport Way to Union Road	2	--	--	12,900	D	X	
McKinley Avenue Expressway: Union Road to Main Street	2	--	--	15,000	E	X	X
McKinley Avenue Expressway: Atherton to Austin Road	4	25,700	C	27,100	D	X	
Atherton Drive: Woodward Avenue (west) to McKinley Avenue	4	--	--	27,500	D	X	
Main Street: Woodward Avenue to McKinley Avenue	2	13,500	D	14,500	D	X	

NOTES: *1 LANES ASSUMED UNDER CUMULATIVE CONDITIONS WITH CIRCULATION ELEMENT UPDATE SCENARIO.*

2 ROADWAY SEGMENT IS CONSIDERED A PART OF DOWNTOWN MANTECA, WHICH IS NOT SUBJECT TO LOS REQUIREMENTS UNDER THE PROPOSED GENERAL PLAN.

SOURCE: FEHR & PEERS, 2010.

TABLE 3.8-11 OUTSIDE OF CITY ROADWAY SEGMENT ADT AND LEVEL OF SERVICE - CUMULATIVE CONDITIONS WITH CIRCULATION ELEMENT UPDATE

SEGMENT	*NUMBER OF LANES1*	*NO PROJECT (CONSTRAINED)*		*CIRCULATION ELEMENT UPDATE*		*IMPACT?*
		ADT	*LOS*	*ADT*	*LOS*	
Roth Road: I-5 to UPRR Tracks	2	19,100	F	20,200	F	X
Lathrop Road: I-5 to McKinley Avenue	4	18,600	A	25,300	C	
Lathrop Road: McKinley Avenue to Manteca/Lathrop City Limit	4	18,100	A	24,400	C	
Louise Avenue: I-5 to McKinley Avenue	4	25,000	C	25,700	C	
Louise Avenue: McKinley Avenue to Manteca/Lathrop City Limit	4	16,300	A	16,300	A	
Yosemite Avenue: SR 120 to McKinley Avenue	2	26,700	F	21,200	F	
Yosemite Avenue: McKinley Avenue to Manteca/Lathrop City Limit	2	17,000	E	16,200	E	
Yosemite Avenue: Austin Road to Jack Tone Road	2	15,700	E	20,600	F	X
Airport Way: Daisywood Drive to Roth Road	4	17,000	A	23,000	C	
Union Road: Woodward Avenue to Fig Avenue	2	9,200	B	6,000	A	
Austin Road: McKinley Avenue to Ripon Road	2	18,900	F	5,900	A	
Jack Tone Road: SR 99 to Ripon Road	4	10,800	A	13,300	A	
Ripon Road: Main Street to Austin Road	2	3,300	A	3,300	A	
Ripon Road: Austin Road to Jack Tone Road	2	9,700	C	5,100	A	

[1] *CUMULATIVE CONDITIONS WITH CIRCULATION ELEMENT UPDATE.*

SOURCE: FEHR & PEERS, 2010.

TABLE 3.8-12 FREEWAY SEGMENT ADT AND LEVEL OF SERVICE - CUMULATIVE CONDITIONS WITH CIRCULATION ELEMENT UPDATE

FREEWAY	*SEGMENT*	*NUMBER OF LANES*	*NO PROJECT (CONSTRAINED)*		*CIRCULATION ELEMENT UPDATE*		*IMPACT?*
			ADT	*LOS*	*ADT*	*LOS*	
I-5	El Dorado St to Roth Road	8	134,300	D	137,400	D	
	Roth Road to Lathrop Road	8	143,300	D	147,600	D	
	Lathrop Road to Louise Ave	8	152,500	D	151,900	D	
	Louise Ave to SR 120	8	172,600	E	178,400	F	X
	SR 120 to I-205	12	247,200	E	241,000	E	
SR 120	I-5 to Yosemite Ave	6	142,000	F	141,500	F	
	Yosemite Ave to Airport Way	6	122,100	E	128,300	E	X
	Airport Way to Union Road	6	120,500	E	120,000	E	
	Union Road to Main Street	6	117,600	E	113,500	D	
	Main Street to SR 99	6	110,600	D	108,700	D	
SR 99	French Camp Road to Lathrop Road	6	106,000	D	108,300	D	
	Lathrop Road to Yosemite Ave	6	114,800	D	115,100	D	
	Yosemite Ave to SR 120	6	140,600	F	141,600	F	X
	SR 120 to McKinley Ave	6	174,200	F	167,200	F	
	McKinley Ave to Jack Tone Road	6	185,500	F	175,700	F	

SOURCE: FEHR & PEERS, 2010.

TABLE 3.8-13 CMP SEGMENT FORECASTS AND LEVEL OF SERVICE - CUMULATIVE CONDITIONS WITH CIRCULATION ELEMENT UPDATE

ROADWAY	SEGMENT	NUMBER OF LANES	NO PROJECT (CONSTRAINED)		CIRCULATION ELEMENT UPDATE		IMPACT?
			PM PEAK HOUR VOLUME	LOS	PM PEAK HOUR VOLUME	LOS	
I-5	El Dorado St to Roth Road	8	10,600	D	10,850	D	
	Roth Road to Lathrop Road	8	11,060	D	11,390	D	
	Lathrop Road to Louise Ave	8	11,200	D	11,160	D	
	Louise Ave to SR 120	8	12,640	D	13,060	D	
	SR 120 to I-205	12	16,090	D	15,680	C	
SR 120	I-5 to Yosemite Ave	6	9,730	D	9,690	D	
	Yosemite Ave to Airport Way[1]	6	9,940	E	10,440	E	
	Airport Way to Union Road[1]	6	9,890	E	9,850	E	
	Union Road to Main Street[1]	6	9,550	D	9,220	D	
	Main Street to SR 99[1]	6	7,040	C	6,920	C	
SR 99	French Camp Road to Lathrop Road	6	9,550	D	9,760	D	
	Lathrop Road to Yosemite Ave	6	10,050	E	10,080	E	X
	Yosemite Ave to SR 120	6	11,580	F	11,660	F	X
	SR 120 to Austin Road	6	15,350	F	14,730	F	
	Austin Road to Jack Tone Road	6	15,420	F	14,600	F	
Airport Way	Roth Road to Daisywood Drive	4	1,450	C	1,960	C	
	Daisywood Drive to Lathrop Road	4	2,570	F	2,940	D	
	Lathrop Road to Northgate Drive	4	1,370	D	1,850	C	
	Northgate Drive to Louise Avenue	4	950	D	1,600	C	
	Louise Avenue to Crom Street	4	1,600	F	1,990	C	
	Crom Street to Yosemite Avenue	4	1,520	F	2,280	D	
	Yosemite Avenue to Wawona St	4	1,470	E	1,940	C	
	Wawona St to Daniels Street	4	1,720	F	1,990	C	
	Daniels Street to SR 120	4	1,770	F	2,200	D	
Lathrop Road	I-5 to McKinley Avenue	4	1,810	C	2,470	D	
	McKinley Avenue to Airport Way	4	1,750	C	2,360	D	
	Airport Way to London Avenue	4	1,400	E	2,610	D	
	London Avenue to Union Road	4	1,460	E	2,260	D	
	Union Road to Main Street	4	1,530	F	2,280	D	
	Main Street to SR 99	4	1,440	C	2,000	C	
Yosemite Avenue	Airport Way to Winters Drive	4	1,760	C	1,510	C	
	Winters Drive to Union Road	4	2,340	D	1,990	C	
	Union Road to Walnut Avenue	4	1,460	E	1,470	C	
	Walnut Avenue to Main Street	2	1,080	D	1,080	D	
	Main Street to Powers Avenue	2	1,540	F	1,460	E	

	Powers Avenue to Spreckels Avenue	4	2,330	D	2,120	D	
	Spreckels Avenue to Northwoods Avenue	4	1,690	C	2,030	C	
	Northwoods Avenue to SR 99	6	2,080	D	2,000	C	
	SR 99 to Austin Road	6	2,650	D	3,180	D	
	Austin Road to Jack Tone Road	2	1,140	D	1,490	F	X
Jack Tone Road	SR 99 to Ripon Road	4	1,060	C	1,300	C	
Ripon Road	Main Street to Jack Tone Road	2	820	C	430	C	
McKinley Avenue Expressway	SR 120 to Woodward Avenue	4	1,130	D	3,890	F	X
	Woodward Avenue to Airport Way	2	350	C	1,140	D	
	Airport Way to Union Road	2	-	-	1,150	D	
	Union Road to Main Street	2	-	-	1,340	D	
	Main Street to Atherton Drive	4	1,270	C	2,200	D	
	Atherton Drive to Austin Road	4	2,300	D	2,420	D	
	Austin Road to SR 99	6	3,280	D	3,540	D	

NOTE: I THESE FREEWAY SEGMENTS HAVE A LOS F STANDARD.

SOURCE: FEHR & PEERS, 2010.

BICYCLE AND PEDESTRIAN SYSTEM

Sidewalk coverage within the study area is expected to expand under the proposed project, since the City requires pedestrian frontage improvements for all new development. The Pedestrian Master Plan proposed as part of the Circulation Element Update may also improve the quality of the pedestrian system in the area by identifying gaps in the system and improving pedestrian connections between major destinations.

The update to the Circulation Element includes an update to the City of Manteca Bicycle Master Plan. This update will consider the recommendations of the previous plan and provide new policies and projects where necessary to better integrate the proposed bicycle system with the existing and planned land use development expected with buildout of the Land Use Element of the General Plan.

While the proposed Circulation Element Update calls for an update to the Bicycle Master Plan and a new Pedestrian Master Plan, the proposed PFF update does not include a funding stream dedicated to bicycle or pedestrian improvements. Therefore, under this scenario, it is assumed that all new pedestrian and bicycle improvements will be built in conjunction with development projects, either as conditions of approval, frontage improvements, or as part of the internal circulation network.

TRANSIT SYSTEM

Development of the transit system is not expected to differ substantially between the proposed project and Cumulative No Project (Constrained) scenario.

IMPACT AND MITIGATION MEASURES

This section describes the impacts expected to occur under the proposed project and describes potential mitigation measures to reduce the significance of these impacts. These impacts reflect the analysis described in the previous sections. For intersection and roadway facilities within the City of Manteca, impacts are identified according to both the City's existing LOS C standard and proposed LOS D standard. Impacts and mitigations relating to the City's existing LOS standard are denoted with an "a" and those associated with the proposed LOS standard denoted with a "b."

Impact 3.8-1: Increase in traffic volumes would increase delay and volume-to-capacity ratio on certain transportation facilities (less than significant)

The following roadways/intersections are projected to have impacts that would degrade unacceptable levels.

- delay at the Main Street/Louise Avenue intersection, creating unacceptable (LOS D).
- volume-to-capacity ratio on Lathrop Road between London Avenue and Airport Way, exacerbating deficient (LOS D).
- volume-to-capacity ratio on Union Road between Dell Webb Boulevard and Lathrop Road, exacerbating deficient (LOS D).
- volume-to-capacity ratio on Lathrop Road between Main Street and SR 99, creating unacceptable (LOS D).

- volume-to-capacity ratio on Main Street between Center Street and Yosemite Avenue, creating unacceptable (LOS F).
- volume-to-capacity ratio on McKinley Avenue Expressway between SR 120 and Woodward Avenue, creating unacceptable (LOS D).
- volume-to-capacity ratio on McKinley Avenue Expressway between Atherton Drive and Austin Road, creating unacceptable (LOS D).
- volume-to-capacity ratio on McKinley Avenue Expressway between Airport Way and Union Road with unacceptable (LOS D).
- volume-to-capacity ratio on Atherton Drive between Woodward Avenue (west) and McKinley Avenue Expressway with unacceptable (LOS D).
- Increase in traffic volumes would cause the Airport Way/Lathrop Road intersection to exceed the proposed General Plan LOS standard.

The Proposed General Plan LOS policy contained in the proposed project would reduce this impact to a ***less-than-significant*** level.

Impact 3.8-2: Increase in traffic volumes would increase delay and/or volume-to-capacity ratios at traffic facilities creating unacceptable operations (less than significant with mitigation)

FACILITIES CONTROLLED BY MANTECA

The following roadways/intersections are projected to have increased traffic volume related impacts that would degrade LOS to unacceptable levels.

- delay at the Union Road/Lathrop Avenue intersection, creating unacceptable (LOS E).
- volume-to-capacity ratio on McKinley Avenue Expressway between SR 120 and Woodward Avenue, creating unacceptable (LOS F).
- volume-to-capacity ratio on McKinley Avenue Expressway between Union Road and Main Street with unacceptable (LOS E).
- volume-to-capacity ratio on McKinley Avenue Expressway between Union Road and Main Street with unacceptable (LOS E).
- volume-to-capacity ratio on McKinley Avenue Expressway between SR 120 and Woodward Avenue, creating unacceptable (LOS F).
- increased PM peak hour traffic flow on McKinley Avenue Expressway between SR 120 and Woodward Avenue, creating unacceptable (LOS F) operations under the SJCOG CMP LOS standard.
- Increase in traffic volumes would cause some roadway segments and intersections to exceed the existing General Plan LOS standard.
    - Union Road/Louise Avenue intersection
    - Union Road/Yosemite Avenue intersection
    - Main Street/Yosemite Avenue intersection
    - Airport Way between Daisywood Drive and Lathrop Road
    - Lathrop Road between London Avenue and Main Street
    - Cottage Avenue between Yosemite Avenue and Louise Avenue

- Yosemite Avenue between Main Street and Powers Avenue
- McKinley Avenue Expressway between Woodward Avenue and Union Road
- Austin Road between SR 99 and Yosemite Avenue

These impacts could be mitigated by adopting the Proposed General Plan LOS policy and planning for additional transportation improvements. Alternatively, the City could adopt an alternative LOS standard for any of these facilities (as allowed by the proposed General Plan LOS policy) and add the facility to the list of facilities exempted from the standard General Plan LOS policy. Implementation following mitigation measure would reduce the impact to ***less-than-significant***.

MITIGATION MEASURES

Mitigation Measure 3.8.1: *The City of Manteca shall either update the PFF to include additional lanes/wider segments at facilities that are operating at unacceptable levels, or adopt an alternative LOS standard for that particular roadway/intersection.*

FACILITIES NOT CONTROLLED BY MANTECA

The following roadways/intersections that are under the control of a neighboring jurisdiction are projected to have increased traffic volume related impacts that would degrade LOS to unacceptable levels.

- volume-to-capacity ratio on Roth Road between I-5 and the UPRR Tracks, exacerbating deficient (LOS F).
- volume-to-capacity ratio on I-5 between Louise Avenue and SR 120, creating unacceptable (LOS F).
- volume-to-capacity ratio on SR 120 between Yosemite Avenue and Airport Way, exacerbating unacceptable (LOS E).
- volume-to-capacity ratio on SR 99 between Yosemite Avenue and SR 120, exacerbating unacceptable (LOS E).
- volume-to-capacity ratio on Yosemite Avenue (SR 120) between Austin Road and Jack Tone Road, exacerbating unacceptable (LOS E/F).
- Increase in traffic volumes would increase the PM peak hour traffic flow on SR 99 between Austin Road and Yosemite Avenue, exacerbating unacceptable (LOS E/F) operations under the SJCOG CMP LOS standard.
- Increase in traffic volumes would increase the PM peak hour traffic flow on Yosemite Avenue (SR 120) between Austin Road and Jack Tone Road, creating unacceptable (LOS E) operations under the SJCOG CMP LOS standard.

These impacts could be mitigated by planning for additional transportation improvements, however, these facilities are not controlled by the City of Manteca and the City cannot guarantee implementation. Implementation following mitigation measure would reduce the impact to ***less-than-significant***.

MITIGATION MEASURES

Mitigation Measure 3.8.2: *The City of Manteca shall coordinate transportation planning efforts with neighboring jurisdictions to ensure that LOS is maintained at acceptable levels.*

Impact 3.8-3: Implementation of the transportation system may conflict with the City of Ripon General Plan's Circulation Element, which calls for a new interchange one mile north of Jack Tone Road at Olive Expressway (less than significant with mitigation)

This impact is related to the location of the proposed McKinley Avenue Expressway interchange. Based on Caltrans comments related to the ongoing PSR, the agency does not support an interchange along SR 99 within two miles of SR 120. This interchange spacing requirement would potentially cause a conflict with a similar interchange spacing requirement for the proposed Olive Expressway interchange. This impact could be mitigated through a design that would accommodate both interchanges with collector-distributor ramps, braded ramps, or other geometric considerations. Alternatively, the cities of Ripon and Manteca could agree on a single interchange design and location that meets the needs of both cities and Caltrans. Implementation following mitigation measure would reduce the impact to ***less-than-significant***.

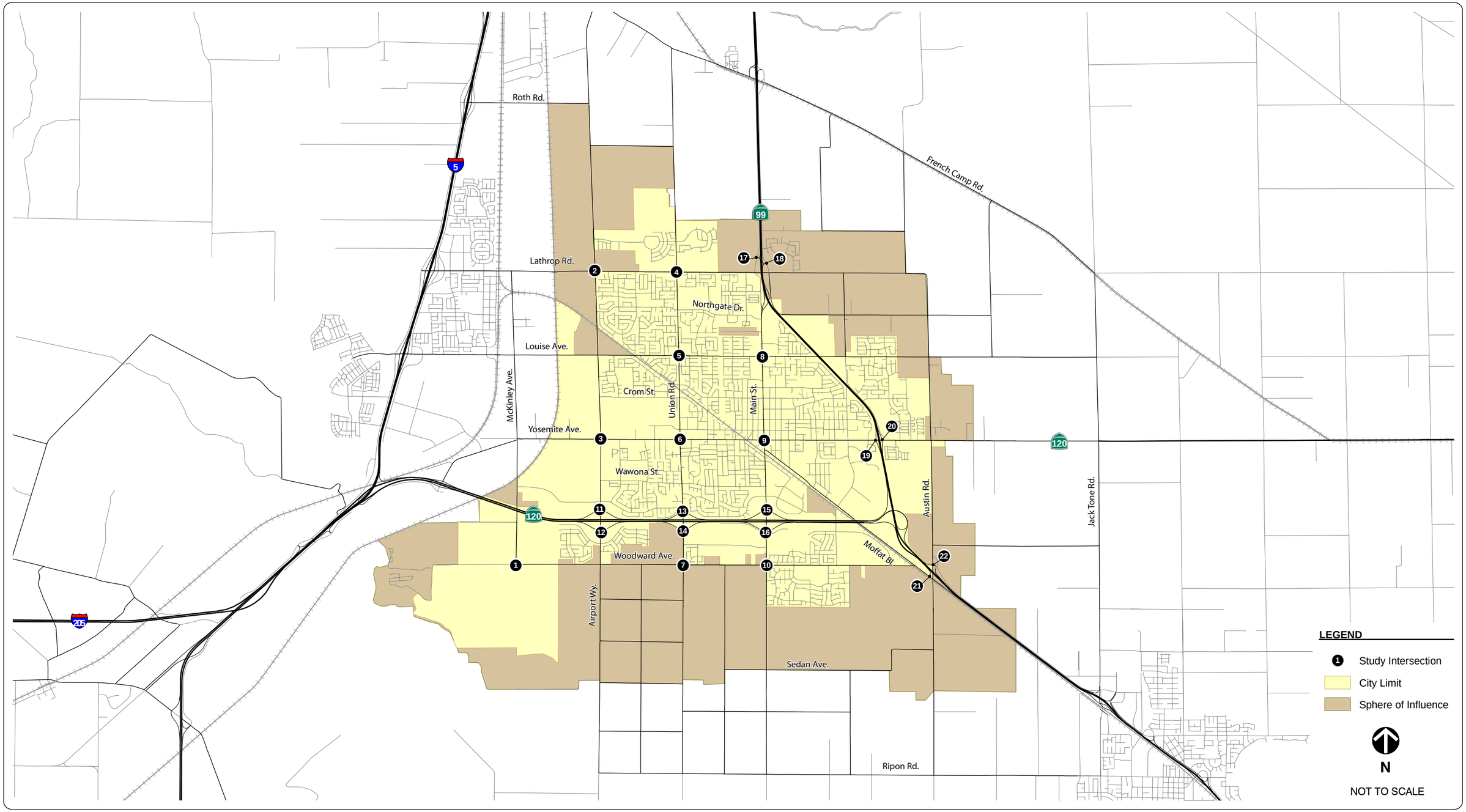
MITIGATION MEASURES

Mitigation Measure 3.8.3: *The City of Manteca shall coordinate with the City of Ripon and Caltrans to either: 1) develop a design that would accommodate the McKinley Avenue Expressway and the Olive Expressway with collector-distributor ramps, braded ramps, or other geometric considerations, or 2) try to develop an interchange design and location along SR 99 that would accommodate the needs of the both Cities, while meeting the spacing requirements of Caltrans.*

Impact 3.8-4: Implementation proposed project could increase traffic volumes in locations that would adversely affect bicycle and pedestrian travel or lead to increased bicycle or pedestrian demand in areas where adequate non-motorized facilities do not exist (less than significant)

This impact could be mitigated by updating and fully implementing the Bicycle and Pedestrian Master Plans (as proposed by the new Circulation Element). Implementation of the proposed project would reduce this impact to a ***less-than-significant*** level.

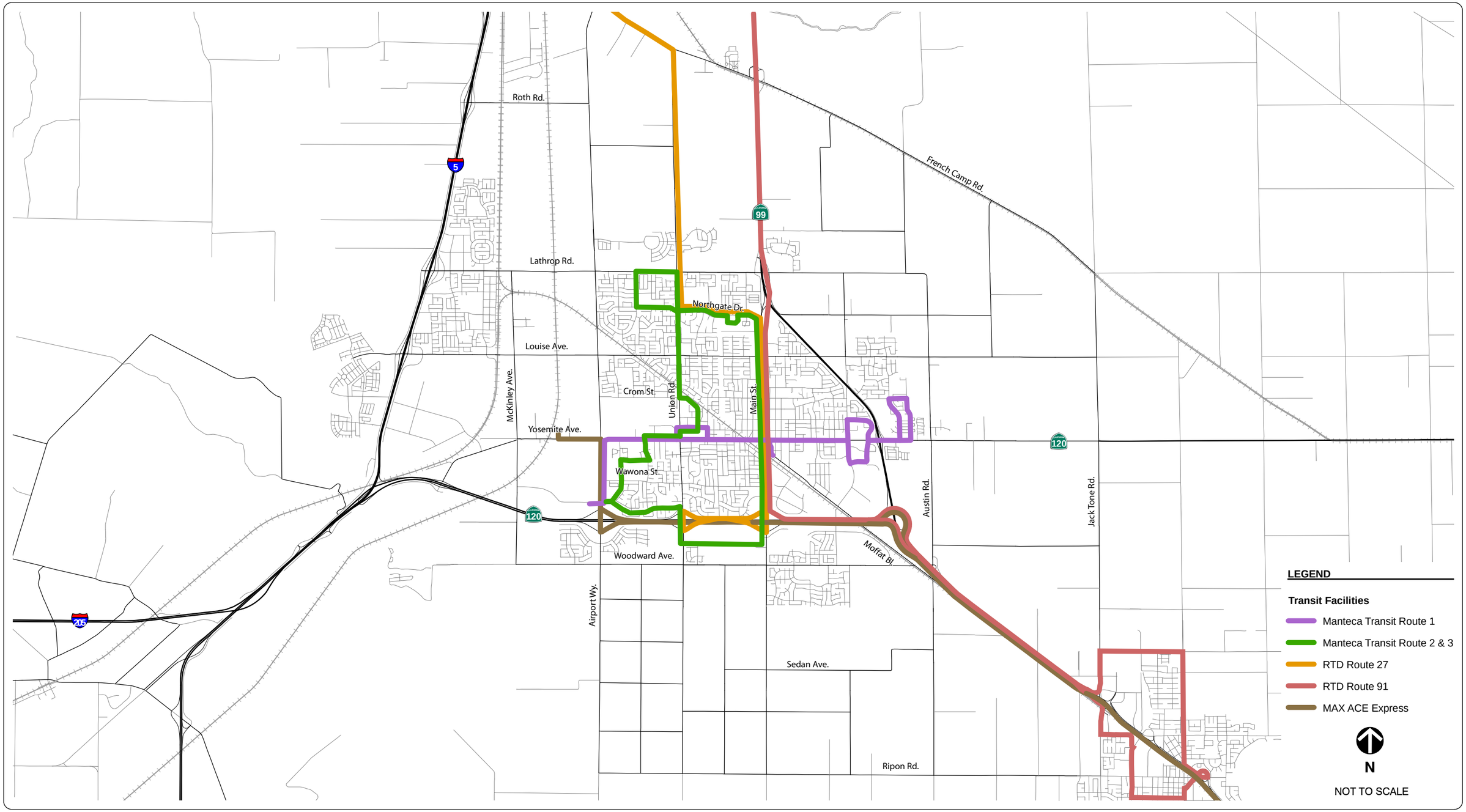
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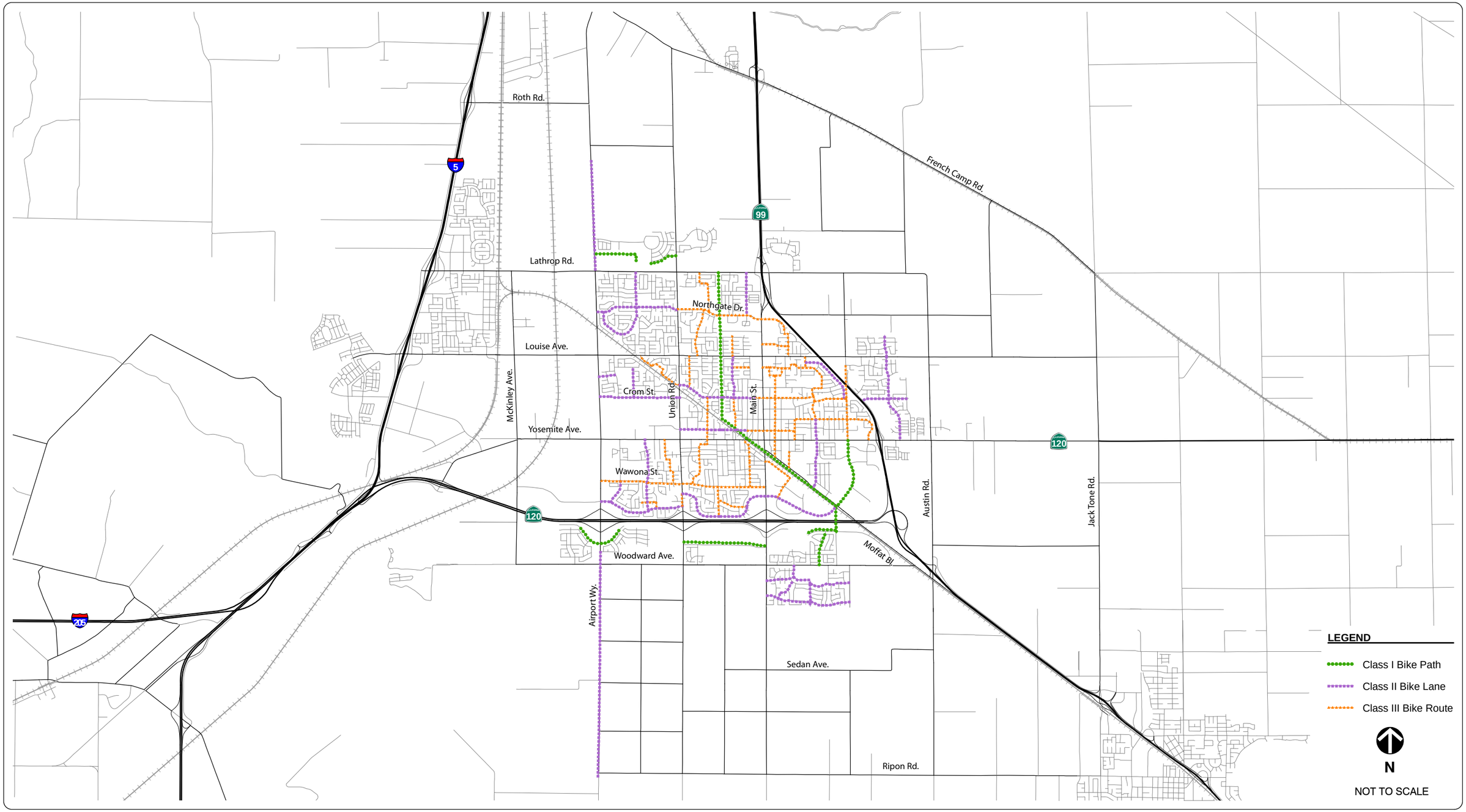
STUDY AREA
FIGURE 3.8-1



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EXISTING TRANSIT FACILITIES
FIGURE 3.8-2

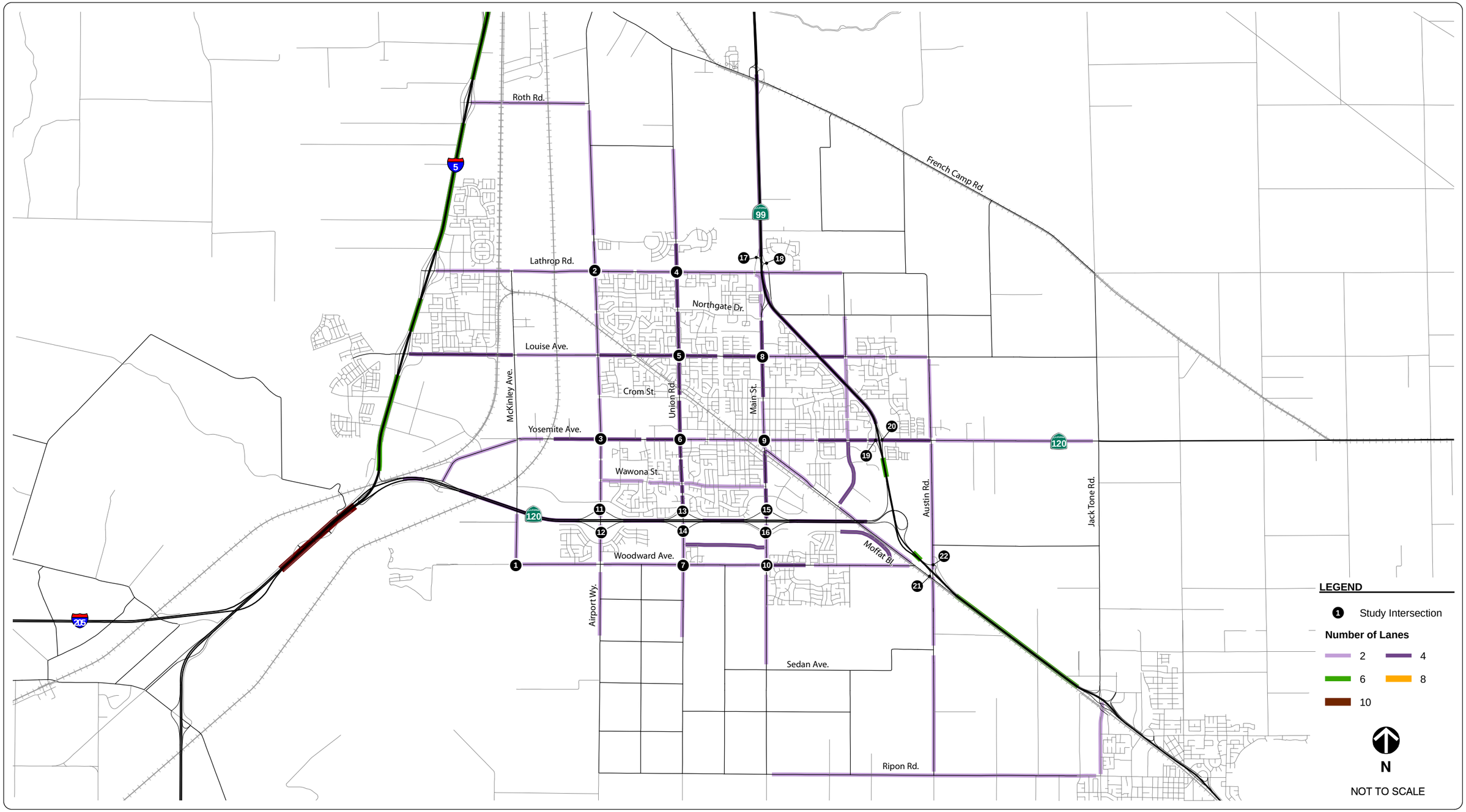


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EXISTING BICYCLE FACILITIES

FIGURE 3.8-3

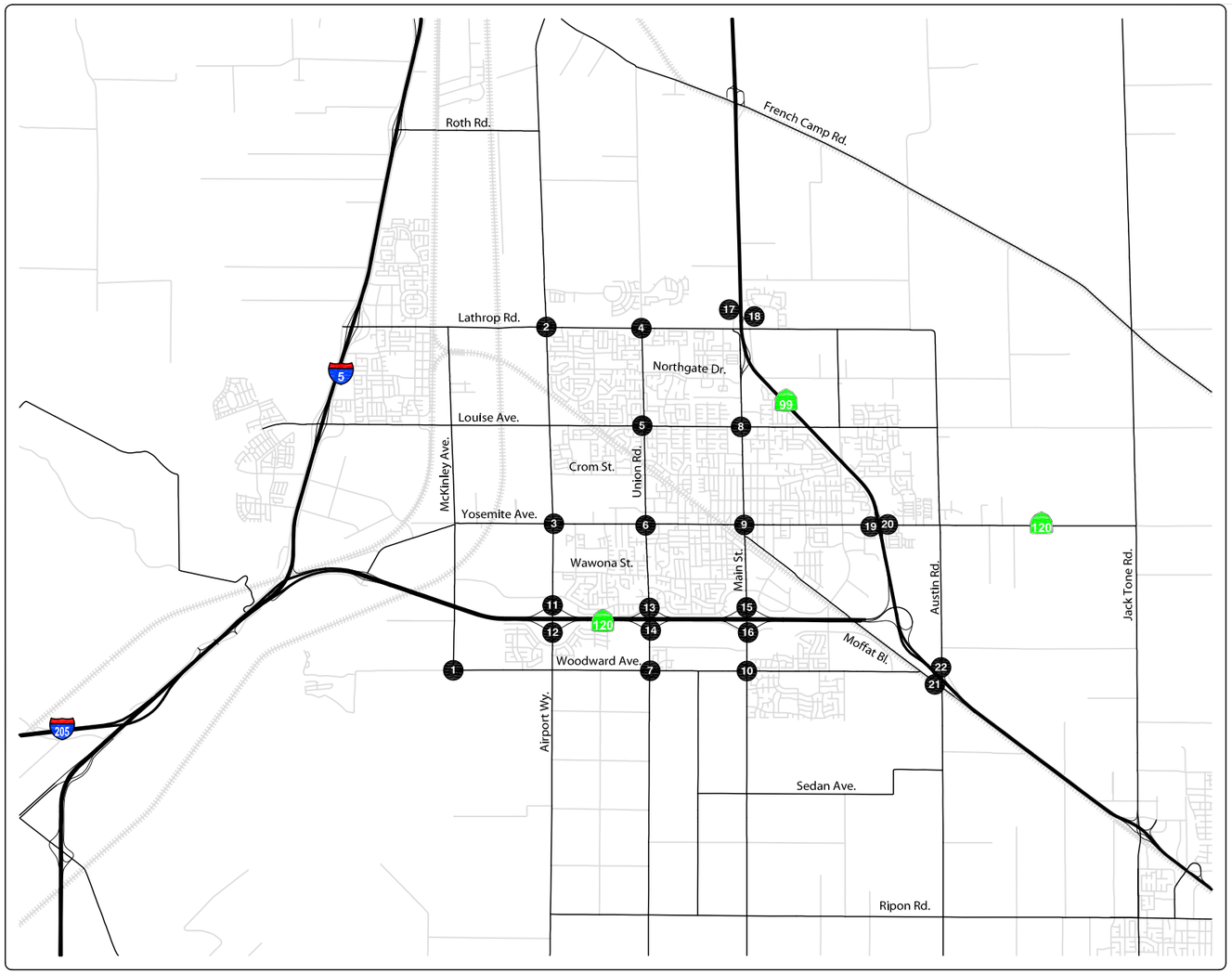


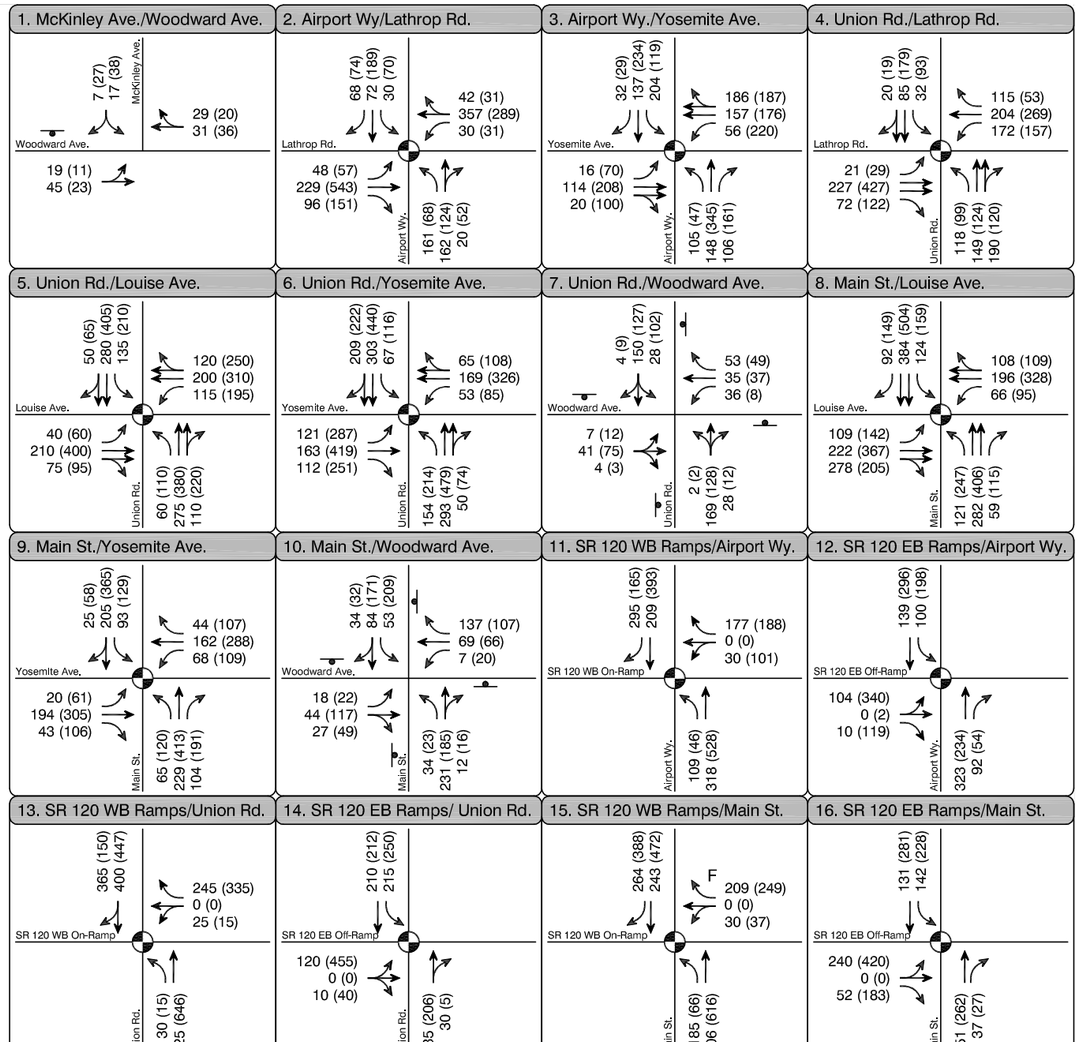
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NUMBER OF LANES - EXISTING CONDITIONS

FIGURE 3.8-4





LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- 1 Study Intersection
- Traffic Signal
- Stop Sign
- F "Free" Right Turn

N

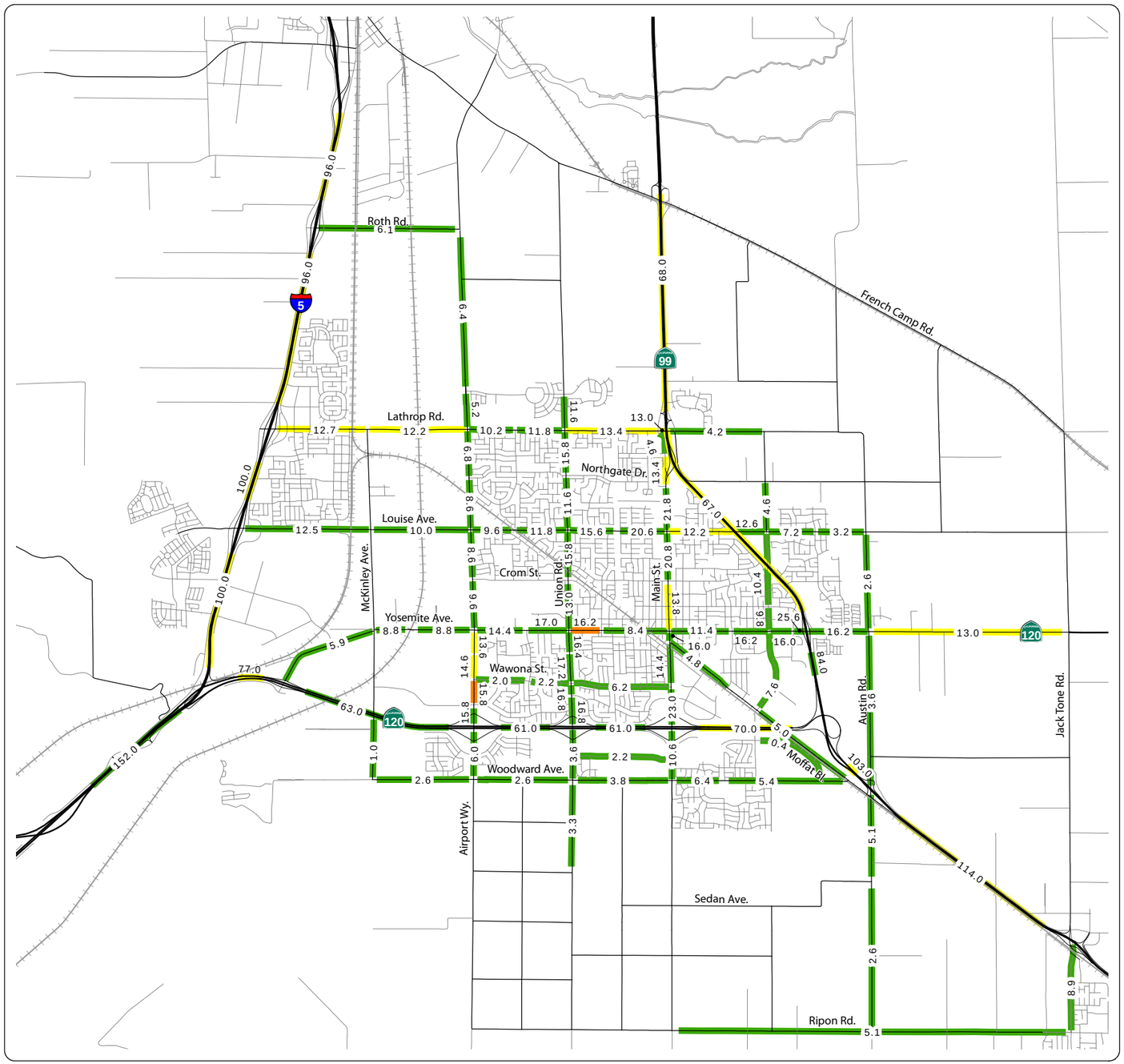
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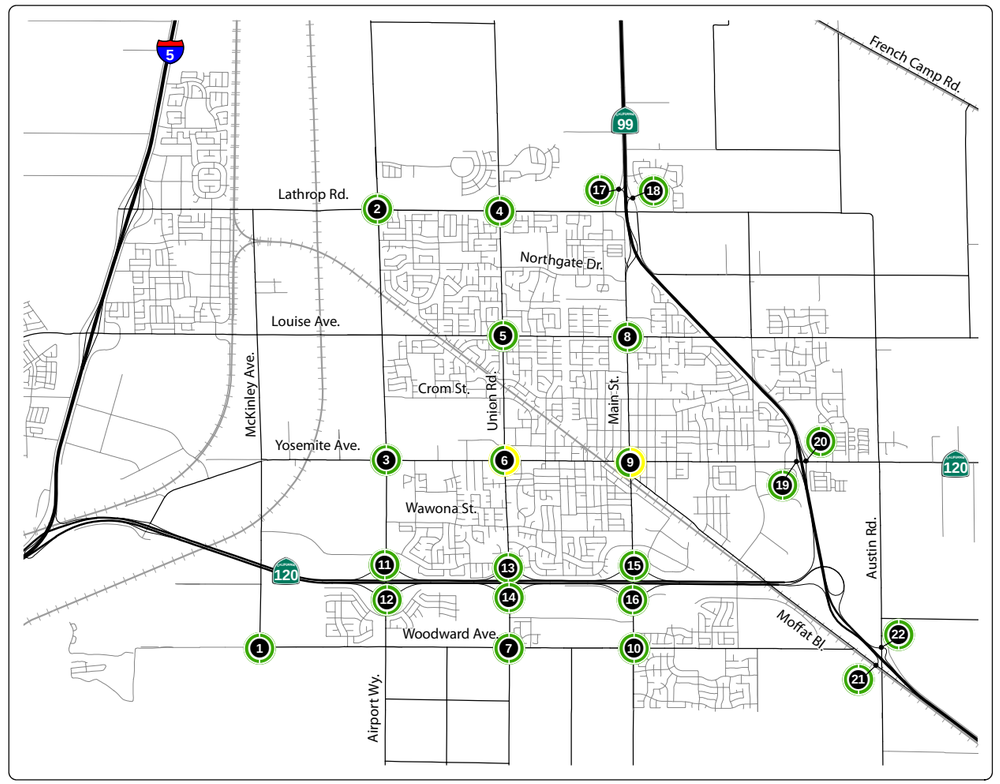
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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - EXISTING CONDITIONS

FIGURE 3.8-5





LEGEND

Level of Service

- A - C
- D
- E

1.0 Average Daily Traffic Volume (x 1,000)

1 Study Intersection

AM Level of Service — PM Level of Service

N

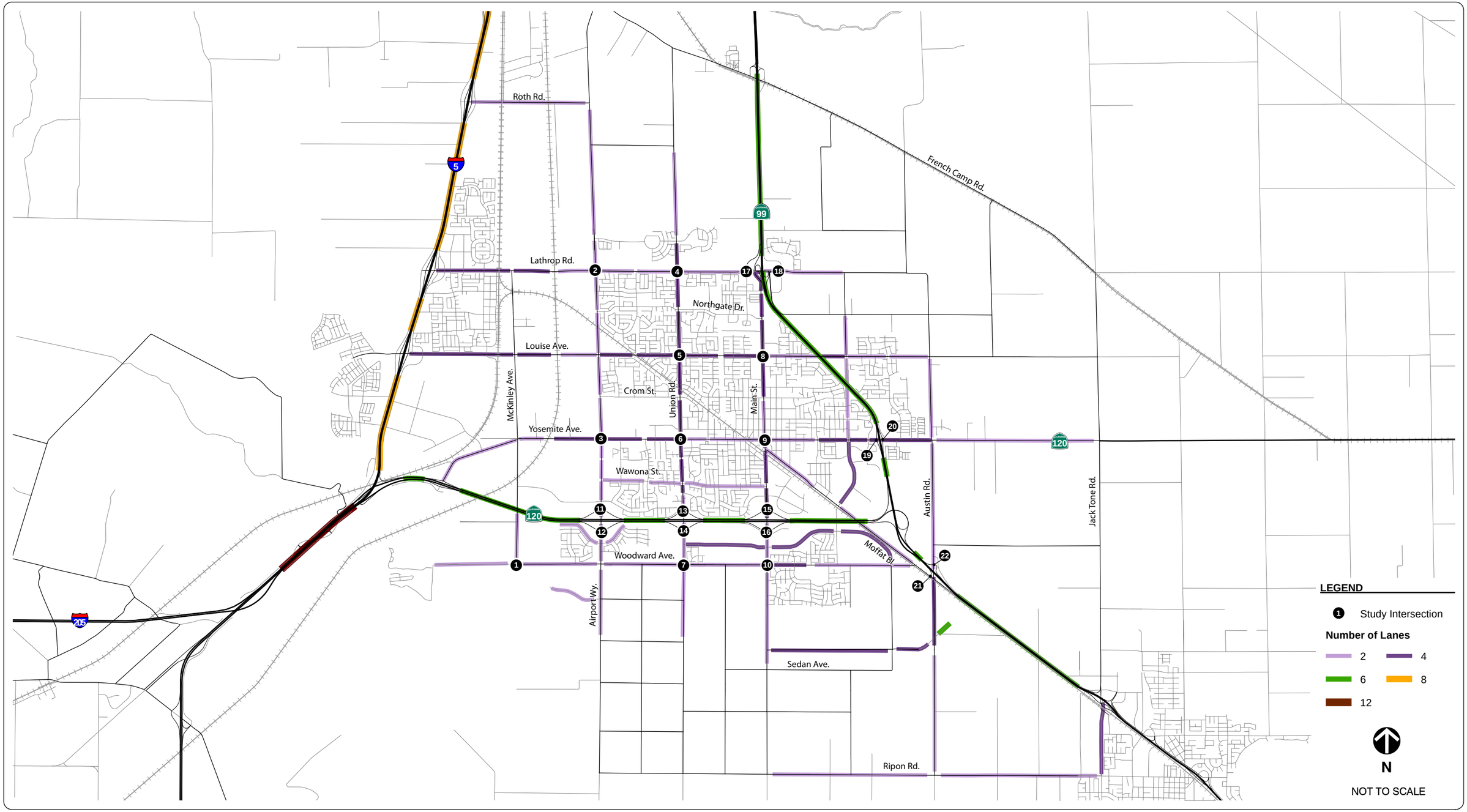
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ROADWAY SEGMENT, INTERSECTION, AND FREEWAY LEVEL OF SERVICE - EXISTING CONDITIONS

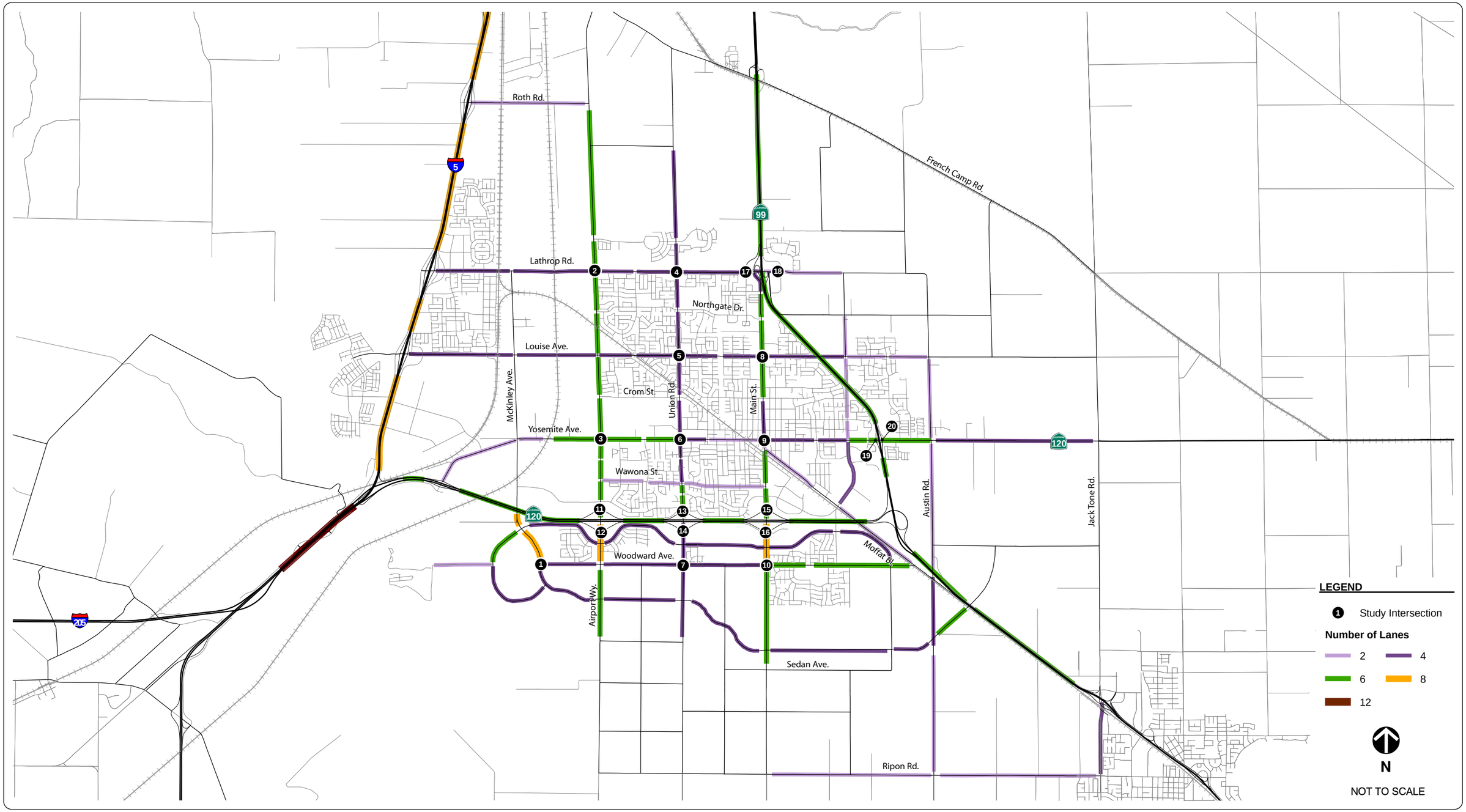
FIGURE 3.8-6



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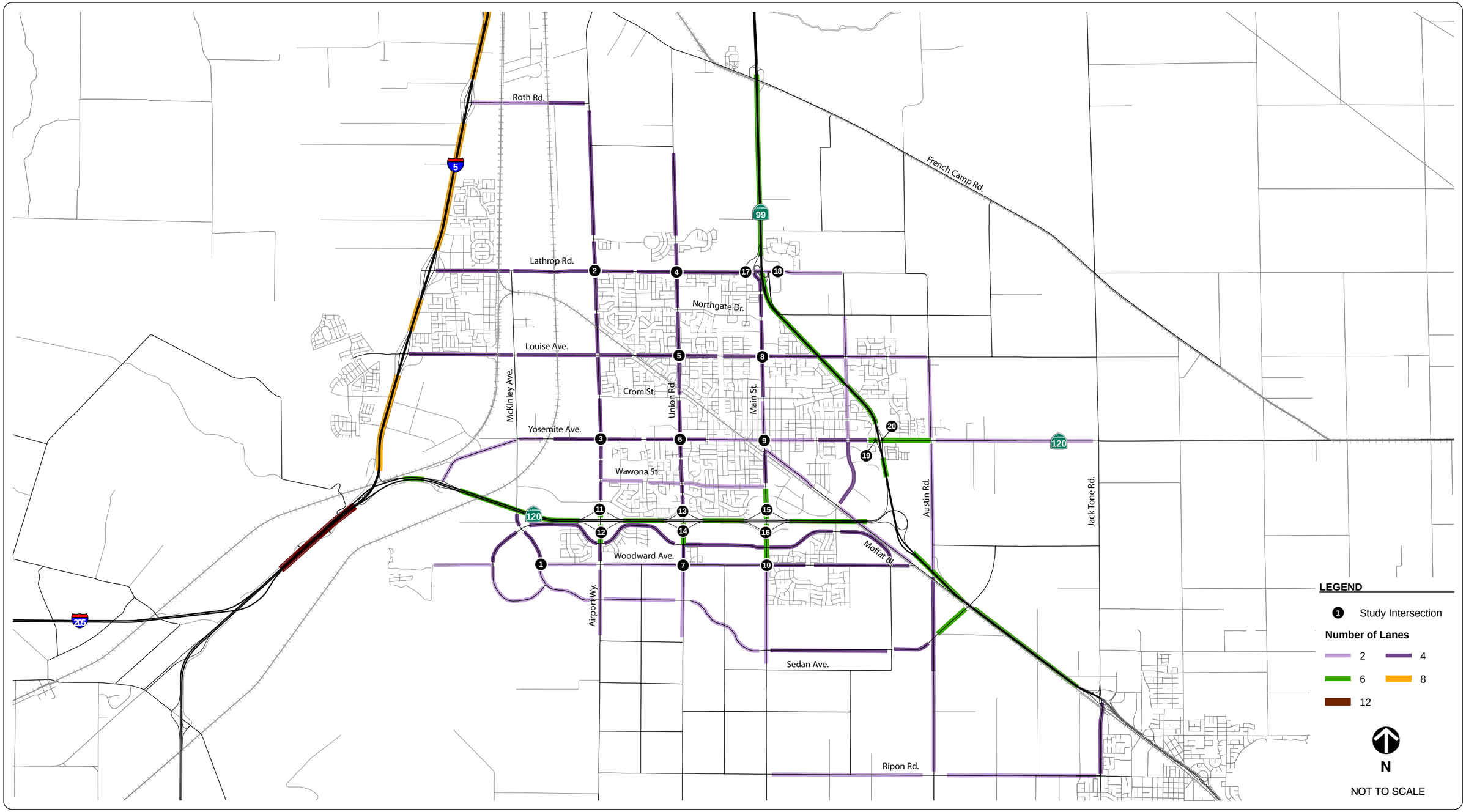
NUMBER OF LANES -
CUMULATIVE NO PROJECT CONDITIONS (CONSTRAINED)
FIGURE 3.8-7



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NUMBER OF LANES -
CUMULATIVE NO PROJECT CONDITIONS (UNCONSTRAINED)
FIGURE 3.8-8



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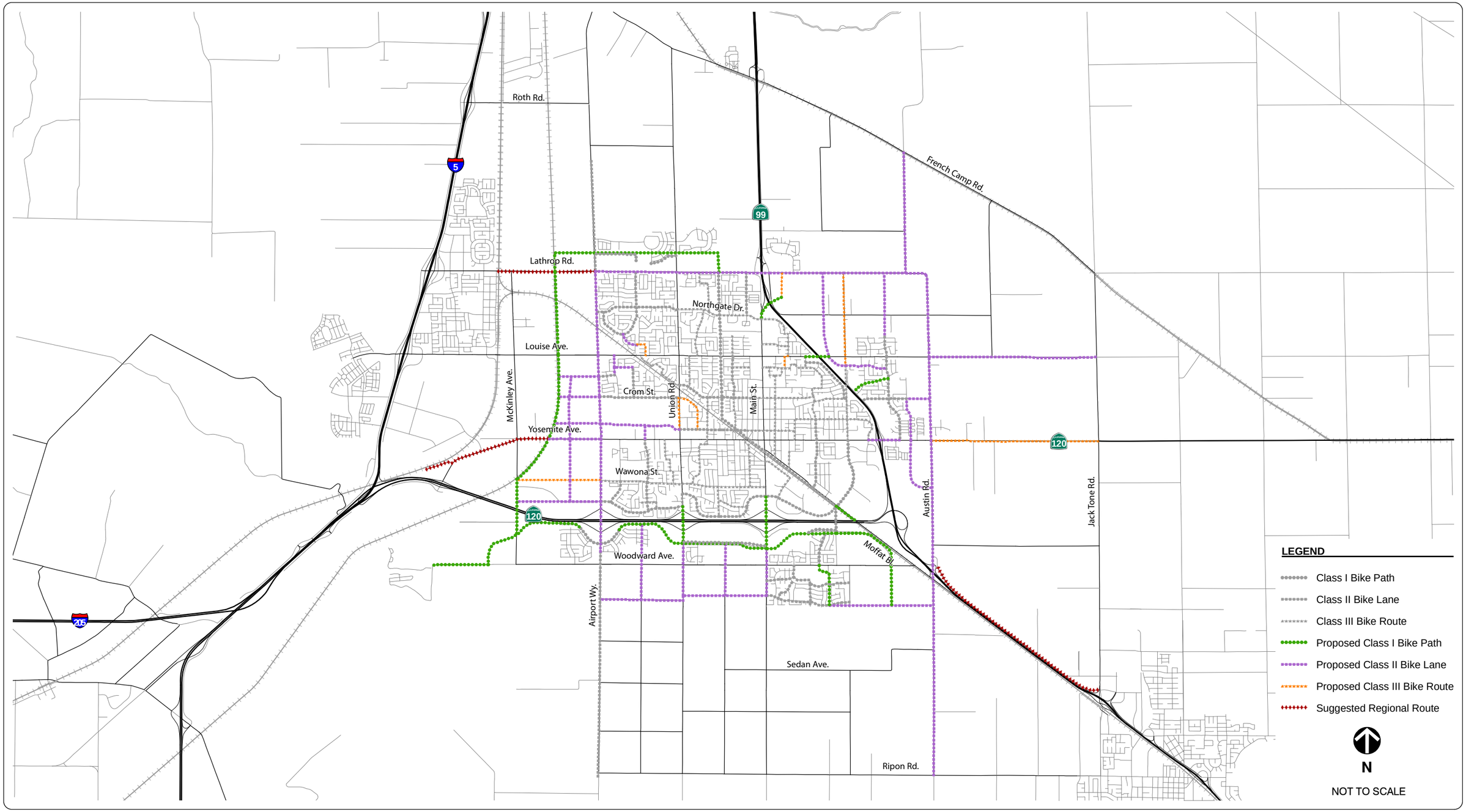
NUMBER OF LANES -
CUMULATIVE CONDITIONS WITH CIRCULATION ELEMENT UPDATE
FIGURE 3.8-9



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NUMBER OF LANES -
CUMULATIVE CONDITIONS WITH ALTERNATIVE INVESTMENT STRATEGY
FIGURE 3.8-10

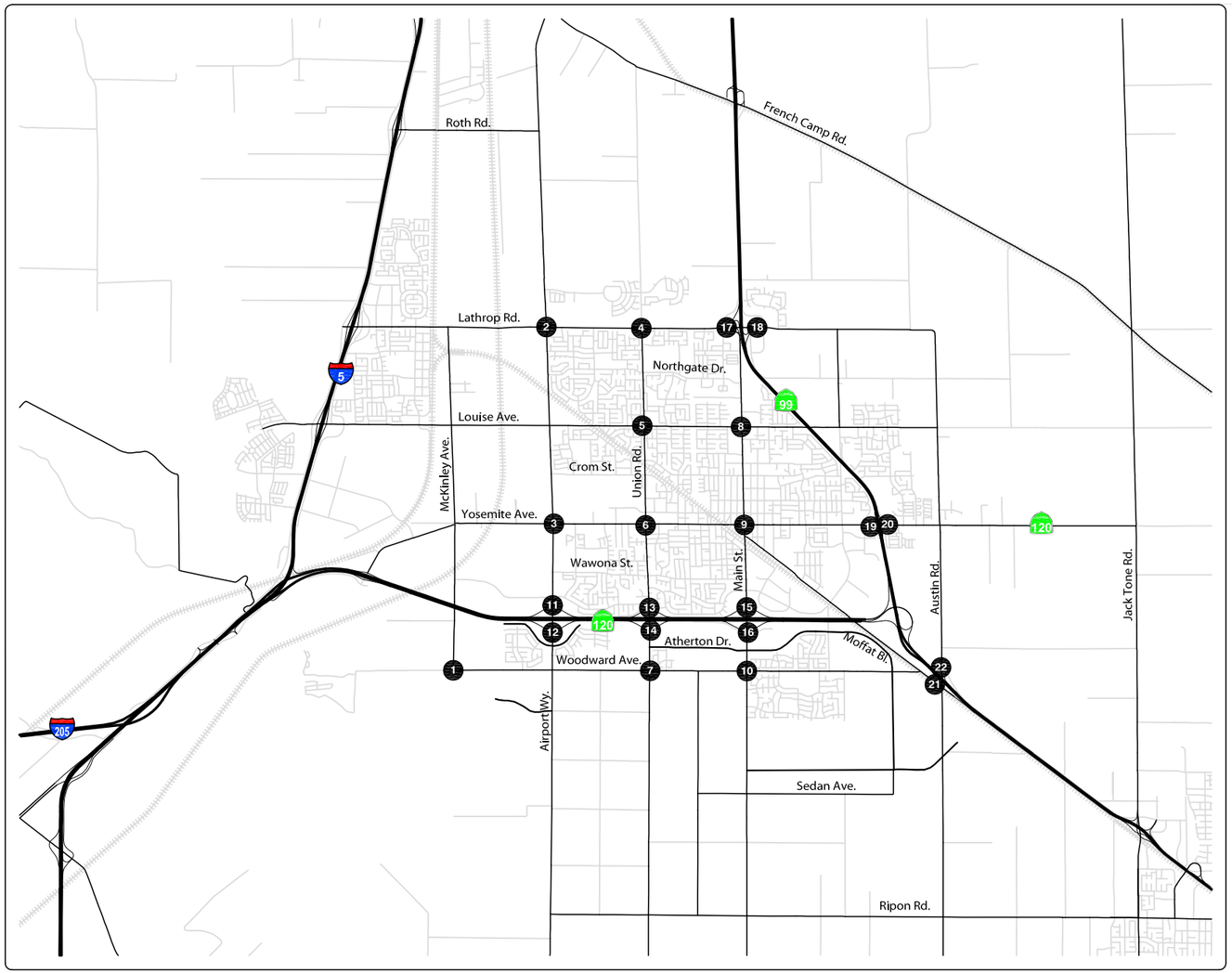


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TRANSPORTATION CONSULTANTS

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PROPOSED BICYCLE FACILITIES IN 2003 BICYCLE MASTER PLAN

FIGURE 3.8-11



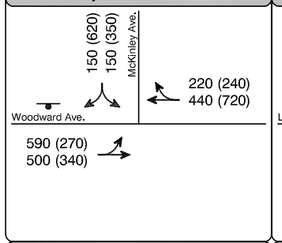
LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- 1 Study Intersection
- Traffic Signal
- Stop Sign
- F "Free" Right Turn

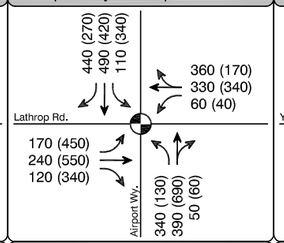
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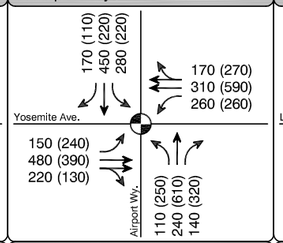
1. McKinley Ave./Woodward Ave.



