4.11 TRANSPORTATION AND CIRCULATION

This section describes the transportation and circulation impacts associated with implementing the proposed Stadium Center Phase III project. The impacts described in this section are based on the traffic impact analysis prepared for this Draft EIR by Fehr & Peers Transportation Consultants in August 2007. Please refer to Appendix E for traffic modeling exhibits and supporting information.

Based on the estimated project schedule, development at the project site would occur over a 2-year period. The project site, other areas of the City of Manteca (City), and cities and communities throughout San Joaquin County are expected to experience continued growth over this period and beyond. Major projects have been approved for development throughout the region, and more are proposed. As projects develop, traffic would increase on local and regional roadways and freeways. As regional development proceeds, transportation system improvements would be provided through local and regional funding programs, individual project mitigation, and improvements funded by the City, San Joaquin County, and California Department of Transportation (Caltrans).

Although it is reasonable to expect that future roadway system improvements would be provided as planned, the improvements remain largely dependent on fees generated by the development that would affect the roadways. The likelihood that planned developments would proceed can be forecasted, but not predicted with certainty. The same is true of the timing of these developments. Consequently, this traffic analysis evaluates development impacts resulting from implementation of the proposed project under the following two conditions:

(1) The project is evaluated against a backdrop of existing environmental conditions; that is, the impacts and mitigation measures for the project are evaluated against the existing roadway system with existing traffic volumes. This is referred to as the existing condition scenario.

(2) The project is evaluated against a backdrop that assumes an improved roadway system and increased traffic volumes, based on projected regional growth, regional traffic plans, traffic fee programs, and known network improvement commitments. For this analysis, future traffic volume forecasts were developed using the City general plan, other City guidelines, the current San Joaquin Council of Governments (SJCOG) traffic model, and Caltrans guidelines. Year 2015 forecasts were used for study roadways and intersections.

These two conditions represent the reasonably foreseeable range of possible roadway scenarios that could be in place as the proposed project develops over time.

The project site is not located near an airport and would not change existing air traffic patterns. Therefore, this issue is not addressed further in this DEIR.

4.11.1 ENVIRONMENTAL SETTING

REGIONAL TRANSPORTATION NETWORK

The project site covers approximately 16 acres and is located in the southwestern portion of the city (see Chapter 3, "Project Description," Exhibits 3-1 and 3-2). The project site is located immediately north of State Route (SR) 120, approximately 3 miles west of SR 99, and 3 miles east of Interstate 5 (I-5). The site is generally bounded by SR 120 to the south, residential development to the north and east, fallow agricultural land zoned for commercial development to the north, and commercial development to the west. The site is situated at the southeast corner of the intersection of Daniels Street and South Airport Way east of the Stadium Center I and II shopping centers. I-5, SR 99, and SR 120 provide regional access. The Airport Way interchange with SR 120 provides the primary access from the project site to the regional freeway network. Daniels Street, Airport Way, and other local roads provide local access.

Detailed descriptions of the key roadway facilities are presented below.

Interstate 5

I-5 is a major north-south freeway in the state and is located west of the project site. I-5 connects the cities of San Joaquin County to major metropolitan areas to the north and south. The section of I-5 near the project site currently has three lanes in each direction north of SR 120 and four to five lanes in each direction between SR 120 and I-205.

State Route 120

SR 120 is an east-west, four-lane freeway that primarily serves as a connection between I-5 and SR 99. SR 120 provides interchanges at Airport Way and Union Road near the project site. SR 120 has an existing average daily traffic (ADT) volume of 60,000 vehicles in the vicinity of the Airport Way interchange.

State Route 99

SR 99 is also a major north-south freeway and is located approximately 4 miles east of the project site. SR 99 connects all the major cities in the Central Valley, from Sacramento and Stockton in the north, to the cities of Modesto, Merced, Fresno, and Bakersfield in the south. SR 99 has three lanes in each direction south of SR 120 and two lanes in each direction north of SR 120.

Airport Way

Airport Way is a north-south, two-lane local street located immediately east of the project site. It extends from Stockton in the north to Rainbow Lake in the south. Airport Way has an existing ADT volume of 12,250 vehicles north of SR 120 and 4,400 vehicles south of SR 120.

Woodward Avenue

Woodward Avenue is an east-west, two-lane roadway that passes south of the project site (on the south side of SR 120). It extends from Oakwood Lake in the west to Moffat Boulevard in the east. The roadway is primarily rural in nature and provides access to farmland and new subdivisions being constructed south of SR 120. Woodward Avenue has an existing ADT volume of 2,050 vehicles west of Airport Way and 1,675 vehicles east of Airport Way.

Yosemite Avenue

Yosemite Avenue is an east-west, four-lane roadway that provides access to the central portion of the city of Manteca. It extends from SR 120 in the west to SR 99 in the east, where it runs parallel to SR 120, a two-lane highway that extends eastward toward the Sierra Nevada. This roadway is a primary commercial/retail/office corridor for the city of Manteca. Yosemite Avenue has an existing ADT volume of 9,700 vehicles in the vicinity of Airport Way.

Union Road

Union Road is a north-south local street with two to four lanes. Union Road provides access to SR 120 via an unsignalized spread-diamond interchange. It is a four-lane roadway north of Wawona Street and a two-lane roadway between Wawona Street and Avenue D. Union Road extends from French Camp Road in the north to Avenue D in the south.

Daniels Street

Daniels Street is an east-west, local street within the city of Manteca. It extends from Airport Way in the west to Union Road in the east. Daniels Street is located between Wawona Street and SR 120 and provides access to residential neighborhoods and retail commercial developments.

Fishback Road, Junction Drive, and Winters Drive

Fishback Road, Junction Drive, and Winters Drive are north-south, local streets within the city of Manteca. Fishback Road and Winters Drive extend from Daniels Street to Yosemite Avenue; Junction Drive extends from Daniels Street to Wawona Street. All of these streets provide access to residential neighborhoods near the project site.

PROJECT AREA INTERSECTIONS

After a preliminary investigation of the existing traffic circulation patterns and discussions with city staff, it was determined that the traffic analysis should investigate the operational characteristics of the roadway intersections listed below. The numbers of these intersections correspond to the vicinity map and existing roadway network shown in Exhibit 4.11-1.

Study Area Intersections

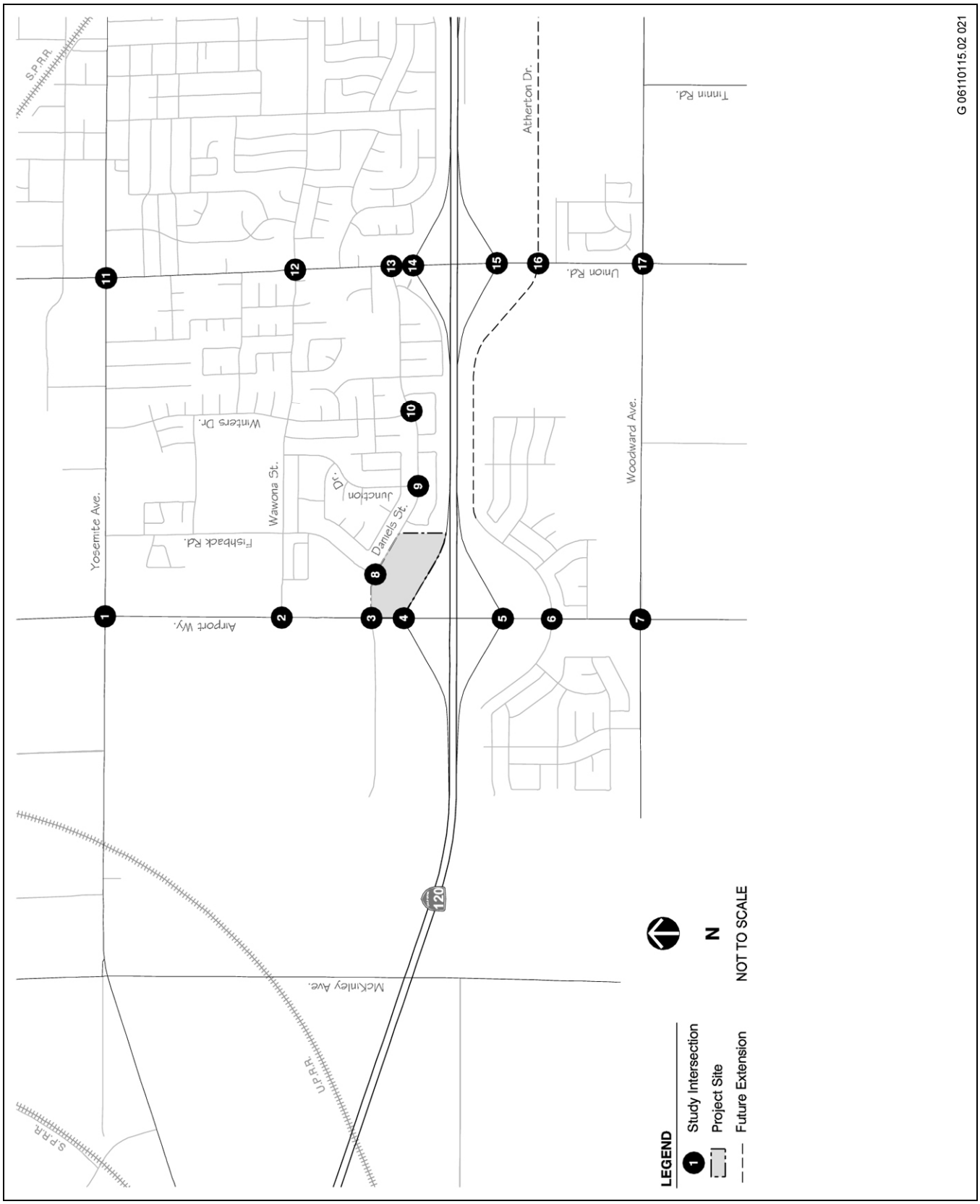
1. Airport Way / Yosemite Avenue
2. Airport Way / Wawona Street
3. Airport Way / Daniels Street
4. Airport Way / SR 120 Westbound Ramps
5. Airport Way / SR 120 Eastbound Ramps
6. Airport Way / Atherton Drive
7. Airport Drive / Woodward Avenue
8. Daniels Street / Fishback Road
9. Daniels Street / Junction Drive
10. Daniels Street / Winters Drive
11. Union Road / Yosemite Avenue
12. Union Road / Wawona Street
13. Union Road / Daniels Street
14. Union Road / SR 120 Westbound Ramps
15. Union Road / SR 120 Eastbound Ramps
16. Union Road / Atherton Drive (future intersection)
17. Union Road / Woodward Avenue

Levels of Service

Roadway facility operations are described with the term level of service (LOS). LOS is a qualitative description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six levels are defined, from LOS A, with the best operating conditions, to LOS F, with the worst operating conditions.

Signalized Intersections

The LOS methodology approved by the City analyzes a signalized intersection's operation based on average vehicular control delay, as calculated using the method described in Chapter 16 of the *Highway Capacity Manual* (HCM) (Transportation Research Board 2000). Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections was calculated using the Synchro 6 analysis software and is correlated to a LOS designation, as shown in Table 4.11-1.



Source: Fehr & Peers 2007

Project Vicinity and Study Intersections **Exhibit 4.11-1**

Table 4.11-1
Level of Service Definitions for Intersections

Level of Service	Description	Average Control Delay per Vehicle (Second) Signalized Intersection	Average Control Delay per Vehicle (Second) Unsignalized Intersection
A	Very slight or no delay. If signalized, conditions are such that no approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.	≤10.0	≤10.0
B	Slight delay. If signalized, an occasional approach phase is fully utilized.	>10.0–20.0	>10.0–15.0
C	Acceptable delay. If signalized, a few drivers arriving at the end of a phase must wait through one signal cycle.	>20.0–35.0	>15.0–25.0
D	Tolerable delay. Delays may be substantial during short periods, but excessive backups do not occur.	>35.0–55.0	>25.0–35.0
E	Intolerable delay. Delay may be great, up to several signal cycles.	>55.0–80.0	>35.0–50.0
F	Excessive delay.	>80.0	>50.0

Source: Transportation Research Board 2000

Unsignalized Intersections

Operations of the unsignalized study intersections were evaluated using the methodology in Chapter 17 of the HCM. LOS ratings for stop sign–controlled intersections are based on the average vehicular control delay expressed in seconds per vehicle. At two-way or side-street stop-controlled intersections, the control delay is calculated for each movement, not for the intersection as a whole, and the LOS is based on movement with the highest delay. For approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. For all-way stop-controlled locations, a weighted average delay for the entire intersection is calculated. Table 4.11-1 summarizes the relationship between delay and LOS for unsignalized intersections.

Level of Service Thresholds

Policy C-P-2 in Manteca's general plan (described in more detail later in this section) defines an average citywide LOS policy of C or better, with a minimum of LOS D at any individual location. This "C average, D minimum" shall be accomplished by attempting to provide LOS C at all locations, but accepting LOS D under certain circumstances. Because of the project's proximity to SR 120, a LOS D threshold was used to define unacceptable traffic operations on local and regional transportation facilities.

Peak Hour Signal Warrants

A peak hour signal warrant analysis was conducted for all unsignalized study intersections. The analysis applied the peak hour traffic signal warrant recommended in the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD) (2003) and associated Caltrans guidelines. It should be noted that the peak hour signal warrant is only one of eight warrants that are evaluated to determine the need for a traffic signal.

Even when the peak hour signal warrant is satisfied, the decision to install a signal should not be based solely upon this factor. The responsible state or local agency should regularly monitor traffic conditions and accident data, and evaluate the full set of warrants in order to prioritize and program intersections for signalization.

Roadway Segments

Roadway segment operations were evaluated using the ADT volume thresholds outlined in the City's General Plan EIR (City of Manteca 2003), which are based on research conducted by the Florida Department of Transportation. Table 4.11-2 presents the relationships between daily traffic volumes and LOS ratings.

Table 4.11-2
Daily Traffic Volume Levels of Service

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

Source: City of Manteca 2003

Freeway Mainline, Off-Ramp Diverge, and On-Ramp Merge Segments

Freeway-segment operations were evaluated using the methodology contained in Chapter 21 of the HCM. The average density, in passenger cars per mile per lane, was calculated using the HCS+ analysis software and is correlated to a LOS designation for both mainline segments and ramp junctions, as shown in Table 4.11-3.

Table 4.11-3
Daily Traffic Volume Levels of Service

LOS	Mainline Density[a]	Ramp Junction Density[a]
A	≤11.0	≤10.0
B	11.1–18.0	10.1–20.0
C	18.1–26.0	20.1–28.0
D	26.1–35.0	28.1–35.0
E	35.1–45.0	>35.0
F	>45.0	Demand exceeds capacity.

[a] Measured in vehicles per mile per lane.
Source: City of Manteca 2003b

Intersection Levels of Service

The operations of the study intersections and freeway facilities were evaluated during weekday a.m. and p.m. peak hour conditions. The a.m. and p.m. peak hours for the surrounding regional and local transportation system occur from 7:30 a.m. to 8:30 a.m. and 5:00 p.m. to 6:00 p.m., respectively (refer to Appendix E for related traffic volume exhibits). The traffic volumes used in the SR 120 freeway mainline analysis were obtained from traffic counts conducted in March 2006. The ramp volumes used in the merge/diverge analysis were taken from the counts conducted at the ramp intersections, together with the mainline volumes provided by Caltrans.

