

## **5.7 TRANSPORTATION AND CIRCULATION**

### **5.7.1 INTRODUCTION**

The information derived for this section is based upon existing circulation plans, the proposed Specific Plan, and a traffic analysis prepared by Urban Crossroads, dated July 16, 2002 and supplemented July 29, 2002. The traffic analysis includes the project area and surrounding vicinity, based upon the requirements of the City of Chino and the San Bernardino County Congestion Management Program (CMP). The analysis has been updated from the original May 17, 2001 traffic impact analysis to address San Bernardino Associated Governments (SANBAG) staff comments related to absorption and traffic modeling assumptions related to the project. The revised EIR Section 5.7 and Traffic Impact Analysis report in Appendix C are based on specific direction provided by SANBAG staff in order to satisfy the County's Congestion Management Program (CMP). Key changes in response to SANBAG requirements include a modified project trip distribution and specific recognition of project generated heavy truck traffic.

### **5.7.2 EXISTING CONDITIONS**

#### **Study Area and Methodology**

A revised traffic analysis was completed by Urban Crossroads, Inc. on July 16, 2002 and supplemented on July 29, 2002 for the proposed project. The analysis was prepared consistent with the requirements of the City of Chino and the San Bernardino Association of Governments (SANBAG). SANBAG has adopted a Congestion Management Program (CMP) to analyze traffic impacts. The CMP requires an analysis of selected roadways within five (5) miles of the project boundaries. In this instance the selected roadways include the following Freeways, Expressways, and roadways: SR-91, I-15 Freeway, SR-83, SR-60, SR-17, SR-142, Edison Ave., Riverside Drive, Walnut Ave. Central Ave., Mountain Ave., and Archibald Ave.

The report divided the analysis into four (4) separate time frames, including: Existing Conditions-2001; Project Interim Year-2010, CMP Horizon Year-2020, and General Plan Buildout. The 2020 Horizon Year, with project traffic volumes, was based upon the subregional travel demand model used by San Bernardino County, referred to as the Comprehensive Transportation Plan (CTP). The average daily traffic volume forecasts were determined using the growth increment approach from the CTP traffic model for Year 1994 and Year 2020. A linear growth condition was then extrapolated between the 1994 and 2020 conditions. The Interim Year 2010 with Project traffic volumes were interpolated from the Year 2020 with Project traffic volumes using the applicable proportion of future growth.

The analysis determined the level of service (LOS) consistent with the 1997 Highway Capacity Manual (HCM). The HCM defines LOS as a qualitative measure that describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate the traffic flow vary based upon the type of roadway and whether the traffic flow is considered to be uninterrupted or interrupted.

The definitions of LOS for uninterrupted flow, which is a flow that is unrestrained by the existence of traffic control devices, are as follows:

- LOS “A” represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.
- LOS “B” is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
- LOS “C” is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.
- LOS “D” represents high-density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
- LOS “E” represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.
- LOS “F” is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount that can traverse the point. Queues form behind such locations.

The level of service for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differs slightly depending on the type of traffic control. The level of service is typically dependent on the quality of traffic flow at the intersections along a roadway. The HCM methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control. The level of service is defined in terms of average delay for the various intersection analysis methodologies as noted below.

Level of Service	Average Stopped Delay Per Vehicle (Seconds) Signalized	Average Total Delay Per Vehicle (Seconds) Unsignalized
A	0 to 5.00	0 to 10.00
B	10.01 to 20.00	10.01 to 15.00
C	20.01 to 35.00	15.01 to 25.00
D	35.01 to 55.00	25.01 to 35.00
E	55.01 to 80.00	35.01 to 50.00
F	80.01 and up	50.01 and up

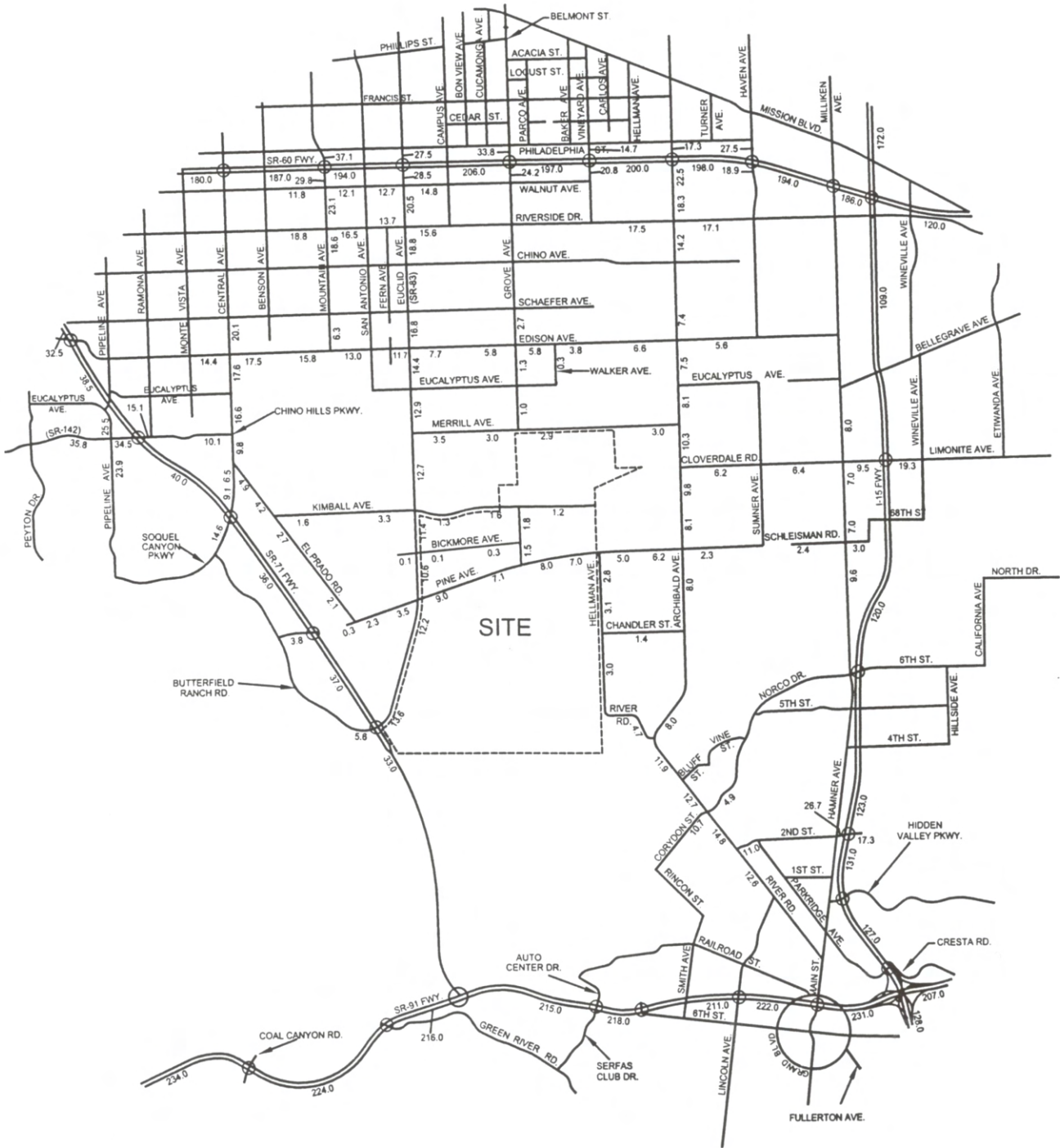
**Existing Circulation Pattern**

Regional access to the project vicinity is provided by SR-60 to the north, SR-91 to the south, I-15 to the east, and SR-71 to the west. Primary roadways through the project area include Euclid Avenue (SR-83), Merrill Ave., Kimball Ave., Pine Ave., Chino Corona Road, and Hellman Ave. The circulation pattern is impeded in a number of areas due to a variety of existing conditions, including the Prado Dam inundation area south of the 566' elevation, the Chino Airport, and Prado Regional Park.

Existing average daily traffic levels for roadways in the project area are listed below:

- Euclid Ave.: 11,600 to 13,600
- Grove Ave.: 1,500 to 1,800
- Hellman Ave.: 2,800 to 3,100
- Merrill Ave.: 2,900 to 3,000
- Kimball Ave.: 1,200 to 1,600
- Bickmore Ave.: 100 to 300
- Pine Ave.: 7,000 to 9,000

The average daily traffic levels and existing intersection conditions for the surrounding area are shown on Exhibit 5.7-1 and Table 5.7-1, respectively.



**LEGEND**

5.6 + VEHICLES PER DAY (1000'S)

SOURCE: Urban Crossroads



Michael Brandman Associates

05760012 - 6/2001

Exhibit **5.7-1**

**Existing Average Daily Traffic (ADT)**

THE PRESERVE • CHINO SUBAREA 2

**TABLE 5.7-1  
EXISTING CONDITIONS INTERSECTION ANALYSIS**

Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (Secs.)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
Pipeline Ave. (NS) at: ▪ Chino Hills Pkwy. (EW)	TS	1	2	0	1	2	0	1	3	1	1	2	1	45.4	64.4	D	E
SR-71 Fwy. SB Ramps (NS) at: ▪ Chino Hills Pkwy. (EW)	TS	0	0	0	1.5	0.5	1>>	0	4	1	1	2	0	9.4	9.6	A	A
▪ Soquel Canyon Pkwy. (EW)	TS	0	0	0	1.5	0	0.5	0	3	1>>	0	3	1>>	8.6	11.5	A	B
▪ Pine Ave. (EW)	TS	0	0	0	1	0	1	0	1	1	1	2	0	8.3	12.8	A	B
▪ Euclid Ave. (EW)	TS	1	0	1	1.5	0.5	1	0	2	1	1	2	0	17.7	17.1	B	B
SR-71 Fwy. NB Ramps (NS) at: ▪ Chino Hills Pkwy. (EW)	TS	1.5	1.5	0	0	0	0	2	2	0	0	2	1	12.9	12.1	B	B
▪ Soquel Canyon Pkwy. (EW)	TS	1.5	0	0.5	0	0	0	0	3	1>>	0	3	1>>	12.0	10.8	B	B
▪ Pine Ave. (EW)	AWS	2	0	0	0	0	0	2	0	0	0	0	0	8.8	8.6	A	A
▪ Euclid Ave. (EW)	TS	2	0	1>>	0	0	0	0	2	1>>	1	2	0	8.2	8.6	A	A
Central Ave. (NS) at: ▪ Edison Ave. (EW)	TS	1	2	1	1	2	1	1	2	0	1	2	1	31.4	31.4	C	C
▪ Chino Hills Pkwy. (EW)	TS	1	2	1	1	2	1	1.5	0.5	1	1	2	1	22.9	22.9	C	C
▪ El Prado Rd. (EW)	CSS	0	1	1	1	2	0	0	0	0	1	0	1	17.2	29.2	C	D
El Prado Rd. (NS) at: ▪ Kimball Ave. (EW)	CSS	1	1	0	1	1	1	1	1	0	1	1	0	12.6	12.7	B	B
▪ Pine Ave. (EW)	CSS	0	0	0	0	1	0	0	1	0	0	1	0	9.7	9.9	A	A
Mountain Ave. (NS) at: ▪ SR-60 Fwy. WB Ramps (EW)	TS	1	2	0	0	2	1	0	0	0	1	0	1	37.2	20.5	D	C
▪ SR-60 Fwy. EB Ramps (EW)	TS	0	2	1	1	2	0	1.5	0	0.5	0	0	0	23.4	-- <sup>4</sup>	C	F
▪ Walnut Ave. (EW)	TS	1	2	1	1	2	1	1	1	1	1	1	1	--	17.4	F	B
▪ Riverside Dr. (EW)	TS	1	2	0	1	2	1	1	2	1	1	2	1	25.1	29.7	C	C
▪ Edison St. (EW)	TS	0	0	0	1	0	1	1	2	0	0	2	1	14.4	11.6	B	B

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >> = Free Right Turn

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.1.0607 (1999). Per the 1997 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal                      AWS = All Way Stop                      CSS = Cross Street Stop

<sup>4</sup> -- = Delay High, Intersection Unstable, Level of Service "F".

**TABLE 5.7-1 (Cont.)  
EXISTING CONDITIONS INTERSECTION ANALYSIS**

Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (Secs.)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
Euclid Ave. (NS) at:																	
▪ SR-60 Fwy. WB Ramps (EW)	TS	1	2	0	0	2	1	0	0	0	1.5	0	0.5	35.1	28.9	D	C
▪ SR-60 Fwy. EB Ramps (EW)	TS	0	2	1	1	2	0	1.5	0	0.5	0	0	0	17.8	50.9	B	D
▪ Walnut Ave. (EW)	TS	1	3	1	2	3	1	1	2	0	1	2	0	24.1	25.0	C	C
▪ Riverside Dr. (EW)	TS	1	2	1	1	2	1	0	2	0	0	2	0	19.0	25.7	B	C
▪ Edison St. (EW)	TS	1	2	1	1	2	1	1	1	1	1	1	0	18.6	17.6	B	B
▪ Merrill Ave. (EW)	TS	0	2	1	1	2	0	0	0	0	0	1	0	11.7	12.0	B	B
▪ Kimball Ave. (EW)	TS	1	2	1	1	2	1	0	1	0	0	1	0	14.2	14.3	B	B
▪ Bickmore Ave. (EW)	CSS	1	1	0	1	1	0	0	1	0	0	1	0	19.6	18.4	C	C
▪ Pine Ave. (EW)	TS	1	2	1	1	2	1	0	1	1	0	1	1	17.3	15.2	B	B
Grove Ave. (NS) at:																	
▪ SR-60 Fwy. WB Ramps (EW)	TS	1	2	0	0	2	1	0	0	0	1	0	1	27.4	14.9	C	B
▪ SR-60 Fwy. EB Ramps (EW)	TS	0	2	1	1	2	0	1	0	1	0	0	0	22.5	24.6	C	C
▪ Edison St. (EW)	AWS	0	1	0	0	1	0	0	1	0	0	1	0	11.6	14.0	B	B
▪ Merrill Ave. (EW)	AWS	0	0	0	0	1	0	0	1	0	0	1	0	7.9	8.6	A	A
▪ Kimball Ave. (EW)	AWS	0	1	0	0	0	0	0	1	0	0	1	0	7.5	7.6	A	A
▪ Bickmore Ave. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	0	0	8.9	9.0	A	A
▪ Pine Ave. (EW)	CSS	0	0	0	0	1	0	1	1	0	0	1	0	13.7	17.7	B	C
Walker Ave. (NS) at:																	
▪ Edison Ave. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	13.9	20.6	B	C
Hellman Ave. (NS) at:																	
▪ Pine Ave. (EW)	CSS	0	1	0	0	0	0	0	1	0	0	1	0	24.2	15.3	C	C
▪ Chandler St. (EW)	CSS	0	1	0	0	1	0	0	0	0	0	1	0	10.4	10.1	B	B
Vineyard Ave. (NS) at:																	
▪ SR-60 Fwy. WB Ramps (EW)	TS	1	1	0	0	2	0	0	0	0	1	0	1	19.0	18.4	B	B
▪ SR-60 Fwy. EB Ramps (EW)	TS	0	2	0	1	2	0	1	0	1	0	0	0	17.1	19.5	B	B

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >> = Free Right Turn

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.1.0607 (1999). Per the 1997 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

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**TABLE 5.7-1 (Cont.)  
EXISTING CONDITIONS INTERSECTION ANALYSIS**

Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (Secs.)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
Archibald Ave. (NS) at:																	
▪ SR-60 Fwy. WB Ramps (EW)	TS	1	3	0	0	4	0	0	0	0	1	0	1	21.8	17.2	C	B
▪ SR-60 Fwy. EB Ramps (EW)	TS	0	4	0	1	3	0	1	0	1	0	0	0	15.6	22.8	B	C
▪ Riverside Dr. (EW)	TS	1	3	0	1	3	0	1	2	1	1	1	1	27.5	50.1	C	D
▪ Edison Ave. (EW)	TS	1	2	1	1	2	1	1	2	0	1	2	0	19.4	19.8	B	B
▪ Merrill Ave. (EW)	CSS	1	1	0	0	1	0	0	1	0	0	0	0	13.1	15.5	B	C
▪ Cloverdale Rd. (EW)	TS	0	1	0	1	1	0	0	0	0	1	0	1	13.0	15.4	B	B
▪ Pine Ave. (EW)	TS	1	1	0	1	1	0	1	1	0	1	1	0	31.1	24.4	C	C
▪ River Rd. (EW)	CSS	1	1	0	0	1	1	1	0	1	0	0	0	34.1	18.8	D	C
River Rd. (NS) at:																	
▪ Corydon St. (EW)	TS	1	1	1	1	2	0	1	1	1	1	1	1	28.6	28.0	C	C
▪ Second St. (EW)	TS	1	2	1	1	2	1	1	1	1	1	1	0	35.2	26.0	D	C
Haven Ave. (NS) at:																	
▪ SR-60 Fwy. WB Ramps (EW)	TS	2	3	0	0	3	1	0	0	0	1	0	1>>	10.8	9.2	B	A
▪ SR-60 Fwy. EB Ramps (EW)	TS	0	3	0	2	3	0	2	0	1	0	0	0	16.3	14.5	B	B
Hamner Ave. (NS) at:																	
▪ Cloverdale Rd. (EW)	TS	1	1	1	1	1	1	0	1	1	0	1	1	26.0	23.2	C	C
▪ Schleisman Rd. (EW)	CSS	1	1	0	1	1	0	0	1	0	0	1	0	-- <sup>4</sup>	41.8	F	E
I-15 Fwy. SB Ramps (NS) at:																	
▪ Limonite Ave. (EW)	TS	0	0	0	1	0	1	0	2	1	1	2	0	15.2	17.4	B	B
▪ Second St. (EW)	TS	0	0	0	1	0	1	0	2	0	1	2	0	15.6	17.1	B	B
I-15 Fwy. NB Ramps (NS) at:																	
▪ Limonite Ave. (EW)	TS	0.5	0	1.5	0	0	0	1	2	0	0	2	1	14.7	15.0	B	B
▪ Second St. (EW)	TS	1	0	1	0	0	0	1	1	0	0	1	0	43.4	33.6	D	C
Lincoln Ave. (NS) at:																	
▪ Pomona Rd. (EW)	TS	2	2	0	1	2	0	0	1	1>	1	1	0	29.4	44.1	C	D
▪ SR-91 EB Ramps (EW)	TS	1	2	1	1	2	0	0	1	0	0	1	1	18.6	20.4	B	C

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >> = Free Right Turn

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.1.0607 (1999). Per the 1997 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal                      AWS = All Way Stop                      CSS = Cross Street Stop

<sup>4</sup> -- = Delay High, Intersection Unstable, Level of Service "F".

### **Existing Service Levels**

Exhibit 5.7-1 identified the existing average daily traffic. Intersections within the study area currently operate at LOS “D” or better during the peak hours, except for the following intersections that operate at LOS “E” or “F”:

- Pipeline Ave. (NS) at Chino Hills Parkway (EW).
- Mountain Ave. (NS) at SR-60 Freeway EB Ramps (EW).
- Mountain Ave. (NS) at Walnut Ave. (EW).
- Hamner Ave. (NS) at Schleisman Road (EW).

