12. NOISE

This section is based upon and incorporates the noise analysis completed by Brown-Buntin, Inc., Noise Analysts: "Noise Analysis for the City of Manteca General Plan Update."

12.1 EXISTING CONDITIONS

The principal noise sources in the City of Manteca are traffic on State Routes 99, 120 and on local roads; the Union Pacific rail line; and commercial/industrial facilities. The existing noise environment in the City of Manteca was determined by a combination of noise level measurements and noise modeling. Following is a discussion of the background noise level survey results in residential and industrial areas of the City, and a description of the studied noise sources in the City.

12.1.1 Background Noise Level Survey

The purpose of the background noise level survey was to determine the baseline environment in the City at various locations. Three residences (Sites 1-3) were selected for the survey for continuous noise monitoring through a 24-hour period. Two other locations (Sites 4 & 5) were monitored intermittently. Their locations are shown in Figure 12-1. The results of the monitoring are shown in Figures 12-2 through 12-4 and in Table 12-1.

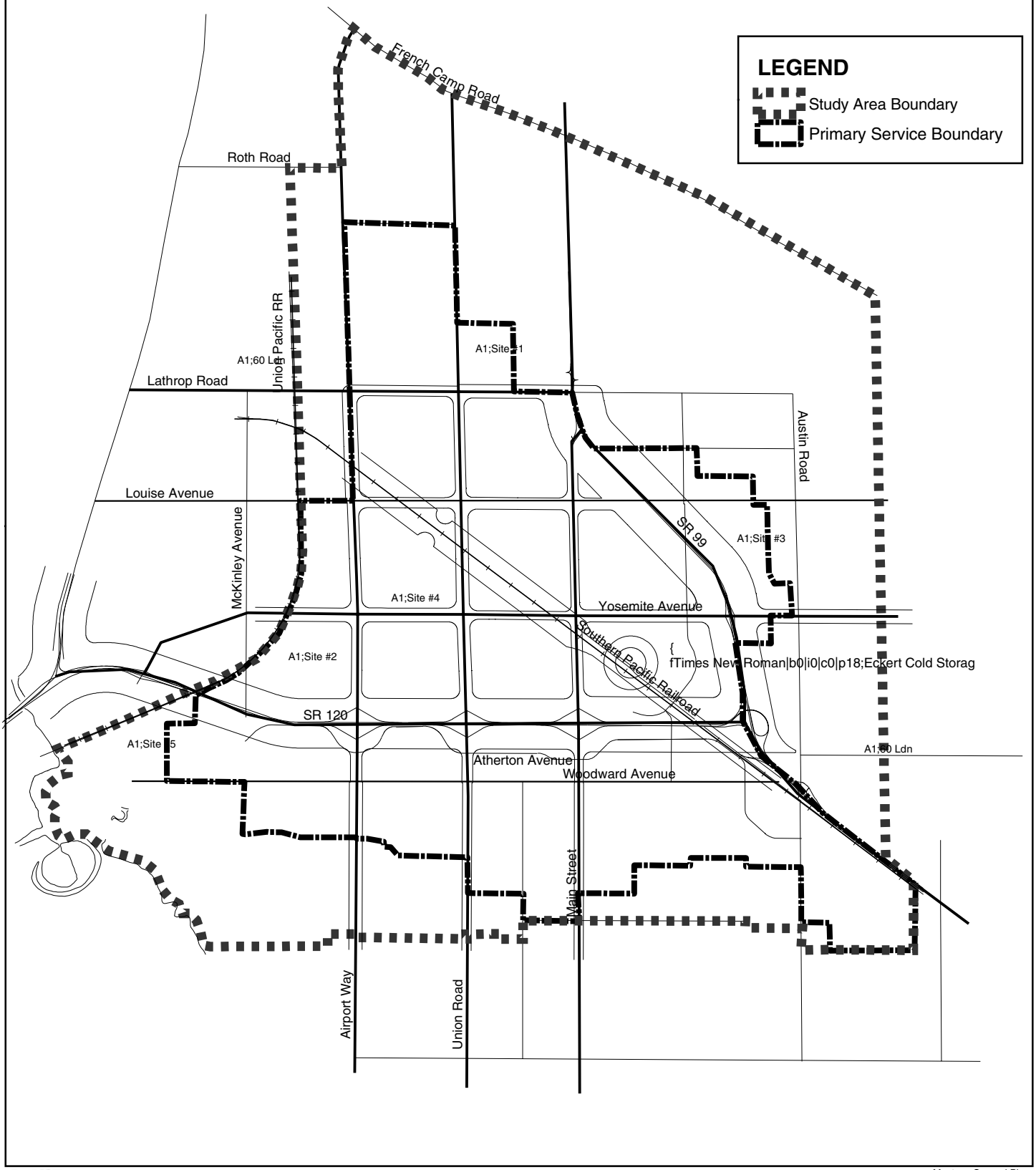
The background noise levels in terms of the Day/Night Average Level (L_{dn}) at the three residences that were measured for a 24-hour period ranged from about 55 to 59 dB. These noise levels are typical of residential areas in small communities that are located away from major noise sources, such as State Highways. In Table 12-1 background noise levels are summarized at a location off Airport Way (Site #4) in the Yosemite-Airport Specific Plan Area, and south of Route 120 (Site #5) in the Southwest Manteca Specific Plan Area.

Table 12-1

Intermittent Measurements of Background Noise Levels

Location	Date	Time	Sound Level, dBA			Source
			L_{eq}	L_{max}	L_{min}	
Site #4	5/20/03	10:20 a.m.-10:35 a.m.	56	72	43	Traffic on Airport Way
		11:30a.m.-11:45 a.m.	54	70	41	
		3:30 p.m.-3:45 p.m.	49	70	40	
Site #5	5/20/03	10:40 a.m.-10:55 a.m.	49	72	56	Traffic on SR 120
		1:30 p.m.-1:45 p.m.	53	75	58	
		4:00 p.m.-4:15 p.m.	52	70	55	

Source: Brown-Buntin



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LOCATION OF BACKGROUND NOISE LEVEL SURVEYS AND EXISTING 60 dB Ldn NOISE CONTOURS

May 2003

FIGURE 12-1

Source: Brown-Buntin June 2003

Figure 12-2
Background Noise Levels
655 Sierra, May 19-20, 2003

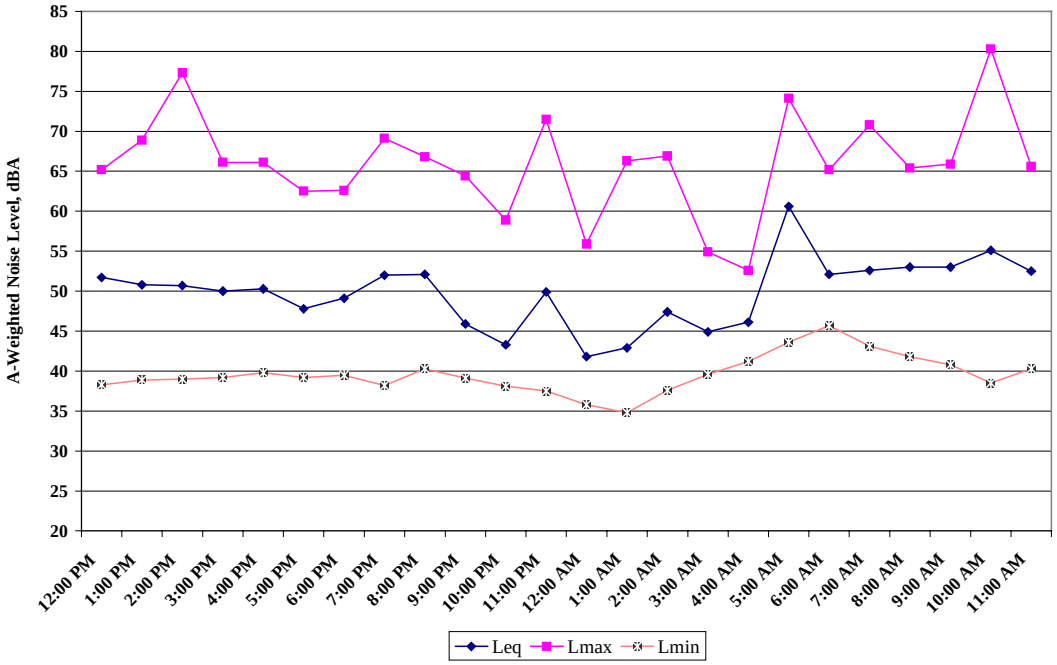


Figure 12-3
Background Noise Levels
1345 Keith Lane, May 19-20, 2003

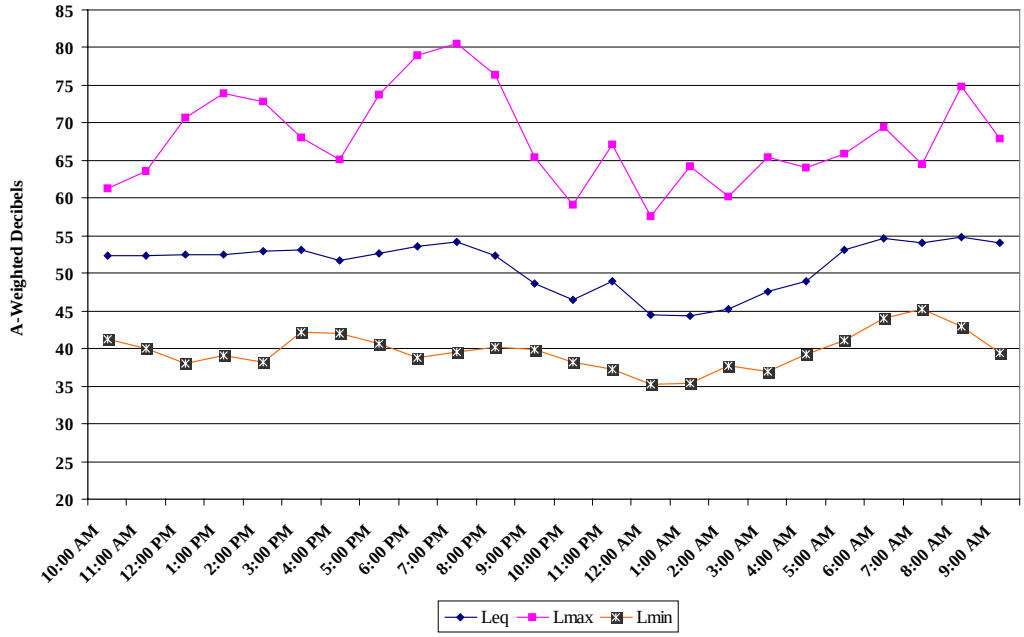
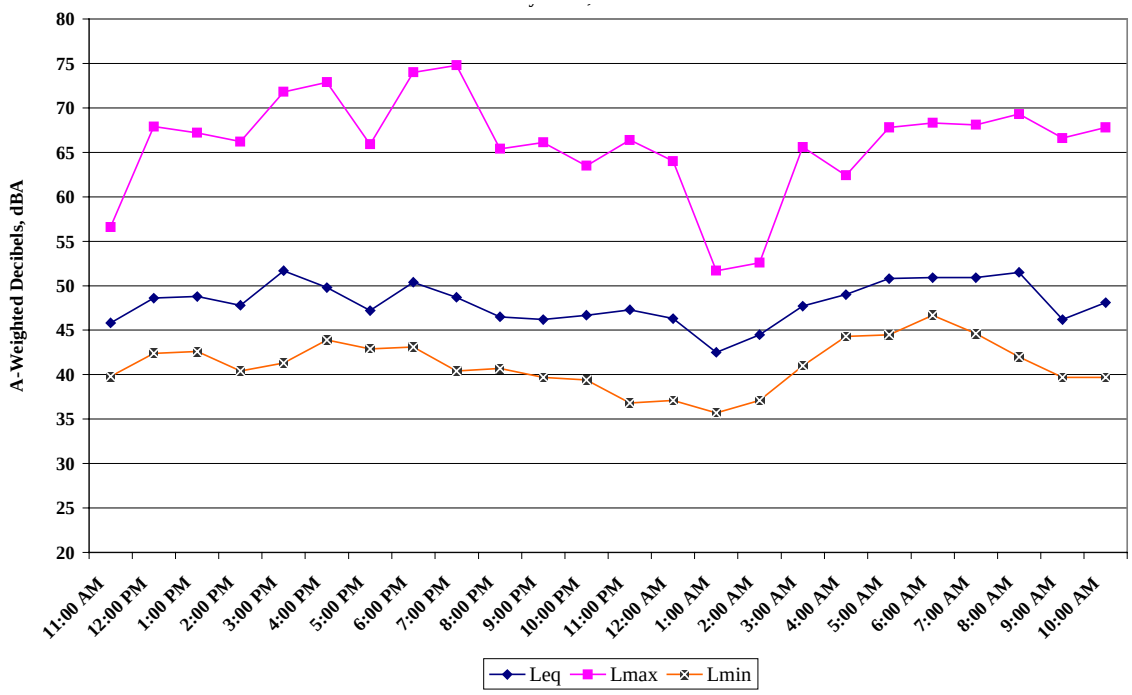


Figure 12-4
Background Noise Levels
1417 Sextant, May 19-20, 2003



In Figures 12-2 through 12-4 the L_{max} represents the highest (maximum) instantaneous noise level occurring during an hour. The L_{min} is the minimum instantaneous noise level during an hour, and the L_{eq} is the energy equivalent or average noise level during the hour.

Major Stationary Noise Sources

The production of noise is an inherent part of many industrial, commercial and agricultural processes, even when the best available noise control technology applied. Noise production within industrial or commercial facilities is controlled indirectly by Federal and State employee health and safety regulations (OHSA and Cal-OSHA), but exterior noise emissions from such operations have the potential to exceed locally acceptable standards at nearby noise-sensitive land uses.

Noise exposure information for the major stationary noise sources selected for study by the City was developed from noise level measurements conducted at reference locations around the noise source, and BBA file information. Only existing noise levels are described since there are too many variables and unknown conditions to predict future noise exposure.

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. Generalized 50 and 55 dBA hourly L_{eq} noise contours were prepared for major stationary noise sources where it was determined that such contours would be located off the property occupied by the source. These contours are included in Figure 12-1 of this document. The generalized contours contained within Figure 12-1 should be used as a screening device to determine when potential noise-related land use conflicts may occur, and when site-specific studies may be required to properly evaluate noise at a given noise-sensitive receiver location.

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 L_{eq} are approximately 1270 and 720 feet from the industry. These contours are plotted on Figure 12-1.

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.

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	Heavy truck loading and unloading
Delivery trucks	Forklifts

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.

12.1.2 TRANSPORTATION NOISE SOURCES

Traffic Noise

Traffic noise exposure was calculated using the Federal Highway Administration Highway Traffic Noise Model (FHWA Model). The FHWA Model is the analytical method currently favored by most state and local agencies, including Caltrans, for highway traffic noise prediction. The Model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within ± 1.5 dB. The Model assumes a clear view of traffic with no shielding at the receiver location. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The Calveno traffic noise emission curves were used as recommended by Caltrans to more accurately calculate noise levels generated by California traffic.

Traffic conditions for existing conditions that were used in the FHWA Model were provided by Fehr and Peers. Traffic volumes within some road segments were averaged by BBA where differences were minor. Appendix A shows the traffic data used in the Model. Appendix B shows existing traffic noise levels calculated at a reference distance of 100 feet, and Appendix C shows distance to noise contours. Figure 1shows the distances to noise contours from roadway centers.

In general, existing traffic noise levels on major roadways through Manteca range from about 62-65 dB L_{dn} at a reference distance of 100 feet. Along Routes 120 and 99, existing noise levels are about 74-75 dB L_{dn} at the same distance. Traffic noise levels that are 60 dB L_{dn} or less usually are considered to be fully compatible with noise-sensitive uses, which include residences, schools, churches and hospitals. Levels between 60 and 70 dB L_{dn} are marginally acceptable, and levels over 70 dB L_{dn} usually are considered to be unacceptable.

Rail Noise

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 L_{dn} were calculated based on the mean SEL values and the operational characteristics of the trains. The 60 dB L_{dn} contour is shown in Figure 12-1.

A branch line of the UP forms the west boundary of the General Plan Study Area. Very few train operations occur on the branch line and the noise exposure is less than 60 dB L_{dn} outside the railroad right-of-way.

12.1.3 Sensitive Land Uses

Noise sensitive land uses refer to specific uses where a person would be adversely impacted by noise and where the person would have the expectation of a relatively quiet environment. Uses include residences of all types, nursing homes, day care centers, medical facilities, schools, parks, and open space near the City.

12.1.4 Mobile Noise Sources

The primary mobile noise sources in the Study Area are vehicular traffic along SR 99 and SR 120, and railroad operations. Noise from the railroad operations, including train traffic and train whistles, is generally buffered by distance from much of the community. The rail lines are separated from homes on the east and west sides of the tracks by a distance of approximately 250 feet.

Maximum allowable noise exposure from mobile sources is shown in Table 12-2.

Table 12-2

Maximum Allowable Noise Exposure – Mobile Noise Sources

Land Use	Outdoor Activity Areas	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB2
Residential	60	45	
Transient Lodging	60	45	
Hospitals, Nursing Homes	60	45	
Theaters, Auditoriums, Music Halls			35
Churches, Music Halls	60		40
Office Buildings	65		45
Schools, Libraries, Museums			45
Playgrounds, Neighborhood Parks	70		

Notes:

Outdoor activity areas for residential development are considered to be backyard<u>s</u>, patios <u>areas,</u> or decks of single family dwellings, and the patios<u>, balconies,</u> or 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.

Determined for a typical worst-case hour during periods of use.

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.

12.1.5 Stationary Noise Sources

Stationary noise sources include, but are not limited to, construction activities, operational, and equipment noise produced from commercial and industrial facilities. These noise sources are typically mitigated through enforcement of the City's Noise Ordinance. The Ordinance sets forth criteria for residential areas impacted by stationary noise sources.

Performance standards for stationary noise sources are shown in Table 12-2.

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.

Table 12-3

Performance Standards for Stationary Noise Sources or

Projects Affected by Stationary Noise Sources

Noise Level Descriptor	Daytime	Nighttime
	7 a.m. to 10 p.m.	10 p.m. to 7 a.m.
Hourly Leq, dB	60	45
Maximum Level, dB	60	45

Notes:

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 area a primary source of noise complaints.

12.2 REGULATORY SETTING

12.2.1 Federal Standards

The U.S. Department of Housing and Urban Development (HUD) has set an L_{dn} of 45 dB as its goal for interior noise in residential units built with HUD funding.

12.2.2 State of California Standards

The Office of Noise Control, California Department of Health Services (DHS), has established four categories for judging the severity of noise intrusion on specified land uses:

- normally acceptable - no undue burden on affected receptors and no mitigation needed
- conditionally acceptable - some mitigation of exposure, as established by an acoustic study, would be warranted
- normally unacceptable - noise intrusion is so severe that it would require extraordinary noise reduction measures to avoid disruption
- clearly unacceptable - noise so severe that it cannot be mitigated

Title 24 of the California Code of Regulations establishes standards governing interior noise levels that apply to all new multi-family residential units. The standards require that acoustical

studies be conducted prior to construction where the future Ldn exceeds 60 dbA. Mitigation measures are required that will limit maximum L_{dn} values to 45 dB in any inhabitable room.

12.2.3 Non-Regulatory Standards of Significance

Another means of assessing noise impact is to estimate public reaction to the change in noise level that results from a given project. Expected human reactions to changes in ambient noise levels have been quantified by metrics that define short-term exposure (e.g., hourly Leq, Lmax, and Ln) to noise. An increase of at least 3 dB is usually required before most people will perceive a change in noise levels, and an increase of 5 dB is required before the change will be clearly noticeable. Table 11-6 (GP) is used to show expected public reaction to changes in environmental noise levels. This table was developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to similar sounds in the range of 50 to 70 dBA.

12.2.4 City of Manteca Noise Standards

The City of Manteca Noise Ordinance establishes the noise standards shown in Table 12-3.

The City of Manteca uses the Uniform Building Code that establishes the following standard for interior living spaces.

"Interior community noise levels (CNEL) with windows closed, attributable to exterior sources, shall not exceed an annual CNEL or Ldn of 45 dB in any habitable room."

This standard is to apply to all new hotels, motels, apartments, and dwellings other than single-family detached dwellings. State law also requires noise insulation of new multi-family dwellings constructed within the 60 dB CNEL noise exposure contours.

Table 12-4

Maximum Permissible Sound Pressure Levels, City of Manteca

Receiving Land Use Category	Time Period	Max Exterior Noise Level (dBA)
Single & Limited Multiple Family	10 pm – 7 am 7 am – 10 pm	50 60
Multiple Family, Public Institutional, & Neighborhood Commercial	10 pm – 7 am 7 am – 10 pm	55 60
Medium & Heavy Commercial	10 pm – 7 am 7 am – 10 pm	60 65
Light Industrial	Anytime	70
Heavy Industrial	Anytime	75

Notes:
The following corrections are applicable (apply only one correction):
Daytime Operation Only (7 am – 7 pm) + 5 decibels
Noise Source Operates Less Than:
20% of any one-hour period + 5 decibels
5% of any one-hour period +10 decibels
1% of any one-hour period + 15 decibels
Noise of Impulsive Character - 5 decibels
(hammering, etc.)
Noise Rising or Falling in Pitch or - 5 decibels
Volume (hum, screech, etc.)