Intersections

Existing intersection lane configurations, traffic control devices, and peak hour turning movement volumes were used to calculate the LOS for the 16 existing study intersections during the a.m. and p.m. peak hours. Table 4.11-4 presents the results of the LOS analysis for existing conditions. Appendix E contains the corresponding calculation sheets. The results of the LOS calculations indicate that study intersections operate at an acceptable LOS during the a.m. and p.m. peak hours except for the following intersections:

Table 4.11-4
Existing Intersection Levels of Service and Signal Warrants

Intersection	Peak Hour[1]	Intersection Control	Delay[2]	LOS[3]	Meets Warrant
1. Airport Way and Yosemite Avenue	a.m. p.m.	Signal	25.1 27.5	C C	N/A N/A
2. Airport Way and Wawona Street	a.m. p.m.	Side Street Stop Controlled	72.4 (10.3) 35.3 (5.1)	F (B) E (A)	No No
3. Airport Way and Daniels Street	a.m. p.m.	Signal	20.3 17.9	C B	N/A N/A
4. Airport Way and State Route 120 Westbound Ramps	a.m. p.m.	Side Street Stop Controlled	**95.7 (18.5)** **>100 (26.8)**	**F (C)** **F (D)**	**Yes** **Yes**
5. Airport Way and State Route 120 Eastbound Ramps	a.m. p.m.	Side Street Stop Controlled	45.4 (9.2) **>100 (>100)**	E (A) **F (F)**	No **Yes**
6. Airport Way and Atherton Drive	a.m. p.m.	Side Street Stop Controlled	21.3 (4.5) 27.4 (5.0)	C (A) D (A)	No No
7. Airport Way and Woodward Avenue	a.m. p.m.	All-Way Stop Controlled	9.0 9.4	A A	No No
8. Daniels Street and Fishback Road	a.m. p.m.	Side Street Stop Controlled	10.0 (4.5) 9.9 (2.9)	A (A) A (A)	No No
9. Daniels Street and Junction Drive	a.m. p.m.	Side Street Stop Controlled	9.0 (2.7) 9.0 (2.4)	A (A) A (A)	No No
10. Daniels Street and Winters Drive	a.m. p.m.	Side Street Stop Controlled	9.2 (4.8) 9.4 (3.9)	A (A) A (A)	No No
11. Union Road and Yosemite Avenue	a.m. p.m.	Signal	25.8 27.4	C C	N/A N/A
12. Union Road and Wawona Street	a.m. p.m.	Signal	26.4 23.8	C C	N/A N/A
13. Union Road and Daniels Street	a.m. p.m.	Side Street Stop Controlled	31.8 (3.0) 40.5 (3.9)	D (A) E (A)	No No
14. Union Road and State Route 120 Westbound Ramps	a.m. p.m.	Side Street Stop Controlled	18.2 (3.7) **47.9 (11.1)**	C (A) **E (B)**	Yes **Yes**
15. Union Road and State Route 120 Eastbound Ramps	a.m. p.m.	Side Street Stop Controlled	50.0 (10.2) **>100 (>100)**	E (B) **F (F)**	No **Yes**
16. Union Road and Woodward Avenue	a.m. p.m.	All-Way Stop Controlled	9.8 9.3	A A	No No

Notes:

[1] a.m. = morning peak hour; p.m. = evening peak hour.

[2] Whole intersection weighted average control delay expressed in seconds per vehicle using methodology described in the *2000 Highway Capacity Manual*. For side-street stop-controlled intersections, delay for the weighted average control delay is shown presented in parentheses.

[3] LOS = Level of service. For side-street stop-controlled intersections, LOS for the worst movement is shown (whole intersection weighted average control delay) in parentheses. LOS calculations conducted using the Synchro software package.

Bold highlighting denotes intersections with unacceptable operations (LOS E or F) and that also meet peak hour volume warrants.

Source: Data compiled by Fehr & Peers in 2007

- Airport Way and Wawona Street (a.m. and p.m. peak hours)
- Airport Way and State Route 120 Westbound Ramps (a.m. and p.m. peak hours)
- Airport Way and State Route 120 Eastbound Ramps (p.m. peak hour)
- Union Road and Daniels Street (p.m. peak hour)
- Union Road and State Route 120 Westbound Ramps (p.m. peak hour)
- Union Road and State Route 120 Eastbound Ramps (p.m. peak hour)

Peak Hour Signal Warrants

Peak hour signal warrant analyses were conducted for the 12 unsignalized study intersections. The analysis applied the peak hour traffic signal warrant recommended in the MUTCD and associated State of California (Caltrans) guidelines. Table 4.11-4 also summarizes the signal warrant analysis. Appendix E includes the corresponding calculation sheets. Because of heavy traffic volumes, the SR 120 ramp terminals at the Airport Way and Union Road intersections meet the MUTCD warrant during peak hours. Vehicles exiting SR 120 experience long delays as they wait for gaps in northbound and southbound Airport Way and Union Road traffic to safely make a left- or right-turn movement.

Roadway Segment Levels of Service

Table 4.11-5 presents the results of the roadway segment LOS analysis for existing conditions. The LOS calculations indicate that all roadway segments currently operate at an acceptable LOS.

Table 4.11-5
Existing Roadway Levels of Service

Roadway Segment	Lanes	Volume[1]	Level of Service
1. Airport Way, between Yosemite Avenue and Wawona Street	2	9,230	D
2. Airport Way, between Wawona Street and Daniels Street	2	10,300	D
3. Airport Way, between Daniels Street and SR 120 WB Ramps	2	12,250	D
4. Airport Way, between SR 120 WB Ramps and SR 120 EB Ramps	2	9,300	D
5. Airport Way, between SR 120 EB Ramps and Atherton Road	2	7,680	C
6. Airport Way, between Atherton Road and Woodward Avenue	2	4,500	C
7. Airport Way, South of Woodward Avenue	2	3,230	C
8. Union Road, between Yosemite Avenue and Wawona Street	2	12,680	D
9. Union Road, between Wawona Street and Daniels Street	2	13,500	D
10. Union Road, between Daniels Street and SR 120 WB Ramps	2	14,130	D
11. Union Road, between SR 120 WB Ramps and SR 120 EB Ramps	2	9,080	C
12. Union Road, between SR 120 EB Ramps and Woodward Avenue	2	4,300	C
13. Union Road, South of Woodward Avenue	2	3,300	C
14. Daniels Street, between Airport Way and Fishback Road	2	2,180	C
15. Daniels Street, between Fishback Road and Junction Drive	2	1,400	C
16. Daniels Street, between Junction Drive and Winters Drive	2	1,180	C
17. Daniels Street, between Winters Drive and Union Road	2	1,350	C

Notes:
[1] Average daily traffic.
Source: Data compiled by Fehr & Peers in 2007

Freeway Operations

Mainline Segments

Table 4.11-6 presents the results of the LOS analysis for existing freeway mainline conditions. Appendix E contains the corresponding calculation sheets. The LOS calculations indicate that all eastbound and westbound mainline segments east of Airport Way currently operate at acceptable LOS during both the a.m. and p.m. peak hours. However, the westbound mainline segment between Yosemite Avenue and Airport Way operates at LOS E in the a.m. peak hour with the eastbound segment operating at LOS E in the p.m. peak hour.

Table 4.11-6
Existing State Route 120 Mainline Levels of Service

Travel Direction	Segment	Peak Hour	Density (Vehicles per Miles per Lane)	Level of Service
Eastbound	Yosemite Avenue to Airport Way	a.m.	19.0	C
		p.m.	**35.0**	**E**
	Airport Way to Union Road	a.m.	19.4	C
		p.m.	32.2	D
	Union Road to Main Street	a.m.	20.5	C
		p.m.	29.6	D
Westbound	Main Street to Union Road	a.m.	32.0	D
		p.m.	24.2	C
	Union Road to Airport Way	a.m.	33.5	D
		p.m.	22.3	C
	Airport Way to Yosemite Avenue	a.m.	**36.7**	**E**
		p.m.	22.1	C

Bold denotes intersections with unacceptable operations (level of service E or F) and that also meet peak hour volume warrants.
Source: Data compiled by Fehr & Peers in 2007

Ramp Junctions

Table 4.11-7 presents the results of the LOS analysis for existing ramp junction conditions. Appendix E contains the corresponding calculation sheets. The LOS calculations indicate that all ramp junctions currently operate at acceptable LOS D or better during both a.m. and p.m. peak hours.

EXISTING PEDESTRIAN AND BICYCLE NETWORK

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals at signalized intersections. The Airport Way/Daniels Street intersection provides signalized pedestrian intersection crossings and there are sidewalks on all but the south side of this intersection. There are no sidewalks fronting the project site on Airport Way or Daniels Street; however, there are sidewalks on the north side of Daniels Street, adjacent to the site. Additionally, there are sidewalks on both sides of Daniels Street east of the project site in the residential neighborhood.

Bicycle facilities include bike paths, lanes, and routes. Bike paths are paved pathways for use by bicycles; they are separated from roadways. Bike lanes are lanes on roadways designated for use by bicycles with special lane markings, pavement legends, and signage. Bike routes are designated with signs only. Bike lanes exist on both sides of Daniels Street in the vicinity of the project site. There are no bike facilities on Airport Way near the project site. Exhibit 4.11-2 shows the existing bicycle facilities throughout Manteca.

Table 4.11-7
Existing State Route 120 Levels of Service

Travel Direction	Ramp	Merge/Diverge	Peak Hour	Density (Vehicles per Mile per Lane)	Level of Service
State Route 120 Eastbound	Airport Way	Diverge (off-ramp)	a.m.	18.7	B
			p.m.	33.9	D
		Merge (on-ramp)	a.m.	19.7	B
			p.m.	31.1	D
	Union Road	Diverge (off-ramp)	a.m.	19.1	B
			p.m.	31.7	D
		Merge (on-ramp)	a.m.	20.8	C
			p.m.	29.0	D
State Route 120 Westbound	Union Road	Diverge (off-ramp)	a.m.	31.5	D
			p.m.	23.9	C
		Merge (on-ramp)	a.m.	32.1	D
			p.m.	22.5	C
	Airport Way	Diverge (off-ramp)	a.m.	32.8	D
			p.m.	22.0	C
		Merge (on-ramp)	a.m.	34.5	D
			p.m.	22.2	C

Source: Data compiled by Fehr & Peers in 2007

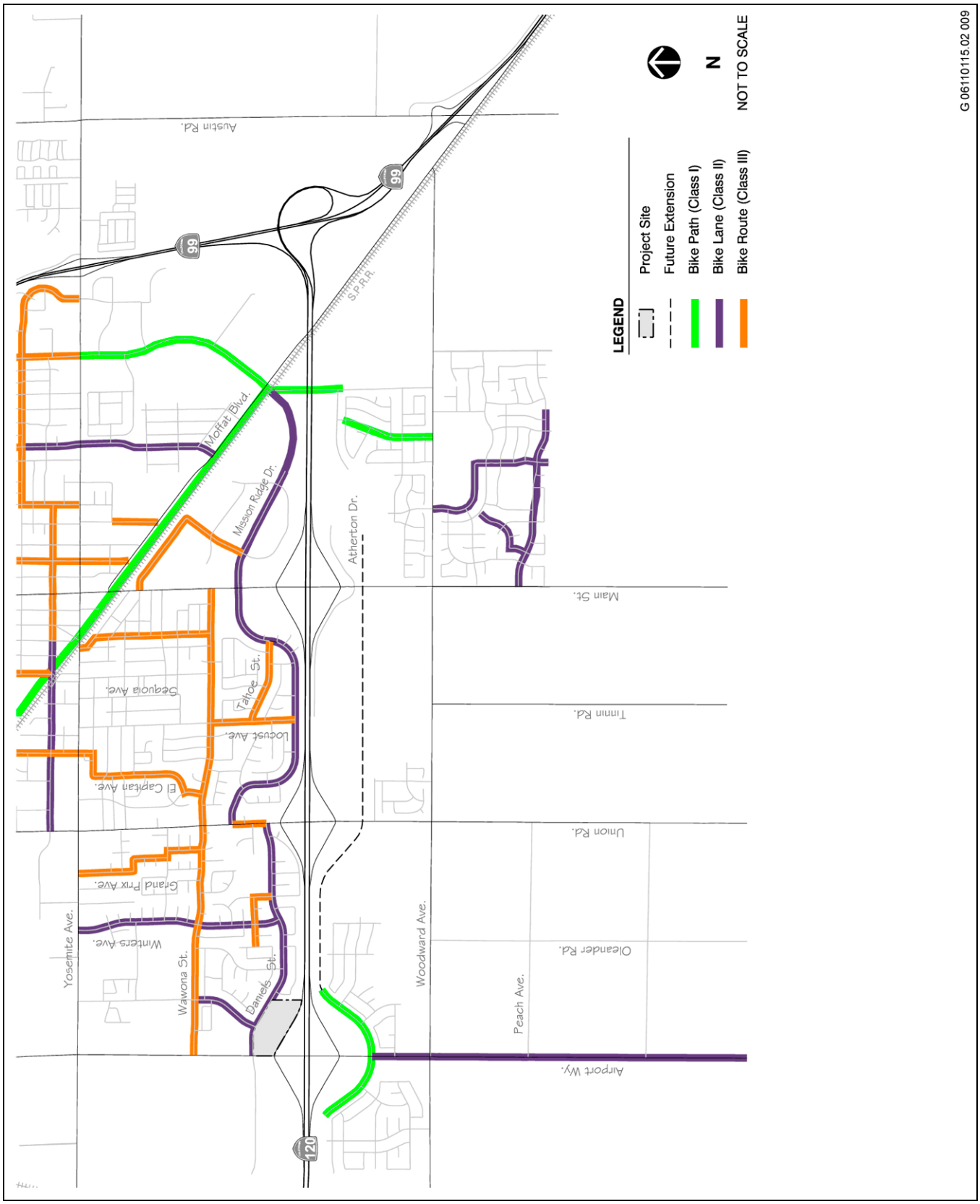
EXISTING TRANSIT SYSTEM

No existing transit facilities serve the project site. However, several transit routes provide service to the City of Manteca, as described below. These routes include Manteca Transit, which provides two fixed-route services and a Dial-A-Ride component; the San Joaquin Regional Transit District with fixed-route and flexible-response bus service in San Joaquin County; the Altamont Commuter Express (ACE), which operates a commuter rail service; and the Modesto Area Express (MAX), which operates fixed-route bus service between Modesto and the Lathrop-Manteca ACE Rail Station. Exhibit 4.11-3 shows the existing transit facilities near the project site. Each existing transit route is described below.

Manteca Transit provides two fixed-route services and a Dial-A-Ride component. Manteca Transit provides bus service to destinations throughout the City of Manteca. Common stops shared by Route 1 and Route 2 are located at the Manteca Senior Center, Center Street/Trevino Avenue, and Center Street/Main Street.