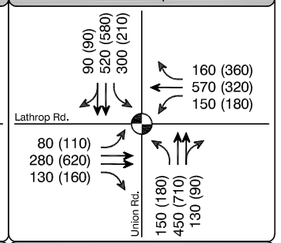
2. Airport Wy/Lathrop Rd.



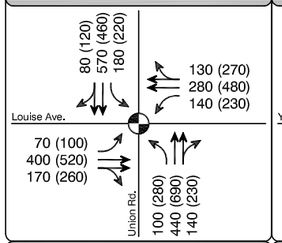
3. Airport Wy./Yosemite Ave.



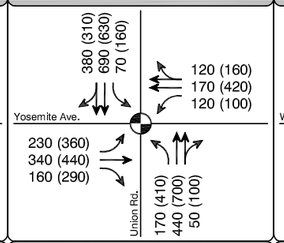
4. Union Rd./Lathrop Rd.



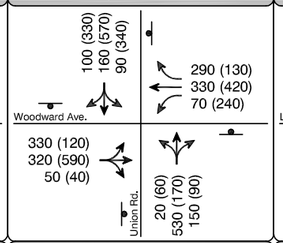
5. Union Rd./Louise Ave.



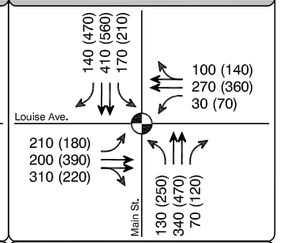
6. Union Rd./Yosemite Ave.



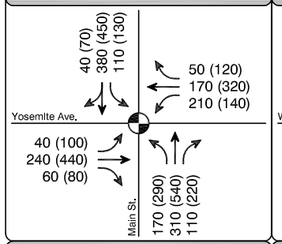
7. Union Rd./Woodward Ave.



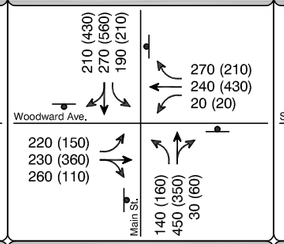
8. Main St./Louise Ave.



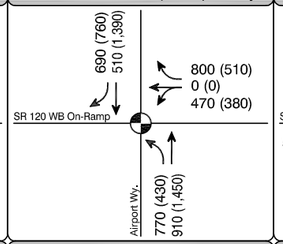
9. Main St./Yosemite Ave.



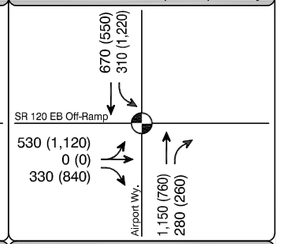
10. Main St./Woodward Ave.



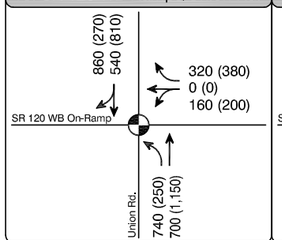
11. SR 120 WB Ramps/Airport Wy.



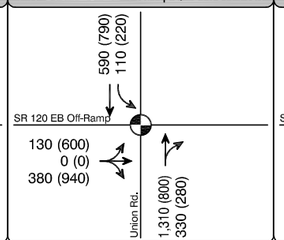
12. SR 120 EB Ramps/Airport Wy.



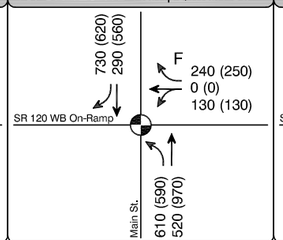
13. SR 120 WB Ramps/Union Rd.



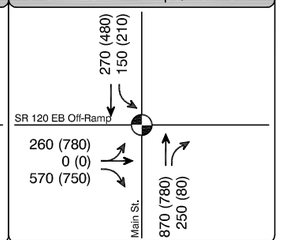
14. SR 120 EB Ramps/ Union Rd.



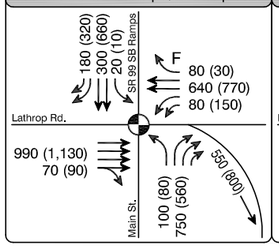
15. SR 120 WB Ramps/Main St.



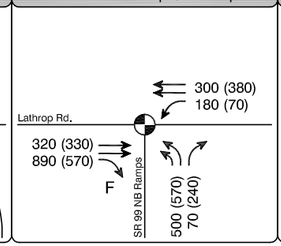
16. SR 120 EB Ramps/Main St.



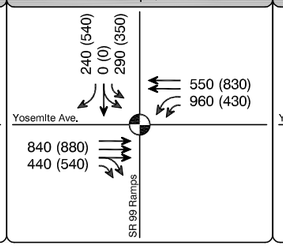
17. SR 99 SB Ramps/Lathrop Rd.



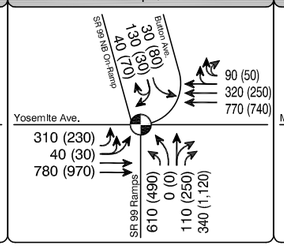
18. SR 99 NB Ramps/Lathrop Rd.



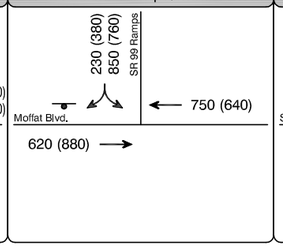
19. SR 99 SB Ramps/Yosemite Ave.



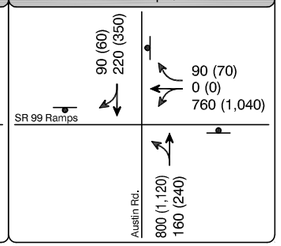
20. SR 99 NB Ramps/Yosemite Ave.



21. SR 99 SB Ramps/Moffat Blvd.



22. SR 99 NB Ramps/Austin Rd.

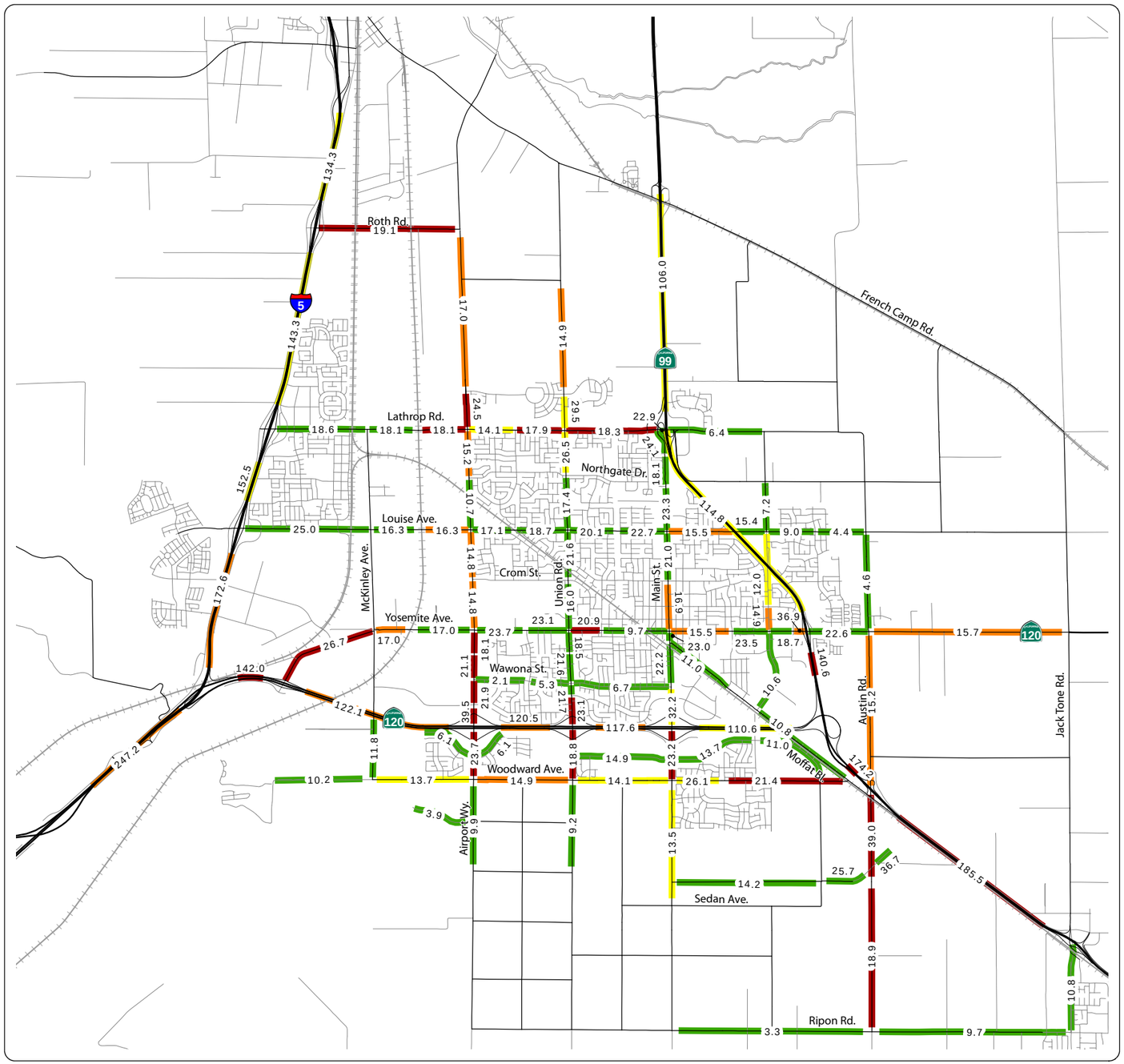


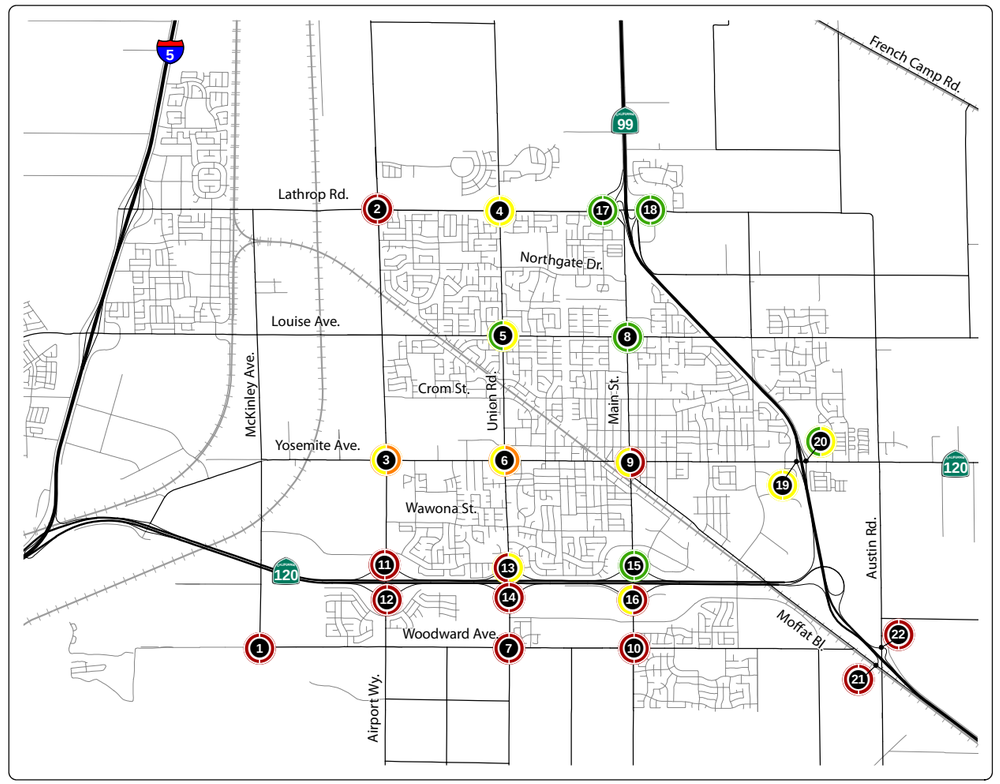
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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - CUMULATIVE NO PROJECT CONDITIONS (CONSTRAINED)

FIGURE 3.8-12


Roth Rd.
Lathrop Rd.
Louise Ave.
Yosemite Ave.
Woodward Ave.
Sedan Ave.
Ripon Rd.
Crom St.
Wawona St.
Northgate Dr.
Airport Wy.
McKinley Ave.
Union Rd.
Main St.
Austin Rd.
Jack Tone Rd.
Moffat Bl.
French Camp Rd.
5
99
120
134.3
143.3
152.5
172.6
247.2
142.0
26.7
122.1
106.0
114.8
174.2
185.5
36.9
140.6
120.5
117.6
110.6
36.7



LEGEND

Level of Service

- A - C
- D
- E
- F

1.0 Average Daily Traffic Volume (x 1,000)

1 Study Intersection

AM Level of Service — PM Level of Service

N

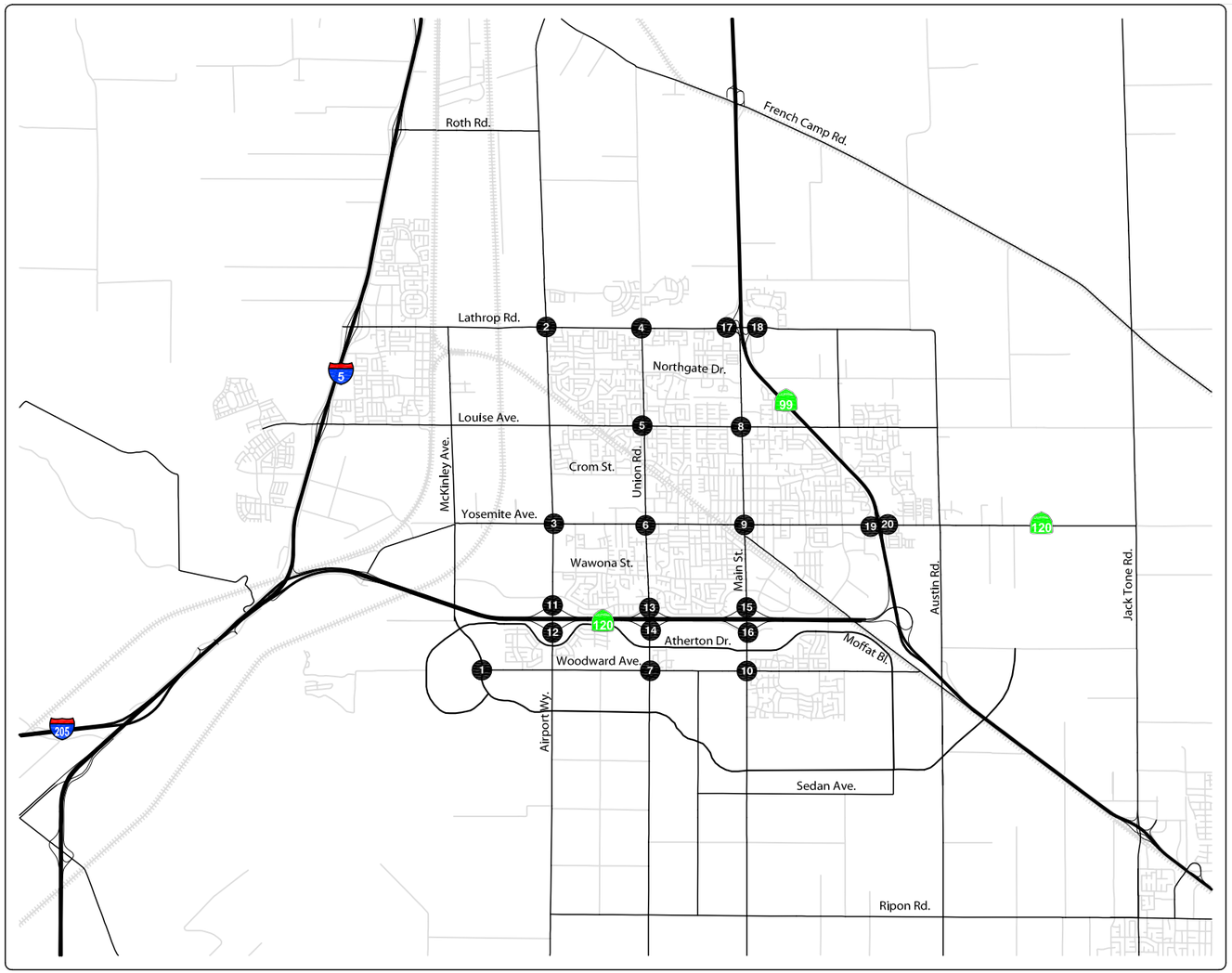
NOT TO SCALE

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ROADWAY SEGMENT, INTERSECTION, AND FREEWAY LEVEL OF SERVICE - CUMULATIVE NO PROJECT CONDITIONS (CONSTRAINED)

FIGURE 3.8-13



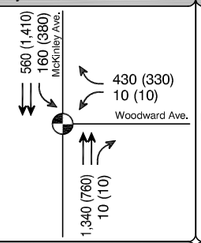
LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- 1 Study Intersection
- Traffic Signal
- Stop Sign
- F "Free" Right Turn

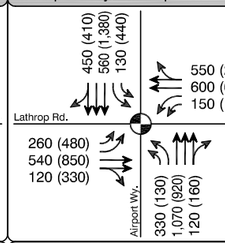
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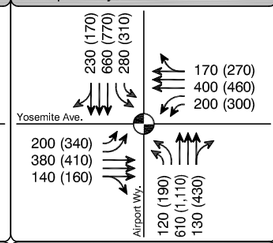
1. McKinley Ave./Woodward Ave.



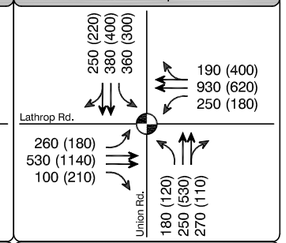
2. Airport Wy/Lathrop Rd.



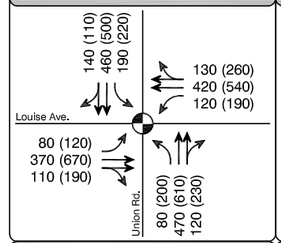
3. Airport Wy./Yosemite Ave.



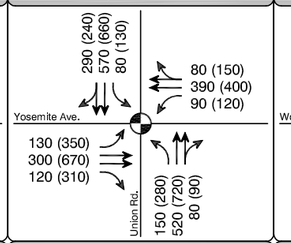
4. Union Rd./Lathrop Rd.



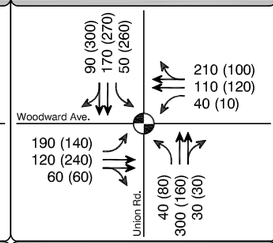
5. Union Rd./Louise Ave.



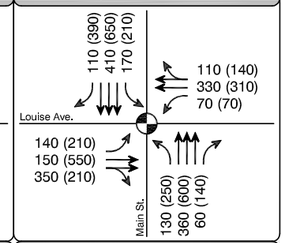
6. Union Rd./Yosemite Ave.



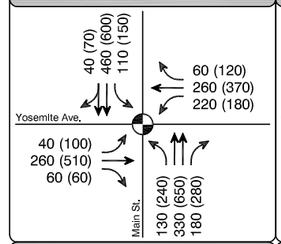
7. Union Rd./Woodward Ave.



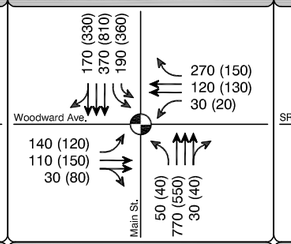
8. Main St./Louise Ave.



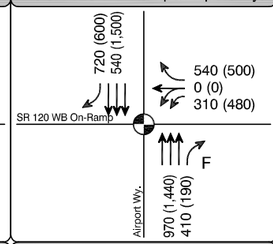
9. Main St./Yosemite Ave.



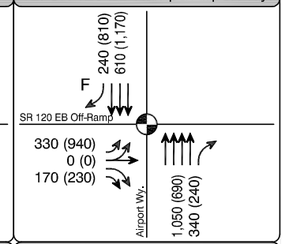
10. Main St./Woodward Ave.



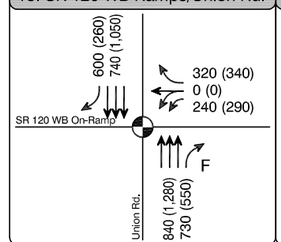
11. SR 120 WB Ramps/Airport Wy.



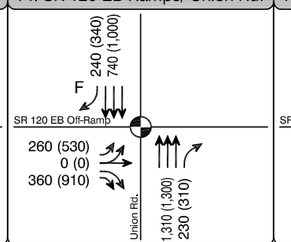
12. SR 120 EB Ramps/Airport Wy.



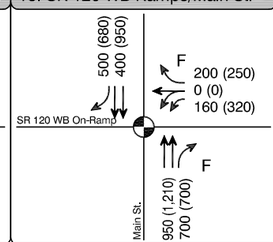
13. SR 120 WB Ramps/Union Rd.



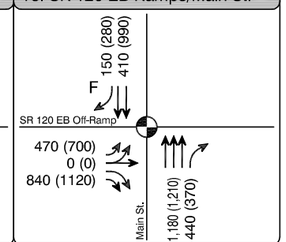
14. SR 120 EB Ramps/ Union Rd.



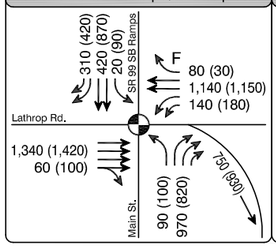
15. SR 120 WB Ramps/Main St.



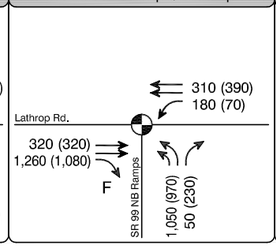
16. SR 120 EB Ramps/Main St.



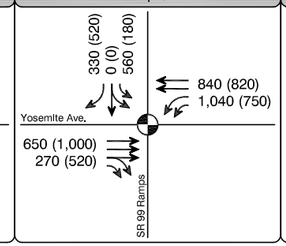
17. SR 99 SB Ramps/Lathrop Rd.



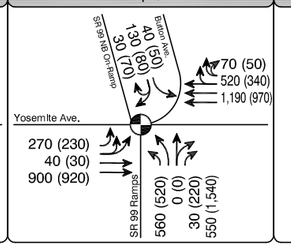
18. SR 99 NB Ramps/Lathrop Rd.



19. SR 99 SB Ramps/Yosemite Ave.



20. SR 99 NB Ramps/Yosemite Ave.



21. SR 99 SB Ramps/Moffat Blvd.

INTERSECTION DOES NOT EXIST UNDER THESE CONDITIONS

22. SR 99 NB Ramps/Austin Rd.

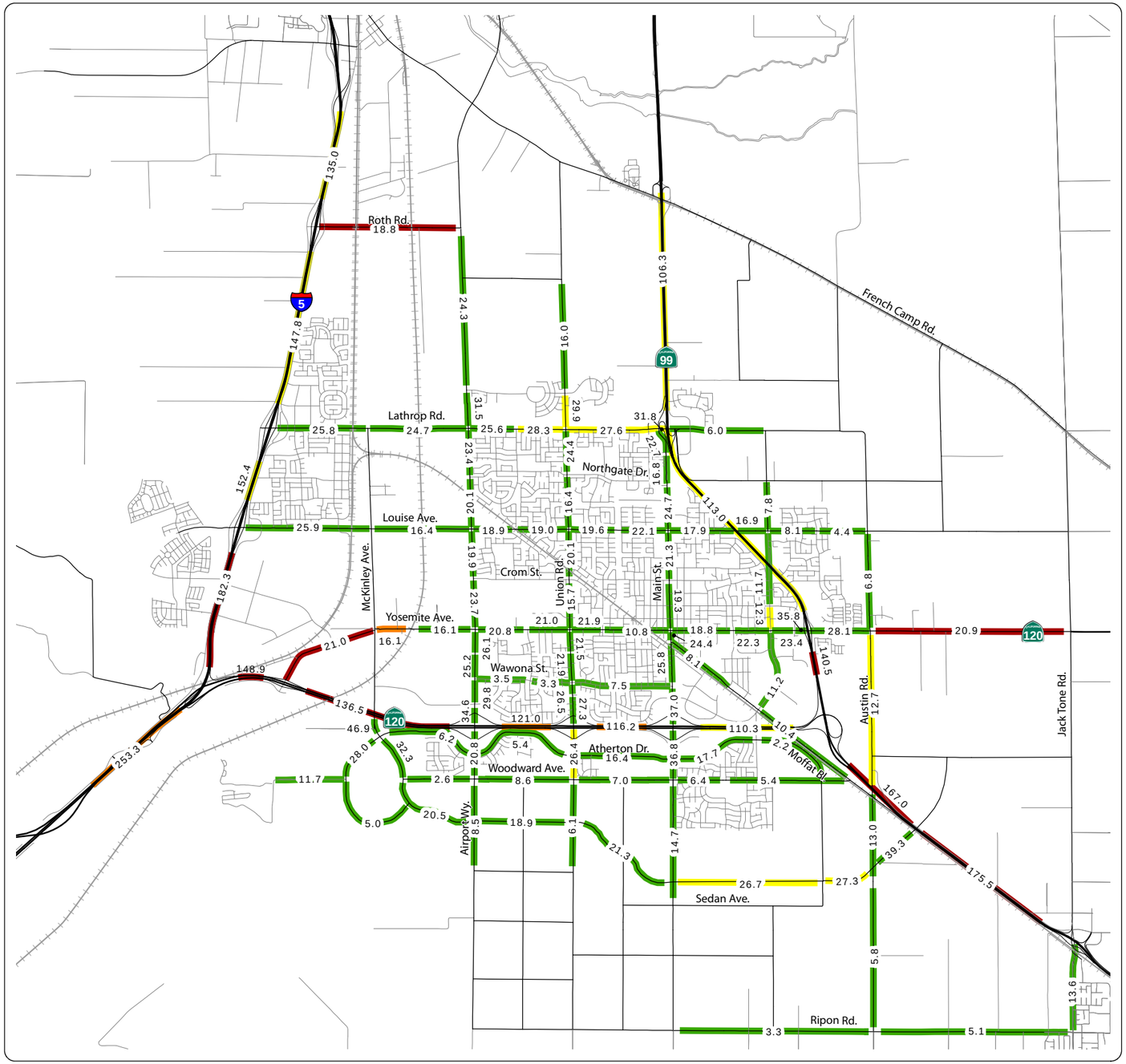
INTERSECTION DOES NOT EXIST UNDER THESE CONDITIONS

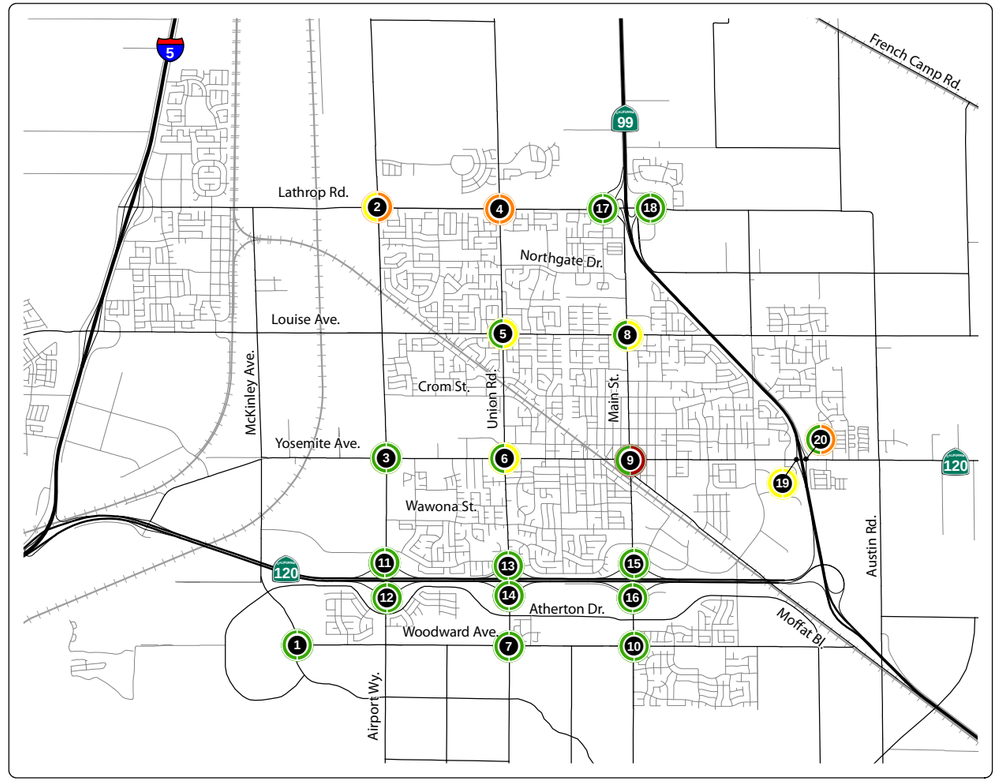
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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - CUMULATIVE NO PROJECT CONDITIONS (UNCONSTRAINED)

FIGURE 3.8-14





LEGEND

Level of Service

- A - C
- D
- E
- F

1.0 Average Daily Traffic Volume (x 1,000)

1 Study Intersection

AM Level of Service — PM Level of Service

N

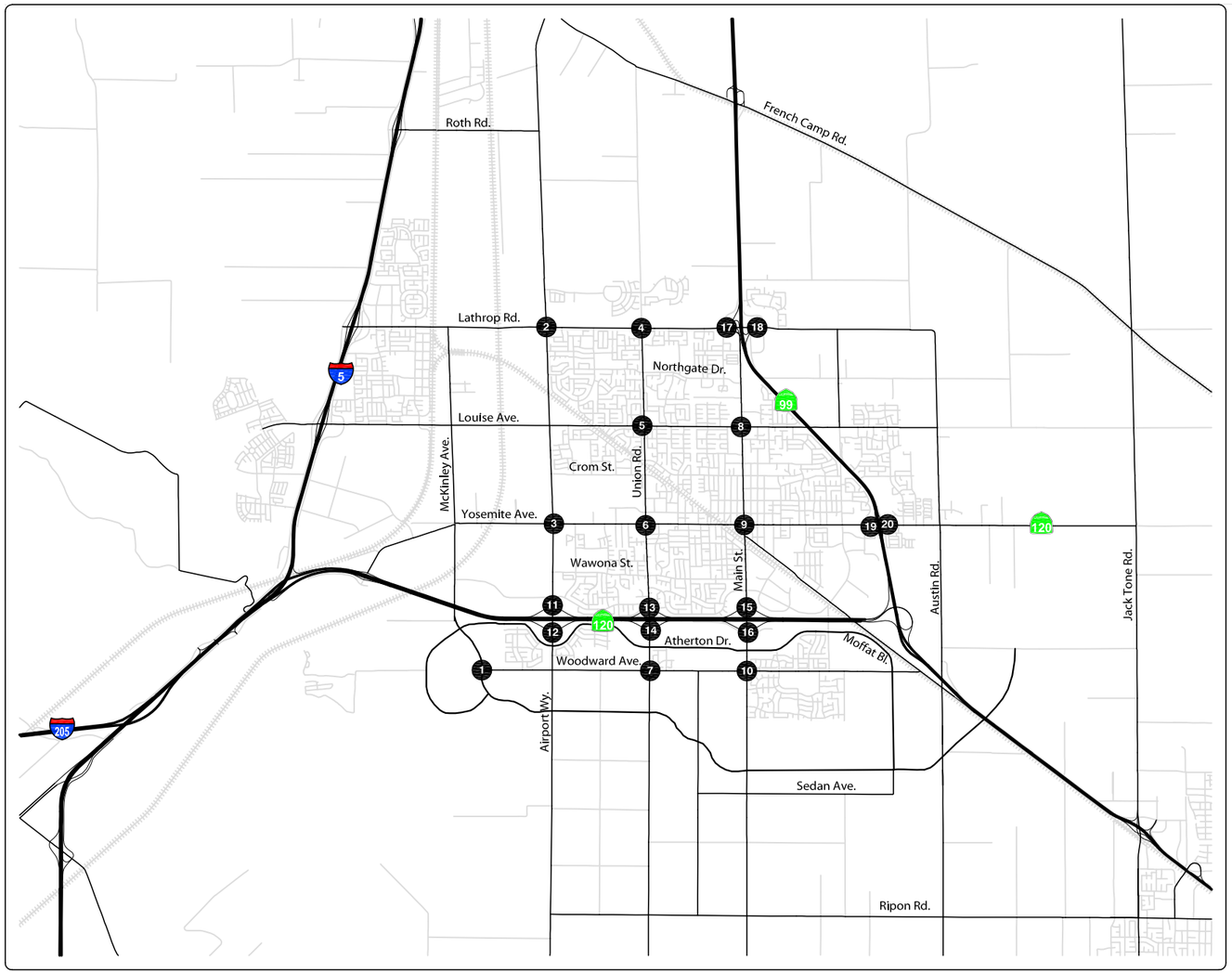
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FEHR & PEERS
TRANSPORTATION CONSULTANTS

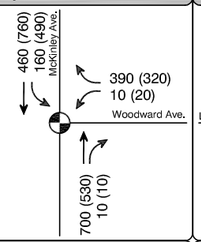
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ROADWAY SEGMENT, INTERSECTION, AND FREEWAY LEVEL OF SERVICE - CUMULATIVE NO PROJECT CONDITIONS (UNCONSTRAINED)

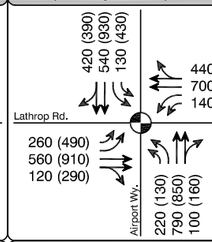
FIGURE 3.8-15



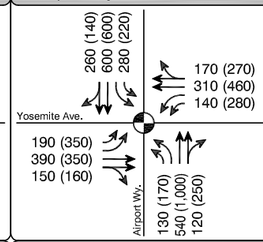
1. McKinley Ave./Woodward Ave.



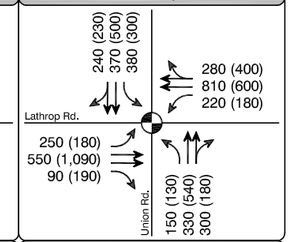
2. Airport Wy/Lathrop Rd.



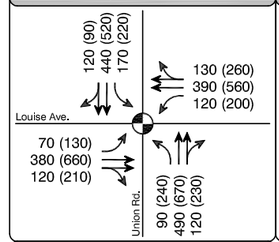
3. Airport Wy./Yosemite Ave.



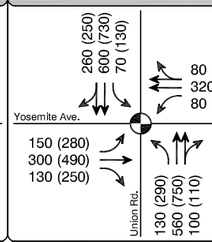
4. Union Rd./Lathrop Rd.



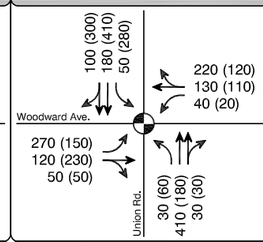
5. Union Rd./Louise Ave.



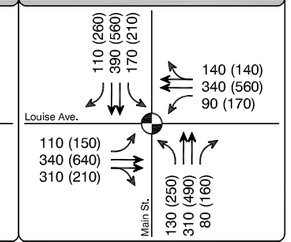
6. Union Rd./Yosemite Ave.



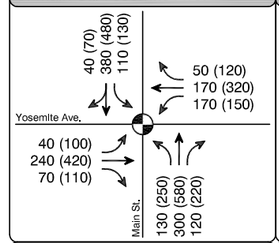
7. Union Rd./Woodward Ave.



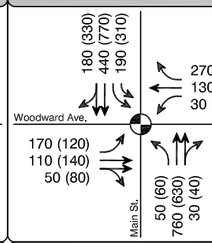
8. Main St./Louise Ave.



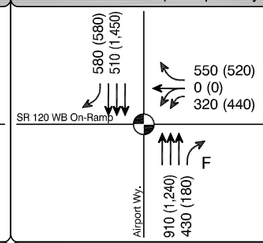
9. Main St./Yosemite Ave.



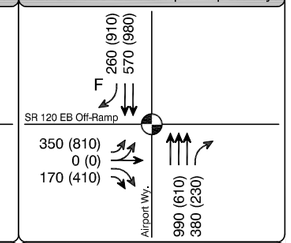
10. Main St./Woodward Ave.



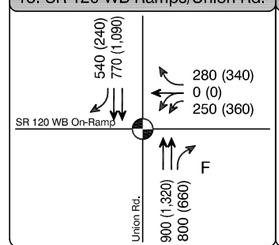
11. SR 120 WB Ramps/Airport Wy.



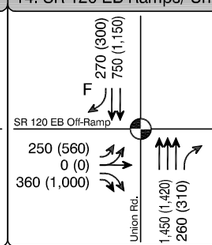
12. SR 120 EB Ramps/Airport Wy.



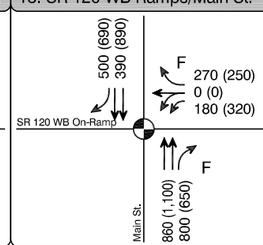
13. SR 120 WB Ramps/Union Rd.



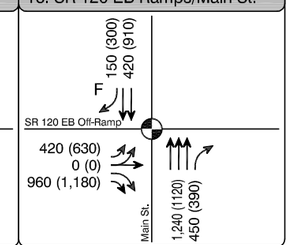
14. SR 120 EB Ramps/ Union Rd.



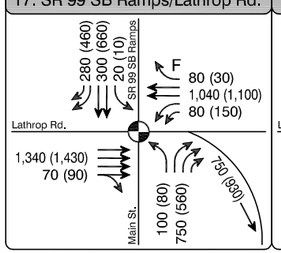
15. SR 120 WB Ramps/Main St.



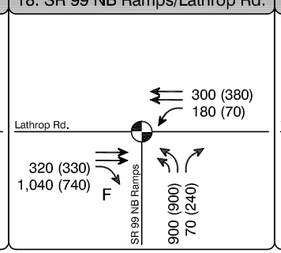
16. SR 120 EB Ramps/Main St.



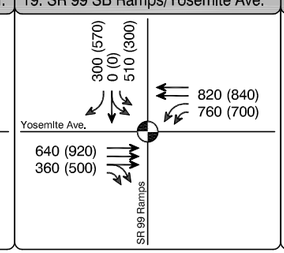
17. SR 99 SB Ramps/Lathrop Rd.



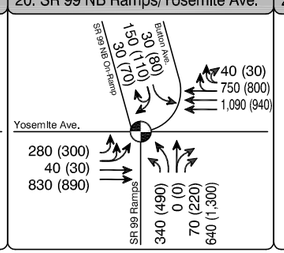
18. SR 99 NB Ramps/Lathrop Rd.



19. SR 99 SB Ramps/Yosemite Ave.



20. SR 99 NB Ramps/Yosemite Ave.



21. SR 99 SB Ramps/Moffat Blvd.

INTERSECTION DOES NOT EXIST UNDER THESE CONDITIONS

22. SR 99 NB Ramps/Austin Rd.

INTERSECTION DOES NOT EXIST UNDER THESE CONDITIONS

LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign
- F "Free" Right Turn

N

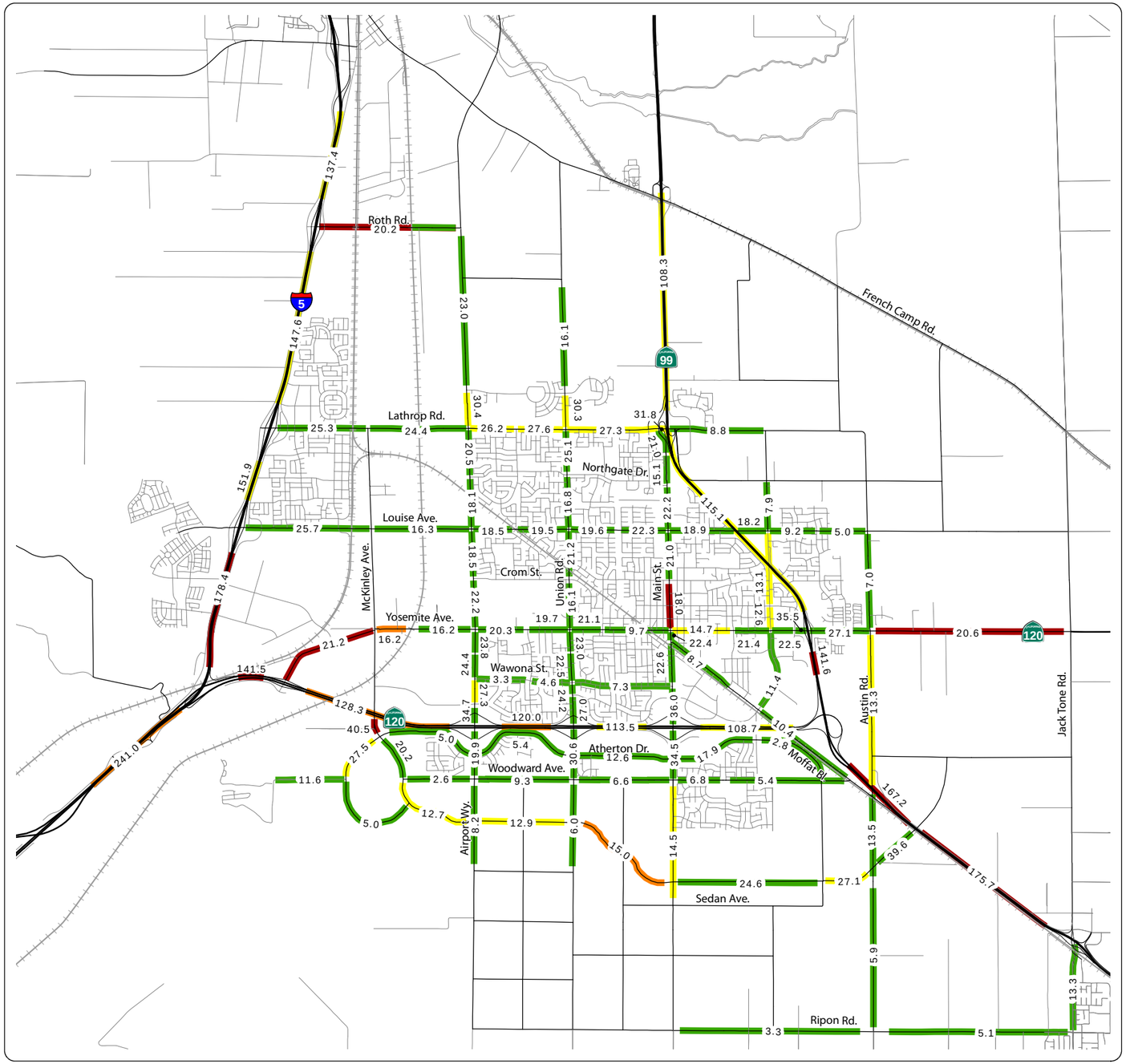
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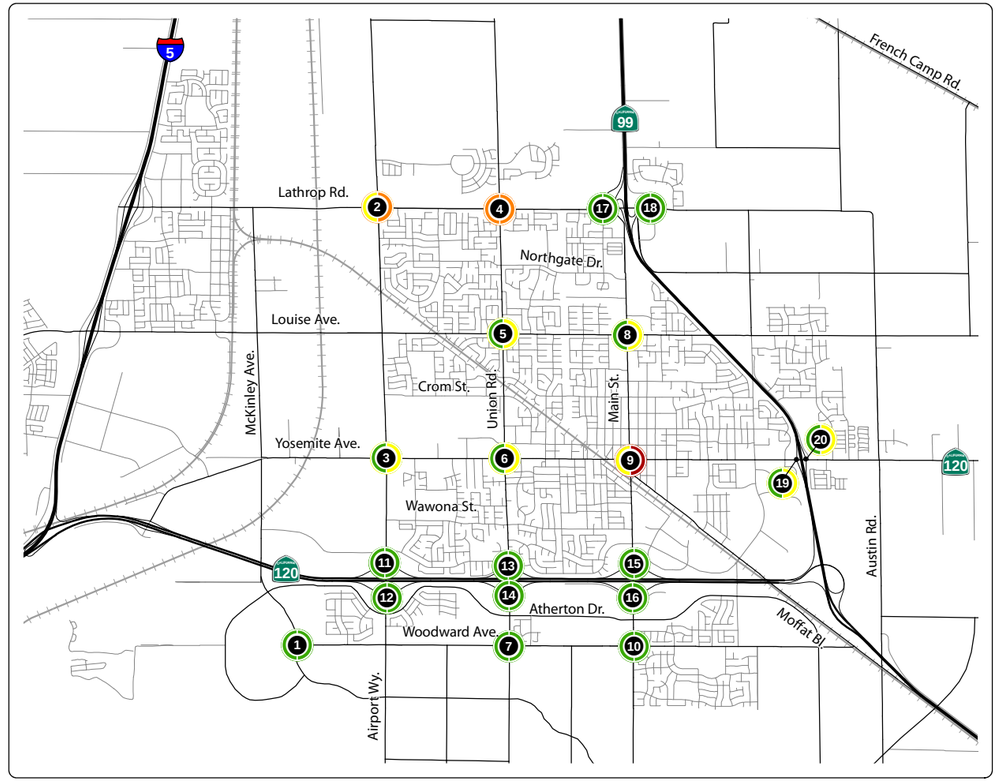
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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - CUMULATIVE CONDITIONS WITH CIRCULATION ELEMENT UPDATE

FIGURE 3.8-16





LEGEND

Level of Service

- A - C
- D
- E
- F

1.0 Average Daily Traffic Volume (x 1,000)

1 Study Intersection

AM Level of Service — PM Level of Service

N

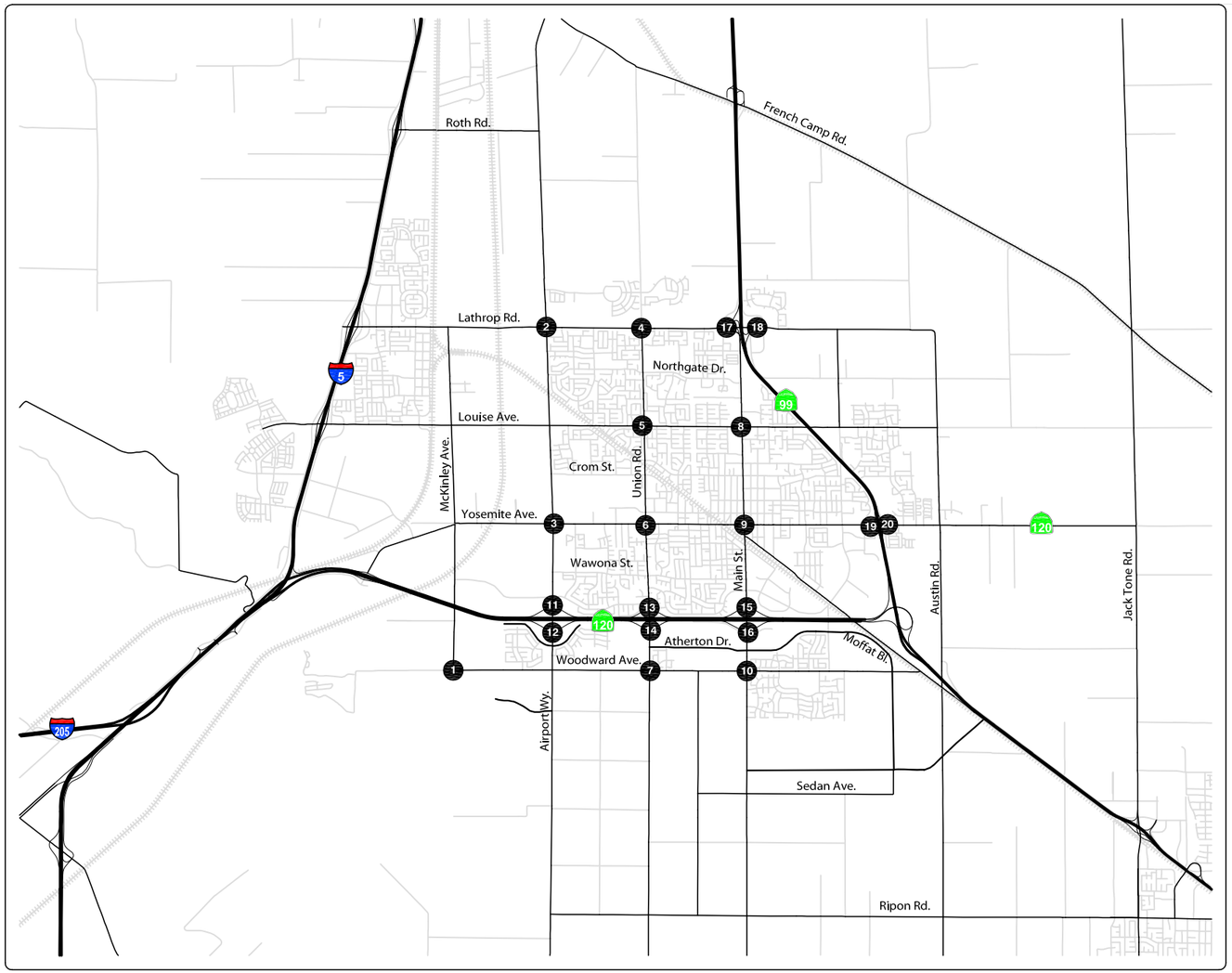
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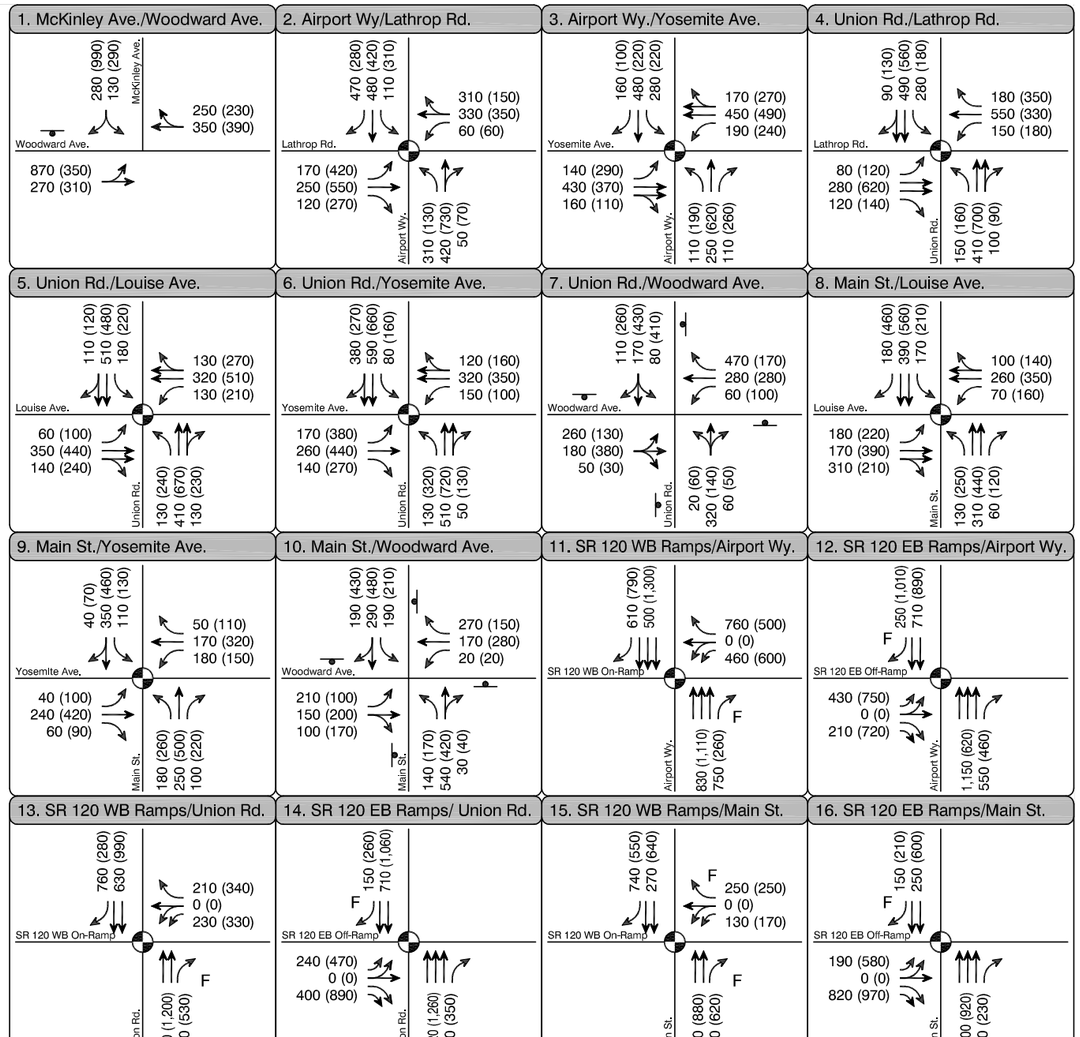
FEHR & PEERS
TRANSPORTATION CONSULTANTS