Source: City of Manteca. Title 17, Zoning Ordinance. Chapter 17.13, Section 17.13.040.

12.3 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, Appendix G, any substantial increase in the ambient noise levels for adjoining areas would be significant if the project would result in:

1. 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.

2. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

12.4 IMPACTS AND MITIGATION

POTENTIAL IMPACT N-1: **Planned development in the General Plan 2023 could result in exposure of persons to noise levels in excess of established standards.**

The existing city is a relatively quiet residential community with the notable exceptions of the railroad operations, traffic noise from SR 99 and SR 120, and commercial/industrial uses. These sources are endemic to the community and cannot be easily avoided. The General Plan 2023 seeks to avoid creating new noise generating conditions that would degrade the existing community environment, or to place a sensitive land use where it would be adversely affected by an existing noise source.

Level of Significance: **Potentially Significant**

Mitigation Measures:

N-1.1: The General Plan 2023 Noise Element (Section 9) ~~of the General Plan 2023~~ provides the following policies (P) to mitigate the effects of increased noise levels in excess of established standards:

N-P-2: New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to satisfy the performance standards in Table 9-1 (*Table 12-2 above).*

N-P-3 The City may permit the development of new noise-sensitive uses only where the noise level due to fixed (non-transportation) noise sources satisfies the noise level standards of Table 9-2 (*Table 12-3 above*). ~~Noise mitigation may be required to meet Table 9-2 performance standards.~~

N-P-4 The City shall require stationary noise sources proposed adjacent to noise sensitive uses to be mitigated so as to not exceed the noise level performance standards in Table 9-2 (*Table 12-3 above*).

N-P-6 Where the development of residential or other noise-sensitive land use is proposed for a noise-impacted area, an acoustical analysis is required as part of the environmental review process so that noise mitigation may be considered in the project design. The acoustical analysis shall:

- Be the responsibility of the applicant.
- Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
- Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.
- Estimate existing and projected (20 years) noise levels in terms of the standards of Table 9-1 (*Table 12-2 above*) or Table 9-2 (*Table 12-3 above*), and compare those levels to the adopted policies of the Noise Element.
- Recommend appropriate mitigation measures to achieve compliance with the adopted policies and standards of the Noise Element.
- Estimate noise exposure after the prescribed mitigation measures have been implemented.
- Describe a post-project assessment program that could be used to monitor the effectiveness of the proposed mitigation measures.

N-P-8 The City shall enforce the Sound Transmission Control Standards of the California Building Code concerning the construction of new multiple occupancy dwellings such as hotels, apartments, and condominiums.

N-P-10 The Manteca Police Department shall actively enforce requirements of the California Vehicle Code relating to vehicle mufflers and modified exhaust systems.

Residual Level of Significance: Less Than Significant With Mitigation

The level of significance will be mitigated to less than significant if the above policies are implemented. These policies will reduce the exposure of people to noise levels in excess of established standards.

POTENTIAL IMPACT N-2: **Implementation of the General Plan 2023 could expose people to the impacts of construction noise.**

During the construction phases ~~resulting from implementation of the General Plan~~, noise from construction activities would dominate the noise environment in the immediate area of construction.

Activities involved in construction would generate noise levels ranging from 70 dB to 90 dB at a distance of 50 feet. Construction equipment operations can vary from intermittent to continuous, with multiple pieces of equipment operating concurrently. Assuming concurrent operation of multiple sources in the same area, such as a scraper, a bulldozer, a heavy truck, and a backhoe, the maximum noise level during a period of construction could be as high as 94 dBA at 50 feet from the working area. Assuming multiple sources as described above, and typical sound attenuation over distance, locations within about 800 feet of a construction site could experience noise exposures up to 70 dBA.

Construction activities would be temporary in nature, typically occurring during normal working hours. Construction noise impacts could be significant, as nighttime operations or use of unusually noisy equipment could result in annoyance or sleep disruption for nearby residences.

During construction, traffic noise in the general area would be reduced because of the reduction in speed required by working road crews. Conversely, noise levels due to vehicles leaving the construction area would be slightly higher than normal as a result of acceleration. The net effect of the accelerating and decelerating traffic upon noise would not be appreciable. The most important project-generated noise source would be truck traffic associated with the transport of heavy materials and equipment. This noise increase would be of short duration and limited primarily to daytime hours.

Level of Significance: **Potentially Significant**

Mitigation Measures:

N-2.1: The General Plan 2023 Noise Element ~~of the General Plan 2023~~ (Section 9) provides the following policy (P) to mitigate the levels of construction noise on ambient noise levels throughout the General Plan Study Area.

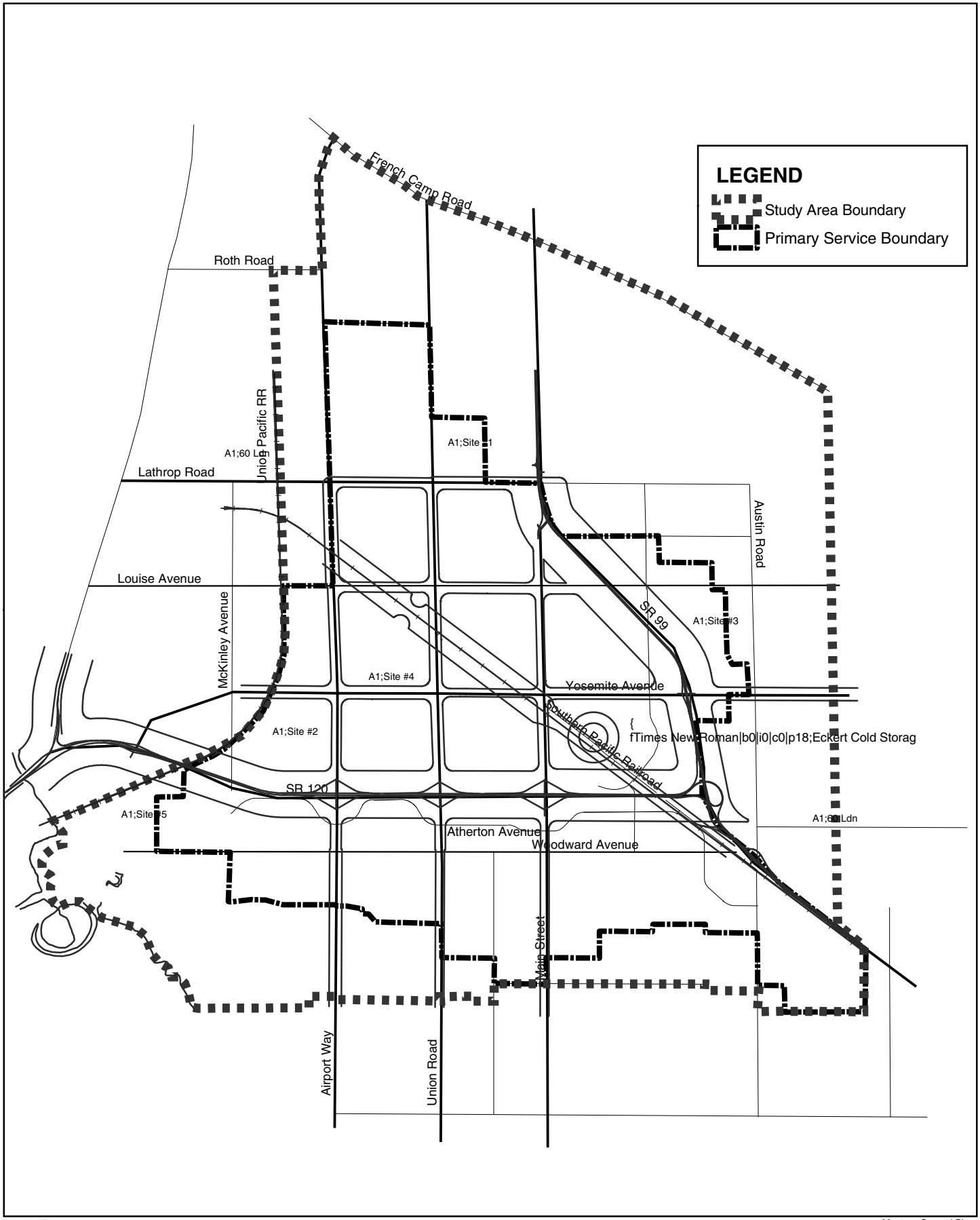
N-P-5 In accord with Table 9-2 standards the ~~The~~ City shall regulate construction-related noise ~~to reduce~~ impacts on adjacent uses.

Residual Level of Significance: **Less Than Significant With Mitigation**

The level of significance will be less than significant if the above policy is implemented. This policy will reduce the exposure of people to construction noise.

POTENTIAL IMPACT N-3: **Implementation of the General Plan 2023 could expose residents to the impact of future roadway traffic noise.**

Projected future traffic volumes on State Highways and local roads were used to predict future traffic noise impacts in Manteca. The FHWA methodology, as described in the Existing Noise Environment report, was used to make the calculations. On SR 99, SR 120 and I-5 traffic speeds less than current speed limits were assumed because the predicted level of service for these roads is D through F. Appendices A, B & C of the Noise Analysis Report (available for review at the City's Community Development Department) show input data into the model, predicted noise levels at a reference distance of 100 feet, and the distance to noise contours. Figure 12-5 shows the location of projected future 60 dB L_{dn} contours for roadways.



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LOCATION OF PROJECTED FUTURE 60 db Ldn CONTOURS FOR ROADWAYS

May 2003

FIGURE 12-5

Source: Brown-Buntin June 2003

In general, future traffic noise levels on City roads will range from about 65-68 dB L_{dn} at a distance of 100 feet. Along SR 120 and SR99, future noise levels will range from about 75-77 dB at the same distance. Comparing these levels to existing traffic noise levels, it is apparent that traffic noise levels will increase in Manteca by about 3 dB. These changes may be smaller or greater along individual roadways.

Since the proposed noise compatibility standard is 60 dB L_{dn} in Manteca, it is apparent that traffic noise impacts could occur at many locations and that noise mitigation measures will have to be employed.

Level of Significance: **Potentially Significant**

Mitigation Measures:

N-3.1 The General Plan 2023 Noise Element ~~of the General Plan 2023~~ (Section 9) provides the following policies (P) to mitigate the levels of roadway traffic noise levels throughout the General Plan Study Area:

N-P-11 For ~~In~~ residential development ~~subdivisions~~ backing on to a freeway or railroad right-of-way, the developer shall be required to build a sound barrier wall, and provide for other appropriate mitigation measures, to satisfy the performance standards in Table 9-1 ~~in accordance with City development standards~~.

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 (*Table 12-2 above).* Widening or other improvement projects of existing roadways shall be mitigated to the most practical extent.

Residual Level of Significance: **Less Than Significant With Mitigation**

The level of significance will be less than significant if the above policies are implemented. These policies will reduce the exposure of people to future roadway traffic noise.

POTENTIAL IMPACT N-4: **Implementation of the General Plan 2023 could expose residents to the impact of railroad noise.**

The factors that overwhelmingly determine the extent of rail noise is the number of rail operations and the presence of grade crossings along the railroad tracks. For the most part, the sound produced by an individual locomotive does not change much and therefore is not a major

factor. Train operations, however, can change depending on business conditions. Unfortunately, changes in train operations are rarely predictable or are considered to be confidential by train companies.

Grade crossings have a major effect on railroad noise impacts because all trains are required to sound their horns as the approach grade crossings. To the extent that grade crossings are abandoned, or overpasses or under passes are constructed, overall railroad noise levels will decrease.

Level of Significance: **Potentially Significant**

Mitigation Measures:

N-4.1 The Noise Element of the General Plan 2023 (Section 9) provides the following implementation measure (I) to mitigate the levels of railroad noise within the Study Area:

N-I-8 Work in cooperation with Caltrans and the Union Pacific Railroad to maintain noise level standards for both new and existing projects in compliance with Table 9-1 *(Table 12-2 above).*

Residual Level of Significance: **Less Than Significant With Mitigation**

The level of significance will be mitigated to less than significant if the above implementation measure is implemented. Working with Caltrans and Union Pacific Railroad will help reduce the exposure of people to railroad noise.

Potential Impact N-5: **Implementation of the General Plan 2023 could expose residents to the impacts of future industrial/commercial, emergency, and outdoor activity noise.**

It is not possible to predict new industrial/commercial noise impacts since a general plan update does not specify actual industries or commercial uses that will be built; nor does a general plan update specify the actual sources of noise that are often associated with industrial/commercial uses. Please refer to the list of stationary noise sources listed in Section 12.2.1 of this EIR.

Although it is not possible to predict with certainty new sources of industrial/commercial noise, it is possible that noise impacts may occur where such adjoin or are close to proposed or existing noise-sensitive uses, such as residential developments.

Level of Significance: **Potentially Significant**

Mitigation Measures:

N-5.1 The Noise Element of the General Plan 2023 (Section 9) provides the following policies (P) and implementation measures (I) to mitigate the noise levels from industrial/commercial, emergency, and outdoor activities throughout the General Plan 2023 Study Area:

N-P-2: New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to satisfy the performance standards in Table 9-1 (*Table 12-2 above).*

N-P-4 The City shall require stationary noise sources proposed adjacent to noise sensitive uses to be mitigated so as to not exceed the noise level performance standards in Table 9-2 (*Table 12-3 above*).

N-P-7 Noise level criteria applied to land uses other than residential or other noise-sensitive uses shall be consistent with noise performance levels of Table 9-1 and Table 9-2 ~~recommendations of the *Guidelines for the Preparation and Content of Noise Element of the General Plan*~~.

N-P-13 The City shall carefully review and shall give potentially affected residents an opportunity to fully review any proposals for the establishment of helipads or heliports.

N-I-1 New development in residential areas with an actual or projected exterior noise level of greater than 60 dB Ldn will be conditioned to use mitigation measures to reduce exterior noise levels to less than or equal to 60 dB Ldn.

N-I-14 Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours and other techniques. Use insulation, berms,

building design and orientation, buffer space, noise barriers, and other techniques to attenuate noise to acceptable levels.

Residual Level of Significance: Less Than Significant With Mitigation

The level of significance will be mitigated to less than significant if the above policies (P) and implementation measures (I) are implemented. Through enforcement of the noise standards and the use of noise attenuation measures, the exposure of people to industrial/commercial, emergency, and outdoor activity noise will be reduced or elimination.

13. POPULATION AND HOUSING

This section addresses the increase in population, and housing that is anticipated in the General Plan 2023.

13.1 EXISTING CONDITIONS

13.1.1 Population

The California Department of Finance, Demographic Research Unit estimates that the population in the City of Manteca was 57,200 as of January 2003.

The population of Manteca has significantly increased in recent years as housing prices have remained relatively affordable in the region compared to the regional housing market in the Bay Area. Table 13-1 reflects Manteca's demographic changes in the decade 1990 through 2000.

Table 13-1

Summary of Population Characteristics 1990 –2000

	1990 Census	2000 Census	Net Change
Total Population	40,773	49,258	20.8%
Total Households	13,466	16,368	21.6%
Total Housing Units	13,981	16,937	21.1%
Average Household Size	3.05	2.98	-0.1
Median Age	32.5	32.5	0.0
% Population Under 18	32.36%	31.60%	-0.8%
% Population Over 65	8.35%	9.30%	0.9%
% Population- White	76.83%	64.10%	-12.7%
% Population- Hispanic or Latino	12.68%	25.10%	12.4%
% Population- Black	1.12%	2.90%	1.8%
% Population- Asian/Pacific Islander	3.18%	3.90%	0.7%

Source: 1990 and 2000 U.S. Census

13.1.2 Housing

The availability and relative low-cost of housing in Manteca has been a major factor in population and housing growth. Many residents have found Manteca's location, climate, and

housing opportunities attractive and have relocated from Bay Area locations. This has encouraged a "bedroom community" in Manteca as many residents commute to areas west of the Altamont Pass, into the Bay Area to work.

Table 13-2 indicates the rate of housing growth in the City since 1991. The City did not differentiate between single family and multi-family dwellings until 1996. The number of permits issued for multi-family housing during that period is negligible. The rate of housing production has increased over time, but has fluctuated from year to year. The relative few building permits for multi-family housing developed during that time reflects the policies in the 1988 General Plan that emphasized construction of single family homes.

Table 13-2

Manteca Residential Building Permit History

	Building Permits Issued		
Year	**Single Family**	**Multi-Family**	**Total**
1991	N/A	N/A	73
1992	N/A	N/A	193
1993	N/A	N/A	212
1994	N/A	N/A	162
1995	N/A	N/A	244
1996	298	0	298
1997	249	0	249
1998	322	0	322
1999	627	2	629
2000	1,147	0	1147
2001	619	0	619
			4,148

Source: U.S. Census Bureau, City of Manteca Building Department

The 2000 Census reflects a community with growing housing values, low vacancy, and relatively small households. Approximately 25 percent of the housing stock in Manteca is over 30 years old (built before 1970); 23 percent built between 1970 and 1979; 29 percent built between 1980 and 1989; and 23 percent built between 1991 and 2001. These statistics reflect the rate of growth in the area during the 1980s and 1990s that continues today. It is also important to note that a significant portion (approximately 48%) of the existing housing stock will be likely to have rehabilitation needs in the next 7-10 years. Table 13-3 details a variety of 2000 Census Manteca housing characteristics, compared with the 1990 Census.

Table 13-3

Manteca Housing Characteristics

Housing Characteristic	1990	2000
Total Housing Units	13,981	16,937
Median Value	$139,400	$213,658 *(Central Valley Association of Realtors)*
Average Value	$145,828	$223,925 *(Central Valley Association of Realtors)*
Owner Occupied Units	59.69%	63%
Vacancy Rate	N/A	3.4%
Owner-Occupied Vacancy Rate	N/A	1.1%
Rental Vacancy Rate	N/A	3.1%
Average Persons per Household	3.05	2.98

Source: U.S. Census 2000, unless otherwise noted.

13.1.3 Jobs/Housing Balance

The City of Manteca is a "housing-rich" community, indicating more housing opportunities than jobs available. Many residents have moved to Manteca, searching for a lower-cost housing alternative to the Bay Area. Many of these residents have maintained their jobs in the Bay Area, choosing to commute from Manteca. The commute pattern directly affects Manteca's economy. Manteca suffers from a low daytime population, because so many residents work outside of the area. As such, their daytime activities and spending occur outside of Manteca.

13.2 REGULATORY SETTING

13.2.1 Federal

U.S. Department of Housing and Urban Development (HUD) is a cabinet-level department of the federal government responsible for housing, housing assistance, and urban development. Housing programs administered through HUD include Community Development Block Grant (CDBG), HOME, and Section 8 Rental Assistance.

13.2.2 State of California

The Department of Housing and Community Development (HCD) administers and allocates the Regional Housing Needs Assessment (RHNA) for each county. State Housing law requires SJCOG to create a plan every five years that summarizes regional housing needs for both existing conditions, as well as for a five-year planning period. This plan, known as the Regional Housing Needs Assessment (RHNA) allocates regional housing needs by income level among its members. SJCOG has determined that Manteca's current housing need as 3,104 new housing units.

13.2.3 San Joaquin County

The San Joaquin Council of Governments (SJCOG) brings together mayors, city council members, and county supervisors throughout San Joaquin County to work on regional issues. While regional transportation planning is its primary role, SJCOG also participates in housing, population statistics, airport land use, habitat and open space planning, and other regional issues. SJCOG is responsible for preparation of the Regional Housing Needs Assessment (RHNA) which determines a jurisdiction's share of regional housing growth.

13.2.4 City of Manteca

The 1988 General Plan goals and the Growth Management Ordinance regulate housing and population in Manteca.

The 1988 Manteca General Plan establishes the following goals related to population and housing:

Goal A: To provide a range of housing types, densities, designs, and prices to meet existing and projected housing needs for all economic segments of the community.

Goal B: To encourage the maintenance and continued improvement of the existing housing stock and residential neighborhoods.

Goal C: To ensure the provision of adequate services to support existing and future residential development.

Goal D: To promote equal opportunity to secure safe, sanitary, and affordable housing for everyone in the community regardless of race, sex, and other arbitrary factors.

Goal E: To encourage energy efficiency in all new and existing housing.

The Manteca Growth Management Ordinance seeks to establish a maximum population growth rate of 3.9 percent annually.

13.3 IMPACT EVALUATION CRITERIA

For the purposes of this EIR, impacts would be significant if implementation of the proposed General Plan would:

- induce substantial population growth in the 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; and/or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

13.4 IMPACTS AND MITIGATION

POTENTIAL IMPACT H-1: Implementation of the General Plan 2023 would increase the City's population over existing conditions.

Population in California, in general, and in the San Joaquin Valley specifically, will increase in the future for several reasons. Primarily, the increasing cost of housing in urban areas near job centers will cause consumers to look for lower cost housing in suburban communities. In addition, as technology changes, businesses have opportunities to locate in non-traditional areas such as Manteca.

Population growth is projected to continue for the near future, primarily driven by continued demand for relatively affordable housing and quality of life in Manteca. Table 13-4 indicates the San Joaquin Council of Governments projection that Manteca will grow to 86,370 by 2025, approximately the horizon of the General Plan. It is notable that the population projection for 2005 is exceeded by the Department of Finance population estimate for 2003.

Table 13-4

Population Projection

	City of Manteca	San Joaquin County
2000	49,500	566,600
2005	56,874	633,348
2010	64,248	700,095
2015	71,622	766,843
2020	77,699	821,851
2025	86,370	900,338

Source: SJCOG, Research and Forecasting Center.