Traffic signals currently appear to be warranted at the following study area intersections:

- Central Ave. (NS) at El Prado Road (EW)
- Hellman Ave. (NS) at Pine Ave. (EW)
- Archibald Ave. (NS) at Merrill Ave. (EW)
- Archibald Ave. (NS) at River Road (EW)
- Hamner Ave. (NS) at Schleisman (EW)

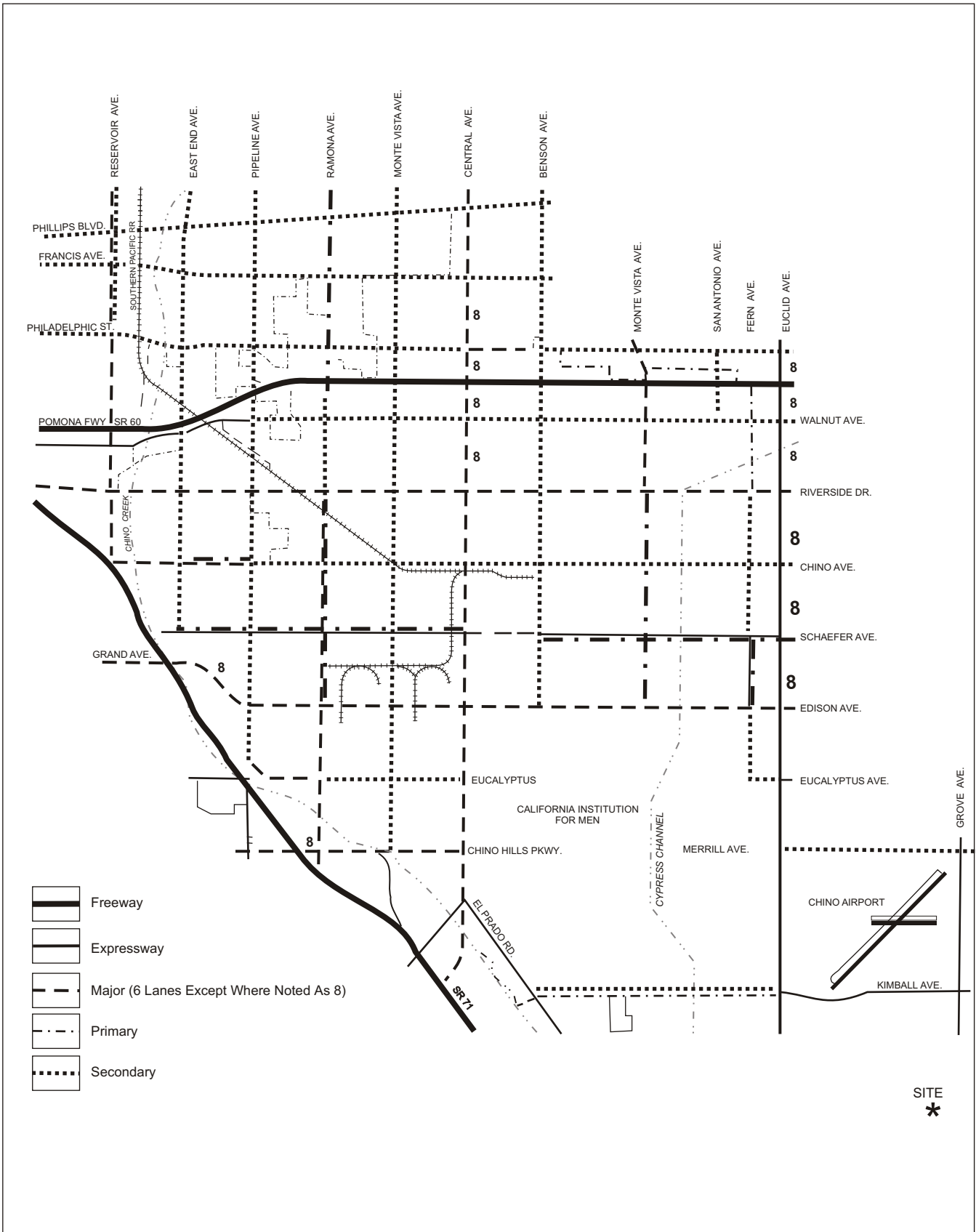
### **Existing Master Circulation Plans**

The City of Chino General Plan Circulation Element delineates the future roadway pattern for the current City limits, but extends into only a portion of the project area (see Exhibit No. 5.7-2). The streets within or adjacent to the project area, Euclid Ave. and Merrill Ave., are designated on the City’s of Chino General Plan as Expressway and Secondary roadways, respectively. The balance of the study area is located within a number of other jurisdictions, including the Cities of Chino Hills, Ontario, Corona, and Norco. A portion of the area lying north and east of the project site is within the unincorporated area of San Bernardino County and the Eastvale area of Riverside County, respectively. The traffic report in Appendix C identifies the roadway systems within these areas.

### **Existing Transit Services**

#### **Bus Service**

Regular fixed route transit service is not provided within the project area. Bus transit in the vicinity of the project area is provided by Omnitrans, which operates transit systems within most San Bernardino County jurisdictions and some communities in Riverside County. Existing bus service is provided by Omnitrans on four outlying routes on hourly headways as follows: 1) Route 62 N. Upland—Chino Town Square, 2) Route 63 N. Ontario Civic Center—Chino Town Square, 3) Route 65 Montclair-Chino Hills, and 4) Route 72 Chino—Chino Hills.



SOURCE: Urban Crossroads and City of Chino



MAP NOT TO SCALE

Michael Brandman Associates

05760012 . 06/2001

# Circulation Element City of Chino

Exhibit 5.7-2

THE PRESERVE • CHINO SUBAREA 2

## **Rail Service**

The only rail service near the project area is commuter rail service, referred to as Metrolink, which is provided by the Southern California Regional Rail Authority. The Southern California Regional Rail Authority (Metrolink) currently operates four commuter rail lines on weekdays surrounding the Chino Basin: 1) the San Bernardino Line (13 inbound, 13 outbound), 2) the Riverside Line (6 inbound, 6 outbound), 3) the Inland Empire-Orange County Line (5 inbound, 5 outbound), and the Riverside-Fullerton—Los Angeles Line (2 inbound, 2 outbound). This service operates primarily during peak hours and connects the Downtown Riverside Station with the Downtown Los Angeles station using the Union Pacific rail line. One of the intermediate stations along this route is the East Ontario Station, located north of the project area, near Mission Boulevard and Haven Avenue.

The California High Speed Rail Commission is evaluating a potential high speed rail line that approximates I-10 and SR-60 between Los Angeles and Ontario, and I-15 between Ontario and San Diego as part of a statewide system.

## **Other Relevant Transportation Studies**

The Four Corners Study Final Report (June 2000) is a long-range transportation planning study of the needs in a broad area encompassed by SR-57 to the west, SR-60 to the north, I-15 to the east, and SR-91 to the south. The Four Corners Study Area is characterized by topographic constraints, few major roadways, and well-documented transportation needs. The area is strategically located as a ‘gateway’ from the Inland Empire to Orange and Los Angeles counties.

The study identifies a number of committed transportation and circulation improvements by the year 2005. These include, but are not limited to: 1) upgrades to the SR 71 freeway between SR-60 and SR-83 (Euclid Avenue), 2) addition of lanes to SR-71 between SR-83 and SR-91, 3) addition of HOV lanes to SR-60 west from I-15 to Los Angeles County, and 4) addition of auxiliary lanes to SR-91 between SR-71 and SR-241 (Eastern Tollway). These committed improvements are included in the SCAG regional circulation network used in the Traffic Impact Analysis in the proposed project EIR. The SCAG 2020 traffic model used in the EIR traffic analysis allocates trip to the regional network based upon land use data included in adopted SCAG forecasts. Employment centers in Los Angeles County and Orange County to the west and southwest are anticipated to be significant trip destinations for new residents, as are employment centers in Ontario and San Bernardino County to the northeast.

The Four Corners Study identifies a 47% increase in trip growth between the Inland Empire and Orange/Los Angeles counties (i.e. through the Four Corners Study Area) from 1997 to 2020. This trip growth is consistent with growth included in the SCAG traffic model utilized in the Traffic Impact

Analysis for the proposed project EIR. The ability to accommodate this trip growth is severely constrained by the limited number of existing east-west routes, including SR-91, SR-60, SR-142 (Carbon Canyon Road), and Grand Avenue.

The study identifies four broad alternatives to accommodate this regional trip growth: 1) maximize highway capacity; 2) maximize transit ridership; 3) add new roads and toll lanes; and 4) implement the Regional Transportation Plan. Key principles relied upon in defining a set of recommended improvements for the study area included the following: 1) Relieve inter-county congestion; 2) provide travel options; 3) identify feasible solutions and improvements with realistic costs; 4) protect the quality of life; 5) avoid shifting traffic problems; 6) minimize significant environmental impacts; and 6) demonstrate sensitivity to landowner concerns. Key policy recommendations of the study include: 1) Support Metrolink improvements; 2) use demographic forecasts that are compatible with transportation infrastructure; 3) provide incentives for employment in Inland Empire, and housing in Los Angeles/Orange counties; and 4) support Intelligent Transportation Systems (ITS), Transit-Oriented Development (TOD) and High-Occupancy Travel (HOT) lanes.

As an outgrowth of the Four Corners Study process, a Four Corners Policy Committee of representatives from participating and affected agencies has been established, and a list of fifty-three (53) active transportation projects has been identified within the study area. In the vicinity of the proposed project, the Four Corners Study specifically identifies Pine Avenue/Schleisman Avenue/Arlington Boulevard as a prospective corridor for intercounty transportation in the CTP being developed by SANBAG. The status and priorities of active projects on the list are monitored through the Policy Committee meeting process. The Four Corners Study circulation network, including committed and recommended improvements, was accounted for in the Traffic Impact Analysis for the proposed project.

### **5.7.3 THRESHOLDS OF SIGNIFICANCE**

Thresholds of significance for traffic levels are separated into areas deemed deficient and those identified as significant. The term deficiency relates to the operational level below which traffic movement is no longer considered acceptable. The City of Chino General Plan indicates that peak hour intersection operations of LOS “D” or better are generally acceptable. Any operation below that, such as LOS “E” or “F” is considered inadequate or deficient.

For freeway facilities the San Bernardino CMP defines deficient as any freeway segment operating or projected to operate at LOS “F”, unless the segment is identified explicitly in the CMP document. Another way of viewing this is that by maintaining an LOS of “E” or better and allowing the continued existence of LOS “F”, as identified in the CMP, an acceptable level of service is achieved.

Significant impact is a CEQA related term and not addressed directly in the CMP document. A traffic impact is considered significant if it meets both of the following criteria:

- It contributes measurable traffic to, and;
- It substantially and adversely changes the level of service at any off-site location projected to experience deficient operations under foreseeable cumulative conditions, where feasible improvements consistent with the City of Chino General Plan cannot be constructed.

#### **5.7.4 PROJECT IMPACTS**

##### **Analytical Process**

The proposed project would result in the conversion of existing agricultural and dairy uses to a mixture of residential, commercial, business park, industrial, airport-related uses, and public facilities. A determination of the proposed project's traffic impact was evaluated using the following process:

- Determine trip generation rates.
- Determine trip distribution patterns.
- Assign or allocate traffic on area roadways/freeways.

The traffic impact analysis is summarized in this section, and included in Appendix C of this EIR. The impact analysis represents a "worst-case" analysis in that potential reductions in daily and peak hour vehicle trips attributable to the planned transit system for the project are not accounted for in the analysis.

##### **Generation Rates**

The traffic generation rates for each type of land use are displayed in Table 5.7-2.

The projected level of development for the Interim Year (2010) will generate a total of approximately 71,499 trip-ends per day with 5,722 vehicles per hour during the AM peak hour and 7,793 vehicles per hour during the PM peak hour. The heavy truck vehicle volumes (included in the totals) are 1,254 trip-ends per day with 70 vehicles per hour during the AM peak hour. For Buildout conditions, development is estimated to generate a total of approximately 244,930 trip-ends per day with 18,993 vehicles per hour during the AM peak hour and 25,911 vehicles per hour during the PM peak hour. The heavy truck vehicle volumes (included in the totals) are 3,633 trip-ends per day with 202 vehicles per hour during the AM peak hour.

**TABLE 5.7-2  
TRIP GENERATION RATES<sup>1</sup>**

Land Use	Units <sup>2</sup>	AM		PM		Daily
		IN	OUT	IN	OUT	
Light Industrial (Auto)	TSF	0.68	0.14	0.18	0.70	5.81
Light Industrial (2&3 Axle Trucks)	TSF	0.03	0.01	0.01	0.03	0.63
Light Industrial (4+ Axle Trucks)	TSF	0.02	0.01	-	-	0.52
Light Industrial (Total)	TSF	0.73	0.16	0.19	0.73	6.96
Single-Family Detached Residential	DU	0.19	0.56	0.65	0.36	9.57
Multi-Family Attached Residential	DU	0.07	0.37	0.36	0.18	5.86
Hotel	RM	0.34	0.22	0.32	0.29	8.23
Elementary School	ST	0.17	0.12	0.01	0.01	1.02
Jr. High School	ST	0.26	0.20	0.08	0.08	1.45
Office (11.6 TSF)	TSF	2.54	0.35	1.35	6.60	21.88
Office (18.5 TSF)	TSF	2.31	0.32	0.92	4.49	19.63
Office (31.4 TSF)	TSF	2.08	0.28	0.62	3.03	17.36
Office (34.79 TSF)	TSF	2.03	0.28	0.58	2.82	16.95
Office (37.79 TSF)	TSF	2.00	0.27	0.55	2.67	16.63
Office (38.3 TSF)	TSF	1.99	0.27	0.54	2.65	16.58
Office (39.36 TSF)	TSF	1.98	0.27	0.53	2.60	16.48
Office (64.86 TSF)	TSF	1.79	0.24	0.40	1.95	14.67
Office (75.0 TSF)	TSF	1.74	0.24	0.37	1.81	14.19
Office (140.6 TSF)	TSF	1.53	0.21	0.29	1.40	12.26
Office (177.74 TSF)	TSF	1.46	0.20	0.27	1.30	11.61
Office (184.7 TSF)	TSF	1.45	0.20	0.26	1.29	11.51
Office (224.1 TSF)	TSF	1.39	0.19	0.25	1.22	11.01
Commercial Retail (6.7 TSF)	TSF	2.90	1.86	7.56	8.19	178.92
Commercial Retail (10.0 TSF)	TSF	2.47	1.58	6.59	7.14	155.09
Commercial Retail (10.8 TSF)	TSF	2.39	1.53	6.42	6.96	150.88
Commercial Retail (16.12 TSF)	TSF	2.04	1.30	5.61	6.07	130.78
Commercial Retail (18.5 TSF)	TSF	1.93	1.23	5.35	5.80	124.51
Commercial Retail (21.8 TSF)	TSF	1.80	1.15	5.06	5.48	117.42
Commercial Retail (24.49 TSF)	TSF	1.72	1.10	4.86	5.27	112.64
Commercial Retail (25.05 TSF)	TSF	1.70	1.09	4.83	5.23	111.74
Commercial Retail (30.38 TSF)	TSF	1.58	1.01	4.52	4.90	104.30

<sup>1</sup> Source: Institute of Transportation Engineers (ITE), Trip Generation, Sixth Edition, 1997, Land Use Category 210, 230, 310, 520, 522, 710, 770 and 820.

Source: San Diego Association of Governments (SANDAG), Traffic Generators, July, 1998.

Source: ITE Land Use Category 130 (Apportioned according to City of Fontana trip rates).

<sup>2</sup> TSF = Thousand Square Feet  
DU = Dwelling Units  
RM = Rooms

ST = Students

AC = Acres



Traffic Impact Study. To evaluate impacts and to comply with existing CMP requirements 63 intersections and 35 freeway segments were analyzed. Please refer to the Appendix C for detailed information on turning movements and distribution patterns.

The project area and surrounding vicinity consists primarily of agriculture related uses. Future development, including that proposed by the project, will transform the area and add a number of new roadways and intersections. As such, the traffic study also analyzed a number of future intersections for review beyond those that currently exist, which include the following:

- Hellman Ave. and Merrill Ave.
- Hellman Ave. and Kimball Ave.
- Vineyard Ave. and Edison Ave.
- I-15 Freeway SB Ramps (NS) and Galena Street.
- I-15 Freeway NB Ramps (NS) at Galena Street.

### **Proposed Circulation Plan**

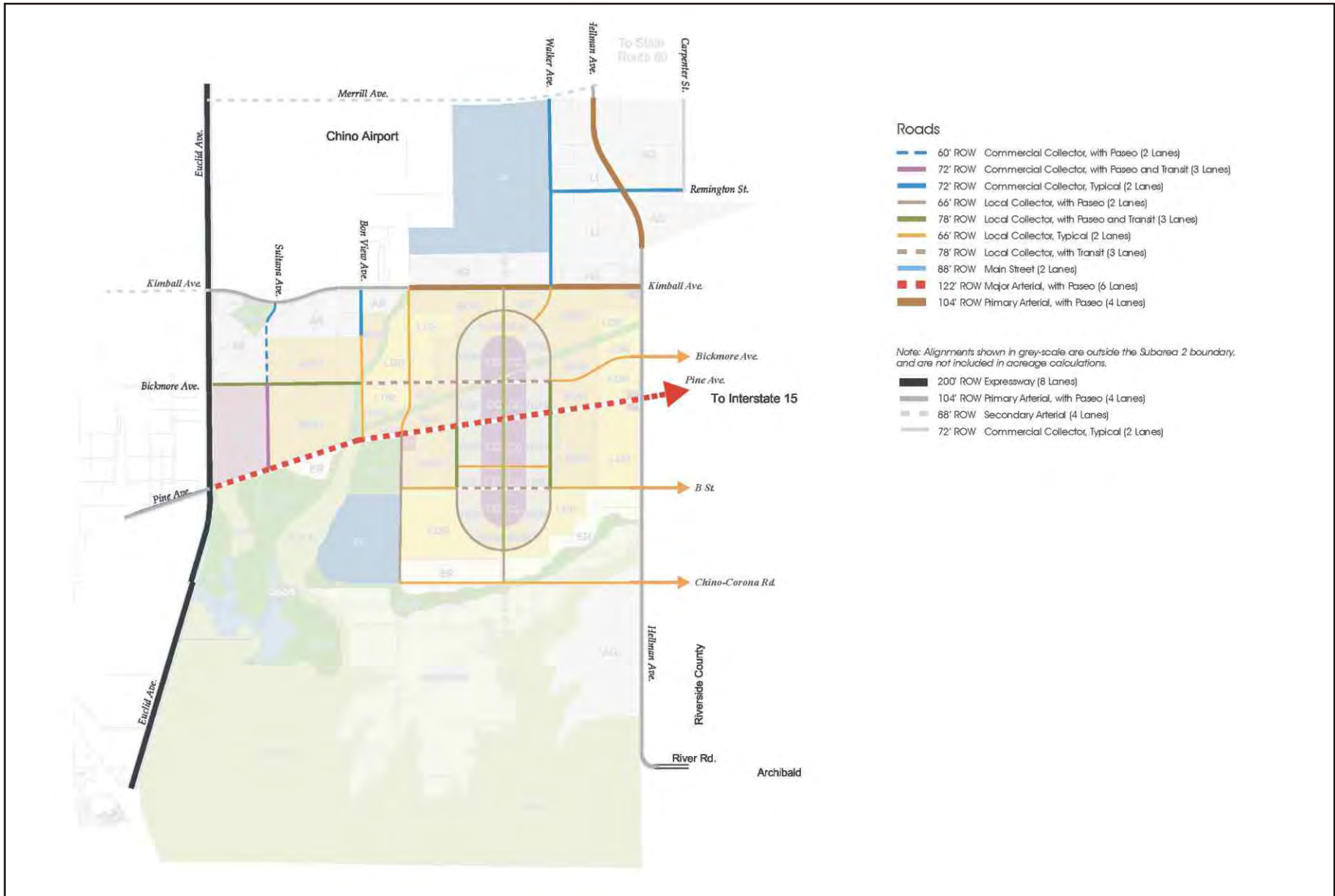
The Specific Plan provides the following planned major roadways and circulation system characteristics as contained in Exhibits 5.7-3 and 5.7-4:

- Euclid Ave.: 200 feet right of way (Expressway, 8 lanes)
- Hellman Ave. (from north of Kimball Ave. south to River Road): 104 feet right of way with Paseo (Primary Arterial 4 lanes)
- Hellman Ave. (extending from north of Kimball Ave. to near Merrill Ave.): 104 feet right of way with Paseo (Primary Arterial 4 lanes)
- Pine Ave.: 122 feet right of way with Paseo (Major Arterial 6 lanes)
- Merrill Ave.: 88 feet right of way (Secondary Arterial 4 lanes)
- Kimball Ave.: 104 feet right of way with Paseo (Primary Arterial with 4 lanes)

### **Impacts on Level of Service**

Impacts on the level of service have been separated into the following categories:

- Without Project: The portion of the future traffic attributable to regional development without the proposed project.
- With Project: The combined portion attributable to regional development and the proposed project.