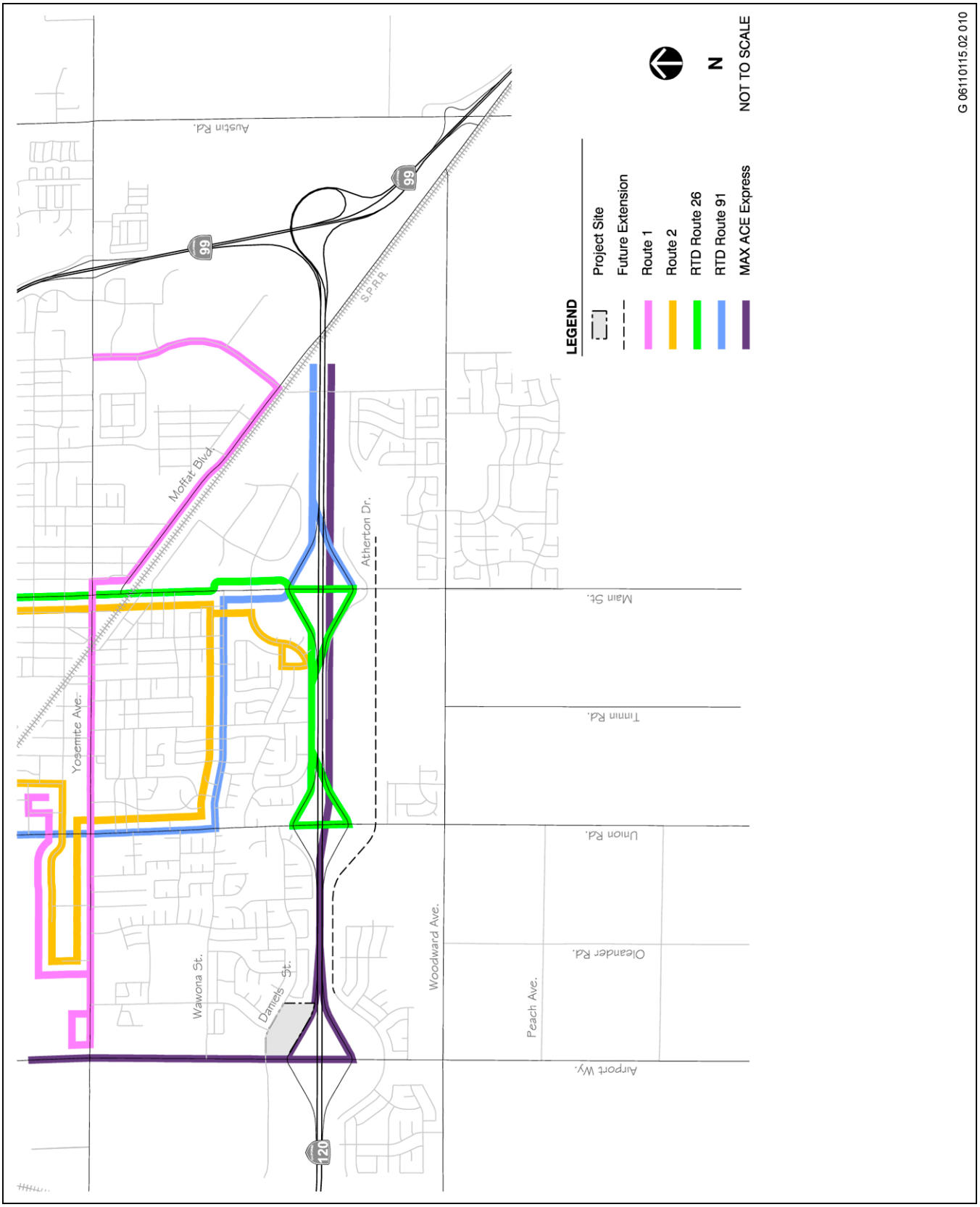
Route 1 operates in a counter-clockwise direction. Popular destinations on Route 1 include the Manteca Branch Library, Manteca Senior Center, and Kaiser Hospital. Route 2 operates in a clockwise direction. Popular destinations on Route 2 include Mervyn's, Wal-Mart, and the Manteca Senior Center.

Weekday service operates from 6:00 a.m. to 7:00 p.m. with 60-minute headways. Saturday service operates from 9:00 a.m. to 4:00 p.m. and service is not provided on Sunday. Pursuant to Americans with Disabilities Act regulations, demand response services shall extend three quarters of a mile beyond fixed-route services to accommodate persons who may not be able to access fixed-route services. Additional fixed routes are anticipated to be added within the City limits. The Manteca Transit stops closest to the project site are along Wawona Street.



Source: Fehr and Peers 2007

Existing Bicycle Facilities **Exhibit 4.11-2**



Source: Fehr and Peers 2007

Existing Transit Service **Exhibit 4.11-3**

4.11.2 REGULATORY SETTING

FEDERAL AND STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways in San Joaquin County. Federal highway standards are implemented in California by Caltrans.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

San Joaquin County Regional Transportation Plan

San Joaquin County, through SJCOG, periodically updates the Regional Transportation Plan, which outlines countywide transportation expenditures based on funding from sources like the federal government, the State of California, and locally collected funds. The current SJCOG Regional Transportation Plan (2007) contains several proposed improvements that would benefit the regional roadway network near the project. These improvements include widening SR 99 from four to six lanes between SR 120 in Manteca and SR 4 in Stockton and widening SR 120 from four to six lanes between I-5 and SR 99.

San Joaquin County Regional Traffic Impact Fee

SJCOG has implemented a regional traffic impact fee that would be assessed on developments throughout San Joaquin County. An Assembly Bill 1600 nexus study was conducted to determine the cost of needed improvements and the level of contribution required from types of development and different areas of the county. The adopted fee is $1.00 per square foot for retail development and $1.25 per square foot for office development.

Measure K 2003 Strategic Plan

Measure K is a County measure that funds transportation projects through sales tax revenue. The planned expenditures under the measure are provided in the Measure K Strategic Plan. The latest version of this plan was published in 2003. One relevant improvement described in the plan is the widening of Lathrop Road west of I-5 to four lanes in the City of Lathrop, as well as east of I-5 in the City of Manteca. The reauthorization of Measure K passed on the November 2006 ballot. Measure K includes funds for expanding SR 120 to six lanes between Manteca and Stockton and improvements to all SR 120 interchanges in Manteca.

San Joaquin County Congestion Management Program

Propositions 111 and 116, passed by voters in June 1990, triggered state legislation requiring urban counties to designate a countywide public agency, known as a Congestion Management Agency (CMA), to create, manage, and update a countywide congestion management plan (CMP). The purpose of a CMP is: (1) to establish level of service standards for designated freeways, state highways, and local arterials; and (2) to maintain or achieve those standards by increasing capacity of designated roads and/or managing travel demand. Incentives for incorporated cities and towns to take part in the CMP include the receipt of additional Proposition 111 gas tax revenue, Proposition 116 bond funds, and State Transportation System Management funds, as well as eligibility for state and federal funds under the Regional Transportation Improvement Program. If a local government fails to comply with the CMP, the CMA may direct the state to withhold funds and declare local projects ineligible for state or federal funding.

For CMP intersections, significant traffic impacts would occur when the addition of project traffic causes:

- Operations to deteriorate from LOS E or better under Background Conditions to LOS F under Project Conditions, or
- Exacerbation of unacceptable operations (LOS F) by increasing the critical delay by four seconds or more and increasing the volume-to-capacity (V/C) ratio by 0.01 or more, or
- An increase in the V/C ratio by 0.01 or more when the change in critical delay is negative at an intersection projected to operate unacceptably under Background and Project Conditions.

City of Manteca General Plan

The *City of Manteca General Plan 2023* (2003) includes the following policies related to transportation and circulation that are relevant to this analysis:

Street System

- **Policy C-P-1:** The City shall strive to attain the highest possible traffic levels of service (LOS) consistent with the financial resources available and the limits of technical feasibility. The impact of new development and land use proposals on LOS should be considered in the review process.
- **Policy C-P-2:** Manteca's target for transportation LOS is to provide Citywide average LOS of C or better, and a minimum of LOS D at any individual location. This "C average, D minimum" shall be accomplished by attempting to provide LOS C at all locations, but accepting LOS D under the following circumstances:

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

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

  c. Where free-flowing roadways or interchange ramps would discourage use of alternate travel modes.

  d. Where maintaining LOS C will be a disincentive to use of existing alternative modes or to the implementation of new transportation modes that would reduce vehicle travel.

- **Policy C-P-3:** Streets shall be dedicated, widened, extended, and constructed according to the Street cross-section diagrams established in the City Improvement Standards. Dedication and improvement of full rights-of-way as shown in the Street Standards shall not be required in existing developed areas where the City determines that such improvements are either infeasible or undesirable.
- **Policy C-P-5:** Development that would necessitate roadway improvements prior to the development of lands abutting those roadway improvements shall be required to make such improvements, or participate in such improvements, as a condition of approval.
- **Policy C-P-6:** New development will pay a fair share of the costs of street and other traffic and transportation improvements based on traffic generation and impacts on levels of service in conformance with the standard and policies established in the Public Facilities Implementation Plan (PFIP).

- **Policy C-P-18:** In accord with the PFIP the City shall assess development fees for traffic signals and highway interchanges sufficient to fund system wide improvements. The development fee schedule for these traffic improvements shall be periodically reviewed, and revised as necessary.

The City also requires new development to participate in funding and construction of collector and arterial street improvements identified in the City's Street Master Plan.

Traffic Safety

- **Policy C-P-21:** The creation or continuance of traffic hazards shall be discouraged in new development and other proposals requiring the City to exercise its discretionary authority.

- **Policy C-P-22:** In the development of new projects, the City shall give special attention to maintaining adequate corner-sight distances at city street intersections and at intersections of city streets and private access drives and roadways.

- **Policy C-P-23:** The City shall identify and remove, as feasible, obstacles limiting corner-sight distances at city street corners.

Parking

- **Policy C-P-26:** The City shall require all new development to provide an adequate number of off-street parking spaces to accommodate the typical parking demands of the type of development on the site.

- **Policy C-P-29:** Ensure that there is adequate parking for normal commercial activities.

- **Policy C-P-30:** Ensure that there is adequate parking for special events.

- **Policy C-P-31:** Coordinate the parking area locations with the roadway, transit, pedestrian, and bikeway systems.

Bikeways and Pedestrian Paths

- **Policy C-P-33:** The City shall establish a safe and convenient network of identified bicycle routes connecting residential areas with recreation, shopping, and employment areas within the city.

- **Policy C-P-35:** Route sidewalks so that they connect to major public parking areas, transit stops, and intersections with the bikeway system.

- **Policy C-P-36:** Provide adequate bicycle parking facilities at commercial, business/professional, and light industrial uses.

- **Policy CD-P-31:** The pedestrian and bikeway system shall be linked to other pedestrian and bikeways in adjacent neighborhoods and ultimately, to the City-wide Pedestrian and Bikeway Trail System to provide a continuous interconnected system.

Transportation Demand Management

- **Policy 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.

City of Manteca Bicycle Master Plan

The City of Manteca Bicycle Master Plan (2003c) includes the following policies related to bicycle circulation in new development areas that are relevant to this analysis:

- Require new development to construct bikeways included in the proposed system along all roadways included within or adjacent to that development.
- Require new development to provide support facilities such as bicycle racks, personal lockers, and showers at appropriate locations such as parks, major recreational destinations, park-and-ride facilities, employment centers, schools, and commercial centers.
- Provide bicycle crossings at appropriate intervals along new roadways that will adequately serve new large-scale commercial, office, industrial, and residential development.
- Require new development to incorporate parks and schools as important destinations for bicyclists when designing circulation plans for subdivisions and other developments.

City of Manteca Zoning Ordinance

Chapter 17.15, "Parking and Loading," of the City of Manteca Zoning Ordinance (1992) sets forth City requirements for both on- and off-street parking associated with residential, commercial, and industrial housing.

City of Manteca Public Facilities Implementation Plan

The City of Manteca's PFIP (1993) is the implementing document for the City of Manteca General Plan policies on public facilities. The purpose of the PFIP is to ensure that public facilities are adequate as the City grows, and that they are developed in accordance with the City's General Plan. The PFIP is based on the City's individual water, sewer collection, drainage, and transportation facilities master plans. Under the PFIP, development impact fees are collected at or near the time of development and are used to finance the expansion and capacity of public facilities (i.e., water, sewer collection, drainage, and transportation) necessary to accommodate the new demands. Public improvements are timed to ensure the LOS targets for each service are reasonably maintained. In addition to development impact fees, other funding sources include: inter-account borrowing; redevelopment tax increment; general fund; and other federal, state, and local funds. Impact fees are typically assessed on a per-unit basis for residential land uses and a per-acre basis for commercial and industrial land uses.

Recently, it has come to light that the transportation fees being collected by the PFIP fee program cannot cover the cost of building out the circulation element shown in the 2003 General Plan. However, the City is currently in the process of updating the 1993 PFIP, but it is not known when these new fees would take effect.

City of Manteca Regional Transportation Fee

In December 2005, the City Council of the City of Manteca adopted the San Joaquin County Regional Transportation Impact Fee Program Ordinance. This ordinance established that new development projects shall be subject to applicable fees that would be used to fund expansion of the regional transportation network's capacity and to mitigate for potentially adverse project impacts to the regional transportation network that would result in unacceptable levels of service. The fees applicable to the proposed project include $2,500 for each single-family residential unit and $1.00 for each square foot of commercial space.

4.11.3 ENVIRONMENTAL IMPACTS

ANALYSIS METHODOLOGY

Trip Generation

A three-step process was used to estimate the volume of traffic associated with the project: (1) trip generation, (2) trip distribution, and (3) trip assignment. In the first step, the traffic volumes entering and exiting the project site were estimated. In the second step, the travel demand model was used to determine where project related trips are destined/originate. Finally, project trips were assigned to specific street segments and intersection turning movements. Table 4.11-8 presents the projected trip generation by land use type for a.m. and p.m. peak hour conditions.

As proposed, Stadium Center Phase III is projected to generate 6,546 daily net new vehicle trips on the surrounding transportation system. During the morning peak hour, the project would generate 309 net new vehicle trips, with 168 inbound and 141 outbound vehicle trips. During the evening peak hour, the project would generate 672 net new vehicle trips, with 327 inbound and 346 outbound vehicle trips.

To determine whether the project would create additional transportation impacts during weekend conditions, weekend counts were collected on Saturday, February 24, 2007, from noon to 3:00 p.m. at the following four intersections:

Table 4.11-8
Project Trip Generation Rates and Estimates

Use	Daily	a.m. Peak Hour			p.m. Peak Hour		
		In	Out	Total	In	Out	Total
Trip Rates							
Home Improvement Super Store	29.8	0.65	0.55	1.20	1.78	1.93	3.71
Retail	56.14	0.77	0.49	1.26	2.50	2.70	5.20
Fast Food Restaurant with Drive-Through Window	496.12	27.09	26.02	53.11	18.01	16.63	34.64
Pharmacy with Drive-Through Window	88.16	1.52	1.14	2.66	4.22	4.4	8.62
Trip Estimates							
Home Improvement Super Store	4,172	91	77	168	249	270	519
Retail	842	12	7	19	38	41	79
Fast Food Restaurant with Drive-Through Window	1,984	108	104	212	72	67	139
Pharmacy with Drive-Through Window	1,166	20	15	35	56	58	114
Total Gross Trips	8,164	231	203	434	415	436	851
Internal Trips (5%)	-209	-5	-4	-8	-12	-14	-26
Pass-By-Diverted trips	-1,410	-58	-58	-116	-77	-77	-153
Net New Trips	**6,546**	**168**	**141**	**309**	**327**	**346**	**672**

Source: Data compiled by Fehr & Peers in 2007

- Airport Way and State Route 120 Eastbound Ramps
- Airport Way and State Route 120 Westbound Ramps
- Airport Way and Daniels Street
- Airport Way and Fishback Road

The weekend peak hour occurred between 12:15 p.m. and 1:15 p.m. along the Airport Way corridor. The weekend peak hour traffic volumes were compared to the weekday p.m. peak hour volumes. The comparison revealed that weekday p.m. peak hour traffic volumes were between 20 to 40 percent (about 200 to 360 vehicles) higher than the weekend peak hour traffic volumes.