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ROADWAY SEGMENT, INTERSECTION, AND FREEWAY LEVEL OF SERVICE - CUMULATIVE CONDITIONS WITH CIRCULATION ELEMENT UPDATE

FIGURE 3.8-17





LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign
- F "Free" Right Turn

N

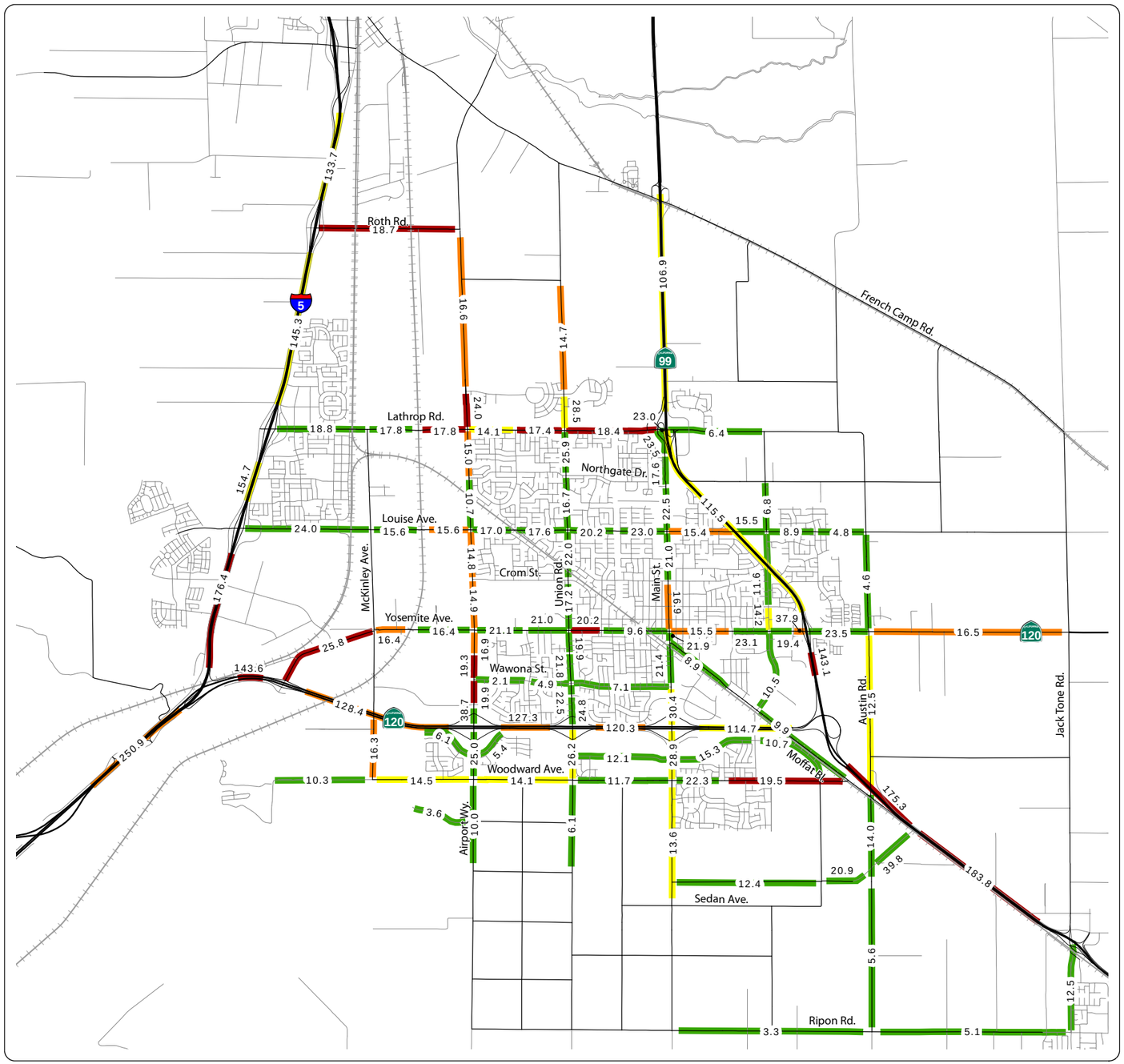
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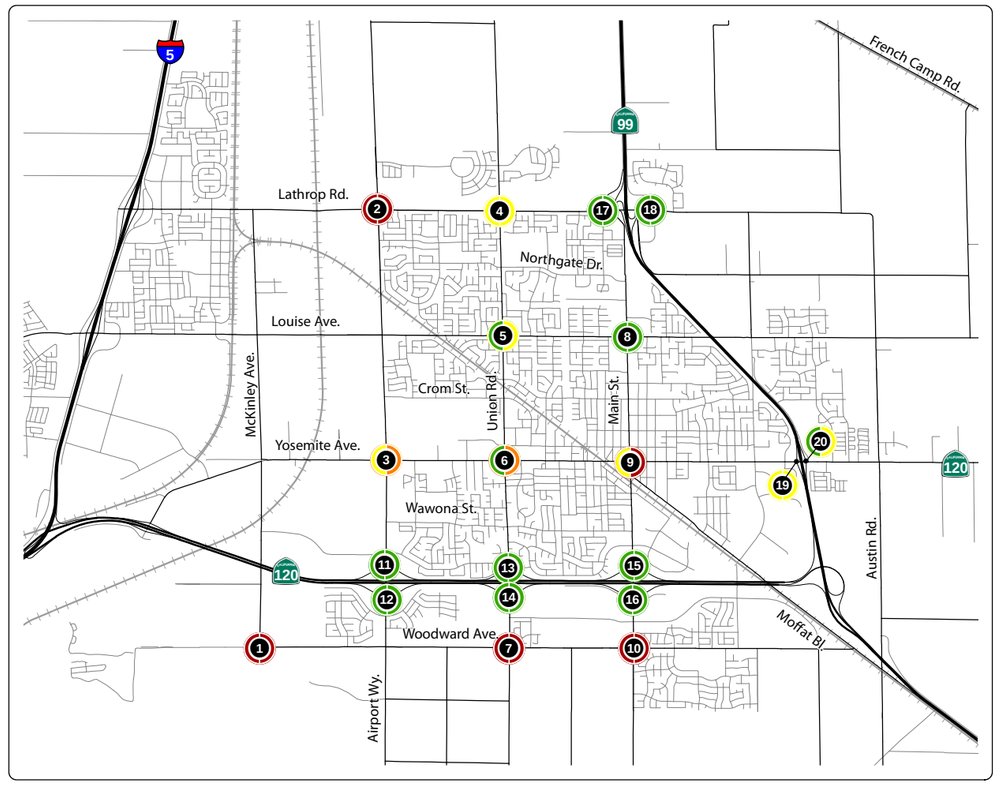
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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - CUMULATIVE CONDITIONS WITH ALTERNATIVE INVESTMENT STRATEGY

FIGURE 3.8-18





LEGEND

Level of Service

- A - C
- D
- E
- F

1.0 Average Daily Traffic Volume (x 1,000)

1 Study Intersection

AM Level of Service — PM Level of Service

N

NOT TO SCALE

FEHR & PEERS
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ROADWAY SEGMENT, INTERSECTION, AND FREEWAY LEVEL OF SERVICE - CUMULATIVE CONDITIONS WITH ALTERNATIVE INVESTMENT STRATEGY

FIGURE 3.8-19

CEQA requires an EIR to evaluate a project's effects in relationship to broader changes occurring, or that are foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents discussion of CEQA-mandated analysis for cumulative impacts, irreversible impacts, and growth inducement associated with the Circulation Element.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

CUMULATIVE SETTING

Under CEQA, the discussion of cumulative impacts should focus on the severity of the impacts and the likelihood of their occurrence. The cumulative scenario for the Circulation Element includes growth planned for San Joaquin County and incorporated communities. The analysis of cumulative effects considered the cumulative projected general plan buildout. Some sections within chapter three include individual cumulative analyses.

Manteca's Population and Employment Projections

The San Joaquin Council of Governments (SJCOG) produces projections of population and employment for the cities in San Joaquin County, including the city of Manteca. SJCOG's most recent projections, released in 2009, cover the period from 2000 to 2035. Table 4.1-1 shows the Census population and employment estimates in 2000 and the projected population and number of employees through 2035.

As shown in the table, Manteca's population is projected to increase from 67,477 in 2010 to 117,010 in 2035. Employment growth in Manteca is projected to increase from 14,823 jobs in 2010 to 21,756 jobs in 2035. With population projected to grow faster than employment, the Manteca jobs-to-household ratios will likely decrease, furthering the city's role as a bedroom community.

TABLE 4.1-1: POPULATION AND EMPLOYMENT PROJECTIONS (MANTECA 2000 TO 2035)

YEAR	*POPULATION (PERSONS)*	*EMPLOYMENT (JOBS)*
2000	49,258	11,905
2005	57,499	12,809
2010	67,477	14,823
2015	78,146	16,527
2020	87,471	17,815
2025	97,410	19,043
2030	107,766	20,401
2035	117,010	21,756

SOURCE: SAN JOAQUIN COUNCIL OF GOVERNMENTS. POPULATION, EMPLOYMENT, & HOUSING UNIT PROJECTIONS, 2009

Regional Population

San Joaquin County population grew at an average annual rate of 2.3 percent during the first part of 2000, one of the fastest rates in the region. According to the 2000 Census, the most rapid

growth occurred in the communities located in the south county, and the largest absolute growth occurred in the City of Stockton with a 32,828 net gain between 1990 and 2000. In the same time period, the population of the City of Tracy grew more than 69 percent, compared to the overall growth of the County of 17.3 percent (2000 Census). Tracy's share of the county's population increased 3.1 percent, while the unincorporated areas' share dropped 2.9 percent. In addition, Tracy and Stockton alone accounted for nearly 70 percent of the absolute population growth in the county from 1990 to 2000.

San Joaquin County can expect this trend to slow to an approximate 2.1 percent annual growth rate due to the current economic recession, and slowed migration to the region. SJCOG contracted with the University of the Pacific to update its population estimates in 2009. These estimates are reflected in the population assumptions adopted by the SJCOG Board found in Table 4.1-2.

TABLE 4.1-2: POPULATION PROJECTIONS (2000 - 2035)

	*2000**	*2010*	*2015*	*2020*	*2025*	*2030*	*2035*
Escalon	5,963	7,535	8,444	9,272	10,155	11,023	11,910
Lathrop	10,455	18,164	20,896	23,747	25,557	27,133	28,384
Lodi	56,999	61,684	63,959	66,588	69,643	72,644	75,525
Manteca	49,258	67,477	78,146	87,471	97,410	107,766	117,010
Ripon	10,146	15,496	18,023	21,139	23,902	26,899	29,587
Stockton	243,771	296,643	319,827	348,977	377,058	404,840	430,393
Tracy	56,929	82,337	94,620	103,456	113,295	122,790	131,385
County	130,087	133,187	140,544	149,035	155,940	161,408	165,580
Total	**563,608**	**682,523**	**744,459**	**809,685**	**872,960**	**934,503**	**989,774**

SOURCE: CENSUS 2000 POPULATION COUNTS, SAN JOAQUIN COUNCIL OF GOVERNMENTS, 2009

Regional Employment

Over the next 25 years, the San Joaquin region will continue to grow rapidly. The San Joaquin Council of Governments (SJCOG) projects a total employment of 312,799 for San Joaquin County by 2035. Regional employment projections adopted by SJCOG are illustrated in Table 4.1-3.

TABLE 4.1-3: EMPLOYMENT PROJECTIONS (2000-2035)

	*2000**	*2010*	*2015*	*2020*	*2025*	*2030*	*2035*
Escalon	1,905	1,674	1,763	1,863	1,950	2,053	2,152
Lathrop	4,495	4,710	5,400	5,816	6,204	6,626	7,028
Lodi	21,450	22,093	24,949	26,619	28,222	30,012	31,887
Manteca	11,905	14,823	16,527	17,815	19,043	20,401	21,756
Ripon	2,925	3,171	3,387	3,639	3,872	4,118	4,347
Stockton	88,645	100,835	115,283	124,547	133,352	142,813	152,323
Tracy	16,360	16,939	17,825	19,246	20,575	21,996	23,389
County	48,025	49,711	55,016	58,952	62,567	66,340	69,917
Total	**195,710**	**213,956**	**240,150**	**258,497**	**275,785**	**294,359**	**312,799**

SOURCE: CENSUS 2000 POPULATION COUNTS (NUMBERS REFLECT JOBS, NOT EMPLOYED, SJCOG 2009

CUMULATIVE EFFECTS OF THE PROJECT

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. State CEQA Guidelines 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the Project's individual effects (State CEQA Guidelines 15130[b]).

There are two approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The projection approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. Because of the programmatic nature of the Circulation Element, this EIR uses the projection approach for the cumulative analysis and considers buildout of the General Plan.

Cumulative Impacts

Effects associated with Aesthetics, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Mineral Resources, Public Services, Recreation, and Utilities and Service Systems were discussed in the Initial Study and determined to not have an impact, have a less than significant impact, or have a less than significant impact with adopted policies and standard mitigation. The analysis in the Initial Study has identified that these impacts will not contribute any substantial incremental effects, no comments were received in response to the NOP regarding these issues, and the analysis performed for preparation of this Draft EIR did not indicate that the project would have a considerable contribution to significant cumulative effects in these issue areas. As such, the project is determined to have a less than considerable contribution to cumulative impacts associated with Aesthetics, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Mineral Resources, Public Services, Recreation, and Utilities and Service Systems.

Cumulative impacts for most issue areas are not quantifiable and are therefore discussed in general terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic and air quality (the latter of which is associated with traffic volumes), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed project may result in the following cumulative impacts.

AGRICULTURE

Impact 4.1: Cumulative Impact on Agricultural Land and Uses (Considerable Contribution and Significant and Unavoidable)

The cumulative setting for agricultural resources includes the greater San Joaquin Valley agricultural region. Cumulative development anticipated in the greater San Joaquin Valley agricultural area, including growth projected by adopted general plans and those being updated, will result in the permanent loss of agricultural land, including important farmlands, significant farmlands, land under Williamson Act contracts, and other farmlands.

Cumulative levels of development in the region may also result in significant conflicts between agricultural uses and uses that may consider agricultural operations a nuisance, such as residential uses, or otherwise conflict with agricultural uses. Transportation facilities associated with the proposed project are not anticipated to result in significant conflicts with agricultural uses as discussed in Section 3.1. While most projects would occur within or adjacent to existing rights-of way, development of new and/or extended transportation and circulation facilities may require conversion of agricultural land, and may convert prime farmlands, as well as lands under Williamson Act contracts.

Agricultural land is a limited resource and the cumulative loss of this land is considered significant. Implementation of mitigation measures identified in this Draft EIR would result in the protection and/or the preservation of agricultural land to the extent practicable. However, agricultural land will inevitably be permanently removed as development occurs in the greater San Joaquin Valley agricultural area, including the City of Manteca. Therefore, this is considered a **cumulatively considerable and significant and unavoidable** impact.

AIR QUALITY

Impact 4.2: Cumulative Impact on the Region's Air Quality (Considerable Contribution and Significant and Unavoidable)

The cumulative setting for air quality impacts is the Sacramento Valley Air Basin. As discussed under Section 3.2, the air quality emissions under the proposed project show slight improvements when compared to the emissions under the business as usual scenario (Existing General Plan buildout). Nevertheless, it was found that the NOx and $PM_{2.5}$ emissions in Manteca exceed the emission "budgets" (aka "thresholds") that are established by the SJVAPCD in the 2007 Ozone Plan, 2008 $PM_{2.5}$ Plan, and 2007 PM_{10} Maintenance Plan (calculated on a per capita basis) under the proposed project. While the proposed project results in an improvement from the business as usual scenario, it still exceeds the standards for federal and state air quality.

The proposed project emissions are a direct result of population growth, which correlates to VMT. The proposed project is designed to reduce VMT on a per capita basis by providing a complete streets network with alternative modes that give the citizens a variety of transportation choices including non-motorized. There are mitigation measures presented in Section 3.5 Greenhouse Gases and Climate Change (Mitigation Measures 3.5-1 through 3.5-6) that promote the use of smart growth and sustainability practices in the design and construction of new projects, which

may reduce VMT. While there are beneficial impacts of the proposed project, it does not bring the emission levels down to levels that are consistent with the federal and state standards. There are no mitigation measures that could feasibly reduce emissions, while also meeting the objectives of the proposed project. Therefore, this is a **cumulatively considerable and significant and unavoidable** impact.

It should also be noted that the Pavely and Low Carbon Fuel Standards that are now in effect will increase fuel efficiency thereby improving emissions. These benefits are not captured in the EMFAC modeling contained within this document. Additionally, traffic models are somewhat limited in their ability to capture VMT reductions from implementing non-motorized and transit improvements. Collectively, these are expected to assist in the efforts to achieve air quality attainment in future years.

BIOLOGICAL RESOURCES

Impact 4.3: Cumulative Loss of Biological Resources Including Habitats and Special Status Species (Considerable Contribution and Significant and Unavoidable)

The cumulative setting for biological resources includes the greater San Joaquin Valley region. Cumulative development anticipated in the region, including growth projected by adopted general plans and those being updated, will result in the permanent loss of habitat for special-status species, corridor fragmentation, direct and indirect impacts to special-status species, and reduction and degradation of sensitive habitat.

The SJMSCP is, in effect, a plan to mitigate both the site specific and the cumulative impacts of individual projects on biological resources within San Joaquin County, including the City of Manteca. If all project proponents opted to participate in the SJMSCP, cumulative effects of the buildout of the General Plan 2023 could be mitigated to a less than significant level. However, it cannot be assumed that all project proponents will opt to participate in the SJMSCP given that it is a voluntary program. Any project proponent who opts against participating in the Plan will be proceeding under the "project-by-project" evaluation and mitigation process with each permitting agency. Since project-by-project evaluation cannot reasonably foresee the overall effects on biological resources of individual projects under multiple agency control, cumulative impacts may result. Therefore, this is considered a **cumulatively considerable and significant and unavoidable** impact.

CULTURAL RESOURCES

Impact 4.4: Cumulative Impacts on Known and Undiscovered Cultural Resources (Less than Cumulatively Considerable)

The cumulative setting for cultural resources includes the City of Manteca, and the jurisdictions bordering the City of Manteca, including the unincorporated San Joaquin County. Cumulative development anticipated in the cumulative setting, including growth projected by adopted general plans and those being updated, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. Mitigation measures provided in Section 3.4 would require project-specific surveys for

potential resources and to evaluate any resources discovered during construction activities. Adherence to these regulations and implementation of mitigation will prevent a cumulative loss of these important resources if they are found during project-specific surveys or construction. Therefore, the proposed project would have a **less than considerable** contribution to cumulative impacts on cultural resources.

GREENHOUSE GASES AND CLIMATE CHANGE

Impact 4.5: Increased Transportation Greenhouse Gas Emissions May Contribute to Climate Change (Considerable Contribution and Significant and Unavoidable)

As discussed under Section 3.5, the proposed project would have a cumulatively considerable contribution to significant impacts associated with climate change and global warming. As illustrated in Section 3.6 the total VMT is projected to increase from 2,341,000 in 2010 to 5,305,000 in 2030, representing an increase of 127 percent over 20 years. The total daily trips are projected to increase from 212,600 trips in 2010 to 413,600 trips in 2020, representing an increase of 95 percent over 20 years. The total CO2 Emissions are projected to increase from 1,410 tons per day in 2010 to 3,470 tons per day in 2030, representing an increase of 146 percent over 20 years.

Implementation of the mitigation measures described Section 3.5 will assist in the reduction of per capita VMT levels throughout the City of Manteca and surrounding communities, which will assist in meeting the stated goals of AB 32 and comply with the requirements of SB 375. As described throughout this EIR, the City of Manteca has included numerous projects and programs to promote the use and expansion of alternative transportation systems throughout the City and they continue to work with the San Joaquin Council of Governments to coordinate local land use and transportation plans and policies aimed at reducing VMT.

However, even after implementation of all of the policies, transportation projects, and mitigation measures included in the Circulation Element and this EIR, the proposed project will still contribute to an overall increase in GHGs generated in the City of Manteca. Therefore, this is considered a **cumulatively considerable and significant and unavoidable** impact.

LAND USE AND PLANNING/POPULATION AND HOUSING

Impact 4.6: Cumulative Impact on Communities and Local Land Uses (Less than Considerable Contribution)

The cumulative setting for land use and planning impacts includes the City of Manteca, and the jurisdictions bordering the City of Manteca, including the unincorporated San Joaquin County. Cumulative land use and planning impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site- and project-specific. It may be determined in the project-specific design phase that an individual project may require removal of homes and result in the displacement of people and housing; however, these effects are not cumulatively considerable because there is adequate replacement housing available under the 2023 General Plan. Additionally, any removal of homes would require adequate compensation to the homeowner in accordance with federal and state laws.

The programmatic nature of the proposed project requires consideration of the overall planning and land use setting within the cumulative setting. As cumulative development occurs, there is the potential for development to occur that is not consistent with adopted plans and regulations and the potential for land use conflicts to occur between communities or jurisdictions. Under cumulative conditions, the majority of individual projects would involve work within an existing right-of-way or extension of an existing right-of-way to widen or lengthen existing facilities. These uses would generally be compatible with adjacent uses as the individual projects are the continuation/extension of existing uses and would not add new land use conflicts.

Individual projects are intended to provide a multi-modal system that addresses safety and operational deficiencies. The individual projects will also assist in improving linkages between existing communities. Growth under the proposed project would be consistent with growth envisioned by 2023 General Plan. As individual projects are designed and engineered they will be reviewed and evaluated for consistency with the adopted General Plan as well as consistency with the adopted plans and regulations of the neighboring agency(ies). As a result, the proposed project would result in development that is compatible and consistent with existing land uses and policies. Therefore, the proposed project would have a **less than considerable** contribution to cumulative land use and planning impacts.

NOISE

Impact 4.7: Cumulative Exposure of Noise-Sensitive Land Uses to Noise in Excess of Normally Acceptable Noise Levels or to Substantial Increases in Noise (Considerable Contribution and Significant and Unavoidable)

The cumulative setting for noise impacts includes the City of Manteca as well as regional highways and roadways connecting Manteca to other population centers. Under cumulative conditions, the increase in development is anticipated to result in increased traffic congestion on local and regional roadways, and a corresponding increase in roadway noise.

Regionally, the proposed project would not have a significant impact on noise or vibration. However, the extent of development in the region would cause some areas to experience greater construction and operational noise disturbances relative to others. This would result as noise sensitive development becomes more clustered near noise producing land uses, including roadways. Although the proposed project itself is not a direct generator of noise during operations, it indirectly increases noise levels by accommodating additional capacity on roadways. Coupled with the increase in regional growth, the proposed project would cumulatively increase noise.

Manteca's adopted Noise Element establishes noise-related policies that, when implemented, protect sensitive receptors from significant noise. The policies that are laid out in the Noise Element are consistent with federal and state regulations designed to protect noise sensitive receptors. During the design process, the implementing agency would be responsible for ensuring that the project is designed consistent with adopted policies and state and federal regulations. Although the policy and regulatory controls for noise-related impacts are in place in the planning

area, subsequent improvement projects would result in an increase in traffic noise. For most projects, consistency with the adopted policies and established regulations would help to reduce exposure of sensitive receptors to transportation noise levels. However, it may not be feasible to mitigate this impact to a less-than-significant level in all instances, particularly in areas where existing development is located near proposed projects. Although the policy and regulatory controls for noise related impacts are in place in the planning area, subsequent improvement projects may result in an increase in ambient noise levels at specific project locations, which may subject surrounding land uses to increases in ambient noise levels. Therefore, this is considered a **cumulatively considerable and significant and unavoidable** impact.

TRANSPORTATION AND CIRCULATION

Impact 4.8: Cumulative Impact on the Transportation Network (Beneficial and Less than Cumulatively Considerable)

The cumulative setting for transportation and circulation impacts includes the City of Manteca as well as regional roadways and highways connecting Manteca to other population centers. Under cumulative conditions, the increase in development is anticipated to result in increased traffic congestion on local and regional roadways, as well as result in increased demand for transit, bicycle/pedestrian, rail, and aviation facilities and infrastructure. The proposed project would improve traffic and circulation conditions compared with buildout of the existing General Plan. Without the proposed project, improvements to transportation facilities, including transit, bicycle, pedestrian, safety improvements, and maintenance, would be limited, and increased congestion at some intersections and segments would degrade the LOS to unacceptable levels. Implementation of the proposed project would have **beneficial impacts** on cumulative transportation impacts.

4.2 GROWTH-INDUCING EFFECTS

INTRODUCTION

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

> *The way in which a 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…It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.*

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities

that would indirectly stimulate the need for additional housing and services to support the new employment demand *(Napa Citizens for Honest Government v. Napa County Board of Supervisors)*. Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply in an area where water service historically limited growth could be considered growth-inducing.

The State CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

Components of Growth

The timing, magnitude, and location of land development and population growth in a region are based on various interrelated land use and economic variables. Key variables include regional economic trends, market demand for residential and non-residential uses, land availability and cost, the availability and quality of transportation facilities and public services, proximity to employment centers, the supply and cost of housing, and regulatory policies or conditions. Since the general plan of a community defines the location, type, and intensity of growth, it is the primary means of regulating development and growth in California.

GROWTH EFFECTS OF THE PROJECT

The Circulation Element is intended provide efficient and effective multi-modal transportation (regional and local road, transit, rail, bicycle, and pedestrian systems) that accommodates the demand for safe movement of people and goods, while reducing usage of nonrenewable energy resources for transportation purposes and achieving federal and state air quality standards.

Population Growth

Manteca's population is projected to increase from 67,477 in 2010 to 117,010 in 2035. Employment growth in Manteca is projected to increase from 14,823 jobs in 2010 to 21,756 jobs in 2035. With population projected to grow faster than employment, the Manteca jobs-to-household ratios will likely decrease, furthering the city's role as a bedroom community.

San Joaquin County's population is expected to grow from 682,523 in 2010 to 989,774 by 2035. Employment in the San Joaquin County is expected to grow from 213,956 in 2010 to 312,799 by 2035. This represents a population increase and employment increase of approximately 45 and 46 percent, respectively.

The proposed project has been planned to accommodate anticipated levels of growth associated with the 2023 General Plan. The proposed project does not increase the amount of growth that could occur under the 2023 General Plan, nor does it provide infrastructure that would accommodate growth in excess of planned levels.

It is anticipated that San Joaquin County and the incorporated communities in the county would grow at rates governed by market influences (the demand for housing as influenced by interest rates, employment rates, etc) as regulated by adopted general plans and local regulations regardless of approval of the proposed project. The proposed project provides a strategy to reduce the adverse traffic and circulation effects of planned growth and would not directly induce growth.

Growth Effects Associated with Infrastructure Improvements

The proposed project provides policies and an infrastructure investment strategy to improve the circulation system through the use of multiple modes of transportation. The individual projects would support the policies of the general plan, and facilitate orderly planned growth. The proposed project also includes provisions to maintain non-motorized modes of transportation, (bicycle, and pedestrian), so that overall mobility is maintained and/or improved. Additionally, the proposed project includes provisions to maintain transit ridership at a rate that maintains pace with population growth, and thus, would not provide roadway improvements that could improve vehicle levels of service at the detriment of transit, pedestrian and bicycle uses.

Environmental Effects of Growth

As described above, the proposed project is not considered to be growth-inducing. The following environmental effects could be experienced due to growth within the throughout the county, including Manteca, although this is not a direct result of the proposed project:

Aesthetics – Changes to views from scenic corridors, small areas where views of scenic resources may be obstructed, removal and/or relocation of scenic resources, such as trees, and increases in daytime glare and nighttime lighting.

Air Quality – Increases in air pollutant emissions potentially conflicting with air quality attainment efforts under state and federal Clean Air Acts, greenhouse gas emissions, and increased potential for the exposure to toxic air contaminants.

Agricultural Resources – Loss of important and significant farmlands, including lands under Williamson Act contract, and conflicts with agricultural activities on lands zoned or planned for agricultural uses

Biological Resources – Adverse effects to special-status plant, fish, and wildlife species associated with habitat reduction and take, and loss or degradation of sensitive communities, including wetlands.

Cultural and Historic Resources – Loss and degradation of cultural resources, including prehistoric and archaeological artifacts, paleontologic resources, and historic resources, including structures and districts of historic significance.

Geology and Hazards – Increased development in areas prone to slope failure, erosion, effects of seismic activity, unstable soils, increased risk of release of hazardous materials.

Greenhouse Gas Emissions and Climate Change – Increases in greenhouse gas emissions, and potentially conflicting with climate actions plans and/or greenhouse gas reductions efforts under state and federal regulations.

Hydrology and Water Quality – Increased development in areas prone to flooding and reduction in water quality.

Noise – Increased transportation noise levels from increased traffic volumes and exposure of sensitive receptors to excessive noise levels.

Public Services and Utilities – Increased demand for public services and utilities, including water supply, wastewater treatment and disposal, solid waste removal and disposal, energy, and telecommunications.

Traffic and Circulation – Increased traffic volumes on the region's highways and regional roadways resulting in deficient levels of service of operation.

It is noted that these effects of growth are anticipated to occur regardless of adoption of the proposed project as development and other growth projects could continue to be approved and implemented by the City, and it's neighboring communities.

4.3 SIGNIFICANT IRREVERSIBLE EFFECTS

CEQA requires that EIRs prepared for the adoption of a plan, policy, or ordinance of a public agency must include a discussion of significant irreversible environmental changes of project implementation. CEQA Guidelines Section 15126.2(c) describes irreversible environmental changes as:

> *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. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

Implementation of the proposed project could result in the conversion of undeveloped agricultural and open space areas to transportation facilities, including roadway, transit, bicycle, pedestrian, and other transportation improvements. It is unlikely that circumstances would arise that would justify the return of the land to its original condition.

Development of transportation infrastructure and facilities would irretrievably commit building materials and energy to the construction and maintenance of buildings and infrastructure. Renewable, nonrenewable, and limited resources that would likely be consumed as part of transportation infrastructure and facilities would include, but are not limited to, oil, gasoline, lumber, sand and gravel, asphalt, water, steel, and similar materials.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the Circulation Element are discussed in Chapters 3 (project-level) and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impact identified below:

- Impact 3.1-1: Conversion of Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance (significant and unavoidable)
- Impact 3.1-2: Conflict with Existing Agricultural Zoning or Williamson Act Contracts (significant and unavoidable)
- Impact 3.2-1: Conflict with, or Obstruct, the Applicable Air Quality Plan, Cause a Violation of Air Quality Standards, Contribute Substantially to an Existing Air Quality Violation, or Result in a Cumulatively Considerable Net Increase of a Criteria Pollutant in a Non-Attainment Area (significant and unavoidable)
- Impact 3.5.1: CO2 Emission Effects on Climate Change and Global Warming (significant and unavoidable)
- Impact 3.5.2: Energy Consumption Effects on Climate Change and Global Warming (significant and unavoidable)
- Impact 3.5.3: Population Effects on Climate Change and Global Warming (significant and unavoidable)
- Impact 3.7-1: Grading and Construction Activities Would Intermittently and Temporarily Generate Noise Levels Above Ambient Background Levels. (significant and unavoidable)
- Impact 3.7-2: Exposure of Noise-Sensitive Land Uses to Noise in Excess of Normally Acceptable Noise Levels or to Substantial Increases in Noise. (significant and unavoidable)
- Impact 3.7-3: Grading and Construction Activities Would Intermittently and Temporarily Expose Sensitive Receptors to Groundborne Vibration Levels. (significant and unavoidable)
- Impact 4.1: Cumulative Impact on Agricultural Land and Uses (Considerable Contribution and Significant and Unavoidable)

- Impact 4.2: Cumulative Impact on the Region's Air Quality (Considerable Contribution and Significant and Unavoidable)
- Impact 4.3: Cumulative Loss of Biological Resources Including Habitats and Special Status Species (Considerable Contribution and Significant and Unavoidable)
- Impact 4.5: Increased Transportation Greenhouse Gas Emissions May Contribute to Climate Change (Considerable Contribution and Significant and Unavoidable)
- Impact 4.7: Cumulative Exposure of Noise-Sensitive Land Uses to Noise in Excess of Normally Acceptable Noise Levels or to Substantial Increases in Noise (Considerable Contribution and Significant and Unavoidable)

4.5 ISSUES DETERMINED TO BE LESS THAN SIGNIFICANT

An Initial Study was prepared at the onset of the proposed project. It was determined that there are six environmental topics where the proposed project would result in a less than significant or no impact. These include: Aesthetics, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Mineral Resources, Public Services, Recreation, and Utilities and Service Systems.

The Initial Study was circulated with the Notice of Preparation (NOP) on April 19, 2010 to trustee and responsible agencies, the State Clearinghouse, and the public. A scoping meeting was held on May 11, 2010 at 5:00 PM at the normally schedule Planning Commission meeting in the City of Manteca. Those present at the scoping meeting included representatives from the following: City of Manteca Planning Commission, City of Manteca Staff, City of Lathrop Staff, and De Novo Planning Group. The City of Lathrop Staff presented a letter response to the Planning Commission. No other public comments were provided at the scoping meeting. None of the comments received disputed the less than significant determination for: Aesthetics, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Mineral Resources, Public Services, Recreation, and Utilities and Service Systems. The NOP and Initial Study are presented in **Appendix A**. Below is a brief discussion of each environmental topic that was previously determined to be less than significant.

AESTHETICS

Existing Conditions

Manteca is located at the center of California's Central Valley and near the north end of the San Joaquin Valley. Typical of the Central Valley, the Manteca area is virtually flat, a quality that determines how the city is perceived. With the exception of views from highway overpasses that provide brief panoramic views, the entire cityscape and surrounding landscape are viewed from the ground level perspective.

On particularly clear days, however, there are distant views of the Sierra Nevada Mountains to the east and the Coast Range Mt. Diablo Range 25 miles to the west and southwest. Mount Boardman

and Eagle Mountain located to the southwest are the most prominent of these background features.

Manteca is surrounded by agricultural uses, primarily orchards and field crops. Although no major watercourse lies within or contiguous to Manteca, the San Joaquin River flows approximately four miles to the west along the west side of the Study Area and Walthall Slough is located along the southwest boundary of the Study Area.

The residential neighborhoods in Manteca are typically composed of single family dwellings in a mix of one and two story structures. Many neighborhoods include a small park and detention basin (approximately five acres or larger) that serves the local neighborhood.

Although the distance between northern Manteca and southern Stockton is only four miles, the rural agricultural character of these four miles is critically important to the scenic and open space qualities that define the city. Only the southern two miles of this buffer area is located in the Study Area.

Downtown

The Manteca Downtown area has undergone revitalization efforts in recent years. Projects have included the addition of parking facilities, benches and other pedestrian amenities, vehicular and pedestrian lighting, and signage. The City and the Redevelopment Agency have also established programs to enhance the economic viability of downtown, in an effort to encourage both visitors and residents to use the area.

The City's goal is to foster an authentic downtown. Factors that contribute to the authenticity of downtown include rehabilitation activities to restore the character of older buildings that have architectural details not ordinarily found in contemporary buildings. Pedestrian traffic has been encouraged by designing areas that are protected from winter and summer weather, and that have landscaping to the rear of stores. Pedestrian-scale parking lots, thoughtful signage, and street lighting also enhance this ambience.

Tidewater Bikeway and Pedestrian Path

A prominent visual feature of the city is the Tidewater Bike Path. It is a 3½ mile Class I bikeway and pedestrian path. The trail runs from the south end of the city along Moffat Boulevard to the north end at Lathrop Road. The path passes through Downtown, Library Park, and many residential neighborhoods.

Railroad

The Union Pacific Railroad running generally north-south through Manteca is another prominent visual feature.

Impact 4.5.1: Potential to have a substantial adverse effect on a scenic vista, substantially damage scenic resources within a state scenic highway, or substantially degrade the existing visual character or quality of the site and its surroundings.

Construction activities associated with the proposed project that require roadway alterations would include the use of heavy equipment and associated vehicles (e.g., bulldozers, graders, scrapers, and trucks). Construction activities, equipment, and vehicles would be present in the viewshed of nearby roadways and adjacent residences, commercial facilities, and public facilities. Construction activities are considered temporary, and the existing visual characters of each project site would be restored after the completion of projects.

Commuters and residents are the primary viewers within the major transportation corridors (e.g., I-5, SR 12, I-580). The viewer sensitivity of residents and commuters within the study area is considered relatively low because of the lack of scenic value. The majority of individual projects under the proposed project would be constructed at grade level in areas where similar infrastructure exists. Projects involving construction of overpasses, interchanges, intersections, park-and-ride lots, multimodal stations, and the substantial physical expansion of existing highway and street segments will be designed on a project-by-project basis to ensure visual compatibility with surrounding property. Implementation of the following adopted General Plan policies would ensure that any potential for adverse impacts would be reduced to a ***less than significant*** level.

MITIGATION MEASURES

Adopted General Plan Policies: *The impact on the visual quality of the area can be minimized by incorporating design features into projects that are implemented under the Circulation Element and the Public Facilities Implementation Program. Each project shall be consistent with the following General Plan Policies related to transportation facilities:*

- *RC-P-17 New development shall maximize the potential for open space and visual experiences.*
- *CD-P-49 In order to establish a visual character that retains the agricultural heritage, the city will permit the use of orchard trees (or similar non-fruiting species) in landscape corridors along major streets adjacent to residential neighborhoods, in-lieu of formalized landscape. In such landscapes, the groundcover may be limited to bare earth and weed control and/or groundcovers compatible with the orchard characteristics.*
- *CD-I-14: Establish design guidelines for non-residential uses within 200 feet of SR 99 and SR 120. The guidelines should address the following concept. The landscape along SR 120 and SR 99 will reflect the natural character of the region in the selection of trees and groundcover.*

Impact 4.5.2: Potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

As discussed in the General Plan EIR (2003), buildout of the General Plan will result in increased light or glare associated with new development. The impacts associated with nighttime light and

glare are directly related to the intensity of development, as well as the design. The General Plan EIR determined that this was a potentially significant impact.

The proposed project provides for transportation related infrastructure that is consistent with the existing and future demands of the General Plan buildout. The individual transportation projects that are implemented under the direction of the proposed project will require lighting that is designed to the federal, state, and local standards in order to provide for the safety and welfare of citizens. If improperly designed, a light system can cause glare and otherwise be considered a nuisance to adjacent property owners. Implementation of the following adopted General Plan policies would ensure that this impact would be reduced to a ***less than significant*** level.

MITIGATION MEASURES

Adopted General Plan Policies: *The impact of light and glare can be minimized by incorporating design features and operating requirements into projects that are implemented under the Circulation Element and the Public Facilities Implementation Program. Each project shall be consistent with the following General Plan Policies related to transportation facilities:*

- *CD-P-44: Provide minimal levels of street, parking, building, site, and public area lighting to meet safety standards and provide direction.*
- *CD-P-45 Provide directional shielding for all exterior lighting to minimize the annoyance of direct or indirect glare.*

GEOLOGY AND SOILS

Regional Geology

Manteca is located in northern San Joaquin Valley. The San Joaquin Valley is the southern section of the Great Central Valley of California; the Sacramento Valley is the northern section. The Great Central Valley is a sedimentary basin, with the Coast Range to the west and the Sierra Nevada to the east. Almost all of the sediments that fill the Great Central Valley eroded from the Sierra Nevada. The oldest of these sediments are full of fragments of volcanic rocks eroded from its early volcanoes. As erosion stripped the cover of volcanic rocks from the granites of the Sierra Nevada, their detritus of pale quartz and feldspar sand began to wash into the Great Central Valley.

Drainage into the San Joaquin Valley is mainly from the Sierra Nevada. The sediments on the valley floor were deposited within the past one-two million years, some within the past few thousand years.

Seismicity

The geographic distribution of earthquake activity is referred to as seismicity. Seismicity can result in hazards caused by fault displacement and rupture, ground shaking, liquefaction, lateral spreading, and landslides. Seismicity is generally measured based on the amount of energy released at a fault.

The entire state of California is considered seismically active and is susceptible to seismic ground shaking. However, the most highly active fault zones are along the coastal areas. Manteca in located in Seismic Zone 3 as defined by the Uniform Building Code. All structures built within Manteca must comply with the Uniform Building Code for this zone.

Fault Systems

Seismicity is directly related to the distribution of fault systems within a region. Depending on activity patterns, faults and fault-related geologic features may be classified as active, potentially active, or inactive.

Active faults affecting Manteca include the San Andreas Fault Zone, Hayward Fault, the Calaveras Fault, Greenville Fault Zone, Ortigalita Fault Zone, Green Valley-Concord Fault Zone, and the Antioch Fault. All these faults are located west of Manteca. The faults are capable of producing earthquakes of a maximum probable magnitude between 6.3 and 8.25 on the Richter scale. Several potentially active faults that may affect Manteca are located in the southwest area of the county, in or near the Tracy Planning Area. These include the San Joaquin Fault Zone, Midway-Black Butte Fault, the Tesla Fault, and Tracy-Stockton Fault. The Foothills Fault system, which includes Melones and Bear Mountain fault zones, is located to the east of Manteca.

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. No special study zones are located in Manteca.

Manteca is classified as a Seismic Zone 3, which is defined by the Uniform Building Code with special standards and regulations based on the potential impacts from seismic activity.

Seismic Hazards

Seismic Ground Shaking. The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters.

Fault Rupture. A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. Manteca does not have any Alquist-Priolo Fault Zones.

Liquefaction. Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Manteca is considered

susceptible to liquefaction given that there is a high water table. This is particularly problematic for the levees located atop soils prone to liquefaction.

Lateral Spreading. Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Sometimes, lateral spreading is directly associated with areas of liquefaction. Manteca is not considered to have a high susceptibility to lateral spreading, except in areas where liquefaction is high.

Landslides. Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The potential for landslides is considered remote in Manteca due to the lack of significant slopes.

Erosion

Erosion naturally occurs on the surface of the earth as surface materials (i.e. rock, soil, debris, etc.) is loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover.

Impact 4.5.3: Potential to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving rupture of a fault, strong seismic ground shaking, liquefaction, landslides, lateral spreading, or subsidence.

There are no active faults within Manteca. There are no Alquist-Priolo Earthquake Fault Zones within San Joaquin County. There will always be a chance that a fault located anywhere in the state (or region) could rupture and cause seismic ground shaking. All individual transportation projects would be required to conduct seismic hazard evaluations as part of the design and engineering process. This evaluation would comply with all appropriate Uniform Building Code and California Building Standards Code provisions.

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. Manteca is considered susceptible to liquefaction given that there is a high water table. This is particularly problematic for the levees located atop soils prone to liquefaction.

Each improvement project would be required to have a specific geotechnical study prepared and incorporated into the improvement design. The geotechnical study would provide

recommendations for mitigating any potential risk associated with site specific conditions. Implementation of project specific geotechnical engineering measures would reduce the safety risks of landslides, lateral spreading, or liquefaction to a reasonable level. With the implementation of the following adopted General Plan policies the proposed project would result in a ***less-than-significant*** impact from these issues.

MITIGATION MEASURES

Adopted General Plan Policies: *The impact of a fault rupture or strong seismic ground shaking can be minimized by incorporating design features and operating requirements into projects that are implemented under the Circulation Element and the Public Facilities Implementation Program. Each project shall be consistent with the following General Plan Policies:*

- *S-P-1 The City shall require preparation of geological reports and/or geological engineering reports for proposed new development located in areas of suspected significant geological hazards, including potential subsidence (collapsible surface soils) due to groundwater extraction.*
- *S-P-2 The City shall require new development to mitigate the potential impacts of geologic hazards through Building Plan review.*
- *S-P-3 The City shall require new development to mitigate the potential impacts of seismic induced settlement of uncompacted fill and liquefaction (water-saturated soil) due to the presence of a high water table.*
- *S-P-5 The City shall ensure that all public facilities, such as buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically induced ground failure.*
- *SG-I-1 All new development shall comply with the current Uniform Building Code (UBC) requirements for Seismic Zone 3, which stipulates building structural material and reinforcement.*
- *SG-I-2 All new development shall comply with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces caused earthquakes and wind.*

Impact 4.5.4: Potential to result in substantial soil erosion or the loss of topsoil.

Some of the transportation projects under the proposed project would involve some land clearing, mass grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of a substantial amount of nonrenewable topsoil and could adversely affect water quality in nearby surface waters.

The Regional Water Quality Control Board will require a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each transportation improvement that disturbs an area one acre or larger. The SWPPPs will include project specific best management measures that

are designed to control drainage and erosion. Each transportation improvement will include detailed project specific drainage plans that control storm water runoff and erosion, both during and after construction. With the implementation of the following adopted General Plan policies and mitigation measure the proposed project would result in a ***less-than-significant*** impact on soil erosion.

MITIGATION MEASURES

Adopted General Plan Policies: *The impact of soil erosion can be minimized by incorporating design features and operating requirements into projects that are implemented under the Circulation Element and the Public Facilities Implementation Program. Each project shall be consistent with the following General Plan Policies:*

- *RC-I-16 All new development shall comply with the Uniform Building Code (UBC) requirements for specific site development and construction standards for specific soils types.*
- *RC-I-17 All new development shall comply with the Uniform Building Code (UBC), Chapter 70, regulating grading activities including drainage and erosion control.*
- *RC-I-18 Require site-specific land management and development practices for proposed development projects, including appropriate mitigation measures for avoiding or reducing erosion.*

Mitigation Measure 5.2-1: *In addition to applicable adopted General Plan policies, the impact of a soil erosion from projects that are implemented under the Circulation Element and the Public Facilities Implementation Program can be minimized by implementing the following measures:*

- *Comply with NPDES General Construction Permit requirements. To reduce or eliminate construction-related water quality effects, the City or its agents will ensure that transportation improvement projects comply with the requirements of the NPDES General Construction Permit. The City will obtain coverage under the General Construction Permit before the onset of any construction activities, where the disturbed area is 1 acre or greater in size.*
- *A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the NPDES General Construction Permit requirements. The SWPPP will be implemented prior to the issuance of any grading permit before construction. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*
- *Compliance and coverage under the NPDES General Construction Permit will require controls of pollutant discharges that utilize BMPs and technology to reduce erosion and sediments to meet water quality standards. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the construction site. Measures may include, temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) will be employed to control erosion from disturbed areas.*

- *Final selection of BMPs will be subject to approval by the City. The City will verify that an NOI has been filed with the SWRCB, and a SWPPP has been developed before allowing construction to begin.*

Impact 4.5.5: Creation of risks to life or property from being located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code.

Expansive soils are those that shrink or swell with the change in moisture content. The volume of change is influenced by the quantity of moisture, by the kind and amount of clay in the soil, and by the original porosity of the soil. Shrinking and swelling can damage roads and other structures unless special engineering design is incorporated into the project plans.

Soil surveys of San Joaquin county indicate that soils with high shrink-swell potential (i.e., potentially expansive soils) occur throughout the county. Five of the nineteen soils types within Manteca have been identified as expansive soils. Two of these soils types have a high shrink-swell potential, and three have a moderate shrink-swell potential.

Transportation improvements under the proposed project would be located throughout Manteca, which is known to contain expansive soils. Many of these projects would occur within existing transportation corridors where expansive soils have already been removed. New transportation facilities, however, could encounter expansive soils. If located at or near the finished grade of the proposed improvements, expansive soils could cause substantial damage to improperly designed and constructed project facilities and result in injury to people using these facilities.

Each improvement project would be required to have a specific geotechnical study prepared and incorporated into the improvement design. The geotechnical study would identify the specific soil conditions that may contribute to soil expansion. Based on specific findings at each locality, the geotechnical engineer will recommend detailed engineering measures that are necessary to reduce the risks associated with soil expansion. Implementation of project specific geotechnical engineering measures would reduce the risks from soil expansion to a reasonable level. With the implementation of the following adopted General Plan policies the proposed project would result in a ***less-than-significant*** impact from expansive soils.

MITIGATION MEASURES

Adopted General Plan Policies: *The impact of expansive soils can be minimized by incorporating design features and operating requirements into projects that are implemented under the Circulation Element and the Public Facilities Implementation Program. Each project shall be consistent with the following General Plan Policies:*

- *S-P-1 The City shall require preparation of geological reports and/or geological engineering reports for proposed new development located in areas of suspected significant geological hazards, including potential subsidence (collapsible surface soils) due to groundwater extraction.*

- *S-P-2 The City shall require new development to mitigate the potential impacts of geologic hazards through Building Plan review.*
- *RC-I-16 Comply with the Uniform Building Code (UBC) requirements for specific site development and construction standards for specific soil types.*

Impact 4.5.6: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

The proposed project would not result in the generation of sewer water or the expansion of septic infrastructure. Implementation of the proposed project would have ***no impact*** on this environmental issue.

HAZARDS AND HAZARDOUS MATERIALS

Hazardous Materials

A "hazardous material" is a substance or combination of substances that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may pose a potential hazard to human health or the environment when handled improperly.

Hazardous Materials Storage, Transport, and Disposal

Union Pacific Railroad. The Union Pacific Railroad tracks are located at the west side of the Study Area. Cargo is transferred between trucks and trains at a transfer station north of Lathrop Road. Potential issues related to the railroad running through the City include risks to human health and safety associated with a hazardous materials-related emergency.

The Union Pacific Railroad has primary responsibility for hazardous materials spills on its premises. Union Pacific's emergency response plan contains operations guidelines, training requirements, and response procedures to be implemented in the event of a derailment, leak, or off-railroad incident involving hazardous materials.

Roadways. Hazardous materials are routinely transported over state and federal highways, as well as local roads. Trucks travel to and from Interstate 5 (outside the Study Area) to the railroad transfer station north of Lathrop Road.

Hazardous materials spills on state and federal highways are the responsibility of the California Department of Transportation (Caltrans) and the California Highway Patrol (CHP). These agencies provide on-scene management of the spill site and coordinate with the California Environmental Health Department, California Office of Emergency Services, and the Manteca Fire Department.

Solid Waste Management. The Integrated Waste Management Board (CIWMB) coordinates the database records of waste management facilities in Manteca with San Joaquin County Public Health Services, Environmental Health Division. The IWMB lists eight waste management facilities in Manteca. Following is a summary of the current status of those listed facilities:

1. Manteca County Dump (I.D. SWIS #39-CR-0025): Solid waste disposal site. Pre-regulations site closed 12/31/63.
2. Manteca City Dump (I.D. SWIS #39-CR-0024): Solid waste disposal site. Pre-regulations site closed 12/31/63.
3. Spic and Span Private Garbage Dump (I.D. SWIS #39-CR-0032): Solid waste disposal site. Pre-regulations site closed (no date given).
4. Forward Resource Recovery Facility (I.D. SWIS #39-AA-0020)
    - Unit 01 Solid waste transfer/processing facility. Permitted site now inactive.
    - Unit 02 Solid waste materials recovery facility (MRF). Permitted site now inactive.
    - Unit 03 Solid waste composting facility (Green Waste). Permitted site now active.
    - Unit 04 Solid waste composting facility (Mixed). Permitted site planned.
    - Unit 05 Solid waste operation (Non-Hazardous Ash Disposal/Monofill). Permitted site now inactive.
5. Austin Road/Forward Landfill (I.D. SWIS #39-AA-0001): Solid waste landfill. Permitted site now active.
6. Lovelace Transfer Station (I.D. SWIS #39-AA-0008): Solid waste large volume transfer/processing facility. Permitted site now active.
7. Forward, Inc. (I.D. SWIS #39-AA-0015)
    - Unit 01 Solid waste landfill. Permitted site now active.
    - Unit 02 Solid waste treatment (processing) facility. Permitted site now active.
    - Unit 03 Solid waste ACW disposal operation. Permitted site now active.
8. Delicato Vineyards (I.D. SWIS #39-AA-0037): Solid waste composting facility (Ag). Notification site now active.

San Joaquin County Public Health Services (Environmental Health Division), the State Regional Water Quality Control Board (RWQCB), and the California Department of Toxic Substances Control (DTSC) are now in the process of developing protocols for urban development in the vicinity of these waste management facilities. Currently, the Health and Safety Code requires a DTSC Preliminary Environmental Assessment (PEA) for development within 1,000 feet of a solid waste facility.

Hazardous Minerals

Asbestos is a term applied to several types of naturally occurring fibrous materials found in rock formations throughout California. Asbestos is commonly found in ultramafic rock, including serpentine, which is abundant in the foothills of the Sierra Nevada.

Serpentine rock, which often contains asbestos, has also been used extensively as base material in the construction of new roads. Exposure and disturbance of rock and soil that contains asbestos can result in the release of fibers to the air and consequent exposure to the public. All types of asbestos are now considered hazardous and pose public health risks. The use of asbestos-containing materials is regulated by the California Air Resources Board.

The California Department of Conservation has developed a map of "Areas More Likely to Contain Naturally Occurring Asbestos" based on the location of Ultramafic Rocks in California. The map indicates that asbestos is not present in San Joaquin County.

Fire Hazards

Wild fires are a major hazard in the State of California. Wild fires burn natural vegetation on developed and undeveloped lands and include timber, brush, woodland, and grass fires. While low intensity wild fires have a role in the ecosystem, wild fires put human health and safety, structures (e.g., homes, schools, businesses, etc.), air quality, recreation areas, water quality, wildlife habitat and ecosystem health, and forest resources at risk.

Manteca is not considered to have a high fire-hazard due to the lack of steep slopes and the managed agricultural fields that surround the community.

Regulations and Programs

Hazardous Materials Transportation Act of 1975. The Hazardous Materials Transportation Act, as amended, is the basic statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

Impact 4.5.7: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or from being located on a hazardous site.

As of February 25, 2010, there were two locations in Manteca on the Cortese list. Table 4.5-1 lists all Hazardous Waste and Substances Sites" (Cortese Sites) located in Manteca.

TABLE 4.5-1: CORTESE LIST

SITE/FACILITY NAME	*SITE TYPE*	*STATUS*	*ADDRESS*	*CITY*
Gordon Research Company	State Response	Active	1085 South Union Road	Manteca
Satellite Housing	Voluntary Cleanup	Inactive - Action Required	280 and 282 N. Airport	Manteca

SOURCE: DEPARTMENT OF TOXIC SUBSTANCES CONTROL 2010

Of the two locations, one site is listed as a State Response, one site is a Voluntary Cleanup Site, and none are listed Federal Superfund Sites.

The proposed project provides for improvements to transportation systems that are currently used for transport of hazardous materials. All transportation of hazardous materials is regulated by federal and state laws and local ordinances. The proposed transportation improvements under the proposed project would not cause or require routine transport, use, or disposal of hazardous materials. Nor are any of the transportation improvements located on a site which is included on a

list of hazardous materials site that would create a significant hazard to the public or the environment. Therefore, implementation of the proposed project would result in a ***less-than-significant*** impact.

Impact 4.5.8: Create a significant hazard to the public or the environment involving the release or emissions of hazardous materials into the environment, or within one-quarter mile of an existing or proposed school.

There are numerous public and private schools located within Manteca. The transportation system facilitates access to these schools, therefore some of the individual transportation improvements under the proposed project will be located within ¼ mile of a school. Hazardous materials used in construction of a project in the vicinity of a school could be accidentally released. In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with federal and state regulations to mitigate hazards to people and the environment.

Implementation of the improvements under the proposed project would require construction activities, including grading, which has the potential to release hazardous materials into the air. This is a potentially significant impact to construction workers and citizens in the region. However, each improvement project will require a site assessment to be performed. The study will identify the potential for hazardous materials within the soils. If hazardous materials are deemed present, a Mitigation Plan would be prepared to ensure that adequate mitigation measures are implemented prior to and during project construction. With the implementation of the following adopted General Plan policies and mitigation measure, the proposed project would result in a ***less-than-significant*** impact from this issue.