Table 13-4 provides a calculation of the annual population growth that would occur at the maximum rate allowed under the Growth Management Ordinance. Under this growth rate, the population of Manteca could reach approximately 120,000 in twenty years, approximately double the current population. However, such a sustained rate of growth would be unusual for any California city and is substantially higher than the state average rate.

Table 13-5

Population Projection at 3.9% Annual Growth

Year	Population
2003	57,200
2005	61,749
2010	74,766
2015	90,528
2020	109,613
2022	118,329
2025	132,721

Source: Wade Associates, May 2003

As noted in Section 2.6, Assumptions Regarding Population Growth as a Basis for Environmental Impact Evaluation, the total of 94,378 people would be accommodated in the Primary Urban Service boundary under the assumptions established by the General Plan Steering Committee. This would equate to a population growth rate of approximately 2.7% annually, and is comparable to the SJCOG projection.

The assumptions include a Market Reserve of 20 percent. The Market Reserve is land that would be available to accommodate population growth, but is not projected to be required. It is intended to provide flexibility and choice in the residential land market in order to maintain reasonable land prices that contribute to affordable housing. Development of the Market Reserve would accommodate a population of approximately 113,254 residents in twenty years. This would be slightly less than would occur if the population grew consistently at the maximum rate allowed under the Growth Management Ordinance. Moreover, the residential designations provide a range of housing types and densities that can accommodate additional population without increasing the land area allocated to urban use. The population projection used in this Environmental Impact Report is based on the assumptions for average housing density established by the General Plan Steering Committee.

Level of Significance: Significant and Unavoidable

There are no specific mitigation measures that will reduce or eliminate the impact of increased population on Manteca and the surrounding area. However, monitoring and regulating growth to a responsible level will maintain the integrity of the community.

POTENTIAL IMPACT H-2: The number and type of dwellings will exacerbate the existing jobs and housing imbalance in the Study Area.

There is an existing jobs-housing imbalance as the job market has not expanded as quickly as the housing market. Therefore, if Manteca attracts new businesses, as described in the General Plan Economic Development Element, the jobs/housing balance should improve. The growth of the local economy and the associated development that coincides will be a beneficial impact on the City of Manteca and San Joaquin County.

Level of Significance: Potentially Significant

Mitigation Measures:

The General Plan Land Use Element establishes the mix of land uses designed to sustain a balance of jobs and housing over a period of twenty years. Implementation of goals, policies, and implementation measures as identified in the General Plan 2023 would lessen the significance of the impact.

H-2.1: The General Plan 2023 provides the following policies (P) and implementation measures (I) to assist in the mitigation of a jobs/housing imbalance by encouraging employment development in the city.

LU-P-1: 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-2: 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-3: The City shall continue to support full development of its existing industrial park.

LU-P-4: The City shall promote the development of "clean" industries that do not create problems or pose health risks associated with water and air pollution or potential leaks or spills. However, the City will designate appropriate locations that accommodate light industrial and heavy industrial uses.

LU-P-5: Redevelopment incentives shall be used judiciously to promote industrial employment development in approved Project Areas and for projects benefiting approved Project Areas.

LU-P-6: The City shall monitor employment development to maintain the balance of residential, commercial, and industrial development.

LU-P-7: The City shall promote and plan for at least one Primary Employment Center to accommodate a variety of employment opportunities compatible with the employment skills of the Manteca resident labor force.

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.

LU-I-7 The City will continue to cooperate with planning efforts among local jurisdictions to minimize the impacts of growth to Manteca and in the south San Joaquin County area.

H-2.2: The General Plan 2023 Land Use designations provide an expanded range of housing densities to encourage development of a diverse mix of housing types and prices. Table 13-5 provides a comparison of the housing densities permitted in each residential category in the General Plan 2023 compared to the 1988 General Plan.

Table 13-6
Comparison of Residential Density Permitted in
Each Residential Land Use Designation
(1988 General Plan and General Plan 2023)

Land Use Designation	1988 Dwelling Units per Acre	2023 Dwelling Units per Acre
Very Low Density Residential	0.5 to 2.0	less than 2.0
Low Density Residential	2.1 to 5.0	2.1 to 8.0
Medium Density Residential	5.1 to 9.0	8.1 to 15
High Density Residential	9.1 to 17.0	15.1 to 25
Commercial Mixed Use	NA	15.1 to 25

Source: Wade Associates, May 2003

Residual Level of Significance: Less than Significant

The level of significance will be less than significant after implementation of the above goals, policies, and implementation policies.

References:

(1) E-1 Report, City/County Estimates with Annual Percent Change, January 2002 and 2003

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14. PUBLIC FACILITIES AND SERVICES

The public facilities and services issues addressed in this section include domestic water, wastewater treatment (sewer), stormwater drainage, solid waste disposal, education (schools), library, parks and recreation, police protection, and fire protection.

14.1 WATER

14.1.1 Existing Conditions

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 of Manteca is participating in the South County Surface Water Supply Project. In 1995, Manteca entered into an agreement with the South San Joaquin Irrigation District (SSJID) and the Cities of Lathrop, Tracy and Escalon to jointly study the issues and related costs associated with developing a surface water treatment plant for the affected areas. This project now includes the construction of a state-of-the-art water treatment plant at Woodward Reservoir and 40 miles of pipeline to deliver treated water to each of the partner cities, including Manteca. When complete in 2005, the South County Surface Water Supply Project will begin deliveries of treated surface water to Manteca. The City of Manteca is contracted to receive up to 11,500 acre-feet of water from this project through 2010. A subsequent phase will increase the City of Manteca water allocation to 18,500 acre feet per year. **(1)**

Conjunctive Use

The 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.

Water Storage

The City has one surface storage reservoir, a 300,000-gallon elevated tank, located the City Corporation yard between the downtown and industrial area. The tank is 30 feet high and 42 feet in diameter and is supported on top of a 100-foot high tower.

14.1.2 Service Standard

The City of Manteca Water Master Plan **(2)** and the Public Facilities Implementation Plan (PFIP) establishes the Level of Service Standard for Water.

The City of Manteca's target Level of Service (LOS) for water is to supply an average of 200 gallons per day (gpd) per person at pressures of no less than 40 pounds per square inch (psi) under average conditions, and 20 pounds per square inch under emergency and peak demand conditions. The water service standard for fire suppression is 1,250 gallons per minute (gpm) for Low Density Residential (LDR) uses, 2,500 gpm for commercial land uses, and 3,500 gpm for industrial uses. This Level of Service standard is applicable to all areas of the City that are already developed and those areas where development is planned.

14.2 WASTEWATER TREATMENT (SEWER)

14.2.1 Treatment Capacity

The City of Manteca Wastewater Quality Control Facility (WQCF) is a 6.95 million gallons per day (mgd) rated, combined biofilter-activated sludge plant. 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. **(3)**

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). Subsequent phased improvements will increase the capacity of the treatment facility to 10 mgd. These

improvements are scheduled for completion by December 2005. The existing Wastewater Quality Control Facility can ultimately be expanded to treat 25 mgd. **(4)**

14.2.2 Sewer Collection System

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.

The City of Manteca has set a target (PFIP) such that capacity is sought to be available to serve demand at the specific LOS but not to anticipate demand. The required timing for each public improvement is related primarily to the timing of additional development that will be served by that improvement.

The expanding areas of Manteca, for the most part, have no sewer facilities and therefore have not existing deficiencies as it relates to the LOS target. However, the infill development expected to occur may exert a demand upon the existing facilities in excess of their capacity. At the crux of this issue is the Union Road Lift Station; existing and future peak flows at the lift station; and improvements required, if any, to handle the expected greater flows. This is, however, a possible capacity problem and not a deficiency.

14.2.3 Service Standard

The City of Manteca Public Facilities Implementation Plan (PFIP) establishes the Level of Service Standard for Wastewater.

Manteca's target LOS for sewer is to collect and treat an average of 325 gallons per day per dwelling unit equivalent (due). This LOS standard is applicable both in the areas of Manteca that have already developed and in the geographic areas where development is expected.

Sewer collection dwelling unit equivalent (due) factors are calculated in the PFIP based on the relative average generation of wastewater for the various land use types. Sewer generation factors are based upon the expected building intensities and population densities. For example, the average daily generation per unit for Low Density Residential (LDR) is calculated as the product of the population per unit (3.25) times the average daily per capita generation (100 gallons). As a result, the LDR generation is 325 gallons per unit per day. Sewer flow generation factors are based upon industry standards applicable to conceptual level facilities planning and professional judgement.

14.3 STORMWATER DRAINAGE

14.3.1 Existing conditions

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. **(5), (6)**

14.3.2 Service Standard

The City of Manteca Public Facilities Implementation Plan (PFIP) establishes the Level of Service Standard for Drainage.

The target Level of Service for drainage is to provide 10-year storm drainage protection for all development and to provide 100-year storm drainage protection for all structures.

14.4 SOLID WASTE DISPOSAL

14.4.1 Existing Conditions

The City of Manteca Solid Waste Division collects solid waste throughout the City and deposits it at the Lovelace Solid Waste Transfer Station. **(7)** Recyclable materials are sorted at the Lovelace facility. Green waste is delivered to the Austin Road/Forward Landfill. This landfill has a closure date of 2053 and has a remaining capacity of 1,608,752 cubic yards.

The Solid Waste Division helps to ensure that the City's residential and commercial demands are met effectively and that landfill use remains available for future generations by helping residents and businesses to recycle, compost and reduce the overall solid waste flow.

The City functions interactively with customers to remove all permissible waste and achieve the community's responsibility towards conserving resources. Manteca provides the following solid waste services:

- Residential recycling picked up on a bi-weekly schedule at no extra cost to the customer.
- Residential bi-weekly curbside pickup of compost materials.
- Leaf and Christmas tree pick up.
- Oil collection containers picked up on a weekly basis.
- Commercial recycling.
- Household Hazardous Waste collection.

Hazardous waste handling/disposal is discussed in Hazardous Materials, Section 9 of this EIR.

14.5 EDUCATION (SCHOOLS)

14.5.1 Existing Primary and Secondary Education Resources

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. The estimated number of students is 21,327 as of May 16, 2003. Schools follow both a traditional and year-round calendar. MUSD includes the communities of Manteca, Lathrop, French Camp, and Weston Ranch. **(8)(9)(10)**

14.5.2 Existing Post-Secondary Education Resources

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.

14.5.3 Service Standard

The projected enrollment is based on an average number of students per dwelling unit. Table 14-1 summarizes the student yield rate as of 2003-2004.

Table 14-1

Projected Student Yield Rate

K-6	0.534 students per unit
7-8	0.147 students per unit
9-12	0.267 students per unit
Total	0.948 students per unit

Source: Student Generation Analysis, Manteca Unified School District, Public Economics, Inc. May 2003

14.6 LIBRARY

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 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 as the connection to government, business, schools, and community organizations for 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. The Library and the community room have long been the unofficial center of the City of Manteca.

14.6.1 Planned Library Building Program

The current Library's size and infrastructure is inadequate to meet the modern library service needs of the community. Grant funding is currently being sought in order to build a new facility. The City of Manteca will own and maintain the new Library.

The new Branch Library will be constructed on the downtown site of the current Library, which a community assessment has shown to be the preferred location for the residents of Manteca. The new Library will include a Family Literacy Center. It will also provide easy access to computers and other electronic resources. The new facility will be 58,481 square feet, which is 3.7 times the size of the current facility. The target building completion date is March 2007.

14.6.2 Service Standard

The existing Manteca Library provides .29 square feet per capita.**(11)** The proposed new Library facility will provide an overall .69 square feet per capita of library space to a projected population of 77,699.

14.7 PARKS AND RECREATION

The City of Manteca currently provides 28 neighborhood and five (5) 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.

14.7.1 Service Standard

The City has a standard of 5 acres of parkland per 1000 residents. This standard will be reviewed in the preparation of a Recreation Master Plan that will follow the adoption of the General Plan 2023.

14.8 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.

14.8.1 Service Standard

The City meets a standard of one sworn officer per 1000 residents.

14.9 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 shares the second best rating in the County and 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.

MFD has entered into a cooperative agreement with the Stockton Fire Department for the consolidation of emergency dispatching services.

14.9.1 Service Standard

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.

14.10 NATURAL GAS AND ELECTRICITY

Natural Gas and Electricity are supplied by in the City of Manteca by Pacific Gas and Electric Company, Inc. (PG&E), a private corporation. PG&E currently owns and operates electricity and natural gas infrastructure within Manteca.

14.11 REGULATORY SETTING

14.11.1 Applicable Federal Regulation

Federal Energy Regulatory Commission (FERC)

The Federal Energy Regulatory Commission (FERC) regulates the construction of the interstate natural gas pipelines that serve California.

14.11.2 Applicable State Regulation

Solid Waste Management: California Integrated Waste Management Board (CIWMB)

The California Integrated Waste Management Act became law on January 1, 1990. This law mandates that every county and city divert twenty-five percent (25%) of its waste from landfills by 1995 and fifty percent (50%) by 2000, or face fines of $10,000 per day. The California Integrated Waste Management Board (CIWMB), administering this Law, requires each city and county to prepare an Integrated Waste Management Plan (IWMP). The IWMP must include a Source Reduction and Recycling Element (SRRE) and a Household Hazardous Waste Element (HHWE).

Fire Protection: California Occupational Safety and Health Administration (Cal/OHSA)

The California Occupational Safety and Health Administration (Cal/OHSA) requires for presence of a minimum of four firefighters before the use of respirators, which are required for entry into an enclosed space filled with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors. Therefore, a minimum of four (4) firefighters are required in order to respond to most fire incidents.

California Public Utilities Commission (CPUC)

Electricity: The California Public Utilities Commission (CPUC) has permitting authority over the construction of new and expanded power plants, electric transmission lines and substations. Pursuant to CEQA, environmental analyses must be conducted before issuance of construction permits by CPUC. The CPUC Utilities Safety Branch audits utility overhead and underground electric facilities through random field inspections.

Natural Gas: The CPUC regulates local natural gas distribution facilities and services, as well as intrastate pipelines. CPUC published the California Natural Gas Infrastructure Outlook 2002-2206 Report, which concluded that PG&E's natural gas infrastructure would be sufficient through the year 2006.

California Energy Commission (CEC)

The California Energy Commission (CEC) has the statutory authority to site and license thermal power plants that are rated at 50 megawatts and larger and related transmission lines, fuel supply lines and other facilities. Pursuant to CEQA, environmental analyses are required prior to the issuance of energy facility licenses.

14.12 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, Appendix G, a project would have a significant impact on the environment if it would:

1. Have insufficient water supplies available to serve the project from existing entitlements and resources, requiring expanded entitlements.

2. 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.

3. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

4. Exceed wastewater treatment requirements of the Regional Water Quality Control Board.

5. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effect.

6. Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

7. Be in noncompliance with federal, state, and local statutes and regulations related to solid waste.

8. Result in substantial adverse physical impacts associated with the provision of new or altered government 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 including schools, parks, police protection, or fire protection.

Domestic water and wastewater regulation by the Regional Water Quality Control Board (RWQCB) is further discussed in Hydrology and Water Quality, Section 10 of this EIR.

14.13 IMPACTS AND MITIGATION

POTENTIAL IMPACT PFS-1: **The General Plan 2023 would create a demand for domestic water beyond current entitlements, resulting in significant adverse effects upon the environment.**

Level of Significance: **Potentially Significant**

Water demand will increase with the planned increase in residential, commercial and industrial uses. The level of demand cannot be precisely predicted due to the to variability of water demand in non-residential uses, notably industrial, and the potential for changes in average household water use due to changes in household size and composition. Residential conservation practices, smaller residential lots and the potential to use recycled water for landscape irrigation could reduce the current level of demand for the average residential use.

Mitigation Measures:

PFS-1.1: The Public Facilities and Services Element (Section 6) of the General Plan 2023 addresses domestic water supply through the following goal, policies (P), and implementation measures (I):

Goal PF-7 Maintain an adequate level of service in the City's water system to meet the needs of existing and project development.

PF-P-4 Secure sufficient sources of water to meet the needs of the existing community and planned residential and commercial growth.

PF-P-5 The City will continue to rely principally on groundwater resources for its municipal water in the near term, but will participate in the regional improvements to deliver surface water to augment the City's groundwater supply.

PF-P-6 The City shall develop new water sources as necessary to serve new development.

PF-P-7 The City shall develop new water storage and major distribution lines as necessary to serve new development.

PF-P-9 City water services shall not be extended to unincorporated areas except in extraordinary circumstances. Existing commitments for City water service outside the City limits shall continue to be honored.

PF-P-11 The City will develop and implement water conservation measures as necessary elements of the water system.

PF-I-2 The City shall update the Public Facilities Implementation Plan regarding water supply and distribution, every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

PF-I-3 The City shall require, as a condition of project approval, dedication of land and easements, or payment of appropriate fees and exactions, to help offset municipal costs of expansion of water treatment facilities and delivery systems.

PF-I-7 The City will encourage the use of recycled water for landscape irrigation where feasible, within the parameters of State and County Health Code and standards.

PFS-1.2: The City of Manteca Water Service Master Plan (1998) defines the future water supply, storage and delivery system for the City. The Master Plan recommends a conjunctive use of surface water from the South San Joaquin Irrigation District (SSJID) Surface Water Project to meet the future water needs of the City. SSJID plans to commence surface water supply deliveries to the City in 2005. Based on limiting average groundwater supplies to the safe yield of 1.0 acre-foot per acre per year, it is estimated that under a conjunctive use program groundwater could meet 48 percent of the City's annual water needs and surface water would meet the remaining 52 percent.

Table 14-2 presents the proposed future annual water supply distribution for the City.

Table 14-2

Conjunctive Use of Surface Water and Groundwater

Year	Annual Water Use (Acre-Feet)		
	Surface Water	Groundwater	Total
2000		12,800	12,800
2005	9,400	8,600	18,000
2010	12,700	11,800	24,500
2015	17,500	16,200	33,700
2020	21,600	19,900	41,500
2025	24,500	22,400	46,900

Source: 1998 Water Master Plan – City of Manteca

The surface water supply will be used as the base supply and groundwater facilities will be used to meet peak water demands. During winter months SSJID surface water deliveries will meet nearly the entire City's projected water demands. City wells will be utilized only as necessary to exercise wells (for operational water quality or treatment equipment maintenance considerations) or to alleviate localized low pressure wells.

The City service area for the Water Master Plan encompasses the SSJID 1991 Study Service Area which includes the existing City limits and the 2023 General Plan Study Area. The total Water Master Plan service area encompasses approximately 35,000 acres, and the General Plan Study Area encompasses 25,975 acres.

The Water Master Plan assumes that 17,620 acres will be used for residential purposes at full build out of the SSJID 1991 Study Service Area. Table 14-3 compares land use proposed in the General Plan 2023 to the Ultimate Land Use assumed in the Water Master Plan. The General Plan Land Use categories are summarized to match the land use designations in the Water Master Plan. Table 14-3 indicates that the Water Master Plan assumes substantially greater residential land use that provided in the General Plan 2023. The Water Master Plan assumes less land allocated to Commercial/Industrial use for the combined planned land use and reserve land use in the General Plan 2023.

Table 14-3

Land Use Assumptions - Water Master Plan and General Plan 2023

Land Use Category	Water Master Plan Service Area	2023 Manteca GP Land Use	2023 Manteca GP Reserve Land Use	2023 Manteca GP Total Potential Land Use
	Acres	Acres	Acres	Acres
Residential	17,620	8,569	2,515	11,084
Commercial/Industrial	3,820	3,802	1,004	4,806
Parks and Public/Quasi Public Land	960	1,267	91	1,358

Source: Wade Associates and 1998 Water Master Plan – City of Manteca, May 2003

Residual Level of Significance: Less than Significant with Mitigation

Implementation of the above goal, policies, and implementation measures, together with the City's Water Master Plan and PFIP, and continued participation in the SSJID Surface Water

Project, will help ensure that the domestic water demands for implementation of the General Plan 2023 will be met without substantial adverse effects upon the environment.

POTENTIAL IMPACT PFS-2: **The General Plan 2023 would create a demand for wastewater (sewer) treatment beyond capacity of current facilities, resulting in significant adverse effects upon the environment.**

Level of Significance: **Potentially Significant**

The city has planned for expansion of the WQCF to accommodate growth. The existing site constrains the long term expansion of the plant due to limitations on land disposal. Continued expansion on the site will depend on future improvements that rely less on land disposal methods. Such methods include improved treatment technology, use of recycled wastewater for irrigation, and management of solid waste, among other methods. The current population of 55,000 residents create a demand that is within the capacity of the treatment plant, 6.95 mgd. The planned improvements would provide 10 mgd and the ultimate planned capacity of 25 mgd would be more than sufficient to accommodate the growth planned in General Plan 2023.

Mitigation Measures:

PFS-2.1: The Public Facilities and Services Element (Section 6) of the General Plan 2023 addresses wastewater (sewer) treatment through the following goal, policies (P), and implementation measures (I):

Goal PF-8 Maintain an adequate level of service in the City's sewage collection and disposal system to meet the needs of existing and projected development.

PF-P-16 Ensure wastewater collection and treatment for all development in the City and the safe disposal of wastes.

PF-P-17 The City will maintain capacity to process combined residential, commercial, and industrial flow.

PF-P-18 The City shall develop new sewage treatment and trunk line capacity as necessary to serve new development.

PF-P-19 City sewer services will not be extended to unincorporated areas, except in extraordinary circumstances. Existing commitments for sewer service outside the City limits shall continue to be honored.

