



Appendix C

Traffic Report (prepared by Omni-Means)

City of Paso Robles
Chandler Ranch Area
Specific Plan Traffic Analysis

Draft Report

Prepared For
Rincon Consultants

Prepared By:

**CHANDLER RANCH AREA SPECIFIC PLAN
TRAFFIC ANALYSIS
CITY OF PASO ROBLES**

DRAFT REPORT

**Prepared For
City of Paso Robles**

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Appendix B - Memorandum – July 9, 2004 Chandler Ranch Area Specific Plan Transportation Improvement Cost Estimates
Appendix C - Level of Service Worksheets (available under separate cover)
Appendix D - Peak Hour Volume (Warrant-11) Worksheets (available under separate cover)

INTRODUCTION

The Chandler Ranch Area Specific Plan (CRASP) project is a major mixed-use land development being proposed on currently undeveloped land located on the eastern side of the City of El Paso de Robles. The proposed project includes the preparation of a Specific Plan that would guide future development within an 837 acre area within the City of El Paso de Robles. The area (Figure 1) is bound by Golden Hill Road to the west, State Route 46 East (SR 46E) to the north, and Sherwood and Linne Roads to the south, and the eastern City limit. The proposed project will include single-family and multi-family residences, along with a combination of commercial uses and an elementary school site.

PURPOSE

The purpose of this traffic analysis is to assess the potential traffic impacts created under existing and cumulative year 2025 conditions, consistent with CEQA guidelines. This traffic analysis updates previous traffic studies conducted in the area and includes new traffic count data obtained by OMNI-MEANS in February of 2004 that will be analyzed, based upon the methodologies described in this report. In addition, for the State Route 46 East Corridor, Caltrans collected additional new traffic counts in 2005 that are also used in this study. To assure proper coordination of this traffic analysis with Caltrans, meetings were held between the City, Consultant and Caltrans. Contained in Appendix A is a Memorandum of Assumptions that summarizes the traffic assumptions agreed to for the traffic analysis along State Route 46 East.

Included in this report is a description of the existing transportation setting; the current AM and PM peak hour traffic operations at key intersections identified by Caltrans and the City of Paso Robles to be studied; and the estimated approved/pending projects and proposed project trip generation and trip distribution. Also included in this report is an analysis and discussion of the following items:

- Approved/pending projects and proposed project impacts on AM and PM peak hour intersection and daily roadway segment operations
- The projected *Year 2025 Base* peak hour intersection and daily roadway segment operations with and without the development of the proposed project and,
- Significant impacts both with and without the project and possible circulation improvements that could reduce these impacts to less than significant levels.

The following traffic scenarios are analyzed as a part of this report:

- *Existing Conditions*
- *Existing Plus Project Conditions* – with a SR 46E/ Airport Road connection
- *Short Term No Project Conditions*
- *Short Term Plus Project Conditions* – with and without a SR 46E/ Airport Road connection
- *Year 2025 Base No Project Conditions*
 - With interim improvements and without a Charolais Road overcrossing
 - With long term improvements and without a Charolais Road overcrossing
 - With long term improvements and with a Charolais Road overcrossing
- *Year 2025 Base Plus Project Conditions*
 - With long term improvements, without a SR 46E/ Airport Road connection, and without a Charolais Road overcrossing
 - With long term improvements, without a SR 46E/ Airport Road connection, and with a Charolais Road overcrossing

- With long term improvements, with a SR 46E/ Airport Road connection, and without a Charolais Road overcrossing
- With long term improvements, with a SR 46E/ Airport Road connection, and with a Charolais Road overcrossing

The *Existing* conditions analysis investigates the traffic operations that currently exist within the study area. The *Existing Conditions* and *Existing Plus Project* analysis scenarios utilize the observed existing traffic volumes (Figure 2A). The first scenario reflects the actual conditions in the field, as they are observed, while the second scenario is an artificial scenario that superimposes the entire Chandler Ranch project-generated traffic on top of the existing volumes.

Short Term conditions refer to analysis scenarios following the assumed completion of approved and pending study area developments, and thus are typically a few years in the future from existing conditions. The *Short Term No Project* condition is a no project scenario which investigates traffic operations following completion of approved and pending projects, but excluding development of the proposed project. *Short Term No Project* conditions were simulated by superimposing the approved/pending project trips over the calculated unconstrained existing traffic volumes (Figure 2B) at the study intersections and roadway segments. The *Short Term Plus Project* condition is the analysis scenario in which traffic impacts associated with the proposed project (i.e. CRASP) are investigated in comparison to the *Short Term No Project* condition scenario.

Within the *Short Term Plus Project* analyses, this study accounts for two development scenarios; one without a future SR 46E/Airport Road connection and one with a future SR 46E/Airport Road connection. The analysis scenario without a future SR 46E/Airport Road connection projects development without uses on the CRASP property bounded by Huer Huero Creek, SR 46E, and the CRASP eastern boundary. All access to/from SR 46E into the CRASP is attained via Golden Hill Road and Union Road.

Year 2025 Base conditions refer to cumulative analysis scenarios during a future planning horizon year, which is typically assumed to be approximately 20 years in the future. The *Year 2025 Base* conditions scenarios assume partial or complete build out of the existing local General Plan, and thus include the approved and pending projects included within the *Short Term* scenarios. The *Year 2025 Base Plus Project* condition is the analysis scenario in which traffic impacts associated with the proposed project is investigated in comparison to the *Year 2025 Base No Project* condition scenario.

Within the *Year 2025 Base* analyses, this study accounts for two circulation networks; one without a future Charolais Road overcrossing and one with a future Charolais Road overcrossing. Also carried over from the *Short Term Plus Project* scenarios are the development projections accounting for circulation networks with and without a SR 46E/Airport Road connection.

EXISTING CITY TRANSPORTATION SYSTEM

Because of the size and density of the CRASP development proposal, the entire major arterial street system of the City of El Paso de Robles was considered for potential traffic impacts. The following is a brief description of the major arterial system within the City.

The City of *El Paso de Robles* (abbreviated as *Paso Robles*) is located in northern San Luis Obispo County at the crossroads of US 101 and SR 46 East. Incorporated in 1889, the City's street system has developed over this extended period of time. In addition to US 101 and SR 46 passing through the City, the Union Pacific Railroad also traverses in a north-south direction through the City.

West of US 101 is the older part of Paso Robles and includes a grid pattern of downtown streets. East of US 101, a more suburban pattern of development has evolved, using a more clear hierarchy of local, collector, and arterial streets in a curvilinear design. The overall condition of the local street system varies as well as the standard to which they were originally constructed. With the annexation of surrounding County areas, street widths and improvement standards for curb, gutter, and sidewalk also all vary. Some streets, including major collector facilities, maintain only shoulders and open drainage improvements.

US 101 is a major freeway facility that serves regional and inter-regional north-south travel within and through the City of Paso Robles. US 101 has a typical four-lane divided section through the City. According to *Caltrans Traffic Volumes on the State Highway System (2002)*, US 101 carries an Average Daily Traffic (ADT) of approximately 49,500 vehicles as it traverses through the City.

State Route (SR) 46 East and **SR 46 West** are important regional and inter-regional travel corridors that provides east-west access within and through Paso Robles and San Luis Obispo County. East of US 101, SR 46 East is an important regional connection to Interstate 5 and farther east to Bakersfield and Fresno (via SR 41). Upwards of 23,000 daily trips (ADT) currently use SR 46 East just east of US 101. West of US 101, SR 46 West provides access to the coast and SR 1. Although relatively less traveled, with about 5,500 daily trips, SR 46 West is an important coastal connection.

Creston Road is primarily a two-lane east-west arterial between River Road and Golden Hill Road. East of Golden Hill Road, Creston Road changes direction and becomes a four-lane north-south arterial. West of River Road, Creston Road provides two-lanes and becomes 13th Street. Limited access to US 101 is provided from 13th Street. A two-lane bridge is provided on 13th Street over the Salinas River between Paso Robles Street and River Road. This bridge and a part of the Creston Road/13th Street corridor in this vicinity are currently under construction to be improved to four lanes and with appropriate turn channelization.

Niblick Road is a four-lane east-west arterial from Spring Street to Creston Road. East of Creston Road, Niblick Road becomes Sherwood Road as a four lane road, and then transitions into a two-lane Linne Road. To the west, a four-lane bridge is provided on Niblick Road over the Salinas River and US 101. Once across the US 101, Niblick Road intersects Spring Street at the US 101 ramp connections to/from the south and 1st Street. The Niblick Road/Spring Street/1st Street intersection is a major intersection in the City.

River Road runs parallel to the east of US 101 and adjacent to the Salinas River. It is primarily a two-lane north-south collector that widens to an arterial with four-lanes south of Navajo Avenue. River Road, particularly where it runs adjacent to the Salinas River is also bordered by steep bluffs to the east making any widening of this roadway difficult and expensive.

Golden Hill Road is planned as a four-lane north-south arterial located just west of the project site. To the north of State Route 46 East (SR 46E) it is currently a two-lane collector and dead ends approximately 500 feet north of SR 46E. South of SR 46E it is currently a four lane arterial facility and its intersection with SR 46E is controlled by a traffic signal. The roadway continues south from SR 46E past Union Road and Rolling Hills Road, then curves south-east and eventually terminates as the southbound approach to a T-intersection with Creston Road.

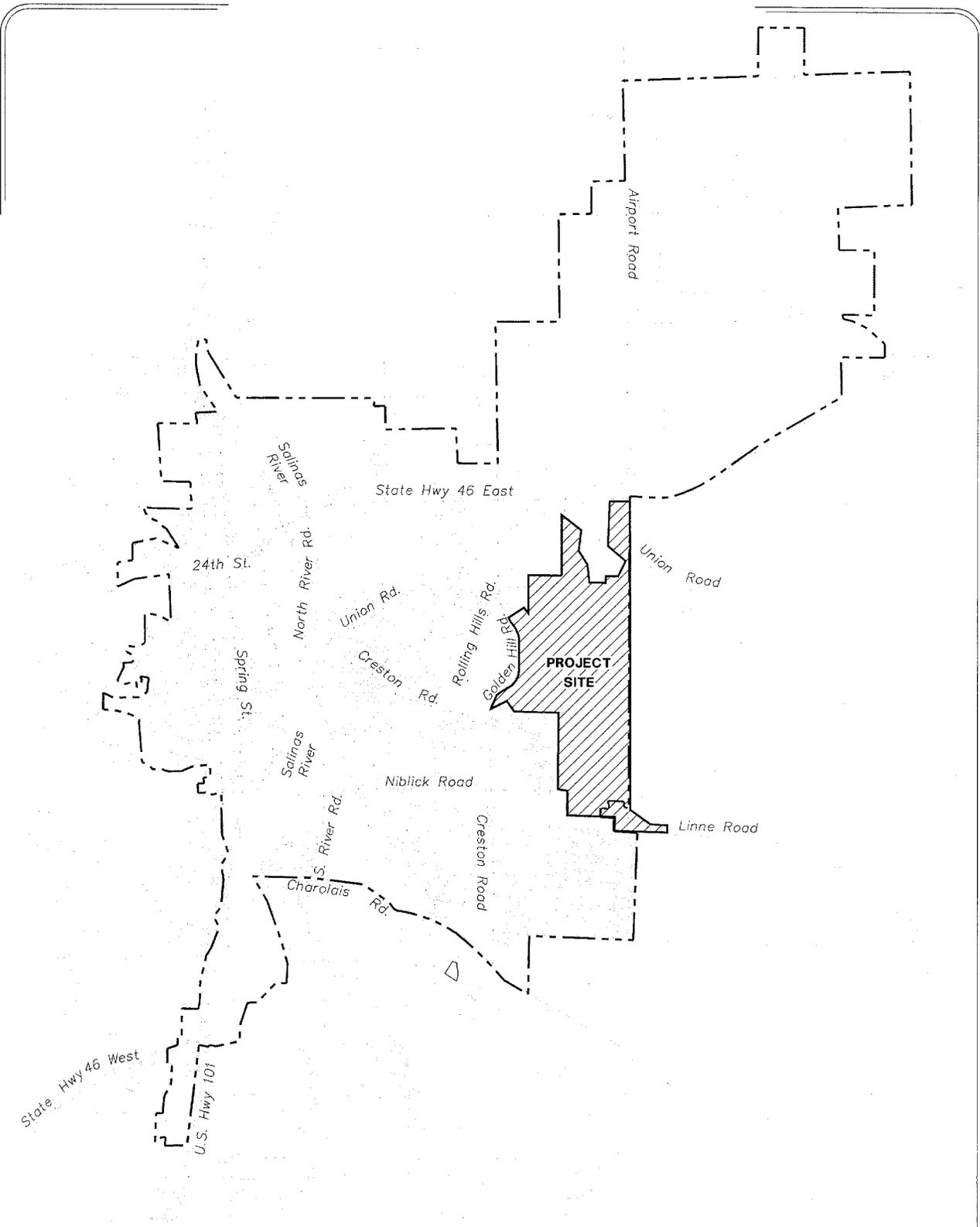
Union Road is a two-lane arterial that begins as a stop controlled (Three-Way Stop) T-intersection with River Road and traverses in the north-east direction forming an unsignalized intersection with Golden Hill Road and then curves north as the roadway approaches SR 46E and then curves southeast to be a

County rural road. At the nearest location to SR 46E, a short roadway completes a connection to SR 46 East, creating a short bypass of the Golden Hill Road signalized intersection.

Airport Road is a non-continuous north-south arterial facility that is generally improved to a two lane configuration. The roadway begins on its northern end as a T-intersection at Estrella Road, continues south from Estrella Road and passes Paso Robles Municipal Airport, ending eventually as a T-intersection with SR 46E. Airport Road is currently non-continuous between SR 46E and Linne Road. Based on current General Plan, the Airport Road extension would be completed as a north-south four-lane arterial through the CRASP area serving as the backbone access facility for the newly urbanizing area. South of Linne Road, Airport Road is generally improved to its planned four-lane configuration.

Within the downtown area, **Spring Street** is the principal north-south collector that serves as the downtown “spine”. **13th Street** and **24th Street** are other major downtown streets that provide east-west circulation for the downtown area.

DRAFT



LEGEND

-  CITY LIMIT LINE
-  CHANDLER RANCH BOUNDARY

N.T.S.
FIGURE 1

City of Paso Robles - Chandler Ranch Specific Plan

Project Vicinity Map



EXISTING TRAFFIC VOLUMES

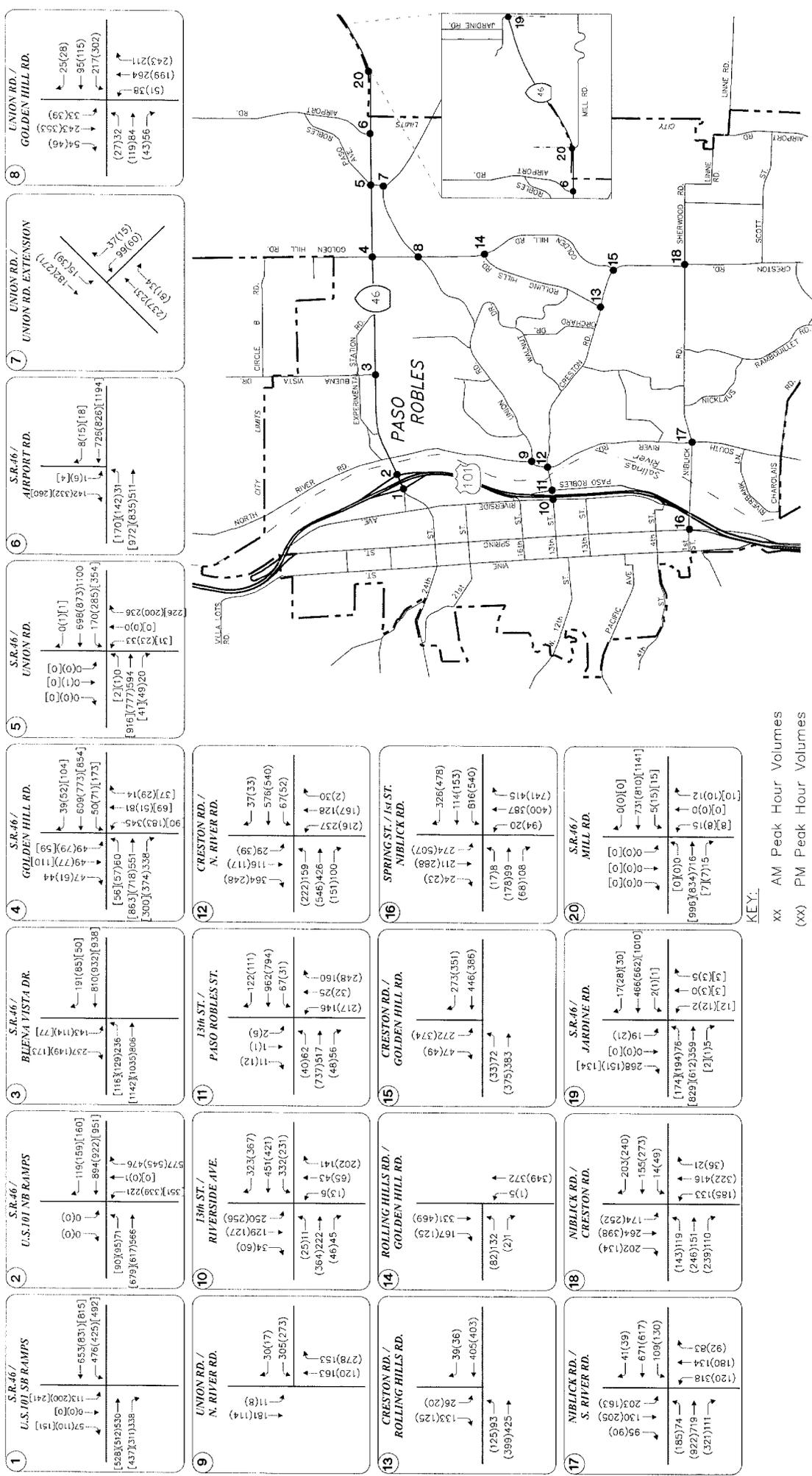
Based upon OMNI-MEANS' analysis of the project, the following 20 intersections were identified as critical intersections for this study:

- State Route 46 East/US 101 SB Ramps
- State Route 46 East/US 101 NB Ramps
- State Route 46 East/Buena Vista Drive
- State Route 46 East/Golden Hill Road
- State Route 46 East/Union Road
- State Route 46 East/Airport Road
- State Route 46 East/Mill Road
- State Route 46 East/Jardine Road
- Union Road/Union Road Extension
- Union Road/Golden Hill Road
- Union Road/N. River Road
- 13th Street/Riverside Avenue
- 13th Street/Paso Robles Street
- Creston Road/N. River Road
- Creston Road/Rolling Hills Road
- Rolling Hills Road/Golden Hill Road
- Creston Road/Golden Hill Road
- Spring Street/1st Street (Niblick Road)
- Niblick Road/South River Road
- Niblick Road/Creston Road

Along the SR 46E Corridor, existing traffic volume counts were collected in April and June 2005 for the above study intersections by Caltrans to obtain both average weekday and Friday PM peak hour traffic conditions during the spring and summertime. For the purposes of this study, the June 2005 traffic counts along SR 46E were utilized. Through extensive studies by Caltrans they determined that the SR 46E corridor is severely constrained, particularly at the US 101/SR 46E interchange, and experiences large traffic volumes associated with interregional traffic during the summer months. Recognizing that some interregional traffic diverts from SR 46E onto local roads during highly constrained conditions, Caltrans monitored the traffic along the SR 46E corridor for several months to determine the volume of diverted traffic movements. From their studies, Caltrans provided both observed existing corridor traffic volumes and calculated unconstrained existing corridor traffic volumes. The observed existing volumes are those counted in the field (Figure 2A). The calculated unconstrained existing volumes are those that are projected to occur, should the SR 46E/US 101 interchange have enough capacity to allow for free traffic movement (Figure 2B). As appropriate, this traffic analysis present existing traffic conditions for both summertime weekday and summertime Friday traffic volumes during the PM peak hour. The existing intersection geometrics are shown in Figure 3.