MITIGATION MEASURES

Adopted General Plan Policies: *The impact from emitting or handling hazardous materials near schools can be minimized by proper handling of such materials. Each project implemented under the Circulation Element and the Public Facilities Implementation Program shall be consistent with the following General Plan Policies:*

- *SP-P-16 City approvals of all new development shall consider the potential for the production, use, storage, and transport of hazardous materials and provide for reasonable controls on such hazardous materials.*

Mitigation Measure 5.2-2: *In addition to previous adopted General Plan policies, the impact from release of hazardous materials from projects that are implemented under the Circulation Element and the Public Facilities Implementation Program can be minimized by implementing the following measures:*

- *Implement site-specific analysis for hazardous materials, remediation, and clean-up. The City shall investigate potential for improvement projects to be located at or near areas that are reasonably expected to contain hazardous materials, DTSC sites, areas containing ADL, or at*

any structure that may contain asbestos. If a project site is found to be contaminated, clean up measures in accordance with the appropriate regulatory agency procedures will be implemented. Additionally, appropriate remediation measures will be employed to ensure worker safety during construction.

Impact 4.5.9: Potential to result in a safety hazard for people residing or working in within two miles of a public airport, public use airport, or private airstrip.

Manteca does not have any airports within the city limits. The closest airport is located in Stockton. The proposed project would have ***no adverse impact*** on this environmental issue.

Impact 4.5.10: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Implementation of road construction projects and improvements to transportation-associated structures may result in temporary road closures, traffic detours, or congestion, which may hinder the emergency vehicle access or evacuation in the event of an emergency. The following mitigation measure requires projects to prepare a Transportation Management Plan (TMP) if such a plan is deemed necessary by the City. Implementation of the following mitigation measure would ensure that the potential impact is reduced to a ***less-than-significant*** level.

MITIGATION MEASURES

Mitigation Measure 5.2-3: *Prepare and implement a transportation management plan if it is determined that a project could hinder emergency access. The City shall assess the necessity of a Transportation Management Plan (TMP) on a project-by-project basis. If the project will result in road closures, traffic detours, or congestion on main thoroughfares or roads that provide primary access to populated areas, a TMP will be prepared prior to the initiation of project construction. The TMP will be provided to all emergency service providers in the metropolitan area and will notify them of anticipated dates and hours of construction, as well as any anticipated limits on access. Notice will be provided at least 5 days before construction begins.*

Impact 4.5.11: Potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

The individual improvements constructed under the proposed project would not result in the construction of structures that would be occupied by humans; therefore, it would not expose people or structures to a significant risk involving wild fires. The proposed project provides for improvements to transportation systems throughout Manteca, which is expected to improve the ability for fire protection services to access areas in the event of a wildfire. This is considered a

beneficial impact. Therefore, the proposed project would have ***no adverse impact*** on this environmental issue.

HYDROLOGY AND WATER QUALITY

Local Drainage

No major drainages flow within the Study Area. Manteca is located on the relatively higher ground between Lone Tree Creek to the north, the Stanislaus River to the south, and the San Joaquin River to the southwest and west.

Although no major watercourse lies within the Study Area, the San Joaquin River flows approximately four miles to the west of the Study Area boundary. Walthall Slough is a tributary to the river. The Slough's northern boundary is contiguous with the southwestern boundary of the Study Area.

Meteorological events such as intense precipitation may adversely affect the natural drainage of the region. In addition, seasonal snowmelt from the Sierra Nevada mountain range to the east contributes to the volume of water in the local hydrologic system. Urbanization contributes to an increased volume in the hydrologic system by increasing impervious surfaces, which do not allow for infiltration of water into the soil resulting in increased velocities and volumes of runoff.

The South San Joaquin Irrigation District (SSJID) operates drainage facilities that pass through Manteca and carry a portion of the City's drainage. Because of topography, drainage facilities generally follow an east-to-west alignment. In some instances where subdivisions have developed near irrigation laterals, drainage pumping stations have been installed in lieu of long trunk lines to drains. Water from the SSJID, along with drainage pumped by the City, flows west into French Camp Canal, which eventually flows into French Camp Slough. Storm drainage is gravity-discharged from the Study Area north to French Camp Canal. Existing road and railroad crossings of the Canal are, however, undersized and will require replacement to accommodate peak design flows from the Study Area. The San Joaquin Delta is the ultimate destination of drainage carried by French Camp Slough.

The City's stormwater drainage system is further discussed in Section XVII Utilities and Service Systems.

100-Year Flood Areas

The Federal Emergency Management Agency (FEMA) categorizes flood prone areas based on the frequency of occurrence. The City of Manteca has not been mapped. The primary flood hazard in Manteca is the San Joaquin River (four miles outside the Study Area) and its tributaries, notably Walthall Slough (contiguous with the southwestern Study Area boundary). A levee running from Williamson Road east to Airport Way provides flood protection for the land north and east of Walthall Slough. This levee is under the jurisdiction of Reclamation District No. 17.

Groundwater Quality and Recharge

The City's wells produce groundwater that meet or exceed the State Department of Health Services recommended drinking water quality standards. Groundwater levels are relatively high throughout the Study Area, which are buoyed by the proximity of the Delta channels to the west. Groundwater recharge comes from irrigation of agricultural lands surrounding the City and infiltration from streams flowing west out of the Sierra Nevada. This recharge occurs in areas with permeable materials which allow the infiltration of water along streams, alluvial fans and foothill areas.

Surface Water Quality

The quantity, quality, and availability of water are vital to both human activities, and vegetation and wildlife in the Study Area. Construction grading can impact water quality because it exposes bare soil. Rainfall on bare soil can cause erosion and sedimentation into nearby water bodies. Unstabilized soil can be washed or wind-blown into nearby surface water. Construction activities can also result in petroleum products and other pollutants from construction equipment, entering nearby drainages.

Stormwater Runoff

Human activities have an effect on water quality when chemicals, salting of roads (to melt snow) heavy metals, hydrocarbons (auto emissions and car crank case oil), and other materials are transported with stormwater into drainage systems. Construction activities can increase sediment runoff, including concrete waste and other pollutants.

Dam Failure Inundation

There are fifteen dams located in and around San Joaquin County, all of which have the potential to inundate portions of the county if they were to fail. Despite the number of dams near San Joaquin County, the risk of dam failure inundating portions of the County is considered low due to the fact that they are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Regulations

Federal Clean Water Act of 1972. The federal Clean Water Act establishes the basic structure for regulating discharges of pollutants into waters of the United States and setting water quality standards for all contaminants in surface waters. The Clean Water Act defines water quality standards as "provisions of state or federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water

quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act."

National Pollutant Discharge Elimination System (NPDES). In 1972, the Clean Water Act was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. In California, the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCB) are authorized to implement this program. The NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, and runoff from construction sites disturbing more than one acre of soil.

Porter-Cologne Water Quality Control Act. Porter-Cologne regulates the discharge of waste into waters of the state, which are defined as "any water, surface or underground, including saline waters, within the boundaries of the state." Permits issued to control pollution (i.e. waste-discharge requirements and NPDES permits) must implement Basin Plan requirements (i.e. water quality standards), taking into consideration beneficial uses to be protected. Regional Boards regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Any person proposing to discharge waste within any region must file a report of waste discharge with the appropriate regional board.

Delta Protection Commission. The Delta Protection Act of 1992 established the California Delta Protection Commission, which is comprised of 19 members of diverse composition. The Commission is to develop a long-term resource management plan for the Delta Primary Zone. As stated in the Act, the goals of this 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 Act acknowledges the significance and irreplaceable natural resources of the Delta. The agricultural lands within the Delta are of value as open space and habitat for waterfowl using the Pacific Flyway. Because of this, the regional plan is to protect agricultural land within the Primary Zone from the intrusion of nonagricultural uses. All local general plans for areas within the Primary Zone are required to be consistent with the regional plan. The Secondary Zone consists of areas within the statutory Delta (as defined in Section 12220 of the California Water Code), but not part of the Primary Zone. Local general plans for land use in the Secondary Zone are not required to conform to a regional plan. The Circulation Element improvement projects must comply with the Delta Protection Act.

San Joaquin County Dam Failure Plan. The San Joaquin County Dam Failure Plan designates evacuation plans, provides emergency information, and identifies the direction of floodwaters for potential failure of 16 dams which could cause serious flooding should they partially or completely fail. The Plan is a compilation of the following information: fact sheets on dams, warning information, traffic control, medical/health information, threatened key facilities, threatened unique institutions, emergency action plan, San Joaquin County inundation map, evacuation routes, updates to the County Multi Hazard Emergency Plan, ICS Incident Action Plan; and County Office of Emergency Services Telephone Directory. This information is provided for the predicted

area of inundation specific to each of the 16 dams. Proposed Circulation Element projects must adhere to dam failure plans and protocols and not interfere or obstruct evacuation routes, emergency routes, or other aspects related to the plan.

Impact 4.5.12: Potential to violate any water quality standards or waste discharge requirements or 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.

Implementation of the individual improvements under the proposed project would not violate any waste discharge requirements, substantially deplete groundwater supplies, or interfere with groundwater recharge such that there would be a net deficit in an aquifer volume. The construction phase of the individual projects under the proposed project could cause storm water runoff that could carry topsoil into downstream waterways and ultimately waters of the U.S.

As required by the Clean Water Act, each specific improvement project will require an approved Storm Water Pollution Prevention Plan (SWPPP) that includes best management practices for grading, and preservation of topsoil. A SWPPP is not required if the project will disturb less than one acre. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

The RWQCB is an agency responsible for reviewing the SWPPP with the Notice of Intent, prior to issuance of a General Permit for the discharge of storm water during construction activities. The RWQCB accepts General Permit applications (with the SWPPP and Notice of Intent) after specific projects have been approved by the lead agency. The lead agency for each specific project that is larger than one acre is required to obtain a General Permit for discharge of storm water during construction activities prior to commencing construction (per the Clean Water Act). Consistency with adopted General Plan policies that are designed to protect water quality, as well as adherence to the following mitigation measures would reduce the potential impacts on water quality to a ***less-than-significant*** level.

MITIGATION MEASURES

Adopted General Plan Policies: *The impact on water quality from each project implemented under the Circulation Element and the Public Facilities Implementation Program by adhering to the following General Plan Policies:*

- *RC-I-1 Continue to implement standards for water conserving landscape practices, including the use of drought tolerant plants, for both public and private projects.*
- *RC-I-22 Maintain a buffer area between waterways and urban development to protect water quality and riparian areas.*
- *RC-I-23 Utilize cost-effective urban runoff controls, including Best Management Practices (BMPs), to limit urban pollutants from entering the water courses.*

- *RC-I-24 Comply with the Regional Water Control Board's regulations and standards to maintain and improve groundwater and surface water quality in Manteca*
- *RC-P-11 Minimize pollution of waterways and other surface water bodies from urban runoff.*
- *RC-P-12 Protect the quality of Manteca's groundwater.*

Mitigation Measure 5.2-4: *In addition to previous mitigation measures, the impact on water quality from each project implemented under the Circulation Element and the Public Facilities Implementation Program can be minimized by implementing the following measures:*

- *Comply with NPDES General Construction Permit requirements. Develop a SWPPP in accordance with the NPDES General Construction Permit requirements. Keep the SWPPP on site during construction activity and available upon request by the RWQCB. Compliance and coverage under the NPDES General Construction Permit will require controls of pollutant discharges that utilize BMPs and technology to reduce erosion and sediments to meet water quality standards.*
- *Develop and implement a spill prevention and control program to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during all construction activities.*
- *Obtain an NPDES permit and Waste Discharge Requirement from the Central Valley RWQCB before discharging any dewatered effluent to surface water.*
- *Implement measures to maintain water quality after construction. General site design control measures incorporated into the project design can include: conserving natural areas; protecting slopes and channels; minimizing impervious areas; storm drain identification, and appropriate messaging and signing; and minimizing effective imperviousness through the use of turf buffers and/or grass-lined channels, if feasible.*

Impact 4.5.13: Potential to substantially alter the existing drainage of the area in a manner which would result in substantial erosion, siltation, or flooding on- or off-site, or otherwise substantially degrade water quality.

Responses c) - f): Implementation of the individual improvements under the proposed project has the potential to alter the existing drainage pattern in specific areas, including the alteration of a course of a stream or river, which could result in erosion, siltation, or flooding on- or off-site. The improvement projects are not funded or approved at this point and no project specific plans are available. Each improvement project would require a specific level of design review to ensure that the engineering does not result in substantial alterations in the natural drainage systems. The following adopted General Plan policies and mitigation measure would ensure that a potential impact is reduced to a reasonable level.

The U.S. Army Corps of Engineers (USACE) is responsible for issuing permits for the placement of fill, or discharge of material into, waters of the United States. These permits are required under Sections 401 and 404 of the Clean Water Act. Subsequent environmental review, design review, and the Clean Water Act permitting requirements would ensure that the impacts are reduced to a reasonable level. Adherence to existing regulations as well as the following mitigation measures

would ensure that implementation of the proposed project would result in a ***less-than-significant*** impact.

MITIGATION MEASURES

Adopted General Plan Policies. *The impact on drainage from each project implemented under the Circulation Element and the Public Facilities Implementation Program by adhering to the following General Plan Policy:*

- *S-I-6 Discourage large continuous paved areas unless provided with engineered drainage facilities.*

Mitigation Measure 5.2-5: *In addition to previous mitigation measures, the impact on drainage from each project implemented under the Circulation Element and the Public Facilities Implementation Program can be minimized by implementing the following measures:*

- *Conduct project-level drainage studies. This study should include: 1)runoff calculations (pre-development and post-development); 2) an assessment of existing drainage facilities and necessary upgrades/repairs; and 3) a maintenance program.*
- *Avoid project designs that require continual de-watering activities for the life of the projects.*

Impact 4.5.13: Potential to place housing or structures within a 100-year flood hazard area which would impede flood flows, or expose people or structures to a significant risk.

Implementation of the individual improvements under the proposed project would not place housing within a 100-year flood hazard area, place structures which would impede or redirect flood flows within a 100-year flood hazard area, nor would it expose people or structures to a significant risk of loss, injury or death involving flooding (including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow). Therefore, implementation of the proposed project would have a ***less-than-significant*** impact on these environmental issues.

MINERAL RESOURCES

Mineral Resources

Mineral resources within San Joaquin County consist primarily of sand and gravel aggregate, with limited mining of peat, gold, and silver. In the past, placer gold deposits have been found in many San Joaquin county rivers and creeks. These deposits were dredged for gold by independent operators in the years following the 1849 gold rush. Significant gold deposits are believed to be fully extracted, and today gold is found only as a secondary product of sand and gravel processing. The mining extent of silver within the county is unknown.

Mineral Resource Classification

Pursuant to the Surface Mining and Reclamation Act of 1975 (SMARA), the California State Mining and Geology Board oversees the Mineral Resource Zone (MRZ) classification system. The MRZ system characterizes both the location and known/presumed economic value of underlying mineral resources. The mineral resource classification system uses four main MRZs based on the degree of available geologic information, the likelihood of significant mineral resource occurrence, and the known or inferred quantity of significant mineral resources. The four classifications are described in Table 4.5-2 below.

TABLE 4.5-2: MINERAL RESOURCE CLASSIFICATION SYSTEM

CLASSIFICATION	*DESCRIPTIONS*
MRZ-1	Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
MRZ-2	Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
MRZ-3	Areas containing mineral deposits, the significance of which cannot be evaluated.
MRZ-4	Areas where available information is inadequate for assignment to any other MRZ classification.

SOURCE: DEPARTMENT OF MINING AND GEOLOGY 2008

The California Division of Mines and Geology has identified one location within the General Plan Study Area as a Zone MRZ-2, Significant Mineral Resource Zone. The designation in this location near the San Joaquin River refers to sand deposits that are considered to be of regional significance. Brown Sand and Gravel, Incorporated, has produced processed sand at Oakwood Lake Pit, located within the Study Area. These mining operations have ceased. There are no other MRZ designations within the city limits.

AB 3098 List

The Office of Mine Reclamation periodically publishes a list of mines regulated under SMARA that is generally referred to as the AB 3098 List. The Public Contract Code precludes mining operations that are not on the AB 3098 List from selling sand, gravel, aggregates or other mined materials to state or local agencies. As of January 12, 2010, there are 22 mines identified on the AB 3098 list in San Joaquin County; however, none are located within the city limits of Manteca.

Impact 4.5.14: Potential to result in the loss of availability of a mineral resource of value to the region or state.

There are no mineral resource sites in Manteca according to the AB 3098 list. The proposed project will not result in the loss of availability of any mineral resources. Implementation of the proposed project will therefore have ***no adverse impact*** with regards to this topic and no mitigation is required.

PUBLIC SERVICES

Fire Protection

Fire protection for the City of Manteca is provided by the Manteca Fire Department (MFD). The Insurance Services Office (ISO) has rated Manteca as a Class 3 on a scale of 9. Manteca is rated in the top 15% of fire departments in San Joaquin County. The most common ISO rating in San Joaquin County is 5 in developed areas where water for fire suppression is provided and 8 in undeveloped areas.

MFD's main functions are to provide fire prevention, organized and efficient response to fires, first response to hazardous materials incidents, basic level "first responder" medical response, and public fire education. MFD responds to emergencies and calls for service from three fire stations located within the City limits. It is also the responsibility of the MFD to provide emergency medical services to customers. Medically related responses account for nearly 60 percent of all requests for service. To maintain a standard level of care, all fire personnel are trained and certified Emergency Medical Technician-1 (EMT) and EMT-D.

The existing goal is to maintain as average 5-minute response time for all emergencies, and engine and ladder companies should be staffed with a minimum of 3 personnel. MFD has entered into a cooperative agreement with the Stockton Fire Department for the consolidation of emergency dispatching services.

Police Protection

The Manteca Police Department is a full service municipal law enforcement agency with specialized assignments and recognized specialties. In addition, the Department has an active and valuable volunteer staff consisting of Police Explorers, Reserve Officers, and senior citizens who render invaluable assistance to the Department and the community. The Department provides aggressive crime prevention through neighborhood watch, proactive enforcement, community policing, and citizen involvement. The Department currently has 58 sworn officer positions. The Department participates in mutual aid agreements with other local law enforcement. The City meets a standard of one sworn officer per 1000 residents.

Schools

The Manteca Unified School District (MUSD) operates twenty-eight (28) schools ranging from Kindergarten through High School; education facilities include twenty (20) elementary schools, three high schools, one adult education school, and two continuation high schools. Schools follow both a traditional and year-round calendar. MUSD includes the communities of Manteca, Lathrop, French Camp, and Weston Ranch.

Colleges

There are no post-secondary campuses located in Manteca. However, post-secondary educational resources are available through distance learning and regional education. San Joaquin Delta

College (Stockton) offers classes at Delta College Farm Laboratory in Manteca and the Manteca Adult School. Courses in Manteca are taught by Delta college instructors or are provided by "distance learning" utilizing the internet, television, and video. California State University, Stanislaus also offers educational opportunities in Manteca at Manteca High School. Community colleges are located in Stockton, Merced and Modesto. There are a variety of private and specialized college opportunities nearby. California State University, Sacramento, and University of Phoenix, Sacramento, offer a university experience to Manteca residents.

Parks

The City of Manteca currently provides 28 neighborhood and five community parks distributed throughout the City. Many parks are co-located with a small detention basin the serves the surrounding neighborhood. Consequently, the parks are typically located within easy walking distance of the residents. The City is currently planning for a large active sports complex focusing on baseball and softball fields in conjunction with a private company, Big League Dreams. The City has a standard of five acres of parkland per 1000 residents.

Other Public Facilities

The Manteca Branch Library was constructed in 1961, and is a 14,396 square-foot facility. The Library is the information and learning center for the City of Manteca, and has a service area that includes outlying unincorporated county areas. Part of the Stockton-San Joaquin County Public Library, the Manteca Branch is one of the libraries serving the southern end of San Joaquin County. The branch is located in the heart of downtown Manteca. It has served the residents of Manteca for over 40 years, providing meeting room space, among other services. The Library is a current depository for local government documents and ordinances and the community room has long been the unofficial center of the City of Manteca.

Impact 4.5.15: Potential to result in adverse impacts associated with the provision of public services including: fire, police, schools, parks, or other public services.

The improvements implemented under the proposed project include a variety of transportation improvements that will not result in an increased need for any public services or facilities. The transportation improvements are expected to improve travel conditions throughout the city, which would improve travel conditions to existing public facilities such as recreation, schools, and libraries, and is expected to improve the travel conditions for public services such as police and fire protection during responses. These are considered beneficial impacts. Implementation of the proposed project will therefore have ***no adverse impact*** on public services or facilities and no mitigation is required

RECREATION

Impact 4.5.16: Potential to increase the use of recreational facilities.

The individual improvements under the proposed project include a variety of transportation improvements that will not result in an increased need for any recreational facilities. The transportation improvements are expected to improve travel conditions throughout the county, which would improve travel conditions to existing recreation facilities. These improvements will provide the infrastructure necessary for safe travel conditions to such recreational facilities, which is considered a beneficial impact to the public health and safety. The improved roadway infrastructure will not cause an increased demand, or require the need for expansion of the existing recreational facilities; rather, it will facilitate safe travel. Furthermore, the improved roadway infrastructure will not result in a need for new recreational facilities. Implementation of the proposed project will therefore have a ***no adverse impact*** on recreation.

UTILITIES AND SERVICE SYSTEMS

Wastewater Treatment and Collection

Treatment. The City of Manteca Wastewater Quality Control Facility (WQCF) is a 6.95 million gallons per day (mgd) rated, combined biofilter-activated sludge plant with subsequent phased improvements that will increase the capacity of the treatment facility to 10 mgd. The WQCF serves commercial and residential properties in Manteca (5.93 mgd) and to the City of Lathrop (1.02 mgd), and one frozen food packager (Eckert Cold Storage). The existing Wastewater Quality Control Facility can ultimately be expanded to treat 25 mgd. Secondary effluent is land applied during the spring and summer (flood irrigation for alfalfa production) and discharged to the San Joaquin River during the winter (October- March). Dried sludge is subsequently spread on agricultural lands adjacent to the plant site.

Collection. Generally, the land within the existing developed City has trunk sewer constructed to fully serve the expected development. A relatively small sewer service is presently partially served by an interim lift station and will require a trunk sewer to serve the entire shed. Undeveloped areas will require trunk sewers in order to develop.

Water Supply

Groundwater Supply. Groundwater is presently the only source of domestic water for the City. The City operates a system of wells interconnected with a transmission/distribution pipe system. Well depths range from 155 feet to 400 feet, and individual capacities of the operating wells range from 380 gpm to 2,300 gpm. The City has abandoned six wells over time due to age and water quality problems, but has added new wells to maintain the supply. The groundwater aquifers underlying the City extend to depths in excess of 600 feet and have been identified to include four formations. In general, the underlying strata slope from the hills east of the City downward to the west. The groundwater basin safe yield was estimated in the 1985 Groundwater Study at 1.0 acre-foot per acre per year.

Area groundwater levels are buoyed by the proximity of the Delta channels to the west. Groundwater recharge comes from irrigation of agricultural lands surrounding the City and infiltration from streams flowing west out of the Sierra Nevada. This recharge occurs in areas with permeable materials which allow the infiltration of water along streams, alluvial fans and foothill areas. The Study Area includes a variety of soil types that provide percolation to groundwater. However, with no streams other than Walthall Slough, or alluvial fan conditions, there are no notable groundwater recharge areas identified within the Study Area.

Surface Water Supply. The City provides water service for the existing community. Approximately 15,000 connection customers are served, with an average daily usage of 11 million gallons. The City of Manteca, along with the Cities of Escalon, Tracy, and Lathrop, are participating in the South County Surface Water Supply Project (SCSWSP). This project was developed to address future water needs through construction of a water treatment plant, transmission mains, surface storage reservoirs, and booster pump stations. The surface water and groundwater will be utilized in a conjunctive use program in which the surface water becomes the primary source of domestic water for the City. Groundwater will then be allowed to naturally recharge and replenish the groundwater basin. Wells will be operated only for ongoing maintenance and to augment the surface water supply during peak demand periods; though some new supplemental wells will be needed in developing areas. Manteca began receiving deliveries of water from SCSWSP in August 2005.

The City has adopted its 2005 Urban Water Management Plan, which includes an assessment of water supply and demand through 2030. With improvements under construction and planned in the future, including increased access to surface water, the City has adequate water supplies to serve all planned development under the General Plan without contributing to the overdraft of the regional aquifer.

Conjunctive Use. The South County Surface Water Supply Project will help preserve groundwater quality and promote regional water management planning, keeping water historically used in San Joaquin County within the County. The surface water and ground water will be applied in a conjunctive use program in which the surface water becomes the primary supply. Groundwater would then be allowed to naturally recharge and replenish the groundwater basin. Groundwater would be used as a supplemental supply. Wells would be operated only for on-going maintenance and to supplement the surface water supply during peak demand periods.

Storm Drainage

The South San Joaquin Irrigation District (SSJID) operates drainage facilities that pass through Manteca and carry a portion of the City's drainage. Because of topography, drainage facilities generally follow along an east-to-west alignment. In some instances where subdivisions have developed near irrigation laterals, drainage pumping stations have been installed in lieu of long trunk lines to drains. Water from the SSJID, along with drainage pumped by the City, flows west into French Camp Canal, which eventually flows into French Camp Slough. Storm drainage is gravity-discharged from the Study Area north to French Camp Canal. Existing road and railroad

crossings of the Canal are, however, undersized and will require replacement to accommodate peak design flows from the Study Area. The San Joaquin Delta is the ultimate destination of drainage carried by French Camp Slough.

The concept for handling drainage is to collect, store, and meter the water into the terminal drainage conduits and channels. Individual development plans in the City are required to provide on-site detention designed to reduce the peak flow. Typically, 7 to 10 percent of the land area is required for on-site detention. The detention basins in residential subdivisions are often developed as joint use park facilities.

The capacity of the French Camp Outlet Channel and its tributary drains is the limiting factor that sets the metered flow rates. Location of the discharge along the outlet conduits and channels is not a factor affecting the hydraulic capacity requirements of the system. Therefore, regardless of position along the channel, each tributary subarea along the system is provided the same level of service.

All stormwater is to flow to retention basins in order to help control both the quality and quantity of storm runoff discharge to the main drainage system, and ultimately the San Joaquin River.

Impact 4.5.17: Potential to impact wastewater treatment, water supply, landfill or solid waste facilities or requirements.

Manteca has an elaborate network of public utilities and services, such as water, wastewater treatment, and storm drainage. It has been a goal of Manteca to maintain an adequate level of services for all public utilities and services for the community. The proposed project does not require the use of utilities or infrastructure and would not result in the expansion of utilities or infrastructure. The individual improvements under the proposed project include a variety of transportation improvements that will not result in an increased need for any utilities. Implementation of the proposed project will therefore have ***no impact*** on utilities and no mitigation is required.

Impact 4.5.18: Potential to result in the construction of new storm water drainage facilities.

Each roadway transportation improvement under the proposed project would result in additional impervious services and increased stormwater runoff. Each improvement would be engineered with storm drainage infrastructure (i.e. culverts, pipes, detention/retention ponds, biofilters, etc.) to control runoff and prevent erosion and sedimentation. Each improvement that impacts over one acre of land would require a Storm Water Pollution Prevention Plan that would be submitted to the Regional Water Quality Control Board for review and approval prior to issuance of a General Permit for storm water discharge. There are engineering standards for storm drainage within Manteca in additional to storm drainage mitigation measures that were identified previously in this document that when implemented, would ensure that the potential for impacts is reduced to a ***less than significant*** level.

5.1 CEQA REQUIREMENTS

CEQA requires that an EIR analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

PREFERRED ROADWAY NETWORK (PROPOSED PROJECT)

The proposed project is referred to as the Preferred Roadway Network alternative. This alternative assumes adoption of the proposed update to the City's General Plan Circulation Element, including all the new policies contained within the plan, the Major Street Master Plan, and the updated PFF. The 2030 transportation network assumed under this financially-constrained planning alternative includes the following key roadway projects:

- North part of the study area. All the projects assumed in the Cumulative No Project (Constrained) alternative. Additional roadways widened to four lanes: Airport Way from SR 120 to Roth Road, Union Road between Del Webb Boulevard and Lovelace Road, Main Street between Northgate Drive and SR 99, Louise Avenue between the Manteca/Lathrop City Limit and Airport Way, and Lathrop Road between the Manteca/Lathrop City limit and SR 99. Yosemite Avenue would be widened to six lanes between Northwoods Avenue and Austin Road.

- South part of the study area. This alternative assumes a more extensive network of new roadways in 2030 than the No Project (Constrained) alternative, including construction of Atherton Drive as a continuous four-lane arterial from Woodward Avenue in the west to a the proposed McKinley Avenue Expressway. The McKinley Avenue Expressway would consist of a new two-to-four lane roadway on the southern edge of the City, connecting the Austin Road Business Park and Residential Community to South Lathrop. Roadway widening projects include widening of Airport Way, Union Road, and Main Street to six lanes from Woodward Avenue to the SR 120 westbound interchanges.. New or reconstructed interchanges are assumed at SR 120/McKinley Avenue, SR 120/Airport Way, SR 120/Union Road, SR 120/Main Street, and SR 99/McKinley Avenue Expressway.

Note that many of the roadway network assumptions in this alternative are similar to those proposed in the No Project (Unconstrained) alternative that is discussed later in this section. However, the widening projects are generally smaller (e.g., four lanes rather than six), which reflects a more realistic financial picture and the proposed changes to the City's LOS policy.

This alternative assumes adoption of the proposed update to the City's General Plan Circulation Element, which also proposes an update to the City's Bicycle Master Plan and the development of a Pedestrian Master Plan to better align bicycle and pedestrian infrastructure with recent,

planned, and reasonable foreseeable land use development. Similar to the other alternatives, extension of transit service is assumed to be related to population growth and is limited by available regional funding.

While this alternative anticipates new Bicycle and Pedestrian Master Plans, the proposed PFF does not collect any funds for non-auto improvements. Therefore, development of the bicycle and pedestrian system is anticipated to occur in conjunction with new land use development (as frontage and internal circulation improvements).

The environmental analysis for this alternative is provided in great detail in Section 3 of this EIR.

PROJECT OBJECTIVES

The alternatives to the proposed project selected for analysis in the EIR were developed to minimize significant environmental impacts while fulfilling the basic objectives of the project. As described in Chapter 2, Project Description, the following objectives have been identified for the proposed project.

C-P-1: Provide for a circulation system that allows for the efficient movement of people, goods, and services within and through Manteca while minimizing public costs to build and maintain the system.

C-P-2: Provide complete streets designed to serve a broad spectrum of travel modes, including automobiles, public transit, walking, and bicycling.

C-P-3: Develop attractive streetscapes that include landscaping, street trees, planted berms, and landscaped medians.

C-P-4: Support the development of a Downtown area that is highly accessible to all modes of travel, focusing primarily on pedestrians, bicyclists, and transit riders.

C-P-5: Balance the level of service for all modes so that residents and visitors have a variety of transportation choices.

C-P-6: Maintain a safe transportation system for all modes.

C-P-7: Accommodate truck and freight movements by developing city-wide truck routes and encouraging the development of freight and warehousing centers near existing rail lines and spurs.

C-P-8: Establish reasonable parking requirements (minimum and maximum rates for uses) that limit parking encroachment while minimizing the amount of land consumed by parking lots.

C-P-9: Provide a safe, secure, and convenient bicycle route system that connects to retail, employment centers, public facilities, and parks.

C-P-10: Provide for safe and convenient pedestrian circulation.

C-P-11: Maintain a coordinated, efficient bus service that provides both an effective alternative to automobile use and serves members of the community that cannot drive.

C-P-12: Support and encourage regional transit connections that link Manteca to other cities.

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed project. Additionally, a scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

The proposed project plus three alternatives were developed based on public input and the technical analysis performed to identify the environmental effects of the proposed project. Due to the nature of the proposed project, there are elements common to each of the alternatives, with each alternative having the same approach and investment associated with the circulation objectives. The alternatives analyzed in this EIR include the following:

- No Project (Constrained) Alternative
- No Project (Unconstrained) Alternative
- Alternative Investment Strategy
- Preferred Roadway Network (proposed project)

The planning horizon for the alternatives analysis is based on buildout of the land use forecasts prepared by the City of Manteca Community Development Department. These land use forecasts account for reasonably foreseeable development projects in the City and are consistent with the currently adopted General Plan Land Use Element. In 2003, when the General Plan was last updated, the City forecast a level of land use development that was anticipated under 2023 conditions. However, given the current economic conditions, land use development is progressing at a considerably slower pace than was originally anticipated and it is likely that buildout of the City's growth forecasts will take longer than originally anticipated. While it is impossible to predict with certainty when all the projected development will occur, this document assumes a horizon year of 2030. Note that all future year planning alternatives assume the same level of land use development.

NO PROJECT (CONSTRAINED) ALTERNATIVE

This alternative assumes that the 2023 General Plan circulation network is implemented through the 2030 planning horizon with construction of transportation facilities constrained to available funding. This alternative includes some roadway widening and extension projects. Key roadway projects include:

- North part of the study area. Widening of I-5 and SR 99, widening of Lathrop Road to four lanes between I-5 and the eastern UPRR tracks, widening of Louise Avenue to four lanes between McKinley Avenue and Louise Avenue. New interchange at SR 99/Lathrop Road/Main Street.

- South part of the study area. Widening of SR 120 between I-5 and SR 99, the extension of Atherton Drive between Main Street and Van Ryn Avenue. New and widened roads in the Austin Road Business Park and Residential Community Area.

This alternative assumes that currently planned bicycle, pedestrian, and transit networks would be constructed subject to available funding. In general, this alternative assumes that the facilities shown in the City's 2003 Bicycle Master Plan and the development of new sidewalks will be implemented in conjunction with new land use development (as frontage and internal project circulation improvements). Transit service is assumed to expand proportionally with population.

NO PROJECT (UNCONSTRAINED) ALTERNATIVE

This alternative assumes complete build-out of the 2023 General Plan circulation network by 2030, since no constraints in available funding are assumed. Because this alternative has no financial constraints it would require new funding sources that are not available at present time. This alternative includes substantial increases to the City's roadway network beyond the No Project (Constrained) Alternative, including:

- North part of the study area. Roadways widened to six lanes: Airport Way from SR 120 to Roth Road, Main Street from SR 120 to Yosemite Avenue and from Crom Street to SR 99, and Yosemite Avenue between the UPRR tracks and Union Road and between Spreckles Drive and Austin Road. Many other roadway segments including Lathrop Road and portions Union Road are assumed to be widened to four lanes.

- South part of the study area. This alternative assumes a more extensive network of new roadways, including construction of Atherton Drive as a continuous four-lane arterial from Woodward Avenue in the west to a the proposed McKinley Avenue Expressway. The McKinley Avenue Expressway would consist of a new four-lane roadway on the southern edge of the City, connecting the Austin Road Business Park and Residential Community to South Lathrop. Roadway widening projects include constructing portions of McKinley Avenue, Airport Way, and Main Street with eight lanes, and providing six lanes on portions of Airport Way, Main Street, and Woodward Avenue. New or reconstructed interchanges are assumed at SR 120/McKinley Avenue, SR 120/Airport Way, SR 120/Union Road, SR 120/Main Street, and SR 99/McKinley Avenue Expressway.

While this alternative does not assume any funding constraints related to roadway improvements, given the City's historical pattern of developing the pedestrian and bicycle system as a part of development frontage and internal circulation improvements, the

assumptions for this alternative are the same as described for the No Project (Constrained) alternative.

ALTERNATIVE INVESTMENT STRATEGY

This alternative assumes that the City redirects PFF funding away from local roadway (but not interchange) projects to bicycle, pedestrian, and transit infrastructure. Accordingly, this alternative assumes a substantial increase in non-auto facilities and service in the City. It would likely include build-out of the updated Bicycle and Pedestrian Master Plans called for in the proposed Circulation Element Update, as well as expansion of the City's existing bicycle and pedestrian network beyond what was included in the plans. This alternative would also provide additional funding for expansion of transit service in Manteca, although the exact routes, frequencies, and areas that would be affected would need to be determined in conjunction with regional transit providers. This alternative assumes that Manteca's roadway network in 2030 is relatively unchanged from existing conditions; however regional roadway widening and freeway interchange projects within Manteca are assumed.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-17 summarizes the comparative effects of each alternative.

NO PROJECT (CONSTRAINED) ALTERNATIVE

Agricultural Resources

The No Project (Constrained) Alternative would implement fewer transportation improvement projects when compared to the other alternatives, and would reduce the amount of farmland converted to non-agricultural uses as there would be fewer roadway widening/extensions, interchanges, and bicycle/pedestrian path improvement projects. Therefore, this alternative would have a better effect on agricultural resources in comparison to the other alternatives and is considered superior to the other alternatives.

Air Quality

The No Project (Constrained) Alternative would implement fewer transportation improvement projects than the other alternatives, and would reduce the amount of construction-related emissions as there would be fewer roadway widening and extensions, bicycle/pedestrian path improvement projects, and less transit. However, the No Project (Constrained) Alternative would result in a higher level of congestion on area roadways since operational improvements needed to improve traffic flows and decrease idling times would not occur under this alternative. Both VMT and VHD would be higher under this alternative, which would result in worse air pollutant emissions in comparison to the other alternatives. This alternative would have less of an adverse effect on short term air quality impacts, but a greater effect on long-

term operational air quality impacts. This alternative is considered inferior to the other alternatives.

Biological Resources

The No Project (Constrained) Alternative would implement fewer transportation improvement projects when compared to the other alternatives, and would reduce the potential to disturb biological resources. This alternative would have a better effect on biological resources in comparison to the other alternatives and is considered superior to the other alternatives.

Cultural Resources

The No Project (Constrained) Alternative would implement fewer transportation improvement projects when compared to the other alternatives, and would reduce the potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. This alternative would have a better effect on cultural resources in comparison to the other alternatives and is considered superior to the other alternatives.

Greenhouse Gases and Climate Change

The No Project (Constrained) Alternative would implement fewer transportation improvement projects than the other alternatives, and would reduce the amount of construction-related emissions of greenhouse gases as there would be fewer improvement projects. However, the No Project (Constrained) Alternative would result in a higher level of congestion on area roadways since operational improvements needed to improve traffic flows and decrease idling times would not occur under this alternative. Both VMT and VHD would be higher under this alternative, which would result in worse greenhouse gas emissions in comparison to the other alternatives. This alternative would have less of an adverse effect on short term greenhouse gas emissions, but a greater effect on long-term operational greenhouse gas emissions. This alternative is considered inferior to the other alternatives.

Land Use/Population and Housing

The No Project (Constrained) Alternative would not reflect changes in land uses that have been approved and it would also not be consistent with planning efforts that have been initiated since the 2023 General Plan was approved, including general plan amendments and rezones. As such, the No Project (Constrained) Alternative may result in conflicts with land uses and result in an infrastructure system not fully consistent with demands of current growth and population projections for the City. Therefore, this alternative would have a worse effect on land use planning/population and housing when compared to the other alternatives and is considered inferior to the other alternatives.

Noise

The FHWA Highway Traffic Noise Prediction model (FHWA-RD-77-108) was used to predict changes in future (year 2030) traffic noise levels along major area roadways attributable to the proposed project. The FHWA modeling was based upon the CALVENO noise emission factors for automobiles and medium and heavy-duty trucks. Input data used in the model included

average-daily traffic volumes, day/night percentages of automobiles and medium and heavy trucks, vehicle speeds, ground attenuation factors, and roadway widths. Traffic volumes were derived from the City of Manteca traffic model.

The No Project (Constrained) Alternative would result in fewer traffic and transportation improvement projects when compared to the other alternatives, and would therefore have less of a short-term noise impact associated with construction activities than the other alternatives. All alternatives would result in similar overall levels of noise impact. At some roadways, the noise levels would be higher than the other alternatives as a result of traffic congestion, while at other roadways it would be lower than the other alternatives due to less roadway capacity and lower VMT. Overall, this alternative is estimated to be equal to the other alternatives in terms of noise impacts. Additionally, it is expected that noise impacts can be mitigated to a large extent with an appropriate design that uses noise attenuation.

TABLE 5.0-1:: PREDICTED INCREASES IN FUTURE (YEAR 2030) TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	L_{dn}/CNEL AT 100 FEET FROM ROADWAY CENTERLINE NEAR-TRAVEL-LANE CENTERLINE			
		NO PROJECT (CONSTRAINED)	PREFERRED NETWORK	NO PROJECT (UNCONSTRAINED)	ALTERNATIVE INVESTMENT
Interstate 5	N. of Roth Rd	82.7	82.8	82.9	82.7
Interstate 5	Roth to Lathrop	83.0	83.1	83.2	83.0
Interstate 5	Lathrop to Louise	83.1	83.2	83.3	83.0
Interstate 5	Louise to SR 120	84.2	84.3	84.4	84.1
Interstate 5	South of SR 120	85.9	86.0	86.1	85.9
SR 120	I5 to Yosemite	79.6	79.7	79.8	79.5
SR 120	Yosemite to	79.1	79.3	79.5	79.1
SR 120	Airport to Union	79.0	79.2	79.4	79.0
SR 120	Union to Main	79.2	79.1	79.1	79.1
SR 120	Main to SR 99	79.2	79.1	79.1	79.1
SR 99	N. of Lathrop	81.2	81.1	81.1	81.2
SR 99	Lathrop to	81.4	81.3	81.3	81.4
SR 99	Yosemite to SR	81.9	81.8	81.8	81.8
SR 99	SR 120 to Jack	83.3	83.2	83.2	83.2
Roth Road	I5 to Airport	67.9	67.9	67.9	67.8
Lathrop	I5 to McKinley	67.9	68.7	69.5	67.8
Lathrop	McKinley to	65.7	67.9	70.1	65.6
Lathrop	Airport to Union	65.1	67.6	70.1	65.1
Lathrop	Union to Main	66.0	68.0	70.0	65.9
Lathrop	Main to Cottage	59.0	60.7	62.4	59.0
Louise Ave.	I5 to McKinley	67.6	67.7	67.8	66.9
Louise Ave.	McKinley to	65.6	66.6	67.6	65.4
Louise Ave.	Airport to Union	65.0	66.3	67.6	64.9
Louise Ave.	Union to Main	64.1	64.2	64.3	64.1
Louise Ave.	Main to Cottage	63.5	63.0	63.0	63.4

ROADWAY	SEGMENT	L_{dn}/CNEL AT 100 FEET FROM ROADWAY CENTERLINE NEAR-TRAVEL-LANE CENTERLINE			
		NO PROJECT (CONSTRAINED)	PREFERRED NETWORK	NO PROJECT (UNCONSTRAINED)	ALTERNATIVE INVESTMENT
Louise Ave.	Cottage to Austin	60.7	60.9	61.1	60.7
Yosemite	SR 120 to	66.6	67.2	67.8	66.5
Yosemite	McKinley to	66.8	68.0	69.2	66.7
Yosemite	Airport to Union	68.2	68.4	68.6	67.8
Yosemite	Union to Main	65.8	66.1	66.4	65.8
Yosemite	Main to Cottage	64.9	64.6	64.6	64.7
Yosemite	Cottage to Austin	69.1	69.2	69.3	69.2
Yosemite	Austin to Jack	70.5	70.5	70.5	70.4
Woodward	McKinley to	65.3	57.8	57.8	65.2
Woodward	Airport to Union	65.3	63.4	63.4	65.1
Woodward	Union to Main	64.6	62.7	62.7	64.3
Woodward	Main to Moffat	67.5	68.1	68.7	67.1
Ripon Road	West of Austin	65.5	65.1	65.1	62.9
Ripon Road	East of Austin	65.5	65.1	65.1	62.9
McKinley	SR 120 to	62.6	68.4	74.2	64.8
Airport Way	Roth to Lathrop	65.9	66.2	66.5	65.8
Airport Way	Lathrop to Louise	65.3	66.7	68.1	65.3
Airport Way	Louise to Yosemite	65.3	67.1	68.9	65.3
Airport Way	Yosemite to SR	65.8	67.4	69.0	65.6
Airport Way	SR 120 to	67.5	67.6	67.7	67.8
Union Road	N. of Lathrop	68.0	68.4	68.8	67.8
Union Road	Lathrop to Louise	68.1	67.6	67.6	68.0
Union Road	Louise to Yosemite	67.0	66.9	66.9	66.8
Union Road	Yosemite to SR	66.3	66.3	66.3	66.6
Union Road	SR 120 to	67.5	68.1	68.7	67.6
Union Road	South of	61.9	61.5	61.5	61.7
Main Street	SR 99 to Louise	64.7	64.7	64.7	64.6
Main Street	Louise to Yosemite	62.4	62.5	62.6	62.4
Main Street	Yosemite to SR	66.3	66.4	66.5	66.1
Main Street	SR 120 to	66.5	67.3	68.1	67.2
Cottage	N. of Louise	60.6	60.2	60.2	60.4
Cottage	Louise to Yosemite	62.4	62.4	62.4	62.2
Spreckles	Yosemite to Moffat	61.7	61.8	61.9	61.2
Austin	Louise to Yosemite	61.2	61.2	61.2	60.4
Austin	Yosemite to SR 99	63.2	64.8	66.4	62.7
Austin	SR 99 to Sedan	69.8	64.9	64.9	65.3
Austin	Sedan to Ripon	66.4	66.2	66.0	65.4
Jack Tone	SR 99 to Ripon	68.1	66.4	66.4	66.5

SIGNIFICANT IMPACTS ARE BASED ON THE FOLLOWING THRESHOLDS DERIVED FROM THE CITY OF MANTECA GENERAL PLAN (1998): (1) AN INCREASE OF 5 DBA, OR GREATER, WHERE TRAFFIC NOISE LEVELS ARE LESS THAN 60 DBA CNEL/LDN; (2) AN

INCREASE OF3 DBA, OR GREATER, WHERE TRAFFIC NOISE LEVELS RANGE BETWEEN 60 AND 65 DBA CNEL/LDN; OR (3) AN INCREASE OF 1.5 DBA CNEL/LDN, OR GREATER, WHERE TRAFFIC NOISE LEVELS ARE GREATER THAN 65 DBA CNEL/LDN.

Traffic/Circulation

Table 5.0-2 summarizes the results of the intersection operations analysis under the No Project (Constrained) alternative. Deficiencies at ramp terminal intersections were identified according to Caltrans' LOS D standard. For intersections within the City's purview, deficiencies were identified according to two LOS standards – the City's existing General Plan (LOS C) and the Proposed General Plan update (LOS D). Table 5.0-2 indicates that 16 of the 22 study intersections would be identified as having deficient operations during one or both peak hours according to the standards established by Caltrans and under the Existing General Plan. Assuming the Proposed General Plan is adopted, only 13 intersections would be considered deficient.

TABLE 5.0-2 INTERSECTION DELAY AND LEVEL OF SERVICE - NO PROJECT (CONSTRAINED)

INTERSECTION	TRAFFIC CONTROL	AM PEAK HOUR		PM PEAK HOUR		DEFICIENCY?	
		DELAY	LOS	DELAY	LOS	2023 GP	PROPOSED GP
1. McKinley Avenue/Woodward Avenue	Side Street Stop	>150	F	>150	F	X	X
2. Airport Way/Lathrop Road	Signal	96	F	147	F	X	X
3. Airport Way/Yosemite Avenue	Signal	42	D	63	E	X	X
4. Union Road/Lathrop Avenue	Signal	44	D	37	D	X	
5. Union Road/Louise Avenue	Signal	31	C	45	D	X	
6. Union Road/Yosemite Avenue	Signal	38	D	67	E	X	X
7. Union Road/Woodward Avenue	All Way Stop	>150	F	>150	F	X	X
8. Main Street/Louise Avenue	Signal	33	C	32	C		
9. Main Street/Yosemite Avenue*	Signal	46	D	104	F	X	
10. Main Street/Woodward Avenue	All Way Stop	118	F	>150	F	X	X
11. SR 120 WB Ramps / Airport Way	Signal	121	F	>150	F	X	X
12. SR 120 EB Ramps / Airport Way	Signal	107	F	>150	F	X	X
13. SR 120 WB Ramps / Union Road	Signal	>150	F	54	D	X	X
14. SR 120 EB Ramps / Union Road	Signal	>150	F	>150	F	X	X
15. SR 120 WB Ramps / Main Street	Signal	25	C	23	C		
16. SR 120 EB Ramps / Main Street	Signal	48	D	97	F	X	X
17. SR 99 SB Ramps / Lathrop Road	Signal	18	B	21	C		
18. SR 99 NB Ramps / Lathrop Road	Signal	12	B	11	B		
19. SR 99 SB Ramps / Yosemite Avenue	Signal	40	D	38	D		

20. SR 99 NB Ramps / Yosemite Avenue / Button Avenue	Signal	28	C	38	D		
21. SR 99 SB Ramps / Moffat Boulevard	Side Street Stop	>150	F	>150	F	X	X
22. SR 99 NB Ramps / Austin Road	Side Street Stop	>150	F	>150	F	X	X

NOTES: ">150" IS REPORTED WHEN THE DELAY IS OUTSIDE THE RANGE OF THE SOFTWARE.
** INTERSECTION IS CONSIDERED A PART OF DOWNTOWN MANTECA, WHICH IS NOT SUBJECT TO LOS REQUIREMENTS UNDER THE PROPOSED GENERAL PLAN.*
SOURCE: FEHR & PEERS, 2010.

Freeway and roadway segments were analyzed under the No Project (Constrained) alternative by applying the same thresholds used for the existing conditions analysis. Table 5.0-3 summarizes the roadway segments identified as having deficient operations under either the existing General Plan or the Proposed General Plan. As the table shows, 37 roadway segments would be identified as having deficient operations according to the LOS policy established in the City's existing General Plan. The Proposed General Plan would identify only 26 of these roadway segments as deficient.

TABLE 5.0-3 ROADWAY SEGMENT ADT AND LEVEL OF SERVICE - NO PROJECT (CONSTRAINED)

SEGMENT	NUMBER OF LANES	ADT	LOS	DEFICIENCY?	
				2023 GP	PROPOSED GP
Lathrop Road: I-5 to Airport Way	2	18,100	F	X	X
Airport Way: Roth Road to Daisywood	2	17,000	E	X	X
Airport Way: Daisywood to Lathrop Road	2	24,500	F	X	X
Lathrop Road: London Avenue to Airport Way	2	14,100	D	X	
Airport Way Northgate Drive to Lathrop Road	2	15,200	E	X	X
Lathrop Road: London Avenue to Union Road	2	17,900	F	X	X
Union Road: Lovelace Road to Dell Webb	2	14,900	E	X	X
Union Road: Dell Webb to Lathrop Road	4	29,500	D	X	
Lathrop Road Main Street to Union Road	2	18,300	F	X	X
Union Road: Sprague to Lathrop Road	4	26,500	D	X	
Louise Avenue: I-5 to Airport Way	2	16,300	E	X	X
Airport Way: Yosemite Avenue to Louise Avenue	2	14,800	E	X	X
Louise Avenue: Cottage Avenue to Main Street	2	15,500	E	X	X
Airport Way: Crom Street to Yosemite Avenue	2	14,800	E	X	X
Airport Way: Wawona Street to Yosemite Avenue	2	18,100	F	X	X
Yosemite Avenue: Walnut Avenue to Union Road	2	20,900	F	X	X
Main Street: Center Street to Yosemite Avenue	2	16,900	E	X	
Yosemite Avenue: Fremont Avenue to Main Street	2	15,500	E	X	

Spreckles Avenue: North Street to Yosemite Avenue	2	14,900	E	X	X
Yosemite Avenue: Northwoods to SR 99	4	36,900	E	X	X
Airport Way: Yosemite Avenue to Wawona Street	2	21,100	F	X	X
Airport Way: Daniels Street to Wawona Street	2	21,900	F	X	X
Airport Way: Daniels Street to SR 120	2	39,500	F	X	X
Airport Way: Woodward Avenue to SR 120	2	23,700	F	X	X
Union Road: Daniels to SR 120	2	23,100	F	X	X
Union Road: Woodward Avenue to SR 120	2	18,800	F	X	X
Main Street: Mission Ridge Drive to SR 120	4	32,200	D	X	
Main Street: Woodward Avenue to SR 120	2	23,200	F	X	X
Cottage Avenue: Between North and Louise Avenue	2	12,000	D	X	
Austin Road: Yosemite Avenue to SR 99	2	15,200	E	X	X
Woodward Avenue: McKinley Avenue to Airport Way	2	13,700	D	X	
Woodward Avenue: Airport Way to Union Road	2	14,900	E	X	X
Woodward Avenue: Union Road to Main Street	2	14,100	D	X	
Woodward Avenue: Main Street to Queensland Road	4	26,100	D	X	
Woodward Avenue: Queensland Road to Moffat Boulevard	2	21,400	F	X	X
Austin Road: SR 99 to McKinley	4	39,000	F	X	X
Main Street: Woodward Avenue to McKinley Avenue	2	13,500	D	X	

SOURCE: FEHR & PEERS, 2010.

Table 5.0-4 displays the ADT and LOS for roadway segments outside the Manteca city limits under this alternative. As discussed previously, several of these segments are assumed to be widened. Accordingly, the number of lanes for each segment is shown in the table. The following roadway segments are expected to have deficient operations (LOS E or worse) under the No Project (Constrained) alternative:

- Roth Road between I-5 and Airport Way
- Yosemite Avenue: between SR 120 and Manteca/Lathrop City Limit
- Austin Road between McKinley Avenue Expressway and Ripon Road
- Yosemite Avenue (SR 120) between Austin Road and Jack Tone Road

TABLE 5.0-4 OUTSIDE OF CITY ROADWAY SEGMENT ADT AND LOS - NO PROJECT (CONSTRAINED)

SEGMENT	NUMBER OF LANES	ADT	LOS	DEFICIENCY?
Roth Road: I-5 to Airport Way	2	19,100	F	X
Lathrop Road: I-5 to McKinley Avenue	4	18,600	A	
Lathrop Road: McKinley Avenue to Manteca/Lathrop City Limit	4	18,100	A	
Louise Avenue: I-5 to McKinley Avenue	4	25,000	C	
Louise Avenue: McKinley Avenue to Manteca/Lathrop City Limit	4	16,300	A	
Yosemite Avenue: SR 120 to McKinley Avenue	2	26,700	F	X
Yosemite Avenue: McKinley Avenue to Manteca/Lathrop City Limit	2	17,000	E	X
Yosemite Avenue: Austin Road to Jack Tone Road	2	15,700	E	X
Airport Way: Daisywood Drive to Roth Road	4	17,000	A	
Union Road: Woodward Avenue to Fig Avenue	2	9,200	B	
Austin Road: McKinley Avenue to Ripon Road	2	18,900	F	X
Jack Tone Road: SR 99 to Ripon Road	4	10,800	A	
Ripon Road: Main Street to Austin Road	2	3,300	A	
Ripon Road: Austin Road to Jack Tone Road	2	9,700	C	

SOURCE: FEHR & PEERS, 2010.

Table 5.0-5 indicate that despite the proposed widening projects, many of the freeway mainline segments will operate unacceptably at LOS E or F under the No Project (Constrained) alternative. These freeway mainline segments include:

- I-5: between Louise Avenue and I-205
- SR 120: I-5 to Main Street
- SR 99: Yosemite Avenue to Jack Tone Road

Other freeway mainline segments in the study area would operate at LOS D under the No Project (Constrained) alternative.

TABLE 5.0-5 FREEWAY SEGMENT ADT AND LEVEL OF SERVICE - NO PROJECT (CONSTRAINED)

FREEWAY	SEGMENT	NUMBER OF LANES	ADT	LOS	DEFICIENCY?
I-5	El Dorado St to Roth Road	8	134,300	D	
	Roth Road to Lathrop Road	8	143,300	D	
	Lathrop Road to Louise Ave	8	152,500	D	
	Louise Ave to SR 120	8	172,600	E	X
	SR 120 to I-205	12	247,200	E	X
SR 120	I-5 to Yosemite Ave	6	142,000	F	X
	Yosemite Ave to Airport Way	6	122,100	E	X
	Airport Way to Union Road	6	120,500	E	X
	Union Road to Main Street	6	117,600	E	X
	Main Street to SR 99	6	110,600	D	
SR 99	French Camp Road to Lathrop Road	6	106,000	D	
	Lathrop Road to Yosemite Ave	6	114,800	D	
	Yosemite Ave to SR 120	6	140,600	F	X
	SR 120 to Austin Road	6	174,200	F	X
	Austin Road to Jack Tone Road	6	185,500	F	X

SOURCE: FEHR & PEERS, 2010.

The CMP analysis methodology was used to analyze all CMP-designated freeway and roadway segments within the study area. Table 5.0-6 displays the PM peak hour forecast and LOS for all CMP facilities within the study area. As shown, 4 out of 15 freeway segments and 12 out of 34 roadway segments are projected to operate at an unacceptable LOS, as defined by the CMP, under the No Project (Constrained) alternative.