In addition, the weekend peak hour trip generation for the project was estimated using the Saturday "peak hour of generator" rates identified in the ITE Trip Generation manual. The "peak hour of generator" rates estimate the maximum hourly trip generation across the entire day, as opposed to typical trip generation rates, which estimate the maximum hourly trip generation rate during a specific time period (e.g., p.m. peak period between 4:00 - 6:00). The results of the "peak hour of generator" analysis indicate that the Saturday peak hour would generate about 360 more trips than a typical weekday p.m. peak hour.

Based on the results above, it was determined that performing a weekend peak hour traffic operations analysis was unnecessary for the following reasons:

- The weekend peak hour of generator likely does not necessarily overlap with the weekend peak hour traffic volume for the land uses in the project site.
- After project trips are distributed and assigned to the roadway network, the weekend peak hour plus project traffic volume forecasts would be less than the p.m. peak hour traffic volume forecasts.

The remainder of this analysis focuses on weekday peak hour impacts.

Trip Distribution

The approach and departure patterns for project generated traffic were estimated using the City of Manteca/SJCOG model TDF Model for Existing Plus Project and Cumulative Plus Project Conditions (see Appendix E for exhibits showing the Existing Plus Project trip distribution pattern and the Cumulative Plus Project trip distribution pattern).

Trip Assignment

With the trip generation rates estimated, project trips were assigned to the roadway system based on the trip distribution patterns discussed above to develop Existing Plus Project and Cumulative Plus Project peak hour traffic volumes (see Appendix E for exhibits showing the Existing Plus Project a.m. and p.m. peak hour turning movement volumes).

Cumulative Conditions

Cumulative No Project Conditions are based on traffic volumes obtained from the 2015 version of the City of Manteca/SJCOG travel demand forecasting model. The following sections describe the procedure used to determine the cumulative traffic volumes and the results of the LOS analysis for cumulative conditions.

Traffic Estimates

The City of Manteca/SJCOG model was used to develop traffic volumes under Cumulative No Project Conditions. The model contains a high level of detail within the cities of Manteca, Lathrop, and Ripon to more accurately represent travel patterns in these cities. In addition to the projected land uses under 2015 conditions, a list of approved and pending projects provided by City of Manteca staff was used to estimate 2015 traffic volumes. The SJCOG land use inputs were updated to include these approved and pending projects (see Appendix E for exhibits showing traffic volumes for Cumulative No Project Conditions at study intersections as well as intersection lane configurations and traffic control devices, and exhibits showing the Cumulative No Project a.m. and p.m. peak hour freeway mainline, on-ramp, and off-ramp traffic volumes).

To account for model error, a technique known as the difference method was used to develop Cumulative No Project traffic volume forecasts. The difference method adds model turning movement forecasts to existing traffic count data based on the following formula:

> Existing Turning Movement Volumes + (2015 SJCOG Turning Movement – 2005 SJCOG Turning Movement)

Roadway Improvements

The *City of Manteca General Plan 2023* has identified a set of roadway improvements that correspond to buildout of the Land Use Element. However, based on discussions with City staff, the current PFIP fee for local roadways covers only a portion of the total cost of designing and constructing these improvements. Therefore, adequate funding is not being collected to fully construct all the improvements included in the City's General Plan EIR (City of Manteca 2003b). Because full funding for future roadway improvements has not been identified and it is unknown when these improvements would be constructed, they could not be assumed to be constructed before completion of the proposed Stadium Center Phase III Project.

The only roadway project within the project vicinity that has an identified funding source is the traffic signal installation at the eastbound and westbound ramp terminals at the SR120/Airport Way and intersections. Caltrans has approved the encroachment permit for this project, and the signals are expected to be operational by February 2008 (Vickers, pers. comm., 2007). Therefore, there is sufficient evidence to suggest that this signal would be in place prior to buildout of the proposed project, expected in 2010.

In addition to local roadway improvements, SJCOG has included the widening of SR 120 from four to six lanes with auxiliary lanes between interchanges as a Tier 1 project in the Regional Transportation Plan. This improvement will be funded through a combination of regional transportation impact fees and the recently passed Measure K local option transportation sales tax. However, because the implementation schedule for this improvement is unknown, it was not assumed under Cumulative Conditions.

The City of Manteca, in cooperation with Caltrans District 10 and SJCOG has initiated a Project Study Report (PSR) for the State Route 120/Airport Way interchange. Also, a combined PSR/EIR is in progress for the State Route 120/Union Road interchange. The interchange projects will determine the required interchange design to serve full buildout of the City of Manteca General Plan (six lanes on Airport Way and Union Road) and the planned widening of SR 120 from four to six lanes. The on-ramp and off-ramp designs will provide the necessary deceleration and storage lengths to serve projected morning and evening peak hour volumes at acceptable level of service conditions. However, because complete funding for these improvements has not been identified and an implementation schedule has not been established, the improvement was not assumed under Cumulative Conditions.

THRESHOLDS OF SIGNIFICANCE

This section presents the thresholds of significance criteria based on the City of Manteca General Plan 2023 Transportation Element (City of Manteca 2003a), the Caltrans *Guide for the Preparation of Traffic Impact Studies* (2004), and Appendix G of the State CEQA Guidelines.

Signalized Intersections

A significant impact at a signalized intersection is defined to occur under the following circumstances:

- The addition of project traffic causes intersection operations to deteriorate from an acceptable level (LOS D or better) under no project conditions to an unacceptable level (LOS E or F) under with project conditions; or
- The addition of project traffic degrades intersection operations at locations that operate at an unacceptable level (LOS E or F) under no project conditions.

Unsignalized Intersections

A significant impact at an unsignalized intersection is defined to occur when:

- The addition of project traffic causes intersection operations to deteriorate from an acceptable level (LOS D or better) under no project conditions to an unacceptable level (LOS E or F) under with project conditions, and
- The turning-movement volumes exceed the peak hour traffic signal warrant criteria from the MUTCD; or
- The addition of project traffic degrades intersection operations at locations that operate at an unacceptable level (LOS E or F) under no project conditions where turning-movement volumes exceed the peak hour traffic signal warrant criteria from the MUTCD.

Unsignalized intersections that operate at an unacceptable LOS do not have a significant impact when the intersection does not meet or exceed the peak hour signal warrant.

Freeway Mainline, Off-Ramp Diverge, and On-Ramp Merge Segments

In the *Guide for the Preparation of Traffic Impact Study*, Caltrans strives to maintain a target LOS at the transition between LOS C and LOS D on state highway (freeway) facilities. However, if an existing facility is operating at less than the appropriate target LOS, the existing MOE should be maintained. Freeway facilities include freeway mainline, off-ramp diverge, on-ramp merge, and ramp terminal intersections.

The freeway facilities in the study area currently operate in the LOS D and LOS E range during the peak hours (as shown in Tables 4.11-6 and 4.11-7). Since Caltrans seeks to maintain the existing freeway facility LOS and the City strives to meet a LOS D threshold, the more conservative LOS D threshold is applied for freeway facilities.

Therefore, a significant impact on a freeway mainline segment or ramp is defined to occur under the following circumstances:

- The addition of project traffic causes roadway operations to deteriorate from an acceptable level (LOS D or better) under no project conditions to an unacceptable level (LOS E or F) under with project conditions; or
- The addition of project traffic further degrades freeway facility operations at locations that operated at an unacceptable level (LOS E or F) under no project conditions.

Pedestrian, Bicycle, and Transit Systems

The pedestrian, bicycle, and transit operations were analyzed to determine whether the project would create a significant impact on any of these facilities. The following criteria were used to analyze the impacts:

- Transit System
  - Create a demand for public transit service above that which is provided or planned to be provided.
  - Disrupt or interfere with existing or planned public transit services or facilities.
  - Create an inconsistency with policies concerning transit systems set forth in the General Plan for the City of Manteca.
- Bicycle and Pedestrian
  - Disrupt or interfere with existing or planned bicycle or pedestrian facilities.
  - Create an unmet need for bicycle or pedestrian facilities.
  - Create an inconsistency with policies related to bicycle or pedestrian systems set forth in the General Plan for the City of Manteca.

CEQA Thresholds of Significance

Thresholds for determining the significance of impacts for this analysis are also based on the environmental checklist in Appendix G of the State CEQA Guidelines. The proposed project was determined to result in a significant effect related to transportation and circulation if it would:

- substantially increase traffic in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the V/C ratio on roads, or congestion at intersections);
- exceed, either individually or cumulatively, the LOS standard established by the City or Caltrans for designated roads or highways;
- substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- result in inadequate emergency access;
- result in inadequate parking capacity; or
- conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

IMPACT ANALYSIS

IMPACT 4.11-1 **Transportation and Circulation—Increases in Peak Hour Traffic Volumes on Regional Roadways Resulting in Unacceptable Levels of Service.** *The proposed project would cause an increase in p.m. peak hour traffic volumes that would result in unacceptable levels of service and warrant the need for improvements at five intersections. Because the project would result in an unacceptable operating condition based on applicable standards, this impact would be* ***significant****.*

Intersection LOS was calculated with the project-generated traffic to evaluate the operating conditions for the intersections and identify potential impacts to the local roadway system. The results of the intersection LOS calculations for Existing Plus Project Conditions, presented in Table 4.11-9, show that the following intersections would operate at an unacceptable LOS E or F during the a.m. or p.m. peak hour:

- Airport Way and Wawona Street,
- Airport Way and Daniels Street,
- Airport Way and State Route 120 Westbound Ramps,
- Airport Way and State Route 120 Eastbound Ramps,
- Union Road and Daniels Street,
- Union Road and State Route 120 Westbound Ramps, and
- Union Road and State Route 120 Eastbound Ramps.

While 5 of the above intersections operate unacceptably under Existing Conditions, the project would contribute new trips to these intersections and would therefore exacerbate these unacceptable conditions. Therefore, this would be a **significant impact**, along with significant impacts that would result to the intersections that currently operate acceptably, and the project would be responsible for mitigating its contribution to this impact.

Peak Hour Signal Warrants

An analysis for peak hour signal warrant was conducted with the addition of project-generated traffic. Table 4.11-9 also summarizes the warrants analysis for Existing Plus Project Conditions. Appendix E contains the corresponding calculation sheets. The addition of project-related trips to regional roadways would result in the following five intersections operating at unacceptable levels of service and meeting the warrant for traffic signal installation:

- Airport Way and State Route 120 Westbound Ramps,
- Airport Way and State Route 120 Eastbound Ramps,
- Union Road and Daniels Street,
- Union Road and State Route 120 Westbound Ramps, and
- Union Road and State Route 120 Eastbound Ramps.

The addition of project-related traffic to the above five intersections would result in a significant impact. The Airport Way/Wawona Street intersection would also operate at unacceptable levels of service with the addition of project-related traffic during a.m. and p.m. peak hours. However, since these intersections do not meet or exceed the peak hour signal warrant, no significant impact would take place based on City standards. Therefore, implementation of the proposed project would result in a **significant** impact at the above five intersections.

Table 4.11-9
Project Intersection Levels of Service and Signal Warrants

Intersection	Peak Hour[1]	Existing		Existing + Project		Meets Warrant	Significant Impact
		Delay[2]	LOS[3]	Delay[2]	LOS[3]		
1. Airport Way and Yosemite Avenue	a.m.	25.1	C	25.6	C	N/A	No
	p.m.	27.5	C	27.8	C	N/A	No
2. Airport Way and Wawona Street	a.m.	72.4 (10.3)	F (B)	89.5 (12.5)	F (B)	No	No
	p.m.	35.3 (5.1)	E (A)	50.2 (6.8)	E (A)	No	No
3. Airport Way and Daniels Street	a.m.	20.3	C	57.2	E	N/A	No
	p.m.	17.9	B	65.3	E	N/A	No
4. Airport Way and State Route 120 Westbound Ramps	a.m.	**95.7 (18.5)**	**F (C)**	**>100 (58.2)**	**F (F)**	**Yes**	**Yes**
	p.m.	**>100 (26.8)**	**F (D)**	**>100 (>100)**	**F (F)**	**Yes**	**Yes**
5. Airport Way and State Route 120 Eastbound Ramps	a.m.	45.4 (9.2)	E (A)	**>100 (42.9)**	**F (E)**	No	Yes
	p.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**	**Yes**
6. Airport Way and Atherton Drive	a.m.	21.3 (4.5)	C (A)	22.9 (4.9)	C (A)	No	No
	p.m.	27.4 (5.0)	D (A)	33.3 (5.8)	D (A)	No	No
7. Airport Way and Woodward Avenue	a.m.	9.0	A	9.1	A	No	No
	p.m.	9.4	A	9.5	A	No	No
8. Daniels Street and Fishback Road[4]	a.m.	10.0 (4.5)	A (A)	18.9	B	No	No
	p.m.	9.9 (2.9)	A (A)	22.4	C	Yes	No
9. Daniels Street and Junction Drive	a.m.	9.0 (2.7)	A (A)	9.3 (1.9)	A (A)	No	No
	p.m.	9.0 (2.4)	A (A)	9.8 (1.5)	A (A)	No	No
10. Daniels Street and Winters Drive	a.m.	9.2 (4.8)	A (A)	9.7 (3.8)	A (A)	No	No
	p.m.	9.4 (3.9)	A (A)	10.4 (2.8)	B (A)	No	No
11. Union Road and Yosemite Avenue	a.m.	25.8	C	26.1	C	N/A	No
	p.m.	27.4	C	28.7	C	N/A	No
12. Union Road and Wawona Street	a.m.	26.4	C	27.3	C	N/A	No
	p.m.	23.8	C	24.7	C	N/A	No
13. Union Road and Daniels Street	a.m.	31.8 (3.0)	D (A)	**60.1 (6.4)**	**F (A)**	**Yes**	**Yes**
	p.m.	40.5 (3.9)	E (A)	**>100 (33.1)**	**F (D)**	**Yes**	**Yes**
14. Union Road and State Route 120 Westbound Ramps	a.m.	18.2 (3.7)	C (A)	18.8 (3.9)	C (A)	**Yes**	**Yes**
	p.m.	**47.9 (11.1)**	**E (B)**	**53.8 (12.5)**	**F (B)**	**Yes**	**Yes**
15. Union Road and State Route 120 Eastbound Ramps	a.m.	50.0 (10.2)	E (B)	53.5 (10.9)	F (B)	No	Yes
	p.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**	**Yes**
16. Union Road and Woodward Avenue	a.m.	9.8	A	10.0	A	No	No
	p.m.	9.3	A	9.7	A	No	No
17. Daniels Street/Driveway 2	a.m.	NA	NA	9.2 (1.0)	A (A)	No	No
	p.m.	NA	NA	10.6 (2.3)	B (A)	No	No
18. Daniels Street/Driveway 3	a.m.	NA	NA	7.4 (1.0)	A(A)	No	No
	p.m.	NA	NA	7.8 (1.0)	A(A)	No	No

Notes:

Bold denotes intersections with unacceptable operations (LOS E or F) and that also meet peak hour volume warrants.