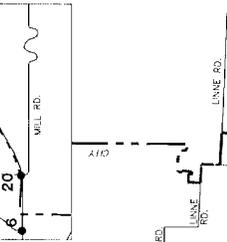
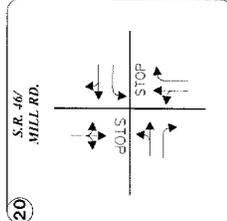
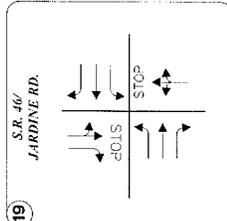
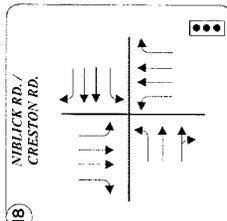
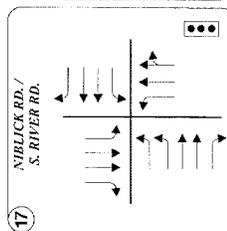
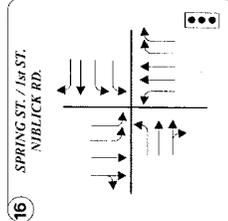
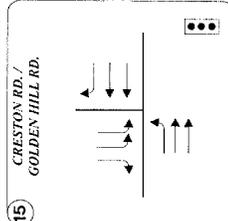
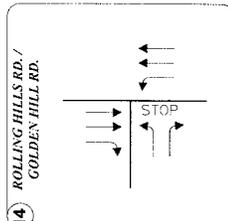
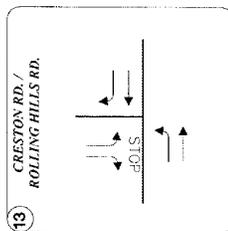
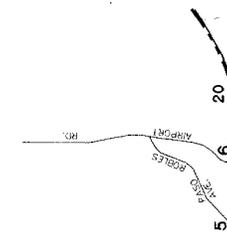
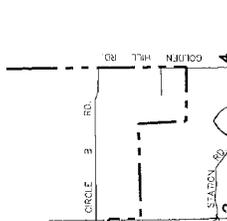
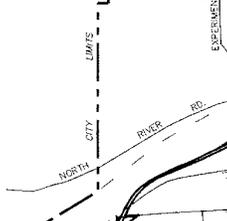
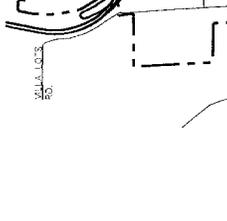
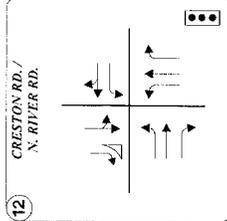
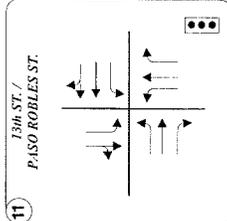
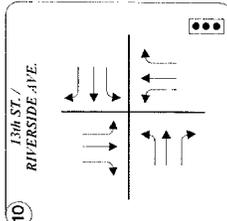
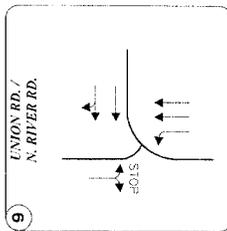
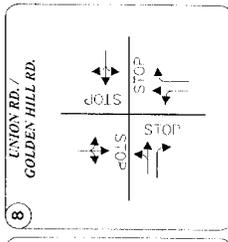
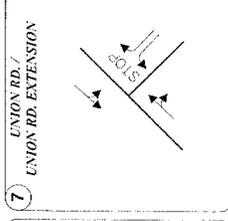
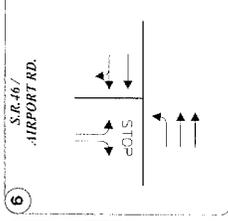
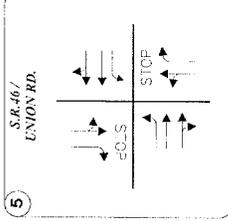
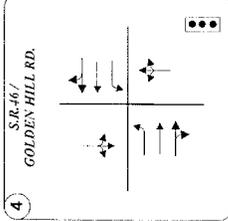
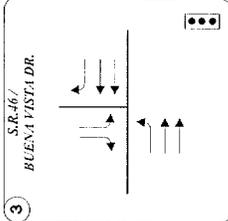
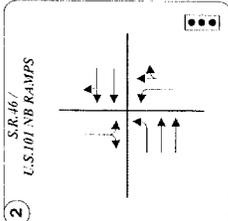
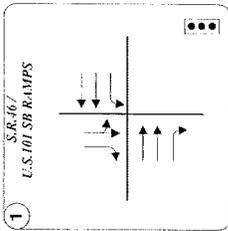
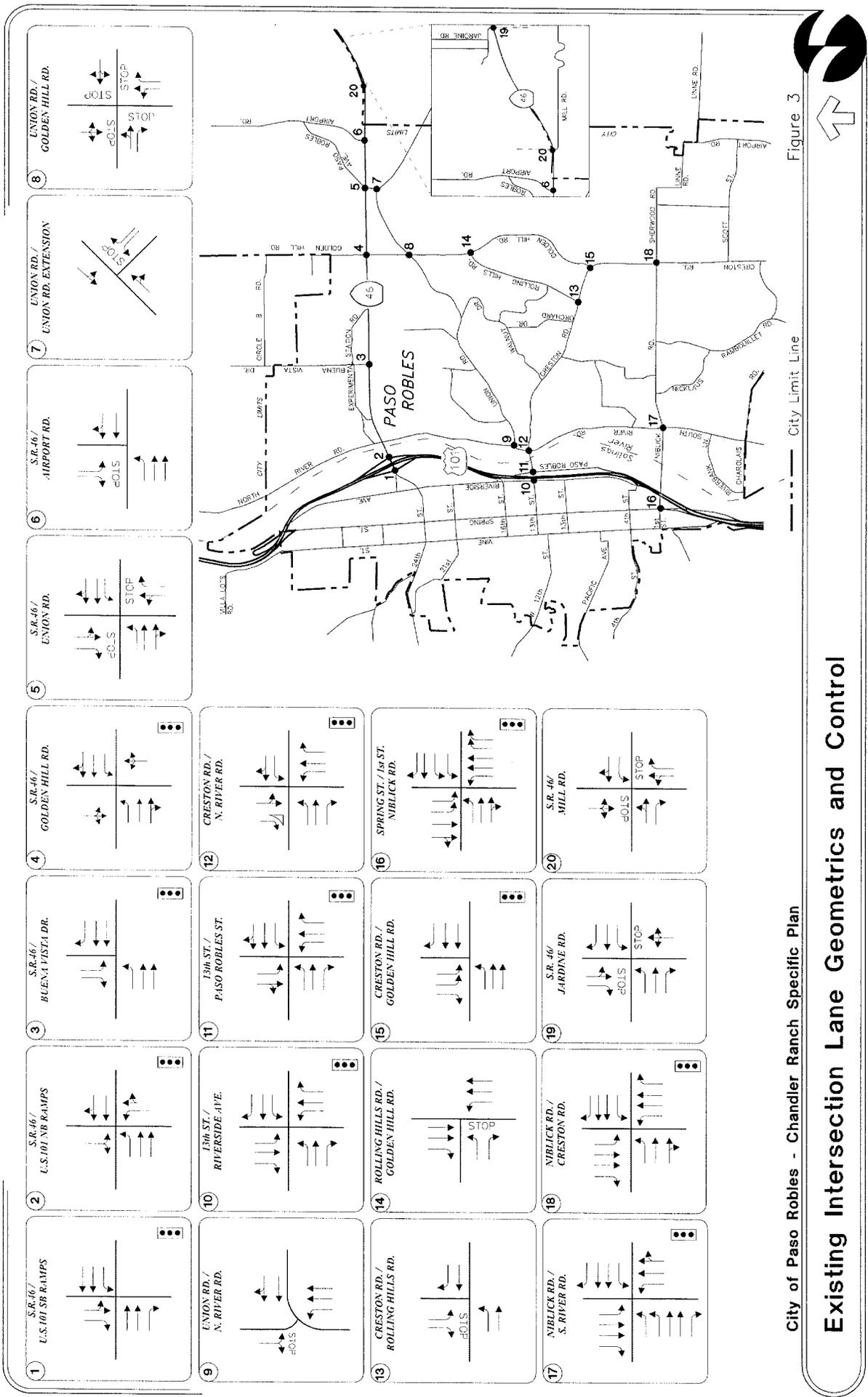
Based on Caltrans observations, the traffic analysis incorporated into the analysis truck traffic percentages for the following roadway and intersection facilities:

- SR 46 East between Airport Road and Jardine Road – 20% trucks during the peak hour
- SR 46 East between the US 101 interchange and Airport Road – 15% trucks
- US 101/SR 46E interchange ramps – 25% trucks
- US 101 mainline through the City – 9% trucks
- Local streets – 3% trucks



City of Paso Robles - Chandler Ranch Specific Plan
 Observed Constrained Existing Summertime Intersection Traffic Volumes
 Figure 2A

KEY:
 xx AM Peak Hour Volumes
 (xx) PM Peak Hour Volumes
 [xx] Friday PM Peak Hour Volumes



City of Paso Robles - Chandler Ranch Specific Plan

Existing Intersection Lane Geometrics and Control

City Limit Line

Figure 3



Within the City, existing weekday AM and PM peak-hour traffic volume counts (not along the SR 46E corridor), utilized in this analysis, were conducted by OMNI-MEANS in February of 2004. Additional counts conducted by OMNI-MEANS in May of 2003 were also utilized as needed. These traffic counts were not adjusted for diverted traffic movements from SR 46E.

Average daily traffic (ADT) count information was also collected. The following 23 roadway segments were identified as critical roadway segments for this study:

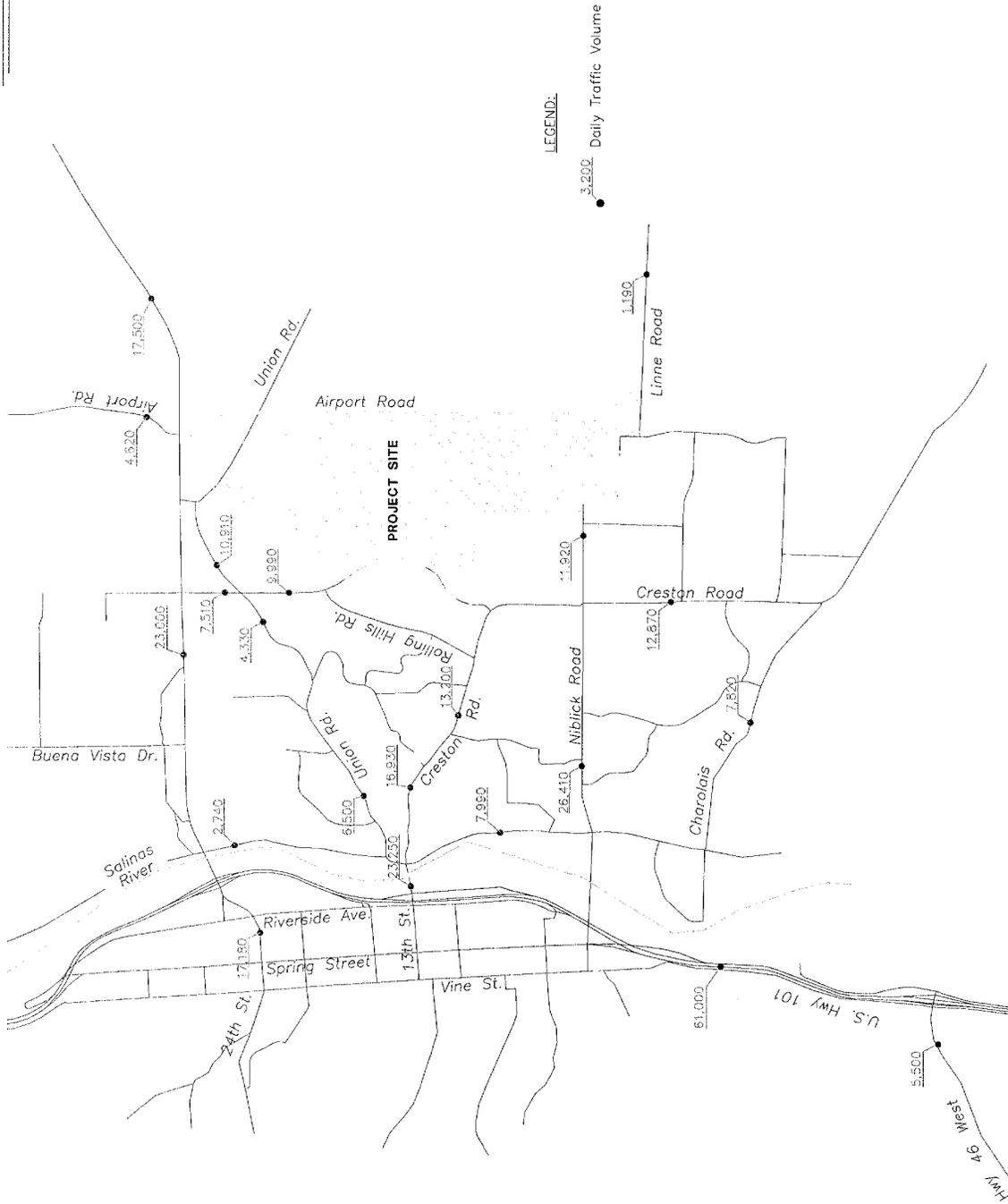
- State Route 46 East east of US 101
- State Route 46 East west of Airport Road
- State Route 46 West west of US 101
- US 101 south of State Route 46 West
- US 101 north of State Route 46 West
- Airport Road north of State Route 46
- Union Road east of Golden Hill Road
- 24th Street west of US 101
- Charolais Road east of River Road
- Charolais Road east of US 101
- Creston Road east of River Road
- Creston Road east of US 101
- Creston Road south of Niblick Road
- Creston Road west of Rolling Hills
- Golden Hill Road south of State Route 46
- Golden Hill Road south of Union Road
- Linne Road east of Airport Road
- Niblick Road east of US 101
- Niblick Road east of Creston Road
- River Road north of Niblick Road
- River Road south of State Route 46
- Union Road east of River Road
- Union Road west of Golden Hill Road

ADT counts on SR 46E and US 101 were obtained from the *Caltrans Traffic Volumes on the State Highway System (2004)* website. ADT count information on City streets and roads was obtained by conducting daily counts on these facilities during the week of February 9, 2004. The existing daily traffic volumes are shown in Figure 4.

Per Caltrans' request, ramp merge and diverge on US 101 in the vicinity of Paso Robles were studied. The following ramps between the SR 46E/24th Street/US 101 interchange and the SR 46W/US 101 interchange were evaluated using available traffic count data obtained from the *Caltrans Traffic Volumes on the State Highway System (2004)* website.

- US 101/SR 46E southbound on-ramp
- US 101/SR 46E northbound off-ramp
- US 101/16th Street southbound off-ramp
- US 101/Spring Street southbound on-ramp
- US 101/Spring Street northbound off-ramp
- US 101/SR 46W southbound on- and off-ramp
- US 101/SR 46W northbound on- and off-ramp

The existing daily ramp segment volumes are shown in Figure 5.

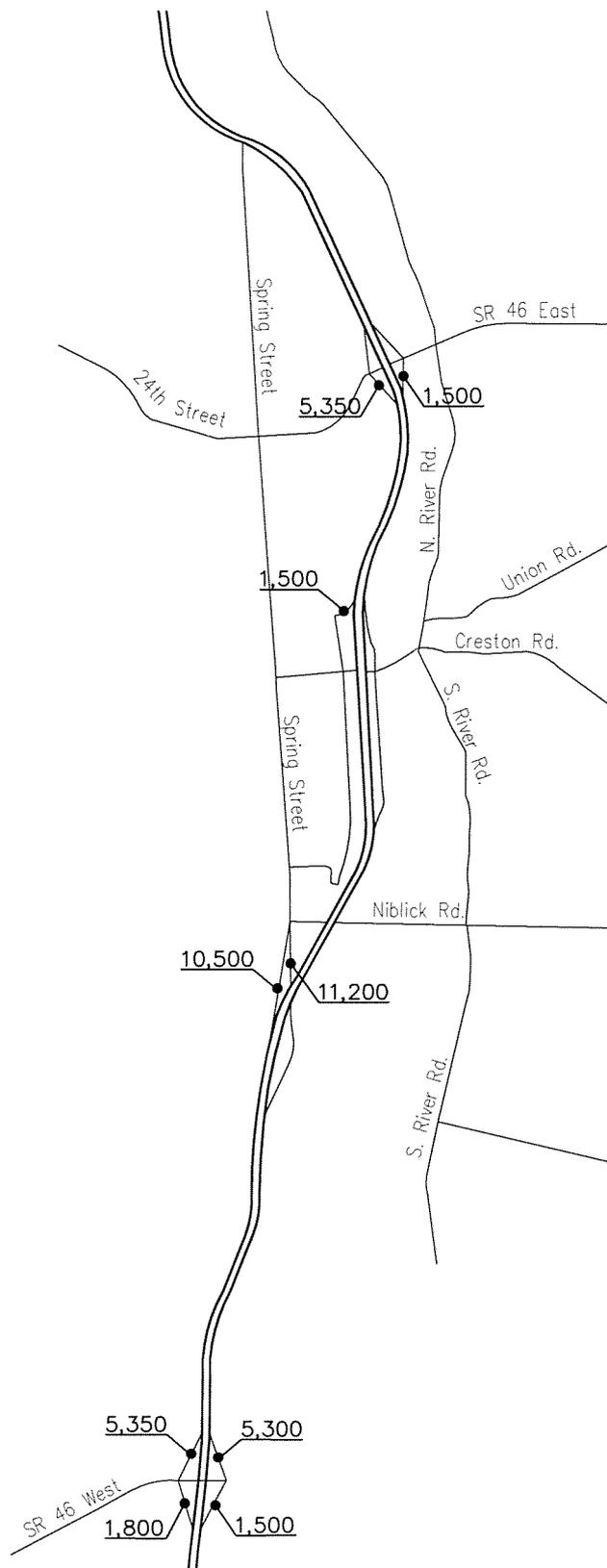


City of Paso Robles - Chandler Ranch Specific Plan

Existing Daily Traffic Volumes

N.T.S.
 Figure 4





LEGEND

 **1062** AVERAGE DAILY TRAFFIC

City of Paso Robles - Chandler Ranch Specific Plan

Figure 5

Existing US 101 Ramp Segment Volumes



INTERSECTION AND ROADWAY LOS METHODOLOGIES

Levels of Service (LOS) have been calculated for all intersection control types using the methods documented in the Transportation Research Board Publication *Highway Capacity Manual, Fourth Edition, 2000*. Traffic operations have been quantified through the determination of “Level of Service” (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade “A” through “F” is assigned to an intersection or roadway segment representing progressively worsening traffic conditions. For signalized intersections and All-Way Stop-Controlled (AWSC) intersections, the intersection delays and LOS are average values for all intersection movements. For Two-Way Stop-Controlled (TWSC) intersections, the intersection delays and LOS are representative of those for the worst-case movement. LOS definitions for different types of intersection controls are outlined in Table 1. The average daily traffic based roadway level of service thresholds are shown in Table 2.

The *City of Paso Robles General Plan (2003), Circulation Element, Level of Service Standards*, is partly quoted below:

“Except where another standard has been adopted by the City Council, the City considers level “D” to be acceptable for average daily traffic...”

The Caltrans published *Guide for the Preparation of Traffic Impact Studies* (dated June 2001) states the following:

“Caltrans endeavors to maintain a target LOS at the transition between LOS “C” and LOS “D” on State highway facilities ...”

Consistent with City and Caltrans policies stated above, for purposes of this traffic study, LOS “D” has been taken as the minimum acceptable LOS standard at critical study intersections and roadway segments falling within City right-of-way. For freeway ramp intersections and other intersections and roadway segments falling within State right-of-way, consistent with Caltrans policy of “LOS C/D transition”, a threshold of significance in gauging traffic impacts has been established by Caltrans that equates to “any delay greater than 35.0 seconds for a signalized intersection”. Appropriate circulation, capacity or and/or control improvements have been identified for instances when study area facilities are projected to operate below acceptable standards.

The following peak hour factors and signal lost time factors will be incorporated in the analysis (for all study intersections under all analysis scenarios) in order to reasonably reflect actual intersection operating conditions:

Peak hour factor (PHF) of **0.92**

Lost time – **4 seconds** per critical signal phase.

All LOS worksheets are included in the Appendix.

**TABLE 1
LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS**

LEVEL OF SERVICE	TYPE OF FLOW	DELAY	MANEUVERABILITY	CONTROL DELAY/VEHICLE (SEC)		
				SIGNALIZED	UNSIGNALIZED	ALL-WAY STOP
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10.0	≤ 10.0	≤ 10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10 and ≤ 20.0	>10 and ≤ 15.0	>10 and ≤ 15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted	>20 and ≤ 35.0	>15 and ≤ 25.0	>15 and ≤ 25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35 and ≤ 55.0	>25 and ≤ 35.0	>25 and ≤ 35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	>55 and ≤ 80.0	>35 and ≤ 50.0	>35 and ≤ 50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	> 80.0	> 50.0	> 50.0

References: 2000 Highway Capacity Manual.