TABLE 5.0-6 CMP SEGMENT FORECASTS AND LEVEL OF SERVICE - NO PROJECT (CONSTRAINED)

ROADWAY	SEGMENT	NUMBER OF LANES	PM PEAK HOUR FORECAST	LOS	DEFICIENCY?
I-5	El Dorado St to Roth Road	8	10,600	D	
	Roth Road to Lathrop Road	8	11,060	D	
	Lathrop Road to Louise Ave	8	11,200	D	
	Louise Ave to SR 120	8	12,640	D	
	SR 120 to I-205	12	16,090	D	
SR 120	I-5 to Yosemite Ave	6	9,730	D	
	Yosemite Ave to Airport Way[1]	6	9,940	E	
	Airport Way to Union Road[1]	6	9,890	E	
	Union Road to Main Street[1]	6	9,550	D	
	Main Street to SR 99[1]	6	7,040	C	
SR 99	French Camp Road to Lathrop Road	6	9,550	D	
	Lathrop Road to Yosemite Ave	6	10,050	E	X
	Yosemite Ave to SR 120	6	11,580	F	X
	SR 120 to Austin Road	6	15,350	F	X
	Austin Road to Jack Tone Road	6	15,420	F	X
Airport Way	Roth Road to Daisywood Drive	4	1,450	C	
	Daisywood Drive to Lathrop Road	2	2,570	F	X
	Lathrop Road to Northgate Drive	2	1,370	D	
	Northgate Drive to Louise Avenue	2	950	D	
	Louise Avenue to Crom Street	2	1,600	F	X
	Crom Street to Yosemite Avenue	2	1,520	F	X
	Yosemite Avenue to Wawona St	2	1,470	E	X
	Wawona St to Daniels Street	2	1,720	F	X
	Daniels Street to SR 120	2	1,770	F	X
Lathrop Road	I-5 to McKinley Avenue	4	1,810	C	
	McKinley Avenue to City Limit	4	1,750	C	
	City Limit to Airport Way	2	1,750	F	X
	Airport Way to London Avenue	2	1,400	E	X
	London Avenue to Union Road	2	1,460	E	X
	Union Road to Main Street	2	1,530	F	X
	Main Street to SR 99	4	1,440	C	

Yosemite Avenue	Airport Way to Winters Drive	4	1,760	C	
	Winters Drive to Union Road	4	2,340	D	
	Union Road to Walnut Avenue	2	1,460	E	X
	Walnut Avenue to Main Street	2	1,080	D	
	Main Street to Powers Avenue	2	1,540	F	X
	Powers Avenue to Spreckels Avenue	4	2,330	D	
	Spreckels Avenue to Northwoods Avenue	4	1,690	C	
	Northwoods Avenue to SR 99	4	2,080	D	
	SR 99 to Austin Road	4	2,650	D	
	Austin Road to Jack Tone Road	2	1,140	D	
Jack Tone Road	SR 99 to Ripon Road	4	1,060	C	
Ripon Road	Austin Road to Jack Tone Road	2	820	C	
McKinley Avenue Expressway	SR 120 to Woodward Avenue	2	1,130	D	
	Woodward Avenue to Airport Way	2	350	C	
	Airport Way to Union Road	n/a	-	-	
	Union Road to Main Street	n/a	-	-	
	Main Street to Atherton Drive	4	1,270	C	
	Atherton Drive to Austin Road	4	2,300	D	
	Austin Road to SR 99	6	3,280	D	

NOTES: "N/A" INDICATES ROADWAY DOES NOT EXIST UNDER THIS ALTERNATIVE.

[1] THESE SEGMENTS HAVE AN LOS F STANDARD.

SOURCE: FEHR & PEERS, 2010.

Bicycle and Pedestrian System: Sidewalk coverage within the study area is expected to expand under the No Project (Constrained) alternative, since the City requires pedestrian frontage improvements for all new development. In addition, frontage bicycle improvements are assumed per the current Bicycle Master Plan.

The City of Manteca Bicycle Master Plan (2003) identifies proposed Class I (off-street) bike paths along Atherton Drive, the UPRR tracks (at the Manteca/Lathrop city limit), and north of and parallel to Lathrop Road between Airport Way and the existing Tidewater Bikeway. Class I bike paths are also proposed for the Union Road/SR 120 and Main Street/SR 120 interchanges; however, recent PSR documents from Caltrans suggest that these bike facilities will be developed as Class II (on-street with striping) bike lanes. A series of Class II bike lanes are also proposed on the following arterials:

- Lathrop Road – Airport Way to Austin Road
- Yosemite Avenue – City Limits to Airport Way and Northwoods Avenue to Austin Road
- McKinley Avenue – Airport Way to Austin Road

- Airport Way – Lathrop Road to Atherton Drive
- Union Road – Woodward Avenue to McKinley Avenue
- Main Street – Woodward Avenue to McKinley Avenue
- Austin Road – Lathrop Road to south of the City

Based on recent rehabilitation and maintenance plans from the City, it is reasonable that many of the above Class II facilities can be accommodate by restriping the road and no additional right of way may be required.

Transit System: It is anticipated that transit service countywide will expand concurrently with population, much as the system has expanded in the past. Therefore transit service under the No Project (Constrained) alternative will be similar to existing conditions.

NO PROJECT (UNCONSTRAINED) ALTERNATIVE

Agricultural Resources

The No Project (Unconstrained) Alternative would result in the construction of additional improvement projects resulting in a greater risk of impact to agricultural resources due to the increase in grading and other land disturbance from roadway and transportation infrastructure projects associated with this alternative. This alternative would have a worse effect on agricultural resources when compared to the other alternatives and is considered inferior to the other alternatives.

Air Quality

The No Project (Unconstrained) Alternative would result in more construction-related emissions than other alternatives. Although this alternative will allow for greater traffic capacity it will also result in less traffic congestion and associated pollutant emissions. This alternative would result in a reduction in VMT and VHD in comparison to the No Project (Constrained) and Preferred Network Alternatives; however, it would have greater VMT when compared to the Alternative Investment Strategy. This alternative is superior to the Preferred Network and No Project (Constrained) Alternative in regards to air quality and is inferior to the Alternative Investment Strategy.

Biological Resources

The No Project (Unconstrained) Alternative would result in the construction of additional improvement projects resulting in a greater risk of impact to biological resources due to the increase in grading and other land disturbance associated with roadway and transportation infrastructure projects associated with this alternative. This alternative would have a worse effect when compared to the other alternatives and is considered inferior to the other alternatives.

Cultural Resources

The No Project (Unconstrained) Alternative would result in the construction of additional improvement projects resulting in a greater chance of disturbing cultural and historical resources due to the increase in grading and other land disturbance from the roadway and transportation infrastructure projects associated with this alternative. This alternative would have a worse effect when compared to the other alternatives and is considered inferior to the other alternatives.

Greenhouse Gases and Climate Change

The No Project (Unconstrained) Alternative would implement more transportation improvement projects than the other alternatives and would result in decreased congestion on area roadways since operational improvements needed to improve traffic flows and decrease idling times would occur. Both VMT and VHD would decrease under this alternative, which would result in better greenhouse gas emissions in comparison to the No Project (Constrained) and Preferred Network Alternatives, but not as large of an improvement when compared to the Alternative Investment Strategy. This alternative would have more of an adverse effect on short term greenhouse gas emissions when compared to the other alternatives because of the increased number of projects. This alternative is superior to the Preferred Network and No Project (Constrained) Alternative in regards to greenhouse gases and is inferior to the Alternative Investment Strategy.

Land Use/Population and Housing

The No Project (Unconstrained) Alternative would result in the construction of more transportation improvement projects when compared to the other alternatives. These improvements are designed to facilitate growth consistent with the Manteca General Plan. This alternative would implement planned roadway improvements. The other alternatives would not result in the development of needed capacity improvements that would facilitate implementation of the general plan as a result of lack of funding This alternative is superior to the other alternative with regard to land use and planning.

Noise

The No Project (Unconstrained) Alternative would result in the construction of more improvement projects than the other alternatives, which would result in greater short-term construction related noise impacts. At some roadways, the noise levels would be higher than the other alternatives as a result of traffic congestion, while at other roadways it would be lower than the other alternatives due to less roadway capacity and lower VMT. Overall, this alternative is estimated to be equal to the other alternatives in terms of noise impacts. Additionally, it is expected that noise impacts can be mitigated to a large extent with an appropriate design that uses noise attenuation.

Traffic/Circulation

Table 5.0-7 summarizes the results of the intersection operations analysis under the No Project (Unconstrained) alternative. Impacts at ramp terminal intersections were identified using Caltrans' LOS D standard. For intersections within the City's purview, impacts were identified according to two LOS standards – the City's existing General Plan (LOS C) and the Proposed General Plan update (LOS D). Per the City's Draft Transportation Impact Analysis Guidelines, an impact was identified if one of two conditions were met:

- Intersection met applicable LOS policy under No Project (Constrained) conditions, but not under this alternative, or
- Intersection had deficient operations under No Project (Constrained) conditions and this alternative increased delay by more than 5 seconds.

Table 5.0-7 indicates that four of 22 intersections would be impacted under this alternative under the Existing General Plan LOS policy and that only two intersections would be impacted under the Proposed General Plan LOS policy.

TABLE 5.0-7 INTERSECTION DELAY AND LEVEL OF SERVICE - NO PROJECT CONDITIONS (UNCONSTRAINED)

INTERSECTION	*TRAFFIC CONTROL*[1]	*NO PROJECT (UNCONSTRAINED)*				*IMPACT?*	
		AM PEAK HOUR		*AM PEAK HOUR*			
		DELAY	*LOS*	*DELAY*	*LOS*	*2023 GP*	*PROP GP*
1. McKinley Avenue Expressway/Woodward Avenue	Signal	18	B	19	B		
2. Airport Way/Lathrop Road	Signal	43	D	57	E		
3. Airport Way/Yosemite Avenue	Signal	26	C	30	C		
4. Union Road/Lathrop Avenue	Signal	66	E	55	E	X	X
5. Union Road/Louise Avenue	Signal	29	C	43	D		
6. Union Road/Yosemite Avenue	Signal	30	C	48	D		
7. Union Road/Woodward Avenue	Signal	21	C	20	B		
8. Main Street/Louise Avenue	Signal	28	C	36	D	X	
9. Main Street/Yosemite Avenue[2]	Signal	34	C	83	F		
10. Main Street/Woodward Avenue	Signal	21	C	21	C		
11. SR 120 WB Ramps / Airport Way	Signal	10	A	12	B		
12. SR 120 EB Ramps / Airport Way	Signal	6	A	9	A		
13. SR 120 WB Ramps / Union Road	Signal	6	A	8	A		
14. SR 120 EB Ramps / Union Road	Signal	7	A	11	B		
15. SR 120 WB Ramps / Main Street	Signal	4	A	5	A		
16. SR 120 EB Ramps / Main Street	Signal	9	A	14	B		
17. SR 99 SB Ramps / Lathrop Frontage Road	Signal	28	C	32	C		
18. SR 99 NB Ramps / Lathrop Frontage Road	Signal	18	B	13	B		
19. SR 99 SB Ramps / Yosemite Avenue	Signal	36	D	43	D		
20. SR 99 NB Ramps / Yosemite Avenue / Button Avenue	Signal	32	C	60	E	X	X
21. SR 99 SB Ramps / Moffat Boulevard	-	-	-	-	-		
22. SR 99 NB Ramps / Austin Road	-	-	-	-	-		

NOTES: ">150" IS REPORTED WHEN THE DELAY IS OUTSIDE THE RANGE OF THE SOFTWARE. [1] SIGNAL CONTROL UNDER 2030 NP UNCONSTRAINED CONDITIONS. [2] INTERSECTION IS CONSIDERED A PART OF DOWNTOWN MANTECA, WHICH IS NOT SUBJECT TO LOS REQUIREMENTS UNDER THE PROPOSED GENERAL PLAN.

SOURCE: FEHR & PEERS, 2010.

Freeway and roadway segments were analyzed under the No Project (Unconstrained) alternative by applying the same thresholds used for the existing conditions analysis. Table 5.0-8 summarizes the roadway segments with identified impacts either the existing General Plan or the Proposed General Plan. An impact was identified if one of two conditions were met:

- Roadway segment met applicable LOS policy under No Project (Constrained) conditions, but not under this alternative, or
- Roadway segment had deficient operations under No Project (Constrained) conditions and this alternative increased daily roadway segment volumes by more than 100 ADT.

Table 5.0-8 indicates that three roadway segments in the City would be impacted under this alternative using the Existing General Plan LOS policy. Assuming that the Proposed General Plan LOS policy were in place, no segments would be impacted.

TABLE 5.0-8 CITY OF MANTECA ROADWAY SEGMENT ADT AND LOS - NO PROJECT (UNCONSTRAINED)

SEGMENT	NUMBER OF LANES [1]	NO PROJECT (UNCONSTRAINED)		IMPACT?	
		ADT	LOS	2023 GP	PROP GP
Lathrop Road: London Avenue to Union Road	4	28,300	D		
Union Road: Dell Webb to Lathrop Road	4	29,900	D	X	
Lathrop Road Main Street to Union Road	4	27,600	D		
Spreckles Avenue: North Street to Yosemite Avenue	2	12,300	D		
Union Road: Woodward Avenue to SR 120	4	26,400	D		
Roth Road: UPRR to Airport Way	2	18,800	F		
Austin Road: Yosemite Avenue to SR 99	2	12,700	D		
McKinley Avenue Expressway: Main Street to Atherton Drive	4	26,700	D	X	
McKinley Avenue Expressway: Atherton to Austin Road	4	27,300	D	X	

1 2030 NP UNCONSTRAINED CONDITIONS.

SOURCE: FEHR & PEERS, 2010.

Table 5.0-9 displays the ADT and LOS for roadway segments outside the Manteca city limits under this alternative. As discussed previously, several of these segments are assumed to be widened and as such the table displays the number of lanes for each segment. This alternative would result in one impact along Yosemite Avenue (SR 120) between Austin Road and Jack Tone Road.

TABLE 5.0-9 OUTSIDE OF CITY ROADWAY SEGMENT ADT AND LOS - NO PROJECT (UNCONSTRAINED)

SEGMENT	NUMBER OF LANES[1]	NO PROJECT (UNCONSTRAINED)		IMPACT?
		ADT	LOS	
Roth Road: I-5 to UPRR Tracks	2	18,800	F	
Lathrop Road: I-5 to McKinley Avenue	4	25,800	C	
Lathrop Road: McKinley Avenue to Manteca/Lathrop City Limit	4	24,700	C	
Louise Avenue: I-5 to McKinley Avenue	4	25,900	C	
Louise Avenue: McKinley Avenue to Manteca/Lathrop City Limit	4	16,400	A	
Yosemite Avenue: SR 120 to McKinley Avenue	2	21,000	F	
Yosemite Avenue: McKinley Avenue to Manteca/Lathrop City Limit	2	16,100	E	
Yosemite Avenue: Austin Road to Jack Tone Road	2	20,900	F	X
Airport Way: Daisywood Drive to Roth Road	4	24,300	A	
Union Road: Woodward Avenue to Fig Avenue	2	6,100	A	
Austin Road: McKinley Avenue to Ripon Road	2	5,800	A	
Jack Tone Road: SR 99 to Ripon Road	4	13,600	A	
Ripon Road: Main Street to Austin Road	2	3,300	A	
Ripon Road: Austin Road to Jack Tone Road	2	5,100	A	

SOURCE: FEHR & PEERS, 2010.

Table 5.0-10 indicates that many of the freeway mainline segments will operate unacceptably at LOS E or F under the No Project (Unconstrained) alternative. The following freeway mainline segments would be impacted under this alternative:

- I-5: between Louise Avenue and I-205
- SR 120: I-5 to Union Road

TABLE 5.0-10 FREEWAY SEGMENT ADT AND LEVEL OF SERVICE - NO PROJECT (UNCONSTRAINED)

FREEWAY	SEGMENT	NUMBER OF LANES	NO PROJECT (CONSTRAINED)		IMPACT?
			ADT	LOS	
I-5	El Dorado St to Roth Road	8	135,000	D	
	Roth Road to Lathrop Road	8	147,800	D	
	Lathrop Road to Louise Ave	8	152,400	D	
	Louise Ave to SR 120	8	182,300	F	X
	SR 120 to I-205	12	253,300	E	X
SR 120	I-5 to Yosemite Ave	6	148,900	F	X
	Yosemite Ave to Airport Way	6	136,500	F	X
	Airport Way to Union Road	6	121,000	E	X
	Union Road to Main Street	6	116,200	E	
	Main Street to SR 99	6	110,300	D	
SR 99	French Camp Road to Lathrop Road	6	106,300	D	
	Lathrop Road to Yosemite Ave	6	113,000	D	
	Yosemite Ave to SR 120	6	140,500	F	
	SR 120 to McKinley Ave	6	167,000	F	
	McKinley Ave to Jack Tone Road	6	175,500	F	

SOURCE: FEHR & PEERS, 2010.

The CMP analysis methodology was used to analyze all CMP-designated freeway and roadway segments within the study area and to identify impacts under the No Project (Unconstrained) Alternative. Table 5.0-11 displays the PM peak hour forecast and LOS for all CMP facilities within the study area under this alternative. As shown, while several segments would operate

unacceptably, only two segments along SR 120 (between I-5 and Yosemite Avenue and between Austin Road and Jack Tone Road) would be impacted.

TABLE 5.0-11 CMP SEGMENT FORECASTS AND LEVEL OF SERVICE - NO PROJECT (UNCONSTRAINED)

ROADWAY	SEGMENT	NUMBER OF LANES	NO PROJECT (UNCONSTRAINED)		IMPACT?
			PEAK HOUR VOLUME	LOS	
I-5	El Dorado St to Roth Road	8	10,660	D	
	Roth Road to Lathrop Road	8	11,410	D	
	Lathrop Road to Louise Ave	8	11,190	D	
	Louise Ave to SR 120	8	13,350	D	
	SR 120 to I-205	12	16,490	D	
SR 120	I-5 to Yosemite Ave	6	10,200	E	X
	Yosemite Ave to Airport Way[1]	6	11,110	E	
	Airport Way to Union Road[1]	6	9,920	E	
	Union Road to Main Street[1]	6	9,440	D	
	Main Street to SR 99[1]	6	7,020	C	
SR 99	French Camp Road to Lathrop Road	6	9,580	D	
	Lathrop Road to Yosemite Ave	6	9,900	E	
	Yosemite Ave to SR 120	6	11,570	F	
	SR 120 to Austin Road	6	14,710	F	
	Austin Road to Jack Tone Road	6	14,580	F	
Airport Way	Roth Road to Daisywood Drive	6	2,070	C	
	Daisywood Drive to Lathrop Road	6	3,050	D	
	Lathrop Road to Northgate Drive	6	2,120	C	
	Northgate Drive to Louise Avenue	6	1,780	C	
	Louise Avenue to Crom Street	6	2,150	C	
	Crom Street to Yosemite Avenue	6	2,430	C	
	Yosemite Avenue to Wawona St	6	2,120	C	
	Wawona St to Daniels Street	6	2,050	C	
	Daniels Street to SR 120	6	2,400	C	
Lathrop Road	I-5 to McKinley Avenue	4	2,520	D	
	McKinley Avenue to Airport Way	4	2,390	D	
	Airport Way to London Avenue	4	2,550	D	
	London Avenue to Union Road	4	2,310	D	
	Union Road to Main Street	4	2,300	D	
	Main Street to SR 99	4	2,000	C	
Yosemite Avenue	Airport Way to Winters Drive	6	1,550	C	
	Winters Drive to Union Road	6	2,120	C	
	Union Road to Walnut Avenue	4	1,520	C	
	Walnut Avenue to Main Street	2	1,210	D	
	Main Street to Powers Avenue	4	1,860	C	
	Powers Avenue to Spreckels Avenue	4	2,210	D	
	Spreckels Avenue to Northwoods Avenue	6	2,110	C	
	Northwoods Avenue to SR 99	6	2,020	C	
	SR 99 to Austin Road	6	3,300	D	
	Austin Road to Jack Tone Road	2	1,510	E	X
Jack Tone Rd.	SR 99 to Ripon Road	4	1,330	C	
Ripon Road	Main Street to Jack Tone Road	2	430	C	
McKinley Avenue Expressway	SR 120 to Woodward Avenue	8	4,500	D	
	Woodward Avenue to Airport Way	4	1,830	C	
	Airport Way to Union Road	4	1,690	C	
	Union Road to Main Street	4	1,900	C	
	Main Street to Atherton Drive	4	2,390	D	
	Atherton Drive to Austin Road	4	2,440	D	
	Austin Road to SR 99	6	3,510	D	

NOTE: [1] THESE FREEWAY SEGMENTS HAVE A LOS F STANDARD.

SOURCE: FEHR & PEERS, 2010.

Bicycle and Pedestrian System: Development of the pedestrian and bicycle system is not expected to differ substantially between the No Project (Unconstrained) and No Project (Constrained) alternatives. See the previous section for details.

Transit System: Development of the transit is not expected to differ substantially between the No Project (Unconstrained) and No Project (Constrained) alternatives. See the previous section for details.

ALTERNATIVE INVESTMENT STRATEGY

Agricultural Resources

The Alternative Investment Strategy would result in the City redirecting PFF funding away from local roadway (but not interchange) projects to bicycle, pedestrian, and transit infrastructure. The roadway network in 2030 would be relatively unchanged from existing conditions; however regional roadway widening and freeway interchange projects within Manteca are assumed. This alternative would result in physical impacts that would be smaller compared to the other alternatives and the potential for degradation for degradation to agricultural resources would be reduced when compared to the other alternatives. This alternative is superior to the other alternatives in terms of agricultural resources.

Air Quality

The Alternative Investment Strategy would result in less construction-related emissions than other alternatives; however, this alternative would not create greater traffic capacity to improve operational level of service on some roadways resulting in more traffic congestion and associated pollutant emissions. The Alternative Investment Strategy is intended to reduce automobile trips, and thus decrease emissions, through shifting trip volume from vehicular trips to transit, bicycle, and pedestrian trips. Overall, this alternative would increase the use of public transit and other alternative modes of transportation, which would also help provide some relief of congestion on the roadway network. This alternative would not improve operational level of service on some roadways resulting in more traffic congestion and associated pollutant emissions; however, the amount of emissions on a per capita basis is expected to be improved because there would be more non-motorized transportation choices for residents which would translate into more use. This alternative is superior to the other alternatives.

Biological Resources

The Alternative Investment Strategy would result in the construction of additional improvement projects resulting in a greater risk of impact to biological resources. However, the physical impacts would be smaller compared to the other alternatives and the potential for degradation to biological resources would be reduced when compared to the other alternatives. This alternative is superior to the other alternatives in terms of biological resources.

Cultural Resources

The Alternative Investment Strategy would result in the construction of additional improvement projects resulting in a greater chance of disturbing cultural and historical resources due to grading and other land disturbance. However, the physical impacts would be smaller compared to the other alternatives and the potential for degradation to cultural resources would be reduced when compared to the other alternatives. This alternative is superior to the other alternatives in terms of cultural resources.

Greenhouse Gases and Climate Change

The Alternative Investment Strategy is intended to reduce automobile trips, and thus decrease greenhouse gas emissions, through shifting trip volume from vehicular trips to transit, bicycle, and pedestrian trips. Overall, this alternative would increase the use of public transit and other alternative modes of transportation, which would also help provide some relief of congestion on the roadway network. This alternative would not improve operational level of service on some roadways resulting in more traffic congestion and associated pollutant emissions; however, the amount of greenhouse gas emissions on a per capita basis is expected to be improved because there would be more non-motorized transportation choices for residents which would translate into more use. This alternative is superior to the other alternatives.

Land Use/Population and Housing

The Alternative Investment Strategy would result in new investments in transit capital, operational, and maintenance improvements, as well as bike and pedestrian facilities. It should be noted that the population of the City may not increase its use of transit and alternative modes at a level that is proportionate with the shift of funds from roadway to alternative mode projects. Thus, the increase in transit services may not fully offset the capacity improvements needed in the City and may constrain the ability of the City to develop in a manner consistent with their adopted land use plan. This alternative would be superior to the No Project, and inferior to the No Project (Unconstrained) and Preferred Roadway Network Alternative.

Noise

The Alternative Investment Strategy would result in fewer traffic and transportation improvement projects than the other alternatives, and would therefore have less of a short-term noise impact associated with construction activities than the other alternatives. All alternatives would result in similar overall levels of noise impact. At some roadways, the noise levels would be higher than the other alternatives and a result of traffic congestion, while at other roadways it would be lower than the other alternatives due to less roadway capacity. Overall, this alternative is estimated to be equal to the other alternatives in terms of noise impacts. Additionally, it is expected that noise impacts can be mitigated to a large extent with an appropriate design that uses noise attenuation.

Traffic/Circulation

Table 5.0-12 summarizes the results of the intersection operations analysis. As the table shows, several intersections would operate at LOS D or worse. However, because the overall level of vehicle trip generation occurring under this alternative is less than the No Project Conditions (Constrained) alternative, there is less intersection delay and thus no intersection impacts under this alternative.

TABLE 5.0-12 INTERSECTION DELAY AND LEVEL OF SERVICE – ALTERNATIVE INVESTMENT STRATEGY

INTERSECTION	*TRAFFIC CONTROL*[1]	*ALTERNATIVE INVESTMENT STRATEGY*				*IMPACT?*	
		AM PEAK HOUR		*AM PEAK HOUR*			
		DELAY	*LOS*	*DELAY*	*LOS*	*2023 GP*	*PROP GP*
1. McKinley Avenue/Woodward Avenue	Side Street Stop	>150	F	>150	F		
2. Airport Way/Lathrop Road	Signal	85	F	146	F		
3. Airport Way/Yosemite Avenue	Signal	39	D	63	E		
4. Union Road/Lathrop Avenue	Signal	41	D	37	D		
5. Union Road/Louise Avenue	Signal	30	C	40	D		
6. Union Road/Yosemite Avenue	Signal	34	C	57	E		
7. Union Road/Woodward Avenue	All Way Stop	>150	F	>150	F		
8. Main Street/Louise Avenue	Signal	30	C	33	C		
9. Main Street/Yosemite Avenue[2]	Signal	43	D	97	F		
10. Main Street/Woodward Avenue	All Way Stop	107	F	>150	F		
11. SR 120 WB Ramps / Airport Way	Signal	13	B	12	B		
12. SR 120 EB Ramps / Airport Way	Signal	7	A	9	A		
13. SR 120 WB Ramps / Union Road	Signal	5	A	9	A		
14. SR 120 EB Ramps / Union Road	Signal	7	A	12	B		
15. SR 120 WB Ramps / Main Street	Signal	4	A	4	A		
16. SR 120 EB Ramps / Main Street	Signal	7	A	10	B		
17. SR 99 SB Ramps / Lathrop Frontage Road	Signal	19	B	21	C		
18. SR 99 NB Ramps / Lathrop Frontage Road	Signal	12	B	11	B		
19. SR 99 SB Ramps / Yosemite Avenue	Signal	39	D	40	D		
20. SR 99 NB Ramps / Yosemite Avenue / Button Avenue	Signal	29	C	36	D		
21. SR 99 SB Ramps / Moffat Boulevard	Side Street Stop	-	-	-	-		
22. SR 99 NB Ramps / Austin Road	Side Street Stop	-	-	-	-		

NOTES: ."">150" IS REPORTED WHEN THE DELAY IS OUTSIDE THE RANGE OF THE SOFTWARE.

I CUMULATIVE CONDITIONS WITH ALTERNATIVE INVESTMENT STRATEGY.

2 INTERSECTION IS CONSIDERED A PART OF DOWNTOWN MANTECA, WHICH IS NOT SUBJECT TO LOS REQUIREMENTS UNDER THE PROPOSED GENERAL PLAN.

SOURCE: FEHR & PEERS, 2010.

Freeway and roadway segments were analyzed under the Alternative Investment Strategy by applying the same thresholds used for the existing conditions analysis. Table 5.0-13 summarizes roadway segments in the City that would be impacted by this alternative. According to the table, six roadway segments within the City's jurisdiction would be impacted when applying the

existing General Plan LOS policy. Applying the proposed General Plan LOS policy, four segments in the City are impacted.

TABLE 5.0-13 CITY OF MANTECA ROADWAY SEGMENT ADT AND LEVEL OF SERVICE - CUMULATIVE CONDITIONS WITH ALTERNATIVE INVESTMENT STRATEGY

SEGMENT	NUMBER OF LANES [1]	ALTERNATIVE INVESTMENT STRATEGY		IMPACT?	
		ADT	LOS	2023 GP	PROP GP
Lathrop Road Main Street to Union Road	2	18,400	F	X	X
Airport Way: Crom Street to Yosemite Avenue	2	14,900	E	X	X
Yosemite Avenue: Northwoods to SR 99	4	37,900	E	X	X
McKinley Avenue: SR 120 to Woodward Avenue	2	16,300	E	X	X
Woodward Avenue: McKinley Avenue to Airport Way	2	14,500	D	X	
Main Street: Woodward Avenue to McKinley Avenue	2	13,600	D	X	

SOURCE: FEHR & PEERS, 2010.

Table 5.0-14 displays the ADT and LOS for roadway segments outside the Manteca city limits under this alternative. As discussed previously, many of these segments are assumed to be widened and as such the table displays the number of lanes for each segment. As shown in the table, this alternative impacts only one roadway segment analyzed outside of the City.

TABLE 5.0-14 OUTSIDE OF CITY ROADWAY SEGMENT ADT AND LEVEL OF SERVICE - CUMULATIVE CONDITIONS WITH ALTERNATIVE INVESTMENT STRATEGY

SEGMENT	NUMBER OF LANES[1]	ALTERNATIVE INVESTMENT STRATEGY		IMPACT?
		ADT	LOS	
Roth Road: I-5 to UPRR Tracks	2	18,700	F	
Lathrop Road: I-5 to McKinley Avenue	4	18,800	B	
Lathrop Road: McKinley Avenue to Manteca/Lathrop City Limit	4	17,800	A	
Louise Avenue: I-5 to McKinley Avenue	4	24,000	C	
Louise Avenue: McKinley Avenue to Manteca/Lathrop City Limit	4	15,600	A	
Yosemite Avenue: SR 120 to McKinley Avenue	2	25,800	F	
Yosemite Avenue: McKinley Avenue to Manteca/Lathrop City Limit	2	16,400	E	
Yosemite Avenue: Austin Road to Jack Tone Road	2	16,500	E	X
Airport Way: Daisywood Drive to Roth Road	2	16,600	E	
Union Road: Woodward Avenue to Fig Avenue	2	6,100	A	
Austin Road: McKinley Avenue to Ripon Road	2	5,600	A	
Jack Tone Road: SR 99 to Ripon Road	4	12,500	A	
Ripon Road: Main Street to Austin Road	2	3,300	A	
Ripon Road: Austin Road to Jack Tone Road	2	5,100	A	

I CUMULATIVE CONDITIONS WITH ALTERNATIVE INVESTMENT STRATEGY

SOURCE: FEHR & PEERS, 2010.

Table 5.0-15 indicate that many of the freeway mainline segments will operate unacceptably at LOS E or F under the Cumulative Conditions with Alternative Investment Strategy alternative. The following freeway mainline segments would be impacted under this alternative:

- I-5: between Louise Avenue and I-205
- SR 120: I-5 to Union Road
- SR 99: Yosemite Avenue to McKinley Avenue Expressway

TABLE 5.0-15 FREEWAY SEGMENT ADT AND LEVEL OF SERVICE - CUMULATIVE CONDITIONS WITH ALTERNATIVE INVESTMENT STRATEGY

FREEWAY	*SEGMENT*	*NUMBER OF LANES*	*ALTERNATIVE INVESTMENT STRATEGY*		*IMPACT?*
			ADT	*LOS*	
I-5	El Dorado St to Roth Road	8	133,700	D	
	Roth Road to Lathrop Road	8	145,300	D	
	Lathrop Road to Louise Ave	8	154,700	D	
	Louise Ave to SR 120	8	176,400	F	X
	SR 120 to I-205	12	250,900	E	X
SR 120	I-5 to Yosemite Ave	6	143,600	F	X
	Yosemite Ave to Airport Way	6	128,400	E	X
	Airport Way to Union Road	6	127,300	E	X
	Union Road to Main Street	6	120,300	E	
	Main Street to SR 99	6	114,700	D	
SR 99	French Camp Road to Lathrop Road	6	106,900	D	
	Lathrop Road to Yosemite Ave	6	115,500	D	
	Yosemite Ave to SR 120	6	143,100	F	X
	SR 120 to McKinley Ave	6	175,300	F	X
	McKinley Ave to Jack Tone Road	6	183,800	F	

SOURCE: FEHR & PEERS, 2010.

All CMP-designated freeway and roadway segments within the study area were analyzed to identify impacts under the Cumulative Conditions with Alternative Investment Strategy alternative. Table 5.0-16 displays the PM peak hour forecast and LOS for all CMP facilities within the study area under this alternative. As shown, while several segments would operate unacceptably, seven segments would be impacted.

TABLE 5.0-16 CMP SEGMENT FORECASTS AND LEVEL OF SERVICE - CUMULATIVE CONDITIONS WITH CIRCULATION ELEMENT UPDATE

ROADWAY	*SEGMENT*	*NUMBER OF LANES*	*CIRCULATION ELEMENT UPDATE*		*IMPACT?*
			PM PEAK HOUR VOLUME	*LOS*	
I-5	El Dorado St to Roth Road	8	10,560	D	
	Roth Road to Lathrop Road	8	11,220	D	
	Lathrop Road to Louise Ave	8	11,360	D	
	Louise Ave to SR 120	8	12,920	D	
	SR 120 to I-205	12	16,330	D	
SR 120	I-5 to Yosemite Ave	6	9,840	D	
	Yosemite Ave to Airport Way[1]	6	10,450	E	
	Airport Way to Union Road[1]	6	10,440	E	
	Union Road to Main Street[1]	6	9,770	D	

	Main Street to SR 99[1]	6	7,300	C	
SR 99	French Camp Road to Lathrop Road	6	9,630	D	
	Lathrop Road to Yosemite Ave	6	10,120	E	X
	Yosemite Ave to SR 120	6	11,780	F	X
	SR 120 to Austin Road	6	15,450	F	X
	Austin Road to Jack Tone Road	6	15,270	F	
Airport Way	Roth Road to Daisywood Drive	4	1,410	C	
	Daisywood Drive to Lathrop Road	2	2,520	F	
	Lathrop Road to Northgate Drive	2	1,360	D	
	Northgate Drive to Louise Avenue	2	950	D	
	Louise Avenue to Crom Street	2	1,600	F	
	Crom Street to Yosemite Avenue	2	1,530	F	X
	Yosemite Avenue to Wawona St	2	1,380	D	
	Wawona St to Daniels Street	2	1,570	F	
	Daniels Street to SR 120	2	1,600	F	
Lathrop Road	I-5 to McKinley Avenue	4	1,830	C	
	McKinley Avenue to City Limit	4	1,720	C	
	City Limit to Airport Way	2	1,720	F	
	Airport Way to London Avenue	2	1,400	E	
	London Avenue to Union Road	2	1,420	E	
	Union Road to Main Street	2	1,540	F	X
	Main Street to SR 99	4	1,450	C	
Yosemite Avenue	Airport Way to Winters Drive	4	1,570	C	
	Winters Drive to Union Road	4	2,120	D	
	Union Road to Walnut Avenue	2	1,410	E	
	Walnut Avenue to Main Street	2	1,070	D	
	Main Street to Powers Avenue	2	1,540	F	X
	Powers Avenue to Spreckels Avenue	4	2,290	D	
	Spreckels Avenue to Northwoods Avenue	4	1,750	C	
	Northwoods Avenue to SR 99	4	2,130	D	
	SR 99 to Austin Road	4	2,760	D	
	Austin Road to Jack Tone Road	2	1,200	D	
Jack Tone Road	SR 99 to Ripon Road	4	1,220	C	
Ripon Road	Main Street to Jack Tone Road	2	430	C	
McKinley Avenue Expressway	SR 120 to Woodward Avenue	2	1,560	F	X
	Woodward Avenue to Airport Way	2	320	C	
	Airport Way to Union Road	n/a	-	-	
	Union Road to Main Street	n/a	-	-	
	Main Street to Atherton Drive	4	1,110	C	
	Atherton Drive to Austin Road	4	1,870	C	
	Austin Road to SR 99	6	3,560	D	

NOTE: [1] THESE FREEWAY SEGMENTS HAVE A LOS F STANDARD.

SOURCE: FEHR & PEERS, 2010.

Bicycle and Pedestrian System: Sidewalk coverage within the study area is expected to expand under the Cumulative with Alternative Investment Strategy alternative, since the City requires pedestrian frontage improvements for all new development. The Pedestrian Master Plan proposed as part of the Circulation Element Update may also improve the quality of the

pedestrian system in the area by identifying gaps in the system and improving pedestrian connections between major destinations.

The update to the Circulation Element includes implementation of an update to the City of Manteca Bicycle Master Plan. This update will consider the recommendations of the previous plan and provide new policies and projects where necessary to better integrate the proposed bicycle system with the existing and planned land use development expected with buildout of the Land Use Element of the General Plan.

The primary difference between this alternative and the previous alternative is that under the Alternative Investment Strategy, it is assumed that some of the PFF fees that would have been expended on roadway facilities will instead be expended on implementing the Pedestrian and Bicycle Master Plans. Given that these plans have not yet been developed, it is impossible to define a project list; however, it is reasonable to assume that a substantial quantity of new pedestrian and bicycle facilities will be added to the City's transportation network. As described in many research articles and other transportation studies, an expanded bike and pedestrian system has a demonstrated correlation with reduced vehicle trip generation.

Transit System: As described in the SJCOG CMP, the regional council expects that transit service countywide will expand concurrently with population, much as the system has expanded in the past. However, under this alternative, additional funding that would have been dedicated to roadway construction is assumed to go toward transit capital expenditures like more busses, improved transit stops, park and ride lots, and improved pedestrian access to stops. By supplementing capital costs, it is possible that other funding sources can be reprioritized to provide additional operating funds. Alternatively, the City could also reach an agreement with the development community to directly contribute to transit operations, as is done in many other jurisdictions.

With this additional transit funding, it is anticipated that the Manteca City and interregional transit service serving the City could expand substantially compared to the limited service expected under No Project (Constrained) conditions. This additional transit service has a well established correlation with reduced vehicle trip generation.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed project.

As summarized in Table 5.0-17 below, the Preferred Network is the environmentally superior alternative because it provides the greatest reduction of potential impacts in comparison to the

other alternatives. The Alternative Investment Strategy is the second best alternative in terms of environmental impacts.

TABLE 5.0-17: COMPARISON SUMMARY OF ALTERNATIVES

ENVIRONMENTAL ISSUE	*NO PROJECT (CONSTRAINED) ALTERNATIVE*	*PREFERRED NETWORK ALTERNATIVE*	*NO PROJECT (UNCONSTRAINED) ALTERNATIVE*	*ALTERNATIVE INVESTMENT STRATEGY*
Agricultural Resources	1 (Best)	3 (Medium)	4 (Worst)	3 (Better)
	The No Project (Constrained) Alternative would result in the lowest potential for adverse impacts on agricultural resources. As roadway infrastructure improvement projects would decrease under this alternative, the potential for development of roadway infrastructure to convert agricultural lands to non-agricultural uses as well as the potential for conflicts with agricultural lands would be less under the No Project (Constrained) Alternative when compared to the other alternatives.			
Air Quality	4 (Worst)	2 (Better)	2 (Better)	1 (Best)
	The Alternative Investment Strategy would result in less construction-related emissions than other alternatives; however, this alternative would not create greater traffic capacity to improve operational level of service on some roadways resulting in more traffic congestion and associated pollutant emissions. The Alternative Investment Strategy is intended to reduce automobile trips, and thus decrease emissions, through shifting trip volume from vehicular trips to transit, bicycle, and pedestrian trips. Overall, this alternative would increase the use of public transit and other alternative modes of transportation, which would also help provide some relief of congestion on the roadway network. This alternative would not improve operational level of service on some roadways resulting in more traffic congestion and associated pollutant emissions; however, the amount of emissions on a per capita basis is expected to be improved because there would be more non-motorized transportation choices for residents which would translate into more use. This alternative is superior to the other alternatives.			
Biological Resources	1 (Best)	3 (Medium)	4 (Worst)	3 (Better)
	The No Project (Constrained) Alternative would result in the lowest potential for adverse impacts on biological resources. As roadway infrastructure improvement projects would decrease there would be fewer construction and infrastructure development projects that would negatively impact special-status species, their habitat, sensitive habitat, migration corridors, and wetlands/riparian resources under the No Project (Constrained) Alternative when compared to the other alternatives.			
Cultural Resources	1 (Best)	3 (Medium)	4 (Worst)	3 (Better)
	The No Project (Constrained) Alternative would result in the lowest potential for adverse impacts on cultural resources. As roadway infrastructure improvement projects would decrease under this alternative, there would be fewer construction and infrastructure development projects that would have the potential to degrade or destroy cultural resources, including archaeological, paleontological, historic, and human remains, under the No Project (Constrained) Alternative when compared to the other alternatives.			
Greenhouse Gases and Climate Change	4 (Worst)	2 (Better)	2 (Better)	1 (Best)
	The Alternative Investment Strategy would result in the lowest potential for adverse impacts from Greenhouse Gases and Climate Change. This alternative would reduce automobile trips, and thus decrease greenhouse gas emissions, through shifting trip volume from vehicular trips to transit, bicycle, and pedestrian trips. Overall, this alternative would increase the use of public transit and other alternative modes of transportation, which would also help provide some relief of congestion on the roadway network. This alternative would not improve operational level of service on some roadways resulting in more traffic congestion and associated pollutant emissions; however, the amount of greenhouse gas emissions on a per capita basis is			

ENVIRONMENTAL ISSUE	*NO PROJECT (CONSTRAINED) ALTERNATIVE*	*PREFERRED NETWORK ALTERNATIVE*	*NO PROJECT (UNCONSTRAINED) ALTERNATIVE*	*ALTERNATIVE INVESTMENT STRATEGY*
	expected to be improved because there would be more non-motorized transportation choices for residents which would translate into more use. This alternative is superior to the other alternatives.			
Land Use/ Population and Housing	4 (Worst)	2 (Better)	1 (Best)	3 (Medium)
	The No Project (Unconstrained) Alternative would result in the lowest potential for adverse impacts associated with land use/population and housing. While this alternative would have the potential to induce additional growth due to increased roadway capacity, this alternative would also be the most consistent with land use planning activities in the City as this alternative would implement the transportation projects necessary to serve planned development as well as provide transportation services at adequate levels. Therefore, the No Project (Unconstrained) Alternative would have less of an impact on land use/population and housing than other alternatives.			
Noise	1 (Equal)	1 (Equal)	1 (Equal)	1 (Equal)
	The four alternatives are equally weighted. Some have slightly better short term noise impacts due to few construction activities, some have slightly improved noise conditions due to new projects, and others have slightly improved noise conditions due to increased traffic volume. Overall, these alternatives are estimated to be equal to each other in terms of noise impacts. Additionally, it is expected that noise impacts can be mitigated to a large extent with an appropriate design that uses noise attenuation.			
Transportation and Circulation	3 (Medium)	2 (Better)	1 (Best)	4 (Worst)
	The No Project (Unconstrained) Alternative would result in more transportation improvements in an effort to address LOS operational deficiencies. As a result, the roadway system would increase capacity and roadway safety such that there would be reduced congestion and improvements to the LOS.			

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APPENDIX A - NOTICE OF PREPARATION AND INITIAL STUDY

INITIAL STUDY AND NOTICE OF PREPARATION

FOR THE

MANTECA CIRCULATION ELEMENT UPDATE

APRIL 2010

Prepared for:

City of Manteca
Community Development Department
1001 West Center Street
Manteca, CA 95337
(209) 456-8511

Prepared by:

De Novo Planning Group
4630 Brand Way
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(916) 580-9818

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

INITIAL STUDY AND NOTICE OF PREPARATION

FOR THE

MANTECA CIRCULATION ELEMENT UPDATE

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NOTICE OF PREPARATION

TO: State Clearinghouse
State Responsible Agencies
State Trustee Agencies
Other Public Agencies
Interested Organizations

FROM: Mark McAvoy, P.E., Senior Civil Engineer
City of Manteca
1001 West Center Street
Manteca, CA 95337
(209) 456-8421

SUBJECT: Notice of Preparation –Manteca Circulation Element Update Draft EIR

EIR CONSULTANT

Steve McMurtry, Principal Planner
De Novo Planning Group
3590 Falkirk Way
El Dorado Hills, Ca 95762
Phone: (916) 580-9818

An Initial Study has been prepared for the project and is attached to this Notice of Preparation (NOP). The Initial Study lists those issues that will require detailed analysis and technical studies that will need to be evaluated and/or prepared as part of the EIR. The EIR will consider all potential environmental effects of the proposed project to determine the level of significance of the environmental effect, and will analyze these potential effects to the detail necessary to make a determination on the level of significance.

Those environmental issues that have been determined to be less than significant will have a discussion that is limited to a brief explanation of why those effects are not considered potentially significant. In addition, the EIR may also consider those environmental issues which are raised by responsible agencies, trustee agencies, and members of the public or related agencies during the NOP process.

We need to know the views of your agency or organization as to the scope and content of the environmental information germane to your agency's statutory responsibilities or of interest to your organization in connection with the proposed project. Specifically, we are requesting the following:

1. If you are a public agency, state if your agency will be a responsible or trustee agency for the project and list the permits or approvals from your agency that will be required for the project and its future actions;
2. Identify significant environmental effects and mitigation measures that you believe need to be explored in the EIR with supporting discussion of why you believe these effects may be significant;

3. Describe special studies and other information that you believe are necessary for the City of Manteca to analyze the significant environmental effects, alternatives, and mitigation measures you have identified;
4. For public agencies that provide infrastructure and public services, identify any facilities that must be provided (both on- and off-site) to provide services to the proposed project;
5. Indicate whether a member(s) from your agency would like to attend a scoping workshop/meeting for public agencies to discuss the scope and content of the EIR's environmental information;
6. Provide the name, title, and telephone number of the contact person from your agency or organization that we can contact regarding your comments;

Due to the time limits mandated by State law, your response must be sent and received by the City of Manteca by the following deadlines:

- For responsible agencies, not later than 30 days after you receive this notice,
- For all other agencies and organizations, not later than 30 days following the publication of this Notice of Preparation. The 30 day review period ends on May 19, 2010.

If we do not receive a response from your agency or organization, we will presume that your agency or organization has no response to make.

A responsible agency, trustee agency, or other public agency may request a meeting with the City of Manteca or its representatives in accordance with Section 15082(c) of the CEQA Guidelines. A public scoping meeting will be held at 7:00pm on May 11, 2010 at the regularly scheduled planning commission meeting.

Please send your response to Mark McAvoy, P.E. at the City of Manteca, 1001 West Center Street, Manteca, CA 95337. If you have any questions, please contact the City of Manteca at (209) 456-8421.

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PROJECT INFORMATION

PROJECT TITLE

Manteca Circulation Element Update

LEAD AGENCY NAME AND ADDRESS

City of Manteca
Community Development Department
1001 West Center Street
Manteca, CA 95337

CONTACT PERSON AND PHONE NUMBER

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City of Manteca
1001 West Center Street
Manteca, CA 95337
(209) 456-8421

PROJECT SPONSOR'S NAME AND ADDRESS

City of Manteca
1001 West Center Street
Manteca, CA 95337

PROJECT LOCATION AND SETTING

REGIONAL SETTING

The City of Manteca is located in the "heartland" of California's Great Central Valley, with historical roots as an important agricultural center. Due to excellent soil, great climate, and access to clean water, Manteca was predominantly an agricultural area for much of the early 20th century. However, the community has transformed from an agricultural base to an urbanized base. The economic growth in south San Joaquin County has been powered by the area's advanced transportation infrastructure.

Manteca is located near the northern end of California's San Joaquin Valley at the junction of State Route 99 and State Route 120, approximately 75 miles east of San Francisco and 55 miles south of Sacramento. The area between Manteca and Stockton brings State Route 99 and Interstate 5 to their closest point in California, with State Route 120 connecting them through Manteca. Manteca is located approximately 12 miles south of downtown Stockton, and 14 miles northwest of the City of Modesto. The City's regional location is shown in Figure 1.

The region is characterized by hot, dry summers, and cool winters. Average temperatures during the summer months range from 50 to 94 degrees with winter months averaging 36 to 53 degrees. The rainy season is typically between November and April with the average annual rainfall ranging from eight inches in the southern part of the county to 18 inches in the northern part of the county. The San Joaquin Valley has been designated as a severe non-attainment area

for federal air quality standards. Warm temperatures, prevailing winds, and the location of the county within an enclosed valley all contribute to the air quality of the area.

STUDY AREA

The Study Area boundary for the proposed project is consistent with the City of Manteca's General Plan Study Area boundary, which follows French Camp Road on the north, the Union Pacific Railroad on the west, Walthall Slough and a line contiguous to Sedan Avenue on the south, and a line approximately one-half mile east of Austin Road on the east, as shown in Figure 2.

Government Code Section 65300 requires a General Plan to include all territory within the city limits as well as "any land outside its boundaries, which in the planning agency's judgment bears relation to its planning". As such, the Study Area encompasses approximately 25,975 acres within and outside of the existing city limits. The purpose in establishing the Study Area boundary larger than the existing city limits is to identify and evaluate the areas surrounding the city that may affect the future economic viability, traffic, services, and aesthetic quality of the city.

STREET NETWORK AND CLASSIFICATION

Manteca is built on a grid of major streets spaced at intervals of about one mile. This grid forms the backbone of the local street system and defines the boundaries of many residential neighborhoods. Between the major streets are a series of minor streets that provide access to neighborhoods, offices, and industrial areas. Along with the City's trail system, the sidewalks and bike lanes on these streets also serve pedestrian and bicycle modes. Transit and goods movement needs are also served on the City's street network. The street system in Manteca consists of four general classes of streets: expressways; arterial streets; major collector streets; minor collector streets; and local, small scale streets that serve residential neighborhoods. Figure 3 provides a schematic of the Major Streets Master Plan for Manteca.

Each street classification is designed to standards appropriate to the conditions and intended use. In general, the standards use the minimum level of street cross-section needed for traffic safety and emergency access and evacuation.

The Circulation Element does not establish street standards that specify the widths of overall pavement, travel lanes, medians, corridors, bike lanes, or sidewalk dimensions. Such standards may be adjusted over time to accommodate different needs and new conditions, and are therefore adopted as separate improvement standards. The Circulation Element establishes the general parameters and intent for each street classification.

Beyond fundamental traffic safety concerns, street design should emphasize ease and expense of maintenance, simplicity of construction, visual character, and multi-modal access. Street widths should be designed at the minimum necessary curb-to-curb width that can safely accommodate the number of vehicle lanes, bicycle lanes, and parking needed for the street. All streets should also feature sidewalks and/or multi-use paths on both sides where right-of-way is available.

Expressways. Manteca currently does not have any expressways; however, the proposed McKinley Avenue extension between State Route (SR) 120 and SR 99 is planned as an expressway in some sections. Expressways are high-capacity routes designed to serve through traffic. Expressway access would be limited to intersections with arterials and collectors with intersection spacing of at least 1,200 feet. Based on the posted speed limit of the expressway, bicycle travel should be accommodated with either Class II bike lanes or a parallel off-street bike trail. Sidewalks should be provided on both sides of the street (or on one side if a bike trail is present on the opposite side). Roundabouts should be considered at intersections to reduce maintenance and operations costs associated with traffic signals.

Arterial Streets. Arterial streets are designed to serve through traffic and major local traffic generators such as high density housing areas, commercial, industrial, and institutional uses. Examples of arterials include Airport Way and Lathrop Road.

Arterial streets are intended to provide high-capacity routes to serve vehicle, transit, and goods movement. The streets should have an aesthetically appealing character with curbside landscaping and landscaped median islands, where appropriate. Existing arterial streets should provide sidewalks and bike lanes where space is available. Additional space may be provided by re-striping with narrower lanes to accommodate sidewalks and bike lanes to complete connections or close gaps in the bicycle and pedestrian systems.

In general, new arterial streets should be designed to accommodate both bike and pedestrian facilities on both sides of the street while balancing concerns regarding traffic volumes, operations, and the safety of drivers, bicyclists, and pedestrians. Arterial streets shall also be designed to accommodate public transit routes by providing adequate lane widths and corner radii for safe operation of trucks and buses and bus turnouts where deemed appropriate.

Major Collector Streets. Major collector streets serve as smaller-scale parallel routes to arterial streets and provide access to neighborhoods. Collector streets will typically provide two travel lanes, a Class II bike lane and a sidewalk on both sides. Median islands and turn lanes may be appropriate in certain conditions. For newly constructed major collector streets, on-street parking should be prohibited to reduce pavement width, pedestrian crossing distances, and maintenance costs. On-street parking for existing major collector streets should be restricted or limited by eliminating the parking lane or through the use of bulb-outs to minimize the cross section and discourage speeding.

Minor Collector Streets. Minor collector streets serve as the backbone circulation routes within larger neighborhoods and commercial/industrial areas. These streets provide primary access to light industrial and office properties and provide a link between low volume residential streets and larger collector and arterial streets. The minor collector street should be small scale, two lane streets. The streets should be wide enough to safely accommodate the traffic flows, but not so wide as to encourage high-speed travel. On-street parking should be restricted or limited by eliminating the parking lane or through the use of bulb-outs to minimize the cross section and discourage speeding. Depending on the surrounding land uses (e.g., office,

commercial, or residential areas), the minor collector may accommodate Class II bike lanes. Sidewalks should be provided on each side of the street.

Residential Streets. While they carry relatively light traffic loads, residential streets constitute the majority of Manteca's street system. These streets are intended to serve residential driveways, providing access between homes and larger streets. In general, these streets should include narrow travel and parking lanes to slow travel and discourage through trips. Features like corner bulb-outs and traffic circles (which are a smaller version of a roundabout) should be incorporated to improve the aesthetic quality of the street, while calming traffic. Class II bike lanes should not be included on residential streets as volumes and speeds are slow enough to safely accommodate bikes and cars. However, Class III bike routes and special pavement markings for bicycles may be appropriate to provide continuity for the bicycle system. Sidewalks should be provided on both sides of the street. Where a residential street ends in a cul-de-sac, a shared bicycle/pedestrian path should be constructed (as appropriate and where right-of-way is available) to connect the cul-de-sac to other residential, collector, or arterial streets. These bicycle and pedestrian connections shorten travel distances and encourage the use of these modes.

Intersections of City Streets. Intersections are critical components of the street network since they tend to define how well the system operates. Drivers and transit users typically experience most of their traveling delay at intersections. In addition, intersections are important for pedestrians and bicycles since they provide controlled points where these modes can cross major roadways. The City's Standard Plans should be updated to include a set of typical intersection treatments.

In general, intersections should have minimum lane widths to serve the type of vehicles expected on the roadway (e.g., lanes should be sufficiently wide to accommodate trucks in industrial areas). Narrower lanes pose less of a barrier for pedestrians to cross and reduce maintenance costs. In addition, u-turn movements should be accommodated in the intersection design to the extent feasible to extend the length of landscaped medians. Also, bus bays should be included in intersection designs for expressways, arterials, and major collectors to maintain traffic flow while busses are loading and unloading.

Traffic Calming. Traffic speed is a concern where local and collector streets are relatively straight and there are few intersections. Within the developed portions of the city, in residential and school areas, and where there are substantial numbers of pedestrians, it is desirable to maintain traffic flow at safe speeds. This may be accomplished through "traffic calming" measures. These may include modified signing and striping, roundabouts and traffic circles, bulb-outs, and other physical improvements that cause drivers to slow and be more aware of other vehicles and pedestrian or bicycle traffic. To assist in determining where and what type of traffic calming measures are appropriate, the City of Manteca has a Neighborhood Traffic Calming Program that is based on public participation. This "bottom up" approach is common throughout California and relies on neighborhood participation to identify issues and solutions.

GENERAL PLAN AND ZONING DESIGNATIONS

The proposed project is a city-wide planning document. As such, the General Plan land use and zoning designations for the areas affected by the proposed project are all-inclusive—meaning that the land will include any and all General Plan land use and zoning designations that are established in the General Plan and Zoning Ordinance.

PROJECT DESCRIPTION

The proposed project is the adoption and implementation of the City of Manteca Circulation Element Update (hereinafter "proposed project"). The proposed project embodies goals, objectives, policies, and implementation measures covering seven transportation topics: Level of Service Standards, Major Street Master Plan, Parking, Bicycle and Pedestrian Systems, Public Transit, Goods Movement, and Transportation Demand Management. A discussion of each of these seven topics are described in Appendix A along with the complete list of goals, objectives, policies, and implementation measures from the proposed project.

The proposed project reflects the broader goals of the City's General Plan. These include improvement of the existing community, economic development, expanded tourism, improved aesthetic quality in the built environment, better public and personal health, improved safety, improved quality of life, and environmental protection.

The City's existing circulation system is a reflection of the City's historic development pattern, which has been focused on moving cars quickly through and around the City. This type of circulation system provides a high degree of mobility and access to those who have cars, but it does not adequately serve residents who cannot or choose not to drive and it is expensive to build and maintain. Additional emphasis has recently been given to alternative modes of transportation, such as bicycling, walking, and public transit. Examples include the construction of the Tidewater Bikeway, the adoption and implementation of a Bicycle Master Plan, streetscape improvements in Downtown, new street standards with improved pedestrian facilities, and the initiation of the City's own transit service. This Circulation Element stresses the need for a balanced circulation system based on the concept of "complete streets."

Complete streets describes a comprehensive approach to the practice of mobility planning. The complete street concept recognizes that transportation corridors have multiple users with different abilities and mode preferences (e.g., driving, biking, walking, and taking transit). A well-integrated street system considers the complementary relationship between land use, local and regional travel needs, and the context that it serves. Complete streets apply equally to facilities like Yosemite Avenue through downtown and commercial corridors like Main Street near the State Route 120 interchange. Complete streets consider the full range of users including vehicles, trucks, pedestrians, bicycles, children, the disabled, and seniors.

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED (E.G., PERMITS, FINANCING APPROVAL, OR PARTICIPATION AGREEMENT.)

The City of Manteca will be the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of the California Environmental Quality Act (CEQA), Section

15050. This Initial Study identifies and discusses the environmental topics that are less than significant and do not require further detailed analysis in an EIR, as well as those environmental topics that are potentially-significant and require further detailed analysis in a Program-level EIR. The Initial Study and Notice of Preparation will be circulated for agency and public review for 30 days, pursuant to CEQA Guidelines, Section 15073(d).