PF-P-23 The City will maintain the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board Standards as established in the current NPDES Permit.

PF-I-8 The City shall update the Public Facilities Implementation Plan (PFIP) regarding wastewater collection and treatment, every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

PF-I-10 The City will encourage and permit an industrial pretreatment program for business parks and other industrial uses in accordance with state and federal requirements.

PF-I-12 The City will promote reduced wastewater system demand through efficient water use by:

requiring water conserving design and equipment in new construction,

encouraging retrofitting with water conserving devices;

designing wastewater systems to minimize inflow and infiltration to the extent economically feasible; and

maintaining a Citywide map of all sewer collection system components and monitoring the condition of the system on a regular basis.

Residual Level of Significance: Less than Significant with Mitigation

Implementation of the above goal, policies, and implementation measures, together with the City's Sewer Master Plan and PFIP, will help ensure that the wastewater treatment demands for implementation of the General Plan 2023 will be met without substantial adverse effects upon the environment.

POTENTIAL IMPACT PFS-3: The General Plan 2023 would create a demand for stormwater drainage beyond capacity of current facilities, resulting in significant adverse effects upon the environment.

Level of Significance: Potentially Significant

The capacity of the French Camp Outlet Channel and its tributary drains is the limiting factor that sets the flow rates for drainage systems in the City.

Mitigation Measures:

PFS-3.1: The Public Facilities and Services Element (Section 6) of the General Plan 2023 addresses stormwater drainage through the following goal, policies (P), and implementation measure (I):

Goal PF-9 Maintain an adequate level of service in the City's drainage system to accommodate runoff from existing and projected development and to prevent property damage due to flooding.

PF-P-24 The City shall continue to complete gaps in the drainage system in areas of existing development.

PF-P-25 The City shall require the dedication and improvement of drainage detention basins as a condition of development approval according to the standards of the Drainage Master Plan. The responsibility for the dedication and improvement of detention basins shall be based on the prorated share of stormwater runoff resulting from each development.

PF-P-26 Storm drainage systems within new development areas shall include open drainage corridors where feasible to supplement or replace an underground piped drainage system. The drainage systems would provide for short-term stormwater detention, stormwater conveyance for stormwaters exceeding a 10-year event, stormwater quality treatment, bike and pedestrian paths, and visual open space within neighborhoods.

PF-I-13 The City shall update the Storm Drainage Master Plan and Public Facilities Implementation Plan, regarding stormwater drainage, every five years. The update shall be reviewed annually for adequacy and consistency with the General Plan.

PFS-3.2: The Public Facilities Implementation Plan (PFIP) 1993 addresses additional drainage capacity made necessary by development occurring through June 30, 2020.

All stormwater is to flow to detention 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. Detention basins are designed to temporarily hold and gradually release water for short periods not to exceed 72 hours. Retention basins do not provide for release but will allow water to percolate or evaporate within a 72-hour period.

The LOS standard is the existing standard in the areas of Manteca that have already developed and is the target standard in the areas where development is expected. The LOS targets identified should be maintained through all future development.

Residual Level of Significance: Less than Significant with Mitigation

Implementation of the above goal, policies, and implementation measure, together with the City's Storm Drainage Master Plan and PFIP, will help ensure that the stormwater drainage demands for implementation of the General Plan 2023 will be met without substantial adverse effects upon the environment.

POTENTIAL IMPACT PFS-4: The General Plan 2023 would create a demand for solid waste services beyond the capacity of current landfill facilities, resulting in significant adverse effects upon the environment.

Level of Significance: Potentially Significant

The City of Manteca utilizes the Lovelace Transfer Station to process and ship its solid waste and materials. The Lovelace Transfer Station is of regional significance in that it provides services to the majority of south San Joaquin County.

Mitigation Measures:

PFS-4.1: The Public Facilities and Services Element (Section 6) of the General Plan 2023 addresses solid waste handling and disposal through the following goals, and policies (P):

Goal PF-11 Provide for the implementation and enforcement of the provisions for the Source Reduction and Recycling Element, as mandated by the State.

Goal PF-12 Maintain efficient, effective and economical solid waste services for the residents, businesses and visitors to Manteca.

PF-P-30 The City shall support the continued use of the Lovelace Transfer Station on Lovelace Road, between Union Road and Airport Way, for the processing and shipping of solid waste materials.

As discussed above in Subsection 14.1.4, the City of Manteca Solid Waste Department currently provides household and commercial recycling, and compost material pickup, among other programs, to help reduce the City's solid waste load.

Residual Level of Significance: Less than Significant with Mitigation

Implementation of the above goal and policies, including implementation and enforcement of the Source Reduction and Recycling Element, will help ensure that solid waste disposal demands for implementation of the General Plan 2023 will be met without substantial adverse effects upon the environment.

POTENTIAL IMPACT PFS-5: The General Plan 2023 would not comply with statutes and regulations related to solid waste.

Level of Significance: Potentially Significant

Mitigation Measures:

PFS-5.1: The Public Facilities and Services Element (Section 6) of the General Plan 2023 addresses compliance with statutes and regulations related to solid waste through the following goal and policy (P):

Goal PF-11 Provide for the implementation and enforcement of the provisions for the Source Reduction and Recycling Element, as mandated by the State.

PF-P-29 The City will implement and enforce the provisions of its Source Reduction and Recycling Element.

Residual Level of Significance: Less than Significant with Mitigation

Implementation of the above goal and policy providing for the implementation and enforcement of the Source Reduction and Recycling Element will help comply with statutes and regulations related to solid waste.

POTENTIAL IMPACT PFS-6: Implementation of the General Plan 2023 would require additional facilities and LOS for police protection, fire protection, schools, and parks.

Level of Significance: Potentially Significant

Police Protection: The effect of growth from the General Plan 2023 will be an incremental increase in the number of service calls from the Manteca Police Department. The effects will be in terms of personnel requirements for training and emergency responses, and an increased need to upgrade equipment and facilities.

Fire Protection: The effect of growth from the General Plan 2023 will be an incremental increase in the number of calls for service from the MFD. The current Insurance Services Organization (ISO) level of service and other indicators of service capability will be affected as the population increases and the general character of the community changes over time. The effects will be in terms of personnel requirements for training and emergency responses, and an increased need to upgrade equipment and engines. Personnel requirements will also increase due to the Cal OSHA requirement of a minimum of four (4) firefighters to respond to most fire incidents. New fire stations will be required to maintain a standard of a maximum 5 minute response. The MFD will determine the location of these stations as growth occurs to maintain the response coverage of the urban area. Therefore, the stations will be located in urbanizing areas.

Schools: Proposed growth in the General Plan 2023 will require new K-8 and high schools. The location of these schools cannot be determined in the General Plan. The Manteca Unified School District will select the location of new schools sites based on the location of new growth and the District's site criteria.

Parks and Recreation: Based upon the standard of 5 acres of parkland per one thousand residents new neighborhood and community parkland will be required. The City Parks and Recreation Department and the Parks and Recreation Commission will establish location and site criteria in the Recreation Master Plan.

Mitigation Measures:

PFS-6.1: The Public Facilities and Services Element (Section 6) of the General Plan 2023 addresses police protection, fire protection, schools, and parks and recreation through the following goals, policies (P), and implementation measures (I):

Police Protection

PF-P-39 The City shall endeavor through adequate staffing and patrol arrangements to maintain the minimum feasible police response times for police calls.

PF-P-40 The City shall provide police services to serve the existing and projected population.

PF-P-41 The City will establish the criteria for determining the circumstances under which police service will be enhanced.

PF-I-22 The Police Department shall continuously monitor response times and report annually on the results of the monitoring.

PF-I-23 The Planning Commission and City Engineer will review proposed residential developments to evaluate the accessibility for police patrols and emergency response.

Fire Protection

PF-P-42 The City shall endeavor to maintain an overall fire insurance (ISO) rating of 4 or better.

PF-P-43 The City shall endeavor through adequate staffing and station locations to maintain the minimum feasible response time for fire and emergency calls.

PF-P-45 The City shall establish the criteria for determining the circumstances under which fire service will be enhanced.

PF-I-24 The Fire Department shall continuously monitor response times and report annually on the results of the monitoring.

PF-I-25 The Planning Commission and City Engineer will review proposed residential street patterns to evaluate the accessibility for fire engines and emergency response.

Education (Schools)

Goal PF-13 Maintain sufficient land inventory so that the Manteca Unified School District can provide for the educational needs of the Manteca residents.

PF-P-32 The City shall cooperate with the Manteca Unified School District and others in locating and reserving appropriate sites for new schools. Adequate facilities shall be planned to accommodate new residential development.

PF-P-33 The City shall cooperate with the Manteca Unified School District in their collection of school facility development fees from new development.

PF-P-34 Financing of new school facilities will be planned concurrent with new development.

PF-P-35 The City and Manteca Unified School District will work together to develop criteria for the designation of school sites and consider opportunities for reducing the cost of land for school facilities. The City will encourage the school district to comply with City standards in the design and landscaping of school facilities.

PF-P-37 The City will consider opportunities for joint-use of facilities the school district. When feasible, a joint-use agreement will be pursued to maximize public use of facilities, minimizing duplication of services provided, and facilitate shared financial and operational responsibilities.

PF-P-38 When feasible, schools will be located away from hazards of sensitive resource conservation areas, except where the proximity of resources may be of educational value and the protection of resources is reasonably assured.

PF-I-18 The City will maintain an inventory of all public lands to identify opportunities for joint-use facilities.

PF-I-19 The City shall cooperate with the Manteca Unified School District to select a suitable location for a high school south of SR-120.

PF-I-20 The City will request an annual meeting with the Administrator and the Board of Trustees of the Manteca Unifi9ed School District to review development issues and opportunities for cooperation between the school district and the City.

PF-I-21 The City will encourage the expansion of higher education program offerings and opportunities in Manteca.

Parks and Recreation

Goal PF-14 Establish and maintain a park system and recreation facilities that support economic development and residential growth in the City.

Goal PF-15 Establish and maintain a park system and recreation facilities that are suited to the needs of Manteca residents and visitors.

Goal PF-16 Promote the provision of private recreational facilities and opportunities.

Goal PF-17 Establish a recreation program that is suited to the needs and interests of all Manteca residents.

Goal PF-18 Provide a network of pedestrian and bicycle routes connecting Manteca's major open space areas and destination points.

PF-P-46 The City shall expand the community and neighborhood park system with the goal of providing neighborhood park facilities within reasonable walking distance of all City residential areas.

PF-P-47 The City shall use joint development of park and drainage detention basins in the development of neighborhood parks.

PF-P-48 The City shall cooperate with the Manteca Unified School District in opportunities for joint-use of school and park and recreation facilities.

PF-P-49 City park acquisition efforts shall be based on a goal of 5 acres of developed neighborhood and community parkland per 1,000 residents within the City limits.

PF-P-50 Neighborhood parks shall conform to the following general guidelines (specific detail and standards to be determined within the Parks and Recreation Master Plan):

- The typical minimum size shall be set to support active and passive recreation activities.
- The typical service areas for a neighborhood park is approximately ¼ mile walking distance.
- Neighborhood parks shall include a turf area above the basin flood line of sufficient area to be used for playgrounds, sports, picnic areas, and other recreational facilities.

PF-P-51 The City shall aggressively pursue State and County funding to supplement City revenues to the extent such funding is available.

PF-P-52 The City shall endeavor to identify, acquire, and develop one or more community parks as defined in the Parks and Recreation Master Plan.

PF-P-53 All new residential development will be required to pay a park acquisition and improvement fee, based on providing 5 acres per 1,000 residents, to fund system-wide improvements.

PF-P-54 The City shall require the provision of private open space and recreational facilities as part of new residential developments.

PF-P-55 The City shall not discourage the expansion of private commercial recreational facilities.

PF-P-56 The City shall develop a convenient system of pedestrian sidewalks and pathways linking City parks, major open space areas, and the downtown core.

PF-P-57 The City shall adopt a Bicycle Route Master Plan and develop a bicycle route system linking open space areas, schools, public facilities, the downtown core, and neighborhoods.

PF-I-26 The City shall adopt a Parks and Recreation Master Plan, setting out goals, policies, and standards for the location, size, and level of development of all existing and proposed parks. The Plan will establish specific development criteria for the use of neighborhood and community parks. The master plan shall cover at least the succeeding 10-year period, with greater detail devoted to improvements planned for the first five-year period.

PF-I-27 The City shall periodically review projected park development needs and plans, update cost estimates for park acquisition and development, and remaining development potential based on the General Plan.

Residual Level of Significance: Less than Significant with Mitigation

Implementation of the above goal and policies, including the Parks and Recreation Master Plan, will help ensure that police protection, fire protection, educational, and parks and recreation demands for implementation of the General Plan 2023 will be met without substantial adverse effects upon the environment.

POTENTIAL IMPACT PFS-7: The General Plan 2023 would require expanded energy sources and infrastructure for expanded urban development.

Level of Significance: Potentially Significant

Ever-increasing energy demand has been a prominent issue in recent years, as reflected in ever-increasing energy bills, black-outs, brown-outs, and scheduled outages.

Electrical and natural gas services are provided to the City of Manteca by Pacific, Gas & Electric Company, Inc., a private corporation.

Power plants, substations, and transmission lines, and natural gas transmission lines are approved by a combination of agencies, including FERC, CPUC, and CEC (discussed in Subsection 4.2 above). These agencies are exempt from following local regulations, although in practice each of these agencies consults with local jurisdictions and the public.

The CPUC published the California Natural Gas Infrastructure Outlook 2002-2206 Report, which concluded that PG&E's natural gas infrastructure would be sufficient through the year 2006

Mitigation Measures:

PFS-7.1: The General Plan 2023 Public Facilities and Services Element (Section 6) addresses electricity though the following goal, policy (P), and implementation (I) measures:

Goal PF-10	The City shall ensure adequate, reliable electric service is available to all users in the City.
PF-P-28	Cooperate with and encourage efforts to expand the opportunities for electric power service in the City.
PF-I-14	The City will consider participating on generating and/or distributing electric service within the City.
FP-I-15	The City will support energy conservation measures and innovative uses of solar energy, heat recovery, and co-generation in all structural and industrial processes.
PF-I-16	The City will confer with utility companies regarding major development plans and cooperate with planning extensions.

PFS-7.2: The General Plan 2023 Resource Conservation Element (Section 8) provides the following measures to mitigate impacts related to electricity and infrastructure expansion:

RC-I-6	The City shall implement development standards which promote energy conservation and the use of solar energy techniques for heating and cooling, including building orientation, street and lot layout, landscape placement, and protection of solar access.

RC-I-8 The City shall enforce Title 24 energy requirements (Building Code) which define construction standards that promote energy conservation.

Goal RC-3 The City shall ensure that land use and circulation improvements are coordinated to reduce the number and length of vehicles trips and thereby help conserve scare and nonrenewable energy resources.

RC-P-8 The City shall support use of alternative energy sources in new commercial, industrial and residential development.

RC-I-10 Encourage large energy users to use an energy conservation plan as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.

RC-I-11 Cooperate with other agencies and jurisdictions to expand energy conservation programs.

Residual Level of Significance: Significant and Unavoidable

The need for expanded energy sources and infrastructure is a significant impact with expanded urban development. Implementation of the above goal, policy and implementation measures will help reduce the amount of energy and infrastructure needed to serve new urban development in the City of Manteca, but not to a less-than-significant level.

References:

(1) Jim Podesta, Manteca Department of Public Works, telephone conversation, May 28, 2003

(2) City of Manteca, Water Master Plan, Kennedy/Jenks Consultants, August 1998

(3) Wastewater Quality Control Facility Master Plan – 1995 for City of Manteca Nolte and Associates, June1995

(4) Phil Govea, Manteca Department of Public Works, conversation, May 6, 2003

(5) DRAFT Storm Drainage Master Plan, City of Manteca, Carter-Burgess, June 2000

(6) Jim Podesta, Manteca Department of Public Works, telephone conversation, May 28, 2003

(7) Frederic Clark, Manteca Department of Public Works, telephone conversation, May 29, 2003

(8) Sandy Dwyer, Manteca Unified School District, conversation, October 28, 2001

(9) Manteca Unified School District Educational Specifications K-8 Elementary Schools, n.d.

(10) Manteca Unified School District, Educational Specifications 4th High School, December 1999

(11) Community Needs Assessment, Manteca Branch Library, Drew Harrington, Library Building Consulting, Revised February 2003

Additional References

(12) Steve Houx, City of Manteca Parks and Recreation Director, conversation, December 2001

(13) Robert Adams, City Manager, conversation, October 2001

(14) George Quaresma, Fire Chief, conversation, October 28, 2001 and various e-mail

(15) Charlie Halford, Police Chief, conversation, October 28, 2001

(16) Manteca City Fire Department Annual Report 2000

(17) City of Manteca Comprehensive Annual Financial Report, June 30, 2000

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15. TRAFFIC AND CIRCULATION

This section is based upon and incorporates a traffic analysis report authored by Fehr & Peers Associates, Inc., entitled "City of Manteca – General Plan Transportation Analysis, May 2003."

15.1 EXISTING CONDITIONS

15.1.1 Roadway Segments

The City of Manteca is located at the junction of State Routes 120 (SR 120) and State Routes 99 (SR 99) in San Joaquin County. State Route 99 and Interstate 5 provide regional access to Manteca from the north and the south, and State Route 120 provides regional access to Manteca from the east and west.

Travel through Manteca is handled along several two- and four-lane facilities. Major north-south routes include Airport Way, Union Road, and Manteca Road / Main Street. Major east-west routes include Lathrop Road, Louise Avenue, and Yosemite Avenue. These streets are located with approximately one mile in a square arterial grid.

One major north/south roadway is Airport Way, which extends from Lathrop Road to Woodward Avenue along the western border of the City of Manteca near the City of Lathrop. The daily volumes on Airport Way average around 9,000 vehicles per day. Airport Way is currently a two-lane roadway.

Another major north/ south roadway is Union Road that is west of Main Street. Currently, Union Road is four lanes from Lathrop Road to near State Route 120. The sections near State Route 120 extending south to the City limits are two-lane. Union Road carries an average of 15,000 vehicles per day in the City of Manteca.

Manteca Road / Main Street is one of the major north-south roadways in Manteca. A majority of Main Street has four lanes but a small two-lane segment is located at the intersection of Main Street and Yosemite Avenue in the downtown Manteca Area. The average daily volume on Main Street ranges from 15,000 to 23,000.

Other north-south roadways in the City include McKinley Avenue, Winters Drive, Elm Avenue, Fremont Avenue, and Powers Avenue. These roadways carry volumes that are 3,000 vehicles per day or less.

Yosemite Avenue is one of the major east-west roadways in the City of Manteca, with average daily volumes ranging from 11,000 to 17,000 vehicles. Yosemite Avenue serves as a major through route and provides access to recreational areas to the east of the City, such as the Yosemite National Park. Yosemite Avenue is currently a two-lane roadway.

Another major east-west roadway is Louise Avenue, which is located north of Yosemite Avenue. This roadway is currently four lanes and carries an average of 14,000 vehicles per day in the City.

The final major east-west roadway is Lathrop Road, a two-lane roadway north of Louise Avenue. This road currently carries daily volumes ranging from 10,000 to nearly 12,000.

Other east-west roadways include Northgate Drive, Crom Street, Alameda Street, Center Street, North Street, Wawona Street, and Mission Ridge Drive. These roadways generally carry daily volumes ranging from 1,000 to 2,000 vehicles. However, a daily count of 6,000 was taken on Mission Ridge Drive near Main Street and a count of 5,000 occurred on Center Street near Main Street.

Figure 15-1 illustrates the existing roadway system in the Study Area.

The average daily traffic counts were drawn from traffic counts conducted by City of Manteca Staff in 2001. Freeway traffic volumes were obtained from Caltrans. The key road segments and average daily traffic levels are shown in Table 15-1. Figure 15-2 shows the traffic volume, (the sum of vehicles traveling in both directions), on the designated roadway.

15.1.2 Intersections

Five intersection locations were identified for existing conditions analysis, as shown on Figure 15-3. Intersections were selected based on existing and projected traffic volumes through the intersections and consultation with City staff. The intersections are:

1. Lathrop Road and Airport Way;
2. Louise Avenue and Union Road;
3. Louise Avenue and Main Street;
4. Yosemite Avenue and Union Road; and
5. Yosemite Avenue and Main Street.

Existing turning movement counts were conducted at the five study intersections during the PM peak period (4:00 to 6:00 p.m.) in 1999 and 2001 by City of Manteca Staff. The PM peak hour period generally has the highest traffic volumes. To present a more conservative analysis, the highest counts (1999 or 2001) were used as the basis for the analysis. For each intersection count period, the one-hour with the highest traffic volumes was identified for the peak hour of analysis.