**TABLE 2
LEVEL OF SERVICE (LOS) THRESHOLD VOLUMES
FOR URBAN/SUBURBAN ROADWAY TYPES**

Roadway Type	TOTAL DAILY VEHICLES IN BOTH DIRECTIONS (ADT)				
	Level of Service A	Level of Service B	Level of Service C	Level of Service D	Level of Service E
4-Lane Divided Freeway	28,000	43,200	61,600	74,400	80,000
6-Lane Divided Arterial (with left-turn lane)	32,000	38,000	43,000	49,000	54,000
4-Lane Divided Arterial (with left-turn lane)	22,000	25,000	29,000	32,500	36,000
4-Lane Undivided Arterial (no left-turn lane)	18,000	21,000	24,000	27,000	30,000
2-Lane Collector (with left-turn lane)	11,000	12,500	14,500	16,000	18,000
2-Lane Collector (no left-turn lane)	8,000	9,500	10,500	12,000	13,500

ADT = Average Daily Traffic

Note: 1. Based on "Highway Capacity Manual", Transportation Research Board, 2000.

2. All volumes are approximate and assume ideal roadway characteristics. Actual threshold volumes for each LOS listed above may vary depending on a number of factors including curvature and grade, intersection or interchange spacing, percentage of trucks and other heavy vehicles, lane widths, signal timing, on-street parking, amount of cross traffic and pedestrians, driveway spacing, etc.

To determine whether “significance” should be associated with unsignalized intersection operations, a supplemental traffic signal “warrant” analysis has also been completed. The term “signal warrants” refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the need for installation of a traffic signal at an otherwise unsignalized intersection. This study has employed the signal warrant criteria presented in the latest edition of the Federal Highway Administration’s (FHWA) *Manual on Uniform Traffic Control Devices (MUTCD)*, as amended by the *MUTCD 2003 California Supplement*, for all study intersections. The signal warrant criteria are based upon several factors including volume of vehicular and pedestrian traffic, frequency of accidents, location of school areas etc. Both the FHWA’s *MUTCD* and the *MUTCD 2003 California Supplement* indicate that the installation of a traffic signal should be considered if one or more of the signal warrants are met. Specifically, this study will utilize the Peak-Hour-Volume based Warrant 3 as one representative type of traffic signal warrant analysis. Warrant 3 criteria are basically identical for both the FHWA’s *MUTCD* and the *MUTCD 2003 California Supplement*. Since Warrant 3 provides specialized warrant criteria for intersections with rural characteristics (e.g. located in communities with populations of less than 10,000 persons or with adjacent major streets operating at above 40 mph), study intersections that use this specialized criteria will be clearly identified.

Consistent with Caltrans policies quoted in the intersection and roadway LOS methodologies, a peak hour LOS “D” has been taken as the general threshold for acceptable/tolerable operations on freeway ramp segments maintained by the State along US 101. General Plan improvements and project-related circulation improvements have been recommended for all instances where acceptable LOS thresholds are exceeded. HCM-2000-recommended traffic density criteria for freeway ramp junction Levels-of-Service are presented in Table 3. Note that HCM-2000 methodology considers peak hour volumes when evaluating for Levels-of-Service. Because many of the ramp segments did not have available peak hour volumes, a PM peak factor of 11% was applied to the daily volumes as a conservative approximation of the PM peak hour volume.

**TABLE 3
LEVEL OF SERVICE (LOS) CRITERIA FOR RAMP MERGE AND DIVERGE AREAS**

LOS	Density (pc/mi/ln)
A	≤ 10
B	> 10 – 20
C	> 20 – 28
D	> 28 – 35
E	> 35
F	Demand exceeds capacity

*Note: Based on Highway Capacity Manual, Fourth Edition, Transportation Research Board, 2000.
pc/mi/ln – Passenger Car / Mile / Lane*

EXISTING CONDITIONS

Intersections

Existing peak-hour intersection traffic operations were quantified for both the observed existing traffic volumes (Figure 2A) and the calculated unconstrained existing traffic volumes (Figure 2B) with the existing intersection lane geometrics and control (Figure 3). The calculated unconstrained existing volumes are those that are projected by Caltrans, based on their in-depth study, to occur, should the SR 46E/US 101 interchange have enough capacity to allow for free traffic movement (Figure 2B). Tables 4A and 4B present the existing peak hour intersection LOS. These Levels of Service are for average weekday conditions for City streets, and summertime weekday and Friday PM peak hour conditions on the State facilities.

**TABLE 4A
OBSERVED CONSTRAINED EXISTING CONDITIONS:
INTERSECTION LEVELS OF SERVICE**

#	Intersection	Control Type	AM Peak Hour			PM Peak Hour		
			Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?
<i>Summer Weekday Analysis</i>								
1	US 101 SB Ramps/24th St./SR 46 East	Signal	25.9	C	-	27.5	C ²	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	41.0	D	-	62.0	E²	-
3	Buena Vista Drive/SR 46 East	Signal	23.3	C	-	15.8	B	-
4	Golden Hill Road/SR 46 East	Signal	40.9	D	-	31.0	C	-
5	Union Road/SR 46 East	TWSC	33.8	D	Yes	OVR	F	Yes
6	Airport Road/SR 46 East	TWSC	14.9	B	No	23.9	C	Yes
7	Union Road/Union Road Extension	TWSC	12.6	B	No	14.5	B	No
8	Union Road/Golden Hill Road	AWSC	25.5	D	No	68.4	F	Yes
9	Union Road/North River Road ¹	AWSC	13.7	B	No	11.8	B	No
10	Riverside Avenue/13th St.	Signal	31.5	C	-	35.7	D	-
11	Paso Robles St./13th St.	Signal	22.6	C	-	29.6	C	-
12	North River Road/Creston Road	Signal	39.1	D	-	40.2	D	-
13	Creston Road/Rolling Hills Road	TWSC	14.5	B	No	14.3	B	No
14	Golden Hill Road/Rolling Hills Road	TWSC	16.8	C	No	17.6	C	No
15	Creston Road/Golden Hill Road	Signal	17.4	B	-	16.9	D	-
16	Spring St./1st St./Niblick Road	Signal	23.4	C	-	29.8	C	-
17	Niblick Road/South River Road	Signal	32.1	C	-	29.6	C	-
18	Niblick Road/Creston Road	Signal	29.2	C	-	31.5	C	-
19	Jardine Road/SR 46 East	TWSC	23.9	C	No	OVR	F	Yes
20	Mill Road/SR 46 East	TWSC	29.8	D	No	28.0	D	No
<i>Summer Friday Analysis</i>								
1	US 101 SB Ramps/24th St./SR 46 East	Signal	-	-	-	36.5	D ²	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	-	-	-	51.8	D²	-
3	Buena Vista Drive/SR 46 East	TWSC	-	-	-	16.3	B	No
4	Golden Hill Road/SR 46 East	Signal	-	-	-	43.5	D	-
5	Union Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes
6	Airport Road/SR 46 East	TWSC	-	-	-	34.2	D	Yes
19	Jardine Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes
20	Mill Road/SR 46 East	TWSC	-	-	-	70.2	F	No

Notes: TWSC = Two-Way-Stop Control; AWSC = All-Way-Stop Control.

Warrant = MUTCD Peak-Hour-Volume Warrant-3 (Urban Areas).

Overflow = Delays exceed 99.9 seconds/vehicle.

1. Union Rd./North River Road has an unconventional three-way stop control that is being redesigned in conjunction with the 13th St. Bridge project.
2. The projected LOS does not reflect observed PM peak hour traffic conditions. The closely spaced ramp intersections cause extended queues and an LOS F operating condition that also causes traffic on SR 46 East to divert to City streets.

**TABLE 4B
CALCULATED UNCONSTRAINED EXISTING CONDITIONS:
INTERSECTION LEVELS OF SERVICE**

#	Intersection	Control Type	AM Peak Hour			PM Peak Hour		
			Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?
<i>Summer Weekday Analysis</i>								
1	US 101 SB Ramps/24th St./SR 46 East	Signal	25.9	C	-	33.8	C ¹	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	41.0	D	-	78.4	E	-
3	Buena Vista Drive/SR 46 East	Signal	23.3	C	-	15.5	B	-
4	Golden Hill Road/SR 46 East	Signal	40.9	D	-	37.9	D	-
5	Union Road/SR 46 East	TWSC	19.2	C	Yes	OVR	F	Yes
6	Airport Road/SR 46 East	TWSC	17.1	C	Yes	24.4	C	Yes
19	Jardine Road/SR 46 East	TWSC	24.6	C	Yes	OVR	F	Yes
20	Mill Road/SR 46 East	TWSC	30.6	D	Yes	35.4	E	No
<i>Summer Friday Analysis</i>								
1	US 101 SB Ramps/24th St./SR 46 East	Signal	-	-	-	83.2	F	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	-	-	-	122.6	F	-
3	Buena Vista Drive/SR 46 East	TWSC	-	-	-	15.6	B	No
4	Golden Hill Road/SR 46 East	Signal	-	-	-	48.8	D	-
5	Union Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes
6	Airport Road/SR 46 East	TWSC	-	-	-	36.4	E	Yes
19	Jardine Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes
20	Mill Road/SR 46 East	TWSC	-	-	-	72.2	F	No

Notes: TWSC = Two-Way-Stop Control; AWSC = All-Way-Stop Control.

Warrant = MUTCD Peak-Hour-Volume Warrant-3 (Urban Areas).

Overflow = Delays exceed 99.9 seconds/vehicle.

1. The projected LOS does not reflect observed PM peak hour traffic conditions. The closely spaced ramp intersections cause extended queues and an LOS F operating condition that also causes traffic on SR 46 East to divert to City streets.

As shown in Tables 4A and 4B, intersections along the SR 46E corridor are estimated to operate at deficient conditions, particularly during Friday PM peak hour conditions. Note that although the calculated LOS at Intersection 1 is acceptable LOS “C” for observed traffic volumes, it is recognized that the closely spaced ramp intersections cause extended queues and a LOS “F” operating condition that causes traffic on SR 46 East to divert to City streets. The calculated demand traffic volumes were adjusted to reflect the actual traffic demand along the corridor, thereby reflecting far worse intersection LOS when compared to calculated LOS from observed traffic volumes.

The following unsignalized intersections currently meet the Caltrans Peak Hour-Volume Warrant 3, indicating that the observed PM peak hour volume of minor-street vehicles (which experience unacceptable delays) is significantly large enough to warrant installation of a traffic signal at these locations:

- SR 46E/Union Road
- SR 46E/Airport Road
- Union Road/Golden Hill Road
- SR 46E/Jardine Road

Recommended circulation improvements are discussed in a subsequent section.

Roadways

Table 5 identifies the roadway LOS for the locations of where traffic counts were taken under the existing conditions scenario utilizing the roadway ADT-based LOS thresholds presented in Table 2. The traffic counts reported on both US 101 and SR 46E were obtained from the *Caltrans Traffic Volumes on the State Highway Systems (2004)* website. Figure 4 shows the existing daily traffic volumes at the study area roadway locations.

**TABLE 5
EXISTING CONDITIONS: ROADWAY LEVELS OF SERVICE**

Roadway Segment	Capacity Configuration	Average Daily Traffic (ADT)	LOS
SR 46E east of US 101	4-Lane Divided Arterial	23,000	B
SR 46E west of Airport Road	4-Lane Divided Arterial	17,500	A
SR 46W west of US 101	2-Lane Collector	5,500	A
US 101 south of SR 46 West	4-Lane Freeway	51,000	A
US 101 north of SR 46 West	4-Lane Freeway	61,000	C
Airport Road north of SR 46 East	2-Lane Collector	4,620	A
Union Road east of Golden Hill Road	2-Lane Collector	10,910	A
24th Street west of US 101	4-Lane Undivided Arterial	17,180	A
Charolais Road east of River Road	2-Lane Collector	7,820	B
Creston Road east of River Road	4-Lane Undivided Arterial	16,930	A
Creston Road east of US 101	4-Lane Undivided Arterial	23,250	C
Creston Road south of Niblick Road	2-Lane Collector	12,870	B
Creston Road west of Rolling Hills Rd	2-Lane Collector	13,200	C
Golden Hill Road south of SR 46 East	2-Lane Collector	7,510	A
Golden Hill Road south of Union Road	2-Lane Collector	9,990	A
Linne Road east of Airport Road	2-Lane Collector	1,190	A
Niblick Road east of US 101	4-Lane Divided Arterial	26,410	C
Niblick Road east of Creston Road	4-Lane Divided Arterial	11,920	A
River Road north of Niblick Road	2-Lane Collector	7,990	C
River Road south of SR 46 East	2-Lane Collector	2,740	A
Union Road east of River Road	2-Lane Collector	6,500	B
Union Road west of Golden Hill Road	2-Lane Collector	4,330	A

As shown in Table 5, all study roadway segments are estimated at LOS “D” conditions or better.

US 101 Ramps

Existing peak hour ramp operations were evaluated utilizing the existing peak hour ramp traffic volumes shown on Figure 5. Table 6 presents the existing conditions' ramp merge/diverge peak hour LOS at the four study interchange locations in the vicinity of the study area.

**TABLE 6
EXISTING CONDITIONS: US 101 RAMP SEGMENT LEVELS OF SERVICE**

US 101 Count Location	Lanes	Volume (ADT)	Volume (PM Pk)	Density (pc/mi/ln)	LOS
SR 46E southbound on-ramp	1	10,454	1,171	18.9	B ¹
SR 46E northbound off-ramp	1	9,419	1,055	21.3	C ¹
Mainline - US 101, south of SR 46E (PM 57.92)	4	32,000	-	-	A
16th Street southbound off-ramp	1	1,553	174	20.0	B
Mainline - US 101, south of 13th Street (PM 56.88)	4	37,700	4,222	-	A
Spring Street southbound on-ramp	2	10,868	1,217	21.2	C
Spring Street northbound off-ramp¹	2	11,592	1,298	37.0	E
Mainline - US 101, south of Niblick Road (PM 55.67)	4	61,000	-	-	B
SR 46W southbound on-ramp	1	1,828	205	29.2	D
SR 46W southbound off-ramp	1	5,537	620	34.6	D
SR 46W northbound on-ramp	1	5,486	614	34.9	D
SR 46W northbound off-ramp	1	1,553	174	32.6	D
Mainline - US 101, south of SR 46W (PM 54.12)	4	52,000	-	-	B

Note: pc/mi/ln – Passenger car / mile / lane

1. Part of the estimated deficiency is attributable to the rolling terrain of the area and short acceleration/deceleration lane lengths

As shown in Table 6, the merge and diverge ramp operations at the US 101/SR 46W interchange are projected to operate at LOS “D”, while the Spring Street northbound off-ramp is projected to operate at LOS “E”. Initial review shows that the ramp volumes are not particularly high. However, part of the estimated deficiency is attributable to the rolling terrain of the area and short acceleration/deceleration lane lengths.

PROJECT DESCRIPTION

The proposed CRASP project area is located over approximately 837 acres of currently vacant/undeveloped lands in the eastern portion of Paso Robles, generally bounded by the city limits to the east, SR 46E to the north, Golden Hill Road to the west and Sherwood and Linne Roads to the south. Per the current *City of Paso Robles General Plan* designations, approximately 408 acres of the project area is planned for residential, approximately 65 acres is planned for Commercial and the balance of approximately 363.6 acres is designated for open space. Figure 6 illustrates the proposed General Plan Land Use designations for the project site. In total, the proposed CRASP could develop up to approximately 1,439 dwelling units and approximately 586,100 square feet of non-residential floor area. Of this amount of non-residential land use, 21.8 KSF (KSF = 1,000 square feet) is attributed to recreational land use, 79 KSF is attributed to school/educational land use, and 279 KSF is attributed to commercial land use.

Also, in that there has not been a development phasing plan proposed, for traffic impact analysis purposes, the entire project site has been assumed to be developed in a single development phase, and as such the project impacts have been attributed to *Short Term Plus Project* and *Year 2025 Plus Project* scenarios. Recognizing, however, the scope of potential development of the CRASP area, incremental development will occur over time that will cumulatively cause significant traffic impacts that will require mitigation measures. In that the location of such incremental development is not known and is under differing property ownerships, the ability to establish specific development thresholds for the need of specific circulation improvements is difficult. However, to provide some threshold guidelines for the construction of the specific mitigation measures, the following threshold levels are provided:

Concurrent with Initial Development of CRASP Area.

Based on existing traffic conditions, the following locations will require improvements with initial development of the CRASP project area as current Levels of Service are at or below acceptable levels:

- State Route 46 East/US 101 NB Ramps
- State Route 46 East/US 101 SB Ramps
- Union Road/SR 46 East
- Union Road/Golden Hill Road

For SR 46E/US 101 SB Ramp intersection, an interim improvement is being proposed by the City of Paso Robles and Caltrans to add dual left turn lanes in the westbound direction. With this improvement, an additional westbound through lane will be added at the SR 46E/US 101 NB Ramp intersection, which will add sufficient capacity to improve Level of Service at both of these intersections. Due to funding limitations on constructing the improvements, it is not anticipated to be operational until 2015. As CRASP develops, the project will contribute its fair share to the mitigation. However, the near term LOS will degrade until the improvement is complete and operational.

Level of Service and safety problems are projected for mitigation to acceptable levels at the Union Road/SR 46E intersection with the prohibition of left turn movements from the northbound approach. This improvement would also relieve future projected Level of Service problems at the Union Road/Union Road Extension intersection.

At the Union Road/Golden Hill Road intersection, signalization and some additional widening or construction of a roundabout would provide interim traffic congestion relief and improve Levels of Service to acceptable conditions.

Legend

Land Use Designations

Single-Family Residential

- RSF-1
- RSF-2
- RSF-3
- RSF-4
- RSF-6

Multi-Family Residential

- RMF-8
- RMF-9

Commercial

- CS
- NC

Parks and Open Space

- POS

Plan Area Boundary

Planning Subareas

Major Road ROW

Roads and Lot Lines



* Area 15 can be RMF-9 at Planning Commission discretion

0 500 1 000 Feet

Sources: City of El Paso de Robles, 2003 and Rincon Consultants, Inc. 2003, 2004, and 2005.

Aerial: City of El Paso de Robles, 2000.



City of Paso Robles - Chandler Ranch Master Plan

Figure 6

Project Site Plan



Area South of Gilead Lane CRASP Area 1.

Although the development timing of both residential and commercial development south of Gilead Area 1 is not known, a threshold of no more than 500 single and multi-family dwelling units should be developed without improvement, consistent with the identified mitigation measures, to the following intersections.

- Golden Hill Road/SR 46E
- Rolling Hills Road/Golden Hill Road
- Niblick Road/Creston Road

With improvement to these intersections, the balance of the residential uses along with the commercial uses could be constructed.

Area North of Gilead Lane CRASP Area 1.

Commercial development of the CRASP area north of Gilead Lane is limited, particularly if access to SR 46E is restricted to a right turn movement only at the Union Road/SR 46E intersection (i.e. no northbound left-turn movements are permitted). Recognizing the limited access at the site from the highway, further improvements, as follows in the subsequent paragraph, should occur at the Golden Hill Road/SR 46E intersection and at the Airport Road/SR 46E connection before ~~full~~ any development of the commercial uses is allowed north of Gilead Lane.

Golden Hill Road is currently operating at LOS “D” during the weekday PM peak hour period, on the cusp of LOS “C/D” (35.0s). With the completion of ongoing construction at the intersection (e.g. gas stations), the intersection is projected to operate at LOS “E”. Prior to any development in CRASP, north of Area 1, and ~~A~~ assuming that SR 46E remains a four-lane divided arterial through its intersections with Golden Hill Road, the following improvement needs to be constructed at the SR 46E/Golden Hill Road intersection: ~~and that residential development occurs before all commercial development, the following intersection configuration at SR 46E/Golden Hill Road would allow for 1,200 residential units (80% of total) within CRASP to be accommodated at acceptable LOS:~~

- Northbound and southbound Golden Hill Road – one lane for each turn movement (left, through, right)
- Eastbound and westbound SR 46E – one left-turn lane, two through-lanes, one right-turn lane.
- Signalize all approaches with protected phasing.