No specific permits are required by any other responsible or trustee agencies to approve the proposed project. However, there could be project specific permits and approvals that may be required to implement the individual improvements under the proposed project. The following additional agency approvals may apply to the individual improvement projects listed within the proposed project:

- California Department of Fish and Game (CDFG)
- California Department of Transportation (Caltrans)
- Central Valley Water Quality Control Board (RWQCB)
- San Joaquin County (Community Development and Public Works Departments)
- San Joaquin Local Agency Formation Commission (LAFCo)
- San Joaquin Council of Governments (SJCOG)
- San Joaquin Valley Unified Air Pollution Control District (SJVAPCD)
- U.S. Army Corps of Engineers (ACOE)
- U.S. Fish and Wildlife Service (USFWS)



Manteca Circulation Element Update EIR

Fig. 1: Regional Map

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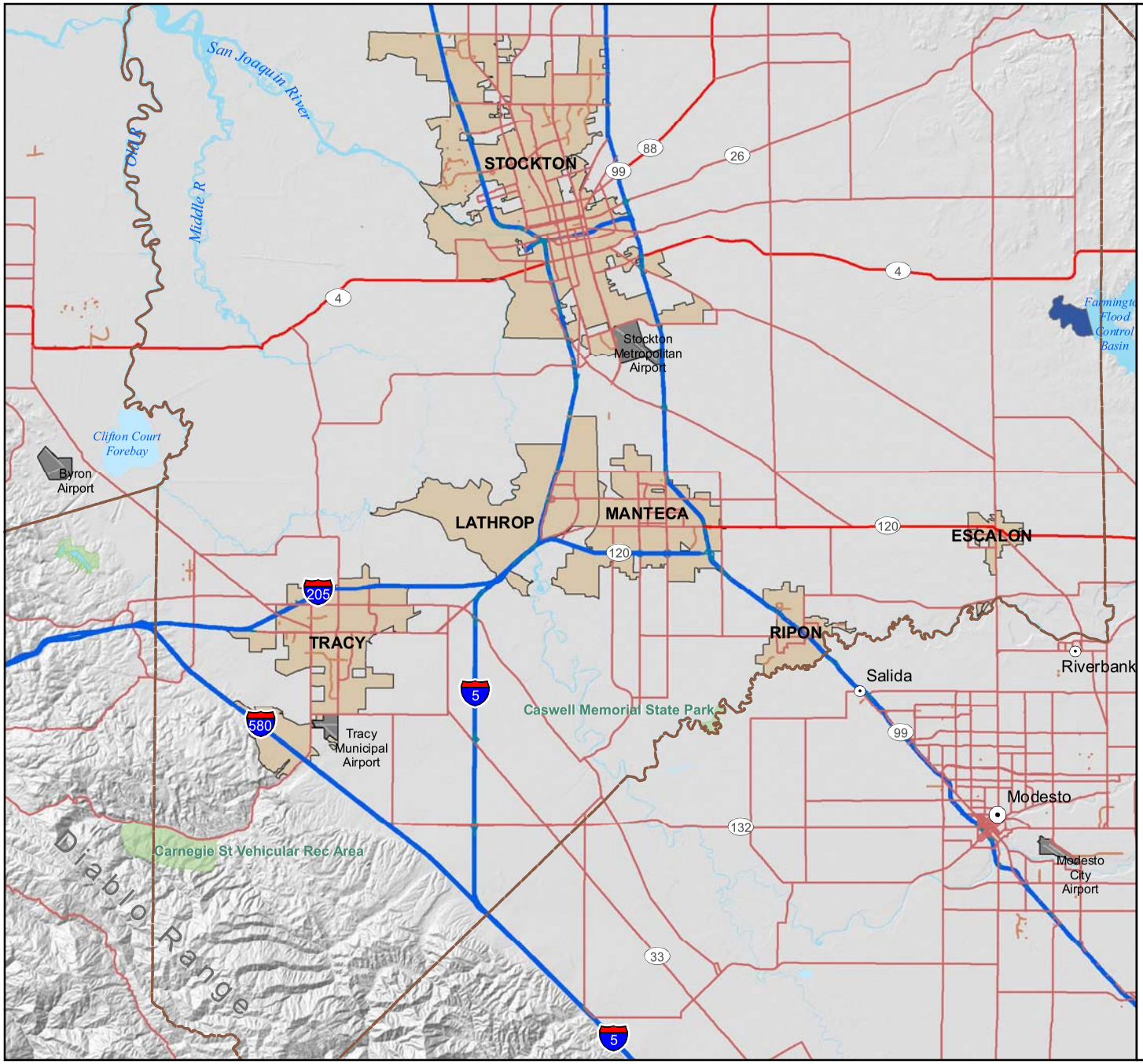
0 5 10 20 30 40 Miles

1:1,500,000

Data source: California Spatial Information Library
Map date: April 8, 2010

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Manteca Circulation Element Update EIR

Fig 2: Vicinity Map

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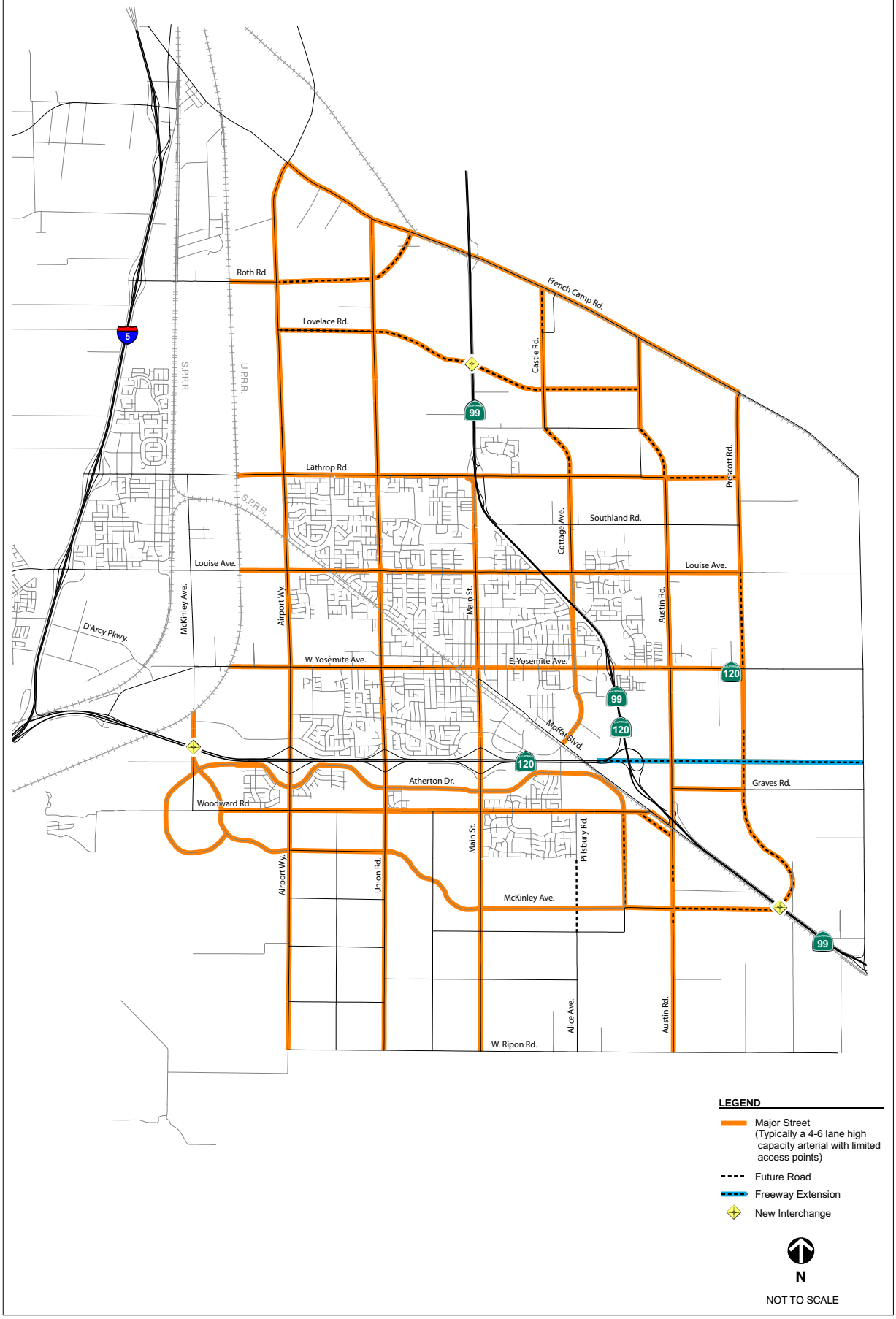
0 2.5 5 10 Miles

1:350,000

Data sources: California Spatial Information Library and ESRI StreetMap North America.
Map date: April 8, 2010

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FEHR & PEERS
TRANSPORTATION CONSULTANTS

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MANTECA MAJOR STREET MASTER PLAN

FIGURE
3

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics	X	Agricultural Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources		Geology/Soils
X	Greenhouse Gasses		Hazards and Hazardous Materials		Hydrology/Water Quality
X	Land Use/Planning		Mineral Resources	X	Noise
X	Population/Housing		Public Services		Recreation
X	Transportation/Traffic		Utilities/Service Systems	X	Mandatory Findings of Significance

DETERMINATION:

On the basis of this initial evaluation:

	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
X	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature Date

EVALUATION INSTRUCTIONS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:
   a) The significance criteria or threshold, if any, used to evaluate each question; and
   b) The mitigation measure identified, if any, to reduce the impact to less than significant.

EVALUATION OF ENVIRONMENTAL IMPACTS:

In each area of potential impact listed in this section, there are one or more questions which assess the degree of potential environmental effect. A response is provided to each question using one of the four impact evaluation criteria described below. A discussion of the response is also included.

- Potentially Significant Impact. This response is appropriate when there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries, upon completion of the Initial Study, an EIR is required.
- Less than Significant With Mitigation Incorporated. This response applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
- Less than Significant Impact. A less than significant impact is one which is deemed to have little or no adverse effect on the environment. Mitigation measures are, therefore, not necessary, although they may be recommended to further reduce a minor impact.
- No Impact. These issues were either identified as having no impact on the environment, or they are not relevant to the Project.

ENVIRONMENTAL CHECKLIST

This section of the Initial Study incorporates the most current Appendix "G" Environmental Checklist Form, contained in the CEQA Guidelines. Impact questions and responses are included in both tabular and narrative formats for each of the 17 environmental topic areas.

I. AESTHETICS

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect on a scenic vista?			*X*	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			*X*	
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			*X*	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			*X*	

RESPONSES TO CHECKLIST QUESTIONS

Existing Conditions: Manteca is located at the center of California's Central Valley and near the north end of the San Joaquin Valley. Typical of the Central Valley, the Manteca area is virtually flat, a quality that determines how the city is perceived. With the exception of views from highway overpasses that provide brief panoramic views, the entire cityscape and surrounding landscape are viewed from the ground level perspective.

On particularly clear days, however, there are distant views of the Sierra Nevada Mountains to the east and the Coast Range Mt. Diablo Range 25 miles to the west and southwest. Mount Boardman and Eagle Mountain located to the southwest are the most prominent of these background features.

Manteca is surrounded by agricultural uses, primarily orchards and field crops. Although no major watercourse lies within or contiguous to Manteca, the San Joaquin River flows approximately four miles to the west along the west side of the Study Area and Walthall Slough is located along the southwest boundary of the Study Area.

The residential neighborhoods in Manteca are typically composed of single family dwellings in a mix of one and two story structures. Many neighborhoods include a small park and detention basin (approximately five acres or larger) that serves the local neighborhood.

Although the distance between northern Manteca and southern Stockton is only four miles, the rural agricultural character of these four miles is critically important to the scenic and open space qualities that define the city. Only the southern two miles of this buffer area is located in the Study Area.

Downtown: The Manteca Downtown area has undergone revitalization efforts in recent years. Projects have included the addition of parking facilities, benches and other pedestrian amenities, vehicular and pedestrian lighting, and signage. The City and the Redevelopment Agency have also established programs to enhance the economic viability of downtown, in an effort to encourage both visitors and residents to use the area.

The City's goal is to foster an authentic downtown. Factors that contribute to the authenticity of downtown include rehabilitation activities to restore the character of older buildings that have architectural details not ordinarily found in contemporary buildings. Pedestrian traffic has been encouraged by designing areas that are protected from winter and summer weather, and that have landscaping to the rear of stores. Pedestrian-scale parking lots, thoughtful signage, and street lighting also enhance this ambience.

Tidewater Bikeway and Pedestrian Path: A prominent visual feature of the city is the Tidewater Bike Path. It is a 3½ mile Class I bikeway and pedestrian path. The trail runs from the south end of the city along Moffat Boulevard to the north end at Lathrop Road. The path passes through Downtown, Library Park, and many residential neighborhoods.

Railroad: The Union Pacific Railroad running generally north-south through Manteca is another prominent visual feature.

Responses a) - c): Construction activities associated with the proposed project that require roadway alterations would include the use of heavy equipment and associated vehicles (e.g., bulldozers, graders, scrapers, and trucks). Construction activities, equipment, and vehicles would be present in the viewshed of nearby roadways and adjacent residences, commercial facilities, and public facilities. Construction activities are considered temporary, and the existing visual characters of each project site would be restored after the completion of projects.

Commuters and residents are the primary viewers within the major transportation corridors (e.g., I-5, SR 12, I-580). The viewer sensitivity of residents and commuters within the study area is considered relatively low because of the lack of scenic value. The majority of individual projects under the proposed project would be constructed at grade level in areas where similar infrastructure exists. Projects involving construction of overpasses, interchanges, intersections, park-and-ride lots, multimodal stations, and the substantial physical expansion of existing highway and street segments will be designed on a project-by-project basis to ensure visual compatibility with surrounding property. Implementation of the following adopted General Plan policies would ensure that any potential for adverse impacts would be reduced to a ***less than significant*** level.

Adopted General Plan Policies

The impact on the visual quality of the area can be minimized by incorporating design features into projects that are implemented under the Circulation Element and the Public Facilities Implementation Program. Each project shall be consistent with the following General Plan Policies related to transportation facilities:

- *RC-P-17 New development shall maximize the potential for open space and visual experiences.*
- *CD-P-49 In order to establish a visual character that retains the agricultural heritage, the city will permit the use of orchard trees (or similar non-fruiting species) in landscape corridors along major streets adjacent to residential neighborhoods, in-lieu of formalized landscape. In such landscapes, the groundcover may be limited to bare earth and weed control and/or groundcovers compatible with the orchard characteristics.*
- *CD-I-14: Establish design guidelines for non-residential uses within 200 feet of SR 99 and SR 120. The guidelines should address the following concept. The landscape along SR 120 and SR 99 will reflect the natural character of the region in the selection of trees and groundcover.*

Responses d): As discussed in the General Plan EIR (2003), buildout of the General Plan will result in increased light or glare associated with new development. The impacts associated with nighttime light and glare are directly related to the intensity of development, as well as the design. The General Plan EIR determined that this was a potentially significant impact.

The proposed project provides for transportation related infrastructure that is consistent with the existing and future demands of the General Plan buildout. The individual transportation projects that are implemented under the direction of the proposed project will require lighting that is designed to the federal, state, and local standards in order to provide for the safety and welfare of citizens. If improperly designed, a light system can cause glare and otherwise be considered a nuisance to adjacent property owners. Implementation of the following adopted General Plan policies would ensure that this impact would be reduced to a ***less than significant*** level.

Adopted General Plan Policies

The impact of light and glare can be minimized by incorporating design features and operating requirements into projects that are implemented under the Circulation Element and the Public Facilities Implementation Program. Each project shall be consistent with the following General Plan Policies related to transportation facilities:

- *CD-P-44: Provide minimal levels of street, parking, building, site, and public area lighting to meet safety standards and provide direction.*
- *CD-P-45 Provide directional shielding for all exterior lighting to minimize the annoyance of direct or indirect glare.*

II. AGRICULTURE RESOURCES

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) 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?	X			
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	X			
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	X			

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b), c): The individual improvements under the proposed project include a variety of improvements that are located throughout the developed and undeveloped areas of the city. Some of the improvements will be located adjacent to land designated for agricultural uses, land which is currently being used for agricultural purposes, or land which may be used for agricultural purposes in the future. Based on the large extent of agricultural resources located in the region, it has been determined that the potential impacts on agriculture caused by the proposed project will require a more detailed analysis in the environmental impact report. As such, the lead agency will examine each of the three environmental issues listed in the checklist above in the environmental impact report and will decide whether the proposed project will have a potentially significant impact on agriculture. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the environmental impact report.

The environmental impact report will address the project's potential to convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or other agricultural land to a non-agricultural use. Additionally, the environmental impact report will address conflicts with Williamson Act contracts, and will provide an impact analysis for each of the three environmental issues related to agriculture, and recommendations for mitigating potentially significant impacts.

III. AIR QUALITY

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Conflict with or obstruct implementation of the applicable air quality plan?	X			
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	X			
c) 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)?	X			
d) Expose sensitive receptors to substantial pollutant concentrations?	X			
e) Create objectionable odors affecting a substantial number of people?	X			

RESPONSES TO CHECKLIST QUESTIONS

Responses a)-e): Based on the current air quality conditions in the air basin and the requirement to show conformity with the applicable air quality plan, it has been determined that the potential impacts on air quality caused by the proposed project will require a detailed analysis in the environmental impact report. As such, the lead agency will examine each of the five environmental issues listed in the checklist above in the environmental impact report and will decide whether the proposed project has the potential to have a significant impact on air quality. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the environmental impact report.

IV. BIOLOGICAL RESOURCES

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	X			
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	X			
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	X			
d) 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?	X			
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	X			
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	X			

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b), c), d), e), f): Based on the documented special status species, sensitive natural communities, wetlands, waters of the US, and other biological resources in the region, it has been determined that the potential impacts on biological resources caused by the proposed project will require a detailed analysis. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the environmental impact report and will decide whether the proposed project has the potential to have a significant impact on biological resources. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the environmental impact report. The analysis will include a discussion of the regional biological resources, the results of a CNDDB search, consistency with the adopted HCP, an impact analysis, and recommendations for mitigating potentially significant impacts.

V. CULTURAL RESOURCES

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?	X			
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?	X			
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	X			
d) Disturb any human remains, including those interred outside of formal cemeteries?	X			

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b), c), d): Based on known historical resources in the region, and the potential for undocumented underground cultural resources in the region, it has been determined that the potential impacts on cultural resources caused by the proposed project will require a detailed analysis in the environmental impact report. As such, the lead agency will examine each of the four environmental issues listed in the checklist above in the environmental impact report and will decide whether the proposed project has the potential to have a significant impact on cultural resources. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the environmental impact report.

The environmental impact report will include an overview of the prehistory and history of the area, the potential for surface and subsurface cultural resources to be found in the area, the types of cultural resources that may be expected to be found, a review of existing regulations and policies that protect cultural resources, an impact analysis, and mitigation that should be implemented with each improvement project.

VI. GEOLOGY AND SOILS

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation***	***Less Than Significant Impact***	***No Impact***
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:			X	
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?		X		
c) 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?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X

BACKGROUND DISCUSSION

Regional Geology: Manteca is located in northern San Joaquin Valley. The San Joaquin Valley is the southern section of the Great Central Valley of California; the Sacramento Valley is the northern section. The Great Central Valley is a sedimentary basin, with the Coast Range to the west and the Sierra Nevada to the east. Almost all of the sediments that fill the Great Central Valley eroded from the Sierra Nevada. The oldest of these sediments are full of fragments of volcanic rocks eroded from its early volcanoes. As erosion stripped the cover of volcanic rocks from the granites of the Sierra Nevada, their detritus of pale quartz and feldspar sand began to wash into the Great Central Valley.

Drainage into the San Joaquin Valley is mainly from the Sierra Nevada. The sediments on the valley floor were deposited within the past one-two million years, some within the past few thousand years.

Seismicity: The geographic distribution of earthquake activity is referred to as seismicity. Seismicity can result in hazards caused by fault displacement and rupture, ground shaking, liquefaction, lateral spreading, and landslides. Seismicity is generally measured based on the amount of energy released at a fault.

The entire state of California is considered seismically active and is susceptible to seismic ground shaking. However, the most highly active fault zones are along the coastal areas. Manteca in located in Seismic Zone 3 as defined by the Uniform Building Code. All structures built within Manteca must comply with the Uniform Building Code for this zone.

Fault Systems: Seismicity is directly related to the distribution of fault systems within a region. Depending on activity patterns, faults and fault-related geologic features may be classified as active, potentially active, or inactive.

Active faults affecting Manteca include the San Andreas Fault Zone, Hayward Fault, the Calaveras Fault, Greenville Fault Zone, Ortigalita Fault Zone, Green Valley-Concord Fault Zone, and the Antioch Fault. All these faults are located west of Manteca. The faults are capable of producing earthquakes of a maximum probable magnitude between 6.3 and 8.25 on the Richter scale. Several potentially active faults that may affect Manteca are located in the southwest area of the county, in or near the Tracy Planning Area. These include the San Joaquin Fault Zone, Midway-Black Butte Fault, the Tesla Fault, and Tracy-Stockton Fault. The Foothills Fault system, which includes Melones and Bear Mountain fault zones, is located to the east of Manteca.

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. No special study zones are located in Manteca.

Manteca is classified as a Seismic Zone 3, which is defined by the Uniform Building Code with special standards and regulations based on the potential impacts from seismic activity.

Seismic Hazards

Seismic Ground Shaking. The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters.

Fault Rupture. A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped

and it provides special development considerations within these zones. Manteca does not have any Alquist-Priolo Fault Zones.

Liquefaction. Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Manteca is considered susceptible to liquefaction given that there is a high water table. This is particularly problematic for the levees located atop soils prone to liquefaction.

Lateral Spreading. Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Sometimes, lateral spreading is directly associated with areas of liquefaction. Manteca is not considered to have a high susceptibility to lateral spreading, except in areas where liquefaction is high.

Landslides. Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The potential for landslides is considered remote in Manteca due to the lack of significant slopes.

Erosion: Erosion naturally occurs on the surface of the earth as surface materials (i.e. rock, soil, debris, etc.) is loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover.

RESPONSES TO CHECKLIST QUESTIONS

Responses a), c): There are no active faults within Manteca. There are no Alquist-Priolo Earthquake Fault Zones within San Joaquin County. There will always be a chance that a fault located anywhere in the state (or region) could rupture and cause seismic ground shaking. All individual transportation projects would be required to conduct seismic hazard evaluations as part of the design and engineering process. This evaluation would comply with all appropriate Uniform Building Code and California Building Standards Code provisions.

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. Manteca is considered susceptible to liquefaction given that there is a high water table. This is particularly problematic for the levees located atop soils prone to liquefaction.

Each improvement project would be required to have a specific geotechnical study prepared and incorporated into the improvement design. The geotechnical study would provide recommendations for mitigating any potential risk associated with site specific conditions. Implementation of project specific geotechnical engineering measures would reduce the safety risks of landslides, lateral spreading, or liquefaction to a reasonable level. With the implementation of the following adopted General Plan policies the proposed project would result in a ***less-than-significant*** impact from these issues.

Adopted General Plan Policies

The impact of a fault rupture or strong seismic ground shaking can be minimized by incorporating design features and operating requirements into projects that are implemented under the Circulation Element and the Public Facilities Implementation Program. Each project shall be consistent with the following General Plan Policies:

- *S-P-1 The City shall require preparation of geological reports and/or geological engineering reports for proposed new development located in areas of suspected significant geological hazards, including potential subsidence (collapsible surface soils) due to groundwater extraction.*
- *S-P-2 The City shall require new development to mitigate the potential impacts of geologic hazards through Building Plan review.*
- *S-P-3 The City shall require new development to mitigate the potential impacts of seismic induced settlement of uncompacted fill and liquefaction (water-saturated soil) due to the presence of a high water table.*
- *S-P-5 The City shall ensure that all public facilities, such as buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically induced ground failure.*
- *SG-I-1 All new development shall comply with the current Uniform Building Code (UBC) requirements for Seismic Zone 3, which stipulates building structural material and reinforcement.*
- *SG-I-2 All new development shall comply with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces caused earthquakes and wind.*

Responses b): Some of the transportation projects under the proposed project would involve some land clearing, mass grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of a substantial amount of nonrenewable topsoil and could adversely affect water quality in nearby surface waters.

The Regional Water Quality Control Board will require a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each transportation improvement that disturbs an area one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion. Each transportation improvement will

include detailed project specific drainage plans that control storm water runoff and erosion, both during and after construction. With the implementation of the following adopted General Plan policies and mitigation measure the proposed project would result in a ***less-than-significant*** impact on soil erosion.

Adopted General Plan Policies

The impact of soil erosion can be minimized by incorporating design features and operating requirements into projects that are implemented under the Circulation Element and the Public Facilities Implementation Program. Each project shall be consistent with the following General Plan Policies:

- *RC-I-16 All new development shall comply with the Uniform Building Code (UBC) requirements for specific site development and construction standards for specific soils types.*
- *RC-I-17 All new development shall comply with the Uniform Building Code (UBC), Chapter 70, regulating grading activities including drainage and erosion control.*
- *RC-I-18 Require site-specific land management and development practices for proposed development projects, including appropriate mitigation measures for avoiding or reducing erosion.*

Mitigation Measure # 1

In addition to applicable adopted General Plan policies, the impact of a soil erosion from projects that are implemented under the Circulation Element and the Public Facilities Implementation Program can be minimized by implementing the following measures:

- *Comply with NPDES General Construction Permit requirements. To reduce or eliminate construction-related water quality effects, the City or its agents will ensure that transportation improvement projects comply with the requirements of the NPDES General Construction Permit. The City will obtain coverage under the General Construction Permit before the onset of any construction activities, where the disturbed area is 1 acre or greater in size.*
- *A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the NPDES General Construction Permit requirements. The SWPPP will be implemented prior to the issuance of any grading permit before construction. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*
- *Compliance and coverage under the NPDES General Construction Permit will require controls of pollutant discharges that utilize BMPs and technology to reduce erosion and sediments to meet water quality standards. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the construction site. Measures may include, temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag*

dikes, and temporary revegetation or other ground cover) will be employed to control erosion from disturbed areas.

- *Final selection of BMPs will be subject to approval by the City. The City will verify that an NOI has been filed with the SWRCB, and a SWPPP has been developed before allowing construction to begin.*

Responses d): Expansive soils are those that shrink or swell with the change in moisture content. The volume of change is influenced by the quantity of moisture, by the kind and amount of clay in the soil, and by the original porosity of the soil. Shrinking and swelling can damage roads and other structures unless special engineering design is incorporated into the project plans.

Soil surveys of San Joaquin county indicate that soils with high shrink-swell potential (i.e., potentially expansive soils) occur throughout the county. Five of the nineteen soils types within Manteca have been identified as expansive soils. Two of these soils types have a high shrink-swell potential, and three have a moderate shrink-swell potential.

Transportation improvements under the proposed project would be located throughout Manteca, which is known to contain expansive soils. Many of these projects would occur within existing transportation corridors where expansive soils have already been removed. New transportation facilities, however, could encounter expansive soils. If located at or near the finished grade of the proposed improvements, expansive soils could cause substantial damage to improperly designed and constructed project facilities and result in injury to people using these facilities.

Each improvement project would be required to have a specific geotechnical study prepared and incorporated into the improvement design. The geotechnical study would identify the specific soil conditions that may contribute to soil expansion. Based on specific findings at each locality, the geotechnical engineer will recommend detailed engineering measures that are necessary to reduce the risks associated with soil expansion. Implementation of project specific geotechnical engineering measures would reduce the risks from soil expansion to a reasonable level. With the implementation of the following adopted General Plan policies the proposed project would result in a ***less-than-significant*** impact from expansive soils.

Adopted General Plan Policies

The impact of expansive soils can be minimized by incorporating design features and operating requirements into projects that are implemented under the Circulation Element and the Public Facilities Implementation Program. Each project shall be consistent with the following General Plan Policies:

- *S-P-1 The City shall require preparation of geological reports and/or geological engineering reports for proposed new development located in areas of suspected significant geological hazards, including potential subsidence (collapsible surface soils) due to groundwater extraction.*

- *S-P-2 The City shall require new development to mitigate the potential impacts of geologic hazards through Building Plan review.*
- *RC-I-16 Comply with the Uniform Building Code (UBC) requirements for specific site development and construction standards for specific soil types.*

Responses e): The proposed project would not result in the generation of sewer water or the expansion of septic infrastructure. Implementation of the proposed project would have ***no impact*** on this environmental issue.

XII. GREENHOUSE GAS EMISSIONS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	X			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	X			

RESPONSES TO CHECKLIST QUESTIONS

Response a), b) The US EPA has reported that the transportation sector directly accounted for upwards of 30 percent of the total GHG emissions in the US. They have also reported that transportation is the fastest-growing source of GHGs in the US. Over the past century GHG concentrations in the earth's atmosphere have been gradually increasing, and most scientists postulate that increases in the earth's average temperature are the result of increases in concentrations of GHG.

The California legislature passed the California Global Warming Solutions Act in 2006 through Assembly Bill 32. This new law addresses the need to review and consider regional strategies to reduce green house gas emissions in California. Furthermore, the Attorney General has provided legal insight and recommendations to the public through opinion papers. The City of Manteca is the agency responsible for transportation planning within the city limits and will utilize the both the proposed project and CEQA process to educate the public, develop city-wide strategies to address the green house gas emissions issues that will ultimately protect the environment, promote energy conservation, and improve the quality of life in Manteca.

It has been determined that the potential impacts from green house gas emissions caused by the proposed project will require a detailed analysis in the environmental impact report. As such, the lead agency will examine this issue including a discussion of impacts, feasible alternatives, and mitigation measures that could reasonably reduce the City's green house gas emissions. Most notably, the environmental impact report will include analysis of a project alternative that is intended to reduce GHG emissions through the use of alternative modes of transportation, including non-motorized transportation. The analysis will review the proposed project and develop strategies and measures that can be incorporated to provide for green house gas emission reductions. At this point a definitive impact conclusion for this environmental topic will not be made, rather it is considered ***potentially significant*** until a detailed analysis is prepared in the environmental impact report.

VIII. HAZARDS AND HAZARDOUS MATERIALS -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) 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?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?		X		
d) 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?			X	
e) 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?				X
f) 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?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?		X		
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

BACKGROUND DISCUSSION

Hazardous Materials: A "hazardous material" is a substance or combination of substances that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may pose a potential hazard to human health or the environment when handled improperly.

Hazardous Materials Storage, Transport, and Disposal

Union Pacific Railroad. The Union Pacific Railroad tracks are located at the west side of the Study Area. Cargo is transferred between trucks and trains at a transfer station north of Lathrop

Road. Potential issues related to the railroad running through the City include risks to human health and safety associated with a hazardous materials-related emergency.

The Union Pacific Railroad has primary responsibility for hazardous materials spills on its premises. Union Pacific's emergency response plan contains operations guidelines, training requirements, and response procedures to be implemented in the event of a derailment, leak, or off-railroad incident involving hazardous materials.

Roadways. Hazardous materials are routinely transported over state and federal highways, as well as local roads. Trucks travel to and from Interstate 5 (outside the Study Area) to the railroad transfer station north of Lathrop Road.

Hazardous materials spills on state and federal highways are the responsibility of the California Department of Transportation (Caltrans) and the California Highway Patrol (CHP). These agencies provide on-scene management of the spill site and coordinate with the California Environmental Health Department, California Office of Emergency Services, and the Manteca Fire Department.

Solid Waste Management. The Integrated Waste Management Board (CIWMB) coordinates the database records of waste management facilities in Manteca with San Joaquin County Public Health Services, Environmental Health Division. The IWMB lists eight waste management facilities in Manteca. Following is a summary of the current status of those listed facilities:

1. Manteca County Dump (I.D. SWIS #39-CR-0025): Solid waste disposal site. Pre-regulations site closed 12/31/63.
2. Manteca City Dump (I.D. SWIS #39-CR-0024): Solid waste disposal site. Pre-regulations site closed 12/31/63.
3. Spic and Span Private Garbage Dump (I.D. SWIS #39-CR-0032): Solid waste disposal site. Pre-regulations site closed (no date given).
4. Forward Resource Recovery Facility (I.D. SWIS #39-AA-0020)
    - Unit 01 Solid waste transfer/processing facility. Permitted site now inactive.
    - Unit 02 Solid waste materials recovery facility (MRF). Permitted site now inactive.
    - Unit 03 Solid waste composting facility (Green Waste). Permitted site now active.
    - Unit 04 Solid waste composting facility (Mixed). Permitted site planned.
    - Unit 05 Solid waste operation (Non-Hazardous Ash Disposal/Monofill). Permitted site now inactive.
5. Austin Road/Forward Landfill (I.D. SWIS #39-AA-0001): Solid waste landfill. Permitted site now active.
6. Lovelace Transfer Station (I.D. SWIS #39-AA-0008): Solid waste large volume transfer/processing facility. Permitted site now active.
7. Forward, Inc. (I.D. SWIS #39-AA-0015)
    - Unit 01 Solid waste landfill. Permitted site now active.
    - Unit 02 Solid waste treatment (processing) facility. Permitted site now active.
    - Unit 03 Solid waste ACW disposal operation. Permitted site now active.

8. Delicato Vineyards (I.D. SWIS #39-AA-0037): Solid waste composting facility (Ag). Notification site now active.

San Joaquin County Public Health Services (Environmental Health Division), the State Regional Water Quality Control Board (RWQCB), and the California Department of Toxic Substances Control (DTSC) are now in the process of developing protocols for urban development in the vicinity of these waste management facilities. Currently, the Health and Safety Code requires a DTSC Preliminary Environmental Assessment (PEA) for development within 1,000 feet of a solid waste facility.

Hazardous Minerals: Asbestos is a term applied to several types of naturally occurring fibrous materials found in rock formations throughout California. Asbestos is commonly found in ultramafic rock, including serpentine, which is abundant in the foothills of the Sierra Nevada.

Serpentine rock, which often contains asbestos, has also been used extensively as base material in the construction of new roads. Exposure and disturbance of rock and soil that contains asbestos can result in the release of fibers to the air and consequent exposure to the public. All types of asbestos are now considered hazardous and pose public health risks. The use of asbestos-containing materials is regulated by the California Air Resources Board.

The California Department of Conservation has developed a map of "Areas More Likely to Contain Naturally Occurring Asbestos" based on the location of Ultramafic Rocks in California. The map indicates that asbestos is not present in San Joaquin County.

Fire Hazards: Wild fires are a major hazard in the State of California. Wild fires burn natural vegetation on developed and undeveloped lands and include timber, brush, woodland, and grass fires. While low intensity wild fires have a role in the ecosystem, wild fires put human health and safety, structures (e.g., homes, schools, businesses, etc.), air quality, recreation areas, water quality, wildlife habitat and ecosystem health, and forest resources at risk.

Manteca is not considered to have a high fire-hazard due to the lack of steep slopes and the managed agricultural fields that surround the community.

Regulations and Programs

Hazardous Materials Transportation Act of 1975. The Hazardous Materials Transportation Act, as amended, is the basic statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

RESPONSES TO CHECKLIST QUESTIONS

Responses a), d): As of February 25, 2010, there were two locations in Manteca on the Cortese list. Table 1 lists all Hazardous Waste and Substances Sites" (Cortese Sites) located in Manteca.

Table 1 – Cortese List

SITE/FACILITY NAME	*SITE TYPE*	*STATUS*	*ADDRESS*	*CITY*
Gordon Research Company	State Response	Active	1085 South Union Road	Manteca
Satellite Housing	Voluntary Cleanup	Inactive - Action Required	280 and 282 N. Airport	Manteca

SOURCE: DEPARTMENT OF TOXIC SUBSTANCES CONTROL 2010

Of the two locations, one site is listed as a State Response, one site is a Voluntary Cleanup Site, and none are listed Federal Superfund Sites.

The proposed project provides for improvements to transportation systems that are currently used for transport of hazardous materials. All transportation of hazardous materials is regulated by federal and state laws and local ordinances. The proposed transportation improvements under the proposed project would not cause or require routine transport, use, or disposal of hazardous materials. Nor are any of the transportation improvements located on a site which is included on a list of hazardous materials site that would create a significant hazard to the public or the environment. Therefore, implementation of the proposed project would result in a ***less-than-significant*** impact.

Response b), c): There are numerous public and private schools located within Manteca. The transportation system facilitates access to these schools, therefore some of the individual transportation improvements under the proposed project will be located within ¼ mile of a school. Hazardous materials used in construction of a project in the vicinity of a school could be accidentally released. In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with federal and state regulations to mitigate hazards to people and the environment.

Implementation of the improvements under the proposed project would require construction activities, including grading, which has the potential to release hazardous materials into the air. This is a potentially significant impact to construction workers and citizens in the region. However, each improvement project will require a site assessment to be performed. The study will identify the potential for hazardous materials within the soils. If hazardous materials are deemed present, a Mitigation Plan would be prepared to ensure that adequate mitigation measures are implemented prior to and during project construction. With the implementation of the following adopted General Plan policies and mitigation measure, the proposed project would result in a ***less-than-significant*** impact from this issue.

Adopted General Plan Policies

The impact from emitting or handling hazardous materials near schools can be minimized by proper handling of such materials. Each project implemented under the Circulation Element and the Public Facilities Implementation Program shall be consistent with the following General Plan Policies:

- *SP-P-16 City approvals of all new development shall consider the potential for the production, use, storage, and transport of hazardous materials and provide for reasonable controls on such hazardous materials.*

Mitigation Measure # 2

In addition to previous adopted General Plan policies, the impact from release of hazardous materials from projects that are implemented under the Circulation Element and the Public Facilities Implementation Program can be minimized by implementing the following measures:

- *Implement site-specific analysis for hazardous materials, remediation, and clean-up. The City shall investigate potential for improvement projects to be located at or near areas that are reasonably expected to contain hazardous materials, DTSC sites, areas containing ADL, or at any structure that may contain asbestos. If a project site is found to be contaminated, clean up measures in accordance with the appropriate regulatory agency procedures will be implemented. Additionally, appropriate remediation measures will be employed to ensure worker safety during construction.*

Response e), f): Manteca does not have any airports within the city limits. The closest airport is located in Stockton. The proposed project would have ***no adverse impact*** on this environmental issue.

Response g): Implementation of road construction projects and improvements to transportation-associated structures may result in temporary road closures, traffic detours, or congestion, which may hinder the emergency vehicle access or evacuation in the event of an emergency. The following mitigation measure requires projects to prepare a Transportation Management Plan (TMP) if such a plan is deemed necessary by the City. Implementation of the following mitigation measure would ensure that the potential impact is reduced to a ***less-than-significant*** level.

Mitigation Measure # 3

Prepare and implement a transportation management plan if it is determined that a project could hinder emergency access. The City shall assess the necessity of a Transportation Management Plan (TMP) on a project-by-project basis. If the project will result in road closures, traffic detours, or congestion on main thoroughfares or roads that provide primary access to populated areas, a TMP will be prepared prior to the initiation of project construction. The TMP will be provided to all emergency service providers in the metropolitan area and will notify them of anticipated dates and hours of construction, as well as any anticipated limits on access. Notice will be provided at least 5 days before construction begins.

Response h): The individual improvements constructed under the proposed project would not result in the construction of structures that would be occupied by humans; therefore, it would not expose people or structures to a significant risk involving wild fires. The proposed project provides for improvements to transportation systems throughout Manteca, which is expected to improve the ability for fire protection services to access areas in the event of a wildfire. This is considered a beneficial impact. Therefore, the proposed project would have ***no adverse impact*** on this environmental issue.

IX. HYDROLOGY AND WATER QUALITY

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Violate any water quality standards or waste discharge requirements?		X		
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?		X		
c) 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?		X		
d) 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?		X		
e) 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?		X		
f) Otherwise substantially degrade water quality?		X		
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			X	
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			X	
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			X	
j) Inundation by seiche, tsunami, or mudflow?			X	

BACKGROUND DISCUSSION

Local Drainage: No major drainages flow within the Study Area. Manteca is located on the relatively higher ground between Lone Tree Creek to the north, the Stanislaus River to the south, and the San Joaquin River to the southwest and west.

Although no major watercourse lies within the Study Area, the San Joaquin River flows approximately four miles to the west of the Study Area boundary. Walthall Slough is a tributary to the river. The Slough's northern boundary is contiguous with the southwestern boundary of the Study Area.

Meteorological events such as intense precipitation may adversely affect the natural drainage of the region. In addition, seasonal snowmelt from the Sierra Nevada mountain range to the east contributes to the volume of water in the local hydrologic system. Urbanization contributes to an increased volume in the hydrologic system by increasing impervious surfaces, which do not allow for infiltration of water into the soil resulting in increased velocities and volumes of runoff.

The South San Joaquin Irrigation District (SSJID) operates drainage facilities that pass through Manteca and carry a portion of the City's drainage. Because of topography, drainage facilities generally follow an east-to-west alignment. In some instances where subdivisions have developed near irrigation laterals, drainage pumping stations have been installed in lieu of long trunk lines to drains. Water from the SSJID, along with drainage pumped by the City, flows west into French Camp Canal, which eventually flows into French Camp Slough. Storm drainage is gravity-discharged from the Study Area north to French Camp Canal. Existing road and railroad crossings of the Canal are, however, undersized and will require replacement to accommodate peak design flows from the Study Area. The San Joaquin Delta is the ultimate destination of drainage carried by French Camp Slough.

The City's stormwater drainage system is further discussed in Section XVII Utilities and Service Systems.

100-Year Flood Areas: The Federal Emergency Management Agency (FEMA) categorizes flood prone areas based on the frequency of occurrence. The City of Manteca has not been mapped. The primary flood hazard in Manteca is the San Joaquin River (four miles outside the Study Area) and its tributaries, notably Walthall Slough (contiguous with the southwestern Study Area boundary). A levee running from Williamson Road east to Airport Way provides flood protection for the land north and east of Walthall Slough. This levee is under the jurisdiction of Reclamation District No. 17.

Groundwater Quality and Recharge: The City's wells produce groundwater that meet or exceed the State Department of Health Services recommended drinking water quality standards. Groundwater levels are relatively high throughout the Study Area, which are buoyed by the proximity of the Delta channels to the west. Groundwater recharge comes from irrigation of agricultural lands surrounding the City and infiltration from streams flowing west out of the Sierra Nevada. This recharge occurs in areas with permeable materials which allow the infiltration of water along streams, alluvial fans and foothill areas.

Surface Water Quality: The quantity, quality, and availability of water are vital to both human activities, and vegetation and wildlife in the Study Area. Construction grading can impact water quality because it exposes bare soil. Rainfall on bare soil can cause erosion and sedimentation

into nearby water bodies. Unstabilized soil can be washed or wind-blown into nearby surface water. Construction activities can also result in petroleum products and other pollutants from construction equipment, entering nearby drainages.

Stormwater Runoff: Human activities have an effect on water quality when chemicals, salting of roads (to melt snow) heavy metals, hydrocarbons (auto emissions and car crank case oil), and other materials are transported with stormwater into drainage systems. Construction activities can increase sediment runoff, including concrete waste and other pollutants.

Dam Failure Inundation: There are fifteen dams located in and around San Joaquin County, all of which have the potential to inundate portions of the county if they were to fail. Despite the number of dams near San Joaquin County, the risk of dam failure inundating portions of the County is considered low due to the fact that they are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Regulations

Federal Clean Water Act of 1972. The federal Clean Water Act establishes the basic structure for regulating discharges of pollutants into waters of the United States and setting water quality standards for all contaminants in surface waters. The Clean Water Act defines water quality standards as "provisions of state or federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act."

National Pollutant Discharge Elimination System (NPDES). In 1972, the Clean Water Act was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. In California, the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCB) are authorized to implement this program. The NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, and runoff from construction sites disturbing more than one acre of soil.

Porter-Cologne Water Quality Control Act. Porter-Cologne regulates the discharge of waste into waters of the state, which are defined as "any water, surface or underground, including saline waters, within the boundaries of the state." Permits issued to control pollution (i.e. waste-discharge requirements and NPDES permits) must implement Basin Plan requirements (i.e. water quality standards), taking into consideration beneficial uses to be protected. Regional

Boards regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Any person proposing to discharge waste within any region must file a report of waste discharge with the appropriate regional board.

Delta Protection Commission. The Delta Protection Act of 1992 established the California Delta Protection Commission, which is comprised of 19 members of diverse composition. The Commission is to develop a long-term resource management plan for the Delta Primary Zone. As stated in the Act, the goals of this 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 Act acknowledges the significance and irreplaceable natural resources of the Delta. The agricultural lands within the Delta are of value as open space and habitat for waterfowl using the Pacific Flyway. Because of this, the regional plan is to protect agricultural land within the Primary Zone from the intrusion of nonagricultural uses. All local general plans for areas within the Primary Zone are required to be consistent with the regional plan. The Secondary Zone consists of areas within the statutory Delta (as defined in Section 12220 of the California Water Code), but not part of the Primary Zone. Local general plans for land use in the Secondary Zone are not required to conform to a regional plan. The Circulation Element improvement projects must comply with the Delta Protection Act.

San Joaquin County Dam Failure Plan. The San Joaquin County Dam Failure Plan designates evacuation plans, provides emergency information, and identifies the direction of floodwaters for potential failure of 16 dams which could cause serious flooding should they partially or completely fail. The Plan is a compilation of the following information: fact sheets on dams, warning information, traffic control, medical/health information, threatened key facilities, threatened unique institutions, emergency action plan, San Joaquin County inundation map, evacuation routes, updates to the County Multi Hazard Emergency Plan, ICS Incident Action Plan; and County Office of Emergency Services Telephone Directory. This information is provided for the predicted area of inundation specific to each of the 16 dams. Proposed Circulation Element projects must adhere to dam failure plans and protocols and not interfere or obstruct evacuation routes, emergency routes, or other aspects related to the plan.

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b): Implementation of the individual improvements under the proposed project would not violate any waste discharge requirements, substantially deplete groundwater supplies, or interfere with groundwater recharge such that there would be a net deficit in an aquifer volume. The construction phase of the individual projects under the proposed project could cause storm water runoff that could carry topsoil into downstream waterways and ultimately waters of the U.S.

As required by the Clean Water Act, each specific improvement project will require an approved Storm Water Pollution Prevention Plan (SWPPP) that includes best management practices for grading, and preservation of topsoil. A SWPPP is not required if the project will disturb less

than one acre. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

The RWQCB is an agency responsible for reviewing the SWPPP with the Notice of Intent, prior to issuance of a General Permit for the discharge of storm water during construction activities. The RWQCB accepts General Permit applications (with the SWPPP and Notice of Intent) after specific projects have been approved by the lead agency. The lead agency for each specific project that is larger than one acre is required to obtain a General Permit for discharge of storm water during construction activities prior to commencing construction (per the Clean Water Act). Consistency with adopted General Plan policies that are designed to protect water quality, as well as adherence to the following mitigation measures would reduce the potential impacts on water quality to a ***less-than-significant*** level.

Adopted General Plan Policies

The impact on water quality from each project implemented under the Circulation Element and the Public Facilities Implementation Program by adhering to the following General Plan Policies:

- *RC-I-1 Continue to implement standards for water conserving landscape practices, including the use of drought tolerant plants, for both public and private projects.*
- *RC-I-22 Maintain a buffer area between waterways and urban development to protect water quality and riparian areas.*
- *RC-I-23 Utilize cost-effective urban runoff controls, including Best Management Practices (BMPs), to limit urban pollutants from entering the water courses.*
- *RC-I-24 Comply with the Regional Water Control Board's regulations and standards to maintain and improve groundwater and surface water quality in Manteca*
- *RC-P-11 Minimize pollution of waterways and other surface water bodies from urban runoff.*
- *RC-P-12 Protect the quality of Manteca's groundwater.*

Mitigation Measure # 4

In addition to previous mitigation measures, the impact on water quality from each project implemented under the Circulation Element and the Public Facilities Implementation Program can be minimized by implementing the following measures:

- *Comply with NPDES General Construction Permit requirements. Develop a SWPPP in accordance with the NPDES General Construction Permit requirements. Keep the SWPPP on site during construction activity and available upon request by the RWQCB. Compliance and coverage under the NPDES General Construction Permit will require controls of pollutant discharges that utilize BMPs and technology to reduce erosion and sediments to meet water quality standards.*

- *Develop and implement a spill prevention and control program to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during all construction activities.*
- *Obtain an NPDES permit and Waste Discharge Requirement from the Central Valley RWQCB before discharging any dewatered effluent to surface water.*
- *Implement measures to maintain water quality after construction. General site design control measures incorporated into the project design can include: conserving natural areas; protecting slopes and channels; minimizing impervious areas; storm drain identification, and appropriate messaging and signing; and minimizing effective imperviousness through the use of turf buffers and/or grass-lined channels, if feasible.*

Responses c) - f): Implementation of the individual improvements under the proposed project has the potential to alter the existing drainage pattern in specific areas, including the alteration of a course of a stream or river, which could result in erosion, siltation, or flooding on- or off-site. The improvement projects are not funded or approved at this point and no project specific plans are available. Each improvement project would require a specific level of design review to ensure that the engineering does not result in substantial alterations in the natural drainage systems. The following adopted General Plan policies and mitigation measure would ensure that a potential impact is reduced to a reasonable level.

The U.S. Army Corps of Engineers (USACE) is responsible for issuing permits for the placement of fill, or discharge of material into, waters of the United States. These permits are required under Sections 401 and 404 of the Clean Water Act. Subsequent environmental review, design review, and the Clean Water Act permitting requirements would ensure that the impacts are reduced to a reasonable level. Adherence to existing regulations as well as the following mitigation measures would ensure that implementation of the proposed project would result in a ***less-than-significant*** impact.

Adopted General Plan Policies

The impact on drainage from each project implemented under the Circulation Element and the Public Facilities Implementation Program by adhering to the following General Plan Policy:

- *S-I-6 Discourage large continuous paved areas unless provided with engineered drainage facilities.*

Mitigation Measure # 5

In addition to previous mitigation measures, the impact on drainage from each project implemented under the Circulation Element and the Public Facilities Implementation Program can be minimized by implementing the following measures:

- *Conduct project-level drainage studies. This study should include: 1)runoff calculations (pre-development and post-development); 2) an assessment of existing drainage facilities and necessary upgrades/repairs; and 3) a maintenance program.*
- *Avoid project designs that require continual de-watering activities for the life of the projects.*

Responses g) - j): Implementation of the individual improvements under the proposed project would not place housing within a 100-year flood hazard area, place structures which would impede or redirect flood flows within a 100-year flood hazard area, nor would it expose people or structures to a significant risk of loss, injury or death involving flooding (including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow). Therefore, implementation of the proposed project would have a ***less-than-significant*** impact on these environmental issues.

X. LAND USE AND PLANNING

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?	X			
b) 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?	X			
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	X			

RESPONSES TO CHECKLIST QUESTIONS

Response a), b): Based on the connection between transportation planning and land use planning, it has been determined that the potential impacts caused by the proposed project will require a detailed analysis in the environmental impact report. As such, the lead agency will examine each of these environmental issues in the environmental impact report and will decide whether the proposed project has the potential to have a significant impact. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the environmental impact report.

Response c): The San Joaquin Multi-Species Conservation Plan (SJMSCP) covers all of San Joaquin county. The EIR will include a review of the proposed project for consistency with the SJMSCP. At this point a definitive impact conclusion for this environmental topic will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the environmental impact report.

XI. MINERAL RESOURCES

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

BACKGROUND DISCUSSION

Mineral Resources: Mineral resources within San Joaquin County consist primarily of sand and gravel aggregate, with limited mining of peat, gold, and silver. In the past, placer gold deposits have been found in many San Joaquin county rivers and creeks. These deposits were dredged for gold by independent operators in the years following the 1849 gold rush. Significant gold deposits are believed to be fully extracted, and today gold is found only as a secondary product of sand and gravel processing. The mining extent of silver within the county is unknown.

Mineral Resource Classification: Pursuant to the Surface Mining and Reclamation Act of 1975 (SMARA), the California State Mining and Geology Board oversees the Mineral Resource Zone (MRZ) classification system. The MRZ system characterizes both the location and known/presumed economic value of underlying mineral resources. The mineral resource classification system uses four main MRZs based on the degree of available geologic information, the likelihood of significant mineral resource occurrence, and the known or inferred quantity of significant mineral resources. The four classifications are described in Table 2 below.

Table 2 – Mineral Resource Classification System

Classification	*Descriptions*
MRZ-1	Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
MRZ-2	Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
MRZ-3	Areas containing mineral deposits, the significance of which cannot be evaluated.
MRZ-4	Areas where available information is inadequate for assignment to any other MRZ classification.

SOURCE: DEPARTMENT OF MINING AND GEOLOGY 2010

The California Division of Mines and Geology has identified one location within the General Plan Study Area as a Zone MRZ-2, Significant Mineral Resource Zone. The designation in this location near the San Joaquin River refers to sand deposits that are considered to be of regional significance. Brown Sand and Gravel, Incorporated, has produced processed sand at Oakwood

Lake Pit, located within the Study Area. These mining operations have ceased. There are no other MRZ designations within the city limits.

AB 3098 List: The Office of Mine Reclamation periodically publishes a list of mines regulated under SMARA that is generally referred to as the AB 3098 List. The Public Contract Code precludes mining operations that are not on the AB 3098 List from selling sand, gravel, aggregates or other mined materials to state or local agencies. As of January 12, 2010, there are 22 mines identified on the AB 3098 list in San Joaquin County; however, none are located within the city limits of Manteca.

RESPONSES TO CHECKLIST QUESTIONS

Response a-b): There are no mineral resource sites in Manteca according to the AB 3098 list. The proposed project will not result in the loss of availability of any mineral resources. Implementation of the proposed project will therefore have ***no adverse impact*** with regards to this topic and no mitigation is required.

XII. NOISE

Would the project result in:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) 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?	X			
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	X			
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	X			
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	X			
e) 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?	X			
f) 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?	X			

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b), c), d), e), f): Based on existing and projected noise levels along roadways and associated with construction projects, it has been determined that the potential impacts from noise caused by the proposed project will require a detailed analysis in the environmental impact report. As such, the lead agency will examine each of the six environmental issues listed in the checklist above in the environmental impact report and will decide whether the proposed project has the potential to have a significant impact from noise. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the environmental impact report.

XIII. POPULATION AND HOUSING

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) 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)?	X			
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?			X	
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?			X	

RESPONSES TO CHECKLIST QUESTIONS

Response a): Growth inducement is statutorily required to be analyzed in for all projects under CEQA. The environmental impact report will provide an analysis of the potential growth inducing impacts caused by the proposed project. At this point the impact conclusion for this environmental topic is ***potentially significant*** until a detailed analysis is prepared in the environmental impact report.

Response b), c): The individual improvements under the proposed project will not result in the displacement of residents or residences. Implementation of the proposed project will therefore have ***less than significant*** impact on this environmental topic and no mitigation is required.

XIV. PUBLIC SERVICES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				X
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X

BACKGROUND DISCUSSION

Fire Protection: Fire protection for the City of Manteca is provided by the Manteca Fire Department (MFD). The Insurance Services Office (ISO) has rated Manteca as a Class 3 on a scale of 9. Manteca is rated in the top 15% of fire departments in San Joaquin County. The most common ISO rating in San Joaquin County is 5 in developed areas where water for fire suppression is provided and 8 in undeveloped areas.

MFD's main functions are to provide fire prevention, organized and efficient response to fires, first response to hazardous materials incidents, basic level "first responder" medical response, and public fire education. MFD responds to emergencies and calls for service from three fire stations located within the City limits. It is also the responsibility of the MFD to provide emergency medical services to customers. Medically related responses account for nearly 60 percent of all requests for service. To maintain a standard level of care, all fire personnel are trained and certified Emergency Medical Technician-1 (EMT) and EMT-D.

The existing goal is to maintain as average 5-minute response time for all emergencies, and engine and ladder companies should be staffed with a minimum of 3 personnel. MFD has entered into a cooperative agreement with the Stockton Fire Department for the consolidation of emergency dispatching services.

Police Protection: The Manteca Police Department is a full service municipal law enforcement agency with specialized assignments and recognized specialties. In addition, the Department has an active and valuable volunteer staff consisting of Police Explorers, Reserve Officers, and senior citizens who render invaluable assistance to the Department and the community. The Department provides aggressive crime prevention through neighborhood watch, proactive

enforcement, community policing, and citizen involvement. The Department currently has 58 sworn officer positions. The Department participates in mutual aid agreements with other local law enforcement. The City meets a standard of one sworn officer per 1000 residents.

Schools: The Manteca Unified School District (MUSD) operates twenty-eight (28) schools ranging from Kindergarten through High School; education facilities include twenty (20) elementary schools, three high schools, one adult education school, and two continuation high schools. Schools follow both a traditional and year-round calendar. MUSD includes the communities of Manteca, Lathrop, French Camp, and Weston Ranch.

Colleges: There are no post-secondary campuses located in Manteca. However, post-secondary educational resources are available through distance learning and regional education. San Joaquin Delta College (Stockton) offers classes at Delta College Farm Laboratory in Manteca and the Manteca Adult School. Courses in Manteca are taught by Delta college instructors or are provided by "distance learning" utilizing the internet, television, and video. California State University, Stanislaus also offers educational opportunities in Manteca at Manteca High School. Community colleges are located in Stockton, Merced and Modesto. There are a variety of private and specialized college opportunities nearby. California State University, Sacramento, and University of Phoenix, Sacramento, offer a university experience to Manteca residents.

Parks: The City of Manteca currently provides 28 neighborhood and five community parks distributed throughout the City. Many parks are co-located with a small detention basin the serves the surrounding neighborhood. Consequently, the parks are typically located within easy walking distance of the residents. The City is currently planning for a large active sports complex focusing on baseball and softball fields in conjunction with a private company, Big League Dreams. The City has a standard of five acres of parkland per 1000 residents.

Other Public Facilities: The Manteca Branch Library was constructed in 1961, and is a 14,396 square-foot facility. The Library is the information and learning center for the City of Manteca, and has a service area that includes outlying unincorporated county areas. Part of the Stockton-San Joaquin County Public Library, the Manteca Branch is one of the libraries serving the southern end of San Joaquin County. The branch is located in the heart of downtown Manteca. It has served the residents of Manteca for over 40 years, providing meeting room space, among other services. The Library is a current depository for local government documents and ordinances and the community room has long been the unofficial center of the City of Manteca.

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b), c), d), e): The improvements implemented under the proposed project include a variety of transportation improvements that will not result in an increased need for any public services or facilities. The transportation improvements are expected to improve travel conditions throughout the city, which would improve travel conditions to existing public facilities such as recreation, schools, and libraries, and is expected to improve the travel conditions for public services such as police and fire protection during responses. These are considered beneficial impacts. Implementation of the proposed project will therefore have ***no adverse impact*** on public services or facilities and no mitigation is required.

XV. RECREATION

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b): The individual improvements under the proposed project include a variety of transportation improvements that will not result in an increased need for any recreational facilities. The transportation improvements are expected to improve travel conditions throughout the county, which would improve travel conditions to existing recreation facilities. These improvements will provide the infrastructure necessary for safe travel conditions to such recreational facilities, which is considered a beneficial impact to the public health and safety. The improved roadway infrastructure will not cause an increased demand, or require the need for expansion of the existing recreational facilities; rather, it will facilitate safe travel. Furthermore, the improved roadway infrastructure will not result in a need for new recreational facilities. Implementation of the proposed project will therefore have a ***no adverse impact*** on recreation.