SOURCE: The Planning Center



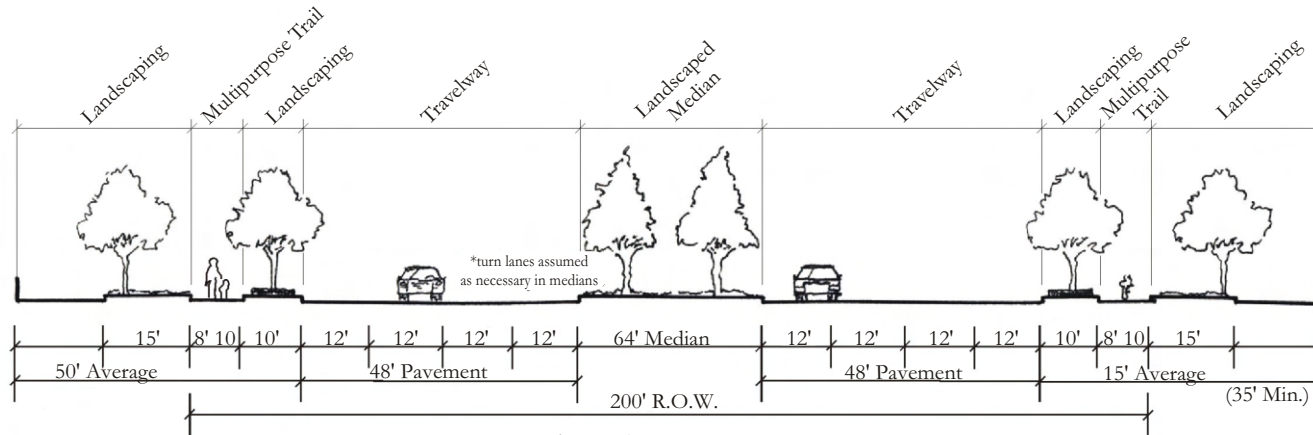
MAP NOT TO SCALE

Michael Brandman Associates

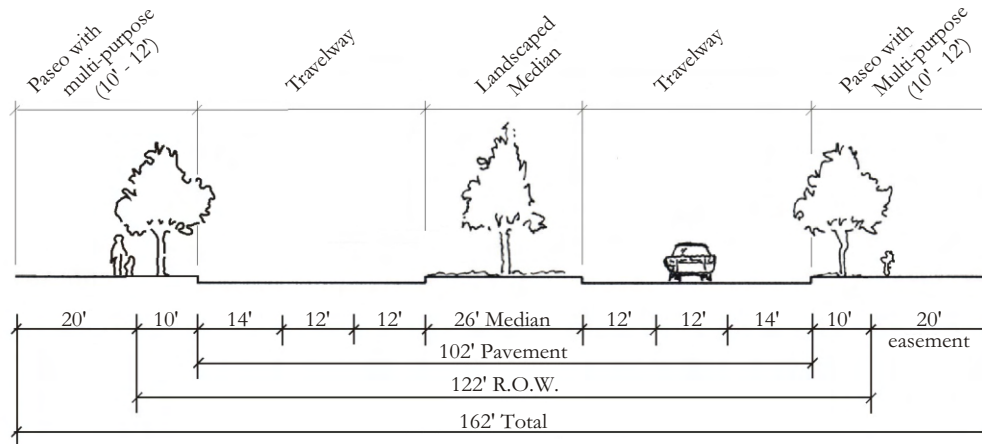
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## Exhibit 5.7-3 Circulation Plan

THE PRESERVE • CHINO SUBAREA 2



Mid Block Street Section  
**Major Arterial (expressway)**  
 Euclid Ave. between Kimball & Pine Avenues  
 (no on-street parking)



Mid Block Street Section  
**Major Arterial w/ Paseo**  
 e.g. Pine Avenue  
 (no on-street parking)

SOURCE: The Planning Center



MAP NOT TO SCALE

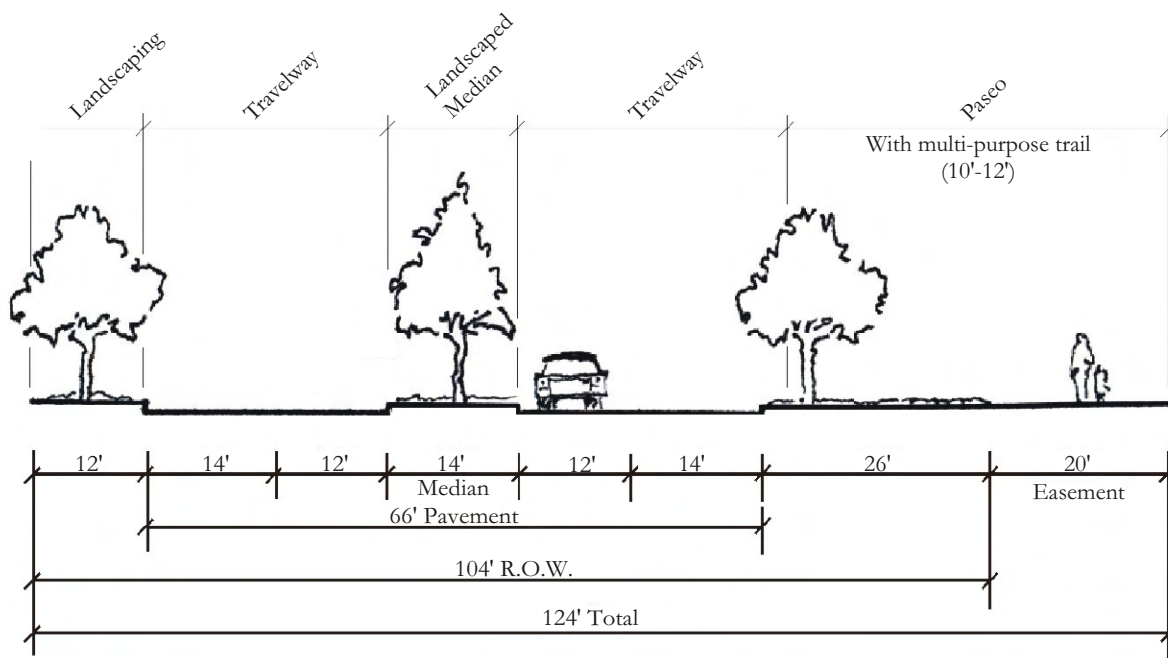
Michael Brandman Associates

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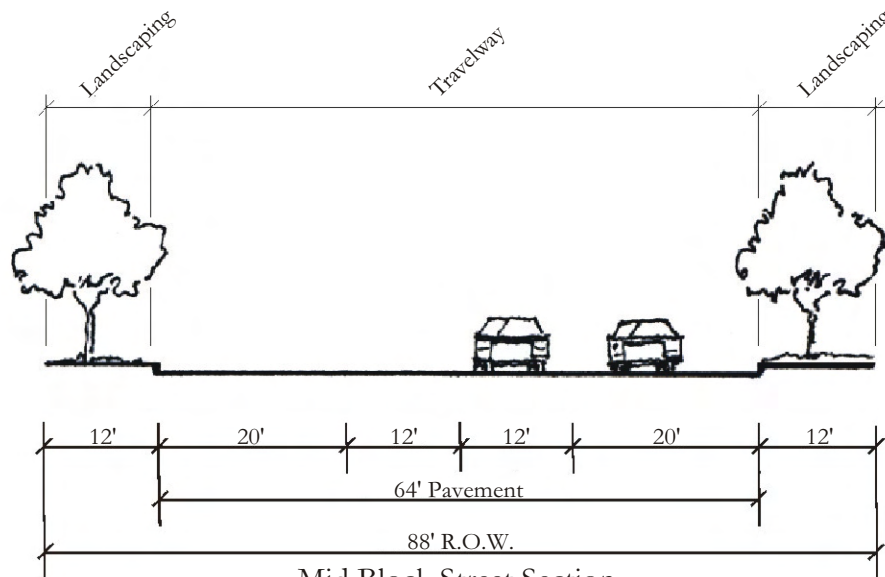
Exhibit **5.7-4A**

**Roadway Sections**

THE PRESERVE • CHINO SUBAREA 2



Mid Block Street Section  
**Primary Arterial w/Paseo**  
 e.g. Kimball or Hellman  
 (no on-street parking)



Mid Block Street Section  
**Arterial**  
 (no on-street parking)

SOURCE: The Planning Center



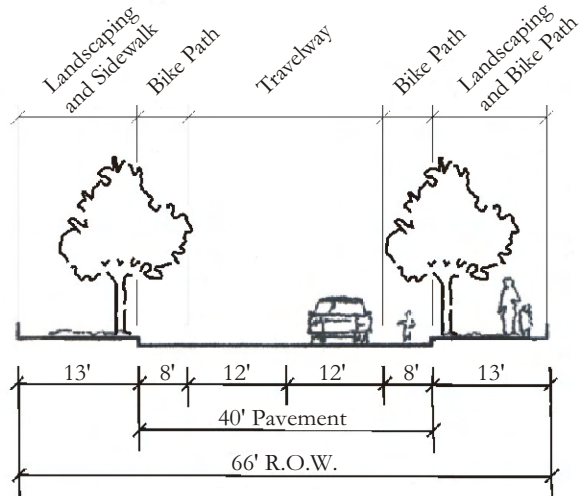
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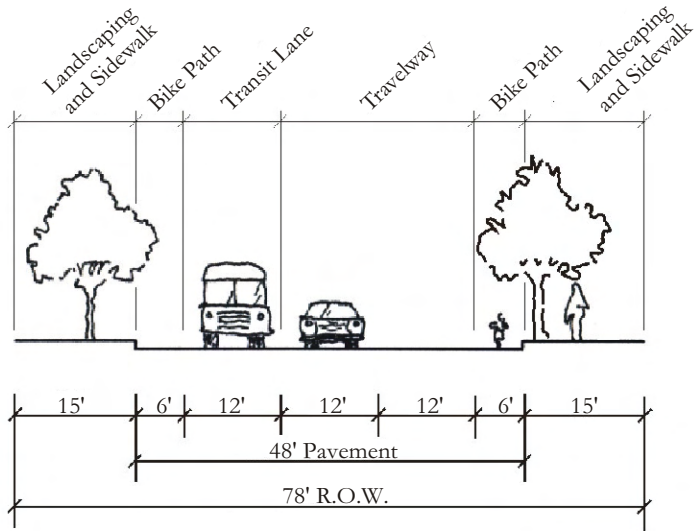
Exhibit **5.7-4B**

**Roadway Sections**

THE PRESERVE • CHINO SUBAREA 2



Mid Block Cross Section  
**Local Collector, Typical**  
 e.g. A Street  
 (with on-street parking)



Mid Block Street Section  
**Local Collector w/Transit**  
 e.g. Bickmore  
 (no on-street parking)

SOURCE: The Planning Center



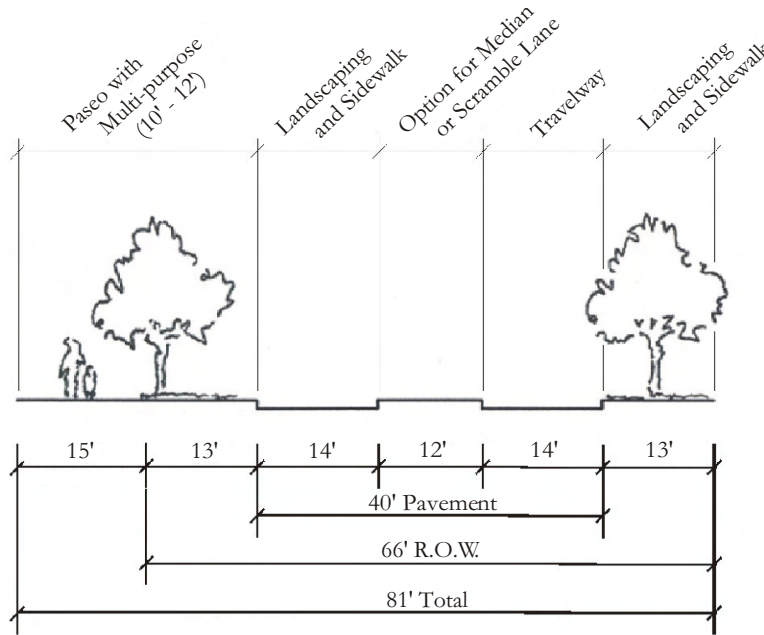
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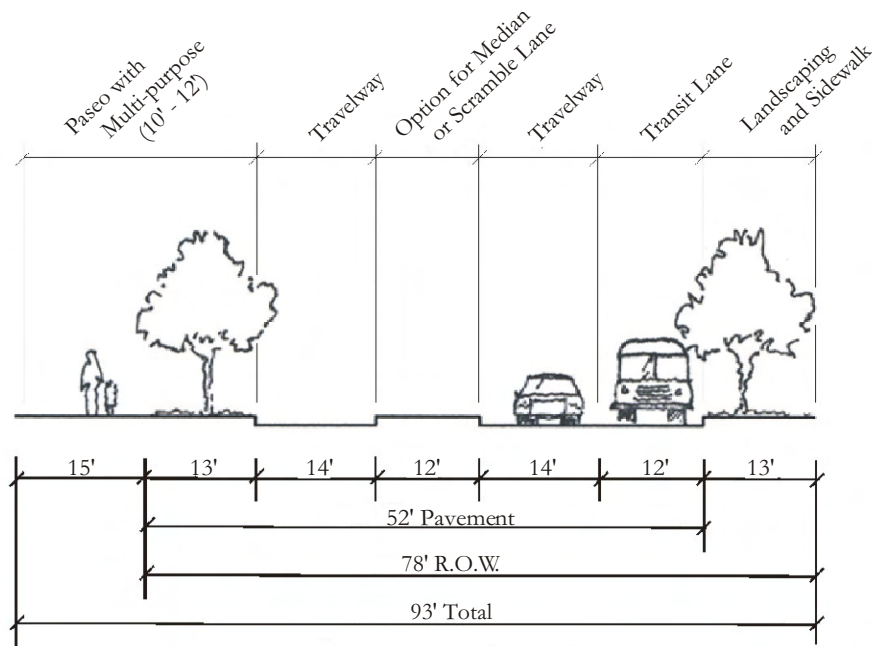
Exhibit **5.7-4C**

**Roadway Sections**

THE PRESERVE • CHINO SUBAREA 2



Mid Block Street Section  
**Local Collector w/Paseo**  
 e.g. Loop Road  
 (with or without on-street parking)



Mid Block Street Section  
**Local Collector w/Paseo & Transit**  
 (with or without on-street parking)

SOURCE: The Planning Center



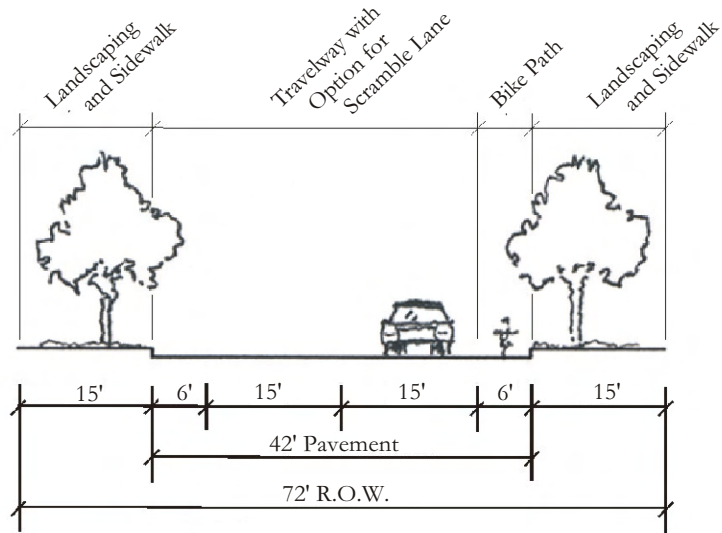
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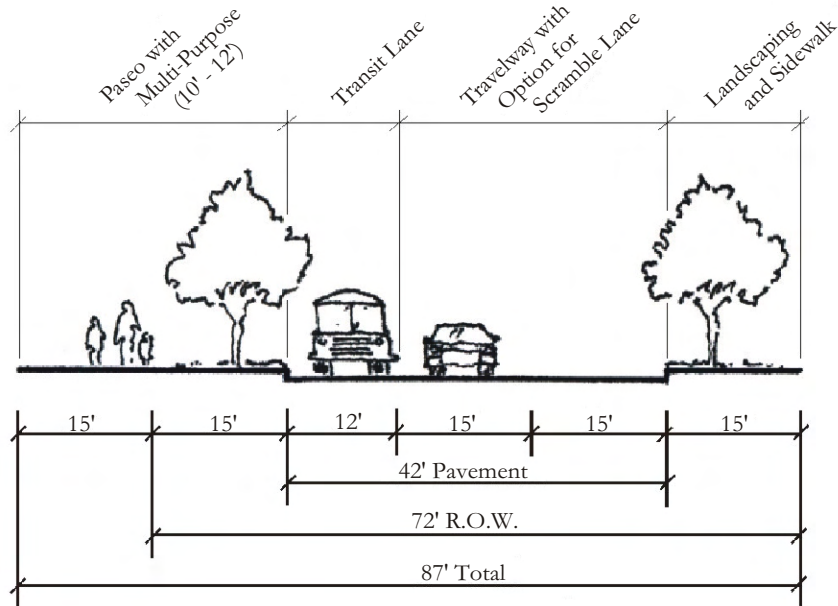
Exhibit **5.7-4D**

**Roadway Sections**

THE PRESERVE • CHINO SUBAREA 2



Mid Block Street Section  
**Typical Commercial Collector**  
 (with or without on-street parking)



Mid Block Street Section  
**Commercial Collector w/Paseo & Transit**  
 (no on-street parking)

SOURCE: The Planning Center



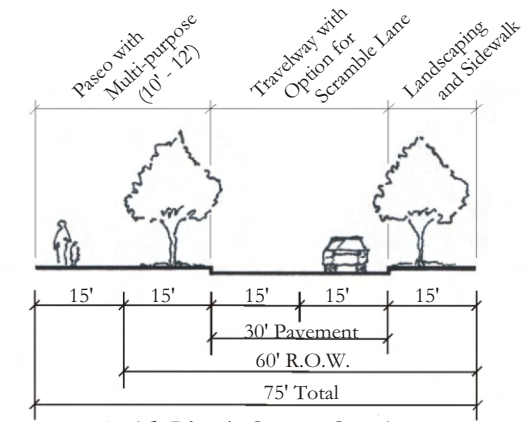
Michael Brandman Associates

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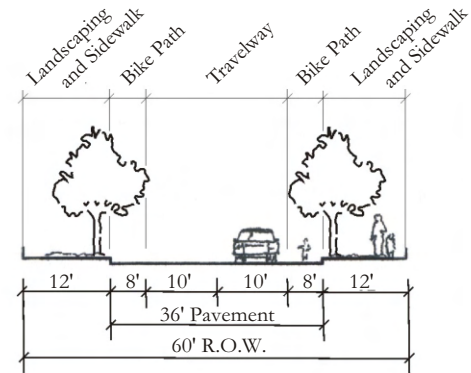
Exhibit **5.7-4E**

**Roadway Sections**

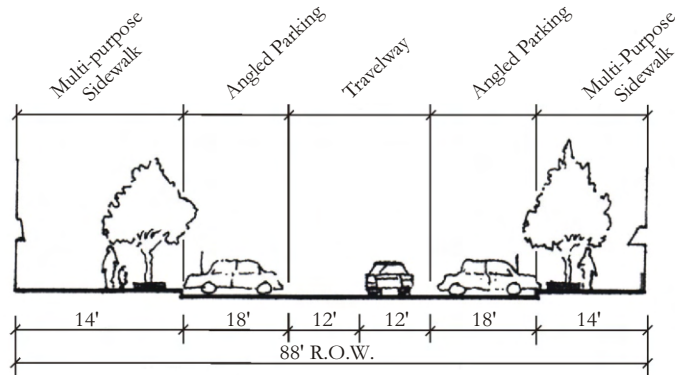
THE PRESERVE • CHINO SUBAREA 2



Mid Block Street Section  
**Commercial Collector w/Paseo**  
 (no on-street parking)



Mid Block Street Section  
**Typical Local Residential**  
 General Access within a Tract  
 (with on-street parking)



**Main Street Collector**  
 (no on-street parking)

SOURCE: The Planning Center



Michael Brandman Associates

05760012 · 06/2001

Exhibit **5.7-4F**

**Roadway Sections**

THE PRESERVE • CHINO SUBAREA 2

### **Future Impacts—Without Project Traffic Conditions**

Interim Year-2010 traffic projections have been interpolated between Year 2020 traffic volumes and existing traffic volumes utilizing a proportionate share of the future growth increment. For Interim Year-2010 Without Project traffic conditions, traffic signals are projected to be warranted at the following intersections:

- SR-71 Freeway NB Ramps (NS) at Pine Ave. (EW).
- El Prado Road (NS) at Kimball Ave. (EW).
- Grove Ave. (NS) at Edison Ave. (EW).
- Walker Ave. (NS) at Edison Ave. (EW).
- I-15 Freeway SB Ramps (NS) at Galena Street (EW).
- I-15 Freeway NB Ramps (NS) at Galena Street (EW).