[1] a.m. = morning peak hour, p.m. = evening peak hour.

[2] Whole intersection weighted average control delay expressed in seconds per vehicle using methodology described in the *2000 Highway Capacity Manual*. For side-street stop-controlled intersections, delay for the worst movement is shown (average control delay weighted for the whole intersection in parentheses).

[3] LOS = Level of service. For side-street stop-controlled intersections, LOS for the worst movement is shown in parentheses. LOS calculations were conducted using the Synchro level of service analysis software package.

[4] Traffic signal will be constructed as part of the proposed project.

Source: Data compiled by Fehr & Peers in 2007

IMPACT 4.11-2 **Transportation and Circulation—Increases in Project-Related Traffic Volumes on Local Roadway Segments.** *The traffic analysis concluded that the addition of project-generated traffic to local roadway segments would not degrade currently acceptable LOS conditions to unacceptable conditions based on City of Manteca significance thresholds. This impact would be* ***less than significant.***

Table 4.11-10 presents the results of the LOS analysis under Existing Plus Project Conditions. The LOS calculations indicate that all roadway segments are expected to operate at an acceptable LOS. Because the addition of project-generated traffic to local roadways would not degrade currently acceptable LOS traffic operations along project roadways to unacceptable conditions based on the City of Manteca significance thresholds and would comply with City general plan policies, this impact would be **less than significant**.

Table 4.11-10
Project Roadway Levels of Service

Roadway Segment	Lanes	Existing		Project	
		Volume[1]	LOS[2]	Volume[1]	LOS[2]
1. Airport Way, between Yosemite Avenue and Wawona Street	2	9,230	D	9,640	D
2. Airport Way, between Wawona Street and Daniels Street	2	10,300	D	10,820	D
3. Airport Way, between Daniels Street and SR 120 WB Ramps	2	12,250	D	16,210	D
4. Airport Way, between SR 120 WB Ramps and SR 120 EB Ramps	2	9,300	D	11,440	D
5. Airport Way, between SR 120 EB Ramps and Atherton Road	2	7,680	C	8,070	C
6. Airport Way, between Atherton Road and Woodward Avenue	2	4,500	C	4,610	C
7. Airport Way, South of Woodward Avenue	2	3,230	C	3,340	C
8. Union Road, between Yosemite Avenue and Wawona Street	2	12,680	D	13,290	D
9. Union Road, between Wawona Street and Daniels Street	2	13,500	D	14,310	D
10. Union Road, between Daniels Street and SR 120 WB Ramps	2	14,130	D	14,290	D
11. Union Road, between SR 120 WB Ramps and SR 120 EB Ramps	2	9,080	C	9,330	C
12. Union Road, between SR 120 EB Ramps and Woodward Avenue	2	4,300	C	4,650	C
13. Union Road, South of Woodward Avenue	2	3,300	C	4,650	C
14. Daniels Street, between Airport Way and Fishback Road	2	2,180	C	3,410	C
15. Daniels Street, between Fishback Road and Junction Drive	2	1,400	C	6,990	C
16. Daniels Street, between Junction Drive and Winters Drive	2	1,180	C	3,130	C
17. Daniels Street, between Winters Drive and Union Road	2	1,350	C	2,470	C

Notes:
[1] Average daily traffic
[2] LOS = level of service
Source: Data compiled by Fehr & Peers in 2007

IMPACT 4.11-3 **Transportation and Circulation—Increases in Project-Related Traffic Volumes on Freeway Operations.** *The project would increase traffic volumes along freeway mainline segments and ramp junctions of SR 120. The addition of project-generated traffic to freeway mainline segments would degrade currently acceptable LOS conditions to unacceptable conditions. This would be a* ***significant*** *impact.*

Freeway mainline LOS analysis was conducted with the addition of project-generated traffic, and Table 4.11-11 summarizes the results. Appendix E contains the corresponding calculation sheets. The LOS calculations indicate that the addition of project traffic would exacerbate unacceptable conditions on SR 120 eastbound between Yosemite Avenue and Airport Way during the p.m. peak hour and in the opposite direction during a.m. peak hour, based on Caltrans standards. Therefore, implementation of the project would result in a **significant** impact at this freeway mainline segment.

Table 4.11-11
Project State Route 120 Mainline Levels of Service

Travel Direction	Segment	Peak Hour	Existing		Project		Significant Impact
			Density[1]	LOS[2]	Density[1]	LOS[2]	
Eastbound	Yosemite Avenue to Airport Way	a.m.	19.0	C	19.4	C	No
		p.m.	**35.0**	**E**	**36.2**	**E**	**Yes**
	Airport Way to Union Road	a.m.	19.4	C	19.9	C	No
		p.m.	32.2	D	33.2	D	No
	Union Road to Main Street	a.m.	20.5	C	20.8	C	No
		p.m.	29.6	D	30.3	D	No
Westbound	Main Street to Union Road	a.m.	32.0	D	32.0	D	No
		p.m.	24.2	C	24.8	C	No
	Union Road to Airport Way	a.m.	33.5	D	34.1	D	No
		p.m.	22.3	C	23.1	C	No
	Airport Way to Yosemite Avenue	a.m.	**37.7**	**E**	**37.8**	**E**	**Yes**
		p.m.	22.1	C	23.0	D	No

Notes:
[1] Measured in vehicles per mile per lane
[2] LOS = level of service
Source: Data compiled by Fehr & Peers in 2007

Table 4.11-12 summarizes the results of the freeway ramp junction LOS analysis for Project Conditions. The LOS calculations indicate that all ramp junctions would continue to operate at acceptable LOS based on Caltrans standards with the addition of project-related traffic. Therefore, project implementation would result in a **less than significant** impact at the study ramp terminals.

Table 4.11-12
Project State Route 120 Ramp Levels of Service

Travel Direction	Ramp	Merge/ Diverge	Peak Hour	Existing		Project		Significant Impact
				Density[1]	LOS[2]	Density[1]	LOS[2]	
SR 120 Eastbound	Airport Way	Diverge (off-ramp)	a.m.	18.7	B	19.1	B	No
			p.m.	33.9	D	34.7	D	No
		Merge (on-ramp)	a.m.	19.7	B	20.0	C	No
			p.m.	31.1	D	31.8	D	No
	Union Road	Diverge (off-ramp)	a.m.	19.1	B	19.4	B	No
			p.m.	31.7	D	32.5	D	No
		Merge (on-ramp)	a.m.	20.8	C	21.0	C	No
			p.m.	29.0	D	29.6	D	No
SR 120 Westbound	Union Road	Diverge (off-ramp)	a.m.	31.5	D	31.8	D	No
			p.m.	23.9	C	24.5	C	No
		Merge (on-ramp)	a.m.	32.1	D	32.4	D	No
			p.m.	22.5	C	23.2	C	No
	Airport Way	Diverge (off-ramp)	a.m.	32.8	D	33.2	D	No
			p.m.	22.0	C	22.8	C	No
		Merge (on-ramp)	a.m.	34.5	D	34.8	D	No
			p.m.	22.2	C	23.0	C	No

Notes:
[1] Measured in vehicles per mile per lane
[2] LOS = level of service
Source: Data compiled by Fehr & Peers in 2007

IMPACT 4.11-4 **Transportation and Circulation—Increases in Peak Hour Traffic Volumes on Regional Roadways Resulting in Unacceptable Levels of Service under Cumulative Plus Project Conditions (2015).** *Operational traffic conditions for cumulative conditions at most intersections in the project study area would operate at an unacceptable LOS. The project would exacerbate unacceptable LOS that would exceed the City of Manteca's LOS thresholds under cumulative conditions. This would be a* ***significant*** *impact.*

Intersection Operations

Intersection operations were evaluated under Cumulative No Project and Plus project a.m. and p.m. peak hour conditions. Table 4.11-13 summarizes the results. Appendix E contains the corresponding calculation sheets. The intersection LOS analysis indicates that the majority of the study intersections are expected to operate at unacceptable levels with and without the project, as shown below:

- Airport Way and Yosemite Avenue,
- Airport Way and Wawona Street,
- Airport Way and Daniels Street,
- Airport Way and State Route 120 Westbound Ramps,
- Airport Way and State Route 120 Eastbound Ramps,
- Airport Way and Atherton Drive,
- Airport Way and Woodward Avenue,
- Daniels Street and Fishback Drive ,
- Union Road and Yosemite Avenue,
- Union road and Wawona Street,
- Union Road and Daniels Street,
- Union Road and State Route 120 Westbound Ramps,
- Union Road and State Route 120 Eastbound Ramps,
- Union Road and Atherton Drive, and
- Union Road and Woodward Avenue.

Peak Hour Signal Warrants

A peak hour signal warrant analysis was conducted for each unsignalized study intersection. The analysis applied the peak hour traffic signal warrant recommended in the MUTCD and associated State of California (Caltrans) guidelines. Appendix E contains the corresponding calculation sheets. The analysis indicates that under Cumulative Conditions with and without the project, all of the unsignalized study intersections would meet signal warrant criteria during either the a.m. or p.m. peak hour.

Because the addition of project-related traffic to the local and regional transportation system would exacerbate unacceptable levels of service during the a.m. and p.m. peak hours at the Airport Way /Yosemite Avenue, Airport Way / Wawona Street, Airport Way / Daniels Street, Airport Way / State Route 120 Westbound Ramps, Airport Way / State Route 120 Eastbound Ramps, Airport Way / Atherton Drive, Airport Way / Woodward Avenue, Daniels Street / Fishback Drive, Union Road / Yosemite Avenue, Union road / Wawona Street, Union Road / Daniels Street, Union Road / State Route 120 Westbound Ramps, Union Road / State Route 120 Eastbound Ramps, Union Road / Atherton Drive, and Union Road / Woodward Avenue intersections and would not comply with policies of the City's General Plan, this is considered a **significant** impact.

Roadway Operations

Table 4.11-14 includes the following roadway segments in the project study area, which currently operate at unacceptable levels of service under cumulative conditions with and without the project:

- Airport Way between Yosemite Avenue and Woodward Avenue
- Union Road between Yosemite Avenue and Atherton Drive

As shown in Table 4.11-14, Airport Way, between Yosemite Avenue and Woodward Avenue, and Union Road, between Yosemite Avenue and Atherton Drive, are expected to operate at LOS F conditions under Cumulative Plus Project Conditions. Because project trips exacerbate an existing cumulative deficiency, this is considered a **significant** impact.

Table 4.11-13
Cumulative with Project Intersection Levels of Service

Intersection	Peak Hour[1]	Cumulative No Project		Cumulative With Project		Significant Impact
		Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1. Airport Way and Yosemite Avenue	a.m.	**92.5**	**F**	**95.9**	**F**	**Yes**
	p.m.	**>100**	**F**	**>100**	**F**	**Yes**
2. Airport Way and Wawona Street	a.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
	p.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
3. Airport Way and Daniels Street	a.m.	**>100**	**F**	**>100**	**F**	**Yes**
	p.m.	**>100**	**F**	**>100**	**F**	**Yes**
4. Airport Way and State Route 120 Westbound Ramps	a.m.	**>100**	**F**	**>100**	**F**	**Yes**
	p.m.	**>100**	**F**	**>100**	**F**	**Yes**
5. Airport Way and State Route 120 Eastbound Ramps	a.m.	**>100**	**F**	**>100**	**F**	**Yes**
	p.m.	**>100**	**F**	**>100**	**F**	**Yes**
6. Airport Way and Atherton Drive	a.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
	p.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
7. Airport Way and Woodward Avenue	a.m.	**>100**	**F**	**>100**	**F**	**Yes**
	p.m.	**>100**	**F**	**>100**	**F**	**Yes**
8. Daniels Street and Fishback Road[4]	a.m.	**71.6 (12.5)**	**F (B)**	26.5	C	**Yes**
	p.m.	**>100 (92.6)**	**F (F)**	**57.5**	**E**	**Yes**
9. Daniels Street and Junction Drive	a.m.	11.0 (1.4)	B (A)	11.5 (1.4)	B (A)	No
	p.m.	16.6 (1.2)	C (A)	19.1 (1.3)	C (A)	No
10. Daniels Street and Winters Drive	a.m.	10.9 (1.1)	B (A)	11.3 (1.1)	B (A)	No
	p.m.	18.3 (1.4)	C (A)	21.2 (1.7)	C (A)	No
11. Union Road and Yosemite Avenue	a.m.	**60.4**	**E**	**62.8**	**E**	**Yes**
	p.m.	**>100**	**F**	**>100**	**F**	**Yes**
12. Union Road and Wawona Street	a.m.	**94.6**	**F**	**>100**	**F**	**Yes**
	p.m.	**>100**	**F**	**>100**	**F**	**Yes**
13. Union Road and Daniels Street	a.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
	p.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
14. Union Road and State Route 120 Westbound Ramps	a.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
	p.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
15. Union Road and State Route 120 Eastbound Ramps	a.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
	p.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
16. Union Road and Atherton Drive	a.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
	p.m.	**>100 (>100)**	**F (F)**	**>100 (>100)**	**F (F)**	**Yes**
17. Union Road and Woodward Avenue	a.m.	**>100**	**F**	**>100**	**F**	**Yes**
	p.m.	**>100**	**F**	**>100**	**F**	**Yes**
18. Daniels Street/Driveway 2	a.m.	N/A	N/A	12.5 (1.0)	B (A)	No
	p.m.	N/A	N/A	21.4 (1.4)	C (A)	No
19. Daniels Street/Driveway 3	a.m.	N/A	N/A	8.2 (1.0)	A (A)	No
	p.m.	N/A	N/A	9.1 (1.0)	A (A)	No

Notes:
[1] a.m. = morning peak hour, p.m. = evening peak hour.
[2] Whole intersection weighted average control delay expressed in seconds per vehicle using methodology described in the *Highway Capacity Manual 2000*. For side-street stop-controlled intersections, delay for the worst movement is shown (whole intersection weighted average control delay in parentheses).
[3] LOS = Level of service. For side-street stop-controlled intersections, LOS for the worst movement is shown in parentheses. LOS calculations conducted using the Synchro level of service analysis software package.
[4] Traffic signal will be constructed as part of the proposed project.

Bold denotes intersections with unacceptable operations (LOS E or F) and that also meet peak hour volume warrants.