Table 15-1

Existing Traffic Volumes

Roadway	Between	1999-2001 Traffic Count
Airport Way	Lathrop to Louise	8700
	Louise to Yosemite	8900
	Yosemite to Wawona	9800
	Wawona to SR 120	9300
Union Road	Lathrop to Northgate	9500
	Northgate to Louise	12500
	Louise to Alameda	14300
	Alameda to Crom	16000
	Crom to Center	17600
	Center to Yosemite	15700
	Yosemite to Wawona	15900
	Wawona to Mission Ridge	16400
	Mission Ridge to SR 120	17100
Main Street	Northgate to Louise	20200
	Louise to Alameda	24700
	Alameda to North	18800
	North to Center	23000
	Center to Yosemite	15200
	Yosemite to SR 120	22800
	SR 120 to Woodward	6300
Woodward	Union to Main	3700
Yosemite	McKinley to Airport	11200
	Airport to Winters	14200
	Winters to Union	16800
	Union to Walnut	15400
	Walnut to Main	12200
	Main to Fremont	13200
	Fremont to Powers	16200
	Powers to Cottage Ave.	15700
	Cottage to Austin	17000
Louise Avenue	Airport to Union	10800
	Union to Elm	11800
	Elm to Main	17900
Lathrop Road	Airport to Union	10200
	Union to Main	11900

Source: Fehr & Peers, Inc. May 2003

Figure 15-1 Existing Roadway Network

Figure 15-2 Existing Daily Volumes

Figure 15-3 Existing Study Area Intersections

15.2 ANALYSIS METHODOLOGY

Operations of the study intersections were evaluated using level of service (LOS) calculations. Level of service criteria is discussed below with an evaluation of existing LOS standards at the four study intersections.

15.2.1 Level of Service Criteria

Transportation engineers and planners commonly use a grading system called level of service (LOS) to measure and describe the operational status of the local roadway network. Level of service is a description of an intersection's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing over-saturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). LOS can be reported for both roadway segments and intersections. This analysis reports both the more general roadway segment LOS and the detailed intersection LOS.

Roadway Segments

Roadway segment LOS is based on the comparison of volumes against reference charts. This analysis employs reference tables developed by the authors of the Highway Capacity Manual for the Florida Department of Transportation (FDOT). FDOT reference tables are widely utilized for roadway segment analysis. They are transferable to other states and have been accepted by Caltrans. Please note that these tables provide only a generalized level of service judgment should applied when reviewing results. These tables employ assumptions regarding signal spacing, peak to daily volume ratios, roadway width, presence of turn lanes, and other factors that affect roadway operation. These LOS thresholds used in this study are shown in Table 15-2.

Table 15-2
Arterial Roadway Segment
LOS Standards (Daily Volumes)

Number of Lanes	LOS C	LOS D	LOS E
2	9,100	14,600	15,600
4	21,400	31,100	32,900
6	33,400	46,800	49,300

Source: Florida Department of Transportation, Generalized Level of Service Tables for Urbanized Areas.

The results of the roadway segment LOS analysis are shown on Table 15-3. As indicated in the table, a majority of the roadway segments operate at an acceptable LOS of C. The LOS of each roadway is also shown on Figure 15-4.

However, there are several roadway segments that operate at a deficient level currently. One segment of Yosemite Avenue operates at LOS E (Union to Walnut) and other segments operate at LOS F (Winters to Union, Fremont to Powers, Powers to Cottage, Cottage to Austin). Please note that the volumes typically exceed the thresholds by small amounts (less than 10%). Therefore, roadways may be operating closer to acceptable levels because of the generalized nature of the roadway LOS standards.

Table 15-3

Existing Traffic Volumes and LOS Results

		Existing	2001	Capacity	Capacity	Capacity		
Roadway	**Between**	**Lanes**	**Traffic Count**	**LOS C**	**LOS D**	**LOS E**	**V/C Ratio**	**LOS**
Airport Way	Lathrop to Louise	2	8700	9100	14600	15600	0.56	C
	Louise to Yosemite	2	8900	9100	14600	15600	0.57	C
	Yosemite to Wawona	2	9800	9100	14600	15600	0.63	D
	Wawona to SR 120	2	9300	9100	14600	15600	0.60	D
Union Road	Lathrop to Northgate	4	9500	21400	31100	32900	0.29	C
	Northgate to Louise	4	12500	21400	31100	32900	0.38	C
	Louise to Alameda	4	14300	21400	31100	32900	0.43	C
	Alameda to Crom	4	16000	21400	31100	32900	0.49	C
	Crom to Center	4	17600	21400	31100	32900	0.53	C
	Center to Yosemite	4	15700	21400	31100	32900	0.48	C
	Yosemite to Wawona	4	15900	21400	31100	32900	0.48	C
	Wawona to Mission Ridge	2	16400	9100	14600	15600	1.05	
	Mission Ridge to SR 120	2	17100	9100	14600	15600	1.10	
Main Street	Northgate to Louise	4	20200	21400	31100	32900	0.61	C
	Louise to Alameda	4	24700	21400	31100	32900	0.75	D
	Alameda to North	4	18800	21400	31100	32900	0.57	C
	North to Center	4	23000	21400	31100	32900	0.70	C

	Center to Yosemite	4	15200	21400	31100	32900	0.46	C
	Yosemite to SR 120	4	22800	21400	31100	32900	0.69	D
	SR 120 to Woodward	2	6300	21400	31100	32900	0.19	C
Woodward	Union to Main	2	3700	9100	14600	15600	0.24	C
Yosemite	McKinley to Airport	2	11200	9100	14600	15600	0.72	C
	Airport to Winters	2	14200	9100	14600	15600	0.91	C
	Winters to Union	2	16800	9100	14600	15600	1.08	
	Union to Walnut	4	15400	21400	31100	32900	0.47	C
	Walnut to Main	2	12200	9100	14600	15600	0.78	D
	Main to Fremont	2	13200	9100	14600	15600	0.85	D
	Fremont to Powers	2	16200	9100	14600	15600	1.04	
	Powers to Cottage Ave.	4	15700	21400	31100	32900	0.48	C
	Cottage to SR 99	4	15700	21400	31100	32900	0.48	C
	Cottage to Austin	2	17000	9100	14600	15600	1.09	
Louise Avenue	Airport to Union	4	10800	21400	31100	32900	0.33	C
	Union to Elm	4	11800	21400	31100	32900	0.36	C
	Elm to Main	4	17900	21400	31100	32900	0.54	C
Lathrop Road	Airport to Union	2	10200	21400	31100	32900	0.31	C
	Union to Main	2	11900	21400	31100	32900	0.36	C

Source: Fehr & Peers Associates, May 2003

Figure 15-4 Existing Roadway Segments LOS

Signalized Intersections

At signalized intersections, traffic conditions are evaluated using the 2000 *Highway Capacity Manual* methodology. The operations analysis uses various intersection characteristics (such as traffic volumes, lane geometry, and signal phasing) to estimate the average delay experienced by motorists traveling through an intersection. Table 15-4 summarizes the relationship between delay and LOS for signalized intersections.

Table 15-4
Signalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0
D	Operations with longer delay due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered the limit of acceptable delay.	> 55.0 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0

Source: Transportation Research Board Highway Capacity Manual, 2000.

Please note that with the update of the Highway Capacity Manual in the Year 2000, the definition of delay was changed from stop delay to control delay and the LOS ranges were recalibrated to reflect this change. Therefore, previously reported delay calculations using previous methodologies cannot be compared to any future calculations. However, the LOS results are comparable. Existing

intersection conditions were evaluated for the weekday evening peak hour at the five study intersections. Table 15-5 summarizes the existing intersection analysis results. The LOS analysis results are shown in Appendix A of the *City of Manteca General Plan Transportation Analysis, Fehr & Peers, May 2003,* available for review at the City of Manteca Community Development Department.

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Table 15-5
Existing (2001) Peak Hour Level of Service

Location	Control [1]	Peak Hour	Delay[2&3]	LOS
Lathrop Road and Airport Way	Signal	PM	26.5	C
Louise Avenue and Union Road	Signal	PM	28.3	C
Louise Avenue and Main Street	Signal	PM	29.6	C
Yosemite Avenue and Union Road	Signal	PM	28.5	C
Yosemite Avenue and Main Street	Signal	PM	23.2	C

1. Signal = Signalized Intersection

2. For signalized intersections, average delay (in seconds per vehicle) calculated using the *2000 Highway Capacity Manual* methodology.

Source: Fehr & Peers Associates, 2002.

As indicated in Table 15-5, all intersections operate at an acceptable LOS C or better during the PM peak hour.

15.2.2 Transit and Park-and-Ride Facilities

The San Joaquin Regional Transit District (SJRTD) provides transit service throughout Manteca with Stockton Metropolitan Area Rapid Transit service (SMART) and County Area Transit (CAT). Manteca is also served by the Altamont Commuter Express (ACE). Figure 15- 5 highlights the corridors currently served by transit. SJRTD also provides a dial-a-ride service for the elderly and handicapped. Manteca has established one park-and-ride location on Northgate Street near the Northgate Church. This location provides access to ACE commuter rail and SMART bus lines.

SMART Route 21 is an intercity route that serves the cities of Stockton, Lodi and Manteca. Weekday service between 6:00 AM and 6:00 PM is provided on this route with headways ranging between one and two hours. In Manteca, the route serves the Doctors Hospital, Main Street and the Manteca Civic Center.

SMART Routes 53, 54 and 55 are interregional routes that serve commuters traveling between Manteca and Tracy to Lawrence Livermore and Sandia Laboratories. Three buses are provided westbound in the morning with three buses returning in the evening.

County Area Transit fixed route service provides transit service to French Camp, Lathrop and Manteca. In Manteca, the Civic Center, St. Dominic's Hospital and the Doctors Hospital are served. Connections to SMART Route 21 can be made from the CAT service line.

Altamont Commuter Express (ACE) provides commuter rail service between Stockton and San Jose. A stop is provided in Manteca on Yosemite Avenue at Shideler Parkway. Three trains are provided during the morning commute from Stockton to San Jose and three trains return in the evening.

15.2.3 Bicycles and Pedestrians

The City of Manteca has a number of bicycle facilities, including Class I (bicycle path), Class II (bicycle lane) and Class III (bicycle route) facilities. Figure 15-6 shows the extent of Manteca's bicycle routes. These facilities provide for bicycle travel throughout the city.

With respect to pedestrian circulation, most streets provide sidewalks and crosswalks are provided at major intersections.

Figure 15-5 Existing Transit Routes

Figure 15-6 Existing Bicycle Network

15.2.4 2000 Census Journey to Work Data

The results of the 2000 Census Journey to Work analysis is presented below. This information details the mode choice for Manteca residents as well as the average travel time for the commuter trip. For comparison purposes, county, state, and national information is presented in Table 15-6.

Table 15-6

2000 Census Journey to Work Results

	Manteca	San Joaquin County	California	United States
Single Occupant Auto	76.5%	74.6%	71.8%	75.7%
Carpool	16.3%	17.0%	14.5%	12.2%
Public Transit	1.5%	1.4%	5.1%	4.7%
Bicyling	0.7%	0.7%	0.8%	0.4%
Walking	1.7%	2.3%	2.9%	2.9%
Other Means	0.6%	1.0%	1.0%	0.8%
Work at Home	2.7%	2.9%	3.8%	3.3%
Average Travel Time to Work	34.2 minutes	29.2 minutes	27.7 minutes	25.5 minutes

Source: 2000 Census, SF-3

The average travel time from home to work for Manteca residents has grown from 26 minutes in 1990 to 34 minutes in 2000, a result that is substantially higher than the average for the county, state, or nation.

One influence on this relatively higher travel time is the percentage of workers who travel one hour (60 minutes) or more. About one-quarter of the employed City residents drive more than 60 minutes to reach their place of employment. For San Joaquin County as a whole, only 15% of the residents required more than 60 minutes to reach their employment location.

The complete Census tables for the Journey to Work data are provided in Appendix B of the *City of Manteca General Plan Transportation Analysis, Fehr & Peers, May 2003,* available for review at the City of Manteca Community Development Department.

15.3 REGULATORY SETTING

This chapter addresses the regulatory setting for the City of Manteca General Plan 2023. From a transportation perspective, the major items that impact the General Plan 2023 development and evaluation include:

- San Joaquin Council of Governments' (SJCOG) Regional Transportation Plan (RTP)
- Measure K Expenditure Plan
- San Joaquin Regional Transportation Impact Fee Study
- 1988 General Plan
- 1993 Public Facilities Infrastructure Plan
- City of Manteca Bicycle Plan

15.3.1 SJCOG Regional Transportation Plan

The Regional Transportation Plan (RTP) is a twenty-year transportation plan that outlines the major transportation improvements to be completed in San Joaquin County. This plan outlines funding for highway projects, transit station and service upgrades, bicycle/pedestrian facilities, and air service enhancements. As a federally designated air quality non-attainment and maintenance area, the San Joaquin County region is required to submit a regional transportation plan every three years.

The RTP relates to the proposed General Plan 2023 in two ways. First, the RTP contains goals and policies related to transportation planning in San Joaquin County. Second, the RTP describes planned improvements affecting local and regional facilities.

Relevant RTP policies include:

- Design a transportation system that meet the travel needs of both citizens and businesses
- Design a transportation system that will improve the environment or minimize environmental impacts
- Design an efficient, safe, and economical transportation system
- Effectively implement the transportation system

The RTP also presents lists of future transportation projects prioritized based on the need, benefit, cost and available funds over the 20 year horizon. According to the RTP, expected revenues are $3.9 billion with total needs of $7 billion. Therefore, there is a funding gap of over $3 billion. This gap represents the disparity between the transportation needs of San Joaquin County and the available resources to fund transportation. Based on insufficient funds for all of the transportation needs, the potential projects are segregated into two groups. The first group, Tier 1, represents projects that can be funded within the existing revenues. The second group, Tier 2, includes projects that cannot be

funded within the current revenue projections; these projects are needed and will move onto the Tier 1 list as additional revenues are identified.

The Tier 1 transportation projects in and around the City of Manteca include:

- Widening of State Route 99 to six lanes
- Widening of State Route 120 to six lanes
- State Route 99 / State Route 120 Interchange improvements
- Route 120 / McKinley Avenue Interchange construction
- Widening of Lathrop Road to four lanes
- Widening of Louise Avenue to four lanes
- Widening of Airport Way to four lanes
- Manteca Multi-modal station

The RTP also includes funding for continued bus and Altamont Commuter Express (ACE) services that benefit City of Manteca residents as well as other residents of San Joaquin County.

15.3.2 Measure K Expenditure Plan

Measure K refers to the one-half cent sales tax measure that funds transportation projects in San Joaquin County. Measure K funds are expended on a variety of projects that include congestion relief projects (major roadway improvements), railroad crossing safety improvements, rail and bus projects, bicycle/pedestrian projects, and local street repair. As part of this last element, Measure K funds are distributed to local jurisdictions to pay for local street repair based on relative population. According to reports from SJCOG, the City of Manteca receives approximately $400,00 each year for local street repair from Measure K.

One Manteca project that was partially funded by Measure K was the Tidewater Bikeway, a 3.4-mile bicycle facility that runs along an abandoned railroad right of way. This project was completed with Measure K funds along with funding from local, state, and federal sources.

15.3.3 San Joaquin Regional Transportation Improvement Fee Study

Under the authority granted by Assembly Bill 1600, SJCOG is conducting a regional transportation fee study. As part of this study, SJCOG is conducting a nexus analysis (as required by statute) to relate the costs of future transportation improvements to the demand generated by future development. This study has not been completed as of May 2003. If completed and implemented, the regional fee program would increase the funding available for transportation projects. These regional fees would be in addition to traffic impact fees assessed by jurisdictions such as the City of Manteca.

15.3.4 1998 General Plan & General Plan Environmental Assessment

The last update to the City of Manteca General Plan was completed in 1988. As part of this update, the Goals and Policies were updated. Additionally, the Circulation Element presented the projected roadway network for the City of Manteca. This General Plan anticipated significant growth in the City of Manteca with a total of 826,600 daily trips estimated at the buildout of the General Plan.

15.3.5 1993 Public Facilities Implementation Plan and South Manteca Area General Plan Amendment

In 1993, the City of Manteca completed a Public Facilities Implementation Plan (PFIP) and a General Plan Amendment regarding the South Manteca Area. The PFIP addressed the future infrastructure needs related to the City including water, wastewater, and transportation. The General Plan Amendment for the South Manteca Area Plan outlined future development in the area south of State Route 120.

The main purpose of the PFIP was the identification of future infrastructure needs and the calculation of fees that would fund future infrastructure. Since the completion of the PFIP, the City of Manteca has collected fees from development projects, which has funded a variety of improvements in the City.

As stated previously, the City adopted a General Plan Amendment related to the South Manteca Area Plan. This Amendment modified the 1988 General Plan to allow development in the area south of State Route 120. This General Plan Amendment envisioned significant growth in this area south of Manteca. With this General Plan Amendment, the total number of daily trips anticipated for the City of Manteca was 709,800, a reduction of approximately 10-15% from the 1988 General Plan. Of this 700,000 total daily trips, nearly one-third (246,400) was anticipated to occur as a result of development south of State Route 120.

For purposes of the General Plan 2023 EIR, the *No Project Alternative* is the 1988 General Plan as modified by the 1993 General Plan Amendment.

15.4 MODEL CALIBRATION / VALIDATION

The model calibration / validation effort is detailed in the *City of Manteca General Plan Focused Model Calibration / Validation* report (August 2002) by Fehr & Peers Associates. This report in its entirety is provided as Appendix C of the *City of Manteca General Plan Transportation Analysis, Fehr & Peers, May 2003*, available for review at the City of Manteca Community Development Department.

15.5 ROADWAY IMPROVEMENTS

15.5.1 Manteca Roadways

There are two main funding sources for roadway improvements in the City of Manteca. The first funding source is SJCOG, which allocates regional transportation funds for projects throughout San Joaquin County. The second source is development fees collected through the 1993 PFIP.

The San Joaquin Council of Governments Regional Transportation Plan (SJCOG RTP) outlines projects that are funded through regional funds. These projects include Tier 1 projects (can be funded with projected revenues) and Tier 2 projects (cannot be funded with projected revenues). This analysis assumes that Tier 1 projects are implemented.

As mentioned in Chapter III, the City of Manteca finances local infrastructure needs (water, sewer, and transportation) through a fee system that was codified in the 1993 PFIP. This plan established a future infrastructure network that would be funded through fees paid by residential and commercial development. This infrastructure plan includes a future roadway network.

The improvements assumed for the roadways in Manteca are indicated in Table 15-7. For each roadway improvement, documentation is provided indicating whether that improvement is referenced in the PFIP, the RTP Tier 1 project list or both documents.

Table 15-7

2025 Assumed Roadway Improvements

Roadway	Segment	Improvement	Included in PFIP?	Included in RTP Tier 1?
McKinley Avenue	Yosemite to SR 120	Widen to four lanes	Yes	No
McKinley Avenue	SR 120 to Atherton	Widen to six lanes	Yes	No
McKinley Avenue	Atherton to Woodward	Widen to four lanes	Yes	No
Airport Way	Lathrop to Woodward Road	Widen to six lanes	Yes	Yes (four lanes only)
Union Road	Mission Ridge to SR 120	Widen to four lanes	Yes	No
Union Road	SR 120 to Atherton	Widen to six lanes	Yes	No
Union Road	Atherton to south of Woodward Road	Widen to four lanes	Yes	No
Lathrop Road	Airport to Main	Widen to four lanes	Yes [1]	Yes
Main Street	Northgate to Alameda	Widen to six lanes	Yes	No
Main Street	Alameda to North	Widen to four lanes	Yes	No
Main Street	Yosemite to Woodward	Widen to six lanes	Yes	No
Yosemite Avenue	McKinley to Union	Widen to six lanes	Yes	No
Yosemite Avenue	Union to Walnut	Widen to four lanes	Yes	No
Yosemite Avenue	Freemont to Austin	Widen to four lanes	Yes	No
Atherton (SR 120 Frontage Road)	Airport to Austin	New 4 Lane roadway (arterial)	Yes	No
Woodward Road	McKinley to Main Street	Widen to Four Lane	No	Yes
Woodward Road	Main Street to Austin	Widen to Four Lane	Yes	No
New Collector Roadway	McKinley to Austin	New 2 Lane roadway (collector)	No	No

Notes: 1- Based on personal communication with Dave Vickers (City of Manteca) regarding feasibility of improvement.

Source: Fehr & Peers Associates, May 2003

15.5.2 Regional Roadway and Interchange Improvements

San Joaquin County has an extensive network of regional freeways and limited access facilities including Interstate 5, State Route 99, and State Route 120. State Route 99 and State Route 120 are particularly important to the City of Manteca given that these facilities border on the City and City residents and employees utilize these roadways on a daily basis. Several of the major roadways in Manteca have existing interchanges with either State Route 99 or State Route 120. As stated previously, the SJCOG regional travel demand model was utilized as the basis for the City of Manteca travel demand model. A comprehensive update of the regional transportation model was completed in 2001. For the areas outside of Manteca, no changes were made in the roadway network. For instance, it was assumed that the roadway network or improvements in Stockton and Tracy was correct.

Inside the project Study Area, the lane configurations and project improvements for State Route 99 and State Route 120 were reviewed based on the information contained in the 2001 SJCOG RTP. This review indicated the following:

- The widening of State Route 99 adjacent to the City of Manteca is included on the Tier 1 project list. This widening would widen SR 99 from the existing four lanes to six lanes through widening in the median. Please note that the Tier 2 project list includes the widening of SR 99 to 8 lanes south of the SR 99 / SR 120 interchange.
- The widening of State Route 120 adjacent to the City of Manteca is on the Tier 1 project list. This widening would extend from I-5 to State Route 99 with the widening occurring in the median.
- Improvements to the interchange at SR 99 / SR 120 are included in the Tier 1 project list.
- A new interchange would be constructed at SR 120 / McKinley Avenue.

15.5.3 Future Roadway Network

The future laneage is shown on Figure 15-7. Intersection configurations for selected intersections are provided. A map of these selected locations is included as Figure 15-8. The default roadway configuration is that there are single left turn and right turn lanes on four lane roadways with dual left turn lanes and single right turn lanes on six lane and eight lane roadways. These conceptual configurations mirror the assumed configurations developed during the 1993 PFIP.