Assuming that residential development occurs before all commercial development, the following intersection configuration at SR 46E/Golden Hill Road would allow for 1,200 residential units (80% of total) within CRASP to be accommodated at acceptable LOS. With the same intersection configuration, 1,050 residential units (72% of total) within CRASP could be accommodated concurrently with the full development of the CRASP commercial area fronting Niblick/Sherwood Road (equivalent to 150 PM peak hour trips) and development equivalent to 200 PM peak hour trips on the CRASP commercial area bounded by Union Road and Huer Huero Creek. As previously stated, the development of the CRASP commercial area bounded by SR 46E and Huer Huero Creek would not be possible without an Airport Road/SR 46E connection.

PROJECT TRIP GENERATION

Project site trip generation has been estimated utilizing trip generation rates contained in the Institute of Transportation Engineers (ITE) Publication *Trip Generation (Seventh Edition)*. Table 7 shows the estimated trip generation rates for each of the proposed project land uses. Table 8A shows the computed trip generation volumes for the project residential land uses, computed from the number and type of dwelling units within each sub-area. Table 8B shows the computed trip generation volumes for the fully built-out project non-residential land, computed utilizing the proposed reduced-commercial land use quantities. Table 8C shows the computed trip generation volumes for the analysis scenarios where an Airport Road/SR 46E connection is not present. Table 8D summarizes the total trip generation and accounts for trip matching between the residential and non-residential land uses of the CRASP.

**TABLE 7
PROJECT TRIP GENERATION RATES**

Land Use Category	Unit ¹	Daily Trip Rate/Unit	AM Peak Rate/Unit			PM Peak Rate/Unit		
			Total	In	Out	Total	In	Out
Single Family Detached Housing (210)	D.U.	9.57	0.75	25%	75%	1.01	63%	37%
Apartment (220)	D.U.	6.72	0.51	20%	80%	0.62	65%	35%
Shopping Center (820)	KSF	42.94	1.03	61%	39%	3.75	48%	52%
General Light Industrial (110)	KSF	6.69	0.92	88%	12%	0.98	12%	88%
Gasoline/Service Station with Convenience Market (945)	Pumps	162.78	10.06	50%	50%	13.38	50%	50%
Fast Food Restaurant w\ Drive-Through Window (934)	KSF	496.12	53.11	51%	49%	34.64	52%	48%
High-turnover (Sit-Down) Restaurant (932)	KSF	127.15	11.52	52%	48%	10.92	61%	39%
Walk-in Bank (911)	KSF	156.48	4.07	50%	50%	33.15	50%	50%
General Office Building (710)	KSF	11.01	1.55	88%	12%	1.49	17%	83%
Quality Restaurant (931)	KSF	89.95	0.81	80%	20%	7.49	67%	33%
Recreational Community Center (495)	KSF	22.88	1.62	61%	39%	1.64	29%	71%
Elementary School (520)	KSF	14.49	4.69	54%	46%	3.13	43%	57%

Note:

1. ITE Trip Generation (7th Edition), average rates used except for General Light Industrial (110)
2. DU - dwelling unit, KSF - 1,000 sq. ft.

**TABLE 8A
CRASP RESIDENTIAL TRIP GENERATION**

Land Use Description	Quantity	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			Total	In	Out	Total	In	Out
Subarea 1 - Custom SFR	48	459	36	9	27	48	31	18
Subarea 2 - Custom/Semi-Custom SFR	36	345	27	7	20	36	23	13
Subarea 2 - MFR	23	155	12	2	9	14	9	5
Subarea 3 - 3-Pack SFR	132	1,263	99	25	74	133	84	49
Subarea 3 - Custom/Semi-Custom SFR	48	459	36	9	27	48	31	18
Subarea 6 - 6-Pack SFR	216	2,067	162	41	122	218	137	81
Subarea 7 - Production SFR	135	1,292	101	25	76	136	86	50
Subarea 8 - Custom/Semi-Custom SFR	96	919	72	18	54	97	61	36
Subarea 9 - Production SFR	91	871	68	17	51	92	58	34
Subarea 11 - SFR	31	297	23	6	17	31	20	12
Subarea 12 - SFR	205	1,962	154	38	115	207	130	77
Subarea 13 - SFR	66	632	50	12	37	67	42	25
Subarea 14 - SFR	83	794	62	16	47	84	53	31
Subarea 16 - MFR	139	934	71	14	57	86	56	30
Subarea 17 - MFR	90	605	46	9	37	56	36	20
CRASP Residential Total	1,439	13,053	1,019	248	771	1,355	857	498

Note: DU - Dwelling Unit

SFR - Single Family Residential,

MFR - Multi-Family Residential (Apartment)

**TABLE 8B
CRASP NON-RESIDENTIAL TRIP GENERATION, FULL BUILD-OUT**

Land Use Description	Quantity	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			Total	In	Out	Total	In	Out
Meixner Property (Subarea 19)								
Light Industrial	47 KSF	315	43	38	5	46	6	41
Gas Station	8 Pumps	1,302	80	40	40	107	54	54
<i>Pass-By Reduction²</i>	<i>80%</i>	<i>1,042</i>	<i>64</i>	<i>32</i>	<i>32</i>	<i>86</i>	<i>43</i>	<i>43</i>
Fast Food Restaurant	3.5 KSF	1,736	186	95	91	121	63	58
<i>Pass-By Reduction²</i>	<i>40%</i>	<i>695</i>	<i>74</i>	<i>38</i>	<i>36</i>	<i>48</i>	<i>25</i>	<i>23</i>
Restaurant (Sit-Down)	6 KSF	763	69	36	33	66	40	26
<i>Pass-By Reduction²</i>	<i>20%</i>	<i>153</i>	<i>14</i>	<i>7</i>	<i>7</i>	<i>13</i>	<i>8</i>	<i>5</i>
Restaurant (Sit-Down)	5 KSF	636	58	30	28	55	33	21
<i>Pass-By Reduction²</i>	<i>20%</i>	<i>127</i>	<i>12</i>	<i>6</i>	<i>6</i>	<i>11</i>	<i>7</i>	<i>4</i>
Winery/Tasting room ³	5 KSF	450	4	3	1	37	25	12
<i>Pass-By Reduction²</i>	<i>20%</i>	<i>90</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>7</i>	<i>5</i>	<i>2</i>
Bank	4 KSF	626	16	8	8	133	66	66
<i>Pass-By Reduction²</i>	<i>25%</i>	<i>156</i>	<i>4</i>	<i>2</i>	<i>2</i>	<i>33</i>	<i>17</i>	<i>17</i>
Office	25 KSF	275	39	34	5	37	6	31
Meixner Property Net Total		3,840	326	198	128	403	189	214
Branch Property (Subarea 19)								
Commercial/Shopping Center	40 KSF	1,718	41	25	16	150	72	78
<i>Pass-By Reduction²</i>	<i>40%</i>	<i>687</i>	<i>16</i>	<i>10</i>	<i>6</i>	<i>60</i>	<i>29</i>	<i>31</i>
Office/Service	26 KSF	286	40	35	5	39	7	32
Office/Warehouse (Lt. Industrial)	84 KSF	562	77	68	9	82	10	72
Branch Property Net Total		1,879	142	119	24	211	60	151
Wurth Property (Subarea 4, 10)⁴								
Aquatic Center (Subarea 4) ⁵	21.8 KSF	499	35	22	14	36	10	25
Elementary School (Subarea 10) ⁶	79.0 KSF	-	-	-	-	-	-	-
Wurth Property Net Total		499	35	22	14	36	10	25
Our Town/Rupert Commercial (Subarea 15) -								
Shopping Center	14 KSF	601	14	9	6	53	25	27
<i>Pass-By Reduction²</i>	<i>40%</i>	<i>240</i>	<i>6</i>	<i>4</i>	<i>2</i>	<i>21</i>	<i>10</i>	<i>11</i>
Chandler S&G Commercial (Subarea 14) -								
Shopping Center	19 KSF	816	20	12	8	71	34	37
<i>Pass-By Reduction²</i>	<i>40%</i>	<i>326</i>	<i>8</i>	<i>5</i>	<i>3</i>	<i>29</i>	<i>14</i>	<i>15</i>
CRASP Non-Residential Gross Total Trips		10,585	723	455	268	1,032	451	581
<i>Pass-By Reduction</i>	<i>40%</i>	<i>4,203</i>	<i>216</i>	<i>114</i>	<i>101</i>	<i>368</i>	<i>186</i>	<i>183</i>
CRASP Non-Residential Net Total⁷	379.8 KSF	6,381	508	341	167	664	266	398

Notes:

1. KSF = 1,000 square feet
2. Pass-by reduction taken from SANDAG-published Trip Generation Manual (Revised May 2003), confirmed with ITE Trip Generation Handbook Pass-by reductions account for existing traffic traveling along a roadway being diverted to a non-residential land use.
3. Approximated with Quality Restaurant land use
4. School land use analyzed at 18.2 acres, FAR = 10%. Aquatic center analyzed at 10 acres, FAR = 5%.
5. Approximated with Recreational Community Center land use
6. School trips expected to be largely absorbed in the surrounding residential areas
7. School square footage not included in consideration for non-residential trip generation. Gas station square footage approximated as 500 square feet.

**TABLE 8C
CRASP NON-RESIDENTIAL TRIP GENERATION, NO AIRPORT ROAD/SR 46E CONNECTION**

Land Use Description	Quantity	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			Total	In	Out	Total	In	Out
Meixner Property (Subarea 19)								
Restaurant (Sit-Down)	5 KSF	636	58	30	28	55	33	21
<i>Pass-By Reduction</i> ²	20%	127	12	6	6	11	7	4
Winery/Tasting room ³	5 KSF	450	4	3	1	37	25	12
<i>Pass-By Reduction</i> ²	20%	90	1	1	0	7	5	2
Office	25 KSF	275	39	34	5	37	6	31
Meixner Property Net Total		1,144	88	61	27	111	53	58
Branch Property (Subarea 19)								
Commercial/Shopping Center	20 KSF	859	21	13	8	75	36	39
<i>Pass-By Reduction</i> ²	40%	344	8	5	3	30	14	16
Office/Service	26 KSF	286	40	35	5	39	7	32
Branch Property Net Total		802	53	43	10	84	28	56
Wurth Property (Subarea 4, 10)⁴								
Aquatic Center (Subarea 4) ⁵	21.8 KSF	499	35	22	14	36	10	25
Elementary School (Subarea 10) ⁶	79.0 KSF	-	-	-	-	-	-	-
Wurth Property Net Total		499	35	22	14	36	10	25
Our Town/Rupert Commercial (Subarea 15) -								
Shopping Center	14 KSF	601	14	9	6	53	25	27
<i>Pass-By Reduction</i> ²	40%	240	6	4	2	21	10	11
Chandler S&G Commercial (Subarea 14) -								
Shopping Center	19 KSF	816	20	12	8	71	34	37
<i>Pass-By Reduction</i> ²	40%	326	8	5	3	29	14	15
CRASP Non-Residential Gross Total Trips		4,422	231	158	73	403	177	225
<i>Pass-By Reduction</i>	33%	1,471	42	25	17	128	64	64
CRASP Non-Residential Net Total⁷	214.8 KSF	2,951	188	133	56	275	113	162

Notes:

1. KSF = 1,000 square feet
2. Pass-by reduction taken from SANDAG-published Trip Generation Manual (Revised May 2003), confirmed with ITE Trip Generation Handbook. Pass-by reductions account for existing traffic traveling along a roadway being diverted to a non-residential land use.
3. Approximated with Quality Restaurant land use
4. School land use analyzed at 18.2 acres, FAR = 10%. Aquatic center analyzed at 10 acres, FAR = 5%.
5. Approximated with Recreational Community Center land use
6. School trips expected to be largely absorbed in the surrounding residential areas
7. School square footage not included in consideration for non-residential trip generation

**TABLE 8D
CRASP TOTAL TRIP GENERATION, FULL BUILD-OUT**

Land Use Description	Quantity	Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
			Total	In	Out	Total	In	Out
CRASP Residential	1,439 DU	13,053	1,019	248	771	1,355	857	498
<i>Internal Trip Matching</i> ¹	3%	392	31	7	23	41	26	15
CRASP Non-Residential	300.8 KSF	6,381	508	341	167	664	266	398
<i>Internal Trip Matching</i> ¹	6%	392	31	23	7	41	15	26
Total CRASP Trips		19,042	1,496	566	930	1,978	1,108	871

1. Internal trip matching estimated from City of Paso Robles Citywide Traffic Model (OMNI-MEANS, 2003), and confirmed using a local area competing commercial interests analysis. Internal trip matching reductions differ from pass-by reductions, in that trip matching accounts for trips conserved between trip generating land use contained in the project, e.g. residential development, and trip attracting land uses contained in the project, e.g. commercial development.

**TABLE 8E
CRASP TOTAL TRIP GENERATION, NO AIRPORT ROAD/SR 46E CONNECTION**

Land Use Description	Quantity	Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
			Total	In	Out	Total	In	Out
CRASP Residential	1,439 DU	13,053	1,019	248	771	1,355	857	498
<i>Internal Trip Matching¹</i>	<i>1%</i>	<i>148</i>	<i>9</i>	<i>3</i>	<i>7</i>	<i>14</i>	<i>8</i>	<i>6</i>
CRASP Non-Residential	214.8 KSF	2,951	188	133	56	275	113	162
<i>Internal Trip Matching¹</i>	<i>5%</i>	<i>148</i>	<i>9</i>	<i>7</i>	<i>3</i>	<i>14</i>	<i>6</i>	<i>8</i>
Total CRASP Trips		15,708	1,189	371	817	1,602	956	646

1. Internal trip matching estimated from City of Paso Robles Citywide Traffic Model (OMNI-MEANS, 2003), and confirmed using a local area competing commercial interests analysis. Internal trip matching reductions differ from pass-by reductions, in that trip matching accounts for trips conserved between trip generating land use contained in the project, e.g. residential development, and trip attracting land uses contained in the project, e.g. commercial development.

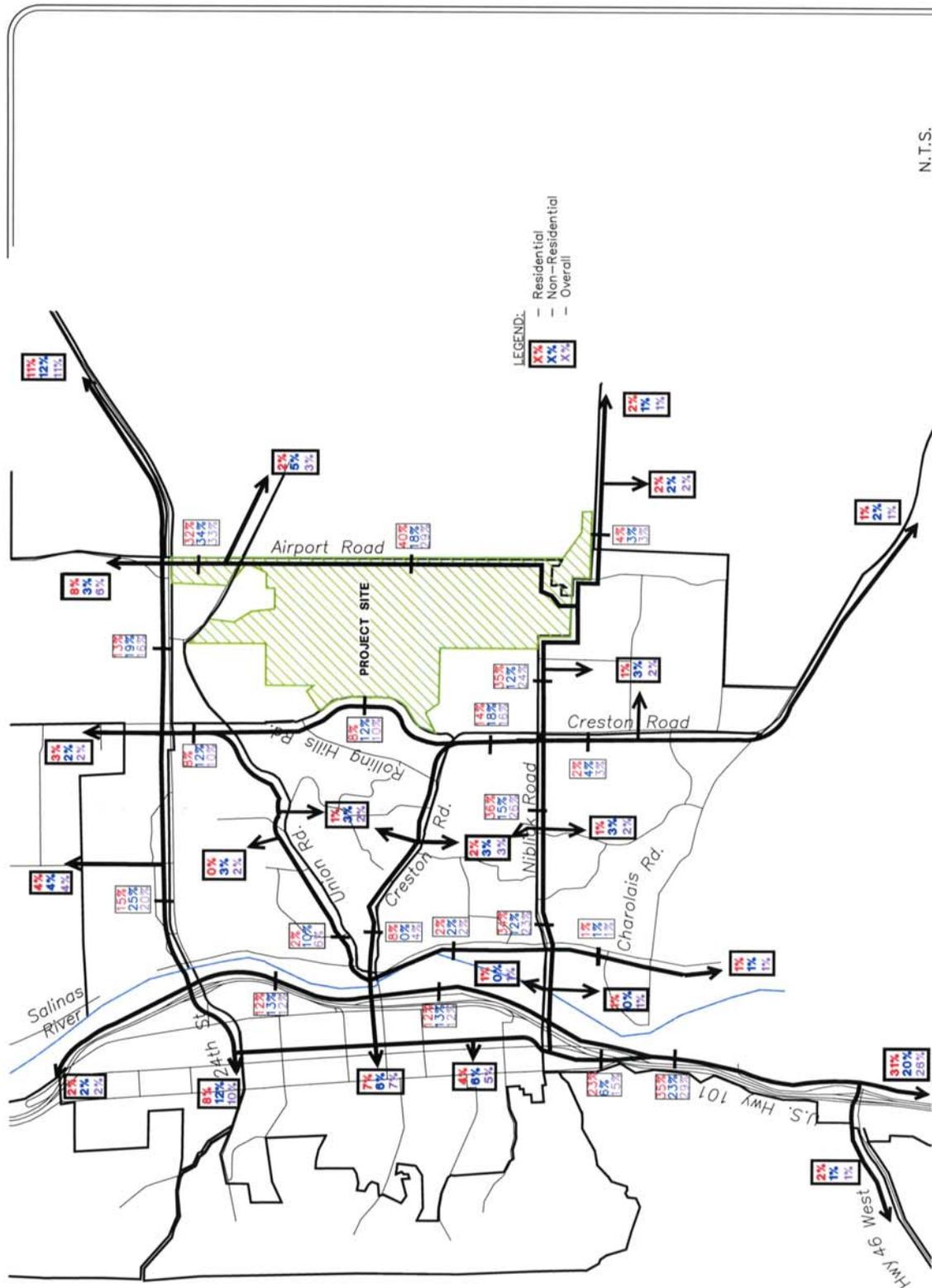
As shown in Table 8D, the project is expected to generate 19,044 daily trips, with 1,496 AM peak hour trips (566 inbound, 930 outbound) and 1,978 PM peak hour trips (1,108 inbound and 871 outbound). Note that internal trip matching reductions differ from pass-by reductions, in that trip matching accounts for trips conserved between trip generating land use contained in the project, e.g. residential development, and trip attracting land uses contained in the project, e.g. commercial development. Pass-by reductions account for existing traffic traveling along a roadway being diverted to a non-residential land use.

Within the CRASP analysis, there are scenarios that consider a project traffic network with and without a southerly connection to SR 46E via an Airport Road. There are also scenarios that consider a project traffic network with and without a Charolais Road overcrossing connection to the US 101/SR 46W interchange from the east. Development assumptions between scenarios differ, in that the “without Airport Road” scenario assumes no development in Area 19 north, which is bounded by Huer Huero Creek to the south, SR 46E to the north, and the property line to the east. There differential in trip generation was shown in Table 8B and 8C. There are no differences in development assumptions between the “with Charolais Road overcrossing” and “without Charolais Road overcrossing” scenarios.

PROJECT TRIP DISTRIBUTION

Project trip distribution and assignment patterns were forecasted using the Citywide traffic model as the primary tool. The Citywide traffic model utilizes *TP+Viper 3.1.2* transportation planning model software. Figures 7A and 7B illustrate the projected directional trip distribution and assignment patterns for the proposed project-generated trips with an SR 46E connection from the south via Airport Road, and without and with the proposed Charolais Road overcrossing, respectively. Figures 7C and 7D illustrate the projected directional trip distribution and assignment patterns for the proposed project-generated trips without an SR 46E connection from the south via Airport Road, and without and with the proposed Charolais Road overcrossing, respectively. The unconstrained trip distribution and assignment patterns assume improvements at the SR 46E/US 101 interchange such that existing congestion is partially alleviated. These trip distributions will be utilized for the *Short Term Plus Project* and *Year 2025 Base Plus Project* conditions analysis scenarios.

Figures 7A and 7B show the unconstrained “project only” traffic volumes at the study intersections with an Airport Road/SR 46E connection, and without and with the Charolais Road overcrossing, respectively. Figures 7C and 7D show the “project only” traffic volumes at the study intersections without an Airport Road/SR 46E connection, and without and with the Charolais Road overcrossing, respectively.