For Year 2020 Without Project traffic conditions, a traffic signal is projected to be at the intersection of Vineyard Ave. (NS) at Edison Ave. (EW). Roadway improvements for Interim Year (2010) and Year 2020 are identified in the traffic report contained in Appendix C.

### **Level of Service**

Fifteen intersections are projected to be at LOS “E” or “F” for the Interim Year (2010) Without Project. Table 5.7-3 highlights the study area intersections that are projected to experience LOS “E” or “F” operations during the peak hours without the project and are, therefore, deficient based upon the City of Chino General Plan. The “With Project” and “with Project and Improvements” proposed conditions are also displayed to provide a comparison of project impacts. Table 5.7-4 highlights conditions for the year 2020. By the Year 2020, 35 intersections are projected to be at LOS “E” or “F” Without Project.

**TABLE 5.7-3  
INTERIM YEAR (2010) WITH AND WITHOUT  
PROJECT CONDITIONS ANALYSIS AND IMPROVEMENTS**

Intersections	Existing Traffic Controls	Interim Year (2010) without Project				Interim Year (2010) with Project				Interim Year (2010) with Project and Improvements		
		Delay (secs.)		Level of Service		Delay (secs.)		Level of Service		TC (1)	Level of Service	
		AM	PM	AM	PM	AM	PM	AM	PM		AM	PM
Pipeline Ave. (NS) at: ▪ Chino Hills Pkwy. (EW)	TS	50.9	-- <sup>4</sup>	D	F	51.1	82.4	D	F	TS	D	D
SR-71 Fwy. SB Ramps (NS) at: ▪ Chino Hills Pkwy. (EW) ▪ Soquel Canyon Pkwy. (EW) ▪ Pine Ave. (EW) ▪ Euclid Ave. (EW)	TS TS TS TS	28.0 6.1 19.8 18.3	14.6 13.4 24.1 17.5	C A B B	B B C B	27.9 6.5 21.8 18.3	14.4 13.5 23.1 17.3	C A C B	B B C B	TS TS TS TS	C A C B	B B C B
SR-71 Fwy. NB Ramps (NS) at: ▪ Chino Hills Pkwy. (EW) ▪ Soquel Canyon Pkwy. (EW) ▪ Pine Ave. (EW) ▪ Euclid Ave. (EW)	TS TS AWS TS	15.5 10.9 12.3 12.6	14.1 9.2 11.3 20.5	B B B B	B A B C	15.4 11.4 14.1 12.1	13.9 10.4 12.9 18.1	B B B B	B B B B	TS TS TS TS	B B B B	B B B B
Central Ave. (NS) at: ▪ Edison Ave. (EW) ▪ Chino Hills Pkwy. (EW) ▪ El Prado Rd. (EW)	TS TS CSS	43.6 24.3 50.2	49.1 25.0 --	D C F	D C F	44.1 17.2 -- <sup>4</sup>	50.8 25.4 -- <sup>4</sup>	D B F	D C F	TS TS TS	D B D	D C D
El Prado Rd. (NS) at: ▪ Kimball Ave. (EW) ▪ Pine Ave. (EW)	CSS CSS	18.8 12.6	28.7 17.2	C B	D C	32.2 21.1	67.0 80.5	D C	F F	TS TS	C B	C C
Mountain Ave. (NS) at: ▪ SR-60 Fwy. WB Ramps (EW) ▪ SR-60 Fwy. EB Ramps (EW) ▪ Walnut Ave. (EW) ▪ Riverside Dr. (EW) ▪ Edison St. (EW)	TS TS TS TS TS	42.9 36.2 -- 47.5 18.2	35.4 -- 29.2 47.2 14.0	D D F D B	D F C D B	44.7 37.8 -- <sup>4</sup> 47.4 16.3	37.5 -- <sup>4</sup> 29.1 46.1 15.4	D D F D B	C F C D B	TS TS TS TS TS	D B D D B	D C D D B

(1) Includes proposed traffic signal improvements.

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >> = Free Right Turn

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.1.0607 (1999). Per the 1997 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal

AWS = All Way Stop

CSS = Cross Street Stop

<sup>4</sup> -- = Delay High, Intersection Unstable, Level of Service "F".

<sup>5</sup> Modify Eastbound-Westbound traffic signal phasing from split-phasing to permitted-phasing.

**TABLE 5.7-3 (Cont.)  
INTERIM YEAR (2010) WITH AND WITHOUT  
PROJECT CONDITIONS ANALYSIS AND IMPROVEMENTS**

Intersections	Existing Traffic Controls	Interim Year (2010) without Project				Interim Year (2010) with Project				Interim Year (2010) with Project and Improvements		
		Delay (secs.)		Level of Service		Delay (secs.)		Level of Service		TC (1)	Level of Service	
		AM	PM	AM	PM	AM	PM	AM	PM		AM	PM
Euclid Ave. (NS) at:												
▪ SR-60 Fwy. WB Ramps (EW)	TS	41.5	40.9	D	D	46.1	47.6	D	D	TS	D	D
▪ SR-60 Fwy. EB Ramps (EW)	TS	33.7	--	C	F	34.9	-- <sup>4</sup>	C	F	TS	C	D
▪ Walnut Ave. (EW)	TS	22.9	25.2	C	C	21.6	23.5	C	C	TS	C	C
▪ Riverside Dr. (EW)	TS	35.2	38.7	D	D	32.1	42.7	C	D	TS	C	D
▪ Edison St. (EW)	TS	35.7	32.2	D	C	39.5	40.1	C	D	TS	D	D
▪ Merrill Ave. (EW)	TS	21.7	74.8	C	B	19.2	12.1	B	B	TS	B	B
▪ Kimball Ave. (EW)	TS	25.7	26.4	C	C	41.9	-- <sup>4</sup>	D	F	TS	D	D
▪ Bickmore Ave. (EW)	CSS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	C	D
▪ Pine Ave. (EW)	TS	40.3	30.2	D	C	51.3	37.6	D	D	TS	D	D
Grove Ave. (NS) at:												
▪ SR-60 Fwy. WB Ramps (EW)	TS	40.6	28.5	D	C	42.4	30.3	D	C	TS	D	C
▪ SR-60 Fwy. EB Ramps (EW)	TS	41.5	51.0	D	D	41.5	52.5	D	D	TS	D	D
▪ Edison St. (EW)	AWS	-- <sup>4</sup>	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ Merrill Ave. (EW)	AWS	16.4	26.4	C	D	18.9	36.3	C	E	TS	C	D
▪ Kimball Ave. (EW)	AWS	10.5	13.8	B	B	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	C	C
▪ Bickmore Ave. (EW)	CSS	33.4	--	D	F	72.5	-- <sup>4</sup>	F	F	TS	A	A
▪ Pine Ave. (EW)	CSS	15.6	20.5	C	C	76.4	-- <sup>4</sup>	F	F	TS	C	B
Walker Ave. (NS) at:												
▪ Edison Ave. (EW)	CSS	37.8	--	E	F	77.9	-- <sup>4</sup>	F	F	TS	B	C
Hellman Ave. (NS) at:												
▪ Merrill Ave. (EW)	TS	32.8	36.4	C	C	35.7	40.6	D	D	TS	D	D
▪ Kimball Ave. (EW)	TS	46.6	33.8	D	D	48.5	-- <sup>4</sup>	D	F	TS	D	D
▪ Pine Ave. (EW)	CSS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ Chandler St. (EW)	CSS	28.6	28.0	D	D	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	B	C
Vineyard Ave. (NS) at:												
▪ SR-60 Fwy. WB Ramps (EW)	TS	31.4	30.6	C	C	31.6	32.3	C	C	TS	C	C
▪ SR-60 Fwy. EB Ramps (EW)	TS	27.7	40.6	C	D	27.5	41.3	C	D	TS	C	D

(1) Includes proposed traffic signal improvements.

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >> = Free Right Turn

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.1.0607 (1999). Per the 1997 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal  
AWS = All Way Stop  
CSS = Cross Street Stop

<sup>4</sup> -- = Delay High, Intersection Unstable, Level of Service "F".

<sup>5</sup> Modify Eastbound-Westbound traffic signal phasing from split-phasing to permitted-phasing.

**TABLE 5.7-3 (Cont.)  
INTERIM YEAR (2010) WITH AND WITHOUT  
PROJECT CONDITIONS ANALYSIS AND IMPROVEMENTS**

Intersections	Existing Traffic Controls	Interim Year (2010) without Project				Interim Year (2010) with Project				Interim Year (2010) with Project and Improvements		
		Delay (secs.)		Level of Service		Delay (secs.)		Level of Service		TC (1)	Level of Service	
		AM	PM	AM	PM	AM	PM	AM	PM		AM	PM
Archibald Ave. (NS) at:												
▪ SR-60 Fwy. WB Ramps (EW)	TS	25.3	15.9	C	C	25.0	15.6	C	B	TS	C	B
▪ SR-60 Fwy. EB Ramps (EW)	TS	17.3	22.9	B	C	17.3	22.9	B	C	TS	B	C
▪ Riverside Dr. (EW)	TS	45.4	51.5	D	D	45.9	52.3	D	D	TS	D	D
▪ Edison Ave. (EW)	TS	39.3	32.5	D	C	40.7	35.5	D	D	TS	D	D
▪ Merrill Ave. (EW)	CSS	54.9	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	C	C
▪ Cloverdale Rd. (EW)	TS	28.5	31.2	C	C	28.5	30.6	C	C	TS	C	C
▪ Pine Ave. (EW)	TS	46.4	45.1	D	D	67.8	69.5	E	E	TS	D	D
▪ River Rd. (EW)	CSS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	C	C
River Rd. (NS) at:												
▪ Corydon St. (EW)	TS	45.8	42.5	D	D	44.4	43.9	D	D	TS	D	D
▪ Second St. (EW)	TS	32.1	31.8	C	C	33.0	31.3	C	C	TS	D	C
Haven Ave. (NS) at:												
▪ SR-60 Fwy. WB Ramps (EW)	TS	12.4	11.3	B	B	13.0	11.7	B	B	TS	B	B
▪ SR-60 Fwy. EB Ramps (EW)	TS	30.7	33.1	C	C	30.5	33.1	C	C	TS	C	C
Hamner Ave. (NS) at:												
▪ Cloverdale Rd. (EW)	TS	43.0	54.3	D	D	58.7	-- <sup>4</sup>	E	F	TS	D	D
▪ Schleisman Rd. (EW)	CSS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
I-15 Fwy. SB Ramps (NS) at:												
▪ Galena St. (EW)	TS	37.5	18.7	D	B	35.8	19.8	D	B	TS	D	B
▪ Limonite Ave. (EW)	TS	32.1	38.0	C	D	36.8	38.4	D	D	TS	D	D
▪ Second St. (EW)	TS	35.5	--	D	F	35.6	-- <sup>4</sup>	D	F	TS	C	C
I-15 Fwy. NB Ramps (NS) at:												
▪ Galena St. (EW)	TS	15.3	12.6	B	B	16.0	12.6	B	B	TS	B	B
▪ Limonite Ave. (EW)	TS	18.0	18.7	B	B	20.4	21.1	C	C	TS	C	C
▪ Second St. (EW)	TS	--	50.3	F	D	-- <sup>4</sup>	53.2	F	D	TS	D	D
Lincoln Ave. (NS) at:												
▪ Pomona Rd. (EW)	TS	56.1	56.8	E	E	56.2	59.5	E	E	TS <sup>5</sup>	C	C
▪ SR-91 EB Ramps (EW)	TS	19.3	27.1	B	C	20.2	27.8	C	C	--	--	--

(1) Includes proposed traffic signal improvements.

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >> = Free Right Turn

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.1.0607 (1999). Per the 1997 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal

AWS = All Way Stop

CSS = Cross Street Stop

<sup>4</sup> -- = Delay High, Intersection Unstable, Level of Service "F".

<sup>5</sup> Modify Eastbound-Westbound traffic signal phasing from split-phasing to permitted-phasing.

### **Future Impacts—With Project Traffic Conditions**

Project traffic volumes on study area roadway segments were determined by generating project trips and manually routing the traffic through the roadway network. Trips were assigned to each individual roadway link occurring along a specific route. The accumulation of traffic assigned to each roadway link represents the project traffic volume for that link.

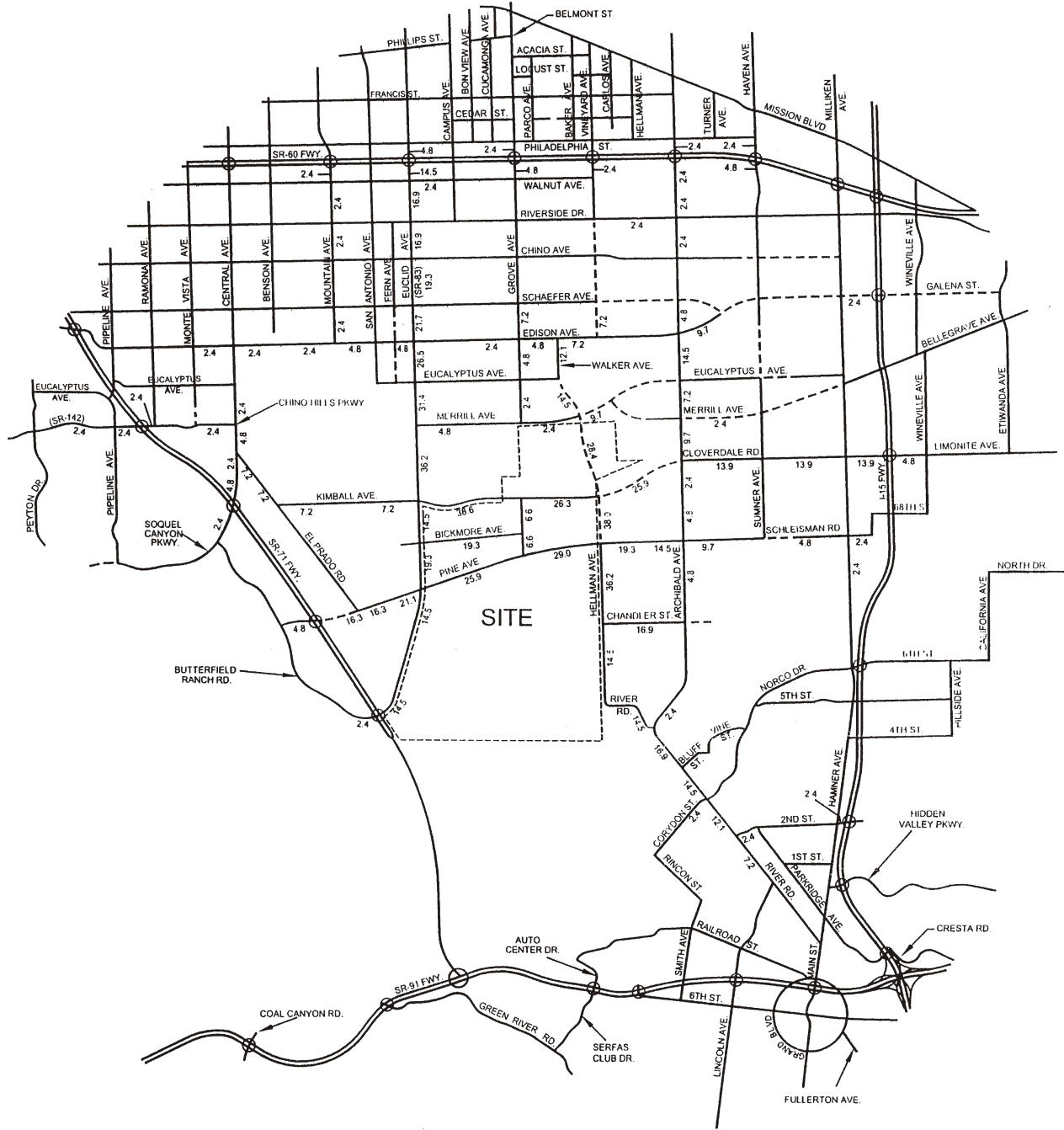
For the Interim Year (2010) With Project traffic conditions, traffic signals are projected to be warranted at the following intersections:

- El Prado Road (NS) at Pine Ave. (EW).
- Euclid Ave. (NS) at Bickmore Ave. (EW).
- Grove Ave. (NS) at Merrill Ave. (EW).
- Grove Ave. (NS) at Kimball (EW).
- Grove Ave. (NS) at Bickmore Ave. (EW).
- Grove Ave. (NS) at Pine Ave. (EW).
- Hellman Ave. (NS) at Merrill Ave. (EW).
- Hellman Ave. (NS) at Kimball Ave. (EW).
- Hellman Ave. (NS) at Chandler Street (EW).

No additional traffic signals are required for Year 2020 With Project scenario. Roadway improvements for Interim Year (2010), Year 2020 and Buildout conditions are identified in the traffic report contained in Appendix C. Buildout project average daily traffic volumes are shown on Exhibit 5.7-5.

### **Level of Service**

25 intersections are projected to be at LOS “E” or “F” With Project for the Interim Year (2010). By the Year 2020, 42 intersections are projected to be at LOS “E” or “F” With Project. Table 5.7-4 highlights the study area intersections that are projected to experience LOS “E” or “F” operations during the peak hours for the Buildout with project condition and are, therefore, deficient based upon the criteria within the City of Chino General Plan.



**LEGEND:**

2.4 = VEHICLES PER DAY (1000'S)

SOURCE: URBAN CROSSROADS



MAP NOT TO SCALE

Michael Brandman Associates

05760012 . 7/2002

Exhibit **5.7-5**  
**Buildout Project**  
**Average Daily Traffic (ADT)**

THE PRESERVE • CHINO SUBAREA 2

**Table 5.7-4  
BUILDOUT WITH AND WITHOUT  
PROJECT CONDITIONS ANALYSIS AND IMPROVEMENTS**

Intersections	Existing Traffic Controls	Year 2020 Without Project				Buildout With Project				Buildout With Project and Improvements		
		Delay (secs.)		Level of Service		Delay (secs.)		Level of Service		TC (1)	Level of Service	
		AM	PM	AM	PM	AM	PM	AM	PM		AM	PM
Pipeline Ave. (NS) at: ▪ Chino Hills Pkwy. (EW)	TS	56.6	-- <sup>4</sup>	E	F	56.5	-- <sup>4</sup>	E	F	TS	D	D
SR-71 Fwy. SB Ramps (NS) at: ▪ Chino Hills Pkwy. (EW) ▪ Soquel Canyon Pkwy. (EW) ▪ Pine Ave. (EW) ▪ Euclid Ave. (EW)	TS TS TS TS	30.4 4.7 28.7 19.3	18.4 17.3 27.4 17.2	C A C B	B B C B	39.6 7.3 -- <sup>4</sup> 18.6	96.9 17.4 45.5 17.2	D A F B	F B D B	TS TS TS TS	B A D B	B B D B
SR-71 Fwy. NB Ramps (NS) at: ▪ Chino Hills Pkwy. (EW) ▪ Soquel Canyon Pkwy. (EW) ▪ Pine Ave. (EW) ▪ Euclid Ave. (EW)	TS TS AWS TS	17.3 10.8 12.0 15.9	15.2 10.0 16.6 16.7	C B B B	B A C B	20.2 11.3 -- <sup>4</sup> 11.6	18.6 14.9 -- <sup>4</sup> 18.8	C B F B	B B F B	TS TS TS TS	C B D B	C B D B
Central Ave. (NS) at: ▪ Edison Ave. (EW) ▪ Chino Hills Pkwy. (EW) ▪ El Prado Rd. (EW)	TS TS CSS	52.7 27.4 --	-- 30.4 --	D C F	F C F	49.9 19.9 -- <sup>4</sup>	-- <sup>4</sup> 31.0 -- <sup>4</sup>	D B F	F C F	TS TS TS	D B D	D C D
El Prado Rd. (NS) at: ▪ Kimball Ave. (EW) ▪ Pine Ave. (EW)	CSS CSS	-- 23.0	-- --	F C	F F	-- <sup>4</sup> -- <sup>4</sup>	-- <sup>4</sup> -- <sup>4</sup>	F F	F F	TS TS	D C	D D
Mountain Ave. (NS) at: ▪ SR-60 Fwy. WB Ramps (EW) ▪ SR-60 Fwy. EB Ramps (EW) ▪ Walnut Ave. (EW) ▪ Riverside Dr. (EW) ▪ Edison St. (EW)	TS TS TS TS TS	46.9 35.9 -- 51.8 23.6	38.3 -- 29.2 59.0 17.5	D C F D C	C F B E B	-- <sup>6</sup> 41.9 -- <sup>4</sup> 51.5 26.7	45.4 -- <sup>4</sup> 28.9 56.3 20.4	F D F D C	D F C E C	TS TS TS TS TS	D C D D C	C C D D C

(1) Includes proposed traffic signal improvements.