XVI. TRANSPORTATION/TRAFFIC

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) 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)?	X			
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	X			
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	X			
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	X			
e) Result in inadequate emergency access?	X			
f) Result in inadequate parking capacity?	X			
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	X			

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b), c), d), e), f), g): Based on existing and projected traffic volume levels along roadways, it has been determined that the potential traffic impacts caused by the proposed project will require a detailed analysis in the environmental impact report. As such, the lead agency will examine each of the seven environmental issues listed in the checklist above in the environmental impact report and will decide whether the proposed project has the potential to have a significant impact from traffic. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the environmental impact report.

XVII. UTILITIES AND SERVICE SYSTEMS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		X		
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X

BACKGROUND DISCUSSION

Wastewater Treatment and Collection

Treatment. The City of Manteca Wastewater Quality Control Facility (WQCF) is a 6.95 million gallons per day (mgd) rated, combined biofilter-activated sludge plant with subsequent phased improvements that will increase the capacity of the treatment facility to 10 mgd. The WQCF serves commercial and residential properties in Manteca (5.93 mgd) and to the City of Lathrop (1.02 mgd), and one frozen food packager (Eckert Cold Storage). The existing Wastewater Quality Control Facility can ultimately be expanded to treat 25 mgd. Secondary effluent is land applied during the spring and summer (flood irrigation for alfalfa production) and discharged to the San Joaquin River during the winter (October- March). Dried sludge is subsequently spread on agricultural lands adjacent to the plant site.

Collection. Generally, the land within the existing developed City has trunk sewer constructed to fully serve the expected development. A relatively small sewer service is presently partially

served by an interim lift station and will require a trunk sewer to serve the entire shed. Undeveloped areas will require trunk sewers in order to develop.

Water Supply

Groundwater Supply. Groundwater is presently the only source of domestic water for the City. The City operates a system of wells interconnected with a transmission/distribution pipe system. Well depths range from 155 feet to 400 feet, and individual capacities of the operating wells range from 380 gpm to 2,300 gpm. The City has abandoned six wells over time due to age and water quality problems, but has added new wells to maintain the supply. The groundwater aquifers underlying the City extend to depths in excess of 600 feet and have been identified to include four formations. In general, the underlying strata slope from the hills east of the City downward to the west. The groundwater basin safe yield was estimated in the 1985 Groundwater Study at 1.0 acre-foot per acre per year.

Area groundwater levels are buoyed by the proximity of the Delta channels to the west. Groundwater recharge comes from irrigation of agricultural lands surrounding the City and infiltration from streams flowing west out of the Sierra Nevada. This recharge occurs in areas with permeable materials which allow the infiltration of water along streams, alluvial fans and foothill areas. The Study Area includes a variety of soil types that provide percolation to groundwater. However, with no streams other than Walthall Slough, or alluvial fan conditions, there are no notable groundwater recharge areas identified within the Study Area.

Surface Water Supply. The City provides water service for the existing community. Approximately 15,000 connection customers are served, with an average daily usage of 11 million gallons. The City of Manteca, along with the Cities of Escalon, Tracy, and Lathrop, are participating in the South County Surface Water Supply Project (SCSWSP). This project was developed to address future water needs through construction of a water treatment plant, transmission mains, surface storage reservoirs, and booster pump stations. The surface water and groundwater will be utilized in a conjunctive use program in which the surface water becomes the primary source of domestic water for the City. Groundwater will then be allowed to naturally recharge and replenish the groundwater basin. Wells will be operated only for ongoing maintenance and to augment the surface water supply during peak demand periods; though some new supplemental wells will be needed in developing areas. Manteca began receiving deliveries of water from SCSWSP in August 2005.

The City has adopted its 2005 Urban Water Management Plan, which includes an assessment of water supply and demand through 2030. With improvements under construction and planned in the future, including increased access to surface water, the City has adequate water supplies to serve all planned development under the General Plan without contributing to the overdraft of the regional aquifer.

Conjunctive Use. The South County Surface Water Supply Project will help preserve groundwater quality and promote regional water management planning, keeping water historically used in San Joaquin County within the County. The surface water and ground water

will be applied in a conjunctive use program in which the surface water becomes the primary supply. Groundwater would then be allowed to naturally recharge and replenish the groundwater basin. Groundwater would be used as a supplemental supply. Wells would be operated only for on-going maintenance and to supplement the surface water supply during peak demand periods.

Storm Drainage

The South San Joaquin Irrigation District (SSJID) operates drainage facilities that pass through Manteca and carry a portion of the City's drainage. Because of topography, drainage facilities generally follow along an east-to-west alignment. In some instances where subdivisions have developed near irrigation laterals, drainage pumping stations have been installed in lieu of long trunk lines to drains. Water from the SSJID, along with drainage pumped by the City, flows west into French Camp Canal, which eventually flows into French Camp Slough. Storm drainage is gravity-discharged from the Study Area north to French Camp Canal. Existing road and railroad crossings of the Canal are, however, undersized and will require replacement to accommodate peak design flows from the Study Area. The San Joaquin Delta is the ultimate destination of drainage carried by French Camp Slough.

The concept for handling drainage is to collect, store, and meter the water into the terminal drainage conduits and channels. Individual development plans in the City are required to provide on-site detention designed to reduce the peak flow. Typically, 7 to 10 percent of the land area is required for on-site detention. The detention basins in residential subdivisions are often developed as joint use park facilities.

The capacity of the French Camp Outlet Channel and its tributary drains is the limiting factor that sets the metered flow rates. Location of the discharge along the outlet conduits and channels is not a factor affecting the hydraulic capacity requirements of the system. Therefore, regardless of position along the channel, each tributary subarea along the system is provided the same level of service.

All stormwater is to flow to retention basins in order to help control both the quality and quantity of storm runoff discharge to the main drainage system, and ultimately the San Joaquin River.

Responses a), b), d), e), f), g): Manteca has an elaborate network of public utilities and services, such as water, wastewater treatment, and storm drainage. It has been a goal of Manteca to maintain an adequate level of services for all public utilities and services for the community. The proposed project does not require the use of utilities or infrastructure and would not result in the expansion of utilities or infrastructure. The individual improvements under the proposed project include a variety of transportation improvements that will not result in an increased need for any utilities. Implementation of the proposed project will therefore have ***no impact*** on utilities and no mitigation is required.

Response c): Each roadway transportation improvement under the proposed project would result in additional impervious services and increased stormwater runoff. Each improvement

would be engineered with storm drainage infrastructure (i.e. culverts, pipes, detention/retention ponds, biofilters, etc.) to control runoff and prevent erosion and sedimentation. Each improvement that impacts over one acre of land would require a Storm Water Pollution Prevention Plan that would be submitted to the Regional Water Quality Control Board for review and approval prior to issuance of a General Permit for storm water discharge. There are engineering standards for storm drainage within Manteca in additional to storm drainage mitigation measures that were identified previously in this document that when implemented, would ensure that the potential for impacts is reduced to a ***less than significant*** level.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Does the project have the potential to 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	X			
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	X			
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b), c): The region has documented biological resources that need to be evaluated in more detail in order to determine if the proposed project could substantially degrade the quality of the environment, 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, or reduce the number or restrict the range of a rare or endangered plant or animal.

The region has documented cultural resources that need to be evaluated in more detail in order to determine if the proposed project could eliminate important examples of the major periods of California history or prehistory.

It has also been determined that the air quality, land use, noise, and traffic conditions need to be evaluated in more detail to determine if the proposed project will have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

As such, the lead agency will examine each of these environmental issues, including their cumulative impacts, in an environmental impact report and will decide whether the proposed project has the potential to have a significant impact on these environmental issues. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the environmental impact report.

APPENDIX A - CIRCULATION ELEMENT GOALS, OBJECTIVES, POLICIES, AND IMPLEMENTATION MEASURES

PROJECT GOALS AND OBJECTIVES

The goals for the circulation system reflect the broader goals of the City's General Plan. These include improvement of the existing community, economic development, expanded tourism, improved aesthetic quality in the built environment, better public and personal health, improved safety, improved quality of life, and environmental protection.

The circulation system goals are, in part a reflection of the City's historic development pattern, which has built a system that is heavily focused on moving cars quickly through and around the City. While this type of circulation system provides a high degree of mobility and access to those who have cars, it does not adequately serve residents who cannot or choose not to drive. Moreover, this type of circulation system is expensive to build and maintain since roadways and intersections are designed to accommodate the traffic volumes that occur during the peak one or two hours of the day. The majority of the time the roads are relatively empty, which promotes high vehicle speeds and decreases the viability of alternative modes.

More recently, additional emphasis has been given to other modes. Examples include the construction of the Tidewater Bikeway, the adoption and implementation of a Bicycle Master Plan, streetscape improvements in Downtown, new street standards with improved pedestrian facilities, and the initiation of the City's own transit service. While the City has made great strides toward developing a circulation system that better serves all modes of travel, this Circulation Element stresses the need for a balanced circulation system based on the concept of "complete streets."

Complete streets describes a comprehensive approach to the practice of mobility planning. The complete street concept recognizes that transportation corridors have multiple users with different abilities and mode preferences (e.g., driving, biking, walking, and taking transit). A well-integrated street system considers the complementary relationship between land use, local and regional travel needs, and the context that it serves. Complete streets apply equally to facilities like Yosemite Avenue through downtown and commercial corridors like Main Street near the State Route 120 interchange. Complete streets consider the full range of users including vehicles, trucks, pedestrians, bicycles, children, the disabled, and seniors.

C-P-1: Provide for a circulation system that allows for the efficient movement of people, goods, and services within and through Manteca while minimizing public costs to build and maintain the system.

C-P-2: Provide complete streets designed to serve a broad spectrum of travel modes, including automobiles, public transit, walking, and bicycling.

C-P-3: Develop attractive streetscapes that include landscaping, street trees, planted berms, and landscaped medians.

C-P-4: Support the development of a Downtown area that is highly accessible to all modes of travel, focusing primarily on pedestrians, bicyclists, and transit riders.

C-P-5: Balance the level of service for all modes so that residents and visitors have a variety of transportation choices.

C-P-6: Maintain a safe transportation system for all modes.

C-P-7: Accommodate truck and freight movements by developing city-wide truck routes and encouraging the development of freight and warehousing centers near existing rail lines and spurs.

C-P-8: Establish reasonable parking requirements (minimum and maximum rates for uses) that limit parking encroachment while minimizing the amount of land consumed by parking lots.

C-P-9: Provide a safe, secure, and convenient bicycle route system that connects to retail, employment centers, public facilities, and parks.

C-P-10: Provide for safe and convenient pedestrian circulation.

C-P-11: Maintain a coordinated, efficient bus service that provides both an effective alternative to automobile use and serves members of the community that cannot drive.

C-P-12: Support and encourage regional transit connections that link Manteca to other cities.

LEVEL OF SERVICE STANDARDS

Level of Service (LOS) is a qualitative measure used to describe operations on transportation facilities for different user types, including vehicles, transit riders, bicyclists, and pedestrians. The Highway Capacity Manual provides guidance on state-of-the-practice methods to measure LOS. Traditionally, the City has evaluated vehicular LOS on roadway facilities. This analysis compares existing or projected traffic volumes with the theoretical capacity of the street or intersection. Factors taken into consideration include volume of traffic, street and intersection design, signal timing, and other variables.

Each LOS is assigned a letter, ranging from "A" (free flow conditions) to "F" (severe congestion). Vehicular LOS letter "grades" should not necessarily be viewed like school grades where A is best and F is worst. Striving to provide free flow traffic conditions (LOS A) at all hours of the day requires wide streets, large intersections, substantial right-of-way, and considerable funds to construct and maintain these streets. "Good" vehicular LOS also tends to lead to poor LOS for bicycle and pedestrian modes since the larger streets and intersections, higher speeds, and longer waiting times to cross streets makes bicycling and walking more uncomfortable and less safe. Thus vehicular LOS must be balanced against mobility needs for other modes, environmental impact, and construction and maintenance costs. This General Plan establishes

an LOS Standard that will guide street improvements in the City while meeting the City's goals of developing an efficient circulation system that promotes travel via other modes.

Policies: Level of Service

C-P-1: The City shall strive to balance levels of service (LOS) for all modes (vehicle, transit, bicycle, and pedestrian) to maintain a high level of access and mobility, while developing a complete and efficient circulation system. The impact of new development and land use proposals on LOS and accessibility for all modes should be considered in the review process.

C-P-2: To the extent feasible, the City shall strive for a vehicular LOS of D or better at all streets and intersections, except in the Downtown area where pedestrian, bicycle, and transit mobility are most important and vehicular LOS is not a consideration.

C-P-3: At the discretion of City staff, certain locations may be allowed to fall below the City's LOS standard under the following circumstances:

a. Where constructing facilities with enough capacity to provide LOS D is found to be unreasonably expensive. This applies to facilities, for example, on which it would cost significantly more per dwelling unit equivalent (DUE) to provide LOS D than is deemed reasonable by City staff.

b. Where it is difficult or impossible to maintain LOS D because surrounding facilities in other jurisdictions operate at LOS E or worse.

c. Where maintaining LOS D will be a disincentive to use of existing alternative modes or to the implementation of new transportation modes that would reduce vehicle travel. Examples include roadway or intersection widening in areas with substantial pedestrian activity or near major transit centers.

d. In the Downtown area the City cannot maintain the vehicular LOS D standard because of the historic nature of development and limited street right-of-way. However, it is the City's goal to maintain high quality access and mobility in the area with a priority toward non-auto modes. Therefore, the City shall require new development that adds auto trips to the Downtown area to participate in enhancing access and mobility for transit, bicycle, and pedestrian modes. These enhancements may include, but are not limited to:

- Enhancing sidewalks to create a high quality pedestrian environment, including wider sidewalks and improved crosswalks, landscaping, buffers between sidewalks and vehicle travel lanes, enhanced pedestrian lighting, increased availability of benches, provisions for café-style seating, and usage of monument elements and other public art.

- Improving bicycle facilities to include attractive and secure bicycle parking, installation of bike lockers in appropriate locations, and provision of bicycle lanes along appropriate roadways.

- Enhancing transit stops through high quality, well maintained shelters, and provision of wayfinding signage and transit timetables.
- Providing off-street parking with high quality access to Downtown businesses, and which is well-maintained and provides amenities like shade streets, canopies, adequate lighting, and wayfinding signage.
- Supporting the development of a Downtown Business Improvement District or similar mechanism to help fund ongoing maintenance of the streetscape enhancements.

Implementation: Level of Service

C-I-1: The City shall maintain a master list of multimodal volume data for key intersections and roadway segments. This master list shall be updated regularly with traffic counts (for autos, transit, bicycles, and pedestrians) taken in conjunction with project traffic studies and by special counts conducted by the City as necessary.

C-I-2: Perform periodic evaluation of the mobility and access on major streets, which could include evaluation of vehicular LOS conditions, as well as access and mobility issues faced by transit riders, bicyclists, and pedestrians. The use of multimodal LOS analysis techniques could also be included.

C-I-3: The City shall develop Transportation Impact Analysis (TIA) Guidelines to provide guidance on identifying deficiencies and impacts on all modes of transportation caused by new development. The TIS guidelines will also provide guidance on the types of mitigation measures that would be appropriate to mitigate project-related impacts to transportation facilities in the City. The TIS guidelines will address impact thresholds for vehicular, transit, bicycle, and pedestrian facilities.

C-I-4: The City shall develop a pedestrian, bicycle, and transit improvement plan for the Downtown area to facilitate implementation of level of service policy C-P-3 d. This plan will develop a list of multi-modal improvements in the Downtown area to increase the viability and encourage the use of non-auto modes.

MAJOR STREETS MASTER PLAN

The Major Streets Master Plan defines the framework of major streets. It is intended that the City will retain the existing compact form, with development occurring in a concentric pattern. Infill development is also encouraged in the Land Use Element as a means of accommodating new growth. Consequently, selected existing streets will continue to function as the major streets. Nonetheless, there are potential growth areas within and adjacent to the existing City boundary that will require new major roads, roadway capacity expansion, transit, bicycle, and pedestrian improvements where development is permitted.

This major streets system is intended to comply with the LOS standard established in this General Plan; however, as the plan develops some modifications may be necessary to accommodate specific development projects. The PFF will be the main implementing tool for

collecting and allocating funds to implement roadway improvements consistent with the Major Streets Master Plan.

Policies: Street System

C-P-4: Streets shall be dedicated, widened, extended, and constructed according to street cross-section diagrams established in the City Standard Plans.

C-P-5: Major circulation improvements shall be completed as abutting lands develop or redevelop, with dedication of right-of-way and construction of improvements, or participation in construction of such improvements, required as a condition of approval.

C-P-6: New development shall pay a fair share of the costs of street and other transportation improvements based on impacts to LOS and other modes in conformance with the goals and policies established in this Circulation Element and the Public Facilities Fee (PFF) program.

C-P-7: The street system shall be expanded in a contiguous and concentric manner to serve new development areas and to provide improved circulation for existing residents.

C-P-8: Street improvements will be designed to provide multiple, direct and convenient routes.

C-P-9: Residential and collector street intersections with collector and arterial streets shall be aligned with other residential and collector streets, where feasible, to maintain a high degree of connectivity between neighborhoods, minimize circuitous travel, and to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another without using major streets.

C-P-10: Access for bicycles and pedestrians shall be provided at the ends of cul-de-sacs, where right-of-way is available, to provide convenient access within and between neighborhoods and to encourage walking and bicycling to neighborhood destinations.

C-P-11: Signals, roundabouts, traffic circles and other traffic management techniques shall be applied at residential and collector street intersections with collector and arterial streets in order to allow bicyclists and pedestrians to travel conveniently and safely from one neighborhood to another.

C-P-12: Where traffic congestion, pedestrian travel, collision history, or other factors warrant the installation of a traffic signal, the feasibility of a roundabout shall also be evaluated. In general, a roundabout should be installed at these locations unless right of way, cost, design limitations, or other issues preclude the installation of a roundabout.

C-P-13: The City shall promote development of a future roadway system as shown in the Major Streets Master Plan.

C-P-14: The City may allow development of private streets in new residential projects that demonstrate the ability to facilitate police patrol, emergency access, and solid waste collection as well as fund on-going maintenance.

C-P-15: The City shall promote infill development that completes gaps in the circulation system.

C-P-16: Residential subdivisions with lots fronting on an existing arterial street should provide for separate roadway access. Ideally, access to residential lots should be from residential or collector streets. For those properties that currently front arterial streets, consideration should be given to providing separate roadway access as a condition of approval for any redevelopment or subdivision of the property.

C-P-17: Residential subdivisions along arterials and freeways shall be buffered by a noise attenuation measure (sound wall, berm, greenbelt, etc.) as determined by a noise study. Any noise attenuation measure should be designed in a way that it does not discourage pedestrian or bicycle travel be creating barriers between neighborhoods.

C-P-18: The City shall aggressively pursue state and federal funding to augment the PFF and implement the City's Circulation Element.

C-P-19: The City shall coordinate with neighboring jurisdictions, including Caltrans, San Joaquin Council of Governments (SJCOG), San Joaquin County, the City of Lathrop, and the City of Ripon to pursue funding for the following regional facilities:

- A new interchange at McKinley Avenue and SR 120;
- A new interchange at Austin Road/McKinley Avenue and SR 99;
- A new interchange on SR 99 between Lathrop Road and French Camp Road;
- An easterly extension of the SR 120 freeway towards Oakdale; and
- Regional bicycle lanes and bicycle paths.

Implementation: Street System

C-I-5: The City shall maintain a Major Street Master Plan showing the existing and proposed ultimate right-of-way and street width for each road segment within the City's Sphere of Influence. The Major Street Master Plan shall also indicate the necessary right-of-way to be acquired or dedicated and the expected method of financing roadway improvements (i.e., City-funded or property owner/developer-funded). The Major Street Master Plan shall be regularly updated.

C-I-6: When planning roadway facilities, incorporate the concept of complete streets. Complete streets include design elements for all modes that use streets, including autos, transit, pedestrians, and bicycles. Complete streets shall be developed in a context-sensitive manner. For example, it may be more appropriate to provide a

Class I bike path, as opposed to bike lanes along a major arterial. Pedestrian districts like downtown or near school entrances should have an enhanced streetscape (e.g., narrower travel lanes, landscape buffers with street trees, etc.) to better accommodate and encourage pedestrian travel.

C-I-7: The City shall require new development to participate in the implementation of transportation improvements identified in the Major Street Master Plan. Participation could include the construction of roadways, improvements to roadways, payment into the PFF program, payment into other fee programs, or fair-share payments. In general, the infrastructure needs and methods of participation will be determined through an environmental impact report or transportation impact analysis.

C-I-8: The City will coordinate with Caltrans and SJCOG to make sure that projects in the City's Circulation Element and Major Street Master Plan are included in long range planning documents, including the Caltrans Long Range Plan, the SJCOG Regional Transportation Plan, and the San Joaquin County Congestion Management Program.

C-I-9: Appropriate sound attenuation measures shall be determined by a noise study. Walls and berms shall be attractive and developed to minimize maintenance. Bicycle and pedestrian access shall be provided through walls and berms to minimize travel distances and increase the viability of walking and bicycling.

C-I-10: To support the City's goals of minimizing maintenance costs and encouraging non-auto modes of transportation, any new or substantially modified roadway shall be as narrow as feasible while being consistent with LOS and goods movement policies. In general, this implementation measure can be achieved by constructing narrower traffic lanes, except in areas with significant heavy truck volumes.

Policies: Transportation Safety

C-P-20: The creation or continuance of traffic, bicycle, and pedestrian hazards shall be discouraged in new development, infill development, and redevelopment areas.

C-P-21: In the development of new projects, the City shall give special attention to maintaining/ensuring adequate corner-sight distances appropriate for the speed and type of facility, including intersections of city streets and private access drives and roadways.

C-P-22: The City shall encourage the development of landscape separated sidewalks along roadways (particularly arterials and non-residential streets) when feasible to discourage pedestrian/vehicle conflicts and be consistent with complete streets concepts.

Implementation: Transportation Safety

C-I-11: Maintain a program of identification and surveillance of high traffic, bicycle, and pedestrian collision locations, with emphasis on early detection and correction of conditions which could potentially constitute safety hazards.

C-I-12: The City shall identify and remove, as feasible, obstacles limiting corner-sight distances at existing street corners.

C-I-13: The City shall maintain a program of identification and surveillance of high vehicle, bicycle, and pedestrian collision locations, with emphasis on early detection and correction of conditions that could potentially constitute safety hazards.

C-I-14: All new signs, roadway striping, and traffic signals shall be consistent with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).

PARKING

Parking demand is generated by existing businesses, new business, and residents, and is varies by the time of day, time of year, and presence of special events. Guiding new business and residential development is a fundamental purpose in this General Plan. The success of the Economic Development Element will rely, in part, on the ability to accommodate the traffic and parking associated with new businesses and special events.

Policies: Parking

C-P-23: Future growth in traffic volumes may necessitate removal of on-street parking spaces to provide additional traffic lanes.

C-P-24: New development shall provide an adequate number of off-street parking spaces to accommodate the typical parking demands of the type of development on the site. The City may dictate both minimum and maximum amounts of parking; the use of shared parking is encouraged to reduce overall land consumed by parking areas. In the Downtown area, parking supply and demand will be managed through a coordinated approach led by the City.

C-P-25: The City may allow for changes to the parking requirements under certain circumstances. In such cases, the City may require provision of off-site parking, participation in a parking district or payment of an in-lieu fee to cover the costs of land acquisition and construction of parking spaces.

C-P-26: In the Downtown area, the Redevelopment Agency shall assist in the provision of off-street parking. Parking facilities in the Downtown area should be within easy walking distance of the businesses

C-P-27: Ensure that there is adequate parking for normal commercial activities.

C-P-28: Ensure that there is adequate parking for special events where deemed appropriate.

Implementation: Parking

C-I-15: The City shall review and revise, as necessary, off-street parking standards of the Zoning Ordinance. Such revision shall be based on a survey of the parking requirements of other Northern California communities, the requirements of the Housing Element to achieve specified residential density levels, and an assessment of the adequacy of the City's current standards.

C-I-16: Work with local merchants to improve on-street and off-street parking conditions.

C-I-17: The City will consider preparing a Parking Management Plan for the Downtown area to ensure that parking facilities are provided in a coordinated manner which maximizes access to local businesses and connectivity with non-auto modes, including transit, bicycles, and pedestrian facilities.

C-I-18: The City shall require a shared parking analysis for all proposed mixed-use developments and new projects in the Downtown area to ensure that parking is not oversupplied.

C-I-19: To maintain adequate parking supply for businesses, the City may restrict parking on public streets through permit programs, time limits, or parking meters, where appropriate.

C-I-20: If roadway widening requires the removal of on-street parking, a parking supply study should be conducted to determine if the loss of on-street parking spaces will create a parking shortage. If so, the parking supply study should also discuss the feasibility of replacing the lost parking spaces.

BIKEWAY AND PEDESTRIAN SYSTEMS

The bikeway and pedestrian systems in Manteca are critical elements in the transportation network. After driving, walking and biking are the second most common means of travel in Manteca, particularly for recreational purposes. Encouraging these modes of transportation is important for the convenience and enjoyment of Manteca residents and enhancing public health and the quality of life.

The existing bikeway and pedestrian network should be enhanced to further encourage bicycling and walking in the City. This is accomplished in part by encouraging the continuity of the existing compact land use pattern in the Land Use Element, and by the creation of new bike routes and sidewalks wherever new streets are installed or existing streets are upgraded.

Policies: Bikeways and Pedestrian Facilities

C-P-29: Through regular updates to the City's Bicycle Master Plan, the City shall establish a safe and convenient network of identified bicycle routes connecting residential areas with recreation, shopping, and employment areas within the city.

C-P-30: Provide adequate bicycle parking facilities at commercial, business/professional and light industrial uses.

C-P-31: The City shall strive to expand the existing network of off-street bicycle facilities as shown in the City's Bicycle Master Plan to accommodate cyclists who prefer to travel on dedicated trails. Further, the City shall strive to develop a "city-loop" Class I bike path that links Austin Road, Atherton Drive, Airport Way and a route along or near Lathrop Road to the Tidewater bike path and its extensions

C-P-32: The City shall strive to provide on-street Class II bike lanes along major collector and arterial streets whenever feasible.

C-P-33: Bicycle travel through residential streets shall be facilitated as much as possible without the use of Class II bike lanes. In general, residential streets have sufficiently low volumes as to not require bike lanes and the narrower street cross section will assist in calming traffic.

C-P-34: The City shall extend the existing Class I bicycle route north of Lathrop Road along the former Tidewater Southern Railway right-of-way, and any branch or connecting link where right-of-way is available.

C-P-35: Improve safety conditions, efficiency, and comfort for bicyclists and pedestrians by providing shade trees and controlling traffic speeds by implementing narrow lanes on appropriate streets.

C-P-36: Provide walkways connecting to the residential neighborhoods and primary public destinations.

C-P-37: Route sidewalks so that they connect to major public parking areas, transit stops, and intersections with the bikeway system.

C-P-38: Provide sidewalks along all new streets in the City.

Implementation: Bikeways and Pedestrian Facilities

C-I-21: The City shall update its Bicycle Master Plan to include all areas envisioned for development by this General Plan. The Bicycle Master Plan will establish future bicycle routes and provide standards for bicycle facilities, including bicycle paths and bicycle lanes.

C-I-22: Utilize the standards set forth in the MUTCD and AASHTO Green Book for improvement and re-striping of appropriate major collector and arterial streets to accommodate Class II bike lanes in both directions, where sufficient roadway width is available. This may include narrowing of travel lanes.

C-I-23: Increase bicycle safety by:

- Providing bicycle paths and lanes that promote bicycle travel.
- Sweeping and repairing bicycle lanes and paths on a continuing, regular basis.
- Ensuring that bikeways are delineated and signed in accordance with AASHTO standards and lighting is provided, where feasible.

- Ensuring that all new and improved streets have bicycle-safe drainage grates and are free of hazards such as uneven pavement or gravel.

C-I-24: Add bike lanes whenever possible in conjunction with road rehabilitation, reconstruction, or re-striping projects.

C-I-25: Update the City Standard Plans to include bike lanes on collector and arterial streets, as defined by the Bicycle Master Plan.

C-I-26: Encourage resident and visitor use of the bike trail system by preparing a map of the pedestrian and bike paths.

C-I-27: Update the standard plans to specify a set of roadways with narrower lanes to calm traffic and increase pedestrian and bicycle comfort. These narrow lane standards shall be applied to appropriate streets (e.g., they shall not be applied to major truck routes).

C-I-28: The City shall develop a Pedestrian Master Plan, which encompasses all areas envisioned for development by this General Plan. The Pedestrian Master Plan will identify existing deficiencies and establish standards for future pedestrian facilities, including sidewalks, crosswalks, and pedestrian pathways.

C-I-29: Update the standard plans to include landscape separated sidewalks where appropriate and feasible.

C-I-30: Provide for pedestrian access in the Downtown area, along Yosemite Avenue, Main Street, and in other high-use areas by:

- Constructing wide sidewalks where feasible to accommodate increased pedestrian use.
- Providing improved crosswalks, landscaping, buffers between sidewalks and vehicle travel lanes, enhanced pedestrian lighting.
- Improving the walking environment by providing benches, allowing for café seating, and constructing monument elements and other public art.
- Providing improvements that enhance pedestrian safety and convenience, such as bulb-outs extending into intersections and at crosswalks to reduce walking distances and provide a safe peninsula for pedestrians.

C-I-31: Provide for enhanced pedestrian environments in new subdivisions by:

- Providing bulb-outs at intersections to reduce crossing distances and calm traffic.
- Providing marked (and signalized, if appropriate) mid-block crossings near schools, parks, or other neighborhood attractions. A landscaped median refuge island may also be provided.
- Providing landscape buffer separated sidewalks.

PUBLIC TRANSPORTATION

Manteca is located at a major ground transportation hub in the state and has the opportunity to expand both rail service and bus service. The opportunities will grow with increasing population, and higher costs of travel by automobile. The City can enhance these opportunities by encouraging the use of public transit by Manteca residents and by implementing additional transit routes and services. But the most significant means of enhancing public transit opportunities is in planning land use and circulation networks.

By locating higher density housing, commercial, employment, recreational, education and institutional facilities along major thoroughfares and by providing safe, convenient pedestrian routes to these facilities the City can make public transit more effective and viable. Sound land planning can produce benefits equal to a substantial investment in the labor and capital expenditures of a bus system.

In addition to locating major development along the existing major thoroughfares, the land plan anticipates the development of small concentrations of commercial, high-density housing and public uses in the new growth areas. These concentrations are located at logical intervals along potential public transit routes. At full development of the land uses in the new growth areas new transit routes would be within a one-quarter mile walk of a substantial percentage of the new households.

The City can further enhance the use of existing and future transit facilities by providing a local shuttle or small bus network linking residents to activity centers at or near the transit facility. Such transit facilities can provide connections to more than one form of transportation (a multi-modal center) or to a single transportation node.

Policies: Public Transportation

C-P-39: The City shall encourage the expansion of interstate bus service in the Manteca area.

C-P-40: The City shall encourage commuter and regional passenger rail service that will benefit the businesses and residents of Manteca. Examples include Amtrak, the Altamont Commuter Express (ACE), and high-speed rail.

C-P-41: The City shall identify and implement means of enhancing the opportunities for residents to commute from residential neighborhoods to the ACE station or other transit facilities that may develop in the City.

C-P-42: Establish a plan of primary locations where the transit systems will connect to the major bikeways and pedestrian ways and primary public parking areas.

C-P-43: Encourage programs that provide ridesharing and vanpool opportunities and other alternative modes of transportation for Manteca residents.

C-P-44: The City shall promote the development of park-and-ride facilities near I-5, SR 120, and SR 99.

C-P-45: The City shall establish and maintain a working relationship between the City administration and the local management of the Union Pacific Railroad regarding expansion of freight and passenger rail service and economic development of the region.

C-P-46: The City shall design future roadways to accommodate transit facilities, as appropriate. These design elements would include installation of transit stops adjacent to intersections and provision of bus bays and sheltered stops.

Implementation: Public Transportation

C-I-32: The City shall periodically review transit needs in the city and adjust bus routes to accommodate changing land use and transit demand patterns. The City shall also periodically coordinate with the San Joaquin Regional Transit District to assess the demand for regional transit services.

C-I-33: The City shall explore the opportunities for, and encourage the development of, a multi-modal bus/train/bike/auto facility in the downtown area.

C-I-34: The City shall explore a transit connections study that would identify improvements to connections and access to the existing ACE station and the planned multi-modal downtown transit facility.

C-I-35: The City's standard plans shall be updated to include the option for bus bays at intersections of major streets.

C-I-36: The City shall consider alternatives to conventional bus systems, such as smaller shuttle buses that connect neighborhood centers to local activity centers.

C-I-37: The City should explore with the Manteca School District opportunities for joint-use public transit that would provide both student transportation and local transit service.

GOODS MOVEMENT

Manteca's central location and accessibility from major highways and rail lines has made the city a major center for goods movement. The transportation system needs to facilitate the goods movement industries in the City to ensure safety for all modes of travel and to facilitate this important sector of the City's economy.

These truck routes are designed to facilitate the movement of goods from the regional transportation system to the goods movement industries in the City. These roads shall be designed to accommodate STAA trucks through adequate corner radii, appropriate lane widths, and other design features.

Policies: Goods Movement

C-P-47: The City shall require that new industrial development pay a fair share toward improvements required to accommodate heavy vehicles, including increased pavement wear.

C-P-48: Roads identified on the City's truck route map shall be designed to accommodate STAA trucks.

C-P-49: The City shall encourage the provision of freight rail service into industrial developments.

C-P-50: The City shall work with Caltrans and SJCOG to secure interregional, state, and federal funding for goods movement projects like widened state highways, increased pavement maintenance funding, intermodal and truck safety improvements.

C-P-51: The City should consider vehicle weight limit restrictions on roadways near sensitive uses like schools and residential neighborhoods to discourage cut-through truck traffic.

Implementation: Goods Movement

C-I-38: The City shall periodically update its truck route map to remain consistent with changing land use and transportation patterns.

C-I-39: The City shall place signs along STAA truck routes consistent with MUTCD standards.

C-I-40: The City shall pursue state and federal funding to construct grade separated railroad crossings throughout the city.

C-I-41: New industrial developments should be approved only if they are near existing or planned truck routes to minimize impacts on roadways with narrower lanes and to minimize the construction and maintenance cost of new roads.

C-I-42: All roundabouts in the City shall be designed to accommodate truck movements.

TRANSPORTATION DEMAND MANAGEMENT

The increase in traffic congestion within Manteca and throughout the region has intensified the need to promote alternative transportation modes. Transportation Demand Management (TDM) refers to measures designed to reduce the number and length of automobile trips, particularly during peak commute hours. TDM measures typically include ridesharing, vanpools, and a variety of management techniques applied by larger employers in metropolitan areas. Typical TDM measures are most effective where they can be implemented by large employers.

In communities where there is a significant number of workers commuting out to a larger metropolitan area the TDM measures focus on ridesharing and vanpooling to reduce the number of single occupant vehicle trips. Reduced vehicle travel can help reduce peak hour traffic congestion, reduce future air pollution concentrations, and reduce consumption of energy for transportation uses. Moreover, it can help reduce individual transportation costs for Manteca residents, yielding potentially significant savings as the cost of fuel rises.

Policies: Transportation Demand Management

C-P-52: The City shall establish a requirement for a TDM program in any business park, industrial or commercial land use that employs more than 50 full time equivalent employees.

C-P-53: The City shall provide information about transit services, ridesharing, van-pools, and other transportation alternatives to single occupant vehicles at City Hall, the library, and on the City website.

C-P-54: The City shall encourage employers to provide alternative mode subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, and work-at-home programs employee education and preferential parking for carpools/vanpools.

C-P-55: Partner with SJCOG to develop a regional TDM plan.

APPENDIX B - NOP COMMENTS

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

May 5, 2010

Mark McAvoy
City of Manteca
1001 W. Center Street
Manteca, CA 95337

Dear Mr. McAvoy:

The California Energy Commission has received the City of Manteca's Notice of Preparation titled Manteca Circulation Element Update, SCH 2010042055 that was submitted on 4/19/2010 for comments due by 5/18/2010. After careful review, the Energy Commission has found the following:

We would like to assist in reducing the energy usage involved in your project. Please refer to the enclosed Appendix F of the California Environmental Quality Act for how to achieve energy conservation.

In addition, the Energy Commission's *Energy Aware Planning Guide* is also available as a tool to assist in your land use planning. For further information on how to utilize this guide, please visit www.energy.ca.gov/energy_aware_guide/index.html.

Thank you for providing us the opportunity to review/comment on your project. We hope that our comments will be helpful in your environmental review process.

If you have any further questions, please call Gigi Tien at (916) 651-0566.

Sincerely,

Bill Pfanner

BILL PFANNER
Supervisor, Local Energy & Land Use Assistance Unit
Special Projects Office
Fuels and Transportation Division
California Energy Commission
1516 Ninth Street, MS 23
Sacramento, CA 95814

Enclosure

Appendix F
ENERGY CONSERVATION

I. Introduction

The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:

(1) decreasing overall per capita energy consumption,
(2) decreasing reliance on natural gas and oil, and
(3) increasing reliance on renewable energy sources.

In order to assure that energy implications are considered in project decisions, the California Environmental Quality Act requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.

Energy conservation implies that a project's cost effectiveness be reviewed not only in dollars, but also in terms of energy requirements. For many projects, lifetime costs may be determined more by energy efficiency than by initial dollar costs.

II. EIR Contents

Potentially significant energy implications of a project should be considered in an EIR. The following list of energy impact possibilities and potential conservation measures is designed to assist in the preparation of an EIR. In many instances, specific items may not apply or additional items may be needed.

A. Project Description may include the following items:
   1. Energy consuming equipment and processes which will be used during construction, operation, and/or removal of the project. If appropriate, this discussion should consider the energy intensiveness of materials and equipment required for the project.
   2. Total energy requirements of the project by fuel type and end use.
   3. Energy conservation equipment and design features.
   4. Initial and life-cycle energy costs or supplies.
   5. Total estimated daily trips to be generated by the project and the additional energy consumed per trip by mode.

B. Environmental Setting may include existing energy supplies and energy use patterns in the region and locality.

C. Environmental Impacts may include:
   1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project's life cycle including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
   2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.
   3. The effects of the project on peak and base period demands for electricity and other forms of energy.
   4. The degree to which the project complies with existing energy standards.
   5. The effects of the project on energy resources.
   6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

D. Mitigation Measures may include:
   1. Potential measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, maintenance and/or removal. The discussion should explain why certain measures were incorporated in the project and why other measures were dismissed.
   2. The potential of siting, orientation, and design to minimize energy consumption, including transportation energy.
   3. The potential for reducing peak energy demand.
   4. Alternate fuels (particularly renewable ones) or energy systems.
   5. Energy conservation which could result from recycling efforts.

E. Alternatives should be compared in terms of overall energy consumption and in terms of reducing wasteful, inefficient and unnecessary consumption of energy.

F. Unavoidable Adverse Effects may include wasteful, inefficient and unnecessary consumption of energy during the project construction, operation, maintenance and/or removal that cannot be feasibly mitigated.

G. Irreversible Commitment of Resources may include a discussion of how the project preempts future energy development or future energy conservation.

H. Short-Term Gains versus Long-Term Impacts can be compared by calculating the energy costs over the lifetime of the project.

I. Growth Inducing Effects may include the estimated energy consumption of growth induced by the project.

STATE OF CALIFORNIA
FACSIMILE COVER
10-2A-0049 (NEW 10/92)

ATTENTION:	FROM:	
Mark McAvoy	**Kathy Selsor** **Department of Transportation** **1976 East Charter Way** **Stockton, CA 95205**	
UNIT/COMPANY: City of Manteca Community Development Department 1001 West Center Street Manteca, CA 95337	DATE: **5/12/10**	TOTAL PAGES (Including Cover Page)
	FAX # (Include Area Code) (209) 948-7194	ATSS FAX 8-423-7194
DISTRICT/CITY	PHONE # (& Area Code) (209) 948-7190	ATSS 8-423-7190
PHONE # (& Area Code) FAX # (& Area Code) (209) 239-8427 **(209) 825-2349**	ORIGINAL DISPOSITION: Destroy ☐ Return ☐ Call for Pickup ☐	

COMMENTS:

SJ-Various
SCH# 2010042055
Manteca Circulation Element Update

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048 STOCKTON, CA 95201
(1976 E. CHARTER WAY/1976 E. DR. MARTIN
LUTHER KING JR. BLVD. 95205)
TTY: California Relay Service (800) 735-2929
PHONE (209) 941-1921
FAX (209) 948-7194

Flex your power!
Be energy efficient!

May 12, 2010

10-SJ-Various
SCH#2010042055
Manteca Circulation
Element Update

Mark McAvoy
City of Manteca
Community Development Department
1001 West Center Street
Manteca, CA 95337

Dear Mr. McAvoy:

The California Department of Transportation (Department) appreciates the opportunity to have reviewed the Notice of Preparation (NOP) application for the proposed Manteca Circulation Element Update. The Department has the following comments:

System Planning:

The concept facility from I-205 to State Route (SR) 120 to north of Lathrop is 10 lanes. The Ultimate Transportation Concept (UTC) that is feasible is also 10 lanes. In order to maintain concept Level of Service (LOS) of C for rural and D for urban areas, with only 10 lanes when 20 is required from I-205 to SR-120, and 14 from SR-120 to north of Lathrop, other treatments will be needed to be in place such as High Occupancy Vehicle (HOV) and ramp meters.

On SR-120 the concept facility is a 6 lane freeway and the UTC is an 8 lane freeway.

SR-99 from north of Lathrop to south of SR-120 the concept is an 8 lane freeway and the UTC is also an 8 lane freeway. Further widening is not feasible because of right of way needs.

The circulation element should address mitigating additional traffic in light of restrictions imposed by insufficient right of way available to accommodate forecasted traffic volumes on these facilities.

If you have any questions or would like to discuss our comments in more detail, please contact Kathy Selsor at (209) 948-7142 (e-mail: kathy_selsor@dot.ca.gov) or me at (209) 941-1921.

Sincerely,

TOM DUMAS, CHIEF
OFFICE OF METROPOLITAN PLANNING

c: SMorgan State Clearinghouse

City of Lathrop

Community Development Department

390 Towne Centre Dr. – Lathrop, CA 95330
Phone (209) 941-7290 – Fax (209) 941-7268
www.ci.lathrop.ca.us

May 11, 2010

City of Manteca
Public Works Department
1001 W. Center Street
Manteca, CA 95337

Attn: Mark McAvoy, P.E. Senior Civil Engineer

Subject: Notice of Preparation of an Environmental Impact Report for the City of Manteca Circulation Element Update EIR.

Dear Mr. McAvoy;

The City of Lathrop has reviewed your Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the City of Manteca Circulation Element Update. The City of Lathrop does not oppose this project, provided the impacts upon our community are appropriately addressed and mitigated. We appreciate the opportunity to provide comments on your NOP for the Circulation Element Update EIR. We respectfully submit the below comments, which to the extent possible, are limited to those issues of most direct and relevant concern or potential impact upon the City of Lathrop.

1. Public Services and Utilities. Please analyze and address the current and future impacts on the City of Lathrop, specifically police and public works services. We are concerned with both the direct and indirect impacts to our public services that may be associated with Manteca resident and business vehicle trips using Louise Ave., E. Lathrop Rd., and Roth Rd. as short-cut pass through routes between I-5 and Manteca.

2. Transportation. Please prepare a comprehensive circulation/traffic impact analysis to address the current and long-range impacts on the following roadways and their intersections:

    a. Analysis of traffic impacts on Roth Road, between Airport Way and I-5 is necessary (please see attached City of Lathrop comment letter, dated February 24, 2010 on the NOP for NW Airport Way Master Plan for specific areas of concern).

    b. Analysis of traffic impacts on Lathrop Road between Airport Way and I-5 is necessary (please see attached City of Lathrop comment letter, dated February 24, 2010 on the NOP for NW Airport Way Master Plan for specific areas of concern).

c. Analysis of traffic impacts on Louise Ave., between Airport Way and I-5 is necessary.

d. Analysis of traffic impacts on Yosemite Ave., between Airport Way and SR-120 is necessary.

3. Other Issues.
   a. The City of Lathrop respectfully requests a courtesy review and comment of the vehicle distribution patterns EIR work scope, as it pertains to our above transportation comments.
   b. The City of Lathrop respectfully requests continued notification of all project related public hearings and meetings and provision of all projected related documents.

Again, please note the City of Lathrop does not oppose this project and we look forward to the City of Manteca working cooperatively with the City of Lathrop to appropriately and adequately address the transportation and environmental impacts. If you have any questions please call me at (209) 941-7298 or email me at cmullen@ci.lathrop.ca.us.

Sincerely,

Charlie Mullen, AICP
Principal Planner

Attachments:

1. City of Lathrop comment letter, dated February 24, 2010 on the NOP for NW Airport Way Master Plan.

Cc: Steve Pinkerton, City Manager, City of Manteca, 1001 W. Center Street, Manteca, CA 95337
Mark Houghton, Director of Public Works, City of Manteca1001 W. Center Street, Manteca, CA 95337
Frederic Clark, Interim Comm. Dev. Director, City of Manteca1001 W. Center Street, Manteca, CA 95337
Steve McMurtry, De Nova Planning Group, 3590 Falkirk Way, El Dorado Hill, CA 95762
Cary Keaten, City Manager
Salvador Navarrete, City Attorney
Steve Salvatore, Public Works Director
Tom Ruark, Acting City Engineer

City of Lathrop

Community Development Department

390 Towne Centre Dr. – Lathrop, CA 95330
Phone (209) 941-7290 – Fax (209) 941-7268
www.ci.lathrop.ca.us

February 24, 2010

City of Manteca
Community Development Department
1001 W. Center Street
Manteca, CA 95337

Attn: Rochelle Henson, Senior Planner

Subject: Notice of Preparation of an Environmental Impact Report for the Northwest Airport Way Master Plan.

Dear Ms. Henson;

The City of Lathrop has reviewed your Notice of Preparation (NOP) of an Environmental Impact Report for the Northwest Airport Way Master Plan for the City of Manteca. The City of Lathrop does not oppose this project, provided the impacts upon our community are appropriately mitigated . We appreciate the opportunity to provide comments on this project, as the project site is located directly adjacent to the City of Lathrop's eastern city limits and has the potential to impact our community. We respectfully submit the below comments, which to the extent possible, are limited to those issues of most direct and relevant concern or potential impact upon the City of Lathrop.

1. General Comment. Please add the City of Lathrop and Caltrans District 10 to the list of agencies requiring permit approvals, as we anticipate the project having significant impacts upon both the local and regional transportation network. Interagency coordination, cooperation and approvals will be imperative.

2. Air Quality/Greenhouse Gas Emissions. Please prepare an air quality impact analysis to address diesel particulate emissions and hazards, greenhouse gas emissions and cumulative global warming impacts analysis, per regional and State laws, standards and regulations.

3. Public Services and Utilities. Please analyze and address the projects impacts on the City of Lathrop police and fire services. Given the close proximity of the project to the City of Lathrop it can be expected that both direct and indirect police and fire service impacts may occur.

4. Noise. Please prepare a noise impact analysis to address, noise impacts upon the City of Lathrop. Of particular concern are the residential areas in close proximity to the project and residential areas adjacent to both Lathrop Rd. and Louise Ave.

ATTACHMENT 1

5. Transportation. Please prepare a comprehensive traffic impact analysis to address the project impact on the following:

In regards to Roth Road

a. The need to widen Roth Road from Airport to Manthey Road to accommodate additional traffic.
b. The need to widen Roth Road at project entrance to accommodate acceleration and deceleration lanes as well as left turn and right turn movements.
c. The need for grade separation at the railroad crossings on Roth Road.
d. The need to upgrade the I-5/Roth Road interchange.
e. The need to signalize the on and off ramps at Roth Road /I-5 interchange.
f. As an impact due to signalization of off ramps the need to relocate the intersections of Roth/Harlan and Roth/Manthey due to their proximity.
g. The need to signalize any intersection on Roth Road from Manthey to Airport due to the increase in traffic.
h. The need to modify any intersection on Roth Road from Manthey to Airport to accommodate additional left turn, right turn or thru movements.
i. The applicant should be required to prepare a precise plan for Roth Road from Manthey Rd. to Airport Way.
j. The applicant should be required to prepare and obtain approval from Caltrans for a PSR for Roth/I-5 interchange.
k. A project specific mitigation/agreement/funding mechanism to complete and/or require the project to pay its fair share of transportation improvements in the City of Lathrop will be needed. Alternatively completion of a joint traffic mitigation agreement between the City's of Lathrop and Manteca should be completed.

In regards to Lathrop Road:

a. The need to widen Lathrop Road from Airport to Manthey Road to accommodate additional traffic.
b. The need to widen Lathrop Road at project entrance to accommodate acceleration and deceleration lanes as well as left turn and right turn movements.
c. The need to contribute to the funding or reimburse for grade separation at the railroad crossings on Lathrop Road
d. The need to contribute or to the upgrades the I-5/Lathrop Road interchange.
e. The need to contribute to the signalization of the on and off ramps at Lathrop Road /I-5 interchange.
f. The need to signalize any intersection on Lathrop Road from Manthey to Airport due to the increase in traffic.
g. The need to modify any intersection on Lathrop Road from Manthey to Airport to accommodate additional left turn, right turn or thru movements.
h. The applicant should be required to prepare a precise plan for Lathrop Road from Manthey to Airport if widening is needed.
i. The applicant should be required to prepare and obtain approval from Caltrans for a PSR, for the Lathrop Road/I-5 interchange.
j. A project specific mitigation/agreement/funding mechanism to complete and/or require the project to pay its fair share of transportation improvements in the City

of Lathrop will be needed. Alternatively completion of a joint traffic mitigation agreement between the City's of Lathrop and Manteca should be completed.

Other Roadways:

a. Analysis of traffic impacts on Louise Ave., between Airport Way and I-5 is necessary.
b. Analysis of traffic impacts on Yosemite Ave., between Airport Way and SR-120 is necessary.

6. Other Issues.
   a. The City of Lathrop respectfully requests a courtesy review and comment on the EIR work scope, specifically as it pertains to our above transportation comments.
   b. The City of Lathrop respectfully requests continued notification of all project related public hearings and meetings and provision of all projected related documents.

Again, please note the City of Lathrop does not oppose this project and we look forward to the City of Manteca working cooperatively with the City of Lathrop to appropriately and adequately address the project's environmental impacts. If you have any questions please call me at (209) 941-7298 or email me at cmullen@ci.lathrop.ca.us.

Sincerely,

Charlie Mullen

Charlie Mullen, AICP
Assistant Community Development Director

Cc: Steve Pinkerton, City Manager, City of Manteca, 1001 W. Center Street, Manteca, CA 95337
Mark Nelson, Community Development Director, City of Manteca1001 W. Center Street, Manteca, CA 95337
Cary Keaten, City Manager
Salvador Navarrete, City Attorney
Steve Salvatore, Public Works Director
Tom Ruark, Acting City Engineer

STATE OF CALIFORNIA
Arnold Schwarzenegger, *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

May 13, 2010

Mark McAvoy
City of Manteca
1001 W. Center Street
Manteca, CA 95337

Re: Notice of Preparation, Draft Environmental Impact Report (DEIR)
City of Manteca Circulation Element Update
SCH# 2010042055

Dear Mr. McAvoy:

As the state agency responsible for rail safety within California, the California Public Utilities Commission (CPUC or Commission) recommends that development projects proposed near rail corridors be planned with the safety of these corridors in mind. New developments and improvements to existing facilities may increase vehicular traffic volumes, not only on streets and at intersections, but also at at-grade highway-rail crossings. In addition, projects may increase pedestrian traffic at crossings, and elsewhere along rail corridor rights-of-way. Working with CPUC staff early in project planning will help project proponents, agency staff, and other reviewers to identify potential project impacts and appropriate mitigation measures, and thereby improve the safety of motorists, pedestrians, railroad personnel, and railroad passengers.

The traffic impact study within the traffic/circulation section of the DEIR needs to specifically consider safety issues to at-grade railroad crossings. In addition to the potential impacts of the proposed project itself, the DEIR needs to consider cumulative rail safety-related impacts created by other projects.

In general, the major types of impacts to consider are collisions between trains and vehicles, and between trains and pedestrians. The proposed project has the potential to increase vehicular and pedestrian traffic in the vicinity.

Measures to reduce adverse impacts to rail safety need to be considered in the DEIR. General categories of such measures include:

- Installation of grade separations at crossings, i.e., physically separating roads and railroad track by constructing overpasses or underpasses
- Improvements to warning devices at existing highway-rail crossings
- Installation of additional warning signage
- Improvements to traffic signaling at intersections adjacent to crossings, e.g., traffic preemption

- Installation of median separation to prevent vehicles from driving around railroad crossing gates
- Prohibition of parking within 100 feet of crossings to improve the visibility of warning devices and approaching trains
- Installation of pedestrian-specific warning devices and channelization and sidewalks
- Construction of pull out lanes for buses and vehicles transporting hazardous materials
- Installation of vandal-resistant fencing or walls to limit the access of pedestrians onto the railroad right-of-way
- Elimination of driveways near crossings
- Increased enforcement of traffic laws at crossings
- Rail safety awareness programs to educate the public about the hazards of highway-rail grade crossings

Commission approval is required to modify an existing highway-rail crossing or to construct a new crossing.

Thank you for your consideration of these comments. We look forward to working with the City on this project. If you have any questions in this matter, please contact me at (415) 713-0092 or email at ms2@cpuc.ca.gov.

Sincerely,

Moses Stites

Moses Stites
Rail Corridor Safety Specialist
Consumer Protection and Safety Division
Rail Transit and Crossings Branch
180 Promenade Circle, Suite 115
Sacramento, CA 95834-2939

City of Ripon

259 N. Wilma Ave. • Ripon, California 95366
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www.cityofripon.org

MAYOR
Chuck Winn
VICE MAYOR
Elden "Red" Nutt
COUNCIL MEMBERS
Charlie Gay
Garry Krebbs
Dean Uecker
CITY ADMINISTRATOR
Leon Compton
CITY ATTORNEY
Thomas H. Terpstra
CITY CLERK/FINANCE DIRECTOR
Lynette Van Laar
CITY ENGINEER
Kevin Werner
DIRECTOR OF PLANNING & ECONOMIC DEVELOPMENT
Ken Zuidervaart
DIRECTOR OF PUBLIC WORKS
Ted Johnston
RECREATION DIRECTOR
Kye Stevens

May 18, 2010

Mark McAvoy, PE
City of Manteca
1001 W. Center Street
Manteca, CA 95337

Re: NOP for the Manteca Circulation Element Update Draft EIR

Dear Mr. McAvoy:

The City of Ripon appreciates the opportunity to have reviewed the Notice of Preparation (NOP) for the Manteca Circulation Element Update Draft Environmental Impact Report (EIR). The City of Ripon has an obligation to its residents to ensure that impacts on the community are thoroughly evaluated and mitigated.

The City of Ripon submits the following comments and requests that they be fully addressed in the Final EIR.

1. The City of Ripon has concerns with the inter-regional connectivity or lack thereof with Manteca's proposed circulation element and the City of Ripon's Master Circulation Plan. In previous inter-agency staff meetings, both jurisdictions discussed the importance and desire to work in cooperation regarding inter-regional connectivity, including but not limited to expressways, major and minor arterials, class 1 bike paths, etc. The importance of this inter-connectivity and cooperation amongst the two agencies has important and significant impacts for both communities and should be addressed in the Draft and Final Environmental Impact Report.

2. There is no indication as to the location of the McKinley Avenue interchange. Per the City of Manteca's General Plan Land Use Policy LU-P-54, the City of Manteca shall cooperate with the City of Ripon in identifying a suitable location for an interchange at Highway 99 connecting the major roads in Ripon and Manteca. This cooperation did take place and manifested itself in the form of a report dated May 19, 2006. This report, the State Route 99 Feasibility Study - New Austin Road Interchange and Olive Expressway Interchange was compiled by Quincy Engineering, under the direction of the City of Manteca and the City of Ripon in cooperation with Caltrans, San Joaquin Council of Governments and San Joaquin County. In the report it indicates the

locations of the two interchanges, the Olive Expressway Interchange would be located exactly 1 mile north of the Jack Tone Road Interchange and the new Austin Road Interchange would be located exactly 2 miles north of the Jack Tone Road Interchange. Figure 3 of the NOP (Manteca Major Street Master Plan) does not indicate the location of the McKinley Interchange and how it complies with the required Caltrans interchange spacing of 1 mile between interchanges. Please indicate or adjust the location of this interchange to comply with minimum Caltrans spacing of 1 mile from the proposed Olive Expressway Interchange. The Olive Expressway Interchange and the Austin Road Interchange are also part of the approved State Route 99 Corridor System Management Plan, which was compiled by Caltrans and adopted in September of 2008. Please show how the McKinley Avenue interchange complies with that plan as well. Both interchanges are also part of the Regional Transportation Plan (RTP) compiled by the San Joaquin Council of Governments, again please indicate how the proposed McKinley Avenue interchange can meet Caltrans minimum spacing requirements from the two approved and proposed interchanges. This should be evaluated within the EIR, and the proposed interchange should be required to achieve consistency with all the above approved master plans.

3. To reduce the potential for land use conflicts, the cities of Manteca and Ripon entered into a Memorandum of Understanding (MOU) to work cooperatively with one another with regard to planning and land use issues within their jurisdictions. In the MOU, the cities have agreed to work together to establish policy statements for each City's General Plan to provide cooperative planning efforts along the common boundaries or the two cities. The MOU also includes provisions for the extension and connection of pedestrian and bikeway systems along the Highway 99/UPRR railroad corridor. There is no mention or indication of such cooperation within the NOP which should be addressed in the Draft and Final Environmental Impact Report.

The City of Ripon looks forward to receiving responses to the comments offered above, and hereby requests formal notification of any public hearings that may be scheduled with respect to the proposed project. Again thank you for the opportunity to review and comment on the NOP for the Manteca Circulation Element Update Draft Environmental Impact Report.