Figure 15-7Future Roadway Lanes

Figure 15-8Future Study Area Intersections

15.6 FUTURE TRAFFIC FORECASTS

This chapter discusses the project traffic volumes found on Manteca area roadways with the build-out of the General Plan 2023. This build-out scenario incorporates the land use and roadway network data contained in Section 15.5.

This sections presents the total daily trips, roadway segment volumes and the afternoon peak hour turning movements.

15.6.1 Total Daily Trips

With the proposed General Plan 2023, the total number of daily trips generated in the City of Manteca would be 1,107,208 at project buildout. This total represents an increase of 390,000 trips over the previous total under the No Project Alternative (1993 General Plan Amendment).

Future Segment Volumes

Figure 15-9 shows the future traffic volumes by road segment. Table 15-8 presents the future roadway segment volumes for the build out of the General Plan 2023. As shown in this table, there is significant growth in traffic volumes with the land uses included in the General Plan 2023.

Table 15-9 compares the traffic volumes to the existing traffic counts. The average increase per link is 138%, which indicates at least a doubling of traffic on City roadways by build-out of the General Plan 2023. This table also includes traffic volumes from the 1993 PFIP and South Manteca Area Plan General Plan Amendment. The average increase in these volumes is 36%. Therefore, the average roadway volume is approximately one-third more than the traffic volumes with the No Project Alternative.

Future Turn Volumes

Future turn volumes intersection locations were selected based on the five intersections analyzed under existing conditions as well as other intersections that might be impacted by future development. These volumes were developed using a variety of methods. For existing intersections for which existing turn movements are available, the furnessing process is employed which proportions the turning movements based on projected growth in traffic entering the entering on the street for which the movement begins and the growth in traffic existing on the street to which the movement is directed. When existing turning movements are not available, such as with the construction of a new roadway (Atherton), the future turning movements are directly extracted from the travel demand model.

Figure 15-9Future Daily Volumes

Table 15-8

Future Daily Volumes

Roadway	Between	Key Number	2025 Forecast
McKinley Avenue	Yosemite to 120	1	12400
	120 to Atherton	2	41400
	Atherton to Woodward	3	23600
	Woodward South	4	15700
Airport Way	Lathrop to Louise	5	39700
	Louise to Yosemite	6	45800
	Yosemite to Wawona	7	44700
	Wawona to SR 120	8	44700
	SR 120 to Atherton	9	59200
	Atherton to Woodward	10	39700
	Woodward South	11	29300
Union Road	Lathrop to Northgate	12	21300
	Northgate to Louise	13	21400
	Louise to Alameda	14	28800
	Alameda to Crom	15	26900
	Crom to Center	16	28900
	Center to Yosemite	17	31200
	Yosemite to Wawona	18	25100
	Wawona to Mission Ridge	19	24400
	Mission Ridge to SR 120	20	37500
	SR 120 to Atherton	21	46500
	Atherton to Woodward	22	16700
	Woodward South	23	17000
Main Street	Northgate to Louise	24	36400
	Louise to Alameda	25	27100
	Alameda to North	26	25300
	North to Center	27	22900
	Center to Yosemite	28	23600

	Yosemite to SR 120	29	42500
	SR 120 to Atherton	30	57400
	Atherton to Woodward	31	34800
	Woodward South	32	30800
Woodward	McKinley to Airport	33	16300
	Airport to Union	34	15600
	Union to Main	35	18000
	Main to Austin	36	24700
Atherton	McKinley to Airport	37	21300
	Airport to Union	38	17800
	Union to Main	39	23200
	Main to Woodward	40	20200
Yosemite	McKinley to Airport	41	26400
	Airport to Winters	42	30500
	Winters to Union	43	26700
	Union to Walnut	44	16700
	Walnut to Main	45	11700
	Main to Fremont	46	17000
	Fremont to Powers	47	23600
	Powers to Cottage Ave.	48	32400
	Cottage ro SR 99	49	36100
	SR 99 to Austin	50	31800
Louise Avenue	Airport to Union	51	21400
	Union to Elm	52	29400
	Elm to Main	53	30300
Lathrop Road	Airport to Union	54	23400
	Union to Main	55	21400

Source: Fehr & Peers Associates, May 2003

Table 15-9

Comparison of Existing to Forecast Traffic Volumes

Roadway	Between	2001 Traffic Counts	Forecasted Growth	Current General Plan	New General Plan	Percent Change
Airport Way	Lathrop to Louise	8700	359%	23000	39700	73%
	Louise to Yosemite	8900	417%	30300	45800	51%
	Yosemite to Wawona	9800	314%	22300	44700	100%
	Wawona to SR 120	9300	367%	24800	44700	80%
Union Road	Lathrop to Northgate	9500	131%	18800	21300	13%
	Northgate to Louise	12500	74%	18800	21400	14%
	Louise to Alameda	14300	106%	22600	28800	27%
	Alameda to Crom	16000	71%	22600	26900	19%
	Crom to Center	17600	67%	22600	28900	28%
	Center to Yosemite	15700	98%	22600	31200	38%
	Yosemite to Wawona	15900	59%	22600	25100	11%
	Wawona to Mission Ridge	16400	47%	22600	24400	8%
	Mission Ridge to SR 120	17100	113%	22600	37500	66%
Main Street	Northgate to Louise	20200	92%	20300	36400	79%
	Louise to Alameda	24700	18%	20300	27100	33%
	Alameda to North	18800	43%	21000	25300	20%
	North to Center	23000	8%	21000	22900	9%
	Center to Yosemite	15200	66%	21000	23600	12%
	Yosemite to SR 120	22800	77%	41920	42500	1%
	SR 120 to Woodward	6300	814%	47200	57400	22%
Woodward	Union to Main	3700	268%	6900	18000	161%
Yosemite	McKinley to Airport	11200	182%	29600	26400	-11%
	Airport to Winters	14200	109%	29300	30500	4%
	Winters to Union	16800	115%	28100	26700	-5%

	Union to Walnut	15400	23%	12900	16700	29%
	Walnut to Main	12200	6%	12600	11700	-7%
	Main to Fremont	13200	36%	10400	17000	63%
	Fremont to Powers	16200	48%	14700	23600	61%
	Powers to Cottage Ave.	15700	64%	14700	32400	120%
	Cottage to Austin	17000	115%	30000	36100	20%
Louise Avenue	Airport to Union	10800	104%	17800	21400	20%
	Union to Elm	11800	89%	18800	29400	56%
	Elm to Main	17900	44%	26200	30300	16%
Lathrop Road	Airport to Union	10200	114%	20100	23400	16%
	Union to Main	11900	161%	20900	21400	2%
Average Change Per Roadway Segment			138%			36%

Source: Fehr & Peers Associates, February 2003

15.7 IMPACT EVALUATION CRITERIA

The following specific criteria are used in conjunction with the CEQA Guidelines, Appendix G, for determining any significant adverse impacts from the project upon the environment.

1. Does the proposed General Plan 2023 meet City of Manteca LOS standards for local roadways?

For the local roadways, LOS will be assessed using a two-tier approach based on the language from the General Plan 2023 policies. First, every roadway segment must meet LOS D at a minimum. Second, one-half of the Study Area roadway segments must operate at LOS C or better in order to achieve the "LOS C Average" policy. If these two criteria are not met, then a significant impact is judged to occur.

2. Does the proposed General Plan 2023 meet City of Manteca LOS standards for intersections?

Intersection operations will be assessed using the approach outlined above. Each intersection must operate at LOS D or better. Also, one-half of the Study Area intersections must operate at LOS C or better.

3. Does the proposed General Plan 2023 meet SJCOG LOS standards for regional roadways?

LOS D is the standard for regional roadways. In terms of this analysis, regional roadways are defined to be the three freeway facilities directly adjacent to the City of Manteca (Interstate 5, State Route 99, and State Route 120). If the incremental growth in traffic from the proposed General Plan 2023

causes the traffic volumes to exceed LOS D, then a significant impact will be identified. Impacts are not identified when the roadway would exceed LOS D under the No Project condition.

4. Does the proposed General Plan 2023 conflict with regionally adopted transportation goals or policies?

A significant impact will be assessed if an element of the proposed General Plan 2023 conflicts with regional goals and policies related to transportation.

5. Does the proposed General Plan 2023 impede the operations of alternate travel modes including transit, bicycles, and pedestrians?

A significant impact will be identified if the proposed General Plan 2023 negatively impacts non-automotive modes including transit, bicycles, and pedestrians.

15.8 IMPACTS AND MITIGATION

This section presents the results of the impact analysis. This impact analysis addresses the extent to which the proposed General Plan 2023 creates significant impacts on both the local and regional roadway and transportation network. This section also addresses the extent to which the proposed General Plan 2023 may create impacts on other modes of transportation including transit, bicycles, and pedestrians.

POTENTIAL IMPACT TC-1: Planned development in the General Plan 2023 may not meet City of Manteca LOS standards for local roadways.

For analysis purposes, these roadways are limited to the major arterials within the City of Manteca. The LOS daily volume thresholds from Table 15-2 were applied to the future volumes. The results of this application are shown in Table 15-10. Figure 15-10 shows the LOS results by location.

Level of Significance: Potentially Significant

Table 15-10

Future Roadway LOS

Roadway	Between	Existing Lanes	Future Lanes	2025 Forecast	V/C Ratio	New LOS
McKinley Avenue	Yosemite to 120	2	4	12400	0.38	C
	120 to Atherton	2	6	41400	0.84	D
	Atherton to Woodward	2	6	23600	0.48	C
	Woodward South	2	4	15700	0.48	C
Airport Way	Lathrop to Louise	2	6	39700	0.81	D
	Louise to Yosemite	2	6	45800	0.93	D
	Yosemite to Wawona	2	6	44700	0.91	C
	Wawona to SR 120	2	6	44700	0.91	D
	SR 120 to Atherton	2	6	59200	1.20	F
	Atherton to Woodward	2	6	39700	0.81	D
	Woodward South	2	6	29300	0.59	C
Union Road	Lathrop to Northgate	4	4	21300	0.65	C
	Northgate to Louise	4	4	21400	0.65	C
	Louise to Alameda	4	4	28800	0.88	D
	Alameda to Crom	4	4	26900	0.82	D
	Crom to Center	4	4	28900	0.88	D
	Center to Yosemite	4	4	31200	0.95	D
	Yosemite to Wawona	4	4	25100	0.76	D
	Wawona to Mission Ridge	4	4	24400	0.74	D
	Mission Ridge to SR 120	2	4	37500	1.14	F
	SR 120 to Atherton	2	6	46500	0.94	D
	Atherton to Woodward	2	4	16700	0.51	C
	Woodward South	2	4	17000	0.52	C
Main Street	Northgate to Louise	4	6	36400	0.74	D
	Louise to Alameda	4	6	27100	0.82	D
	Alameda to North	4	4	25300	0.77	D
	North to Center	2	4	22900	0.70	D

	Center to Yosemite	4	4	23600	0.72	D
	Yosemite to SR 120	4	4	42500	1.29	F
	SR 120 to Atherton	4	6	57400	1.16	F
	Atherton to Woodward	4	6	34800	0.71	D
	Woodward South	2	6	30800	0.62	C
Woodward	McKinley to Airport	2	4	16300	0.50	C
	Airport to Union	2	4	15600	0.47	C
	Union to Main	2	4	18000	0.55	C
	Main to Austin	2	4	24700	0.75	D
Atherton	McKinley to Airport	N/A	4	21300	0.65	C
	Airport to Union	N/A	4	17800	0.54	C
	Union to Main	N/A	4	23200	0.71	D
	Main to Woodward	N/A	4	20200	0.61	C
Yosemite	McKinley to Airport	2	6	26400	0.54	C
	Airport to Winters	2	6	30500	0.62	C
	Winters to Union	2	6	26700	0.54	C
	Union to Walnut	4	4	16700	0.51	C
	Walnut to Main	2	2	11700	0.75	D
	Main to Fremont	2	2	17000	1.09	F
	Fremont to Powers	2	4	23600	0.72	D
	Powers to Cottage Ave.	4	4	32400	0.98	E
	Cottage ro SR 99	4	4	36100	1.10	F
	SR 99 to Austin	2	4	31800	0.97	E
Louise Avenue	Airport to Union	4	4	21400	0.65	C
	Union to Elm	4	4	29400	0.89	D
	Elm to Main	4	4	30300	0.92	D
Lathrop Road	Airport to Union	2	4	23400	0.71	D
	Union to Main	2	4	21400	0.65	C

Source: Fehr & Peers Associates, May 2003

Figure 15-10 Future Roadway LOS Results

Mitigation Measures:

TC-1.1: The Circulation Element (Section 4) of the General Plan 2023 includes, among others, the following policies (P) to meet the standards for local roadways:

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.

C-P-2 Manteca's target for transportation LOS is to provide **("citywide average" removed)** LOS of C or better, and a minimum of LOS D at any individual location. LOS C, LOS D and the other Level of Service ratings as defined in current traffic engineering standards. This "LOS C average, LOS D minimum" shall be accomplished by attempting to provide LOS C at all locations, but accepting LOS D under the following circumstances:

- 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.
- Where it is difficult or impossible to maintain LOS C because surrounding facilities in other jurisdictions operate at LOS D or worse.
- Where free-flowing roadways or interchange ramps would discourage use of alternate travel modes.
- 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.

As stated previously, the daily LOS standards are general guidelines and are not as accurate as more detailed intersection analyses. However, many of the segments exceed the LOS C threshold by 30-40%; therefore it is not likely that these impacts are within the normal tolerances of the LOS thresholds.

Based on the significance criteria above and the comparison to the existing 1988 General Plan, the proposed General Plan 2023 is inconsistent with the adopted goals and policies because several

segments do not meet the LOS D minimum and a majority of the roadways do not operate at LOS C (only 17 of 55 segments operate at LOS C). A total of eight segments do not meet LOS D standards.

Each of these deficient segments could be mitigated through widening each segment from its existing or projected laneage. The widening required improving the roadway segment LOS from E or F to D is listed below:

- Airport Way (SR 120 to Atherton)- Widen from six to eight lanes
- Union Road (Mission Ridge to 120)- Widen from four to six lanes
- Main Street (Yosemite to SR 120)- Widen from four to six lanes
- Main Street (SR 120 to Atherton)- Widen from six to eight lanes
- Yosemite (Main to Fremont)- Widen to 4 lanes
- Yosemite (Powers to Cottage)- Widen to 6 lanes
- Yosemite (Cottage to SR 99)- Widen to 6 lanes
- Yosemite (SR 99 to Austin)- Widen to 6 lanes

In most cases, these improvements occur in areas yet to be developed (south of State Route 120) or along roadways that will be widened (Yosemite Avenue). The one improvement that would be difficult to implement would be the widening of Yosemite to the east of Main Street. These improvements are shown on Figure 15-11.

Figure 15-11Laneage After LOS D Mitigations

Widening the following three roadway segments will enable the proposed General Plan 2023 to meet the LOS C average on half of the roadway segments. These improvements include:

- McKinley Avenue (SR 120 to Atherton)- Widen to 8 lanes
- Airport Way (Atherton to Woodward)- Widen to 8 lanes
- Main Street (Atherton to Woodward)- Widen to 8 lanes

The three improvements can be considered feasible given that these roadways will be widening concurrent with the projected development of SR 120. There are no right-of-way considerations given that this land is currently unoccupied.

With this last set of roadway improvements, the proposed General Plan 2023 achieves internal consistency by having a roadway system to that matches the LOS policy in the General Plan 2023. These improvements are shown on Figure 15- 12. The LOS for these segments is shown on Table 21 in the *City of Manteca General Plan Transportation Analysis, Fehr & Peers, May 2003,* available for review at the City of Manteca Community Development Department.

Revising the LOS policy in the Circulation Element can obviate these last three roadway improvements. By removing the phrase "city-wide average", the policy would still indicate that LOS C is the target and LOS D is the minimum. Such a change in the policy would also remove any ambiguities regarding the LOS policy of the City.

Residual Level of Significance: Less Than Significant With Mitigation

Implementation of the General Plan 2023 policies, together with the traffic improvements detailed above, will help ensure that the General Plan 2023 will meet the standards for local roadways.

Figure 15-12Laneage After LOS C Mitigation

POTENTIAL IMPACT TC-2: **Planned development in the General Plan 2023 may not meet City of Manteca LOS standards for local intersections.**

As shown in Table 15-11, eight of the fifteen Study Area intersections operate at LOS D or worse with the incremental traffic from the General Plan 2023. Mitigation includes potential changes to the operations of these intersections.

Table 15-11

2025 PM Levels of Service

Intersection	Control	PM LOS
1. Airport Way / Lathrop Road	Signalized	D
2. Union Road / Louise Avenue	Signalized	D
3. Main Street / Louise Avenue	Signalized	E
4. Union Road / Yosemite Avenue	Signalized	D
5. Main Street / Yosemite Avenue	Signalized	C
6. Airport Way / Louise Avenue	Signalized	F
7. Airport Way / Yosemite Avenue	Signalized	F
8. McKinley Avenue / Atherton	Signalized	C
9. Airport Way / Atherton	Signalized	F
10. Union Road / Atherton	Signalized	F
11. Main Street / Atherton	Signalized	F
12. McKinley Avenue / Woodward Avenue	Signalized	C
13. Airport Avenue / Woodward Avenue	Signalized	E
14. Union Road / Woodward Avenue	Signalized	B
15. Main Street / Woodward Avenue	Signalized	F

Source: Fehr & Peers Associates, May 2003

Figure 15-13 Future Intersection LOS Results

Level of Significance: Potentially Significant

Mitigation Measures:

TC-2.1: The Circulation Element policies (P) listed above in Potential Impact TC-1 address LOC standards, which also apply to local intersections.

TC-2.2: Improvements to the impacted intersections can allow LOS D operations or better.

As shown in Table 15-12, the fifteen Study Area intersections can be improved to allow LOS D operations or better. These improvements include any widening of the main-line segments as proposed to bring the roadway segments to LOS D and specific intersection improvements that will improve the operations of the intersection. These specific improvements include:

- Adding dual-left turn lanes on Lathrop Road at Airport Way / Lathrop Road
- Adding dual-left turn lanes on Louise Avenue at Main Street / Louise Avenue
- Adding dual-left turn lanes on Union Road and Yosemite Avenue at Union Road / Yosemite Avenue
- Adding dual-left turn lanes and dual right-turn lanes on Louise Avenue at Airport Way / Louise Avenue
- Adding dual-left turn lanes on Atherton at Airport Way / Atherton Road
- Adding dual-left turn lanes on Union Road and Atherton Road at Union Road / Atherton
- Adding dual-left turn lanes on Atherton at Main Street / Atherton Road
- Adding dual-left turn lanes on Woodward Avenue at Airport Way / Woodward Avenue
- Adding dual-left turn lanes on Woodward Avenue at Main Street / Woodward Avenue

Using the estimated turn volumes, City LOS requirements for both individual intersections and the citywide area can be satisfied with these intersection improvements. In general, these improvements are feasible given that many of the proposed roadways will be widened as part of future roadway projects envisioned by the PFIP and the RTP.

Table 15-12

2025 PM Intersection Levels of Service

Intersection	Control	PM LOS
1. Airport Way / Lathrop Road	Signalized	C
2. Union Road / Louise Avenue	Signalized	D
3. Main Street / Louise Avenue	Signalized	D
4. Union Road / Yosemite Avenue	Signalized	C
5. Main Street / Yosemite Avenue	Signalized	C
6. Airport Way / Louise Avenue	Signalized	C
7. Airport Way / Yosemite Avenue	Signalized	D
8. McKinley Avenue / Atherton	Signalized	D
9. Airport Way / Atherton	Signalized	D
10. Union Road / Atherton	Signalized	B
11. Main Street / Atherton	Signalized	D
12. McKinley Avenue / Woodward Avenue	Signalized	D
13. Airport Avenue / Woodward Avenue	Signalized	C
14. Union Road / Woodward Avenue	Signalized	B
15. Main Street / Woodward Avenue	Signalized	C

Source: Fehr & Peers Associates, May 2003

Residual Level of Significance: Less Than Significant With Mitigation

Implementation of the General Plan 2023 policies, together with the intersection improvements detailed above, the General Plan 2023 will meet the standards for local intersection.

POTENTIAL IMPACT TC-3: Planned development in the General Plan 2023 may not meet SJCOG LOS standards for regional roadways.

As stated previously, the LOS standard for regional roadways are LOS D. Generally, a majority of the regional roadway segments adjacent to the City of Manteca will operate at that level or above. Only four of the fourteen regional roadway segments will operate at LOS D or better. The future volumes for both the No Project and With Project condition are shown in Table 15-13.