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >> = Free Right Turn

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.1.0607 (1999). Per the 1997 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal  
AWS = All Way Stop  
CSS = Cross Street Stop

<sup>4</sup> -- = Delay High, Intersection Unstable, Level of Service "F".

<sup>5</sup> Modify Eastbound-Westbound traffic signal phasing from split-phasing to permitted-phasing.

**TABLE 5.7-4 (Cont.)  
BUILDOUT WITH AND WITHOUT  
PROJECT CONDITIONS ANALYSIS AND IMPROVEMENTS**

Intersections	Existing Traffic Controls	Year 2020 Without Project				Buildout With Project				Buildout With Project and Improvements		
		Delay (secs.)		Level of Service		Delay (secs.)		Level of Service		TC (1)	Level of Service	
		AM	PM	AM	PM	AM	PM	AM	PM		AM	PM
Euclid Ave. (NS) at:												
▪ SR-60 Fwy. WB Ramps (EW)	TS	--	45.8	F	D	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ SR-60 Fwy. EB Ramps (EW)	TS	35.9	--	C	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	C	C
▪ Walnut Ave. (EW)	TS	35.9	31.9	C	D	22.1	28.6	C	C	TS	C	C
▪ Riverside Dr. (EW)	TS	36.9	--	D	F	39.6	-- <sup>4</sup>	D	F	TS	D	D
▪ Edison St. (EW)	TS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ Merrill Ave. (EW)	TS	21.3	13.5	C	B	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	B
▪ Kimball Ave. (EW)	TS	25.5	55.8	B	E	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	C	D
▪ Bickmore Ave. (EW)	CSS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	B	B
▪ Pine Ave. (EW)	TS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
Grove Ave. (NS) at:												
▪ SR-60 Fwy. WB Ramps (EW)	TS	--	37.1	F	D	-- <sup>4</sup>	35.9	F	D	TS	C	C
▪ SR-60 Fwy. EB Ramps (EW)	TS	48.0	-- <sup>4</sup>	D	F	48.9	-- <sup>4</sup>	D	F	TS	C	C
▪ Edison St. (EW)	AWS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ Merrill Ave. (EW)	AWS	12.9	21.6	B	C	12.9	22.8	B	C	TS	B	B
▪ Kimball Ave. (EW)	AWS	9.1	13.5	A	B	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	B	D
▪ Bickmore Ave. (EW)	CSS	--	--	F	F	-- <sup>4</sup>	60.2	F	F	TS	B	B
▪ Pine Ave. (EW)	CSS	62.2	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	C	C
Walker Ave. (NS) at:												
▪ Edison Ave. (EW)	CSS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	C	D
Hellman Ave. (NS) at:												
▪ Merrill Ave. (EW)	TS	31.1	40.0	C	D	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ Kimball Ave. (EW)	TS	49.7	--	D	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ Pine Ave. (EW)	CSS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ Chandler St. (EW)	CSS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
Vineyard Ave. (NS) at:												
▪ SR-60 Fwy. WB Ramps (EW)	TS	37.4	36.7	D	D	35.8	45.3	D	D	TS	D	D
▪ SR-60 Fwy. EB Ramps (EW)	TS	28.6	--	C	F	28.7	-- <sup>4</sup>	C	F	TS	C	D
▪ Edison Ave. (EW)	TS	15.3	18.5	B	B	22.2	28.4	C	C	TS	C	C

(1) Includes proposed traffic signal improvements

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >> = Free Right Turn

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.1.0607 (1999). Per the 1997 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal

AWS = All Way Stop

CSS = Cross Street Stop

<sup>4</sup> -- = Delay High, Intersection Unstable, Level of Service "F".

<sup>5</sup> Modify Eastbound-Westbound traffic signal phasing from split-phasing to permitted-phasing.

**TABLE 5.7-4 (Cont.)  
YEAR 2020 WITH AND WITHOUT  
PROJECT CONDITIONS ANALYSIS AND IMPROVEMENTS**

Intersections	Existing Traffic Controls	Year 2020 Without Project				Buildout With Project				Buildout With Project and Improvements		
		Delay (secs.)		Level of Service		Delay (secs.)		Level of Service		TC (1)	Level of Service	
		AM	PM	AM	PM	AM	PM	AM	PM		AM	PM
Archibald Ave. (NS) at:												
▪ SR-60 Fwy. WB Ramps (EW)	TS	24.9	14.6	C	B	23.0	28.4	C	B	TS	C	B
▪ SR-60 Fwy. EB Ramps (EW)	TS	17.5	27.1	B	C	17.4	24.4	B	C	TS	B	C
▪ Riverside Dr. (EW)	TS	49.6	56.2	D	E	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ Edison Ave. (EW)	TS	64.9	56.3	D	E	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ Merrill Ave. (EW)	CSS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	C	C
▪ Cloverdale Rd. (EW)	TS	31.0	41.5	C	D	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ Pine Ave. (EW)	TS	53.3	44.2	D	D	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	C
▪ River Rd. (EW)	CSS	--	--	F	E	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	C
River Rd. (NS) at:												
▪ Corydon St. (EW)	TS	50.9	51.1	D	D	--	-- <sup>4</sup>	F	F	TS	D	D
▪ Second St. (EW)	TS	34.9	31.0	C	C	45.7	36.5	D	D	TS	D	D
Haven Ave. (NS) at:												
▪ SR-60 Fwy. WB Ramps (EW)	TS	17.1	16.1	B	B	18.0	17.8	B	B	TS	C	C
▪ SR-60 Fwy. EB Ramps (EW)	TS	36.1	--	D	F	36.7	-- <sup>4</sup>	D	F	TS	C	D
Hamner Ave. (NS) at:												
▪ Cloverdale Rd. (EW)	TS	47.0	--	D	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
▪ Schleisman Rd. (EW)	CSS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
I-15 Fwy. SB Ramps (NS) at:												
▪ Galena St. (EW)	TS	46.8	--	D	F	56.3	-- <sup>4</sup>	E	F	TS	D	C
▪ Limonite Ave. (EW)	TS	36.2	41.6	D	D	-- <sup>4</sup>	43.4	F	D	TS	D	D
▪ Second St. (EW)	TS	--	--	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	C	C
I-15 Fwy. NB Ramps (NS) at:												
▪ Galena St. (EW)	TS	28.5	14.7	C	B	43.1	14.4	D	B	TS	D	C
▪ Limonite Ave. (EW)	TS	17.8	19.4	B	B	26.0	29.6	C	C	TS	C	C
▪ Second St. (EW)	TS	--	58.3	F	E	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS	D	D
Lincoln Ave. (NS) at:												
▪ Pomona Rd. (EW)	TS	-- <sup>4</sup>	-- <sup>4</sup>	F	F	-- <sup>4</sup>	-- <sup>4</sup>	F	F	TS <sup>5</sup>	D	C
▪ SR-91 EB Ramps (EW)	TS	21.7	41.2	C	D	26.1	48.0	C	D	--	--	--

(1) Includes proposed traffic signal improvements

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >> = Free Right Turn

<sup>2</sup> Delay and level of service calculated using the following analysis software: Traffix, Version 7.1.0607 (1999). Per the 1997 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal  
AWS = All Way Stop  
CSS = Cross Street Stop

<sup>4</sup> -- = Delay High, Intersection Unstable, Level of Service "F".

<sup>5</sup> Modify Eastbound-Westbound traffic signal phasing from split-phasing to permitted-phasing.

**Roadway Improvements**

A cumulative listing of all project related roadway and signal improvements to be provided for post-2020 buildout conditions, including the proposed project, is contained in Table 5.7-5. This list identifies all the improvements necessary to meet Year 2020 With Project traffic demands, excluding freeway improvements which are discussed in the section below. The timing of the improvements are identified in the traffic report in Appendix C.

**TABLE 5.7-5  
BUILDOUT WITH PROJECT CONDITIONS  
SUMMARY OF INTERSECTION AND ROADWAY IMPROVEMENTS**

<b>Intersection/Segment</b>	<b>Improvement</b>
<b>Pipeline Ave. (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Chino Hills Pkwy. (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second EB Left Turn Lane</li> <li>▪ Second WB Left Turn Lane</li> <li>▪ EB Right-Turn Overlap Phasing</li> <li>▪ Third WB Through Lane</li> <li>▪ WB Right-Turn Overlap Phasing</li> </ul>
<b>SR-71 Fwy. SB Ramps (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Chino Hills Pkwy. (EW)</li> <li>▪ Pine Ave. (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Third WB Through Lane</li> <li>▪ Second EB Through Lane</li> </ul>
<b>SR-71 Fwy. NB Ramps (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Pine Ave. (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ Second EB Through Lane</li> </ul>
<b>Lincoln Avenue (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Pomona Road (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal Phasing Modification</li> <li>▪ Restripe two existing SB through lanes to an exclusive right turn lane and a shared through-right lane</li> <li>▪ Restripe SB approach to include two through lanes</li> <li>▪ SB free-right turn lane</li> </ul>

**TABLE 5.7-5 (Cont.)  
BUILDOUT WITH PROJECT CONDITIONS  
SUMMARY OF INTERSECTION AND ROADWAY IMPROVEMENTS**

<b>Intersection/Segment</b>	<b>Improvement</b>
<b>Central Ave. (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Edison Ave. (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ NB Right-Turn Overlap Phasing</li> <li>▪ Second EB Left Turn Lane</li> <li>▪ Second WB Left Turn Lane</li> <li>▪ EB Right Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ El Prado Rd. (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ Second NB Through Lane</li> <li>▪ Second SB Left Turn Lane</li> </ul>
<b>El Prado Rd. (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Kimball Road (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ NB Right Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Pine Ave. (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ EB Left Turn Lane</li> <li>▪ SB Left Turn Lane</li> <li>▪ Second EB Through Lane</li> <li>▪ WB Right Turn Lane</li> </ul>
<b>Mountain Ave. (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ SR-60 Fwy. WB Ramps (EW)</li> <li>▪ SR-60 Freeway EB Ramps (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ WB All-Way Lane</li> <li>▪ Second SB Left Turn Lane</li> <li>▪ EB All-Way Lane</li> <li>▪ Restripe EB All-Way Lane to a Second EB Left Turn Lane</li> <li>▪ Second EB Right Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Walnut Ave. (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second WB Through Lane</li> <li>▪ Second EB Through Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Riverside Dr. (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ NB Right Turn Lane</li> <li>▪ Second SB Left Turn Lane</li> </ul>
<b>Euclid Avenue (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ SR-60 Freeway WB Ramps (EW)</li> <li>▪ SR-60 Freeway EB Ramps (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ WB All-Way Lane</li> <li>▪ Second NB Right Turn Lane</li> <li>▪ Restripe EB All-Way Lane to a Shared Through &amp; Right Turn Lane</li> <li>▪ EB free-Right Turn Lane</li> <li>▪ Second EB Left Turn Lane</li> </ul>

**TABLE 5.7-5 (Cont.)  
BUILDOUT WITH PROJECT CONDITIONS  
SUMMARY OF INTERSECTION AND ROADWAY IMPROVEMENTS**

<b>Intersection/Segment</b>	<b>Improvement</b>
<ul style="list-style-type: none"> <li>▪ Riverside Drive (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Third NB Through Lane</li> <li>▪ Second SB Left Turn Lane</li> <li>▪ Third SB Through Lane</li> <li>▪ SB Right-Turn Overlap Phasing</li> <li>▪ EB Left Turn Lane</li> <li>▪ WB Left Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Edison Street (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Third NB Though Lane</li> <li>▪ Third SB Through Lane</li> <li>▪ Second EB Left Turn Lane</li> <li>▪ Second &amp; Third EB Through Lanes (2)</li> <li>▪ Second WB Through Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Merrill Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Third NB Through Lane</li> <li>▪ Third SB Through Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Kimball Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ NB Right-Turn Overlap Phasing</li> <li>▪ EB Left Turn Lane</li> <li>▪ First &amp; Second WB Left Turn Lanes (2)</li> <li>▪ WB Right Turn Lane</li> <li>▪ Third &amp; Fourth NB Through Lanes (2)</li> <li>▪ Second SB Left Turn Lane</li> <li>▪ Third SB Through Lane</li> <li>▪ Second EB Left Turn Lane</li> <li>▪ Second EB Through Lane</li> <li>▪ EB Right Turn Lane</li> <li>▪ Second WB Through Lane</li> <li>▪ WB Right-Turn Overlap Phasing</li> </ul>
<ul style="list-style-type: none"> <li>▪ Bickmore Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ Second NB Through Lane</li> <li>▪ Second SB Through Lane</li> <li>▪ Third NB Through Lane</li> <li>▪ NB Right Turn Lane</li> <li>▪ Second SB Left Turn Lane</li> <li>▪ Third SB Through Lane</li> <li>▪ First &amp; Second WB Left Turn Lanes (2)</li> <li>▪ WB Right Turn Lane</li> </ul>

**TABLE 5.7-5 (Cont.)  
 BUILDOUT WITH PROJECT CONDITIONS  
 SUMMARY OF INTERSECTION AND ROADWAY IMPROVEMENTS**

Intersection/Segment	Improvement
<ul style="list-style-type: none"> <li>▪ Pine Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Third &amp; Fourth NB Through Lanes (2)</li> <li>▪ NB free-Right Turn Lane</li> <li>▪ Second SB Left Turn Lane</li> <li>▪ Third SB Through Lane</li> <li>▪ First &amp; Second EB Left Turn Lanes (2)</li> <li>▪ Second &amp; Third EB Through Lanes (2)</li> <li>▪ First, Second &amp; Third WB Left Turn Lanes (3)</li> <li>▪ Second &amp; Third WB Through Lanes (2)</li> <li>▪ WB free-Right Turn Lane</li> </ul>
<b>Grove Avenue (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ SR-60 Freeway WB Ramps (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Westbound All-Way Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ SR-60 Freeway EB Ramps (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second EB Left Turn Lane</li> <li>▪ Second EB Right Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Edison Street (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ NB Left Turn Lane</li> <li>▪ SB Left Turn Lane</li> <li>▪ EB Left Turn Lane</li> <li>▪ Second EB Through Lane</li> <li>▪ WB Left Turn Lane</li> <li>▪ Second WB Through Lane</li> <li>▪ Second NB Through Lane</li> <li>▪ Second SB Through Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Merrill Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ EB Left Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Kimball Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ NB Left Turn Lane</li> <li>▪ WB Left Turn Lane</li> <li>▪ Second EB Through Lane</li> <li>▪ Second WB Through Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Bickmore Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ NB Left Turn Lane</li> <li>▪ SB Left Turn Lane</li> <li>▪ EB Left Turn Lane</li> <li>▪ WB Left Turn Lane</li> </ul>

**TABLE 5.7-5 (Cont.)  
 BUILDOUT WITH PROJECT CONDITIONS  
 SUMMARY OF INTERSECTION AND ROADWAY IMPROVEMENTS**

<b>Intersection/Segment</b>	<b>Improvement</b>
<ul style="list-style-type: none"> <li>▪ Pine Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ Second EB Through Lane</li> <li>▪ SB Left Turn Lane</li> <li>▪ Second WB Through Lane</li> </ul>
<b>Walker Avenue (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Edison Street (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ NB Left Turn Lane</li> <li>▪ SB Left Turn Lane</li> <li>▪ EB Left Turn Lane</li> <li>▪ Second EB Through Lane</li> <li>▪ WB Left Turn Lane</li> <li>▪ Second WB Through Lane</li> <li>▪ NB Right Turn Lane</li> <li>▪ NB Right-Turn Overlap Phasing</li> <li>▪ EB Right Turn Lane</li> </ul>
<b>Hellman Avenue (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Merrill Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second NB Through Lane</li> <li>▪ NB Right Turn Lane</li> <li>▪ Second SB Through Lane</li> <li>▪ Second WB Left Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Kimball Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second SB Through Lane</li> <li>▪ Second NB Left Turn Lane</li> <li>▪ Second NB Through Lane</li> <li>▪ NB Right Turn Lane</li> <li>▪ Second SB Left Turn Lane</li> <li>▪ SB Right Turn Lane</li> <li>▪ Second EB Left Turn Lane</li> <li>▪ Second EB Through Lane</li> <li>▪ EB Right Turn Lane</li> <li>▪ Second WB Left Turn Lane</li> <li>▪ Second WB Through Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Pine Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ NB Left Turn Lane</li> <li>▪ Second NB Through Lane</li> <li>▪ SB Left Turn Lane</li> <li>▪ Second SB Through Lane</li> </ul>

**TABLE 5.7-5 (Cont.)  
 BUILDOUT WITH PROJECT CONDITIONS  
 SUMMARY OF INTERSECTION AND ROADWAY IMPROVEMENTS**

<b>Intersection/Segment</b>	<b>Improvement</b>
	<ul style="list-style-type: none"> <li>▪ EB Left Turn Lane</li> <li>▪ Second EB Through Lane</li> <li>▪ WB Left Turn Lane</li> <li>▪ Second WB Through Lane</li> <li>▪ Second NB Left Turn Lane</li> <li>▪ NB Right Turn Lane</li> <li>▪ Second SB Left Turn Lane</li> <li>▪ SB Right Turn Lane</li> <li>▪ Second EB Left Turn Lane</li> <li>▪ EB Right Turn Lane</li> <li>▪ Second WB Left Turn Lane</li> <li>▪ WB Right Turn Lane</li> <li>▪ NB Right-Turn Overlap Phasing</li> <li>▪ SB Right-Turn Overlap Phasing</li> <li>▪ Third EB Through Lane</li> <li>▪ Third WB Through Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Chandler Street (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ NB Left Turn Lane</li> <li>▪ SB Left Turn Lane</li> <li>▪ EB Left Turn Lane</li> <li>▪ WB Left Turn Lane</li> <li>▪ Second NB Through Lane</li> <li>▪ Second SB Left Turn Lane</li> <li>▪ Second SB Through Lane</li> <li>▪ Second EB Through Lane</li> <li>▪ Second WB Through Lane</li> </ul>
<b>Vineyard Avenue (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ SR-60 Freeway EB Ramps (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ EB All-Way Lane</li> </ul>
<b>Archibald Avenue (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Riverside Drive (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second EB Left Turn Lane</li> <li>▪ SB Right-Turn Overlap Phasing</li> <li>▪ Second WB Through Lane</li> </ul>