Source: Data compiled by Fehr & Peers in 2007

Table 4.11-14
Cumulative Roadway Levels of Service

Roadway Segment	Lanes	No Project		With Project	
		Volume[1]	LOS[2]	Volume[1]	LOS[2]
1. Airport Way, between Yosemite Avenue and Wawona Street	2	20,230	**F**	20,890	**F**
2. Airport Way, between Wawona Street and Daniels Street	2	21,950	**F**	22,720	**F**
3. Airport Way, between Daniels Street and SR 120 WB Ramps	2	31,880	**F**	35,560	**F**
4. Airport Way, between SR 120 WB Ramps and SR 120 EB Ramps	2	31,130	**F**	33,290	**F**
5. Airport Way, between SR 120 EB Ramps and Atherton Road	2	31,100	**F**	31,690	**F**
6. Airport Way, between Atherton Road and Woodward Avenue	2	16,230	**F**	16,430	**F**
7. Airport Way, South of Woodward Avenue	2	11,150	D	11,210	D
8. Union Road, between Yosemite Avenue and Wawona Street	2	26,100	**F**	26,620	**F**
9. Union Road, between Wawona Street and Daniels Street	2	25,150	**F**	25,860	**F**
10. Union Road, between Daniels Street and SR 120 WB Ramps	2	25,000	**F**	25,160	**F**
11. Union Road, between SR 120 WB Ramps and SR 120 EB Ramps	2	24,050	**F**	24,430	**F**
12. Union Road, between SR 120 EB Ramps and Atherton Drive	2	23,350	**F**	23,940	**F**
13. Union Road, between Atherton Drive to Woodward Avenue	2	9,200	D	9,450	D
14. Union Road, South of Woodward Avenue	2	9,830	D	9,980	D
15. Daniels Street, between Airport Way and Fishback Road	2	12,050	D	16,980	D
16. Daniels Street, between Fishback Road and Junction Drive	2	8,130	C	9,820	C
17. Daniels Street, between Junction Drive and Winters Drive	2	7,700	C	8,720	C
18. Daniels Street, between Winters Drive and Union Road	2	7,480	C	8,430	C

Notes:
[1] Average daily traffic
[2] LOS = level of service
Source: Data compiled by Fehr & Peers in 2007

Freeway Operations

Mainline Segments

Table 4.11-15 summarizes the results of the freeway mainline LOS analysis under Cumulative No Project Conditions. Appendix E contains the corresponding calculation sheets. The LOS analysis shows that the majority of the study mainline segments are projected to operate unacceptably (LOS E or F) under a.m. and p.m. peak hour conditions. Only the off-peak direction of the freeway mainline between Airport Way and Main Street is expected to operate acceptably in the a.m. and p.m. peak hours.

Table 4.11-15 also summarizes the results of the freeway mainline LOS analysis under Cumulative Plus Project Conditions. Appendix E contains the corresponding calculation sheets. The LOS analysis shows that all of the study freeway mainline segments would continue to operate at the same LOS as Cumulative No Project Conditions. The addition of project traffic would exacerbate unacceptable operations on each of the freeway mainline segments during the a.m. and/or p.m. peak hours. This is considered a **significant** impact.

Ramp Junctions

The operations of the freeway on-ramp merge and off-ramp diverge segments were analyzed under Cumulative No Project and Plus Project Conditions, and Table 4.11-16 presents the results. Appendix E contains the corresponding calculation sheets.

Table 4.11-15
Cumulative State Route 120 Mainline Levels of Service

Travel Direction	Segment	Peak Hour	Cumulative No Project		Cumulative With Project		Significant Impact
			Density[1]	LOS[2]	Density[1]	LOS[2]	
Eastbound	Yosemite Avenue to Airport Way	a.m.	**36.0**	**E**	**36.6**	**E**	**Yes**
		p.m.	**>45**	**F**	**>45**	**F**	**Yes**
	Airport Way to Union Road	a.m.	30.5	D	30.9	D	No
		p.m.	**>45**	**F**	**>45**	**F**	**Yes**
	Union Road to Main Street	a.m.	27.3	D	27.5	D	No
		p.m.	**>45**	**F**	**>45**	**F**	**Yes**
Westbound	Main Street to Union Road	a.m.	**>45**	**F**	**>45**	**F**	**Yes**
		p.m.	28.3	D	28.7	D	No
	Union Road to Airport Way	a.m.	**>45**	**F**	**>45**	**F**	**Yes**
		p.m.	30.9	D	31.7	D	No
	Airport Way to Yosemite Avenue	a.m.	**>45**	**F**	**> 45**	**F**	**Yes**
		p.m.	**39.3**	**E**	**40.7**	**E**	**Yes**

Notes:
[1] Measured in vehicles per mile per lane
[2] LOS = level of service
Source: Data compiled by Fehr & Peers in 2007

Table 4.11-16
Cumulative State Route 120 Ramp Levels of Service

Travel Direction	Ramp	Merge/ Diverge	Peak Hour	Cumulative No Project		Cumulative With Project		Significant Impact
				Density[1]	LOS[2]	Density[1]	LOS[2]	
SR 120 Eastbound	Airport Way	Diverge (off-ramp)	a.m.	34.6	D	34.9	D	No
			p.m.	**58.0**	**F**	**58.7**	**F**	**Yes**
		Merge (on-ramp)	a.m.	29.7	D	29.9	D	No
			p.m.	**49.5**	**F**	**50.1**	**F**	**Yes**
	Union Road	Diverge (off-ramp)	a.m.	30.2	D	30.5	D	No
			p.m.	**52.3**	**F**	**53.0**	**F**	**Yes**
		Merge (on-ramp)	a.m.	26.9	C	27.1	C	No
			p.m.	**41.3**	**F**	**41.7**	**F**	**Yes**
SR 120 Westbound	Union Road	Diverge (off-ramp)	a.m.	**53.4**	**F**	**53.6**	**F**	**Yes**
			p.m.	28.0	C	28.4	D	No
		Merge (on-ramp)	a.m.	**56.4**	**F**	**56.7**	**F**	**Yes**
			p.m.	29.8	D	30.5	D	No
	Airport Way	Diverge (off-ramp)	a.m.	**60.0**	**F**	**60.3**	**F**	**Yes**
			p.m.	30.5	D	31.2	D	No
		Merge (on-ramp)	a.m.	**57.3**	**F**	**58.0**	**F**	**Yes**
			p.m.	35.0	D	**35.6**	**E**	**Yes**

Notes:
[1] Measured in vehicles per mile per lane
[2] LOS = level of service
Source: Data compiled by Fehr & Peers in 2007

Under Cumulative No Project Conditions, the LOS analysis shows that the westbound SR 120 on- and off-ramps are expected to operate at an unacceptable LOS F in the a.m. peak hour. The eastbound SR 120 on- and off-ramps are expected to operate at an unacceptable LOS F in the p.m. peak hour.

Also shown in Table 4.11-16, the addition of project-generated traffic would exacerbate unacceptable LOS conditions and the area would continue to operate at LOS F. The westbound SR 120 on-ramp at Airport Way is expected to degrade to unacceptable LOS E in the a.m. peak hour. This is considered a **significant** impact.

IMPACT 4.11-5 Transportation and Circulation—Increased Roadway Congestion from Construction Traffic. *It is estimated that 80 one-way daily trips to the project site would be generated during peak construction periods. This could result in adverse effects on the operation of project area roadways during the peak commute periods. In addition, construction traffic, particularly truck traffic, could degrade pavement conditions along access roadways. This impact would be* ***significant****.*

Project construction would result in short-term increases in traffic on project area roadways. Construction activities would require the hauling of equipment and materials to the project site and transportation of employees to and from off-site locations.

Construction of on-site buildings would occur over approximately a six month period. It is estimated that a maximum of 25 construction workers would commute to the site on a daily basis resulting in 50 one-way daily trips. Additional daily trips would also occur with construction activities, including the delivery of materials and construction site operations. These operations are estimated to generate an additional 30 one-way daily trips for a total of 80 one-way daily trips during the construction period.

The number of proposed construction trips (i.e., maximum of 80 daily trips) is substantially less than the amount of trips (6,546 daily trips as shown in Table 4.11-8) generated by the proposed project. The majority of construction workers would arrive and depart before the morning and evening peak hours. However, if a large proportion of the construction-related vehicle trips were to occur during peak a.m. and p.m. commute periods, construction traffic could substantially degrade operation of local roadways. These trips could contribute to existing unacceptable operations (LOS F) at four intersections as shown in Table 4.11-4, and construction traffic, particularly truck traffic, could degrade pavement conditions along access roadways to the project site. This would be a **significant** impact.

IMPACT 4.11-6 Transportation and Circulation—Impacts on Emergency Vehicle Access. *The project would provide adequate emergency access to the project site. However, construction vehicles could temporarily obstruct local roadways, which could impair the ability of local emergency response agencies to respond to an emergency in the project area. This impact would be* ***potentially significant****.*

With implementation of the project, emergency vehicular access would be provided along Daniels Street, opposite of Fishback Road. Secondary access would be provided via an unsignalized driveway, with a right-turn in and right-turn out, located on Daniels Street just east of Fishback Road. Two emergency vehicle access points would be maintained at all times.

Design and layout of all internal roadways and driveways would be done in consultation with the City of Manteca Public Works Department, City Fire Department, and City Police Department staff to ensure that the roadways and driveways provide adequate access for emergency vehicles (e.g., turning radii, lane width). Because the project applicant would be required to coordinate with the City Public Works Department, Fire Department, and Police Department to ensure adequate emergency access is provided, this impact would be less than significant.

The majority of project construction would occur in the project site footprint; however, construction of proposed intersection improvements could partially obstruct roadways in the project vicinity. Obstruction of these roadways could block or slow emergency response vehicles traveling on Daniels Street and could adversely affect the

response times of emergency response agencies depending on the time of day (i.e., peak hours). This impact would be **potentially significant**.

IMPACT 4.11-7 Transportation and Circulation—Conformity with City Parking Requirements. *The project would provide off-street parking consistent with the City's parking ordinance. Therefore, this impact would be less than significant.*

The City of Manteca Zoning Code requires the provision of four spaces per thousand square feet of retail and one space per 2.5 restaurant seats. Based on the City's parking standards for each proposed use, it is estimated that the off-street parking requirement is 689 spaces. The project includes approximately 770 parking spaces situated in surface lots throughout the site. Therefore, this would be a **less than significant** impact.

IMPACT 4.11-8 Transportation and Circulation—Pedestrian and Bicycle Circulation Impacts. *The project's proposed network of pedestrian sidewalks, internal circulation and bicycle facilities would conform to the City's General Plan policies requiring connectivity between retail shopping, residences, and employment center. Therefore, this impact would be less than significant.*

Currently, a Class II bicycle path is provided along Daniels Street. Sidewalks are provided on the north side of Daniels Street. Based on the site plan presented in Exhibit 3-3 (see Chapter 3, "Project Description"), the project includes sidewalks throughout the project site and pedestrian connections to the residential areas to the north. These facilities would adequately serve the bicycle and pedestrian demand created by the proposed project by providing connections to surrounding land uses with sidewalks. Therefore, the project would have a **less than significant impact** on the pedestrian and bicycle facilities.

IMPACT 4.11-9 Transportation and Circulation—Bus Transit Services. *Implementation of the project would generate a need for public bus transportation services. Because limited bus services are currently available to serve the project area and none are proposed as part of the project, this impact would be significant.*

Currently there are no local transit facilities in the vicinity of the project site. Typical weekday activities within the proposed development would create a demand for transit facilities for those who would use public transit to access jobs or other developments outside the project site. Because the proposed project would create demand for public transit, the proposed project would result in a **significant** impact on the transit facilities.

4.11.4 MITIGATION MEASURES

No mitigation measures are necessary for the following less-than-significant impacts:

Impact 4.11-2. Increases in Project-Related Traffic Volumes on Local Roadways.

Impact 4.11-7: Conformity with City Parking Requirements.

Impact 4.11-8. Pedestrian and Bicycle Circulation Impacts.

The following mitigation measures are provided for significant and potentially significant impacts:

Mitigation Measure 4.11-1: Pay Fair Share Cost for the Installation of Traffic Signals at Two Intersections.

a. The project applicant shall coordinate with the City of Manteca to determine and to pay the project's fair-share costs of the installation of traffic signals at the following intersections:

- Airport Way and SR 120 Westbound Ramps and
- Airport Way and SR 120 Eastbound Ramps.

Installation of these traffic signals would improve operation of these study intersections to LOS D or better. The traffic signals at the ramp terminals on Airport Way are funded and are expected to be operational by February 2008. Because the City's existing PFIP is the funding source for this traffic signal, the project applicant's payment of the most current PFIP fee at the time the building permit is issued would cover the fair-share cost of the traffic signals.

b. To mitigate for the project's contribution to impacts to the intersections listed below, the project applicant shall make a fair-share contribution (currently estimated at 9.5% of the total costs) toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

Project traffic would exacerbate currently unacceptable LOS at the following intersections:

- Union Road and Daniels Street,
- Union Road and State Route 120 Westbound Ramps, and
- Union Road and State Route 120 Eastbound Ramps.

Traffic signals are warranted at the above intersections. Installation of these traffic signals would improve unacceptable LOS to LOS D or better during a.m. and p.m. peak hours. While the installation of traffic signals would provide acceptable operations at these study intersections, the impact is **significant and unavoidable** for the following reasons:

- Full funding for the signalization improvements has not been identified.
- The timeline for completion of the interchange improvements is unknown.
- The signalization improvements at the Union Road/SR 120 intersections are outside the control of the city or the project applicant and implementation cannot be guaranteed.

Mitigation Measure 4.11-3: Implement Measures to Reduce Project Impacts on Freeway Operations. The addition of project-generated traffic would exacerbate unacceptable LOS at the following freeway mainline segment, based on Caltrans standards:

- State Route 120 Eastbound, between Yosemite Avenue and Airport Way (p.m. peak hour) and
- State Route 120 Westbound, between Airport Way and Yosemite Avenue (a.m. peak hour).

Widening SR 120 from four to six lanes (three in each direction) would provide LOS C or better conditions for the freeway mainline segments identified above. Widening improvements are identified in the SJCOG Regional Transportation Plan as a Tier 1 improvement. Funding was originally anticipated to come from the SJCOG regional transportation impact fee, but this fee has not kept up with cost increases. Measure K was passed on the November 2006 ballot and funding for this improvement is included in Measure K. Measure K would authorize the collection of retail transaction and use taxes, which would be used to implement projects identified in the SJCOG's (i.e., the Local Transportation Authority's) adopted transportation plan. While funding would be available and the project would contribute its fair share by paying the regional transportation impact fee, it is unknown when this improvement would be implemented. Because the timeframe for the widening improvement is unknown and the improvement is outside the control of the City or the project applicant, this impact would remain **significant and unavoidable.** Nonetheless, the project applicant shall pay the SJCOG regional transportation fee ($1.00 per square foot of commercial space) when building permits are issued to mitigate for its contribution to impacts to regional transportation facilities.

Mitigation Measure 4.11-4 (a): Pay Fair Share of Intersection Improvements at Airport Way/Yosemite Avenue. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

The City general plan shows Yosemite Avenue and Airport Way as six-lane facilities in the future. As part of the widening projects, this intersection would be improved. However, as mentioned previously, full funding for general plan roadway improvements has not been identified since the current PFIP covers only a portion of the cost. Acceptable operations can be provided at this intersection with the construction of the improvements listed below:

- provide an additional through lane in the southbound approach;
- provide an additional through lane and a shared through-right lane in the northbound approach; and
- provide an exclusive right-turn lane on the eastbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS D or better during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

Note that a subsequent mitigation measure (4.11-4[p]) requires that Airport Way be widened to four lanes between Yosemite Avenue and Daniels Street to accommodate project trips at an acceptable LOS. By widening the roadway and providing additional through lanes at the intersection approaches, this intersection will operate at an acceptable LOS. The roadway widening therefore has a secondary benefit that provides acceptable operations at this intersection.

Even though the improvements described above will provide acceptable operations under Cumulative Plus Project conditions, for purposes of CEQA, the impact is considered **significant and unavoidable** because full funding for the improvements has not been identified and implementation of the improvements prior to project buildout cannot be guaranteed.