Table 15-13

2025 Freeway Operations

			2025 Volumes		Capacity	Capacity	Capacity	LOS	
Freeway	**Segment**	**Lanes**	**No Project**	**With Project**	**LOS C**	**LOS D**	**LOS E**	**No Project**	**With Project**
I-5	I-205 to SR 120	8	238,000	279,000	115,300	140,200	156,000	F	F
	SR 120 to Louise	6	157,000	154,800	81,700	105,000	120,200	F	F
	Louise to Lathrop	6	152,000	153,500	81,700	105,000	120,200	F	F
	North of Lathrop	6	159,000	148,000	81,700	105,000	120,200	F	F
SR-120	I-5 to Yosemite	6	119,000	148,100	81,700	105,000	120,200	E	F
	Yosemite to McKinley	6	113,000	107,000	81,700	105,000	120,200	E	E
	McKinley to Airport	6	95,000	113,900	81,700	105,000	120,200	D	E
	Airport to Union	6	114,000	114,000	81,700	105,000	120,200	E	E
	Union to Main	6	118,000	115,000	81,700	105,000	120,200	E	E
	Main to SR 99	6	98,000	99,100	81,700	105,000	120,200	D	D
SR-99	North of Lathrop	6	92,000	100,800	81,700	105,000	120,200	D	D
	Lathrop to Yosemite	6	76,000	81,600	81,700	105,000	120,200	C	C
	Yosemite to SR 120	6	98,000	108,900	81,700	105,000	120,200	E	E
	South of SR 120	6	111,000	147,600	81,700	105,000	120,200	E	F

Source: Fehr & Peers Associates, May 2003

Level of Significance: Potentially Significant

The freeway volumes with the proposed land use in the proposed General Plan 2023 are generally equal to or higher than the volumes associated with the previous (1988) General Plan. Large differences in volumes are attributable to traffic associated with large projects included in Manteca (business park south of McKinley) and other projects included in the background. For instance, these projections include traffic from the Landmark Logistic Center (LLC), a large mixed-use project approved in the City of Lathrop.

However, many of these roadway segments will operate at deficient levels of service under both the No Project and Project Condition. However, one segment of SR-120 will operate at a worse level than the No Project Condition. This segment, McKinley to Airport, will operate at LOS E under the Project Condition (LOS D under the No Project Condition). Therefore, there is a significant impact at this location.

This is one significant impact identified on regional roadways. This impact was identified on State Route 120, for the segment from McKinley Avenue to Airport Road. One factor contributing to this impact is the access provided to a proposed business park south of McKinley Avenue. Another factor contributing to these traffic volumes are the region-wide population and employment growth. This roadway segment exceeds the LOS D threshold by approximately 8%. Please note that this impact occurs with the buildout of the General Plan 2023, which represents significant population and employment growth in the City of Manteca. This buildout scenario incorporates a worst-case significant population and employment growth, which vastly exceeds the regional forecasts. These impacts are therefore conservative and will only occur if the City meets its anticipated growth forecasts.

Given that the City lacks the resources and authority to widen State Route 120 directly, other mitigations measures are needed. Mitigations for this impact include:

Mitigation Measures:

TC-3.1: **Travel Demand Management:** The Circulation Element includes several policies (P) and implementation measures (I) aimed at encouraging alternate modes. These include:

C-I-15 The City shall establish a requirement for a transportation demand management program in any business park, industrial or commercial land use that employs more than 50 full time equivalent employees.

Transit Use: The Circulation Element encourages transit use, including the following policies (P):

C-P-49 The City shall encourage the use of local transportation services, such as jitneys, local shuttles and commuter buses.

C-P-52 The City shall promote the development of park-and-ride facilities near I-5, SR 120, and SR 99.

Bicycle/Pedestrian Use- The Circulation Element encourages bicycle/pedestrian use, including the following policy (P):

C-P-33 The City <u>shall</u> ~~should~~ establish a safe and convenient network of identified bicycle routes connecting residential areas with recreation, shopping, and employment areas within the city". By establishing

this network, the City of Manteca is encouraging bicycle use in the City. This policy is currently being implemented through ~~the update of~~ the City's Bicycle Master Plan.

Participation Regional Cost-Sharing Program: SJCOG is conducting a study regarding the implementation of a region wide traffic fee. The City of Manteca has supported this effort by participating in the study regarding this fee. The City should continue to support similar efforts to develop a mechanism to share the cost of regional transportation improvements when such an effort fairly allocates the costs and benefits of projects through an appropriate nexus-based study. These cost-sharing efforts could be addressed through both region-wide efforts and sub-regional efforts. A sub-regional cost sharing approach could consist of a program to allocate improvement costs to only a limited number of adjacent cities (Tracy, Lathrop, Manteca only) or cities utilizing a particular corridor (I-205).

Several factors contribute to this impact and other impacts on the roadways. These factors include regional population growth and a continuing travel outside of the regional for employment. By allocating significant lands for population, the City of Manteca is providing jobs for the residents of San Joaquin County, including Manteca residents.

While the proposed General Plan 2023 is increasing traffic volumes on regional roadways, the inclusion of significant employment opportunities is addressing one of the region's key transportation issues; namely the ever increasing commute required for San Joaquin County residents.

Residual Level of Significance: Less Than Significant With Mitigation

Implementation of the Circulation Element policies and implementation measures, together with continued participation in the SJCOG Regional Cost-Sharing Program, will help ensure that the General Plan 2023 will meet SJCOG LOS standards for regional roadways.

POTENTIAL IMPACT TC-4: Planned development in the General Plan 2023 could conflict with regionally adopted transportation goals and policies.

Level of Significance: Less Than Significant

As judged by the four major policies contained in the SJCOG RTP, the proposed General Plan 2023 does not conflict with the regional transportation goals and policies.

The first policy states, "Design a transportation system that meet the travel needs of both citizens and businesses". The future transportation plan contains goals and policies oriented towards all travel

modes. The proposed General Plan 2023 includes significant improvements to roadways and bicycle and pedestrian facilities. With the circulation network in the General Plan 2023, the City provides LOS D or better on all roadway segments. Therefore, the proposed General Plan 2023 generally meets the travel needs of citizens and businesses.

The second SJCOG RTP policy states, "Design a transportation system that will improve the environment or minimize environmental impacts". A majority of the proposed roadway improvements occur to existing roadways. There are minimal new roadways proposed in the General Plan 2023. These roads include Atherton (a new 4-lane arterial between SR 120 and Woodward Avenue) and an unnamed collector roadway south of Woodward Avenue. Because a majority of the road improvements occur to existing roadways, these improvements will have minimal environmental impacts.

The third major policy in the RTP states, "Design an efficient, safe, and economical transportation system". The transportation outlined in the proposed General Plan 2023 can be considered to be efficient and safe. Delay is minimized even with significant population and employment growth. Therefore, the proposed circulation plan can be considered to efficient, safe, and economical.

The final major policy in the RTP states, "Effectively implement the transportation system". The key to effectively implementing the transportation system is the City's Public Facilities Implementation Plan that assesses fees on develops. Portions of these fees are allocated to roadway improvements. Consequently, the City of Manteca has the ability to effectively implement the construction of its transportation system.

Based on the above factors, there are no contradictions between the proposed General Plan 2023 and the adopted policies of the SJCOG RTP.

Therefore, there is no significant impact.

POTENTIAL IMPACT TC-5: Planned development in the General Plan 2023 could impede the operations of alternate travel modes including transit, bicycles, and pedestrians.

Level of Significance: Less Than Significant

The General Plan 2023 Circulation Element addresses alternate modes through a variety of statements. These statements support the development and use of alternative modes include transit, bicycling, and walking. For the purposes of the EIR analysis, a significant impact is assumed to occur if the goals and policies of the General Plan 2023 impede the use of an alternate mode.

The use of transit is addressed through several goals and policies in the Proposed Circulation Element. In general, these policies encourage the use of a variety of transit systems, such as ACE and regional transit given that the establishment of a local transit system would be beyond the ability of the City

of Manteca. Please note that there is a regional study underway regarding unmet transit needs in Manteca. The San Joaquin Regional Transit District is performing this study. Because these goals and policies do not impede the use of transit, there is no significant impact.

Therefore, the Goals and Policies indicate a preference for off-street bicycle facilities as opposed to in-street bicycle lanes. These Goals and Policies conflict with statements made in the description of arterial facilities in the Circulation Element. This description states, "All new arterial streets shall be designed to provide both bike and pedestrian facilities on both sides of the street". This discrepancy is minor but should be resolved prior to publication of the General Plan 2023.

A review of the goals, policies, and implementation measures indicates that the General Plan 2023 promotes the use of bicycles and walking to the extent possible; therefore there is no significant impact.

16. ALTERNATIVES ANALYSIS

16.1 INTRODUCTION

Section 15126.6(a) of the CEQA Guidelines requires that the Lead Agency,

> *"…describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."*

Section 15126.6(b) of the Guidelines further states that,

> *"…the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."*

An EIR must describe a range of "reasonable" alternatives to the proposed project that could feasibly attain most of the basic objectives of the project. The feasibility of an alternative may be determined based on a variety of factors, including but not limited to, economic viability and availability of infrastructure In addition, by mandating the inclusion of a "no project" alternative, the resulting analysis is intended to provide a baseline against which project-related and alternative impacts can be evaluated. Since a comparative analysis of each alternative is required, this section provides the City's decision makers and the general public with the means to compare and select between different ways of accomplishing the project's stated objectives.

16.2 GENERAL PLAN OBJECTIVES

CEQA Guidelines, Section 15124(b), requires a statement of the objectives sought by the proposed project. The primary objective of the General Plan 2023 is to provide specific direction for the future growth and development of the City of Manteca and future annexation areas.

California law requires each city to adopt a comprehensive, long-term general plan for the physical development of the city. The general plan must be an integrated, internally consistent, and compatible statement of policies for the city. It serves as a framework for public and private development, and establishes requirements for additional planning studies where greater specificity is needed.

The general plan is the constitution for a city's development, and governs all land use regulations, including zoning.

The General Plan 2023 Introduction states the following purposes:

- To identify the community's land use, transportation, environmental, economic and social goals and policies as they relate to land use, conservation and development.

  While agriculture still plays an important role in Manteca's economy, the City's economic base has become more diversified with the development of industries and the influx of Bay Area workers seeking affordable housing. This objective encompasses a jobs/housing balance, particularly the provision of jobs for the high percentage of interregional commuters who are attracted by Manteca's quality of life and relatively affordable housing. This skilled workforce, presently commuting long distances, is a resource for economic development. Due in part to the skills of the commuter workforce, Manteca will become increasingly competitive for the location of manufacturing and office uses.

- To enable the City Council and the Planning Commission to establish long-range conservation and development policies.

  This objective includes the City's awareness of its quality of life value. The City's interest in conserving its natural resources, including preservation of open space and recreation areas, and the protection of natural resources, is reflected in this objective.

- To provide a basis for judging whether specific private development proposals and public projects are in harmony with these policies.

  This objective includes the City's intent to equitably balance urban development and economic development with quality of life issues and the conservation of natural resources.

- To inform citizens, developers, decision makers, and other jurisdictions of the policies that will guide development and conservation within the City of Manteca.

This reflects the City's objective of developing a long range land use plan for the community.

In addition, the plan the General Plan reflects community vision and values, and the conditions that influence development of the community. These statements, along with the purposes stated above, can be viewed as the project objectives of the General Plan.

16.2.1 Logical Growth of the City

Manteca has generally grown in a compact pattern around the historic center of the City at the crossroads of Yosemite Avenue and Main Street. Residential neighborhoods have developed within boundaries established by the major streets spaced one mile apart. This General Plan directs land use to continue the historic pattern of compact urbanization. The developed portion of the City should retain its distinct, compact form with clear, well-defined edges.

16.2.2 Community Form, Scale and Identity

The community identity is established by important visual characteristics that provide cues for travelers, as well as residents.

The existing commercial core area should be retained and reinforced as the functional and social center of the City for residents. Urbanization should generally extend outward from this center.

16.2.3 Attractive, Sustainable Neighborhoods

Neighborhoods are the fundamental organizing concept for residential land use. The neighborhoods are typically not more than one mile in any dimension to provide a reasonable walking distance from any part of the neighborhood to the schools, parks, and commercial centers.

16.2.4 Support of Public Transit and Bicycle and Pedestrian Circulation

High activity areas should be located to facilitate the use of public transit.

16.2.5 Housing Opportunity

The General Plan responds to the need for diversity in housing opportunity and changes in market demand for housing types in two primary ways.

16.2.6 Employment and Economic Development

During the twenty-year horizon of this General Plan, Manteca will experience economic development that will add to and diversify the local economy. This will consist of additional growth in warehousing and distribution, but should also include significant new components, such as office and service sectors, research and development, and manufacturing.

16.2.7 Live/Work Housing

It is anticipated that the percentage of individuals working at home will increase over the next twenty years. At home workers may include telecommuters, professional services, small service businesses, mail order, and any number of other entrepreneurial endeavors. It is the intent of this General Plan to support such activities.

16.2.8 Public Services and Fiscal Stability

Growth will provide additional revenue sources, but will also place additional service burdens on the City of Manteca.

16.2.9 Access to Open Space

In the absence of natural features that could define an open space network, the General Plan encourages the creation of a network of open spaces in the storm drainage channels, and naturalized landscaping along major thoroughfares and bike paths.

16.2.10 Agricultural Productivity

The General Plan supports the existing level of agricultural production by directing development in a compact, concentric form in order to reduce the demand for new development areas.

16.3 PROJECT ALTERNATIVES

In fulfillment of the City's CEQA obligations, the City has identified a range of reasonable alternatives that accomplish the project's stated objectives, serve to satisfy specific analytical requirements (i.e. "no project" alternative), and seek to avoid or reduce the significant or potentially significant effects of the proposed project. Each of these alternatives is separately examined below.

Other alternatives identified by the City but deemed to be either infeasible or determined to be unlikely to produce a substantial reduction in any of the significant of potentially significant environmental effects identified in this EIR are specified below.

16.4 ALTERNATIVES CONSIDERED BUT SUBSEQUENTLY REJECTED

A number of project alternatives were considered and subsequently rejected by the City. The following alternatives were rejected either because these options were deemed to be infeasible, or lacked a reasonable likelihood of resulting in the avoidance or substantial reduction of the project's significant or potential significant environmental effects.

16.4.1 Alternative Site

For some projects, impacts can be avoided or reduced merely by relocating the project site (e.g., moving the project out of a sensitive resource area). In recognition of this possible impact avoidance strategy, the Guidelines contain provisions for the consideration of alternative project sites and acknowledge that in some cases there may be no feasible alternative location (Section 15126.6(f)(2)). Since the project constitutes an update to the City's 1988 General Plan, other than an alternative configuration of the Study Area, the project is required to address those areas located within both the corporate boundaries of the City and its Sphere of Influence. Although the City could formulate plans for other areas, those plans would not be binding upon those areas affected, and would not serve to further sound planning decisions for those areas under the City's current or future jurisdiction.

16.4.2 Down-Zoning Alternative

Not all properties within the City are currently developed to the maximum intensity authorized under the 1988 General Plan. As a result, one of the alternatives potentially available to the City is to "freeze" the City as it now exists and to redesignate each parcel to reflect the current land uses located thereupon. This action would reduce or eliminate the introduction of new, or the exacerbation of existing, environmental impacts associated with site intensification.

This action would, however, penalize those property owners who have not developed their properties to the intensities authorized under existing land use policies, and result in no or only limited economic use for those vacant properties within the City. Similarly, this action would not allow individual property owners to respond to existing and future market demands for new residential and non-residential uses. By creating a disincentive to private investment, the City may be establishing blighting influences within the community.

16.4.3 Modification of the Study Area

The area addressed in the General Plan 2023 includes the City's adopted corporate boundaries and immediately adjacent unincorporated areas. It has been determined that the property within this defined Study Area is impacted, positively or negatively, by actions taken by the City of Manteca.

The City could limit its planning program to only those areas within the City's existing corporate boundaries, relegating land use planning in adjoining unincorporated areas to San Joaquin County. However, the elimination of areas within the City's Sphere of Influence would constitute a regressive response to local agency planning. Although jurisdictional boundaries are easily definable, environmental impacts typically extend beyond those often-arbitrary limits. Since both existing and future land uses within the City's Sphere of Influence will continue to impact the community, sound planning necessitates the inclusion of those areas as part of this General Plan Update.

16.4.4 Market-Driven Alternative

Section 653029(a) of the California Government Code (CGC), states that a general plan shall include a land use element that "designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land." The City is required to specify the location and intensity of land uses within the community.

Under a purely market-driven approach, the City would not be proactive (neither delineating the geographic areas for land use categories nor establishing standards for those areas), but would be reactive (the City would merely respond to what individual owners determine to be the appropriate land use for each parcel). It is, therefore, the marketplace rather than the City that determines how the City ultimately develops. This approach has the potential to result in the introduction of adjoining uses of different types and intensities and, therefore, create land use conflicts that could otherwise be avoided through effective planning.

16.5 ALTERNATIVES UNDER CONSIDERATION

This analysis includes three primary alternatives to the proposed project:

(1) No Project Alternatives

- No Development

- Build-Out of the 1988 General Plan

(2) Higher Density Alternative

(3) Reduced Development Alternative

16.5.1 No Project Alternatives

Two different scenarios exist under the "no project" alternative. These alternatives are described separately below:

No Project Alternative No. 1: No Development

Under this scenario, no additional dwelling units are constructed and no additional square footage of non-residential uses is added to the City. Other than maintenance, rehabilitation, and renovation activities (which are not generally defined as "projects" under CEQA), the existing status quo is maintained within the City's corporate boundaries. Since no annexation of unincorporated areas would occur, development within the Sphere of Influence would remain under the jurisdiction of San Joaquin County. It is assumed that development would continue to occur both in County areas, and within those areas located outside the corporate boundaries of the City.

This alternative is specifically mandated under the Guidelines and is posited for the sole purpose of providing a baseline against which other alternatives are considered and the comparative impacts of those alternatives can be evaluated. It is, however, unreasonable to assume that conditions within the City will be retained as the currently exist. As a result, this alternative should be considered infeasible.

No Project Alternative No. 2: Build-Out of 1988 General Plan

Under this second "no project" alternative, build-out of the Study Area would occur in accordance with those land use policies contained in the 1988 General Plan. In drawing comparisons between this alternative and other alternatives presented herein, it should be noted that the Study Area addressed in the 1988 General Plan is comparable to the Study Area now under consideration. The Study Area boundary differs primarily along the south edge.

Additional development within the Study Area, including the Sphere of Influence, can occur under the authorization of the 1988 General Plan. Based on the policies presented therein, reasonable foreseeable future growth within the community can occur in the absence of the General Plan update.

Since the retention of the existing land use policies, as presented in the 1988 General Plan, will result in incrementally less development than now proposed under the General Plan 2023, the potential project-related effects of that action will also be incrementally less than those associated with the proposed project.

It is reasonable to assume that any reduction in the number of future dwelling units or any decrease in the square footages of future non-residential uses constructed within the City will, however, translate into a corresponding increase in the number of units and square footages of other non-residential uses within the remainder of the region (i.e., if it is not built within City Limits, it will be built in surrounding County area). As a result, although development in the project planning area may be incrementally less, the cumulative impacts of this alternative are assumed to be comparable to those associated with the proposed project. In other words, the development will occur if there is a market demand. It is critical to plan for this development rather than simply allow it to occur.

16.5.2 Higher Density Alternative

This alternative allows the same population projection as the proposed project, but allocates less land area to residential land use. This alternative would result in higher density residential development.

The higher density alternative assumes that the same number of dwelling units projected in the General Plan 2023 Land Use would be developed on 20 percent less land area. For purposes of examining the effects of this alternative, Table 16-1 provides a summary of the land use and the number of dwelling units that would be allocated to each residential land use category.

Table 16-1

Calculation of High Density Alternative

A	B	C	D	E	F
Assumed Residential Density	**Proposed GP 2023**		**Dwellings**	**Reduced Land Use**	**Revised Density**
Dwellings/acre	**Land Use**	**Acres**		**Acres**	**Dwellings/acre**
20	High Density Residential	251	5,020	200.8	25
8	Medium Density Residential	359	2,872	287.2	10
5	Low Density Residential	3685	18,425	2948	6.25
1	Very Low Density Residential	248	248	198.4	1.25
		4,543	26,565	3,795	

Source: Wade Associates May 2003

In this alternative the total land area allocated to residential use has been reduced by 20 percent compared to the General Plan 2023 Land Use Map, but the total number of dwelling units remains constant. If the land area is reduced and the dwelling units remain constant, then the density must increase. In this example the land area is reduced from 4,543 acres to 3,795 acres, and the dwelling unit total remains 26,565. The residential densities increase to those shown in Column F in Table 16-1. These densities are within the range established by the General Plan 2023 Land Use Element. The densities are on the high end of the normal range for home builders in the Central Valley. However the intent behind increasing the allowable density in each range is to allow more flexibility for home builders and thereby enhance the diversity of housing types and prices available in Manteca.

The average residential density of the new residential areas in the General Plan 2023 is 5.8 dwellings per acre. The average density of the alternative land use plan is 7.0 dwelling units per acre. This density is in the range that begins to support efficient public transit. It is notable that this alternative is within the range can be achieved in the General Plan 2023 policies. The success of housing types at these densities will depend on the market acceptance.

16.5.3 Reduced Development Area Alternative

This alternative allocates the land use types and policies in the General Plan 2023 to the land area defined as the Primary Urban Service Area in the 1988 General Plan. Application of the new policies and land use in the 1988 service boundary would result in reduced development area, and less potential development than the proposed General Plan 2023.

The 1988 Primary Urban Service boundary and the proposed General Plan 2023 Primary Urban Service boundary cover similar areas, however, the 1998 Service area did not include land in the Southwest Plan Area, (west of Airport Way and south of SR 120.

Table 16-2 shows the land use that would occur under this alternative in the 1988 Primary Urban Service boundary compared to the General Plan 2023 Land Use.