**TABLE 5.7-5 (Cont.)  
 BUILDOUT WITH PROJECT CONDITIONS  
 SUMMARY OF INTERSECTION AND ROADWAY IMPROVEMENTS**

Intersection/Segment	Improvement
<ul style="list-style-type: none"> <li>▪ Edison Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second NB Left Turn Lane</li> <li>▪ NB Right-Turn Overlap Phasing</li> <li>▪ EB Right Turn Lane</li> <li>▪ EB Right-Turn Overlap Phasing</li> <li>▪ Second WB Left Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Merrill Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ SB Left Turn Lane</li> <li>▪ EB Left Turn Lane</li> <li>▪ Second NB Through Lane</li> <li>▪ Second SB Through Lane</li> <li>▪ WB Left Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Cloverdale Road (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ NB Left Turn Lane</li> <li>▪ Second NB Through Lane</li> <li>▪ Second SB Through Lane</li> <li>▪ First &amp; Second EB Left Turn Lanes (2)</li> <li>▪ Second EB Through Lane</li> <li>▪ Second WB Through Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Pine Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second SB Through Lane</li> <li>▪ Second EB Through Lane</li> <li>▪ Second NB Through Lane</li> <li>▪ Second WB Through Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ River Road (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ EB free-Right Turn Lane</li> <li>▪ Second SB Through Lane</li> </ul>
<b>River Road (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Corydon Street (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ SB Right Turn Lane</li> <li>▪ Second EB Left Turn Lane</li> <li>▪ Second EB Through Lane</li> <li>▪ Second NB Through Lane</li> </ul>
<b>Haven Avenue (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ SR-60 Freeway EB Ramps (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ NB free-Right Turn Lane</li> <li>▪ Restripe Second EB Left Turn Lane to an All-Way Lane</li> </ul>

**TABLE 5.7-5 (Cont.)  
 BUILDOUT WITH PROJECT CONDITIONS  
 SUMMARY OF INTERSECTION AND ROADWAY IMPROVEMENTS**

<b>Intersection/Segment</b>	<b>Improvement</b>
<b>Hamner Avenue (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Cloverdale Road (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second EB Through Lane</li> <li>▪ WB Left Turn Lane</li> <li>▪ Second NB Through Lane</li> <li>▪ Second SB Through Lane</li> <li>▪ EB Left Turn Lane</li> <li>▪ Second WB Through Lane</li> <li>▪ NB Right-Turn Overlap Phasing</li> <li>▪ Second SB Left Turn Lane</li> <li>▪ Second WB Left Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Schleisman Road (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Traffic Signal</li> <li>▪ EB Left Turn Lane</li> <li>▪ WB Left Turn Lane</li> <li>▪ Second NB Through Lane</li> <li>▪ Second SB Through Lane</li> <li>▪ NB Right Turn Lane</li> <li>▪ SB Right Turn Lane</li> <li>▪ Second WB Left Turn Lane</li> </ul>
<b>I-15 Freeway SB Ramps (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Gelena Street (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second EB Right Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Limonite Avenue (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Second SB Right Turn Lane</li> </ul>
<ul style="list-style-type: none"> <li>▪ Second Street (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ First &amp; Second EB Right Turn Lanes (2)</li> <li>▪ Second SB Right Turn Lane</li> </ul>
<b>I-15 Freeway NB Ramps (NS) at:</b>	
<ul style="list-style-type: none"> <li>▪ Second Street (EW)</li> </ul>	<ul style="list-style-type: none"> <li>▪ WB Right Turn Lane</li> <li>▪ NB All-Way Lane</li> </ul>
<b>Hellman Avenue</b>	
<ul style="list-style-type: none"> <li>▪ Eucalyptus Avenue to Merrill Avenue</li> </ul>	<ul style="list-style-type: none"> <li>▪ Construct 2 Lanes (0.6 Miles)</li> </ul>
<b>Kimball Avenue</b>	
<ul style="list-style-type: none"> <li>▪ Hellman Avenue to Archibald Avenue</li> </ul>	<ul style="list-style-type: none"> <li>▪ Construct 2 Lanes (1.1 Miles)</li> </ul>
<b>Pine Avenue</b>	
<ul style="list-style-type: none"> <li>▪ SR-71 Freeway to El Prado Road</li> </ul>	<ul style="list-style-type: none"> <li>▪ Construct 2 Lanes (0.6 Miles)</li> </ul>

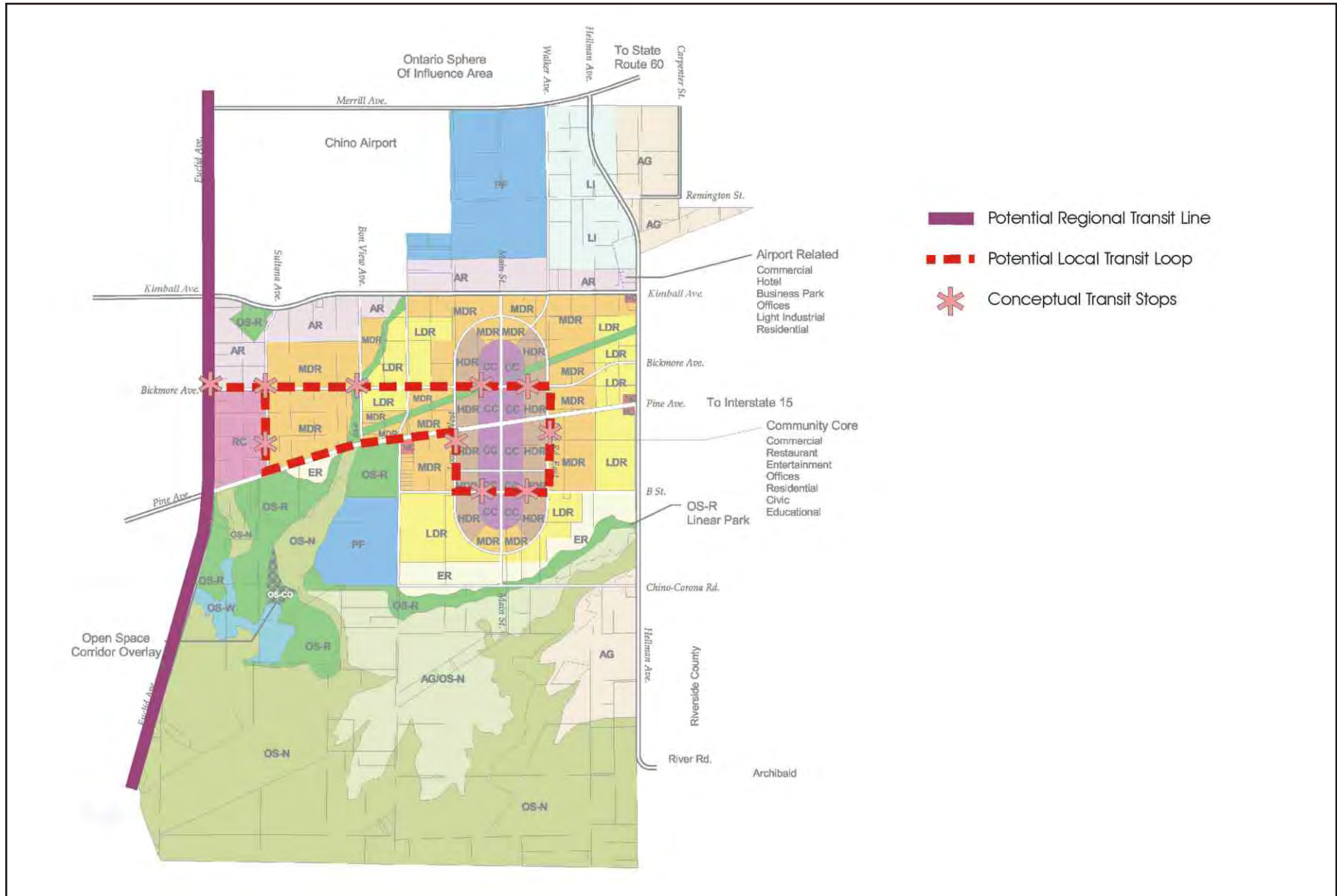
## **Freeway Improvements**

The traffic report included an analysis of 35 freeway segments based upon the San Bernardino County CMP. The proposed project traffic study identified the number of general use and high occupancy traffic lanes required to accommodate the proposed project and other future development (See Tables 5.7-6 and 5.7-7). Providing the number of lanes necessary to provide an adequate level of service for all segments (except those on the SR-91 which are currently under study by the Counties of Riverside, San Bernardino, and Orange) is based upon obtaining adequate funding. A portion of the traffic generated by the proposed project will contribute toward the need to expand these freeway segments. To offset this impact, a project “fair-share” contribution has been identified in the traffic report in Appendix C per CMP requirements. See Appendix C for the number and proportional distribution of traffic for these segments. (Fair share costs set forth in Appendix C are estimates only, and do not include possible credits, reimbursements, or other revenue sources.)

## **Community Transit System**

An integral part of the Specific Plan is its emphasis on an interactive development project that allows easy mobility within and beyond the project boundaries. One component of the project’s access and mobility involves the potential use of a transit system, consisting of an on-site transit system connected with a regional bus service. The on-site system is envisioned as a one-way, continuous loop on dedicated or prioritized travel lanes. The system would provide transit stops to serve major features, such as the Community Core and areas of higher density residential development. The transit stops are also intended to serve as connection points with the regional transit system and bus service. The Specific Plan has designed roadway cross-sections to include future transit, and has suggested various locations for the placement of transit stops, with their ultimate location to be determined at a later date by the City of Chino. (See Exhibit 5.7-6)

The transit plan is conceptual at this time and will require further study to properly evaluate the potential impact it may have upon traffic patterns, vehicle trip reduction land use, and air quality. The system should significantly reduce the number of vehicle trips within the proposed plan area and in the region, thereby providing a beneficial effect. The City of Chino and Omnitrans have been actively seeking funds to complete a Transit Feasibility Study for the project area.



SOURCE: The Planning Center

**TABLE 5.7-6  
CMP FREEWAY MAINLINE AM PEAK HOUR OPERATIONAL  
ANALYSIS (YEAR 2020)**

Freeway	Segment Limits	Existing Count	Model		Growth Increment 0.38	Future Forecast	Lanes		Capacity	Project Trips	Year 2020 W/O Project			Year 2020 W/Project		
			Existing	Future			Gen. Use	HOV			Trips	VOL/CAP	LOS	Trips	VOL/CAP	LOS
I-15 Fwy. SB	Jurupa St. to SR-60 Fwy.	13,466	16,366	22,931	2,495	15,961	4	0	8,800	436	15,615	<b>1.77</b>	<b>F</b>	16,036	<b>1.82</b>	<b>F</b>
	SR-60 Fwy. to Galena St.	8,534	7,973	15,658	2,920	11,454	3	0	6,600	610	11,108	<b>1.68</b>	<b>F</b>	11,125	<b>1.69</b>	<b>F</b>
	Galena St. to Limonite Ave.	8,534	7,973	14,062	2,314	10,848	3	0	6,600	462	10,617	<b>1.61</b>	<b>F</b>	10,636	<b>1.61</b>	<b>F</b>
	Limonite Ave. to 6th St.	9,395	8,984	13,362	1,664	11,059	3	0	6,600	16	10,982	<b>1.66</b>	<b>F</b>	11,020	<b>1.67</b>	<b>F</b>
	6th St. to 2nd St.	9,630	8,976	13,471	1,708	11,338	3	0	6,600	14	11,261	<b>1.71</b>	<b>F</b>	11,381	<b>1.72</b>	<b>F</b>
	2nd St. to Hidden Valley Pkwy.	10,256	8,536	11,093	972	11,228	4	0	8,800	138	11,073	<b>1.26</b>	<b>F</b>	11,434	<b>1.30</b>	<b>F</b>
	Hidden Valley Pkwy. to SR-91 Fwy.	9,943	8,536	11,093	972	10,915	4	0	8,800	138	10,760	<b>1.22</b>	<b>F</b>	11,121	<b>1.26</b>	<b>F</b>
	SR-91 Fwy. to Magnolia Ave.	2,510	4,984	13,063	3,070	5,580	4	0	8,800	40	5,503	0.63	<b>C</b>	5,417	0.62	<b>C</b>
I-15 Fwy. NB	Magnolia Ave. to SR-91 Fwy.	10,021	15,990	24,969	3,412	13,433	3	0	6,600	171	13,318	<b>2.02</b>	<b>F</b>	12,966	<b>1.96</b>	<b>F</b>
	SR-91 Fwy. to Hidden Valley Pkwy.	2,490	9,490	18,323	3,357	5,847	4	0	8,800	131	5,616	0.64	<b>C</b>	5,559	0.63	<b>C</b>
	Hidden Valley Pkwy. to 2nd St.	2,569	9,490	18,323	3,357	5,926	4	0	8,800	131	5,695	0.65	<b>C</b>	5,638	0.64	<b>C</b>
	2nd St. to 6th St.	2,412	8,165	18,348	3,870	6,282	3	0	6,600	79	6,167	0.93	<b>D</b>	6,144	0.93	<b>D</b>
	6th St. to Limonite Ave.	2,353	8,672	20,499	4,494	6,847	3	0	6,600	24	6,732	<b>1.02</b>	<b>F</b>	6,732	<b>1.02</b>	<b>F</b>
	Limonite Ave. to Galena St.	2,137	8,264	20,962	4,825	6,962	3	0	6,600	83	6,807	<b>1.03</b>	<b>F</b>	6,896	<b>1.04</b>	<b>F</b>
	Galena St. to SR-60 Fwy.	2,137	8,264	19,542	4,286	6,423	3	0	6,600	116	6,191	0.94	<b>E</b>	6,439	0.98	<b>E</b>
	SR-60 Fwy. to Jurupa St.	3,373	10,248	17,479	2,748	6,121	4	0	8,800	104	5,889	0.67	<b>C</b>	6,306	0.72	<b>C</b>
SR-60 Fwy. WB	Van Buren Blvd. to I-15 Fwy.	5,428	14,635	25,785	4,237	9,665	3	1	8,200	601	9,089	<b>1.11</b>	<b>F</b>	9,588	<b>1.17</b>	<b>F</b>
	I-15 Fwy. to Milliken Ave.	8,413	13,853	29,699	6,021	14,434	3	1	8,200	428	13,858	<b>1.69</b>	<b>F</b>	14,322	<b>1.75</b>	<b>F</b>
	Milliken Ave. to Haven Ave.	8,775	19,448	37,112	6,712	15,487	4	1	10,400	462	14,911	<b>1.43</b>	<b>F</b>	15,702	<b>1.51</b>	<b>F</b>
	Haven Ave. to Archibald Ave.	8,956	19,448	36,255	6,387	15,343	4	1	10,400	463	14,882	<b>1.43</b>	<b>F</b>	15,587	<b>1.50</b>	<b>F</b>
	Archibald Ave. to Vineyard Ave.	9,046	19,068	36,600	6,662	15,708	4	1	10,400	498	15,247	<b>1.47</b>	<b>F</b>	16,035	<b>1.54</b>	<b>F</b>
	Vineyard Ave. to Grove Ave.	8,911	18,968	36,256	6,569	15,480	4	1	10,400	298	15,134	<b>1.46</b>	<b>F</b>	15,787	<b>1.52</b>	<b>F</b>
	Grove Ave. to Euclid Ave. (SR-83)	9,092	19,292	37,037	6,743	15,835	4	1	10,400	412	15,334	<b>1.47</b>	<b>F</b>	16,086	<b>1.55</b>	<b>F</b>
	Euclid Ave. (SR-83) to Mountain Ave.	8,775	20,746	38,159	6,617	15,392	4	1	10,400	222	15,160	<b>1.46</b>	<b>F</b>	15,673	<b>1.51</b>	<b>F</b>
	Mountain Ave. to Central Ave.	8,458	20,349	37,818	6,638	15,096	4	1	10,400	307	14,787	<b>1.42</b>	<b>F</b>	15,405	<b>1.48</b>	<b>F</b>
Central Ave. to Ramona Ave.	8,142	19,959	37,814	6,785	14,927	4	1	10,400	291	14,618	<b>1.41</b>	<b>F</b>	15,669	<b>1.51</b>	<b>F</b>	

**TABLE 5.7-6 (Cont.)  
CMP FREEWAY MAINLINE **AM** PEAK HOUR OPERATIONAL  
ANALYSIS (YEAR 2020)**

Freeway	Segment Limits	Existing Count	Model		Growth Increment 0.38	Future Forecast	Lanes		Capacity	Project Trips	Year 2020 W/O Project			Year 2020 W/Project		
			Existing	Future			Gen. Use	HOV			Trips	VOL/ CAP	LOS	Trips	VOL/ CAP	LOS
SR-60 Fwy. EB	Ramona Ave. to Central Ave.	3,504	8,639	16,760	3,086	6,590	4	1	10,400	186	6,129	0.59	C	6,605	0.64	C
	Central Ave. to Mountain Ave.	3,641	8,839	16,312	2,840	6,481	4	1	10,400	230	6,020	0.58	C	6,526	0.63	C
	Mountain Ave. to Euclid Ave. (SR-83)	3,777	9,649	16,478	2,595	6,372	4	1	10,400	252	6,026	0.58	C	6,412	0.62	C
	Euclid Ave. (SR-83) to Grove Ave.	3,913	9,191	15,591	2,432	6,345	4	1	10,400	177	5,882	0.57	C	6,426	0.62	C
	Grove Ave. to Vineyard Ave.	3,835	8,432	14,339	2,245	6,080	4	1	10,400	28	5,848	0.56	C	6,217	0.60	C
	Vineyard Ave. to Archibald Ave.	3,894	7,880	13,913	2,293	6,187	4	1	10,400	25	5,878	0.57	C	6,336	0.61	C
	Archibald Ave. to Haven Ave.	3,855	7,172	13,752	2,500	6,355	4	1	10,400	39	6,046	0.58	C	6,502	0.63	C
	Haven Ave. to Milliken Ave.	3,777	7,172	13,092	2,250	6,027	4	1	10,400	48	5,640	0.54	B	6,173	0.59	C
	Milliken Ave. to I-15 Fwy.	3,621	3,458	6,304	1,081	4,702	3	1	8,200	46	4,315	0.53	B	4,681	0.57	C
I-15 Fwy. to Van Buren Blvd.	2,336	5,756	9,060	1,256	3,592	3	1	8,200	59	3,205	0.39	B	3,599	0.44	B	
SR-71 Fwy. SB	Chino Ave. to Grand Ave.	1,823	1,799	14,167	4,700	6,523	3	1	8,200	398	5,947	0.73	C	6,125	0.75	C
	Grand Ave. to Chino Hills Pkwy. (SR-142)	2,160	1,510	9,609	3,078	5,238	3	1	8,200	364	4,662	0.57	C	4,866	0.59	C
	Chino Hills Pkwy. (SR-142) to Ramona Ave.	2,244	1,991	7,257	2,001	4,245	3	1	8,200	321	3,669	0.45	B	3,892	0.47	B
	Ramona Ave. to Soquel Canyon Pkwy.	2,244	1,991	7,257	2,001	4,245	3	1	8,200	321	3,669	0.45	B	3,892	0.47	B
	Soquel Canyon Pkwy. to Pine Ave.	2,020	1,799	10,229	3,203	5,223	2	1	6,000	336	4,531	0.76	C	4,922	0.82	D
	Pine Ave. to Euclid Ave. (SR-83)	2,076	1,998	9,544	2,867	4,943	2	1	6,000	28	4,712	0.79	D	4,656	0.78	D
Euclid Ave. (SR-83) to SR-91 Fwy.	1,851	2,822	10,373	2,869	4,720	2	0	4,400	342	3,869	0.88	D	4,764	<b>1.08</b>	<b>F</b>	
SR-71 Fwy. NB	SR-91 Fwy. to Euclid Ave. (SR-83)	752	3,434	10,187	2,566	3,318	2	0	4,400	459	2,050	0.47	B	3,293	0.75	C
	Euclid Ave. (SR-83) to Pine Ave.	844	2,750	8,889	2,333	3,177	2	1	6,000	39	3,022	0.50	B	3,288	0.55	C
	Pine Ave. to Soquel Canyon Pkwy.	821	3,091	10,069	2,652	3,473	2	1	6,000	370	3,009	0.50	B	3,659	0.61	C
	Soquel Canyon Pkwy. to Ramona Ave.	912	2,223	9,845	2,896	3,808	3	1	8,200	344	3,421	0.42	B	4,133	0.50	B
	Ramona Ave. to Chino Hills Pkwy. (SR-142)	912	2,223	8,057	2,217	3,129	3	1	8,200	344	2,742	0.33	A	3,451	0.42	B
	Chino Hills Pkwy. (SR-142) to Grand Ave.	878	1,910	11,007	3,457	4,335	3	1	8,200	326	3,948	0.48	B	4,663	0.57	C
	Grand Ave. to Chino Ave.	741	1,682	13,192	4,374	5,115	3	1	8,200	290	4,728	0.58	C	5,288	0.64	C