Mitigation Measure 4.11-4(b): Pay Fair Share of Intersection Improvements at Airport Way/Wawona Street. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

The General Plan shows Airport Way as six-lane facility in the future. As part of the Airport Way widening project, this intersection would be improved. However, as mentioned previously, full funding for General Plan roadway improvements has not been identified since the current PFIP covers only a portion of the cost. Acceptable operations can be provided at this intersection with the construction of the improvements listed below:

- signalize intersection,
- provide a single left-turn lane and two through lanes on the southbound approach, and
- provide an additional through lane on the northbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS B during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

Even though the improvements described above will provide acceptable operations under Cumulative Plus Project conditions, for purposes of CEQA, the impact is considered **significant and unavoidable** because full funding for the improvements has not been identified and implementation of the improvements prior to project buildout cannot be guaranteed.

Note that a subsequent mitigation measure requires that Airport Way be widened to four lanes between Yosemite Avenue and Daniels Street to accommodate project trips at an acceptable LOS. The mitigation measure at this intersection was designed to accommodate the roadway widening to four lanes. By providing the additional through lanes, this intersection will operate at an acceptable LOS. The roadway widening therefore has a secondary benefit that mitigates the impact at this intersection to a less-than-significant level.

Table 4.11-17
Cumulative Plus Project with Mitigation Intersection Levels of Service

Intersection	Peak Hour[1]	Cumulative Plus Project		With Mitigation	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Airport Way and Yosemite Avenue	a.m.	**95.9**	**F**	38.9	D
	p.m.	**>100**	**F**	50.3	D
2. Airport Way and Wawona Street	a.m.	**>100 (>100)**	**F (F)**	10.3	B
	p.m.	**>100 (>100)**	**F (F)**	12.4	B
3. Airport Way and Daniels Street	a.m.	**>100**	**F**	35.4	D
	p.m.	**>100**	**F**	55.0	D
4. Airport Way and State Route 120 Westbound Ramps	a.m.	**>100**	**F**	28.8	C
	p.m.	**>100**	**F**	17.1	B
5. Airport Way and State Route 120 Eastbound Ramps	a.m.	**>100**	**F**	20.0	C
	p.m.	**>100**	**F**	25.4	C
6. Airport Way and Atherton Drive	a.m.	**>100 (>100)**	**F (F)**	47.1	D
	p.m.	**>100 (>100)**	**F (F)**	40.0	D
7. Airport Way and Woodward Avenue	a.m.	**>100**	**F**	18.5	B
	p.m.	**>100**	**F**	37.1	D
8. Daniels Street and Fishback Road[4]	a.m.	26.5	C	24.8	C
	p.m.	**57.5**	**E**	42.6	D
9. Union Road and Yosemite Avenue	a.m.	**62.8**	**E**	53.6	D
	p.m.	**>100**	**F**	45.1	D
10. Union Road and Wawona Street	a.m.	**>100**	**F**	37.2	D
	p.m.	**>100**	**F**	41.1	D
11. Union Road and Daniels Street	a.m.	**>100 (>100)**	**F (F)**	16.3	B
	p.m.	**>100 (>100)**	**F (F)**	18.0	B
12. Union Road and State Route 120 Westbound Ramps	a.m.	**>100 (>100)**	**F (F)**	23.7	C
	p.m.	**>100 (>100)**	**F (F)**	12.2	B
13. Union Road and State Route 120 Eastbound Ramps	a.m.	**>100 (>100)**	**F (F)**	21.2	C
	p.m.	**>100 (>100)**	**F (F)**	29.5	C
14. Union Road and Atherton Drive	a.m.	**>100 (>100)**	**F (F)**	27.8	C
	p.m.	**>100 (>100)**	**F (F)**	37.4	D
15. Union Road and Woodward Avenue	a.m.	**>100**	**F**	25.6	C
	p.m.	**>100**	**F**	46.3	D

Notes:

[1] a.m. = morning peak hour, p.m. = evening peak hour.

[2] Whole intersection weighted average control delay expressed in seconds per vehicle using methodology described in the *Highway Capacity Manual 2000*. For side street stop controlled intersections, delay for the worst movement is shown (whole intersection weighted average control delay in parentheses).

[3] LOS = Level of service. For side street stop controlled intersections, LOS for the worst movement is shown in parentheses. LOS calculations conducted using the Synchro level of service analysis software package.

[4] Traffic signal will be constructed as part of the proposed project.

Note:

Bold highlighting denotes intersections with unacceptable operations (LOS E or F) and that also meet peak hour volume warrants.

Source: Data compiled by Fehr & Peers in 2007

Mitigation Measure 4.11-4(c): Pay Fair Share of Intersection Improvements at Airport Way/Daniels Street. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

The General Plan shows Airport Way as a six-lane facility in the future. As part of the Airport Way widening project, this intersection would be improved. However, as mentioned previously, full funding for General Plan roadway improvements has not been identified since the current PFIP covers only a portion of the cost. Acceptable operations can be provided at this intersection with the construction of the improvements listed below:

- provide an additional through lane, and add an overlap signal phase to the right-turn lane on the southbound approach;
- provide an additional left-turn lane, an additional through lane, and add an overlap signal phase to the right-turn lane on the northbound approach;
- add an overlap signal phase to the right-turn lane on the eastbound approach; and
- provide an additional left-turn lane on the westbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS D during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions. As shown in Table 4.11-17, even with the mitigation described above, this intersection is close to operating at LOS E conditions during the p.m. peak hour. It is recommended that the City monitor this approach, and if traffic conditions warrant further improvements, the westbound through lane could be converted to a shared left/through lane. This improvement would also require that the intersection be operated under east-west "split" signal phasing, where the eastbound left and through traffic is given a green light, followed by the westbound left and through traffic.

Even though the improvements described above will provide acceptable operations under Cumulative Plus Project conditions, for purposes of CEQA, the impact is considered **significant and unavoidable** because full funding for the improvements has not been identified and implementation of the improvements prior to project buildout cannot be guaranteed.

Mitigation Measure 4.11-4(d): Pay Fair Share of Intersection Improvements at Airport Way/State Route 120 Westbound Ramps. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

As described previously, the City of Manteca, in cooperation with Caltrans District 10 and SJCOG, has initiated a PSR for the State Route 120/Airport Way interchange. The interchange project will determine the required interchange design to serve full buildout of the City of Manteca General Plan (six lanes on Airport Way) and the planned widening of SR 120 from four to six lanes. Acceptable operations can be provided at this intersection with the construction of the improvements listed below:

- construct three through lanes and a right-turn lane on the southbound approach;
- construct an additional left-turn lane and two additional through lanes on the northbound approach; and
- construct two left-turn lanes, a shared through/right-turn lane, and a right-turn lane on the westbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS C during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

While the improvements described above would provide acceptable operations at this intersection, the impact is still considered **significant and unavoidable** for the following reasons:

- full funding for the project has not been identified,
- the timeline for completion of the interchange improvements is unknown, and
- this project is outside the control of the City or the project applicant and its implementation cannot be guaranteed.

Mitigation Measure 4.11-4(e): Pay Fair Share of Intersection Improvements at Airport Way/State Route 120 Eastbound Ramps. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

As described previously, the City of Manteca, in cooperation with Caltrans District 10, and SJCOG has initiated a PSR for the State Route 120/Airport Way interchange. The interchange project will determine the required interchange design to serve full buildout of the City of Manteca General Plan (six lanes on Airport Way) and the planned widening of SR 120 from four to six lanes. Acceptable operations can be provided at this intersection with the construction of the improvements listed below:

- provide an additional left-turn lane and two additional through lanes on the southbound approach;
- provide three through lanes and a right-turn lane on the northbound approach; and
- provide one left-turn lane, a shared through/left-turn lane, and two right-turn lanes on the eastbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS C or better during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

While the improvements described above would provide acceptable operations at this intersection, the impact is still considered **significant and unavoidable** for the following reasons:

- full funding for the project has not been identified,
- the timeline for completion of the interchange improvements is unknown, and
- this project is outside the control of the City or the project applicant and its implementation cannot be guaranteed.

Mitigation Measure 4.11-4(f): Pay Fair Share of Intersection Improvements at the Airport Way/Atherton Drive intersection. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

The General Plan shows Airport Way as a six-lane facility and Atherton Road as a four-lane facility in the future. As part of the widening projects, this intersection would be improved and signalized. However, as mentioned previously, full funding for General Plan roadway improvements has not been identified since the current PFIP covers only a portion of the cost. To meet the City's LOS standard, the following intersection improvements are necessary:

- signalize intersection,
- construct an additional left-turn lane and two through lanes on the southbound approach,
- construct an additional through lane and a shared through/right-turn lane on the northbound approach, and
- construct an additional left-turn lane on the eastbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS D or better during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

Even though the improvements described above will provide acceptable operations under Cumulative Plus Project conditions, for purposes of CEQA, the impact is considered **significant and unavoidable** because full funding for the improvements has not been identified and implementation of the improvements prior to project buildout cannot be guaranteed.

Mitigation Measure 4.11-4(g): Pay Fair Share of Intersection Improvements at the Airport Way/Woodward Avenue intersection. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

The General Plan shows Airport Way as a six-lane facility and Woodward Avenue as a four-lane facility in the future. As part of the widening projects, this intersection would be improved and signalized. However, as mentioned previously, full funding for General Plan roadway improvements has not been identified since the current PFIP covers only a portion of the cost. To meet the City's LOS standard the following intersection improvements are necessary:

- signalize intersection;
- construct one left-turn lane, one through lane, and one right-turn lane on the southbound approach;
- construct one left-turn lane, one through lane, and a shared through/right-turn lane on the northbound approach;
- construct one left-turn lane, one shared left/through lane, and one shared through/right-turn lane on the eastbound approach; and
- construct one left-turn lane, one through lane, and one shared through/right-turn lane on the eastbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS D or better during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

Even though the improvements described above will provide acceptable operations under Cumulative Plus Project conditions, for purposes of CEQA, the impact is considered **significant and unavoidable** because full funding for the improvements has not been identified and implementation of the improvements prior to project buildout cannot be guaranteed.

Mitigation Measure 4.11-4(h): Pay Fair Share of Intersection Improvements at the Union Road/Yosemite Avenue Intersection. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

The General Plan shows Yosemite Avenue and Union Road as six-lane facilities in the future. As part of the widening projects, this intersection would be improved. However, as mentioned previously, full funding for General Plan roadway improvements has not been identified since the current PFIP covers only a portion of the cost. To meet the City's LOS standard the following intersection improvements are necessary:

- construct a single left-turn lane and an additional through lane on the southbound approach,
- construct an additional through lane and an exclusive right-turn lane on the northbound approach,
- construct an additional left-turn lane and one through lane on the eastbound approach, and
- construct an additional through lane and an exclusive right-turn lane on the westbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS D or better during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

Even though the improvements described above will provide acceptable operations under Cumulative Plus Project conditions, for purposes of CEQA, the impact is considered **significant and unavoidable** because full funding for the improvements has not been identified and implementation of the improvements prior to project buildout cannot be guaranteed.

Note that a subsequent mitigation measure requires that Airport Way be widened to four lanes between Yosemite Avenue and Daniels Street to accommodate project trips at an acceptable LOS. The mitigation measure at this intersection was designed to accommodate the roadway widening to four lanes. By providing the additional through lanes, this intersection will operate at an acceptable LOS. The roadway widening therefore has a secondary benefit that provides acceptable operations at this intersection.

Mitigation Measure 4.11-4(i): Retime Daniels Street/Fishback Road Traffic Signal to Improve Intersection Operations. The project applicant shall coordinate with the City and shall fully fund the retiming of the traffic signal at the Daniels Street/Fishback Road intersection (it is assumed that this signal is installed by the project applicant when the project opens). The retiming shall ensure that the operation of this intersection meets the City's operational standards. Implementation of this measure would improve operation of this intersection to LOS D.

Mitigation Measure 4.11-4(j): Pay Fair Share of Intersection Improvements at the Union Road/Wawona Street Intersection. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

The General Plan shows Union Road as four-lane facility in the future. As part of the Union Road widening project, this intersection would be improved. However, the LOS analysis indicated that additional northbound and southbound through lanes are required to meet LOS thresholds. Moreover, as mentioned previously, full funding for General Plan roadway improvements has not been identified since the current PFIP covers only a portion of the cost. Acceptable operations can be provided at this intersection with the construction of the improvements listed below:

- construct a shared through/right-turn lane on the southbound approach,
- construct an additional through lane on the northbound approach, and
- construct a through lane and an exclusive right-turn lane with overlapping phase on the westbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS D or better during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

Even though the improvements described above will provide acceptable operations under Cumulative Plus Project conditions, for purposes of CEQA, the impact is considered **significant and unavoidable** because full funding for

the improvements has not been identified and implementation of the improvements prior to project buildout cannot be guaranteed. Additionally, the cost of acquiring the necessary right-of-way to widen the northbound and southbound approaches to this intersection may be prohibitive.

Mitigation Measure 4.11-4(k): Pay Fair Share of Intersection Improvements at the Union Road/Daniels Street intersection. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

The General Plan shows Union Road as a four-lane facility in the future. As part of the Union Road widening project, this intersection would be improved. However, as mentioned previously, full funding for General Plan roadway improvements has not been identified since the current PFIP covers only a portion of the cost. Acceptable operations can be provided at this intersection with the construction of the improvements listed below:

- signalize the intersection,
- construct two additional through lanes on the southbound approach,
- construct a single left-turn lane and a right-turn lane on the eastbound approach, and
- construct a single left-turn lane and three through lanes on the northbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS D or better during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

Even though the improvements described above will provide acceptable operations under Cumulative Plus Project conditions, for purposes of CEQA, the impact is considered **significant and unavoidable** because full funding for the improvements has not been identified and implementation of the improvements prior to project buildout cannot be guaranteed.

Mitigation Measure 4.11-4(l): Pay Fair Share of Intersection Improvements at the Union Road/State Route 120 Westbound Ramps. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

As described previously, the City of Manteca, in cooperation with Caltrans District 10 and SJCOG, has initiated a combined PSR/EIR for the State Route 120/Union Road interchange. The interchange project will determine the required interchange design to serve full buildout of the City of Manteca General Plan (four lanes on Union Road) and the planned widening of SR 120 from four to six lanes. Acceptable operations can be provided at this intersection with the construction of the improvements listed below:

- construct an additional left-turn lane and through lane on the northbound approach,
- construct two through lanes and an exclusive right-turn lane on the southbound approach, and
- construct an additional left-turn lane and a right-turn lane on the westbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS B or better during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

While the improvements described above would provide acceptable operations at this intersection, the impact is still considered **significant and unavoidable** for the following reasons:

- full funding for the project has not been identified,
- the timeline for completion of the interchange improvements is unknown, and
- this project is outside the control of the City or the project applicant and its implementation cannot be guaranteed.

Mitigation Measure 4.11-4(m): Pay Fair Share of Intersection Improvements at the Union Road/State Route 120 Eastbound Ramps. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

As described previously, the City of Manteca, in cooperation with Caltrans District 10 and SJCOG, has initiated a combined PSR/EIR for the State Route 120/Union Road interchange. The interchange project will determine the required interchange design to serve full buildout of the City of Manteca General Plan (four lanes on Union Road) and the planned widening of SR 120 from four to six lanes. Acceptable operations can be provided at this intersection with the construction of the improvements listed below:

- construct an additional through lane on the southbound approach;
- construct three through lanes and a right-turn lane on the northbound approach; and
- construct one left-turn lane, a shared left/through lane, and two right-turn lanes on the eastbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS C or better during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

While the improvements described above would provide acceptable operations at this intersection, the impact is still considered **significant and unavoidable** for the following reasons:

- full funding for the project has not been identified,
- the timeline for completion of the interchange improvements is unknown, and
- this project is outside the control of the City or the project applicant and its implementation cannot be guaranteed.