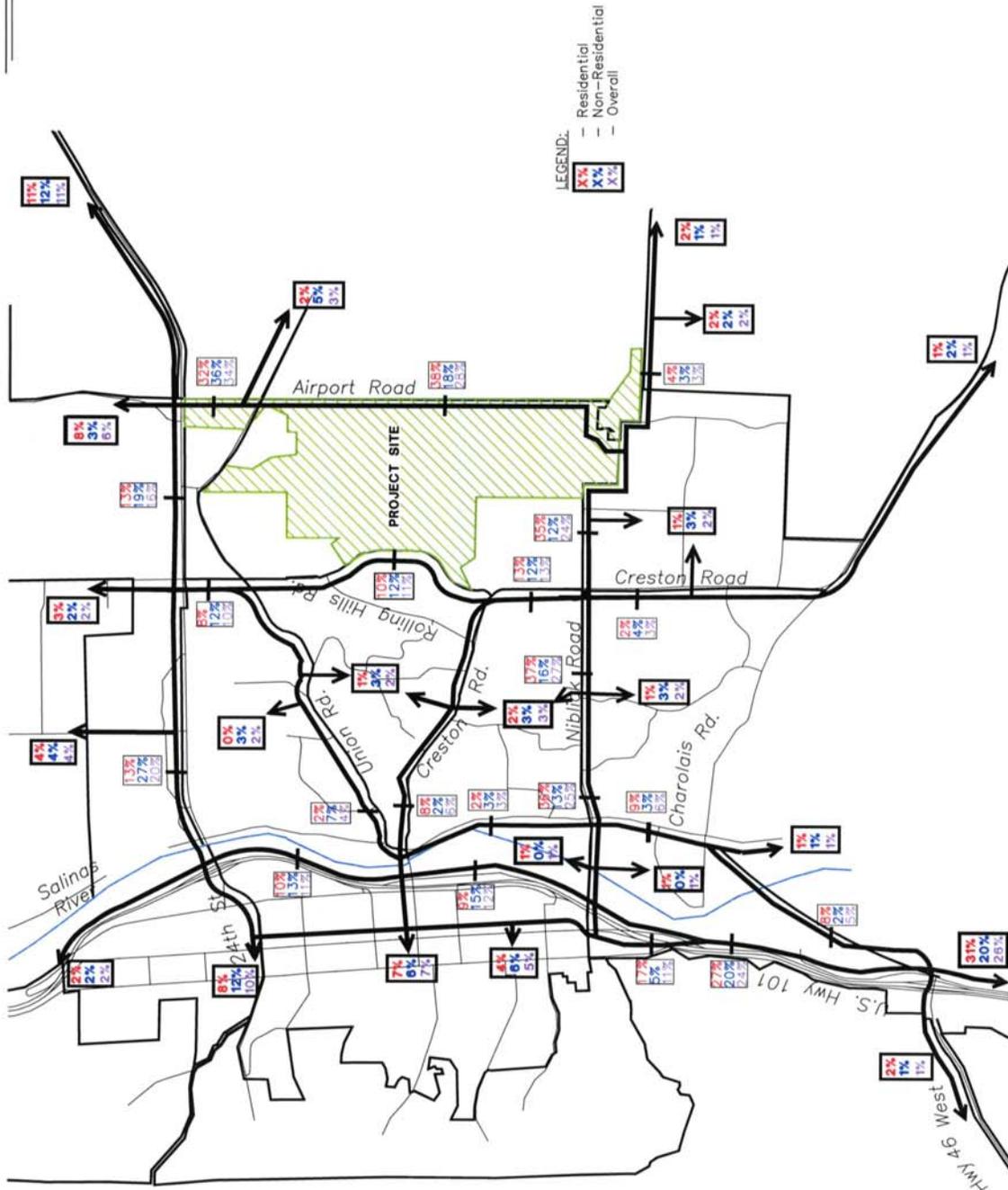


N.T.S.
Figure 7A

City of Paso Robles - Chandler Ranch Specific Plan

Chandler Ranch - Directional Trip Distribution Without Charolais Road Overcrossing



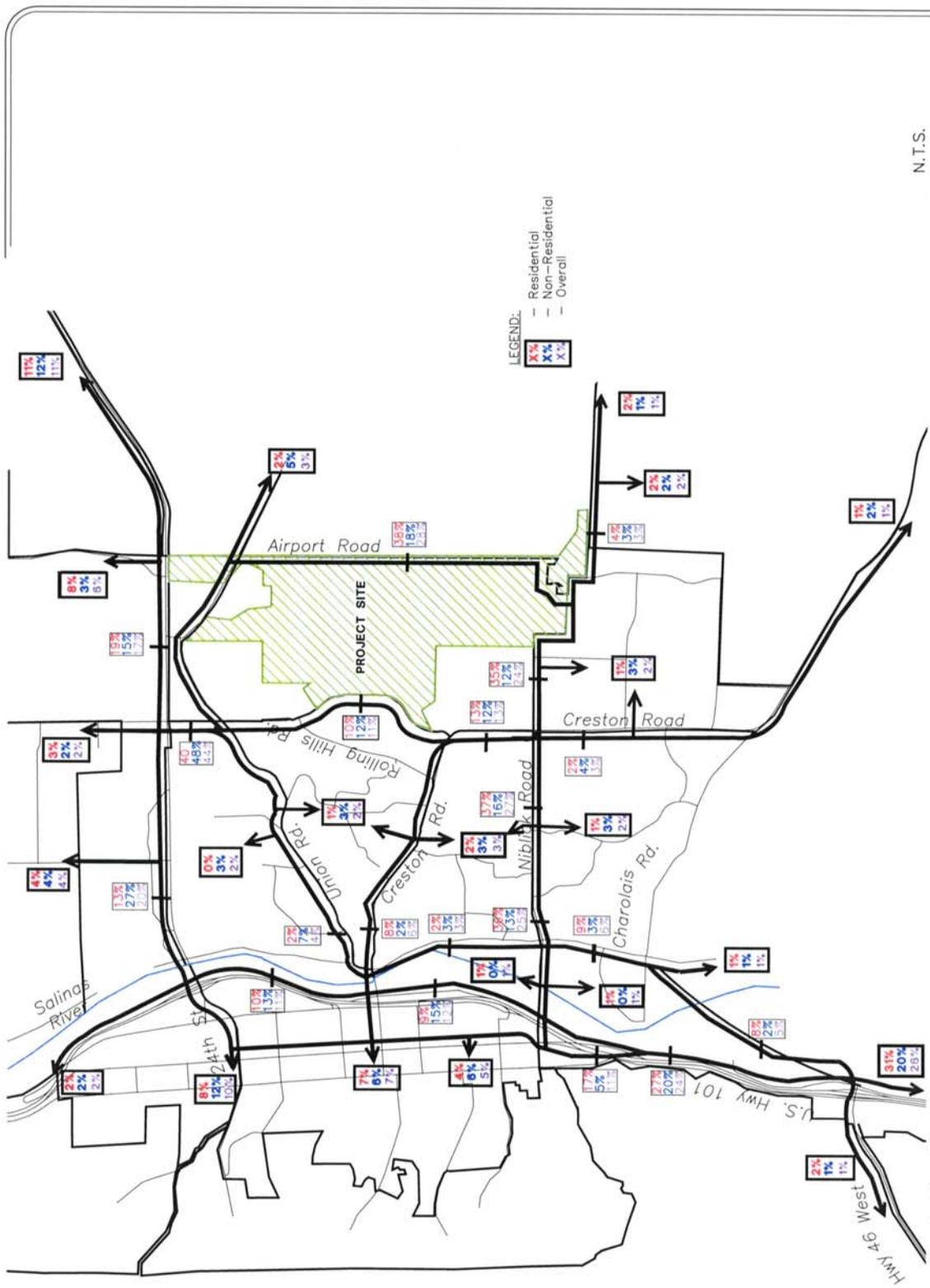


City of Paso Robles - Chandler Ranch Specific Plan

Chandler Ranch - Directional Trip Distribution With Charolais Road Overcrossing

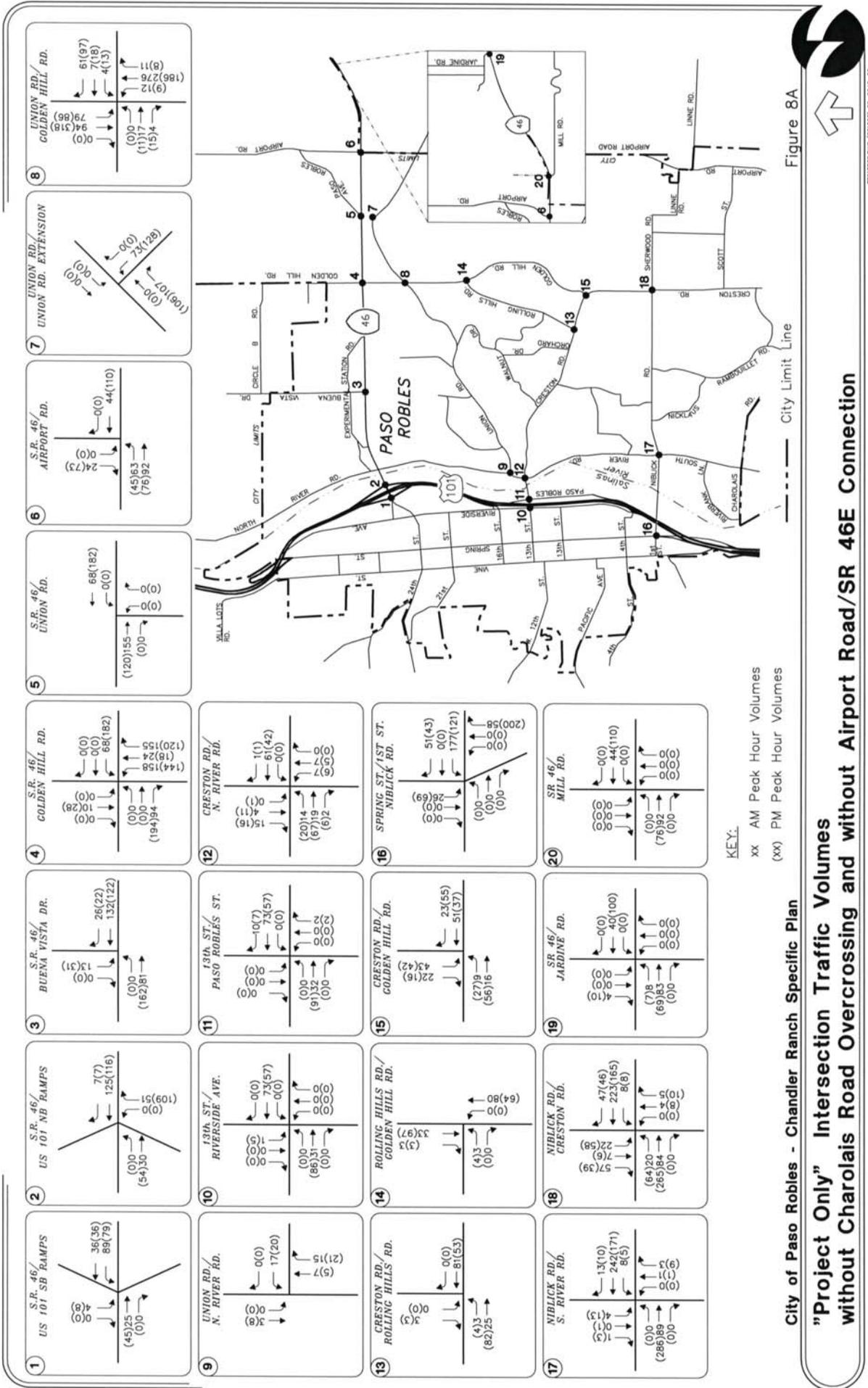
N.T.S.
Figure 7B

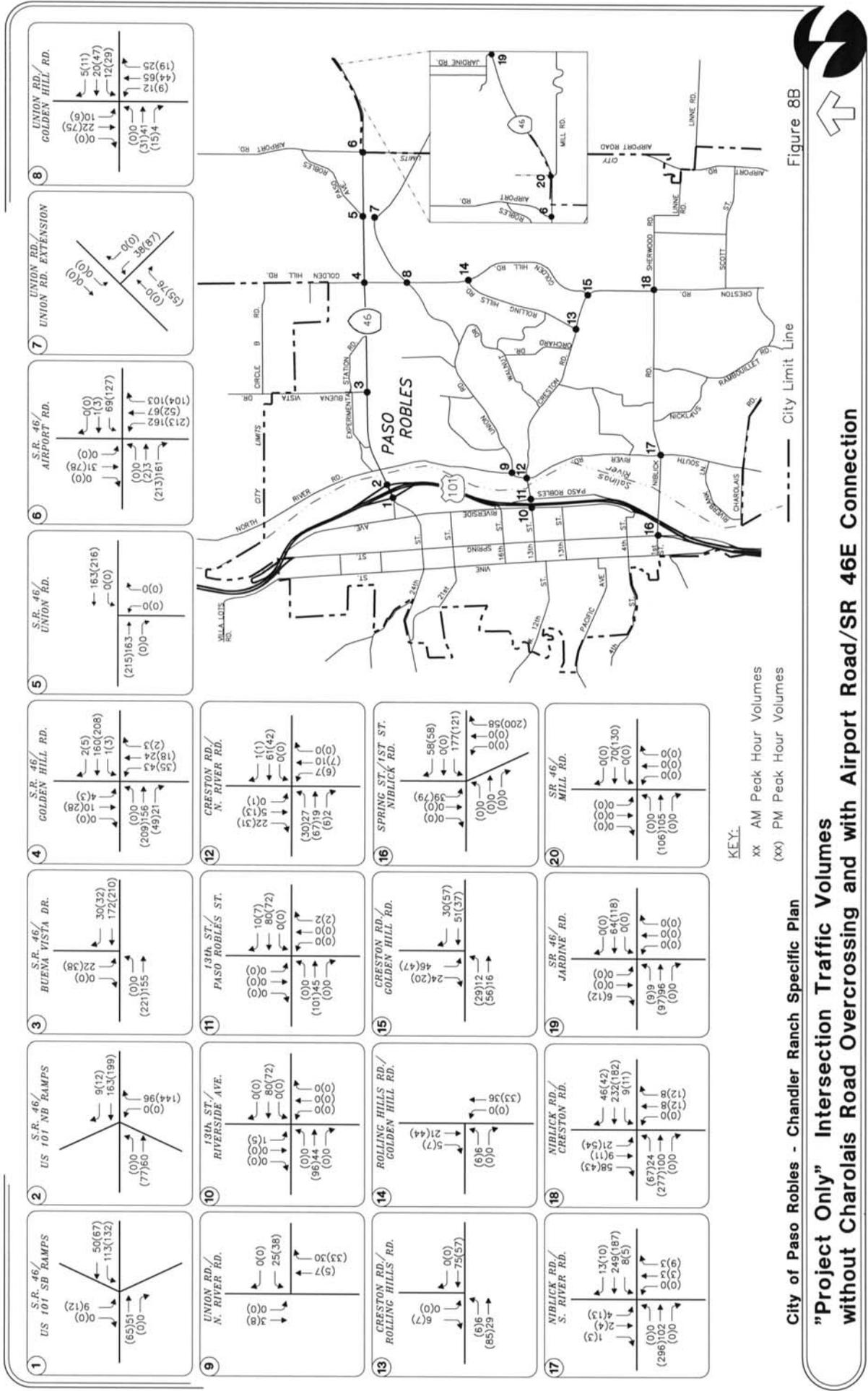


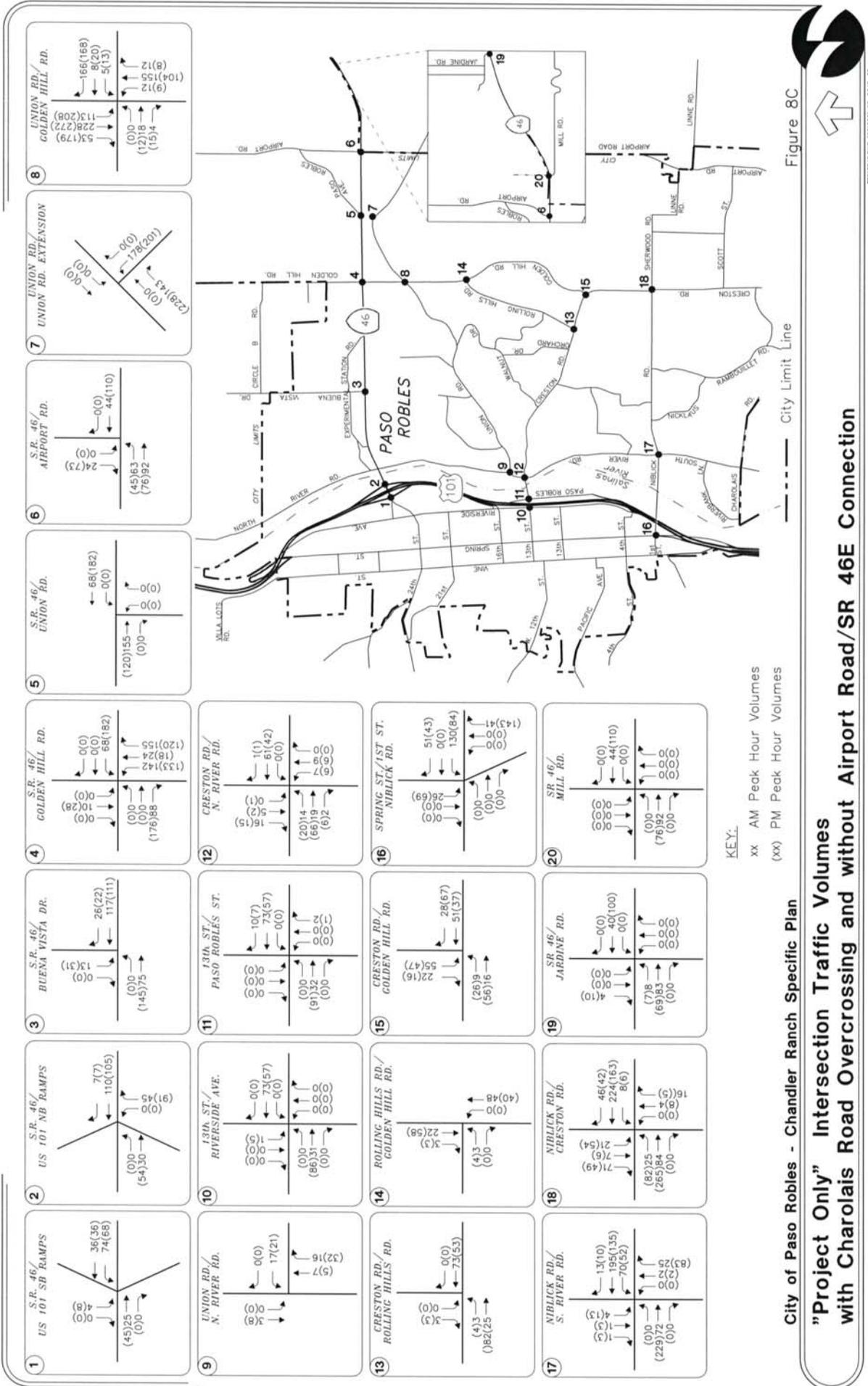


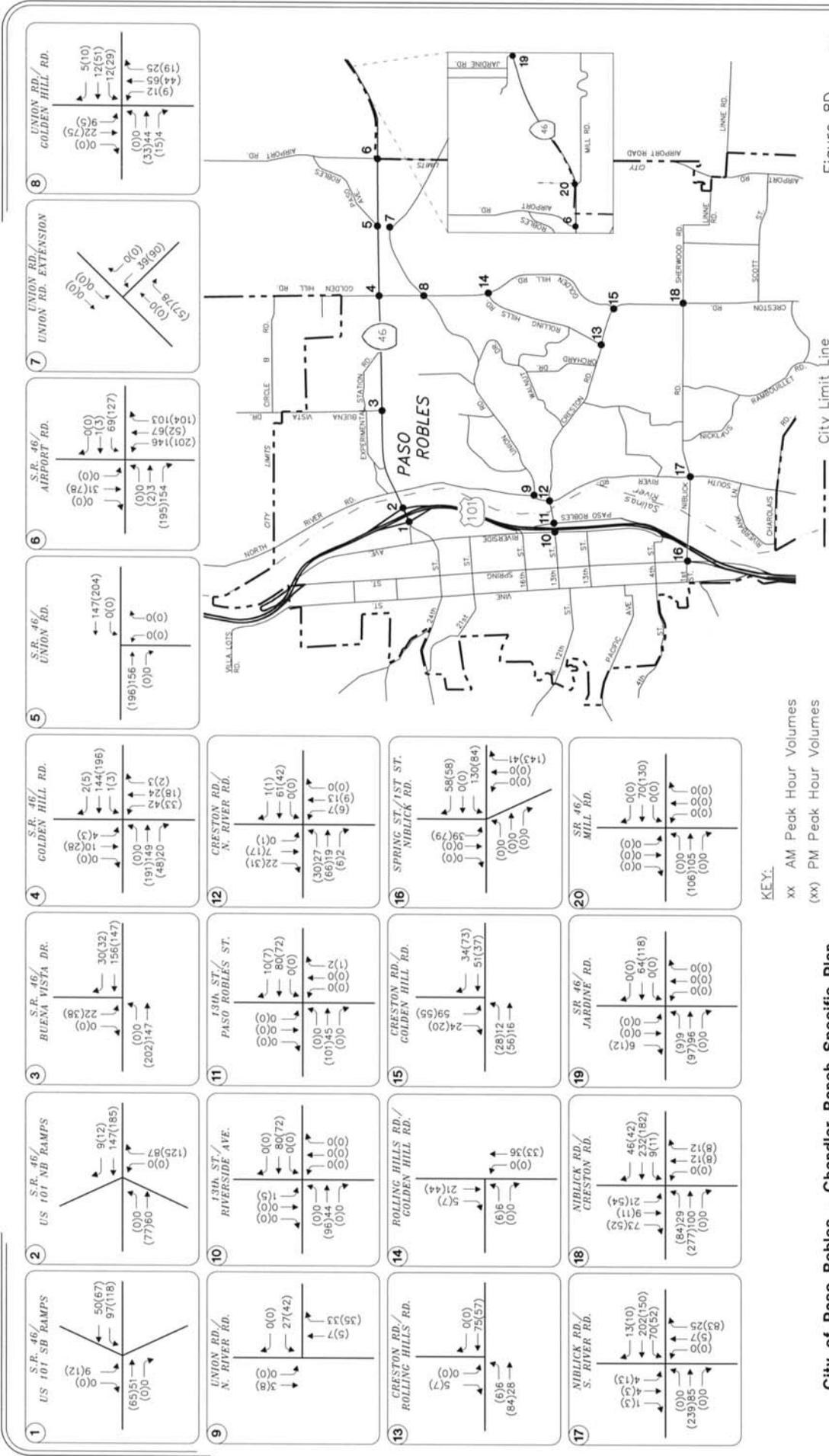
N.T.S.
Figure 7D

City of Paso Robles - Chandler Ranch Specific Plan
 Directional Trip Distribution w/o Airport Rd Connection and w/ Charolais Rd Overcrossing









City of Paso Robles - Chandler Ranch Specific Plan

"Project Only" Intersection Traffic Volumes with Charolais Road Overcrossing and with Airport Road/SR 46E Connection

Figure 8D



PROJECT ACCESS AND CIRCULATION

Access and circulation to, from and within the CRASP project area will be obtained via the proposed “new” street system as illustrated on the site plan (Figure 6). With the extension of Airport Road as a major four-lane arterial as the backbone for regional circulation, a system of two-lane “internal” streets are proposed that will provide local access and connectivity between the CRASP site and the major public streets serving the project site, including Golden Hill Road, Sherwood Road and Union Road. In addition to providing important regional access for the CRASP project area, Airport Road will facilitate north-south arterial circulation for the eastern side of the City. Included in the current General Plan, Airport Road will complete the easterly north-south arterial circulation for the eastern side of the City.