**TABLE 5.7-6 (Cont.)  
CMP FREEWAY MAINLINE **AM** PEAK HOUR OPERATIONAL  
ANALYSIS (YEAR 2020)**

Freeway	Segment Limits	Existing Count	Model		Growth Increment 0.38	Future Forecast	Lanes		Capacity	Project Trips	Year 2020 W/O Project			Year 2020 W/Project		
			Existing	Future			Gen. Use	HOV			Trips	VOL/ CAP	LOS	Trips	VOL/ CAP	LOS
SR-91 Fwy. WB	McKinley St. to I-15 Fwy.	9,074	19,487	32,677	5,012	14,086	4	1	10,400	174	13,855	<b>1.33</b>	<b>F</b>	13,784	<b>1.33</b>	<b>F</b>
	I-15 Fwy. to Main St.	10,126	30,165	45,418	5,796	15,922	4	1	10,400	265	15,807	<b>1.52</b>	<b>F</b>	15,866	<b>1.53</b>	<b>F</b>
	Main St. to West Grand Blvd.	9,424	28,466	42,892	5,482	14,906	4	1	10,400	149	14,791	<b>1.42</b>	<b>F</b>	14,668	<b>1.41</b>	<b>F</b>
	West Grand Blvd. to Lincoln Ave.	9,731	28,816	46,303	6,645	16,376	4	1	10,400	155	16,261	<b>1.56</b>	<b>F</b>	15,924	<b>1.53</b>	<b>F</b>
	Lincoln Ave. to Maple St.	9,249	28,289	46,360	6,867	16,116	4	1	10,400	244	16,001	<b>1.54</b>	<b>F</b>	16,295	<b>1.57</b>	<b>F</b>
	Maple St. to Serfas Club Dr.	9,556	28,932	52,839	9,085	18,641	4	1	10,400	255	18,526	<b>1.78</b>	<b>F</b>	18,573	<b>1.79</b>	<b>F</b>
	Serfas Club Dr. to SR-71 Fwy.	9,424	30,235	56,670	10,045	19,469	4	1	10,400	279	19,354	<b>1.86</b>	<b>F</b>	19,435	<b>1.87</b>	<b>F</b>
	SR-71 Fwy. to Green River Rd.	9,468	29,253	56,354	10,298	19,766	4	2	12,000	425	18,992	<b>1.58</b>	<b>F</b>	19,949	<b>1.66</b>	<b>F</b>
	Green River Rd. to Coal Canyon Rd.	9,819	30,953	60,231	11,126	20,945	4	2	12,000	419	20,171	<b>1.68</b>	<b>F</b>	21,085	<b>1.76</b>	<b>F</b>
Coal Canyon Rd. to Gypsum Canyon Rd.	10,257	28,154	65,743	14,284	24,541	4	2	12,000	416	23,767	<b>1.98</b>	<b>F</b>	22,667	<b>1.89</b>	<b>F</b>	
SR-91 Fwy. EB	Gypsum Canyon Rd. to Coal Canyon Rd.	6,544	9,404	20,542	4,232	10,776	4	2	12,000	287	9,623	0.80	D	10,647	0.89	D
	Coal Canyon Rd. to Green River Rd.	6,264	8,798	20,251	4,352	10,616	4	2	12,000	290	9,463	0.79	D	10,518	0.88	D
	Green River Rd. to SR-71 Fwy.	6,041	9,402	20,940	4,384	10,425	4	2	12,000	313	9,272	0.77	C	10,354	0.86	D
	SR-71 Fwy. to Serfas Club Dr.	6,013	9,772	21,444	4,435	10,448	4	1	10,400	47	10,371	1.00	E	10,234	0.98	E
	Serfas Club Dr. to Maple St.	6,097	9,857	21,020	4,242	10,339	4	1	10,400	48	10,262	0.99	E	10,113	0.97	E
	Maple St. to Lincoln Ave.	5,901	9,563	19,815	3,896	9,797	4	1	10,400	44	9,720	0.93	D	9,598	0.92	D
	Lincoln Ave. to West Grand Blvd.	6,208	8,793	18,869	3,829	10,037	4	1	10,400	11	9,960	0.96	E	9,868	0.95	E
	West Grand Blvd. to Main St.	6,013	9,682	19,888	3,878	9,891	4	1	10,400	11	9,814	0.94	E	9,753	0.94	E
	Main St. to I-15 Fwy.	6,460	10,839	22,229	4,328	10,788	4	1	10,400	11	10,711	<b>1.03</b>	<b>F</b>	10,870	<b>1.05</b>	<b>F</b>
I-15 Fwy. to McKinley St.	5,789	10,214	14,165	1,501	7,290	4	1	10,400	58	7,135	0.69	C	7,317	0.70	C	

**TABLE 5.7-6 (Cont.)  
CMP FREEWAY MAINLINE **PM** PEAK HOUR OPERATIONAL  
ANALYSIS (YEAR 2020)**

Freeway	Segment Limits	Existing Count	Model		Growth Increment 0.38	Future Forecast	Lanes		Capacity	Project Trips	Year 2020 W/O Project			Year 2020 W/Project		
			Existing	Future			Gen. Use	HOV			Trips	VOL/ CAP	LOS	Trips	VOL/ CAP	LOS
I-15 Fwy. SB	Jurupa St. to SR-60 Fwy.	5,416	17,922	30,261	3,455	8,871	4	0	8,800	109	8,543	0.97	E	8,985	<b>1.02</b>	<b>F</b>
	SR-60 Fwy. to Galena St.	3,432	13,028	27,749	4,122	7,554	3	0	6,600	154	7,226	<b>1.09</b>	<b>F</b>	7,789	<b>1.18</b>	<b>F</b>
	Galena St. to Limonite Ave.	3,432	13,028	31,322	5,122	8,554	3	0	6,600	94	8,335	<b>1.26</b>	<b>F</b>	8,782	<b>1.33</b>	<b>F</b>
	Limonite Ave. to 6th St.	3,778	14,635	32,569	5,022	8,800	3	0	6,600	123	8,647	<b>1.31</b>	<b>F</b>	8,868	<b>1.34</b>	<b>F</b>
	6th St. to 2nd St.	3,873	14,031	27,461	3,760	7,633	3	0	6,600	148	7,480	<b>1.13</b>	<b>F</b>	7,795	<b>1.18</b>	<b>F</b>
	2nd St. to Hidden Valley Pkwy.	4,125	16,295	27,367	3,100	7,225	4	0	8,800	213	6,919	0.79	D	7,352	0.84	D
	Hidden Valley Pkwy. to SR-91 Fwy.	3,999	16,295	27,366	3,100	7,099	4	0	8,800	213	6,793	0.77	C	7,226	0.82	D
	SR-91 Fwy. to Magnolia Ave.	9,000	21,504	35,343	3,875	12,875	4	0	8,800	140	12,722	<b>1.45</b>	<b>F</b>	13,022	<b>1.48</b>	<b>F</b>
I-15 Fwy. NB	Magnolia Ave. to SR-91 Fwy.	4,030	11,839	29,355	4,904	8,934	3	0	6,600	35	8,825	<b>1.34</b>	<b>F</b>	9,064	<b>1.37</b>	<b>F</b>
	SR-91 Fwy. to Hidden Valley Pkwy.	8,930	15,328	24,444	2,552	11,482	4	0	8,800	52	11,263	<b>1.28</b>	<b>F</b>	11,690	<b>1.33</b>	<b>F</b>
	Hidden Valley Pkwy. to 2nd St.	9,211	15,328	24,444	2,552	11,763	4	0	8,800	52	11,544	<b>1.31</b>	<b>F</b>	11,971	<b>1.36</b>	<b>F</b>
	2nd St. to 6th St.	8,649	15,931	25,338	2,634	11,283	3	0	6,600	--	11,174	<b>1.69</b>	<b>F</b>	11,497	<b>1.74</b>	<b>F</b>
	6th St. to Limonite Ave.	8,438	16,221	27,602	3,187	11,625	3	0	6,600	--	11,516	<b>1.74</b>	<b>F</b>	11,689	<b>1.77</b>	<b>F</b>
	Limonite Ave. to Galena St.	7,664	14,818	27,509	3,553	11,217	3	0	6,600	216	10,911	<b>1.65</b>	<b>F</b>	11,275	<b>1.71</b>	<b>F</b>
	Galena St. to SR-60 Fwy.	7,664	14,818	28,373	3,795	11,459	3	0	6,600	297	11,000	<b>1.67</b>	<b>F</b>	11,631	<b>1.76</b>	<b>F</b>
	SR-60 Fwy. to Jurupa St.	12,094	25,571	33,113	2,112	14,206	4	0	8,800	297	13,747	<b>1.56</b>	<b>F</b>	14,496	<b>1.65</b>	<b>F</b>
SR-60 Fwy. WB	Van Buren Blvd. to I-15 Fwy.	4,059	12,373	20,752	2,346	6,405	3	1	8,200	55	5,858	0.71	C	6,401	0.78	D
	I-15 Fwy. to Milliken Ave.	6,292	11,943	25,255	3,727	10,019	3	1	8,200	11	9,472	<b>1.16</b>	<b>F</b>	10,113	<b>1.23</b>	<b>F</b>
	Milliken Ave. to Haven Ave.	6,562	15,941	31,509	4,359	10,921	4	1	10,400	13	10,374	1.00	E	10,999	<b>1.06</b>	<b>F</b>
	Haven Ave. to Archibald Ave.	6,698	15,941	32,322	4,587	11,285	4	1	10,400	17	10,848	<b>1.04</b>	<b>F</b>	11,388	<b>1.09</b>	<b>F</b>
	Archibald Ave. to Vineyard Ave.	6,765	17,030	32,525	4,339	11,104	4	1	10,400	19	10,667	<b>1.03</b>	<b>F</b>	11,258	<b>1.08</b>	<b>F</b>
	Vineyard Ave. to Grove Ave.	6,664	17,623	33,001	4,306	10,970	4	1	10,400	20	10,642	<b>1.02</b>	<b>F</b>	11,137	<b>1.07</b>	<b>F</b>
	Grove Ave. to Euclid Ave. (SR-83)	6,799	18,656	34,521	4,442	11,241	4	1	10,400	120	10,607	<b>1.02</b>	<b>F</b>	11,387	<b>1.09</b>	<b>F</b>
	Euclid Ave. (SR-83) to Mountain Ave.	6,562	19,917	35,440	4,346	10,908	4	1	10,400	141	10,449	1.00	E	11,070	<b>1.06</b>	<b>F</b>
	Mountain Ave. to Central Ave.	6,326	18,789	35,296	4,622	10,948	4	1	10,400	138	10,336	0.99	E	11,076	<b>1.07</b>	<b>F</b>
Central Ave. to Ramona Ave.	6,089	18,420	35,896	4,893	10,982	4	1	10,400	104	10,370	1.00	E	11,106	<b>1.07</b>	<b>F</b>	

**TABLE 5.7-6 (Cont.)  
CMP FREEWAY MAINLINE **PM** PEAK HOUR OPERATIONAL  
ANALYSIS (YEAR 2020)**

Freeway	Segment Limits	Existing Count	Model		Growth Increment 0.38	Future Forecast	Lanes		Capacity	Project Trips	Year 2020 W/O Project			Year 2020 W/Project		
			Existing	Future			Gen. Use	HOV			Trips	VOL/ CAP	LOS	Trips	VOL/ CAP	LOS
SR-60 Fwy. EB	Ramona Ave. to Central Ave.	8,329	29,307	55,383	7,301	15,630	4	1	10,400	528	15,193	<b>1.46</b>	<b>F</b>	16,369	<b>1.57</b>	<b>F</b>
	Central Ave. to Mountain Ave.	8,653	29,248	53,743	6,859	15,512	4	1	10,400	554	15,075	<b>1.45</b>	<b>F</b>	16,383	<b>1.58</b>	<b>F</b>
	Mountain Ave. to Euclid Ave. (SR-83)	8,977	29,547	53,675	6,756	15,733	4	1	10,400	396	15,405	<b>1.48</b>	<b>F</b>	16,533	<b>1.59</b>	<b>F</b>
	Euclid Ave. (SR-83) to Grove Ave.	9,301	27,867	51,225	6,540	15,841	4	1	10,400	548	15,164	<b>1.46</b>	<b>F</b>	16,375	<b>1.57</b>	<b>F</b>
	Grove Ave. to Vineyard Ave.	9,116	26,880	48,922	6,172	15,288	4	1	10,400	286	14,829	<b>1.43</b>	<b>F</b>	15,730	<b>1.51</b>	<b>F</b>
	Vineyard Ave. to Archibald Ave.	9,255	26,835	49,599	6,374	15,629	4	1	10,400	505	15,017	<b>1.44</b>	<b>F</b>	16,025	<b>1.54</b>	<b>F</b>
	Archibald Ave. to Haven Ave.	9,162	27,357	49,598	6,227	15,389	4	1	10,400	490	14,777	<b>1.42</b>	<b>F</b>	15,593	<b>1.50</b>	<b>F</b>
	Haven Ave. to Milliken Ave.	8,977	27,357	51,368	6,723	15,700	4	1	10,400	683	14,935	<b>1.44</b>	<b>F</b>	15,861	<b>1.53</b>	<b>F</b>
	Milliken Ave. to I-15 Fwy.	8,607	12,761	28,347	4,364	12,971	3	1	8,200	653	12,206	<b>1.49</b>	<b>F</b>	12,792	<b>4.56</b>	<b>F</b>
I-15 Fwy. to Van Buren Blvd.	5,553	19,958	37,300	4,856	10,409	3	1	8,200	653	9,644	<b>1.18</b>	<b>F</b>	10,236	<b>1.25</b>	<b>F</b>	
SR-71 Fwy. SB	Chino Ave. to Grand Ave.	1,038	2,443	25,295	6,399	7,437	3	1	8,200	248	6,890	0.84	D	7,218	0.88	D
	Grand Ave. to Chino Hills Pkwy. (SR-142)	1,230	2,850	21,060	5,099	6,329	3	1	8,200	289	5,782	0.71	C	6,415	0.78	C
	Chino Hills Pkwy. (SR-142) to Ramona Ave.	1,278	3,275	16,763	3,777	5,055	3	1	8,200	289	4,508	0.55	C	5,121	0.62	C
	Ramona Ave. to Soquel Canyon Pkwy.	1,278	3,275	16,764	3,777	5,055	3	1	8,200	290	4,508	0.55	C	5,120	0.62	C
	Soquel Canyon Pkwy. to Pine Ave.	1,150	4,216	17,603	3,748	4,898	2	1	6,000	320	4,242	0.71	C	4,847	0.81	D
	Pine Ave. to Euclid Ave. (SR-83)	1,182	3,798	15,393	3,247	4,429	2	1	6,000	290	4,210	0.70	C	4,389	0.73	C
Euclid Ave. (SR-83) to SR-91 Fwy.	1,054	4,912	17,098	3,412	4,466	2	0	4,400	405	2,784	0.63	C	4,016	0.91	D	
SR-71 Fwy. NB	SR-91 Fwy. to Euclid Ave. (SR-83)	1,886	4,882	16,826	3,344	5,230	2	0	4,400	282	4,028	0.92	D	5,345	<b>1.21</b>	<b>F</b>
	Euclid Ave. (SR-83) to Pine Ave.	2,115	3,202	14,782	3,242	5,357	2	1	6,000	539	5,051	0.84	D	5,368	0.89	D
	Pine Ave. to Soquel Canyon Pkwy.	2,057	3,153	16,024	3,604	5,661	2	1	6,000	525	4,744	0.79	D	5,447	0.91	D
	Soquel Canyon Pkwy. to Ramona Ave.	2,286	3,211	14,053	3,036	5,322	3	1	8,200	539	4,557	0.56	C	5,093	0.62	C
	Ramona Ave. to Chino Hills Pkwy. (SR-142)	2,286	3,211	11,574	2,342	4,628	3	1	8,200	539	3,863	0.47	B	4,378	0.53	B
	Chino Hills Pkwy. (SR-142) to Grand Ave.	2,200	2,187	15,751	3,798	5,998	3	1	8,200	552	5,233	0.64	C	5,726	0.70	C
	Grand Ave. to Chino Ave.	1,857	2,532	21,985	5,447	7,304	3	1	8,200	565	6,539	0.80	D	7,156	0.87	D

**TABLE 5.7-6 (Cont.)  
CMP FREEWAY MAINLINE **PM** PEAK HOUR OPERATIONAL  
ANALYSIS (YEAR 2020)**

Freeway	Segment Limits	Existing Count	Model		Growth Increment 0.38	Future Forecast	Lanes		Capacity	Project Trips	Year 2020 W/O Project			Year 2020 W/Project		
			Existing	Future			Gen. Use	HOV			Trips	VOL/ CAP	LOS	Trips	VOL/ CAP	LOS
SR-91 Fwy. WB	McKinley St. to I-15 Fwy.	5,375	20,028	30,497	2,931	8,306	4	1	10,400	108	8,087	0.78	D	8,313	0.80	D
	I-15 Fwy. to Main St.	5,998	24,484	45,773	5,961	11,959	4	1	10,400	11	11,850	<b>1.14</b>	<b>F</b>	11,757	<b>1.13</b>	<b>F</b>
	Main St. to West Grand Blvd.	5,583	21,906	40,888	5,315	10,898	4	1	10,400	11	10,789	<b>1.04</b>	<b>F</b>	10,717	<b>1.03</b>	<b>F</b>
	West Grand Blvd. to Lincoln Ave.	5,764	22,364	41,553	5,373	11,137	4	1	10,400	11	11,028	<b>1.06</b>	<b>F</b>	10,935	<b>1.05</b>	<b>F</b>
	Lincoln Ave. to Maple St.	5,479	18,712	43,158	6,845	12,324	4	1	10,400	46	12,215	<b>1.17</b>	<b>F</b>	12,164	<b>1.17</b>	<b>F</b>
	Maple St. to Serfas Club Dr.	5,661	21,517	47,249	7,205	12,866	4	1	10,400	56	12,757	<b>1.23</b>	<b>F</b>	12,744	<b>1.23</b>	<b>F</b>
	Serfas Club Dr. to SR-71 Fwy.	5,583	21,921	48,130	7,339	12,922	4	1	10,400	62	12,813	<b>1.23</b>	<b>F</b>	12,836	<b>1.23</b>	<b>F</b>
	SR-71 Fwy. to Green River Rd.	5,609	21,242	47,874	7,457	13,066	4	2	12,000	329	11,537	0.96	E	13,152	<b>1.10</b>	<b>F</b>
	Green River Rd. to Coal Canyon Rd.	5,816	20,597	49,341	8,048	13,864	4	2	12,000	306	12,335	<b>1.03</b>	<b>F</b>	13,794	<b>1.15</b>	<b>F</b>
Coal Canyon Rd. to Gypsum Canyon Rd.	6,076	21,408	50,578	8,168	14,244	4	2	12,000	299	12,715	<b>1.06</b>	<b>F</b>	13,773	<b>1.15</b>	<b>F</b>	
SR-91 Fwy. EB	Gypsum Canyon Rd. to Coal Canyon Rd.	10,257	40,718	96,183	15,530	25,787	4	2	12,000	446	24,694	<b>2.06</b>	<b>F</b>	23,920	<b>1.99</b>	<b>F</b>
	Coal Canyon Rd. to Green River Rd.	9,819	43,002	88,953	12,866	22,685	4	2	12,000	452	21,592	<b>1.80</b>	<b>F</b>	22,895	<b>1.91</b>	<b>F</b>
	Green River Rd. to SR-71 Fwy.	9,468	41,332	82,969	11,658	21,126	4	2	12,000	457	20,033	<b>1.67</b>	<b>F</b>	21,602	<b>1.80</b>	<b>F</b>
	SR-71 Fwy. to Serfas Club Dr.	9,424	42,042	83,498	11,608	21,032	4	1	10,400	316	20,879	<b>2.01</b>	<b>F</b>	20,762	<b>2.00</b>	<b>F</b>
	Serfas Club Dr. to Maple St.	9,556	41,001	77,282	10,159	19,715	4	1	10,400	300	19,562	<b>1.88</b>	<b>F</b>	19,804	<b>1.90</b>	<b>F</b>
	Maple St. to Lincoln Ave.	9,249	39,237	67,807	8,000	17,249	4	1	10,400	290	17,096	<b>1.64</b>	<b>F</b>	17,208	<b>1.65</b>	<b>F</b>
	Lincoln Ave. to West Grand Blvd.	9,731	37,865	63,657	7,222	16,953	4	1	10,400	113	16,800	<b>1.62</b>	<b>F</b>	16,771	<b>1.61</b>	<b>F</b>
	West Grand Blvd. to Main St.	9,424	40,048	59,957	5,575	14,999	4	1	10,400	110	14,846	<b>1.43</b>	<b>F</b>	14,913	<b>1.43</b>	<b>F</b>
	Main St. to I-15 Fwy.	10,126	42,040	65,006	6,430	16,556	4	1	10,400	110	16,403	<b>1.58</b>	<b>F</b>	16,228	<b>1.56</b>	<b>F</b>
I-15 Fwy. to McKinley St.	9,074	28,887	46,663	4,977	14,051	4	1	10,400	189	13,745	<b>1.32</b>	<b>F</b>	13,835	<b>1.33</b>	<b>F</b>	