Table 16-2

Alternative Land Use Within 1988 Primary Urban Service Boundary

	Total 2023 Land Use	GP2023 in 1988 Service Boundary
LAND USE	Acres	Acres
AG	3960.0	6.9
GC	672.0	599.43
NCC	491.8	396.3
CR	0.0	0
PEC	0.0	0
CMU	255.0	211.6
HI	909.9	197.2
LI	1024.1	384.5
BIP	258.0	14.8
BP	133.0	137.5
HDR (15.1 to 25 du/ac)	442.0	343.4
MDR (8.1to 15 du/ac)	546.6	379.6
LDR (2.1 to 8 du/ac)	6427.6	4307.5
VLDR (0.5 to 2 du/ac)	357.8	182.2
P/QP/Schools/Utilities	1105.9	1037.6
OS	543.0	33.6
P	518.1	456.8
Subtotal	17644.8	8688.9
Urban Uses	12623.7	8191.6

Source : Wade Associates, May 2003

The proposed General Plan 2023 Primary Urban Service boundary encompasses 13,414 acres, but this includes 1,908 in the Southwest Plan Area, as well as the Manteca Water Quality Control Facility. Therefore, the proposed Service boundary would encompass 11,506 acres compared to the 1988 Primary Urban Service boundary that encompasses 11,551 acres. If the proposed General Plan 2023 land use plan and policies were applied only to the area defined by the 1988 Primary Urban Service Boundary, the development land area would be restricted.

Under this alternative the urban land uses would be reduced from 12,623.7 acres to 8191.6 acres, a thirty-five percent (35%) reduction in the total land area allocated in the General Plan.

16.6 COMPARISON OF ALTERNATIVE PLANS

Table 16-3 provides a comparison of the land uses allocated in each alternative. The "No Growth-No Development" alternative is not included in the table because it would provide no land development at all and is not feasible.

Table 16-3

Summary of Land Use Alternatives

	Total 2023 Land Use	1988 GP	High Density	GP2023 in 1988 Service Boundary
LAND USE	**Acres**	**Acres**	**Acres**	**Acres**
AG	3960.0	1,572.3	3,960.0	6.9
GC	672.0	827.9	672.0	599.43
NCC	491.8		491.8	396.3
CR	0.0	656.3	0.0	0
PEC	0.0	1,063.0	0.0	0
CMU	255.0		255.0	211.6
HI	909.9	335.9	909.9	197.2
LI	1024.1	777.6	1,024.1	384.5
BIP	258.0		258.0	14.8
BP	133.0		133.0	137.5
HDR (15.1 to 25 du/ac)	442.0	266.9	391.0	343.4
MDR (8.1to 15 du/ac)	546.6	170.3	474.8	379.6
LDR (2.1 to 8 du/ac)	6427.6	5,481.7	5,689.7	4307.5
VLDR (0.5 to 2 du/ac)	357.8	280.0	308.2	182.2
P/QP/Schools/Utilities	1105.9	856.0	1,105.9	1037.6
OS	543.0	24.8	543.0	33.6
P	518.1	324.3	518.1	456.8
Subtotal	**17644.8**	**12,637.6**	**16734.5**	**8688.9**
Urban Uses	**12623.7**	**10,716.2**	**11713.4**	**8191.6**

Source: Wade Associates, May 2003

Table 16-3 indicates a broad range of alternatives for evaluation. Table 16-4 considers the effects of each of these alternatives in the context of the project purposes and objectives identified above.

Table 16-4

Summary of Alternatives Analysis

Criteria	Logical Growth of the City		
GP 2023 Land Use	1988 General Plan	2023 Land Use in 1988 Service Boundary	High Density
Good	Good	Good	Good
The Plan directs growth around the historic core.	The Plan directs growth around the historic core.	The Plan directs growth around the historic core.	The Plan directs growth around the historic core. This alternative would also restrict the geographic area.
Criteria	Community Form, Scale and Identity		
GP 2023 Land Use	1988 General Plan	2023 Land Use in 1988 Service Boundary	High Density
Good	Poor	Good	Good
the Plan provides direction for establishing the neighborhood scale.	The plan emphasizes single family residential with poor identity.	The plan enhances the 1988 plan by providing higher intensity land use in the core.	The plan would provide sufficient density to establish small neighborhood centers.

Criteria	**Attractive, Sustainable Neighborhoods That Support of Public Transit and Bicycle and Pedestrian Circulation**		
GP 2023 Land Use	**1988 General Plan**	**2023 Land Use in 1988 Service Boundary**	**High Density**
Good	Poor	Good	Excellent
Residential density can support of public transit by clustering higher density.	Relatively low density and poor pedestrian systems.	Higher intensity use concentrated around the core area.	Density would support public transit and pedestrian system.
Criteria	Housing Opportunity		
GP 2023 Land Use	1988 General Plan	2023 Land Use in 1988 Service Boundary	High Density
Good	Poor	Good	Excellent
Higher density and broader zoning designations allow for flexible development.	Detached single family is the dominant residential type.	Housing variety centered around the historic core area.	Density range provides opportunity for affordable housing types.
Criteria	Employment and Economic Development		
GP 2023 Land Use	1988 General Plan	2023 Land Use in 1988 Service Boundary	High Density
Good	Fair	Good	Good
Land use plan includes a mix of employment land uses.	The plan establishes the Planned Employment Center, but provided no implementation. Premature designation.	Provides same employment base as GP 2023.	Provides same employment base as GP 2023. Housing density may support more employees.

Criteria	Live/Work Housing		
GP 2023 Land Use	1988 General Plan	2023 Land Use in 1988 Service Boundary	High Density
Excellent	Poor	Excellent	Excellent
The plan provides policies and land use designations to support live/work housing.	Live/work housing was not anticipated in the 1988 plan.	The plan would provide the same land uses and policies as the GP 2023 plan.	The plan would provide the same land uses and policies as the GP 2023 plan. Higher density may create conflicts with some live/work situations.
Criteria	Access to Open Space		
GP 2023 Land Use	1988 General Plan	2023 Land Use in 1988 Service Boundary	High Density
Good	Poor	Good	Not Applicable
The plan provides policies for protecting open space and including open space corridors in urban areas.	The plan does not provide specific policies and has produced very poor access to open space.	The plan would provide the same land uses and policies as the GP 2023 plan.	The high density concept is not location specific. Higher density may include more common area open space than other land use densities.
Criteria	Agricultural Productivity		
GP 2023 Land Use	1988 General Plan	2023 Land Use in 1988 Service Boundary	High Density
Good/Fair	Fair	Good	Good
The plan provides a land use pattern that generally, but not always, directs growth away from the Prime Farmland.	The plan does not provide clear direction on avoidance of farmland.	Concentration of urban uses will reduce the land area required to accommodate the projected population.	Concentration of urban uses will reduce the land area required to accommodate the projected population.

16.7 ENVIRONMENTALLY PREFERRED ALTERNATIVE

Based on the above evaluation of the comparative merits of each alternative, and the environmental analysis of implementation of the General Plan 2023, the environmentally-superior alternative is the "High Density Alternative." This conclusion is based on the beneficial effect gained by using less land to accommodate the planned growth General Plan 2023. However, it should be noted that the density ranges described in the High Density Alternative are approximately twenty percent higher than conventional market driven housing. The General Plan 2023 encourages the use of higher densities, but the market for such housing has not been tested in the Manteca area.

The Higher Density Alternative is one of a range of possible development scenarios under the proposed General Plan 2023.

17. OTHER CEQA CONSIDERATIONS

This section addresses other California Environmental Quality Act (CEQA) considerations that are required as part of an EIR.

17.1 GROWTH INDUCING IMPACTS

The State CEQA Guidelines (§15126.2[d]) require that an EIR evaluate the growth-inducing impacts of a proposed project. Specifically, an EIR must:

> *"Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth… Increases in the population may tax existing community service facilities, so consideration must be given to this impact. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must bot be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

Growth inducement, by itself, is not an environmental effect but may indirectly lead to environmental effects. Such environmental effects may include increased demand on other community and public services and infrastructure, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or wildlife habitats, or conversion of agricultural and open space land to urban uses.

17.1.1 Growth Inducing Impacts of the Proposed General Plan

By definition, the General Plan is intended to provide for and address future growth in the City. However, the proposed General Plan is not proposing any specific development projects, so it would not have direct growth-inducing impacts. Indirect growth-inducing impacts would occur, however, because the land use map and designations, as well as the goals and policies, of the General Plan are designed to provide a framework to accommodate future population growth and economic growth, particularly in employment centers designed to accommodate a net influx of workers. The analysis of these indirect growth-inducing impacts for the proposed General Plan focuses on two main factors: (1) promotion of economic or population growth, and (2) elimination of obstacles to growth.

<u>Encouraging and Facilitating Other Activities</u>

This CEQA issue addresses the extent to which implementation of the General Plan 2023 would cause increased development in the area through stimulation of economic activity.

Implementation of the General Plan 2023 would directly affect growth in Manteca by allowing for construction of residential and non-residential uses. Increased employment is necessary to support increased population, so as the General Plan accommodates the expected growth to one degree or another, related job growth would result.

The General Plan 2023 is designed to promote job creation in the service, light industrial, and finance, insurance and real estate sectors in major planned employment centers. The objective of these facilities is, in part, to provide resident workers an opportunity to work in their community, thereby avoiding the long commute to work.

The land use policies encourage the development of mixed uses to promote a variety of housing and job types. The Economic Development Element goals and policies also address increasing the number of jobs in the City to help reduce vehicular trips commuting into the Silicon Valley. Indirectly, then, increases in employment and population would generate a secondary demand for other services, but could have a beneficial effect on traffic and air quality.

Removing Obstacles to Population Growth

This CEQA issue addresses the extent to which regulatory changes and/or infrastructure capacity provided to support the implementation of the General Plan, allowing additional, unforeseen development in the surrounding areas.

Whether or not growth obstacles are eliminated relates to the extent to which the proposed General Plan would increase infrastructure capacity or change the regulatory structure such that additional development in the county and region would be allowed. A physical obstacle to growth typically involves the lack of public service infrastructure or insufficient infrastructure capacity. The extension of public service infrastructure (e.g., roadways, water, and sewer lines) into areas that are not currently provided with these services would be expected to support new development. Similarly, the elimination or change to a regulatory obstacle, including existing growth and development policies, could result in new growth.

The adoption of the General Plan 2023 is a precursor to the update of the Public Facilities Implementation Plan, a Recreation Master Plan, and other City improvement plans that enable development to occur.

17.2 SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

CEQA Guidelines, Section 15126(b) states that an EIR must:

> *"Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance."*

Those impacts, which cannot be feasibly mitigated to less-than-significant impacts, would remain as significant and unavoidable adverse impacts. The significant and unavoidable adverse impacts addressed in this EIR are listed below in Table 17-1.

Table 17-1

Significant and Unavoidable Adverse Impacts

	AESTHETICS AND VISUAL RESOURCES
POTENTIAL IMPACT AV-1:	Buildout of the proposed General Plan 2023 would degrade the existing scenic vistas found in the General Plan Study Area.
POTENTIAL IMPACT AV-2:	The existing visual character or quality of the area will be degraded.
	AGRICULTURAL RESOURCES
POTENTIAL IMPACT AG-1:	Implementation of the City of Manteca General Plan 2023 (Project) will result in conversion of Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance to non-agricultural use.
POTENTIAL IMPACT AG-2:	Implementation of the General Plan 2023 will cause a conflict with existing zoning for agricultural use, or a Williamson Act contract.
	AIR QUALITY
POTENTIAL IMPACT AQ-2:	Implementation of the General Plan 2023 could violate air quality standards or contribute substantially to the current nonattainment status for ozone and PM10.
POTENTIAL IMPACT AQ-3:	Implementation of the General Plan 2023 would result in a cumulatively considerable net increase in ozone and PM10 air pollutants.

BIOLOGICAL RESOURCES

POTENTIAL IMPACT B-5: Impacts on biological resources from the buildout of the General Plan 2023 may be cumulatively significant. (SIGNIFICANT)

POPULATION AND HOUSING

POTENTIAL IMPACT H-1: Implementation of the General Plan 2023 would increase the City's population over existing conditions.

PUBLIC FACILITIES AND SERVICES

POTENTIAL IMPACT PFS-7: The General Plan 2023 would require expanded energy sources and infrastructure for expanded urban development.

17.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the State CEQA Guidelines requires that this EIR consider significant irreversible environmental changes that would be caused by the General Plan. An impact would be determined to be a significant and irreversible change in the environment if:

- development enabled by the General Plan would involve a large commitment of nonrenewable resources;
- the primary and secondary impacts of development would generally commit future generations to similar uses (e.g., a highway provides access to a previously remote area);
- development of the General Plan would involve uses in which irreversible damage could result from any potential environmental accidents associated with the plan;
- or the development of the General Plan land uses would result in an unjustified consumption of resources (e.g., the wasteful use of energy).

This EIR addresses the commitment of nonrenewable resources (e.g., development vs. retention of agricultural resources), commitment of future generations to similar uses (e.g., development of designated land uses), the potential for environmental accidents (e.g., exposure to hazards), and the consumption of energy (e.g., the use of electricity).

The implementation of the proposed General Plan would likely result in or contribute to the following irreversible environmental changes:

1. Relatively low-density (primarily residential) suburban land use patterns that would likely preclude future higher density development except where designated. This could limit opportunities for efficient, cost-effective full-service transit services.

2. Conversion of existing undeveloped land and open vistas to developed land uses, thus precluding other alternate land uses in the future, and precluding preservation of the existing land use pattern and vistas.

3. Irreversible loss of agricultural land (see Section 4.).

4. Commitment of water resources to serve development and degradation of water quality from suburban runoff (see Section 10).

5. Commitment of municipal resources to the provision of services and operations of infrastructure for future development (see Sections 14).

6. Increased ambient noise and background air emissions (Sections 12 and 5, respectively).

7. Conversion of existing habitat and irreversible loss of wildlife (see Section 6).

8. In addition to these irreversible changes, other more general irreversible changes would be expected, and the magnitude would be generally tied to population growth. General, population related, irreversible changes would include:

   - Irreversible consumption of goods and services associated with the future population.
   - Irreversible consumption of energy and natural resources associated with the future population.
   - Possible demand for and use of goods, services, and resources by the county to the exclusion of development in other locations in the region.

17.4 CUMULATIVE IMPACTS

17.4.1 Requirements for Cumulative Impact Analysis

This EIR provides an analysis of cumulative impacts of the proposed General Plan, as required by §15130 of the CEQA Guidelines (State CEQA Guidelines). Cumulative impacts are defined in State CEQA Guidelines §15355 as two or more individual effects that together create a considerable environmental impact or that compound or increase other impacts. "A cumulative impact occurs from the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (Guidelines §15355[b]). By requiring an

evaluation of cumulative impacts, CEQA attempts to ensure that large-scale environmental impacts will not be ignored. Consistent with State CEQA Guidelines §15130(a), the discussion of cumulative impacts in this EIR focuses on significant and potentially significant cumulative impacts. According to State CEQA Guidelines §15130(b), "The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact."

All of the following elements are necessary to an adequate discussion of cumulative impacts (Guidelines §15130[b]):

> Either: (A) a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency; or: (B) a summary of projections contained in an adopted general plan or related planning document that is designed to evaluate regional or areawide conditions. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.
>
> A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available.
>
> A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable options for mitigating or avoiding any significant cumulative effects of the proposed projects.

The environmental impact analysis in this EIR is citywide in scope, so it already presents detailed analysis of environmental effects over a broad area, comprising most of the contribution relevant to cumulative environmental effects. For instance, significance conclusions and mitigation measures described for the impacts of the General Plan alternatives may also be applicable to cumulative impacts. Therefore, when warranted, cross-references to analysis or mitigation measures in Sections 3 through 15 (inclusive) are provided to avoid repetition.

17.4.2 Local and Regional Context of Cumulative Impacts

As described above, the State CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the project is to be considered: the use of a list of past, present, and reasonably anticipated future projects, or the use of adopted projections from a general plan or other regional planning document. The evaluation of the cumulative environment for this EIR is based on projections in existing county-wide planning documents.

Regional Planning Documents

The regional cumulative analysis prepared covers the incorporated cities within San Joaquin County and includes the following plans:

San Joaquin County Council of Governments Regional Transportation Plan

San Joaquin County General Plan

City of Lathrop General Plan

City of Ripon General Plan

City of Stockton General Plan

Projected Growth in the South San Joaquin County Area

The County's population, housing, and employment have increased over the past decade as a result of statewide trends, the expansion of employment opportunities in the San Francisco Bay Area, and continued growth throughout the region. The following sections discuss the existing setting and future trends with regard to population, housing, and employment in San Joaquin County. **(1)**

The population in San Joaquin County increased from 480,628 persons in 1990 to 563,598 in 2000 according to the U.S. Census. This represents an increase of 17 percent over the 10-year period, and 62 percent since 1980. Most of this growth has occurred in the southern portion of the County and in the City of Stockton. That growth has been the result of dramatic job growth in Silicon Valley during the last 10 years. The City of Tracy has experienced the most dramatic growth of any jurisdiction of the County, increasing its population by over 23,000 residents or 70 percent since 1990; while, the City of Stockton experienced the largest numerical increase of almost 33,000 residents.

The south San Joaquin County area that includes the south area of Stockton, and Ripon, Lathrop, and Manteca have experienced substantial growth in population in recent decades. Population growth is driven by job growth outside of the area. Despite predictions for rapid and diversified employment growth in the Central Valley for many years, technology related employment had largely bypassed San Joaquin County in favor of areas like Sacramento. The location decisions of firms like Apple Computers, Hewlett-Packard, and Intel have demonstrated that proximity to the Silicon Valley is less important to high technology employers than access to other benefits, including a large and well educated labor force, a broad housing supply that meets the needs of both low income households and executives, and a host of recreational amenities. Central Valley cities like Manteca will need to provide similar amenities in order to compete with other employment centers in Northern California. **(2)**

Over the next 20 years, the San Joaquin area economy would likely be steered by three potential trends: 1) if transportation infrastructure capabilities continue to expand, major real estate investments will respond with growth in the high-end manufacturing sector; 2) if growth in the manufacturing sector occurs, associated R&D and administrative functions will also expand; and 3) as growth in Tri-Valley and Silicon Valley labor markets continues, residents will continue to "spillover" to San Joaquin County, increasing the number of skilled workers that will be considered in corporate location decisions.

Each of the cities in the south county area is poised to accommodate additional growth. General Plan updates are underway in Manteca, Ripon, and Stockton.

17.4.3 Assessment of Cumulative Impacts

Land Use and Housing

In the absence of a major new employment center the region is likely to continue to fulfill the role of housing workers from the Bay Area. The demand for housing remains strong. The housing market has demanded relatively large homes in residential subdivisions that consume large land areas. The cumulative effects include conversion of agricultural land.

Visual Resources

As the cities grow outward, they could ultimately connect to one another forming a contiguous urban area. Currently, the cities of Lathrop and Manteca share a common, urbanized boundary. As Ripon and Manteca continue to expand the undeveloped ground that separates them diminishes. Similarly, Stockton to the north has the potential to expand to Manteca's northern boundary. The cumulative effect could be the loss of the open agricultural land that separates the communities and contributes to each community's sense of identity and place.

Agriculture

The conversion of agricultural land to urban uses is unavoidable in the south San Joaquin area. Although the Prime Farmlands are more prevalent in other parts of the county, development in this area will inevitably impact Farmlands of Statewide Importance. The cumulative effect of incremental conversion of farmland is a continuing loss of farm operations due to the encroachment of urban uses that conflict with farm activities.

Air Quality

Air quality is inherently a regional consideration. As a non-attainment area, all incremental growth contributes to the degradation of air quality.

Biological Resources

The General Plan Study Area is within the area examined in the countywide Habitat Conservation Plan. The effects of implementing the General Plan 2023 and the other plans in the area are to further restrict the habitat options for the affected species.

Traffic and Circulation

Traffic analysis for the General Plan 2023 used the SJCOG regional traffic model. The results of that analysis reflect the cumulative effect of all traffic in the region.

References

(1) 2001 RTP Program EIR, San Joaquin Council of Governments September 2001

(2) Economic Planning Systems Draft Technical Memorandum, May 2003

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18. REPORT PREPARATION

18.1 LEAD AGENCY

City of Manteca

Community Development Department

Kyle Kollar	Community Development Director
Benjamin Cantu, Jr.	Deputy Community Development Director
Terrence Grindall, AICP	Redevelopment Manager

Public Works Department

Mike Brinton	Director
Frederic Clark	Deputy Director or Public Works, Utility Services
David Vickers	Transportation Analyst

18.2 REPORT AUTHORS

Wade Associates, Urban and Environmental Planning, Prime Contractor

David Wade, AICP	Principal-in Charge
Connie Wade	Principal Ecologist
Karen Downs	Associate Planner

Subconsultants

Brown-Buntin, Inc., Noise Analysts

Economic and Planning Associates, Inc., Economic Analysts

ECORP Consulting, Inc., Environmental Consultants

Fehr and Peers, Inc., Transportation and Traffic Analysts

Ric Windmiller, Consulting Archaeologist

18.3 AGENCIES AND ORGANIZATIONS CONTACTED

California State Department of Conservation, Division of Mines and Geology

California State Department of Fish and Game, California Natural Diversity Database (CNDDB)

California State Department of Toxic Substances Control

California State Integrated Waste Management Board

California State Central Valley Regional Water Quality Control Board

Pacific Gas and Electric Company, Inc.

San Joaquin County Council of Governments

San Joaquin County Library, Manteca Branch

San Joaquin County Public Health Services, Environmental Health Division

San Joaquin Valley Unified Air Pollution Control District

U.S. Army Corp of Engineers

U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office