One of the main traffic circulation issues within this analysis is the timing for the construction of an Airport Road connection to SR 46E. The Airport Road/SR 46E connection will provide a major access point into the CRASP from SR 46E and would alleviate traffic demand at the Golden Hill Road/SR 46E intersection. Integral to the Airport Road/SR 46E connection improvements is the bridge crossing of Huer Huero Creek to complete the connection. The Short Term analysis will analyze traffic operations with and without an Airport Road connection with SR 46E. Neither of these Short Term scenarios will consider traffic conditions with a constructed Charolais Road overcrossing.

A separate trail system for pedestrian and bicycles has been proposed, in addition to the street system, to supplement local non-motorized circulation. The integration and design of both the vehicular and non-motorized transportation systems has attempted to balance efficient accessibility and neighborhood concepts that keep traffic “calm”, maintaining the quality of life aspects of the neighborhood.

FUNDING OF PROJECT ACCESS AND CIRCULATION

City staff interprets the Annexation Contract of 1981 as obligating the current CRASP property owners who were a party to the Agreement to dedicate and construct Airport Road from Linne Road to Union Road. The property owners within the CRASP who are under this obligation would be expected to spread the cost on a fair share basis. Since the 1981 Annexation Contract obligates the current CRASP property owners to dedicate and fully pay for the Airport Road improvements from Linne Road to Union Road, no others have been required to participate in improving this segment of Airport Road.

Dedication and improvement of Airport Road from Union Road north to the connection with SR-46E would be the obligation of the property owners through whose property the right-of-way extends, with the exception of the new Huer Huero Bridge and the actual connection to SR-46E (interim and long-term improvements). The proportionate cost shares of the Huer Huero Bridge and the connection to SR-46E (interim and long-term improvements, including right of way for any future interchange, design, and improvements, would be borne by all development within the CRASP).

To the extent to which a fair share contribution can subsequently be identified for the Huer Huero Bridge and the connection to SR-46E, an obligation for reimbursement will be proposed with regard to the Olsen-Beechwood Specific Plan and other new development that would benefit from the improvement.

EXISTING PLUS PROJECT CONDITIONS

The *Existing Plus Project* scenario investigates the traffic impacts associated with the proposed project (i.e. CRASP) when superimposed on top of existing conditions.

Intersections

Existing Plus Project AM and PM peak hour intersection traffic operations were quantified utilizing the *Existing Plus Project* peak hour intersection traffic volumes, without the Charolais Road overcrossing and with an Airport Road/SR 46E connection (Figure 9). The *Existing Plus Project* traffic volumes were generated by superimposing the project generated traffic volumes on top of the observed existing traffic volumes. Table 9 contains a summary of the resulting *Existing Plus Project* intersection LOS.

DRAFT

1 S.R.46 / U.S.101 SB RAMP

→	703(952)[9.36]
←	589(568)[6.35]
→	57(10)[19.1]
←	122(218)[29]
→	0(0)[0]
←	0(0)[0]
→	437(313)[38]
←	630(644)[81]

2 S.R.46 / U.S.101 NB RAMP

→	128(180)[18.1]
←	057(1187)[1216]
→	1798(737)[626]
←	351(334)[221]
→	0(0)[0]
←	0(0)[0]
→	165(164)[127]
←	22(135)[100]
→	992(1218)[1224]

3 S.R.46 / BLENA VISTA DR.

→	116(129)[236]
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→	56(57)[60]
←	1072(827)[707]
→	47(61)[44]
←	59(112)[145]
→	53(82)[62]
←	96(78)[105]
→	41(57)[109]
←	789(991)[1062]
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←	39(31)[17]

4 S.R.46 / GOLDEN HILL RD.

→	170(142)[319]
←	974(837)[514]
→	142(32)[260]
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→	1(6)[4]
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→	0(0)[0]
←	0(1)[0]
→	0(0)[0]
←	0(0)[0]
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←	170(285)[354]
→	0(0)[1]
←	861(1089)[1316]
→	159(159)[103]
←	227(829)[1192]
→	69(164)[164]
←	8(15)[18]

5 S.R.46 / AIRPORT RD.

→	170(142)[319]
←	974(837)[514]
→	142(32)[260]
←	31(67)[87]
→	1(6)[4]
←	21(21)[3162]
→	0(0)[0]
←	0(1)[0]
→	0(0)[0]
←	0(0)[0]
→	31(23)[33]
←	170(285)[354]
→	0(0)[1]
←	861(1089)[1316]
→	159(159)[103]
←	227(829)[1192]
→	69(164)[164]
←	8(15)[18]

6 S.R.46 / UNION RD.

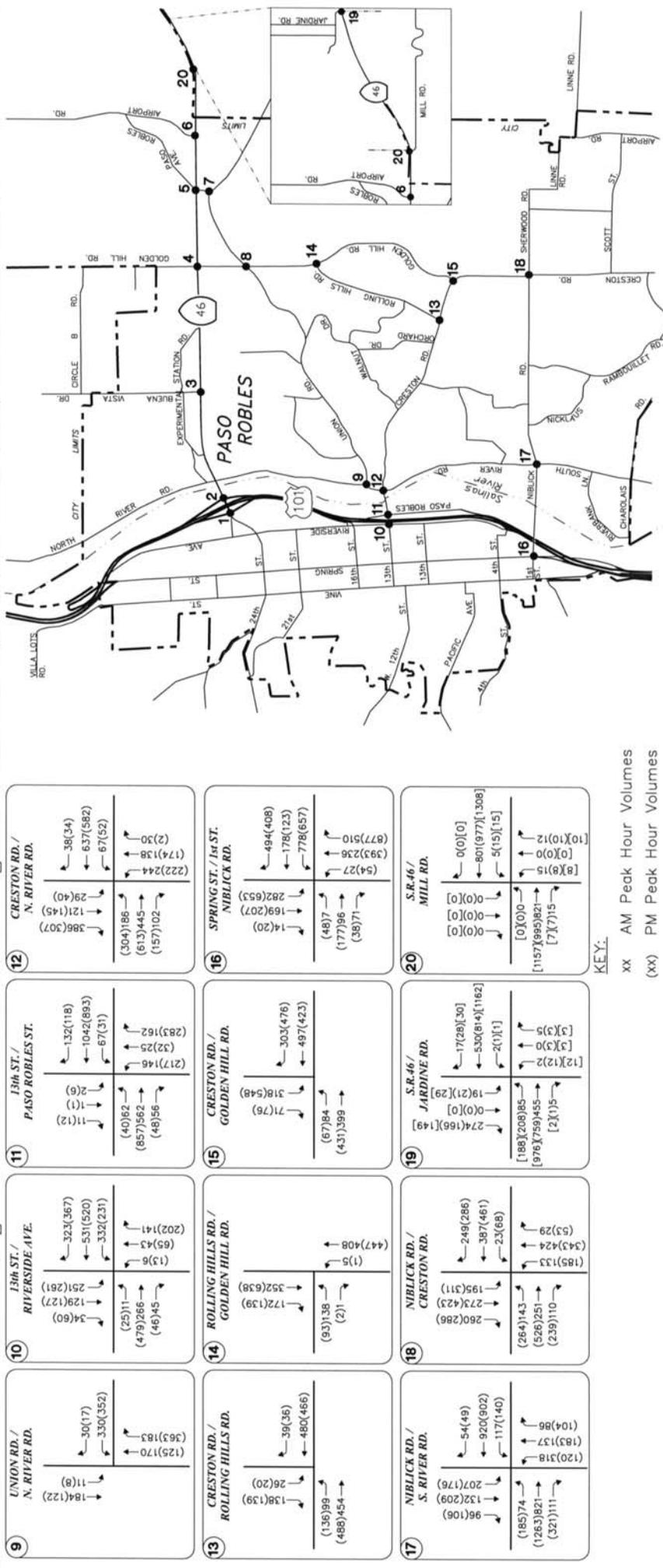
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←	974(837)[514]
→	142(32)[260]
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→	1(6)[4]
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←	0(0)[0]
→	31(23)[33]
←	170(285)[354]
→	0(0)[1]
←	861(1089)[1316]
→	159(159)[103]
←	227(829)[1192]
→	69(164)[164]
←	8(15)[18]

7 UNION RD. / UNION RD. EXTENSION

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←	861(1089)[1316]
→	159(159)[103]
←	227(829)[1192]
→	69(164)[164]
←	8(15)[18]

8 UNION RD. / GOLDEN HILL RD.

→	170(142)[319]
←	974(837)[514]
→	142(32)[260]
←	31(67)[87]
→	1(6)[4]
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←	861(1089)[1316]
→	159(159)[103]
←	227(829)[1192]
→	69(164)[164]
←	8(15)[18]



City of Paso Robles - Chandler Ranch Specific Plan

Existing Plus Project Traffic Volumes with Airport Road/SR 46 E. Connection

Figure 9

KEY:

- xx AM Peak Hour Volumes
- (xx) PM Peak Hour Volumes
- [xx] Friday PM Peak Hour Volumes

City Limit Line

771021.DWG (06/20/07) 25-545-02

**TABLE 9
EXISTING PLUS PROJECT CONDITIONS: INTERSECTION LEVELS OF SERVICE**

#	Intersection	Control Type	With Airport Road/SR 46E Connection					
			AM Peak Hour			PM Peak Hour		Warrant Met?
			Delay	LOS	Warrant Met?	Delay	LOS	
<i>Summer Weekday Analysis</i>								
1	US 101 SB Ramps/24th St./SR 46 East	Signal	32.9	C ¹	-	36.3	D ¹	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	75.6	E	-	OVR	F	-
3	Buena Vista Drive/SR 46 East	Signal	23.5	C	-	16.0	B	-
4	Golden Hill Road/SR 46 East	Signal	58.7	E	-	39.2	D	-
5	Union Road/SR 46 East	TWSC	81.6	F	Yes	OVR	F	Yes
6	Airport Road/SR 46 East	TWSC	OVR	F	No	OVR	F	Yes
7	Union Road/Union Road Extension	TWSC	14.3	B	No	19.7	C	No
8	Union Road/Golden Hill Road	AWSC	49.5	E	No	OVR	F	Yes
9	Union Road/North River Road ¹	AWSC	14.8	B	No	13.0	B	No
10	Riverside Avenue/13th St.	Signal	32.4	C	-	38.7	D	-
11	Paso Robles St./13th St.	Signal	23.1	C	-	35.2	D	-
12	North River Road/Creston Road	Signal	45.4	D	-	46.5	D	-
13	Creston Road/Rolling Hills Road	TWSC	16.3	C	No	15.9	C	No
14	Golden Hill Road/Rolling Hills Road	TWSC	18.3	C	No	19.7	C	No
15	Creston Road/Golden Hill Road	Signal	18.4	B	-	18.4	B	-
16	Spring St./1st St./Niblick Road	Signal	23.5	C	-	41.4	D	-
17	Niblick Road/South River Road	Signal	32.3	C	-	30.0	C	-
18	Niblick Road/Creston Road	Signal	30.6	C	-	33.8	C	-
19	Jardine Road/SR 46 East	TWSC	33.7	D	Yes	OVR	F	Yes
20	Mill Road/SR 46 East	TWSC	38.6	E	No	46.9	E	No
<i>Summer Friday Analysis</i>								
1	US 101 SB Ramps/24th St./SR 46 East	Signal	-	-	-	50.8	D ¹	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	-	-	-	OVR	F	-
3	Buena Vista Drive/SR 46 East	TWSC	-	-	-	16.4	B	Yes
4	Golden Hill Road/SR 46 East	Signal	-	-	-	77.0	E	-
5	Union Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes
6	Airport Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes
19	Jardine Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes
20	Mill Road/SR 46 East	TWSC	-	-	-	110.2	F	No

Notes: TWSC = Two-Way-Stop Control; AWSC = All-Way-Stop Control.
Warrant = MUTCD Peak-Hour-Volume Warrant-3 (Urban Areas).
Overflow = Delays exceed 99.9 seconds/vehicle.

1. The projected LOS does not reflect observed PM peak hour traffic conditions. The closely spaced ramp intersections cause extended queues and an LOS F operating condition that also causes traffic on SR 46 East to divert to City streets.

The following intersections are projected to operate unacceptably (LOS “D” or worse for intersections along Caltrans right-of-way, LOS “E” or worse for intersections in City right-of-way) during at least one peak hour period, above and beyond the study intersections that were already projected to operate unacceptably under existing conditions:

- Golden Hill Road/State Route 46 East
- Airport Road/State Route 46 East

Recommended circulation improvements are discussed in a subsequent section.

Roadways

Existing Plus Project daily roadway segment traffic operations have been quantified utilizing roadway ADT-based LOS thresholds presented in Table 2 and the projected daily traffic volumes with the full build-out of the project. Table 14 presents the projected daily traffic volumes and a summary of the *Existing Plus Project* roadway segment LOS conditions.

**TABLE 10
EXISTING PLUS PROJECT CONDITIONS: ROADWAY LEVELS OF SERVICE**

Roadway Segment	Capacity Configuration	W\ Airport Rd. Conn	
		Average Daily Traffic (ADT)	LOS
SR 46E east of US 101	4-Lane Divided Arterial	27,098	C
SR 46E west of Airport Road	4-Lane Divided Arterial	21,548	A
SR 46W west of US 101	2-Lane Collector	5,832	A
US 101 south of SR 46 West	4-Lane Freeway	56,464	B
US 101 north of SR 46 West	4-Lane Freeway	66,796	C
Airport Road north of SR 46 East	2-Lane Collector	5,878	A
Union Road east of Golden Hill Road	2-Lane Collector	12,274	C
24th Street west of US 101	4-Lane Undivided Arterial	18,488	B
Charolais Road east of River Road	2-Lane Collector	7,820	C
Creston Road east of River Road	4-Lane Undivided Arterial	18,017	A
Creston Road east of US 101	4-Lane Undivided Arterial	24,894	D
Creston Road south of Niblick Road	2-Lane Collector	13,322	C
Creston Road west of Rolling Hills Rd	2-Lane Collector	14,725	C
Golden Hill Road south of SR 46 East	2-Lane Collector	8,873	A
Golden Hill Road south of Union Road	2-Lane Collector	11,831	C
Linne Road east of Airport Road	2-Lane Collector	4,054	A
Niblick Road east of US 101	4-Lane Divided Arterial	30,887	C
Niblick Road east of Creston Road	4-Lane Divided Arterial	17,641	A
River Road north of Niblick Road	2-Lane Collector	8,311	C
River Road south of SR 46 East	2-Lane Collector	2,866	A
Union Road east of River Road	2-Lane Collector	7,188	C
Union Road west of Golden Hill Road	2-Lane Collector	5,324	A

As shown in Table 10, all roadway segments are projected to operate at acceptable LOS with the addition of the project to existing roadway volumes.

US 101 Ramps

Existing Plus project freeway ramp segment traffic operations have been quantified utilizing roadway HCM freeway ramp methodology and the projected PM peak hour volumes with the full build-out of the CRASP. Table 11 presents the projected daily traffic volumes and a summary of the *Existing Plus project* freeway ramp segment LOS conditions.

**TABLE 11
EXISTING PLUS PROJECT CONDITIONS: US 101 RAMP SEGMENT LEVELS OF SERVICE**

US 101 Count Location	Lanes	Volume (ADT)	Volume (PM Pk)	Density (pc/mi/ln)	LOS
SR 46E southbound on-ramp	1	11,872	1,330	20.1	C ¹
SR 46E northbound off-ramp	1	10,837	1,214	23.0	C ¹
Mainline - US 101, south of SR 46E (PM 57.92)	4	34,836	-	-	A
16th Street southbound off-ramp	1	1,589	178	21.5	C
Mainline - US 101, south of 13th Street (PM 56.88)	4	40,608	4,548	-	A
Spring Street southbound on-ramp	2	12,859	1,440	23.8	C
Spring Street northbound off-ramp¹	2	13,295	1,489	40.6	F
Mainline - US 101, south of Niblick Road (PM 55.67)	4	67,602	-	-	C
SR 46W southbound on-ramp	1	1,828	205	32.7	D
SR 46W southbound off-ramp¹	1	5,746	644	38.2	E
SR 46W northbound on-ramp¹	1	5,676	636	38.9	F
SR 46W northbound off-ramp¹	1	1,553	174	36.8	E
Mainline - US 101, south of SR 46W (PM 54.12)	4	59,001	-	-	B

Note: pc/mi/ln – Passenger car / mile / lane

1. Part of the estimated deficiency is attributable to the rolling terrain of the area and short acceleration/deceleration lane lengths

As shown in Table 11, the merge and diverge ramp operations at the US 101/SR 46W interchange are projected to operate at LOS “D” or worse, while the Spring Street northbound off-ramp is projected to operate at LOS “E”. As with existing conditions, review shows that the ramp volumes are not particularly high. However, part of the estimated deficiency is attributable to the rolling terrain of the area and short acceleration/deceleration lane lengths.

SHORT TERM NO PROJECT CONDITIONS

The *Short Term No Project* condition is a “no project” scenario that investigates traffic operations following completion of approved/pending projects in the vicinity of the study area. *Short Term No Project* conditions were simulated by superimposing the approved/pending project trips over the calculated unconstrained existing traffic volumes at the study intersections and roadway segments, and are illustrated on Figure 6. The *Short Term* scenarios do not consider any additional bridge connections across the Salinas River (e.g. the Charolais Road overcrossing).

Discussions with Caltrans and the City indicate that adequate funding will be available by 2015 for the widening of the US 101 southbound ramp intersection at SR 46E. The widening improvement, which is programmed, would entail adding an additional westbound left-turn lane at this intersection, and is expected to alleviate the constrained conditions at the interchange that currently exist. The subsequent *Short Term* and *Year 2025* scenarios thereby assume unconstrained conditions at the interchange and the projected traffic volumes for subsequent scenarios are reflective of this assumption.

APPROVED/PENDING PROJECTS DESCRIPTION AND TRIP GENERATION

A list of approved/pending projects was established for this study in coordination with City of Paso Robles staff. Seven approved/pending projects were identified for inclusion within this analysis, which are described below in terms of general description (location, access, etc.), trip generation, and trip distribution.