**TABLE 5.7-7  
CMP FREEWAY MAINLINE AM OPERATIONS ANALYSIS  
WITH IMPROVEMENTS (YEAR 2020)**

Freeway	Segment Limits	Improvement (Lanes Added)			Improved			
		GENERAL	HOV	AUX	CAPACITY	TRIPS	VOL/ CAP	LOS
I-15 Fwy. SB	Jurupa St. to SR-60 Fwy.	3	1		17,000	16,036	0.94	E
	SR-60 Fwy. to Galena St.	2	1		12,600	11,125	0.88	D
	Galena St. to Limonite Ave.	2	1		12,600	10,636	0.84	D
	Limonite Ave. to 6th St.	2	1		12,600	11,020	0.87	D
	6th St. to 2nd St.	2	1		12,600	11,381	0.90	D
	2nd St. to Hidden Valley Pkwy.	1	1		12,600	11,434	0.91	D
	Hidden Valley Pkwy. to SR-91 Fwy.	1	1		12,600	11,121	0.88	D
	SR-91 Fwy. to Magnolia Ave.				8,800	5,417	0.62	C
I-15 Fwy. NB	Magnolia Ave. to SR-91 Fwy.	3	1		14,800	12,966	0.88	D
	SR-91 Fwy. to Hidden Valley Pkwy.				8,800	5,559	0.63	C
	Hidden Valley Pkwy. to 2nd St.				8,800	5,638	0.64	C
	2nd St. to 6th St.		1		8,200	6,144	0.93	D
	6th St. to Limonite Ave.		1		8,200	6,732 <sup>3</sup>	0.82	D
	Limonite Ave. to Galena St.		1		8,200	6,896	0.84	D
	Galena St. to SR-60 Fwy.				6,600	6,439	0.98	E
	SR-60 Fwy. to Jurupa St.				8,800	6,306	0.72	C
SR-60 Fwy. WB	Van Buren Blvd. to I-15 Fwy.	1			10,400	9,588	0.92	D
	I-15 Fwy. to Milliken Ave.	3			14,800	14,322	0.97	E
	Milliken Ave. to Haven Ave.	3			17,000	15,702	0.92	D
	Haven Ave. to Archibald Ave.	3			17,000	15,587	0.92	D
	Archibald Ave. to Vineyard Ave.	3			17,000	16,035	0.94	E
	Vineyard Ave. to Grove Ave.	3			17,000	15,787	0.93	D
	Grove Ave. to Euclid Ave. (SR-83)	3			17,000	16,083	0.95	E
	Euclid Ave. (SR-83) to Mountain Ave.	3			17,000	15,673	0.92	D
	Mountain Ave. to Central Ave.	3			17,000	15,405	0.91	D
	Central Ave. to Ramona Ave.	3			17,000	15,669	0.92	D
SR-60 Fwy. EB	Ramona Ave. to Central Ave.				10,400	6,605	0.64	C
	Central Ave. to Mountain Ave.				10,400	6,526	0.63	C
	Mountain Ave. to Euclid Ave. (SR-83)				10,400	6,412	0.62	C
	Euclid Ave. (SR-83) to Grove Ave.				10,400	6,426	0.62	C
	Grove Ave. to Vineyard Ave.				10,400	6,217	0.60	C
	Vineyard Ave. to Archibald Ave.				10,400	6,336	0.61	C
	Archibald Ave. to Haven Ave.				10,400	6,502	0.63	C
	Haven Ave. to Milliken Ave.				10,400	6,173	0.59	C
	Milliken Ave. to I-15 Fwy.				8,200	4,681	0.57	C
I-15 Fwy. to Van Buren Blvd.				8,200	3,599	0.44	B	

<sup>1</sup> = Congestion on the SR-91 Freeway corridor is the subject of studies by the Counties of San Bernardino, Riverside and Orange.

**TABLE 5.7-7 (Cont.)  
CMP FREEWAY MAINLINE AM OPERATIONS ANALYSIS  
WITH IMPROVEMENTS (YEAR 2020)**

Freeway	Segment Limits	Improvement (Lanes Added)			Improved			
		GENERAL	HOV	AUX	CAPACITY	TRIPS	VOL/ CAP	LOS
SR-71 Fwy. SB	Chino Ave. to Grand Ave.				8,200	6,125	0.75	C
	Grand Ave. to Chino Hills Pkwy. (SR-142)				8,200	4,866	0.59	C
	Chino Hills Pkwy. (SR-142) to Ramona Ave.				8,200	3,892	0.47	B
	Ramona Ave. to Soquel Canyon Pkwy.				8,200	3,892	0.47	B
	Soquel Canyon Pkwy. to Pine Ave.				6,000	4,922	0.82	D
	Pine Ave. to Euclid Ave. (SR-83)				6,000	4,656	0.78	D
	Euclid Ave. (SR-83) to SR-91 Fwy.		<b>1</b>		6,000	4,764	0.79	D
SR-71 Fwy. NB	SR-91 Fwy. to Euclid Ave. (SR-83)				4,400	3,293	0.75	C
	Euclid Ave. (SR-83) to Pine Ave.				6,000	3,288	0.55	C
	Pine Ave. to Soquel Canyon Pkwy.				6,000	3,659	0.61	C
	Soquel Canyon Pkwy. to Ramona Ave.				8,200	4,133	0.50	B
	Ramona Ave. to Chino Hills Pkwy. (SR-142)				8,200	3,451	0.42	B
	Chino Hills Pkwy. (SR-142) to Grand Ave.				8,200	4,663	0.57	C
	Grand Ave. to Chino Ave.				8,200	5,288	0.64	C
SR-91 Fwy. WB	McKinley St. to I-15 Fwy.	-- <sup>1</sup>	--		10,400	13,784	1.33	F
	I-15 Fwy. to Main St.	--	--		10,400	15,866	1.53	F
	Main St. to West Grand Blvd.	--	--		10,400	14,668	1.41	F
	West Grand Blvd. to Lincoln Ave.	--	--		10,400	15,924	1.53	F
	Lincoln Ave. to Maple St.	--	--		10,400	16,295	1.57	F
	Maple St. to Serfas Club Dr.	--	--		10,400	18,573	1.79	F
	Serfas Club Dr. to SR-71 Fwy.	--	--		10,400	19,435	1.87	F
	SR-71 Fwy. to Green River Rd.	--	--		12,000	19,949	1.66	F
	Green River Rd. to Coal Canyon Rd.	--	--		12,000	21,085	1.76	F
Coal Canyon Rd. to Gypsum Canyon Rd.	--	--		12,000	22,667	1.89	F	
SR-91 Fwy. EB	Gypsum Canyon Rd. to Coal Canyon Rd.	--	--		12,000	10,647	0.89	D
	Coal Canyon Rd. to Green River Rd.	--	--		12,000	10,518	0.88	D
	Green River Rd. to SR-71 Fwy.	--	--		12,000	10,354	0.86	D
	SR-71 Fwy. to Serfas Club Dr.	--	--		10,400	10,234	0.98	E
	Serfas Club Dr. to Maple St.	--	--		10,400	10,113	0.97	E
	Maple St. to Lincoln Ave.	--	--		10,400	9,598	0.92	D
	Lincoln Ave. to West Grand Blvd.	--	--		10,400	9,868	0.95	E
	West Grand Blvd. to Main St.	--	--		10,400	9,753	0.94	E
	Main St. to I-15 Fwy.	--	--		10,400	10,870	1.05	F
I-15 Fwy. to McKinley St.	--	--		10,400	7,317	0.70	C	

<sup>1</sup> = Congestion on the SR-91 Freeway corridor is the subject of studies by the Counties of San Bernardino, Riverside and Orange.

**TABLE 5.7-7 (Cont.)  
CMP FREEWAY MAINLINE [PM] OPERATIONS ANALYSIS  
WITH IMPROVEMENTS (YEAR 2020)**

Freeway	Segment Limits	Improvement (Lanes Added)			Improved			
		GENERAL	HOV	AUX	CAPACITY	TRIPS	VOL/ CAP	LOS
I-15 Fwy. SB	Jurupa St. to SR-60 Fwy.		1		10,400	8,985	0.86	D
	SR-60 Fwy. to Galena St.		1		8,200	7,789	0.95	E
	Galena St. to Limonite Ave.	1	1		10,400	8,782	0.84	D
	Limonite Ave. to 6th St.	1	1		10,400	8,868	0.85	D
	6th St. to 2nd St.		1		8,200	7,795	0.95	E
	2nd St. to Hidden Valley Pkwy.				8,800	7,352	0.84	D
	Hidden Valley Pkwy. to SR-91 Fwy.				8,800	7,226	0.82	D
	SR-91 Fwy. to Magnolia Ave.	2	1		14,800	13,022	0.88	D
I-15 Fwy. NB	Magnolia Ave. to SR-91 Fwy.	1	1		10,400	9,064	0.87	D
	SR-91 Fwy. to Hidden Valley Pkwy.	1	1		12,600	11,690	0.93	D
	Hidden Valley Pkwy. to 2nd St.	1	1		12,600	11,971	0.95	E
	2nd St. to 6th St.	2	1		12,600	11,497	0.91	D
	6th St. to Limonite Ave.	2	1		12,600	11,689	0.93	D
	Limonite Ave. to Galena St.	2	1		12,600	11,275	0.89	D
	Galena St. to SR-60 Fwy.	2	1		12,600	11,631	0.92	D
	SR-60 Fwy. to Jurupa St.	2	1		14,800	14,496	0.98	E
SR-60 Fwy. WB	Van Buren Blvd. to I-15 Fwy.				8,200	6,401	0.78	D
	I-15 Fwy. to Milliken Ave.	1			10,400	10,113	0.97	E
	Milliken Ave. to Haven Ave.	1			12,600	10,999	0.87	D
	Haven Ave. to Archibald Ave.	1			12,600	11,388	0.90	D
	Archibald Ave. to Vineyard Ave.	1			12,600	11,258	0.89	D
	Vineyard Ave. to Grove Ave.	1			12,600	11,137	0.88	D
	Grove Ave. to Euclid Ave. (SR-83)	1			12,600	11,387	0.90	D
	Euclid Ave. (SR-83) to Mountain Ave.	1			12,600	11,070	0.88	D
	Mountain Ave. to Central Ave.	1			12,600	11,076	0.88	D
Central Ave. to Ramona Ave.	1			12,600	11,106	0.88	D	
SR-60 Fwy. EB	Ramona Ave. to Central Ave.	3			17,000	16,369	0.96	E
	Central Ave. to Mountain Ave.	3			17,000	16,383	0.96	E
	Mountain Ave. to Euclid Ave. (SR-83)	3			17,000	16,533	0.97	E
	Euclid Ave. (SR-83) to Grove Ave.	3			17,000	16,375	0.96	E
	Grove Ave. to Vineyard Ave.	3			17,000	15,730	0.93	D
	Vineyard Ave. to Archibald Ave.	3			17,000	16,025	0.94	E
	Archibald Ave. to Haven Ave.	3			17,000	15,593	0.92	D
	Haven Ave. to Milliken Ave.	3			17,000	15,861	0.93	D
	Milliken Ave. to I-15 Fwy.	3			14,800	12,792	0.86	D
I-15 Fwy. to Van Buren Blvd.	1			10,400	10,236	0.81	D	
SR-71 Fwy. SB	Chino Ave. to Grand Ave.				8,200	7,218	0.88	D
	Grand Ave. to Chino Hills Pkwy. (SR-142)				8,200	6,415	0.78	D
	Chino Hills Pkwy. (SR-142) to Ramona Ave.				8,200	5,121	0.62	C
	Ramona Ave. to Soquel Canyon Pkwy.				8,200	5,120	0.62	C
	Soquel Canyon Pkwy. to Pine Ave.				6,000	4,847	0.81	D
	Pine Ave. to Euclid Ave. (SR-83)				6,000	4,389	0.73	C
Euclid Ave. (SR-83) to SR-91 Fwy.		1		6,000	4,016	0.91	D	

<sup>1</sup> = Congestion on the SR-91 Freeway corridor is the subject of studies by the Counties of San Bernardino, Riverside and Orange.

**TABLE 5.7-7 (Cont.)  
CMP FREEWAY MAINLINE [PM] OPERATIONS ANALYSIS  
WITH IMPROVEMENTS (YEAR 2020)**

Freeway	Segment Limits	Improvement (Lanes Added)			Improved			
		GENERAL	HOV	AUX	CAPACITY	TRIPS	VOL/ CAP	LOS
SR-71 Fwy. NB	SR-91 Fwy. to Euclid Ave. (SR-83)		<b>1</b>		6,000	5,345	0.89	D
	Euclid Ave. (SR-83) to Pine Ave.				6,000	5,368	0.89	D
	Pine Ave. to Soquel Canyon Pkwy.				6,000	5,447	0.91	D
	Soquel Canyon Pkwy. to Ramona Ave.				8,200	5,093	0.62	C
	Ramona Ave. to Chino Hills Pkwy. (SR-142)				8,200	4,378	0.53	B
	Chino Hills Pkwy. (SR-142) to Grand Ave.				8,200	5,726	0.70	C
	Grand Ave. to Chino Ave.				8,200	7,156	0.87	D
SR-91 Fwy. WB	McKinley St. to I-15 Fwy.	-- <sup>1</sup>	--		10,400	8,313	0.80	D
	I-15 Fwy. to Main St.	--	--		10,400	11,757	1.13	F
	Main St. to West Grand Blvd.	--	--		10,400	10,717	1.03	F
	West Grand Blvd. to Lincoln Ave.	--	--		10,400	10,935	1.05	F
	Lincoln Ave. to Maple St.	--	--		10,400	12,164	1.17	F
	Maple St. to Serfas Club Dr.	--	--		10,400	12,744	1.23	F
	Serfas Club Dr. to SR-71 Fwy.	--	--		10,400	12,836	1.23	F
	SR-71 Fwy. to Green River Rd.	--	--		12,000	13,152	1.10	F
	Green River Rd. to Coal Canyon Rd.	--	--		12,000	13,794	1.15	F
Coal Canyon Rd. to Gypsum Canyon Rd.	--	--		12,000	13,773	1.15	F	
SR-91 Fwy. EB	Gypsum Canyon Rd. to Coal Canyon Rd.	--	--		12,000	23,920	1.99	F
	Coal Canyon Rd. to Green River Rd.	--	--		12,000	22,895	1.91	F
	Green River Rd. to SR-71 Fwy.	--	--		12,000	21,602	1.80	F
	SR-71 Fwy. to Serfas Club Dr.	--	--		10,400	20,762	2.00	F
	Serfas Club Dr. to Maple St.	--	--		10,400	19,804	1.90	F
	Maple St. to Lincoln Ave.	--	--		10,400	17,208	1.65	F
	Lincoln Ave. to West Grand Blvd.	--	--		10,400	16,771	1.61	F
	West Grand Blvd. to Main St.	--	--		10,400	14,913	1.43	F
	Main St. to I-15 Fwy.	--	--		10,400	16,228	1.56	F
I-15 Fwy. to McKinley St.	--	--		10,400	13,835	1.33	F	

<sup>1</sup> = Congestion on the SR-91 Freeway corridor is the subject of studies by the Counties of San Bernardino, Riverside and Orange.



### **5.7.5 CUMULATIVE IMPACTS**

The cumulative impacts were previously identified for the Buildout with Project traffic conditions analysis that combined future traffic without the project with traffic generated by the proposed project. The proposed project will contribute to significant and cumulative adverse traffic conditions at Buildout.

### **5.7.6 MITIGATION MEASURES**

- T-1** Notification: Since the project contributes significant traffic to a State Highway (I-15 Freeway, SR-71 Freeway, SR-60 Freeway, and SR-91 Freeway), and it also contributes significant traffic to roadway segments serving CMP intersections within the jurisdictions of the City of Chino Hills, City of Ontario, County of San Bernardino, City of Norco, City of Corona, and the County of Riverside, the City of Chino shall notify the Congestion Management Agency (SANBAG), the California Department of Transportation (Caltrans), the City of Chino Hills, City of Ontario, County of San Bernardino, City of Norco, City of Corona, and the County of Riverside in accordance with CMP requirements. Each of these agencies must be provided with a copy of the CMP traffic study, once the document is accepted by the City of Chino.
- T-2** The proposed project shall construct or otherwise provide for all internal roadway improvements. The provision of such improvements shall be phased to address the incremental impacts of individual development projects.
- T-3** The City of Chino shall work cooperatively through SCAG and SANBAG to develop regional/subregional projects and identify regional transportation funding needed to minimize future freeway deficiencies. The City will actively participate in other future regional and/or subregional efforts to reduce freeway congestion.
- T-4** The City of Chino shall participate in planning efforts to develop subregional and/or regional transportation facilities based on equitable cost sharing programs among cities and counties.
- T-5** The City of Chino shall provide traffic operations and traffic systems management (TSM) improvements, including signal system coordination, automated traffic control, Smart Corridors, intelligent transportation systems, and other measures.
- T-6** Individual development projects shall be reviewed by the City for integration of trip reduction measures, travel demand management (TDM) strategies and alternative transportation modes, consistent with the Specific Plan.

**T-7** In the initial phases of development, the City of Chino shall require that a Transit Feasibility Study be prepared of the proposed project transit system. The feasibility study should address the timing of transit development vis-a-vis development phasing, and the interface with future regional transit works. To respond to potential issues related to the development of such a system, the following actions must be undertaken:

- Identify the various funding mechanisms associated with the construction and operation of the system.
- Require each proposed project to provide adequate right of way for such a system and construct the required infrastructure.
- Establish design criteria and an evaluation process for determining transit stop locations that ensure pedestrian access prior to tentative map approval.
- Operational issues, such as the future management of the system, may be deferred until the appropriate time, based upon discussions with current regional transit providers.

**T-8** The City of Chino shall contact appropriate transit agencies to encourage an expansion of transit services up to and within the project area.

**T-9** Traffic studies shall be required as deemed necessary by the City Engineer. Each study will identify the timing, and extent of required improvements to adequately evaluate future traffic impacts of individual projects needed to mitigate the impacts of such development.

### **5.7.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Outside of state and federal funding sources, and application of San Bernardino County's Proposition "A" half-cent sales tax, no mechanisms are currently in place for local contributions to needed freeway improvements on a project-by-project basis. Similarly, no mechanisms or interagency agreements exist to address full funding and construction of offsite intersection improvements needed by cumulative projects and regional growth. The project will provide for the full cost or in-lieu construction of road improvements within the boundaries of the plan area, including the proportionate share of costs associated with impacts of other regional traffic. With implementation of the identified mitigation measures, cumulative traffic impacts will be reduced, but not to less than significant levels.