Mitigation Measure 4.11-4(n): Pay Fair Share of Intersection Improvements at the Union Road/Atherton Drive intersection. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

The General Plan shows Union Road as a six-lane facility and Atherton Road as a four-lane facility in the future. As part of the widening projects, this intersection would be improved and signalized. However, as mentioned previously, full funding for General Plan roadway improvements has not been identified since the current PFIP covers only a portion of the cost. To meet the City's LOS standard, the following intersection improvements are necessary:

- signalize intersection;
- construct two left-turn lanes, one through lane, and a shared through/right-turn lane on the eastbound approach;
- construct two left-turn lanes, one through lane, and a shared through/right-turn lane on the northbound approach;

- construct a left-turn lane, two through lanes, and a right-turn lane on the westbound approach; and
- construct two left-turn lanes, two through lanes, and a right-turn lane on the southbound approach.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS D or better during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

Even though the improvements described above will provide acceptable operations under Cumulative Plus Project conditions, for purposes of CEQA, the impact is considered **significant and unavoidable** because full funding for the improvements has not been identified and implementation of the improvements prior to project buildout cannot be guaranteed.

Mitigation Measure 4.11-4(o): Pay Fair Share of Intersection Improvements at the Union Road/Woodward Avenue intersection. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

The General Plan shows Union Road and Woodward Avenue as four-lane facilities in the future. As part of the widening projects, this intersection would be improved and signalized. However, as mentioned previously, full funding for General Plan roadway improvements has not been identified since the current PFIP covers only a portion of the cost. To meet the City's LOS standard the following intersection improvements are necessary:

- signalize intersection and
- construct one left-turn lane and one shared through/right-turn lane on all approaches.

A LOS analysis indicates that if the intersection is configured as described above, it will operate at LOS D or better during the a.m. and p.m. peak hours. Table 4.11-17 presents the intersection LOS results under Cumulative Plus Project with Mitigation Conditions.

Even though the improvements described above will provide acceptable operations under Cumulative Plus Project conditions, for purposes of CEQA, the impact is considered **significant and unavoidable** because full funding for the improvements has not been identified and implementation of the improvements prior to project buildout cannot be guaranteed.

Mitigation Measure 4.11-4(p): Pay Fair Share to Widen Airport Way and Union Road. To help implement these improvements, the project applicant shall make a fair-share contribution toward the unfunded portion of the intersection improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

The widening of Airport Way and Union Road has been identified as needed by the City of Manteca's General Plan. The project applicant shall pay its fair share of the cost of widening Airport Way and Union Road, as follows:

- Airport Way between Daniels Street and Yosemite Avenue, widen from 2 to 4 lanes;

- Airport Way between Daniels Street and Atherton Drive, widen from 2 to 6 lanes;

- Union Road between SR 120 and Yosemite Avenue, widen from 2 to 4 lanes, except near Wawona Street (see below); and

- Union Road between SR 120 and Atherton Drive, widen from 2 to 6 lanes;

Table 4.11-18 shows that adequate roadway segment operations can be provided by widening Airport Way and Union Road.

Although the ADT projection requires Union Road widening from two to four lanes, the intersection operations at the Union Road/Wawona Street intersection would require three through lanes in each direction on Union Road to operate acceptably (the additional through lanes could be dropped no less than 300 feet downstream of the intersection to provide adequate lane utilization).

Table 4.11-18
Cumulative Plus Project with Mitigation Roadway Levels of Service

Roadway Segment	Volume[1]	Plus Project		With Mitigation	
		Lanes	LOS[2]	Lanes	LOS[2]
1. Airport Way, between Yosemite Avenue and Wawona Street	20,890	2	**F**	4	C
2. Airport Way, between Wawona Street and Daniels Street	22,720	2	**F**	4	D
3. Airport Way, between Daniels Street and SR 120 WB Ramps	35,560	2	**F**	6	D
4. Airport Way, between SR 120 WB Ramps and SR 120 EB Ramps	33,290	2	**F**	6	C
5. Airport Way, between SR 120 EB Ramps and Atherton Road	31,690	2	**F**	6	C
6. Airport Way, between Atherton Road and Woodward Avenue	16,430	2	**F**	4	C
7. Union Road, between Yosemite Avenue and Wawona Street	26,620	2	**F**	4	D
8. Union Road, between Wawona Street and Daniels Street	25,860	2	**F**	4	D
9. Union Road, between Daniels Street and SR 120 WB Ramps	25,160	2	**F**	4	D
10. Union Road, between SR 120 WB Ramps and SR 120 EB Ramps	24,430	2	**F**	4	D
11. Union Road, between SR 120 EB Ramps and Atherton Drive	23,940	2	**F**	4	D

Notes:
[1] Average daily traffic
[2] LOS = level of service
Source: Data compiled by Fehr & Peers in 2007

Based on a site visit to this intersection, there is not adequate right-of-way to accommodate three northbound and southbound through lanes (particularly north of the Wawona Street). Since Union Road is currently two lanes south of Wawona Street, additional improvements are required to build out the circulation element shown in the General Plan. Therefore, it is recommended that right-of-way be reserved on Union Road south of Wawona Street to provide the mitigated lane configurations identified in Mitigation Measure 4.11-4(j).

The improvements described above will provide acceptable operations under Cumulative Plus Project conditions; however, for purposes of CEQA, the impact is considered **significant and unavoidable** because full funding for the improvements has not been identified and implementation of the improvements prior to project buildout cannot be guaranteed.

Mitigation Measure 4.11-4(q): Pay SJCOG Regional Transportation Impact Fee. To mitigate project impacts on SR 120, the project applicant shall pay the SJCOG Regional Transportation Impact Fee when building permits are issued.

As shown in Table 4.11-19, the widening of SR 120 from four to six lanes (three in each direction) would provide LOS C conditions in the off-peak directions for the freeway segments identified above. However, even with the additional lanes on SR 120, the peak directions of travel (westbound in the a.m. peak hour, eastbound in the p.m. peak hour) will continue to operate at LOS F conditions and additional widening improvements (e.g., eight lanes) are not planned.

Table 4.11-19
Cumulative Plus Project with Mitigation State Route 120 Mainline Levels of Service

Travel Direction	Segment	Peak Hour	Cumulative Plus Project		With Mitigation	
			Density[1]	LOS[2]	Density[1]	LOS[2]
Eastbound	Yosemite to Airport	a.m.	**36.8**	**E**	22.9	C
		p.m.	**>45**	**F**	**44.5**	**E**
	Airport to Union	a.m.	31.0	D	20.0	C
		p.m.	**>45**	**F**	**36.5**	**E**
	Union to Main	a.m.	27.7	D	17.9	B
		p.m.	**>45**	**F**	28.5	D
Westbound	Main to Union	a.m.	**>45**	**F**	**37.2**	**E**
		p.m.	28.3	D	18.7	C
	Union to Airport	a.m.	**>45**	**F**	**>45**	**F**
		p.m.	31.2	D	20.5	C
	Airport to Yosemite	a.m.	**> 45**	**F**	**> 45**	**F**
		p.m.	**39.9**	**E**	24.4	C

Notes:
[1] Measured in vehicles per mile per lane
[2] LOS = level of service
Source: Data compiled by Fehr & Peers in 2007

Because the widening improvement is outside the control of the City or the project applicant and the improvements would not provide acceptable operations on the freeway mainline, this impact would remain **significant and unavoidable.**

Mitigation Measure 4.11-4(r): Pay Fair Share for Interchange Improvements at Union Road and Airport Way on State Route 120. As mentioned previously, the City of Manteca, in cooperation with Caltrans District 10 and SJCOG has initiated a PSR for the SR 120/Airport Way interchange and a combined PSR/EIR for the SR 120/Union Road interchange. The interchange project will determine the required design to serve full buildout of the City of Manteca General Plan and the planned widening of SR 120 from four to six lanes. The on-ramp and off-ramp designs will provide the necessary acceleration, deceleration, and storage lengths to serve projected morning and evening peak hour volumes at acceptable levels of service. To reduce the impact of project trips, the project applicant shall pay its fair share for interchange improvements. The fair-share percentage and the dollar amount of the fee/contribution will be determined at the time of final map approval.

As shown in Table 4.11-20, the LOS results with the interchange improvements in place indicate that the following ramp junctions are expected to operate at an acceptable LOS during the a.m. and p.m. peak hours under Cumulative Plus Project Conditions except the following ramp junctions:

The LOS analysis indicates that the following ramp junctions will operate at LOS F conditions during the a.m. or p.m. peak hour because of congestion on the freeway mainline:

- Westbound SR 120 on-ramp from Union Road is expected to operate at LOS E during the a.m. peak hour and
- Westbound SR 120 on-ramp from Airport Way is expected to operate at LOS F during the a.m. peak hour.

Since the interchange improvements do not mitigate the impact of the project, the interchange improvements are not under the control of the City or applicant, and no funding sources have been identified for the interchange improvements, this remains a **significant and unavoidable** impact.

Table 4.11-20
Cumulative Plus Project with Mitigation State Route 120 Ramp Levels of Service

Travel Direction	Ramp	Merge/ Diverge	Peak Hour	Cumulative Plus Project		With Mitigation	
				Density[1]	LOS[2]	Density[1]	LOS[2]
SR 120 Eastbound	Airport Way	Diverge (off-ramp)	a.m.	34.9	D	11.5	B
			p.m.	**58.7**	**F**	26.5	C
		Merge (on-ramp)	a.m.	29.9	D	20.2	C
			p.m.	**50.1**	**F**	33.7	D
	Union Road	Diverge (off-ramp)	a.m.	30.5	D	8.3	A
			p.m.	**53.0**	**F**	22.7	C
		Merge (on-ramp)	a.m.	27.1	C	18.0	B
			p.m.	**41.7**	**F**	27.3	C
SR 120 Westbound	Union Road	Diverge (off-ramp)	a.m.	**53.6**	**F**	32.8	D
			p.m.	28.4	D	20.1	C
		Merge (on-ramp)	a.m.	**56.7**	**F**	**38.3**	**E**
			p.m.	30.5	D	21.6	C
	Airport Way	Diverge (off-ramp)	a.m.	**60.3**	**F**	28.1	D
			p.m.	31.2	D	8.7	A
		Merge (on-ramp)	a.m.	**58.0**	**F**	**39.0**	**F**
			p.m.	**35.6**	**E**	26.1	C

Notes:
[1] Measured in vehicles per mile per lane
[2] LOS = level of service
Source: Data compiled by Fehr & Peers in 2007

Mitigation Measure 4.11-5: Prepare and Implement a Construction Traffic Management Plan. Prior to the issuance of grading permits, the project applicant shall prepare a Construction Management Plan and submit the plan to the City of Manteca Public Works Department for review and approval. The Construction Management Plan shall identify the timing of construction and the timing of elements that would result in the full or partial blockage of local roadways. The plan shall specify the measures that would be implemented to minimize traffic-related impacts, including construction parking during construction, which shall be limited to on-site areas or facilities designated for parking uses (e.g., parking lots). These measures could include, but are not limited to the following: use of signage notifying travelers that they are entering a construction zone; and use of cones, flaggers, and guide-vehicles to direct traffic through the construction zone. In addition, the plan shall include, at a minimum, the following conditions:

- Local roadways shall be jointly monitored by the City and project applicant every six months to determine whether project-related construction traffic is degrading roadway conditions. Roadways with potential to be damaged by construction traffic and included in the monitoring effort shall be agreed to by the City and the project applicant.
- All degradation of pavement conditions because of project-related construction traffic shall be fully repaired by the project applicant to the satisfaction of the City of Manteca, based on maintaining at least preconstruction conditions.
- Procedures shall be provided for any road closures and movement of large construction vehicles such as cranes and dump trucks.
- Plans shall be provided for lane closures, including times (e.g., limit closures to between 9:00 a.m. and 4:00 p.m.).

A copy of the plan shall be submitted to local emergency response agencies and these agencies shall be notified at least 14 days before the commencement of construction that would partially or fully obstruct local roadways.

Mitigation Measure 4.11-6: Coordinate with Appropriate Agencies Regarding Emergency Vehicle Access. The project applicant shall coordinate with appropriate agencies (e.g., police and fire departments) to ensure that the site plan has adequate emergency vehicle access.

Mitigation Measure 4.11-9: Coordinate with the City to Ensure the Provision of Bus Transportation Services. The project applicant shall coordinate with the City and modify project designs to provide appropriate bus transit facilities at the project site. These facilities shall be designed to meet Americans with Disabilities Act design standards and provide adequate width, vehicle and pedestrian circulation, turning radius of streets, driveways, and parking lots. These facilities could include, but are not limited to, one ore more sheltered transit stops along the project frontage on either Atherton Road or within the project site.

While the above measures would ensure that adequate transit facilities at the project site, it cannot be guaranteed that the City would be able to extend bus transit routes to the project site at the time the project begins operation. If bus transit services are provided to the site at the time of issuance of the first occupancy permit, then this impact would be reduced to a less-than-significant level. However, because it cannot be guaranteed that adequate transit services would be in place prior to the opening of the project, this impact would remain **significant and unavoidable**.

4.11.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the above mitigation measures, the project's impacts on local area intersections would be reduced to a less-than-significant level because the project applicant would prepare appropriate plans and project designs to avoid these impacts:

- construction traffic (Impact 4.11-5) and
- emergency vehicle access (Impact 4.11-6).

However, for some intersections (Union Road / Daniels Street, Union Road / SR 120 westbound ramps, and Union Road / SR 120 eastbound ramps), full funding for the signalization improvements has not been identified, the timeline for completion of the interchange improvements is unknown, and recommended improvements are subject to the control of Caltrans and/or it is unknown whether the improvements would be implemented at the time the project builds out. Therefore, for purposes of CEQA, this would be considered a **significant and unavoidable** interim impact (Impact 4.11-1).

Because the timeframe for widening improvements is unknown and improvements would be outside the control of the City or the project applicant, no feasible mitigation measures are available to reduce the project's impact to operation of SR 120 on the westbound mainline segment between Airport Way and Yosemite Avenue during a.m. peak hours and on the eastbound mainline segment between Yosemite Avenue and Airport Way during p.m. peak hours (Impact 4.11-3). Therefore, these impacts would remain **significant and unavoidable**.

Additionally, because it cannot be guaranteed at this time that recommended fair-share improvements to the Airport Way intersections with Yosemite Avenue, Wawona Street, Daniels Street, Woodward Avenue, and Atherton Drive; Union Road intersections with Wawona Street, Daniels Street, Yosemite Avenue, Atherton Drive, and Woodward Avenue; SR 120 westbound ramps at Union Road and Airport Way; SR 120 eastbound ramps at Union Road and Airport Way; the widening of Airport Way and Union Road; SR 120 widening; and SR 120 interchange improvements at Union Road and Airport Way (Impact 4.11-4) would be implemented prior to buildout of the project, and appropriate bus services would be provided to the proposed project site (Impact 4.11-9), for purposes of CEQA, these impacts would remain **significant and unavoidable**.