1. *Service Station @ State Route 46/ Golden Hill Road* – This approved project, which includes the development of 3,200 square feet of convenience market, 6 gasoline fueling pumps and a carwash, is located on the northwest quadrant of the SR 46/Golden Hill Road intersection. The land use description, trip generation and distribution for this approved project were obtained from the traffic and circulation study for the project (*Final Report, Associated Transportation Engineers, September 2002*), which was reviewed by the City.

2. *Eagle Energy @ State Route 46/ Golden Hill Road* – This approved project includes the development of 4,500 square feet of convenience market/quick serve restaurant, 8 fueling pumps, 10 diesel pumps, 1 commercial fueling network pump and a carwash. This approved project is located on the northeast quadrant of the SR 46/Golden Hill Road intersection. The land use description, trip generation and distribution for this approved project were obtained from the traffic and circulation study for the project (*Final Report, Associated Transportation Engineers, February 2004*), which was reviewed by the City.

3. *Paso Robles Wine Services* – This approved project, which includes the development of 173,400 square foot wine processing and storage facility, is located on the northwest quadrant of the Buena Vista Road/ Airport Road intersection. The land use description, trip generation and distribution for this approved project were obtained from the traffic and circulation study for the project (*Final Report, Associated Transportation Engineers, June 2003*), which was reviewed by the City.

4. *La Quinta Hotel* – This approved project includes the development of 70 to 100 room hotel and 5,000 square foot restaurant on a currently vacant parcel at the northeast corner of Buena Vista Drive/ Highway 46 intersection. The land use description, trip generation and distribution for this approved project were obtained from the traffic analysis report for the project (*Final Report, Higgins Associates, September 2003*), which was reviewed by the City.

5. *Vina Robles Winery Projects* – This approved project includes the development of a 60 room hotel, 20 VIP suites in bungalows, 2,000 square feet wine tasting facility, 60 seat restaurant and a small amphitheater. This project is located on the southeast quadrant of the Mill Road/ Highway 46 intersection. The land use description, trip generation and distribution for this approved project were obtained from the traffic and circulation study for the project (*Final Report, Associated Transportation Engineers, August 2000*), which was reviewed by the City.

6. *Ravine Water Park, Paso Robles* – This approved project, which includes the development of a 9 acre water park on 15 acre site (approximate), is located on the northwest quadrant of the SR 46/ Airport Road intersection. The land use description, trip generation and distribution for this approved project were obtained from the traffic and circulation study for the project (*Final Report, Associated Transportation Engineers, March 2003*), which was reviewed by the City.

7. *Black Ranch Project, Paso Robles* – This approved project includes the development of a 280 room resort hotel with conference facilities, health spa, an 18 hole golf course and 9 hole executive golf course. This approved/pending is bounded by SR 46 on the south, Jardine Road on the east, Dry Creek Road on the north and Airport Road on the west. The land use description, trip generation and distribution for this

approved project were obtained from the traffic and circulation study for the project (*Final Report, Associated Transportation Engineers, November 2001*), which was reviewed by the City.

Table 12 summarizes the projected trip generation of each project listed above.

**TABLE 12
APPROVED/PENDING PROJECT TRIP GENERATION**

Land Use Description	Quantity	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			Total	In	Out	Total	In	Out
Ravine Water Park	9 acre	234	-	-	-	23	11	12
Vina Robles Winery Project	-	981	58	34	24	77	42	35
	100 rooms &							
La Quinta Hotel & Restaurant	5 KSF	1,342	71	41	30	108	60	48
Paso Robles Wine Storage	173.4 KSF	471	55	44	11	48	26	22
Black Ranch Project	Mixed Use	2,368	164	43	121	195	90	105
Service Station @ SR 46/Golden Hill Rd.	12 Pumps	1,834	128	65	63	158	79	79
<i>Pass-By Trips¹</i>	50%	917	63	32	31	78	39	39
Eagle Energy	-	1,110	29	14	15	34	17	17
<i>Pass-By Trips²</i>	50%	555	14	7	7	17	9	8
Total		6,868	428	202	226	548	277	271

Note:

1. Pass-by reduction taken from ATE, 2002
2. Pass-by reduction taken from ATE, 2004

As shown in Table 12, the approved/pending projects along the SR 46E corridor are projected to generate 6,868 daily, 428 AM peak hour (202 inbound, 226 outbound), and 548 PM peak hour trips (548, 277 inbound, 271 outbound). All of these trips are considered “new” to the traffic network.

APPROVED/PENDING PROJECT TRIP DISTRIBUTION

Approved/pending project trip distribution and assignment patterns were taken from previously completed Traffic Impact Studies (cited in the project descriptions). The trip distributions are listed below for each project. The projected project distribution and trip generation were then used to project *Short Term No Project* traffic volumes (Figure 10).

1, 2. Service Station, Eagle Energy @ State Route 46/ Golden Hill Road –

- 45% to/from SR 46E west
 - 30% to/from US 101 south
 - 10% to/from US 101 north
 - 5% to/from 24th Street west
- 30% to/from SR 46E east
- 15% to/from Golden Hill Road south
- 10% to/from Golden Hill Road north

3. Paso Robles Wine Services –

- 60% to/from SR 46E west
 - 30% to/from 24th Street west
 - 20% to/from Golden Hill Road south
 - 10% to/from Golden Hill Road north

- 20% to/from SR 46E east
- 20% to/from Airport Road north

4. La Quinta Hotel –

- 60% to/from SR 46E west
 - 35% to/from US 101 south
 - 15% to/from US 101 north
 - 10% to/from 24th Street west
- 20% to/from SR 46E east
- 20% to/from Buena Vista Drive north

5.7. Vina Robles Winery Projects, Black Ranch Project –

- 40% to/from SR 46E east
- 30% to/from US 101 south
- 10% to/from US 101 north
- 10% to/from 24th Street east
- 5% to/from Airport Road north
- 5% to/from Golden Hill road south

6. Ravine Water Park –

- 75% to/from SR 46E west
 - 30% to/from US 101 south
 - 20% to/from Golden Hill Road south
 - 15% to/from 24th Street west
 - 10% to/from US 101 north
- 20% to/from SR 46E east
- 5% to/from Airport Road north

SHORT TERM NO PROJECT TRAFFIC OPERATIONS

Short Term No Project traffic volumes were simulated by superimposing approved/pending project-generated trips over calculated unconstrained existing traffic volumes (Figure 2B). The resulting *Short Term No Project* traffic volumes are shown on Figure 10. The *Short Term* scenarios do not consider any additional bridge connections across the Salinas River (e.g. the Charolais Road overcrossing).

Intersections

At the time of analysis, roadway improvements were ongoing at several project study intersections. The resulting improvements are described below:

11. Paso Robles Street/13th Street Intersection – This intersection is being improved as a result of the 13th Street Bridge widening concurrently with the Paso Robles Street/13th Street intersection. The bridge widening project is part of the General Plan improvement concept to widen Creston Road to a four lane arterial.

The following intersection improvements will be formed as a result of the widening project:

- Northbound approach – One lane for each turning movement (left, through, right)
- Southbound approach – One left-turn lane, one through-right turn lane
- Eastbound approach – One left-turn lane, two through-lanes, one right-turn lane
- Westbound approach – One left-turn lane, two through-lanes, one right-turn lane

12. North River Road/Creston Road Intersection – This intersection is being improved as a result of the General Plan improvement concept to widen Creston Road to a four lane arterial. The following intersection improvements will be formed as a result of the widening project:

- Northbound approach – Two left-turn lanes, two through-lanes, one right-turn lane
- Southbound approach – One left-turn lane, two through-lanes, one free right-turn lane
- Eastbound approach – Two left-turn lanes, two through-lanes, one free right-turn lane
- Westbound approach – One left-turn lane, two through lanes, one right turn lane

In addition to the intersection improvements described above, discussions with the City indicate that there is adequate funding for the widening of the westbound approach at the SR 46E/US 101 southbound ramp intersection to two left-turn lanes.

Short Term No Project AM and PM peak hour intersection traffic operations were quantified utilizing the *Short Term No Project* peak hour intersection traffic volumes (Figure 10), the existing intersection geometrics (Figure 3), and the improved intersection geometrics at Intersections 1, 10, 11, and 12. Table 13 contains a summary of the resulting *Short Term No Project* intersection LOS.

**TABLE 13
SHORT TERM NO PROJECT CONDITIONS: INTERSECTION LEVELS OF SERVICE**

#	Intersection	Control Type	AM Peak Hour			PM Peak Hour		
			Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?
<i>Summer Weekday Analysis</i>								
1	US 101 SB Ramps/24th St./SR 46 East	Signal	21.6	C ¹	-	27.0	C ¹	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	58.2	E	-	OVR	F	-
3	Buena Vista Drive/SR 46 East	Signal	24.9	C	-	18.3	B	-
4	Golden Hill Road/SR 46 East	Signal	51.0	D	-	55.9	E	-
5	Union Road/SR 46 East	TWSC	23.1	C	Yes	OVR	F	Yes
6	Airport Road/SR 46 East	TWSC	23.5	C	Yes	44.3	E	Yes
7	Union Road/Union Road Extension	TWSC	12.6	B	No	14.5	B	No
8	Union Road/Golden Hill Road	AWSC	27.9	E	No	76.3	F	Yes
9	Union Road/North River Road ¹	AWSC	12.9	B	No	11.3	B	No
10	Riverside Avenue/13th St.	Signal	32.5	C	-	37.0	D	-
11	Paso Robles St./13th St.	Signal	20.2	C	-	22.9	C	-
12	North River Road/Creston Road	Signal	31.3	C	-	30.6	C	-
13	Creston Road/Rolling Hills Road	TWSC	14.6	B	No	14.3	B	No
14	Golden Hill Road/Rolling Hills Road	TWSC	17.0	C	No	17.6	C	No
15	Creston Road/Golden Hill Road	Signal	17.4	B	-	17.0	B	-
16	Spring St./1st St./Niblick Road	Signal	23.6	C	-	30.6	C	-
17	Niblick Road/South River Road	Signal	32.1	C	-	29.6	C	-
18	Niblick Road/Creston Road	Signal	32.2	C	-	34.3	C	-
19	Jardine Road/SR 46 East	TWSC	32.1	D	Yes	OVR	F	Yes
20	Mill Road/SR 46 East	TWSC	OVR	F	No	OVR	F	No
<i>Summer Friday Analysis</i>								
1	US 101 SB Ramps/24th St./SR 46 East	Signal	-	-	-	36.6	D	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	-	-	-	OVR	F	-
3	Buena Vista Drive/SR 46 East	TWSC	-	-	-	20.1	C	Yes
4	Golden Hill Road/SR 46 East	Signal	-	-	-	77.1	E	-
5	Union Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes
6	Airport Road/SR 46 East	TWSC	-	-	-	96.2	F	Yes
19	Jardine Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes
20	Mill Road/SR 46 East	TWSC	-	-	-	OVR	F	No

Notes: TWSC = Two-Way-Stop Control; AWSC = All-Way-Stop Control.

Warrant = MUTCD Peak-Hour-Volume Warrant-3 (Urban Areas).

Overflow = Delays exceed 99.9 seconds/vehicle.

1. Based on discussions with the City, Short Term Conditions assume an additional westbound left-turn lane at Intersection 1.

As shown in Table 13, the development of near-term projects is projected to worsen traffic operations at intersections located along the SR 46E corridor. The following intersections are projected to operate unacceptably (LOS “D” or worse for intersections along Caltrans right-of-way, LOS “E” or worse for intersections in City right-of-way) during at least one peak hour period:

Existing Conditions

- US 101 NB Ramps/24th St./SR 46 East
- Golden Hill Road/SR 46 East
- Union Road/SR 46 East
- Union Road/Golden Hill Road
- Jardine Road/SR 46 East
- Mill Road/SR 46 East

Short Term No Project Conditions

- Airport Road/SR 46E

Recommended circulation improvements are discussed in a subsequent section.

Roadways

Short Term No Project daily roadway segment traffic operations have been quantified utilizing roadway ADT-based LOS thresholds presented in Table 2 and the projected daily traffic volumes with the full build-out of the approved/pending projects. Table 14 presents the projected daily traffic volumes and a summary of the *Short Term No Project* roadway segment LOS conditions.

TABLE 14
SHORT TERM NO PROJECT CONDITIONS: ROADWAY LEVELS OF SERVICE

Roadway Segment	Capacity Configuration	Average Daily Traffic (ADT)	LOS
SR 46E east of US 101	4-Lane Divided Arterial	25,832	B
SR 46E west of Airport Road	4-Lane Divided Arterial	19,630	A
SR 46W west of US 101	2-Lane Collector	5,500	A
US 101 south of SR 46 West	4-Lane Freeway	53,085	B
US 101 north of SR 46 West	4-Lane Freeway	61,741	C
Airport Road north of SR 46 East	2-Lane Collector	5,666	A
Union Road east of Golden Hill Road	2-Lane Collector	10,910	D
24th Street west of US 101	4-Lane Undivided Arterial	17,899	A
Charolais Road east of River Road	2-Lane Collector	7,820	A
Creston Road east of River Road	4-Lane Undivided Arterial	16,930	A
Creston Road east of US 101	4-Lane Undivided Arterial	23,250	C
Creston Road south of Niblick Road	2-Lane Collector	12,870	B
Creston Road west of Rolling Hills Rd	2-Lane Collector	13,200	C
Golden Hill Road south of SR 46 East	2-Lane Collector	8,038	A
Golden Hill Road south of Union Road	2-Lane Collector	10,132	A
Linne Road east of Airport Road	2-Lane Collector	1,190	A
Niblick Road east of US 101	4-Lane Divided Arterial	26,410	C
Niblick Road east of Creston Road	4-Lane Divided Arterial	11,920	A
River Road north of Niblick Road	2-Lane Collector	7,990	C
River Road south of SR 46 East	2-Lane Collector	2,740	A
Union Road east of River Road	2-Lane Collector	6,500	B
Union Road west of Golden Hill Road	2-Lane Collector	4,716	A

Approved project traffic is limited primarily to the SR 46E corridor and is not projected to result in deficient roadway operations.

US 101 Ramps

Short Term No Project freeway ramp segment traffic operations have been quantified utilizing roadway HCM freeway ramp methodology and the projected PM peak hour volumes with the full build-out of the approved/pending projects. Table 15 presents the projected daily traffic volumes and a summary of the *Short Term No Project* freeway ramp segment LOS conditions.

**TABLE 15
SHORT TERM NO PROJECT CONDITIONS:
US 101 RAMP SEGMENT LEVELS OF SERVICE**

US 101 Count Location	Lanes	Volume (ADT)	Volume (PM Pk)	Density (pc/mi/ln)	LOS
SR 46E southbound on-ramp	1	11,447	1,282	19.8	B ¹
SR 46E northbound off-ramp	1	10,412	1,166	22.5	C ¹
Mainline - US 101, south of SR 46E (PM 57.92)	4	33,986	-	-	A
16th Street southbound off-ramp	1	1,553	174	21.1	C
Mainline - US 101, south of 13th Street (PM 56.88)	4	39,686	4,445	-	A
Spring Street southbound on-ramp	2	10,868	1,217	21.8	C
Spring Street northbound off-ramp¹	2	11,592	1,298	38.2	E
Mainline - US 101, south of Niblick Road (PM 55.67)	4	62,986	-	-	C
SR 46W southbound on-ramp	1	1,828	205	30.2	D
SR 46W southbound off-ramp¹	1	5,537	620	35.7	E
SR 46W northbound on-ramp¹	1	5,486	614	36.0	E
SR 46W northbound off-ramp	1	1,553	174	33.8	D
Mainline - US 101, south of SR 46W (PM 54.12)	4	53,986	-	-	B

Note: pc/mi/ln – Passenger car / mile / lane

1. Part of the estimated deficiency is attributable to the rolling terrain of the area and short acceleration/deceleration lane lengths

As shown in Table 15, the merge and diverge ramp operations at the US 101/SR 46W interchange are projected to operate at LOS “D”, while the Spring Street northbound off-ramp is projected to operate at LOS “E”. These projected conditions are similar to those projected under existing and *Existing Plus Project* conditions.

SHORT TERM PLUS PROJECT CONDITIONS

The *Short Term Plus Project* scenario investigates the traffic impacts associated with the proposed project (i.e. CRASP) when superimposed on top of *Short Term No Project* conditions. The *Short Term* scenario does not consider any additional bridge connections across the Salinas River (e.g. the Charolais Road overcrossing).

Intersections

Short Term Plus Project AM and PM peak hour intersection traffic operations were quantified utilizing the *Short Term Plus Project* peak hour intersection traffic volumes, for scenarios without and with an Airport Road/SR 46E connection (Figures 11A and 11B). Note that the “with Airport Road/SR 46E connection” scenario allows for more commercial development than the “without connection” scenario, since the parcels designated Area 19 North would not be able to develop without access from SR 46E. Union Road may also fully close with the construction of the Airport Road/SR 46E connection.

Table 16 contains a summary of the resulting *Short Term Plus Project* intersection LOS.

**TABLE 16
SHORT TERM PLUS PROJECT CONDITIONS: INTERSECTION LEVELS OF SERVICE**

# Intersection	Without Airport Road/SR 46E Connection							With Airport Road/SR 46E Connection							
	AM Peak Hour			PM Peak Hour				AM Peak Hour			PM Peak Hour				
	Control Type	Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?	Control Type	Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?	
Summer Weekday Analysis															
1	US 101 SB Ramps/24th St./SR 46 East	Signal	22.7	C ¹	-	28.3	C ¹	-	Signal	23.3	C ¹	-	29.3	C ¹	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	85.6	F	-	OVR	F	-	Signal	OVR	F	-	OVR	F	-
3	Buena Vista Drive/SR 46 East	Signal	25.7	C	-	19.0	B	-	Signal	26.0	C	-	19.7	B	-
4	Golden Hill Road/SR 46 East	Signal	OVR	F	-	OVR	F	-	Signal	79.2	E	-	95.7	F	-
5	Union Road/SR 46 East	TWSC	33.0	D	Yes	OVR	F	Yes	TWSC	36.3	E	Yes	OVR	F	Yes
6	Airport Road/SR 46 East	TWSC	29.2	D	Yes	OVR	F	Yes	Signal	27.8	C	-	31.0	C	-
7	Union Road/Union Road Extension	TWSC	17.7	C	No	31.9	C	No	TWSC	14.5	B	No	19.7	C	No
8	Union Road/Golden Hill Road	AWSC	199.3	F	Yes	OVR	F	Yes	AWSC	59.6	F	Yes	OVR	F	Yes
9	Union Road/North River Road ¹	AWSC	15.1	C	No	12.8	B	No	AWSC	13.9	B	No	12.4	B	No
10	Riverside Avenue/13th St.	Signal	35.2	D	-	41.9	D	-	Signal	33.0	C	-	38.1	D	-
11	Paso Robles St./13th St.	Signal	22.0	C	-	24.9	C	-	Signal	22.4	C	-	24.6	C	-
12	North River Road/Creston Road	Signal	33.4	C	-	33.1	C	-	Signal	34.0	C	-	34.0	C	-
13	Creston Road/Rolling Hills Road	TWSC	18.1	C	No	17.5	C	No	TWSC	16.4	C	No	16.0	C	No
14	Golden Hill Road/Rolling Hills Road	TWSC	22.7	C	No	26.6	D	No	TWSC	18.5	C	No	20.2	C	No
15	Creston Road/Golden Hill Road	Signal	18.6	B	-	18.7	B	-	Signal	18.5	B	-	18.4	B	-
16	Spring St./1st St./Niblick Road	Signal	24.1	C	-	50.5	D	-	Signal	35.6	D	-	63.2	E	-
17	Niblick Road/South River Road	Signal	34.3	C	-	32.3	C	-	Signal	32.4	C	-	30.0	C	-
18	Niblick Road/Creston Road	Signal	34.4	C	-	40.6	D	-	Signal	33.3	C	-	37.8	D	-
19	Jardine Road/SR 46 East	TWSC	43.4	E	Yes	OVR	F	Yes	TWSC	49.2	E	Yes	OVR	F	Yes
20	Mill Road/SR 46 East	TWSC	OVR	F	No	OVR	F	No	TWSC	308.8	F	No	OVR	F	No
Summer Friday Analysis															
1	US 101 SB Ramps/24th St./SR 46 East	Signal	-	-	-	42.4	D	-	Signal	-	-	-	47.5	D	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	-	-	-	OVR	F	-	Signal	-	-	-	OVR	F	-
3	Buena Vista Drive/SR 46 East	TWSC	-	-	-	22.1	C	Yes	TWSC	-	-	-	24.4	C	Yes
4	Golden Hill Road/SR 46 East	Signal	-	-	-	OVR	F	-	Signal	-	-	-	OVR	F	-
5	Union Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes	TWSC	-	-	-	OVR	F	Yes
6	Airport Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes	TWSC	-	-	-	43.9	D	Yes
19	Jardine Road/SR 46 East	TWSC	-	-	-	OVR	F	Yes	TWSC	-	-	-	OVR	F	Yes
20	Mill Road/SR 46 East	TWSC	-	-	-	OVR	F	No	TWSC	-	-	-	OVR	F	No

Notes: TWSC = Two-Way-Stop Control; AWSC = All-Way-Stop Control.
Warrant = MUTCD Peak-Hour-Volume Warrant-3 (Urban Areas). Overflow = Delays exceed 99.9 seconds/vehicle.
1. Based on discussions with the City, Short Term Conditions assume an additional westbound left-turn lane at Intersection 1.