Sincerely,

Ken Zuidervaart, Director
Planning and Economic Development

Cc: City Council
Leon Compton, City Administrator
Tom Terpstra, City Attorney

Ripon Consolidated Fire District

142 S. Stockton Ave. Ripon, CA 95366
Phone 209-599-4209 FAX 209-599-2847

DIRECTORS
Dennis Van Der Maaten
Don Moyer
Bryce Perkins
Jeff Rankin
Don Wever

FIRE CHIEF
Dennis Bitters

May 18, 2010

Mark McAvoy, P.E.
City of Manteca
1001 West Center Street
Manteca, CA 95337

RE: Comments to Manteca Circulation Element Update

Mr. McAvoy,

The Ripon Consolidated Fire Protection District (RCFPD) has been made aware of the Notice of Preparation of the above mentioned document, and submits the following comments.

1. The scope of this plan includes areas which currently lie within the jurisdiction of the RCFPD.
2. The areas listed also include locations which lie within the boundaries of the Lathrop-Manteca Fire District (LMFD) which receive service from the RCFPD through agreement with the LMFD.

I am requesting that the RCFPD be included in the notification process for this and any other projects occurring within our jurisdiction. Since I have received this information after the meeting that was held on May 11, 2010, please ensure that we receive adequate notification for any future meetings that may involve the Ripon Consolidated Fire District. All correspondence may be addressed to the following:

Chief Dennis Bitters
Ripon Consolidated Fire Protection District
142 S. Stockton Ave.
Ripon, CA 95366
Chief22@riponfire.com
209-599-4209

Sincerely,

Dennis Bitters
Fire Chief

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

May 6, 2010

Mark McAvoy, P.E.
City of Manteca
Planning Department
1001 West Center Street
Manteca, CA 95337

Project: Manteca Circulation Element Update

District CEQA Reference No: 20100228

Dear Mr. McAvoy:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Notice of Preparation for the project referenced above. The District offers the following comments:

1. The District will act as a Trustee Agency and, in some circumstances may act as a Responsible Agency, for projects within the scope of the Environmental Impact Report (EIR). Individual projects may be subject to District rules and regulations, including: Regulation VIII, (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations), Rule 4002 (National Emission Standards for Hazardous Air Pollutants), and Rule 9510 (Indirect Source Review). Projects that include stationary sources (such as temporary batch plants) may also be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review).

   The list of rules identified above is neither exhaustive nor exclusive. Prior to the start of construction activities, project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office to identify other District rules or regulations that apply to their project and to obtain information about District permit requirements. The District's SBA staff can be reached at (209) 557-6446. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm.

2. The General Plan is the blueprint for future growth and provides guidance for the community's development. The District has prepared various documents to aid agencies in amending their general plans. These documents provide general

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
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Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

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information that can be used as a base for the discussions to be included in the general plan.

- **AB 170 Implementation Guidance** – Assembly Bill 170, Reyes (AB 170), was adopted by state lawmakers in 2003 creating Government Code Section 65302.1 which requires cities and counties within the San Joaquin Valley to amend the general plan to include a discussion of the status of air quality and strategies to improve air quality. The elements to be amended include, but are not limited to, those elements dealing with land use, circulation, housing, conservation, and open space. The District has prepared the *AB 170 Implementation Guidance* to aid agencies in amending their general plans to comply with the requirements of AB 170. A copy of the *AB 170 Implementation Guidance* can be found on the District's website at:

  http://www.valleyair.org/transportation/AB%20170%20Guidance%20(4-3-09).doc

- **Air Quality Guidelines for General Plans (AQGGP)** – This document provides a comprehensive set of goals, policies and programs that promote development patterns, site designs, and transportation systems that support alternatives to the automobile. The District believes that implementing the goals and programs suggested in the *AQGGP* will improve air quality and mitigate impacts by reducing vehicle trips and miles traveled. A copy of the *AQGGP* can be found on the District's website at:

  http://www.valleyair.org/transportation/Entire-AQGGP.pdf.

- **Climate Change and Greenhouse Gases (GHGs)** – In response to the Governor's Office of Planning and Research requirements for inclusion of evaluation of GHGs in environmental documents, the District's Governing Board adopted the Climate Change Action Plan (CCAP). The CCAP required the District to develop guidance to assist District staff, valley businesses, land use agencies, and other permitting agencies in addressing GHG emissions as part of the CEQA process. The District prepared two documents to aid agencies in addressing GHGs and their impacts on climate change: *Final Draft Staff Report – Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act* and *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA*. These documents and additional useful information regarding GHGs and climate change can be found on the District's CCAP website at:

  http://www.valleyair.org/Programs/CCAP/CCAP_idx.htm

  http://www.valleyair.org/Programs/CCAP/12-17-09/1%20CCAP%20-%20FINAL%20CEQA%20GHG%20Staff%20Report%20-%20Dec%2017%202009.pdf

  http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf

3. The General Plan is a program level project and should include policies to reduce and mitigate construction related impacts at the individual project level. Although construction related impacts from the development of individual projects are temporary in nature, dependant on the size and phasing of the projects, compliance with District Regulation VIII (Fugitive Dust Prohibition) requirements and District Rule 9510 (Indirect Source Review) may not be sufficient to reduce individual project level construction emissions to below the District's thresholds of significance. As such, if the Circulation Element does not include a policy requiring all transportation and transit projects to mitigate construction impacts to a level below District thresholds, construction emissions from the buildout of the Circulation Element would be considered to have a cumulatively significant impact on air quality. The following policies/mitigation measures can be used to mitigate project level construction related impacts:

   - Use of off-road construction fleets that can achieve fleet average emissions equal to or less than the Tier II emission standards, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations. This can be achieved through any combination of uncontrolled engines and engines complying with Tier II and above engine standards.

   - For projects exceeding the applicability thresholds identified in Section 2.2 of District Rule 9510, a condition of project approval requiring, prior to the issuance of grading permits, demonstration of compliance with Rule 9510.

   - For projects exceeding the District's thresholds of significance for criteria pollutants after the implementation of mitigation measures, a condition of project approval requiring, prior to the issuance of grading permits, demonstration of participation in a Voluntary Emission Reduction Agreement (VERA) with the District.

If you have any questions or require further information, please call Jessica Willis at (559) 230-5818.

Sincerely,

David Warner
Director of Permit Services

Jessica R. Willis

for Arnaud Marjollet
Permit Services Manager

DW:jw

SAN JOAQUIN COUNCIL OF GOVERNMENTS

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AND
THE COUNTY OF
SAN JOAQUIN

May 12, 2010

Mr. Mark McAvoy, P.E.
City of Manteca
1001 West Center Street, Manteca CA 95337

Re: CMA Review - City of Manteca Notice of Preparation (NOP) _Circulation Element Update

Dear Mr. McAvoy:

Thank you for the opportunity to comment on the NOP for the City's Circulation Element Update. As the County's designated Congestion Management Agency, the San Joaquin Council of Governments (SJCOG) has reviewed the above-referenced document with respect to traffic impacts pursuant to the California Environmental Quality Act (CEQA).

Establishing and maintaining a Regional Congestion Management Program (RCMP) is required by State Govt. Code, Section 65088 – 65089.10 and the County's Measure K Renewal Ordinance. The purpose of the RCMP is to monitor the cumulative transportation impacts of growth of the regional roadway system, establish a level of service standard, identify deficient regional roadways and develop plans to mitigate the deficiencies, and encourage travel demand management and operational preservation.

The attached exhibit shows the roadways within the city limits and existing sphere of influence that are currently monitored as part of the adopted RCMP roadway network (Network). The monitored roadways within Manteca are Yosemite Avenue, Airport Way, Lathrop Road, State Routes 99 and 120. Govt. Code, Section 65089 (b) (1) (A) mandates that "All new state highways and principal arterials shall be designated as part of the system...." When McKinley Ave. is constructed, an amended RCMP roadway network will be adopted to include this new principal arterial.

One of the major implementation actions of the RCMP is to establish and monitor Level of Service (LOS) conditions on the Network and to assess where any deficiencies exist. A roadway segment is considered deficient if operating at a LOS of "E" or "F" (as calculated per the RCMP's adopted methodology). Once a roadway segment is identified as deficient, the agency where the majority of a segment physically lies will have twelve months to prepare a Deficiency Plan. Government Code Section 65089.4 details the required analysis and components of a Deficiency Plan. Within Appendix A of the NOP, the Level of

Service Policy C-P-3 states the circumstances in which the accepted LOS may fall below the standard of LOS D. If the City decides to adopted LOS Standards lower than what is approved by the CMA (which is SJCOG), the EIR will need to fully disclose, mitigate, and make Overriding Considerations, if necessary.

As these are deficiencies that are "planned", the best way to justify them is to have a pro-active Deficiency Plan as part of the mitigation measures. State Statute allows for two types of deficiency plans, one being a Direct-fix and the other a System-wide. If the roadway cannot, or if the jurisdiction deems it impractical, to directly fix the deficient road to meet the CMP LOS Standard, then a System-wide Plan would be appropriate. A System-wide deficiency plan is essentially a mitigation plan for the allowance of a roadway to become deficient or remain deficient by promoting alternative improvements that will measurably improve multi-modal performance, and contribute to significant improvements in air quality (as detailed in Govt. Code 65089.4).

This requirement applies only to deficient roadways that are on the CMP Roadway Network and that the following trips are excluded from the volumes used in determining the deficiency: 1) Interregional travel; 2) Construction, rehabilitation, or maintenance of facilities that impact the system; 3) Traffic generated by the provision of low-income and very low income housing; 4) Traffic generated by high-density residential development located within one-fourth mile of a fixed rail passenger station; and, 5)Traffic generated by any mixed use development located within one-fourth mile of a fixed rail passenger station, if more than half of the land area, or floor area, of the mixed use development is used for high density residential housing, as determined by the agency.

The CMA commends the city for detailed incorporation of multi-modal and TDM measures into the amended policies. This incorporation will tie directly into the intent of the RCMP. Although roadway segments operating at LOS "D" (per RCMP methodology) are not considered deficient, this standard does trigger a requirement. Roadway segments operating at LOS "D" are subject to the preparation of a plan that analyzes specific strategies for operational preservation and transportation demand management. SJCOG is currently preparing a Regional Travel Demand Management Action Plan that will provide detailed guidance. This Plan is anticipated to be approved mid-summer 2010.

The significance thresholds within the 2010 CEQA Guidelines, Appendix G, with a direct relation to CMA authority and the above background discussion are:

XVI. TRANSPORTATION/TRAFFIC – Would the project:

a) *Conflict with an applicable plan, ordinance or policy establishing measures ofeffectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?*

b) *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways*?

SJCOG, in implementing the RCMP, requires that the potential impacts to roadways be analyzed with respect to the above thresholds. The DEIR should contain a section that specifically addresses requirements and standards of the Regional Congestion Management Program. If the project results in a degradation of LOS conditions, the identification and implementation of mitigation measures to resolve or mitigate the identified impact(s), is required per state CMP statute.

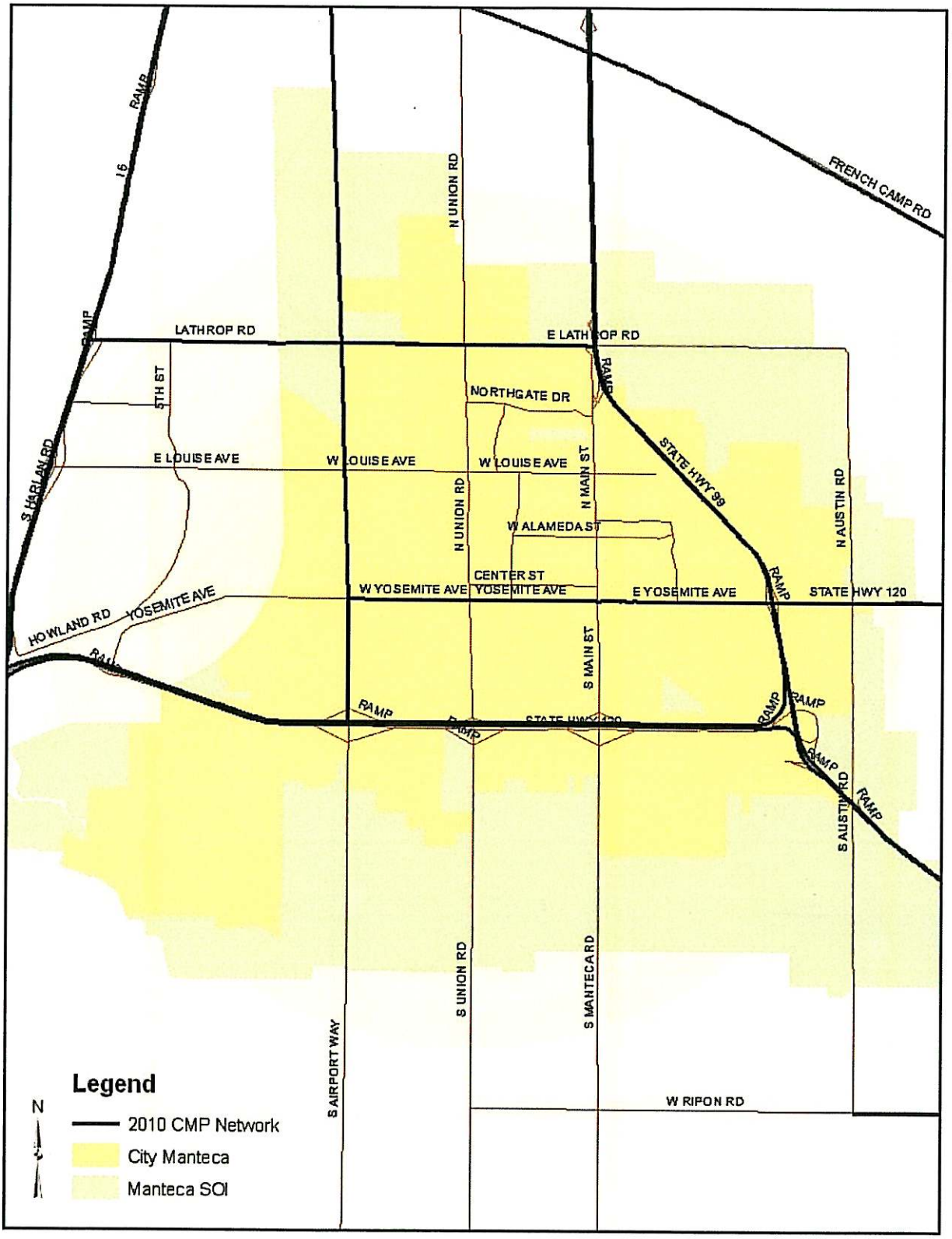
If you have any questions please call the RCMP's lead planner, Laura Brunn, at (209) 235-0579. We would be pleased to meet with the city concerning these comments if that would be helpful.

Sincerely,

Laura Brunn

LAURA BRUNN
SJCOG Associate Regional Planner

Cc: Andrew Chesley, SJCOG Executive Director
Dana Cowell, SJCOG Deputy Director
Laura Brunn, SJCOG Associate Regional Planner


I 5
RAMP
FRENCH CAMP RD
N UNION RD
LATHROP RD
E LATHROP RD
RAMP
5TH ST
NORTHGATE DR
S HARLAN RD
E LOUISE AVE
W LOUISE AVE
W LOUISE AVE
N MAIN ST
STATE HWY 99
N AUSTIN RD
N UNION RD
W ALAMEDA ST
CENTER ST
W YOSEMITE AVE
YOSEMITE AVE
E YOSEMITE AVE
RAMP
STATE HWY 120
HOWLAND RD
YOSEMITE AVE
S MAIN ST
RAMP
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RAMP
RAMP
RAMP
RAMP
S AUSTIN RD
S UNION RD
S MANTECA RD
S AIRPORT WAY
W RIPON RD
Legend
N
2010 CMP Network
City Manteca
Manteca SOI

APPENDIX C - EMFAC MODELING RESULTS

Title : City of Manteca Circulation Element
Version : Emfac2007 V2.3 Nov 1 2006 ** WIS Enabled **
Run Date : 2010/09/22 17:08:55
Scen Year: 2010 -- All model years in the range 1966 to 2010 selected
Season : Annual
Area : San Joaquin County
I/M Stat : Enhanced Interim (2005)
Emissions: Tons Per Day

****

	LDA-NCAT	LDA-CAT	LDA-OSL	LDA-TOT	LDT1-NCAT	LDT1-CAT	LDT1-OSL	LDT1-TOT	LDT2-NCAT	LDT2-CAT	LDT2-OSL	LDT2-TOT	MDV-NCAT	MDV-CAT	MDV-OSL	MDV-TOT	LHDT1-NC	LHDT1-CA	LHDT1-OS	LHDT1-TOT	LHDT2-NC	LHDT2-CA	LHDT2-OS	LHDT2-TOT	MHDT-NC	MHDT-CA	MHDT-OS	MHDT-TOT	HHDT-NCA	HHDT-CAT	HHDT-OSL	HHDT-TOT	OBUS-NCA	OBUS-CAT	OBUS-OSL	OBUS-TOT	SBUS-NCA	SBUS-CAT	SBUS-OSL	SBUS-TOT	UB-NCAT	UB-CAT	UB-OSL	UB-TOT	MH-NCAT	MH-CAT	MH-OSL	MH-TOT	MCY-NCAT	MCY-CAT	MCY-OSL	MCY-TOT	ALL-TOT
Vehicles	308	20427	63	20799	159	4690	345	5194	112	8908	27	9047	50	4816	16	4882	6	671	242	919	2	125	158	284	23	78	377	478	2	13	684	699	1	12	7	20	0	4	40	44	0	4	20	24	18	353	51	422	1130	504	0	1635	44447
VMT/1000	6	1026	2	1034	4	245	15	265	3	474	1	478	2	262	1	264	0	41	15	56	0	7	8	15	0	5	33	38	0	2	150	152	0	1	1	2	0	0	3	3	0	1	4	5	0	6	1	7	14	8	0	22	2341
Trips	852	89522	244	90618	446	20901	1476	22423	316	39069	106	39492	151	21263	70	21483	133	15488	2126	17743	48	2874	1384	4306	738	2479	7381	10598	49	423	2415	2888	18	386	143	546	1	10	113	123	1	11	55	67	1	25	4	29	1578	704	0	2282	212600
Reactive Organic Gas Emissions																																																						
Run Exh	0.04	0.06	0	0.1	0.03	0.02	0	0.04	0.02	0.04	0	0.06	0.01	0.03	0	0.04	0	0.02	0	0.02	0	0	0	0.01	0	0	0.01	0.02	0	0.01	0.19	0.2	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.05	0.01	0	0.07	0.56
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Start Ex	0.01	0.05	0	0.06	0	0.01	0	0.01	0	0.03	0	0.03	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0.01	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.16
Total Ex	0.05	0.11	0	0.16	0.03	0.03	0	0.06	0.02	0.07	0	0.09	0.01	0.04	0	0.06	0	0.03	0	0.03	0	0.01	0	0.01	0.01	0.01	0.01	0.03	0	0.01	0.2	0.21	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.06	0.02	0	0.07	0.73
Diurnal	0	0.02	0	0.02	0	0	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Hot Soak	0	0.02	0	0.02	0	0	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Running	0.02	0.05	0	0.07	0.03	0.02	0	0.03	0	0.04	0	0.04	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.18
Resting	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02
Total	0.07	0.21	0	0.28	0.04	0.06	0	0.1	0.03	0.13	0	0.15	0.01	0.07	0	0.09	0	0.04	0	0.04	0	0.01	0	0.01	0.01	0.01	0.01	0.04	0	0.01	0.2	0.21	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.06	0.02	0	0.09	1.02
Carbon Monoxide Emissions																																																						
Run Exh	0.49	2.64	0	3.13	0.3	0.83	0.01	1.15	0.21	1.69	0	1.91	0.21	0.93	0	1.14	0.03	0.19	0.02	0.23	0.01	0.04	0.01	0.06	0.05	0.06	0.09	0.2	0.02	0.09	0.77	0.89	0	0.01	0	0.01	0	0.01	0.01	0.02	0.02	0.03	0.01	0.06	0.04	0.08	0	0.12	0.65	0.11	0	0.76	9.69
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05
Start Ex	0.03	0.62	0	0.65	0.02	0.17	0	0.18	0.01	0.35	0	0.36	0.01	0.2	0	0.21	0.01	0.13	0	0.14	0	0.03	0	0.03	0.05	0.09	0	0.14	0.02	0.03	0	0.05	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0.03	1.8
Total Ex	0.52	3.27	0	3.78	0.32	1	0.01	1.33	0.22	2.05	0	2.27	0.22	1.13	0	1.35	0.03	0.32	0.02	0.37	0.01	0.07	0.01	0.09	0.1	0.15	0.09	0.34	0.04	0.12	0.82	0.98	0	0.02	0	0.03	0	0.01	0.01	0.02	0.02	0.03	0.01	0.06	0.04	0.08	0	0.12	0.66	0.12	0	0.79	11.54
Oxides of Nitrogen Emissions																																																						
Run Exh	0.03	0.25	0	0.28	0.02	0.08	0.02	0.12	0.01	0.23	0	0.25	0.01	0.15	0	0.16	0	0.03	0.07	0.1	0	0.01	0.05	0.06	0	0.01	0.33	0.35	0	0.08	2.68	2.71	0	0	0.01	0.01	0	0	0.04	0.04	0	0.01	0.08	0.09	0	0.01	0.01	0.02	0.02	0.01	0	0.03	4.21
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Start Ex	0	0.04	0	0.04	0	0.01	0	0.01	0	0.08	0	0.03	0	0.02	0	0.02	0	0.03	0	0.03	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16
Total Ex	0.03	0.29	0	0.32	0.02	0.09	0.02	0.13	0.01	0.26	0	0.28	0.01	0.16	0	0.18	0	0.05	0.07	0.13	0	0.01	0.05	0.06	0	0.02	0.33	0.36	0	0.08	2.78	2.81	0	0.01	0.01	0.01	0	0	0.04	0.04	0	0.01	0.08	0.09	0	0.01	0.01	0.02	0.02	0.01	0	0.03	4.46
Carbon Dioxide Emissions (000)																																																						
Run Exh	0	0.4	0	0.4	0	0.12	0.01	0.13	0	0.23	0	0.23	0	0.17	0	0.17	0	0.04	0.01	0.05	0	0.01	0	0.01	0	0	0.05	0.06	0	0	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0.01	0	0	1.38
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Start Ex	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02
Total Ex	0	0.4	0	0.41	0	0.12	0.01	0.13	0	0.23	0	0.23	0	0.17	0	0.18	0	0.04	0.01	0.05	0	0.01	0	0.01	0	0	0.05	0.06	0	0	0.31	0.31	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0.01	0	0	1.41
PM10 Emissions																																																						
Run Exh	0	0.01	0	0.01	0	0	0	0	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0.11	0.11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Start Ex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Ex	0	0.01	0	0.01	0	0	0	0	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0.11	0.11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.17
TireWear	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03
BrakeWr	0	0.01	0	0.01	0	0	0	0	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03
Total	0	0.04	0	0.04	0	0.01	0	0.01	0	0.02	0	0.03	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0.12	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.23
Lead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Fuel Consumption (000 gallons)																																																						
Gasoline	0.46	41.84	0	42.3	0.28	12.41	0	12.69	0.2	24.06	0	24.26	0.15	18.1	0	18.25	0.03	4.63	0	4.66	0.01	0.78	0	0.79	0.06	0.42	0	0.48	0.01	0.36	0	0.17	0	0.07	0	0.07	0	0.02	0	0.02	0.01	0.07	0	0.08	0.03	0.47	0	0.5	0.31	0.17	0	0.48	104.76
Diesel	0	0	0.08	0.08	0	0	0.53	0.53	0	0	0.04	0.04	0	0	0.03	0.03	0	0	0.79	0.79	0	0	0.45	0.45	0	0	4.92	4.92	0	0	27.79	27.79	0	0	0.1	0.1	0	0	0.41	0.41	0	0	1	1	0	0	0.13	0.13	0	0	0	0	36.25

Title : City of Manteca Circulation Element
Version : Emfac2007 V2.3 Nov 1 2006 ** WIS Enabled **
Run Date : 2010/09/22 17:08:55
Scen Year: 2015 -- All model years in the range 1971 to 2015 selected
Season : Annual
Area : San Joaquin County
I/M Stat : Enhanced Interim (2005)
Emissions: Tons Per Day

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	LDA-NCAT	LDA-CAT	LDA-OSL	LDA-TOT	LDT1-NCAT	LDT1-CAT	LDT1-OSL	LDT1-TOT	LDT2-NCAT	LDT2-CAT	LDT2-OSL	LDT2-TOT	MDV-NCAT	MDV-CAT	MDV-OSL	MDV-TOT	LHDT1-NC	LHDT1-CA	LHDT1-OS	LHDT1-TOT	LHDT2-NC	LHDT2-CA	LHDT2-OS	LHDT2-TOT	MHDT-NC	MHDT-CA	MHDT-OS	MHDT-TOT	HHDT-NCA	HHDT-CAT	HHDT-OSL	HHDT-TOT	OBUS-NCA	OBUS-CAT	OBUS-OSL	OBUS-TOT	SBUS-NCA	SBUS-CAT	SBUS-OSL	SBUS-TOT	UB-NCAT	UB-CAT	UB-OSL	UB-TOT	MH-NCAT	MH-CAT	MH-OSL	MH-TOT	MCY-NCAT	MCY-CAT	MCY-OSL	MCY-TOT	ALL-TOT
Vehicles	76	25420	41	25537	58	6035	283	6375	42	11057	18	11117	30	5951	14	5996	3	844	281	1128	1	167	182	349	10	104	474	587	1	16	813	829	0	13	11	24	0	5	49	54	0	5	25	30	6	449	63	518	1006	1000	0	2006	54590
VMT/1000	2	3409	1	3412	1	343	12	357	1	627	1	629	1	335	1	336	0	52	17	70	0	10	10	21	0	8	44	53	0	3	198	200	0	1	1	2	0	0	4	4	0	1	5	6	0	8	1	10	13	16	0	29	3128
Trips	206	113814	154	112174	156	26377	1173	27705	114	48465	68	48647	86	26198	61	26346	66	19657	2488	22211	15	3883	1609	5507	310	3329	9356	12994	21	511	2896	3428	9	408	225	642	0	13	139	152	1	13	69	83	0	32	4	36	1416	1408	0	2824	262750
Reactive Organic Gas Emissions																																																						
Run Exh	0.01	0.05	0	0.06	0.01	0.02	0	0.03	0.01	0.04	0	0.04	0.01	0.03	0	0.03	0	0.01	0	0.02	0	0	0	0.01	0	0	0.01	0.01	0	0.01	0.17	0.17	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.05	0.03	0	0.08	0.46
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Start Ex	0	0.04	0	0.04	0	0.01	0	0.01	0	0.02	0	0.02	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.12
Total Ex	0.01	0.09	0	0.1	0.01	0.03	0	0.04	0.01	0.06	0	0.07	0.01	0.04	0	0.05	0	0.02	0	0.03	0	0	0	0.01	0	0.01	0.01	0.02	0	0.01	0.18	0.19	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.05	0.03	0	0.08	0.6
Diurnal	0	0.02	0	0.02	0	0	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Hot Soak	0	0.02	0	0.02	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Running	0	0.05	0	0.05	0	0.02	0	0.02	0	0.04	0	0.04	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16
Resting	0	0.01	0	0.01	0	0	0	0	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02
Total	0.02	0.18	0	0.2	0.01	0.06	0	0.08	0.01	0.13	0	0.14	0.01	0.07	0	0.08	0	0.04	0	0.04	0	0.01	0	0.01	0.01	0.01	0.01	0.02	0	0.01	0.18	0.19	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.05	0.04	0	0.1	0.87
Carbon Monoxide Emissions																																																						
Run Exh	0.12	2.34	0	2.46	0.11	0.78	0.01	0.9	0.08	1.63	0	1.71	0.13	0.97	0	1.1	0.01	0.14	0.02	0.18	0	0.03	0.01	0.04	0.02	0.04	0.1	0.16	0.01	0.1	0.68	0.79	0	0.01	0	0.01	0	0.01	0.01	0.02	0.02	0.05	0.02	0.08	0.01	0.06	0	0.07	0.53	0.17	0	0.7	8.24
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06
Start Ex	0.01	0.49	0	0.49	0.01	0.14	0	0.15	0	0.3	0	0.31	0.01	0.19	0	0.19	0	0.12	0	0.12	0	0.02	0	0.02	0.02	0.08	0	0.1	0.01	0.08	0	0.04	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.02	0	0.03	1.48
Total Ex	0.13	2.83	0	2.95	0.12	0.93	0.01	1.05	0.08	1.94	0	2.02	0.14	1.15	0	1.29	0.02	0.26	0.02	0.3	0	0.05	0.01	0.07	0.04	0.12	0.1	0.26	0.02	0.14	0.73	0.89	0	0.02	0	0.03	0	0.01	0.01	0.02	0.02	0.05	0.02	0.08	0.01	0.06	0	0.07	0.54	0.19	0	0.73	9.77
Oxides of Nitrogen Emissions																																																						
Run Exh	0.01	0.2	0	0.21	0.01	0.07	0.02	0.09	0.01	0.19	0	0.2	0.01	0.13	0	0.14	0	0.02	0.06	0.09	0	0	0.04	0.05	0	0.01	0.26	0.27	0	0.02	2.11	2.13	0	0	0	0.01	0	0	0.04	0.04	0	0.01	0.1	0.12	0	0.01	0.01	0.02	0.02	0.02	0	0.04	3.39
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.12	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.13
Start Ex	0	0.03	0	0.03	0	0.01	0	0.01	0	0.03	0	0.03	0	0.02	0	0.02	0	0.01	0	0.01	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.14
Total Ex	0.01	0.23	0	0.24	0.01	0.08	0.02	0.1	0.01	0.22	0	0.23	0.01	0.14	0	0.15	0	0.06	0.06	0.12	0	0.01	0.04	0.06	0	0.02	0.26	0.28	0	0.03	2.23	2.26

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Title : City of Manteca Circulation Element
Version : Emfac2007 V2.3 Nov 1 2006 ** WIS Enabled **
Run Date : 2010/09/22 16:50:55
Scen Year: 2010 -- All model years in the range 1966 to 2010 selected
Season : Annual
Area : San Joaquin County
I/M Stat : Enhanced Interim (2005)
Emissions: Tons Per Day

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	LDA-NCAT	LDA-CAT	LDA-OSL	LDA-TOT	LDT1-NCAT	LDT1-CAT	LDT1-OSL	LDT1-TOT	LDT2-NCAT	LDT2-CAT	LDT2-OSL	LDT2-TOT	MDV-NCAT	MDV-CAT	MDV-OSL	MDV-TOT	LHDT1-NC	LHDT1-CA	LHDT1-OSL	LHDT1-TOT	LHDT2-NC	LHDT2-CA	LHDT2-OSL	LHDT2-TOT	MHDT-NC	MHDT-CA	MHDT-OSL	MHDT-TOT	HHDT-NCA	HHDT-CAT	HHDT-OSL	HHDT-TOT	OBUS-NCA	OBUS-CAT	OBUS-OSL	OBUS-TOT	SBUS-NCA	SBUS-CAT	SBUS-OSL	SBUS-TOT	UB-NCAT	UB-CAT	UB-OSL	UB-TOT	MH-NCAT	MH-CAT	MH-OSL	MH-TOT	MCY-NCAT	MCY-CAT	MCY-OSL	MCY-TOT	ALL-TOT
Vehicles	308	20427	63	20799	159	4690	345	5194	112	8908	27	9047	50	4816	16	4882	6	671	242	919	2	125	158	284	23	78	377	478	2	13	684	699	1	12	7	20	0	4	40	44	0	4	20	24	18	353	51	422	1130	504	0	1635	44447
VMT/1000	6	3026	2	3034	4	245	15	265	3	474	1	478	2	262	1	264	0	41	15	56	0	7	8	15	0	5	33	38	0	2	150	152	0	1	1	2	0	0	3	3	0	1	4	5	0	6	1	7	14	8	0	22	2341
Trips	852	89522	244	90618	446	20901	1476	22423	316	39069	106	39492	151	21263	70	21483	133	15488	2126	17743	48	2874	1384	4306	738	2479	7381	10598	49	423	2415	2888	18	386	143	546	1	10	113	123	1	11	55	67	1	25	4	29	1578	704	0	2282	212600
Reactive Organic Gas Emissions																																																						
Run Exh	0.04	0.06	0	0.1	0.03	0.02	0	0.04	0.02	0.04	0	0.06	0.01	0.03	0	0.04	0	0.02	0	0.02	0	0	0	0.01	0	0	0.01	0.02	0	0.01	0.19	0.2	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.05	0.01	0	0.07	0.56
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Start Ex	0.01	0.05	0	0.06	0	0.01	0	0.01	0	0.03	0	0.03	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0.01	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.16
Total Ex	0.05	0.11	0	0.16	0.03	0.03	0	0.06	0.02	0.07	0	0.09	0.01	0.04	0	0.06	0	0.03	0	0.03	0	0.01	0	0.01	0.01	0.01	0.01	0.03	0	0.01	0.2	0.21	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.06	0.02	0	0.07	0.73
Diurnal	0	0.02	0	0.02	0	0	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Hot Soak	0	0.02	0	0.02	0	0	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Running	0.02	0.05	0	0.07	0.01	0.02	0	0.03	0	0.04	0	0.04	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.18
Resting	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02
Total	0.07	0.21	0	0.28	0.04	0.06	0	0.1	0.03	0.13	0	0.15	0.01	0.07	0	0.09	0	0.04	0	0.04	0	0.01	0	0.01	0.01	0.01	0.01	0.04	0	0.01	0.2	0.21	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.06	0.02	0	0.09	1.02
Carbon Monoxide Emissions																																																						
Run Exh	0.49	2.64	0	3.13	0.3	0.83	0.01	1.15	0.21	1.69	0	1.91	0.21	0.93	0	1.14	0.03	0.19	0.02	0.23	0.01	0.04	0.01	0.06	0.05	0.06	0.09	0.2	0.02	0.09	0.77	0.89	0	0.01	0	0.01	0	0.01	0.01	0.02	0.02	0.03	0.01	0.06	0.04	0.08	0	0.12	0.65	0.11	0	0.76	9.69
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05
Start Ex	0.03	0.62	0	0.65	0.02	0.17	0	0.18	0.01	0.35	0	0.36	0.01	0.2	0	0.21	0.01	0.13	0	0.14	0	0.03	0	0.03	0.05	0.09	0	0.14	0.02	0.03	0	0.05	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0.03	1.8
Total Ex	0.52	3.27	0	3.78	0.32	1	0.01	1.33	0.22	2.05	0	2.27	0.22	1.13	0	1.35	0.03	0.32	0.02	0.37	0.01	0.07	0.01	0.09	0.1	0.15	0.09	0.34	0.04	0.12	0.82	0.98	0	0.02	0	0.03	0	0.01	0.01	0.02	0.02	0.03	0.01	0.06	0.04	0.08	0	0.12	0.66	0.12	0	0.79	11.54
Oxides of Nitrogen Emissions																																																						
Run Exh	0.03	0.25	0	0.28	0.02	0.08	0.02	0.12	0.01	0.23	0	0.25	0.01	0.15	0	0.16	0	0.03	0.07	0.1	0	0.01	0.05	0.06	0	0.01	0.33	0.35	0	0.08	2.68	2.71	0	0	0.01	0.01	0	0	0.04	0.04	0	0.01	0.08	0.09	0	0.01	0.01	0.02	0.02	0.01	0	0.03	4.21
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Start Ex	0	0.04	0	0.04	0	0.01	0	0.01	0	0.03	0	0.03	0	0.02	0	0.02	0	0.03	0	0.03	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16
Total Ex	0.03	0.29	0	0.32	0.02	0.09	0.02	0.13	0.01	0.26	0	0.28	0.01	0.16	0	0.18	0	0.05	0.07	0.13	0	0.01	0.05	0.06	0	0.02	0.33	0.36	0	0.08	2.78	2.81	0	0.01	0.01	0.01	0	0	0.04	0.04	0	0.01	0.08	0.09	0	0.01	0.01	0.02	0.02	0.01	0	0.03	4.46
Carbon Dioxide Emissions (000)																																																						
Run Exh	0	0.4	0	0.4	0	0.12	0.01	0.13	0	0.23	0	0.23	0	0.17	0	0.17	0	0.04	0.01	0.05	0	0.01	0	0.01	0	0	0.05	0.06	0	0	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	1.38
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Start Ex	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02
Total Ex	0	0.4	0	0.41	0	0.12	0.01	0.13	0	0.23	0	0.23	0	0.17	0	0.18	0	0.04	0.01	0.05	0	0.01	0	0.01	0	0	0.05	0.06	0	0	0.31	0.31	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	1.41
PM2.5 Emissions																																																						
Run Exh	0	0.01	0	0.01	0	0	0	0	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.15
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Start Ex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Ex	0	0.01	0	0.01	0	0	0	0	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.15
TireWear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
BrakeWr	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Total	0	0.02	0	0.02	0	0.01	0	0.01	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.17
Lead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Fuel Consumption (000 gallons)																																																						
Gasoline	0.46	41.84	0	42.3	0.28	12.41	0	12.69	0.2	24.06	0	24.26	0.15	18.1	0	18.25	0.03	4.63	0	4.66	0.01	0.78	0	0.79	0.06	0.42	0	0.48	0.01	0.36	0	0.17	0	0.07	0	0.07	0	0.02	0	0.02	0.01	0.07	0	0.08	0.03	0.47	0	0.5	0.31	0.17	0	0.48	104.76
Diesel	0	0	0.08	0.08	0	0	0.53	0.53	0	0	0.04	0.04	0	0	0.03	0.03	0	0	0.79	0.79	0	0	0.45	0.45	0	0	4.92	4.92	0	0	27.79	27.79	0	0	0.1	0.1	0	0	0.41	0.41	0	0	1	1	0	0	0.13	0.13	0	0	0	0	36.25

Title : City of Manteca Circulation Element
Version : Emfac2007 V2.3 Nov 1 2006 ** WIS Enabled **
Run Date : 2010/09/22 16:50:55
Scen Year: 2015 -- All model years in the range 1971 to 2015 selected
Season : Annual
Area : San Joaquin County
I/M Stat : Enhanced Interim (2005)
Emissions: Tons Per Day

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	LDA-NCAT	LDA-CAT	LDA-OSL	LDA-TOT	LDT1-NCAT	LDT1-CAT	LDT1-OSL	LDT1-TOT	LDT2-NCAT	LDT2-CAT	LDT2-OSL	LDT2-TOT	MDV-NCAT	MDV-CAT	MDV-OSL	MDV-TOT	LHDT1-NC	LHDT1-CA	LHDT1-OSL	LHDT1-TOT	LHDT2-NC	LHDT2-CA	LHDT2-OSL	LHDT2-TOT	MHDT-NC	MHDT-CA	MHDT-OSL	MHDT-TOT	HHDT-NCA	HHDT-CAT	HHDT-OSL	HHDT-TOT	OBUS-NCA	OBUS-CAT	OBUS-OSL	OBUS-TOT	SBUS-NCA	SBUS-CAT	SBUS-OSL	SBUS-TOT	UB-NCAT	UB-CAT	UB-OSL	UB-TOT	MH-NCAT	MH-CAT	MH-OSL	MH-TOT	MCY-NCAT	MCY-CAT	MCY-OSL	MCY-TOT	ALL-TOT
Vehicles	76	25420	41	25537	58	6035	283	6375	42	11057	18	11117	30	5951	14	5996	3	844	281	1128	1	167	182	349	10	104	474	587	1	16	813	829	0	13	11	24	0	5	49	54	0	5	25	30	6	449	63	518	1006	1000	0	2006	54590
VMT/1000	2	3409	1	3412	1	343	12	357	1	627	1	629	1	335	1	336	0	52	17	70	0	10	10	21	0	8	44	53	0	3	198	200	0	1	1	2	0	0	4	4	0	1	5	6	0	8	1	10	13	16	0	29	3128
Trips	206	113814	154	112174	156	26377	1173	27705	114	48465	68	48647	86	26198	61	26346	66	19657	2488	22211	15	3883	1609	5507	310	3329	9356	12994	21	511	2896	3428	9	408	225	642	0	13	139	152	1	13	69	83	0	32	4	36	1416	1408	0	2824	262750
Reactive Organic Gas Emissions																																																						
Run Exh	0.01	0.05	0	0.06	0.01	0.02	0	0.03	0.01	0.04	0	0.04	0.01	0.03	0	0.03	0	0.01	0	0.02	0	0	0	0.01	0	0	0.01	0.01	0	0.01	0.17	0.17	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.05	0.03	0	0.08	0.46
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Start Ex	0	0.04	0	0.04	0	0.01	0	0.01	0	0.02	0	0.02	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.12
Total Ex	0.01	0.09	0	0.1	0.01	0.03	0	0.04	0.01	0.06	0	0.07	0.01	0.04	0	0.05	0	0.02	0	0.03	0	0	0	0.01	0	0.01	0.01	0.02	0	0.01	0.18	0.19	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.05	0.03	0	0.08	0.6
Diurnal	0	0.02	0	0.02	0	0	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Hot Soak	0	0.02	0	0.02	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Running	0	0.05	0	0.05	0	0.02	0	0.02	0	0.04	0	0.04	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16
Resting	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02
Total	0.02	0.18	0	0.2	0.01	0.06	0	0.08	0.01	0.13	0	0.14	0.01	0.07	0	0.08	0	0.04	0	0.04	0	0.01	0	0.01	0.01	0.01	0.01	0.02	0	0.01	0.18	0.19	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0.05	0.04	0	0.1	0.87
Carbon Monoxide Emissions																																																						
Run Exh	0.12	2.34	0	2.46	0.11	0.78	0.01	0.9	0.08	1.63	0	1.71	0.13	0.97	0	1.1	0.01	0.14	0.02	0.18	0	0.03	0.01	0.04	0.02	0.04	0.1	0.16	0.01	0.1	0.68	0.79	0	0.01	0	0.01	0	0.01	0.01	0.02	0.02	0.05	0.02	0.08	0.01	0.06	0	0.07	0.53	0.17	0	0.7	8.24
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06
Start Ex	0.01	0.49	0	0.49	0.01	0.14	0	0.15	0	0.3	0	0.31	0.01	0.19	0	0.19	0	0.12	0	0.12	0	0.02	0	0.02	0.02	0.08	0	0.1	0.01	0.08	0	0.04	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.02	0	0.03	1.48
Total Ex	0.13	2.83	0	2.95	0.12	0.93	0.01	1.05	0.08	1.94	0	2.02	0.14	1.15	0	1.29	0.02	0.26	0.02	0.3	0	0.05	0.01	0.07	0.04	0.12	0.1	0.26	0.02	0.14	0.73	0.89	0	0.02	0	0.03	0	0.01	0.01	0.02	0.02	0.05	0.02	0.08	0.01	0.06	0	0.07	0.54	0.19	0	0.73	9.77
Oxides of Nitrogen Emissions																																																						
Run Exh	0.01	0.2	0	0.21	0.01	0.07	0.02	0.09	0.01	0.19	0	0.2	0.01	0.13	0	0.14	0	0.02	0.06	0.09	0	0	0.04	0.05	0	0.01	0.26	0.27	0	0.02	2.11	2.13	0	0	0	0.01	0	0	0.04	0.04	0	0.01	0.1	0.12	0	0.01	0.01	0.02	0.02	0.02	0	0.04	3.39
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.12	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.13
Start Ex	0	0.03	0	0.03	0	0.01	0	0.01	0	0.03	0	0.03	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.14
Total Ex	0.01	0.23	0	0.24	0.01	0.08	0.02	0.1	0.01	0.22	0	0.23	0.01	0.14	0	0.15	0	0.06	0.06	0.12	0	0.01	0.04	0.06	0	0.02	0

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Title : City of Manteca Circulation Element
Version : Emfac2007 V2.3 Nov 1 2006 ** WIS Enabled **
Run Date : 2010/09/22 17:47:19
Scen Year: 2010 -- All model years in the range 1966 to 2010 selected
Season : Annual
Area : San Joaquin County
I/M Stat : Enhanced Interim (2005)
Emissions: Tons Per Day

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Title : City of Manteca Circulation Element
Version : Emfac2007 V2.3 Nov 1 2006 ** WIS Enabled **
Run Date : 2010/09/22 17:43:40
Scen Year: 2010 -- All model years in the range 1966 to 2010 selected
Season : Annual
Area : San Joaquin County
I/M Stat : Enhanced Inter m (2005)
Emissions: Tons Per Day

	LDA-NCAT	LDA-CAT	LDA-OSL	LDA-TOT	LDT-NCAT	LDT-CAT	LDT-OSL	LDT-TOT	LDT2-NCA	LDT2-CAT	LDT2-OSL	LDT2-TOT	MDV-NCA	MDV-CAT	MDV-OSL	MDV-TOT	LHDT1-NC	LHDT1-CA	LHDT1-OS	LHDT1-TO	LHDT2-NC	LHDT2-CA	LHDT2-OS	LHDT2-TO	MHDT-NC	MHDT-CA	MHDT-OS	MHDT-TOT	HHDT-NCA	HHDT-CAT	HHDT-OSL	HHDT-TOT	OBUS-NCA	OBUS-CAT	OBUS-OSL	OBUS-TOT	SBUS-NCA	SBUS-CAT	SBUS-OSL	SBUS-TOT	UBUS-NCAT	UB-CAT	UB-OSL	UB-TOT	MH-NCAT	MH-CAT	MH-OSL	MH-TOT	MCY-NCAT	MCY-CAT	MCY-OSL	MCY-TOT	All-TOT
Vehicles	308	2047	63	2079	159	4910	345	5104	112	8908	27	9047	50	4816	16	4882	6	671	242	919	2	125	158	284	23	78	377	478	2	13	684	699	1	12	7	20	0	4	40	44	0	4	20	24	18	353	51	422	1130	504	0	1615	44407
VMT/1,000	6	1026	2	1034	4	245	15	265	3	474	1	478	2	262	1	264	0	41	15	56	0	7	8	15	0	5	33	38	0	2	150	152	0	1	1	2	0	0	3	3	0	1	4	5	0	6	1	7	14	8	0	22	2341
Trips	852	8552	244	9061	446	2050	1	14 76	2	2423	3 16	3 9069	10 6	3 9492	15 1	21 263	70	21 483	133	154 83	2126	177 43	48	287 4	1 384	4306	7 38	2479	7381	1 0598	49	423	241 5	2888	18	3 86	143	546	1	10	1 13	123	1	11	55	67	1	25	4	29	1578	704	0	2282	21 2600
Reactive Organic Gas Emissions																																																							
Run Exh	0.04	0.06	0	0.1	0.03	0.02	0	0.04	0.02	0.04	0	0.06	0.01	0.03	0	0.04	0	0.02	0	0.02	0	0	0	0.01	0	0	0	0.01	0.02	0	0.01	0.19	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.01	0	0.07	0.56
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Start Ex	0.01	0.05	0	0.06	0	0.01	0	0.01	0	0.03	0	0.03	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.16
Total Ex	0.05	0.11	0	0.16	0.03	0.03	0	0.06	0.02	0.07	0	0.09	0.01	0.04	0	0.06	0	0.03	0	0.03	0	0.01	0	0.01	0.01	0.01	0.01	0.03	0	0.01	0.2	0.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06	0.02	0	0.07	0.73
Diurnal	0	0.02	0	0.02	0	0	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Hot Soak	0	0.02	0	0.02	0	0	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Running	0.02	0.05	0	0.07	0.01	0.02	0	0.03	0	0.04	0	0.04	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.18
Resting	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02
Total	0.07	0.21	0	0.28	0.04	0.06	0	0.1	0.03	0.13	0	0.15	0.01	0.07	0	0.09	0	0.04	0	0.04	0	0.01	0	0.01	0.01	0.01	0.01	0.04	0	0.01	0.2	0.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06	0.02	0	0.09	1.02
Carbon Monoxide Emissions																																																						
Run Exh	0.49	2.64	0	3.13	0.3	0.83	0.01	1.15	0.21	1.69	0	1.91	0.21	0.93	0	1.14	0.03	0.19	0.02	0.23	0.01	0.04	0.01	0.06	0.05	0.06	0.09	0.2	0.02	0.9	0.77	0.89	0	0.01	0	0.01	0	0.01	0.01	0.02	0.02	0.03	0.01	0.06	0.04	0.08	0	0.12	0.65	0.11	0	0.76	9.69
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05
Start Ex	0.03	0.62	0	0.65	0.02	0.17	0	0.18	0.01	0.35	0	0.36	0.01	0.2	0	0.21	0.01	0.13	0	0.14	0	0.03	0	0.03	0.05	0.09	0	0.14	0.02	0.03	0	0.05	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0.03	1.8
Total Ex	0.52	3.27	0	3.78	0.32	1	0.01	1.33	0.22	2.05	0	2.27	0.22	1.13	0	1.35	0.03	0.32	0.02	0.37	0.01	0.07	0.01	0.09	0.1	0.15	0.09	0.34	0.04	0.12	0.82	0.98	0	0.02	0	0.03	0	0.01	0.01	0.02	0.02	0.03	0.01	0.06	0.04	0.08	0	0.12	0.66	0.12	0	0.79	11.54
Oxides of Nitrogen Emissions																																																						
Run Exh	0.03	0.25	0	0.28	0.02	0.08	0.02	0.12	0.01	0.23	0	0.25	0.01	0.15	0	0.16	0	0.03	0.07	0.1	0	0.01	0.05	0.06	0	0.01	0.33	0.35	0	0.03	2.68	2.71	0	0	0	0.01	0.01	0	0.04	0.04	0	0.01	0.08	0.09	0	0.01	0.01	0.02	0.02	0.01	0	0.03	4.21
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Start Ex	0	0.04	0	0.04	0	0.01	0	0.01	0	0.03	0	0.03	0	0.02	0	0.02	0	0.03	0	0.03	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16
Total Ex	0.03	0.29	0	0.32	0.02	0.09	0.02	0.13	0.01	0.26	0	0.28	0.01	0.16	0	0.18	0	0.05	0.07	0.13	0	0.01	0.05	0.06	0	0.02	0.33	0.36	0	0.03	2.78	2.81	0	0.01	0.01	0.01	0	0	0.04	0.04	0	0.01	0.08	0.09	0	0.01	0.01	0.02	0.02	0.01	0	0.03	4.46
Carbon Dioxide Emissions (000)																																																						
Run Exh	0	0.4	0	0.4	0	0.12	0.01	0.13	0	0.23	0	0.23	0	0.17	0	0.17	0	0.04	0.01	0.05	0	0.01	0	0.01	0	0	0	0.05	0.06	0	0	0.3	0.3	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0.01	0	0	0	1.38
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Start Ex	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02
Total Ex	0	0.4	0	0.41	0	0.12	0.01	0.13	0	0.23	0	0.23	0	0.17	0	0.18	0	0.04	0.01	0.05	0	0.01	0	0.01	0	0	0	0.05	0.06	0	0	0.31	0.31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	1.41
PM10 Emissions																																																						
Run Exh	0	0.01	0	0.01	0	0	0	0	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Start Ex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Ex	0	0.01	0	0.01	0	0	0	0	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.17
Tire Wear	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03
Brake Wr	0	0.01	0	0.01	0	0	0	0	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03
Total	0	0.04	0	0.04	0	0.01	0	0.01	0	0.02	0	0.03	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.12	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.23
Lead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Fuel Consumption (000 gallons)																																																						
Gasoline	0.46	41.84	0	42.3	0.28	12.41	0	12.69	0.2	24.06	0	24.26	0.15	18.1	0	18.25	0.03	4.63	0	4.66	0.01	0.78	0	0.79	0.06	0.42	0	0.48	0.01	0.16	0	0.17	0	0.07	0	0.07	0	0.02	0	0.02	0.01	0.07	0	0.08	0.03	0.47	0	0.5	0.31	0.17	0	0.48	104.76
Diesel	0	0	0.08	0.08	0	0	0.53	0.53	0	0	0.04	0.04	0	0	0.03	0.03	0	0	0.79	0.79	0	0	0.45	0.45	0	0	4.92	4.92	0	0	27.79	27.79	0	0	0.1	0.1	0	0	0.41	0.41	0	0	1	1	0	0.13	0.13	0	0	0	0	0	36.25

Title : City of Manteca Circulation Element
Version : Emfac2007 V2.3 Nov 1 2006 ** WIS Enabled **
Run Date : 2010/09/22 17:43:40
Scen Year: 2015 -- All model years in the range 1971 to 2015 selected
Season : Annual
Area : San Joaquin County
I/M Stat : Enhanced Inter m (2005)
Emissions: Tons Per Day

	LDA-NCAT	LDA-CAT	LDA-OSL	LDA-TOT	LDT1-NCAT	LDT1-CAT	LDT1-OSL	LDT1-TOT	LDT2-NCA	LDT2-CAT	LDT2-OSL	LDT2-TOT	MDV-NCA	MDV-CAT	MDV-OSL	MDV-TOT	LHDT1-NC	LHDT1-CA	LHDT1-OS	LHDT1-TO	LHDT2-NC	LHDT2-CA	LHDT2-OS	LHDT2-TO	MHDT-NC	MHDT-CA	MHDT-OS	MHDT-TOT	HHDT-NCA	HHDT-CAT	HHDT-OSL	HHDT-TOT	OBUS-NCA	OBUS-CAT	OBUS-OSL	OBUS-TOT	SBUS-NCA	SBUS-CAT	SBUS-OSL	SBUS-TOT	UBUS-NCAT	UB-CAT	UB-OSL	UB-TOT	MH-NCAT	MH-CAT	MH-OSL	MH-TOT	MCY-NCAT	MCY-CAT	MCY-OSL	MCY-TOT	All-TOT
Vehicles	76	2542	41	2653	7	58	6035	283	6375	42	1 1057	1 8	11 117	3 0	5 951	14	59 96	3	8 44	281	112 8	1	16 7	182	349	10	104	474	587	1	16	81 3	8 29	0	13	11	24	0	5	49	54	0	5	25	30	6	449	6 3	518	1006	10 00	0	20 06	5 4950
VMT/1,000	2	1308	1	1 19 1	1	338	12	352	1	618	1	6 20	1	3 31	0	3 32	1	5 2	17	6 8	0	10	10	20	0	8	44	52	0	3	19 5	1 97	0	1	1	2	0	0	4	4	0	1	5	6	0	8	1	9	13	16	0	2 9	3 082
Trips	206	11 1857	154	1 1221 7	156	2638 7	11 73	2 7716	1 14	4 8484	6 8	4 8665	8 6	2 6 208	61	2 6 356	66	1 9665	2489	222 20	15	3885	1 609	5509	3 10	3330	9359	1 2999	2 1	5 11	2897	3 429	9	4 08	225	64 2	0	13	1 39	152	1	13	6 9	83	0	32	4	36	1417	1409	0	2825	26 2850
Reactive Organic Gas Emissions																																																							
Run Exh	0	0.06	0	0.06	0.01	0.02	0	0.03	0.01	0.04	0	0.04	0.01	0.02	0	0.03	0	0.01	0	0.02	0	0	0	0	0	0	0	0.01	0.01	0	0.01	0.16	0.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.03	0	0.08	0.46
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Start Ex	0	0.04	0	0.04	0	0.01	0	0.01	0	0.02	0	0.02	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.12
Total Ex	0.01	0.09	0	0.1	0.01	0.03	0	0.04	0.01	0.06	0	0.07	0.01	0.04	0	0.05	0	0.02	0	0.03	0	0	0	0.01	0	0.01	0.01	0.02	0	0.01	0.18	0.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.03	0	0.08	0.59
Diurnal	0	0.02	0	0.02	0	0	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Hot Soak	0	0.02	0	0.02	0	0.01	0	0.01	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04
Running	0	0.05	0	0.05	0	0.02	0	0.02	0	0.04	0	0.04	0	0.02	0	0.02	0	0.01	0	0.01	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.16
Resting	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02
Total	0.02	0.18	0	0.19	0.01	0.06	0	0.08	0.01	0.13	0	0.14	0.01	0.07	0	0.08	0	0.04	0	0.04	0	0.01	0	0.01	0.01	0.01	0.01	0.02	0	0.01	0.18	0.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0.05	0.04	0	0.09	0.86
Carbon Monoxide Emissions																																																							
Run Exh	0.12	2.31	0	2.43	0.11	0.77	0.01	0.89	0.08	1.61	0	1.69	0.13	0.95	0	1.08	0.01	0.14	0.02	0.18	0	0.03	0.01	0.04	0.02	0.04	0.09	0.16	0.01	0.1	0.67	0.78	0	0.01	0	0.01	0	0.01	0.01	0.02	0.02	0.05	0.02	0.08	0.01	0.05	0	0.07	0.52	0.17	0	0.69	8.11
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06
Start Ex	0.01	0.49	0	0.49	0.01	0.14	0	0.15	0	0.3	0	0.31	0.01	0.19	0	0.19	0	0.12	0	0.12	0	0.02	0	0.02	0.02	0.08	0	0.1	0.01	0.03	0	0.04	0	0.01	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.02	0	0.03	1.48
Total Ex	0.12	2.79	0	2.92	0.12	0.92	0.01	1.04	0.08	1.91	0	1.99	0.13	1.14	0	1.28	0.02	0.26	0.02	0.3	0	0.05	0.01	0.07	0.04	0.12	0.09	0.26	0.02	0.14	0.72	0.88	0	0.02	0	0.03	0	0.01	0.01	0.02	0.02	0.05	0.02	0.08	0.01	0.06	0	0.07	0.53	0.19	0	0.72	9.65
Oxides of Nitrogen Emissions																																																						
Run Exh	0.01	0.19	0	0.2	0.01	0.07	0.02	0.09	0.01	0.19	0	0.2	0.01	0.13	0	0.13	0	0.02	0.06	0.08	0	0.01	0.25	0.26	0	0.02	2.08	2.1	0	0	0	0	0	0	0.01	0	0.01	0	0.04	0.04	0	0.01	0.1	0.12	0	0.01	0.01	0.02	0.02	0.02	0	0.04	3.34
Idle Exh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.12	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.13
Start Ex	0	0.03	0	0.03	0	0.01	0	0.01	0	0.03	0	0.03	0	0.02	0	0.02	0	0.03	0	0.04	0	0.01	0

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