As shown in Table 16, intersection operations at the Golden Hill Road intersections with SR 46E and Union Road are generally better under the “with Airport Road/SR 46E connection” scenario than the “without Airport Road/SR 46E connection” scenario. The following intersections are projected to operate unacceptably (LOS “D” or worse for intersections along Caltrans right-of-way, LOS “E” or worse for intersections in City right-of-way) during at least one peak hour period:

Existing Conditions

- US 101 NB Ramps/24th St./SR 46 East
- Golden Hill Road/SR 46 East
- Union Road/SR 46 East
- Union Road/Golden Hill Road
- Jardine Road/SR 46 East
- Mill Road/SR 46 East

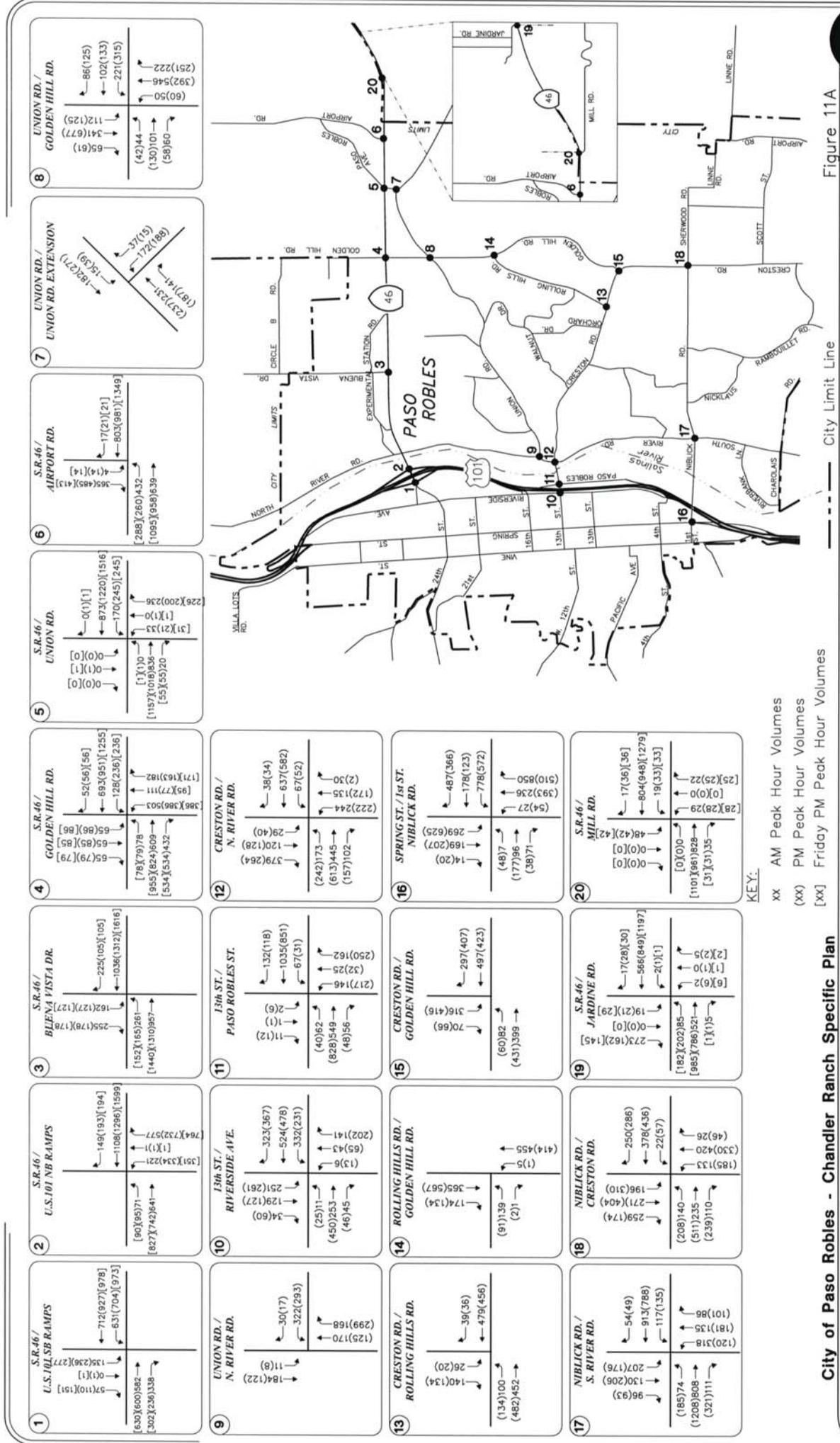
Short Term No Project Conditions

- Airport Road/SR 46E

Short Term Plus Project Conditions

- Spring Street./1st Street/Niblick Road

Recommended circulation improvements are discussed in a subsequent section.



City of Paso Robles - Chandler Ranch Specific Plan

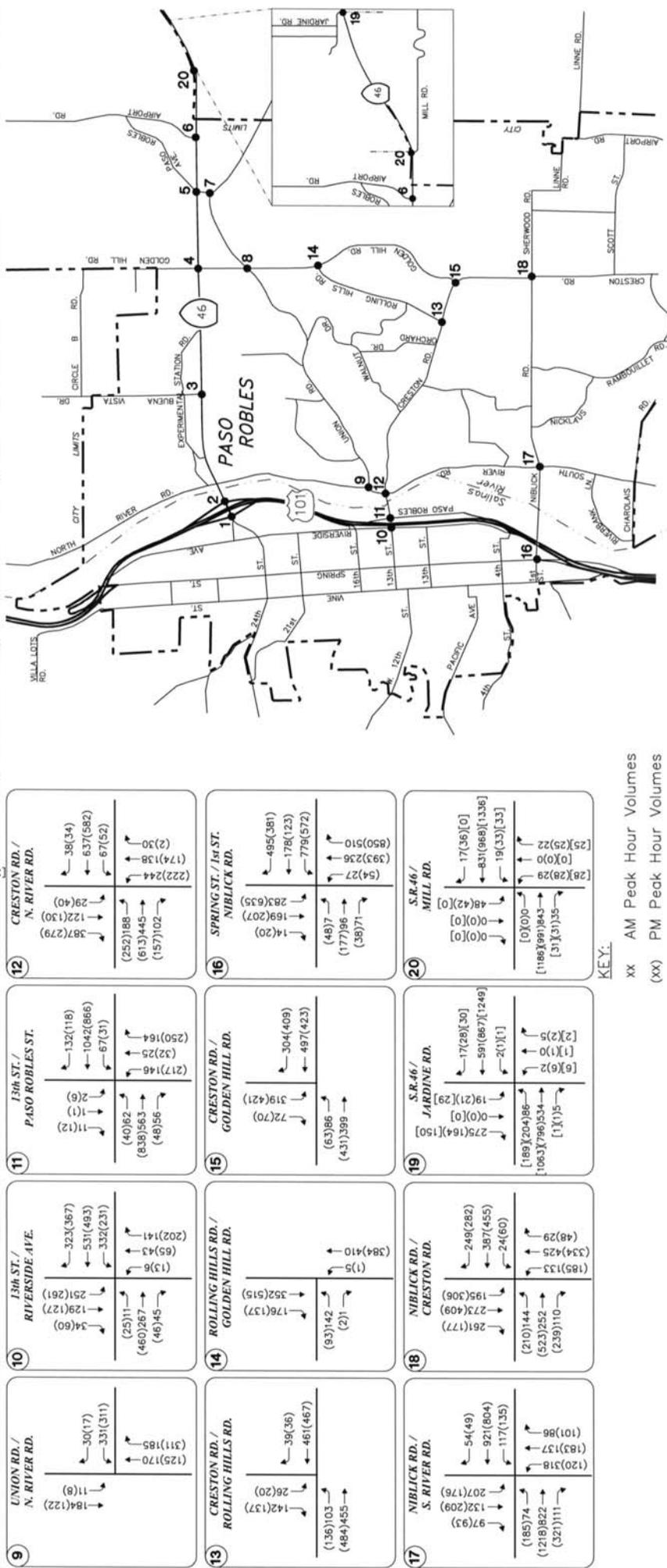
Short Term Plus Project Without Airport Road/SR 46 E. Connection Traffic Volumes

Figure 11A

City Limit Line

7711202.000 (08/09) 25-545-02

1 S.R.46 / U.S.101 SB RAMP 57(110)151 140(240)281 0(1)1 227(657)1008 656(757)1026	2 S.R.46 / U.S.101 NB RAMP 351(334)221 148(1380)1683 151(198)199 79(767)623 90(69)71 860(765)672	3 S.R.46 / BIENA VISTA DR. 254(178)178 171(133)133 230(115)115 1078(1400)1704 152(165)281 148(136)1034 79(76)76	4 S.R.46 / GOLDEN HILL RD. 65(79)79 77(85)85 70(90)90 54(6)61 85(159)1463 60(57)57 95(77)111 3(45)30	5 S.R.46 / UNION RD. 0(0)0 0(1)1 0(1)1 0(0)0 31(21)33 86(1254)1550 170(245)245 226(200)236 0(0)1	6 S.R.46 / AIRPORT RD. 34(112)340 31(78)78 4(4)14 17(21)21 76(875)1243 70(127)127 21(104)104 243(215)369 1021(884)550 21(131)131 181	7 UNION RD. / EXTENSION 15(39)118 15(39)118 14(17)17 14(17)17	8 UNION RD. / GOLDEN HILL RD. 60(50)50 249(335)335 47(45)45 270(435)435 65(61)61 42(44)44 150(128)128 58(60)60 33(39)39 117(162)162 222(331)331 262(237)237
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City of Paso Robles - Chandler Ranch Specific Plan

Short Term Plus Project with Airport Road/SR 46 E. Connection Traffic Volumes

Figure 11B

KEY:
 xx AM Peak Hour Volumes
 (xx) PM Peak Hour Volumes
 [xx] Friday PM Peak Hour Volumes

--- City Limit Line

Roadways

Short Term Plus Project daily roadway segment traffic operations have been quantified utilizing roadway ADT-based LOS thresholds presented in Table 2 and the projected daily traffic volumes with the full build-out of the project. Table 17 presents the projected daily traffic volumes and a summary of the *Short Term Plus Project* roadway segment LOS conditions, considering both a “without Airport Road/SR 46E connection” scenario and “with Airport Road/SR 46E connection” scenario.

TABLE 17
SHORT TERM PLUS PROJECT CONDITIONS: ROADWAY LEVELS OF SERVICE

Roadway Segment	Capacity Configuration	No Airport Rd. Conn.		W\ Airport Rd. Conn.	
		Average Daily Traffic (ADT)	LOS	Average Daily Traffic (ADT)	LOS
SR 46E east of US 101	4-Lane Divided Arterial	28,609	C	29,930	C
SR 46E west of Airport Road	4-Lane Divided Arterial	22,606	B	23,678	B
SR 46W west of US 101	2-Lane Collector	5,794	A	5,832	A
US 101 south of SR 46 West	4-Lane Freeway	57,794	B	58,549	B
US 101 north of SR 46 West	4-Lane Freeway	66,597	C	67,537	C
Airport Road north of SR 46 East	2-Lane Collector	6,810	B	6,924	B
Union Road east of Golden Hill Road	2-Lane Collector	13,359	D	12,274	C
24th Street west of US 101	4-Lane Undivided Arterial	18,705	B	19,207	B
Charolais Road east of River Road	2-Lane Collector	7,820	C	7,820	C
Creston Road east of River Road	4-Lane Undivided Arterial	18,017	A	18,017	A
Creston Road east of US 101	4-Lane Undivided Arterial	24,704	D	24,894	D
Creston Road south of Niblick Road	2-Lane Collector	13,190	C	13,322	C
Creston Road west of Rolling Hills Rd	2-Lane Collector	14,611	D	14,725	C
Golden Hill Road south of SR 46 East	2-Lane Collector	14,776	D	9,401	A
Golden Hill Road south of Union Road	2-Lane Collector	15,409	D	11,973	C
Linne Road east of Airport Road	2-Lane Collector	3,940	A	4,054	A
Niblick Road east of US 101	4-Lane Divided Arterial	31,276	D	30,887	D
Niblick Road east of Creston Road	4-Lane Divided Arterial	17,396	A	17,641	A
River Road north of Niblick Road	2-Lane Collector	8,273	C	8,311	C
River Road south of SR 46 East	2-Lane Collector	2,866	A	2,866	A
Union Road east of River Road	2-Lane Collector	6,924	B	7,188	C
Union Road west of Golden Hill Road	2-Lane Collector	5,276	A	5,710	B

As shown in Table 17, all roadway segments are projected to operate at acceptable LOS with the addition of the project to the *Short Term* conditions. Acknowledging that the lack of a SR 46E/Airport Road connection would intuitively raise traffic volumes along the SR 46E corridor and the surround local street network, further analysis showed that the elimination of the non-residential development bounded by Huer Huero Creek, SR 46E, and the CRASP property line reduced the total CRASP traffic generation such that overall traffic volumes decreased. Note that the non-residential development bounded by Huer Huero Creek, SR 46E, and the CRASP property line would be solely accessed via a SR 46E/Airport Road connection.

US 101 Ramps

Short Term Plus Project freeway ramp segment traffic operations have been quantified utilizing roadway HCM freeway ramp methodology and the projected PM peak hour volumes with the full build-out of both the approved/pending projects and the CRASP. Table 18 presents the projected daily traffic volumes and a summary of the *Short Term Plus Project* freeway ramp segment LOS conditions.

**TABLE 18
SHORT TERM PLUS PROJECT CONDITIONS:
US 101 RAMP SEGMENT LEVELS OF SERVICE**

US 101 Count Location	Lanes	Volume (ADT)	Volume (PM Pk)	Density (pc/mi/ln)	LOS
SR 46E southbound on-ramp	1	12,865	1,441	21.0	C ¹
SR 46E northbound off-ramp	1	11,830	1,325	24.1	C ¹
Mainline - US 101, south of SR 46E (PM 57.92)	4	36,822	-	-	A
16th Street southbound off-ramp	1	1,589	178	22.6	C
Mainline - US 101, south of 13th Street (PM 56.88)	4	42,594	4,771	-	A
Spring Street southbound on-ramp	2	12,859	1,440	24.4	C
Spring Street northbound off-ramp¹	2	13,295	1,489	42.1	F
Mainline - US 101, south of Niblick Road (PM 55.67)	4	69,588	-	-	C
SR 46W southbound on-ramp	1	1,828	205	33.7	D
SR 46W southbound off-ramp¹	1	5,746	644	39.3	E
SR 46W northbound on-ramp¹	1	5,676	636	39.9	F
SR 46W northbound off-ramp¹	1	1,553	174	37.9	E
Mainline - US 101, south of SR 46W (PM 54.12)	4	60,987	-	-	B

Note: pc/mi/ln – Passenger car / mile / lane

1. Part of the estimated deficiency is attributable to the rolling terrain of the area and short acceleration/deceleration lane lengths

As shown in Table 18, the merge and diverge ramp operations at the US 101/SR 46W interchange are projected to operate at LOS “D” or worse, while the Spring Street northbound off-ramp is projected to operate at LOS “E”. These conditions are consistent with those estimated under existing conditions and projected in subsequent conditions.

YEAR 2025 BASE CONDITIONS

Within this report, *Year 2025 Base* conditions refer to the full build-out of the City per the current General Plan, except for development of the Chandler Ranch Area Specific Plan (CRASP) area. Consistent with the General Plan based land use growth projections as utilized in the Citywide traffic model, year 2025 is projected to be the cumulative year when the General Plan build-out will occur. The proposed CRASP project was then added to the *Year 2025 Base* conditions to determine the potential traffic impacts and associated mitigation measures.

Based on discussions with Caltrans and the City, a 4.1% annual rate of interregional growth was used for future-year analyses on the SR 46E corridor. Compounding the 4.1% growth rate over twenty years (2025 – 2005), this results in an absolute growth percentage of 223%. Using the City of Paso Robles Citywide traffic model (OMNI-MEANS, 2003), the proportion of interregional traffic along the SR 46E corridor was estimated as approximately 70% of the traffic volume counted east of Jardine Road. The 2025 interregional traffic volume was calculated from the base year (2004) traffic volume counted east of Jardine Road and the 4.1% annual growth rate. The City build-out traffic was then added to the

interregional traffic component to ultimately estimate the “year 2025 base” corridor traffic. It was then to this “year 2025 base” condition that the proposed CRASP project was added to determine the potential traffic impacts and associated mitigation measures.

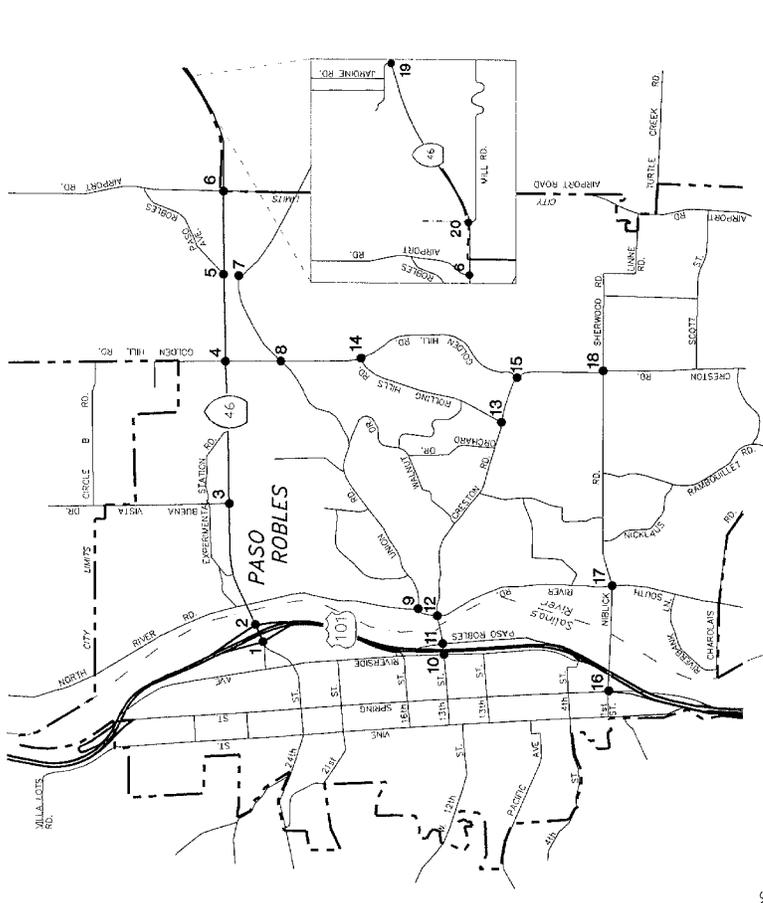
Peak hour intersection traffic volumes, under year 2025 traffic conditions with the current General Plan (also referred to as *Year 2025 Base* conditions), have been analyzed under existing intersection lane geometrics and control. Year 2025 General Plan Improvements have then been identified to provide sufficient capacity to accommodate *Year 2025 Base* traffic demands. This is documented with an updated Level of Service table showing the improved intersection LOS.

YEAR 2025 BASE INTERSECTION OPERATIONS, EXISTING TRAFFIC NETWORK

Year 2025 traffic operations were quantified under existing intersection lane geometrics and control (Figure 3), and *Year 2025 Base* traffic volumes without and with the Charolais Road overcrossing as shown on Figures 12A and Figure 12B. Note that although the City of Paso Robles General Plan indicates that the SR 46E/Union Road intersection will be removed by year 2025, Figures 12A and 12B show it is still open because the “base” condition does not yet have an SR 46E/Airport Road connection from the south. The new SR 46E/Airport Road connection is a condition for the proposed project and the corridor conditions with the closure of the SR 46E/Union Road intersection will be evaluated with the “plus project” scenario of the analysis.

The resulting LOS are summarized in Table 19 both without and with the proposed mitigation, and without and with the proposed Charolais Road overcrossing.

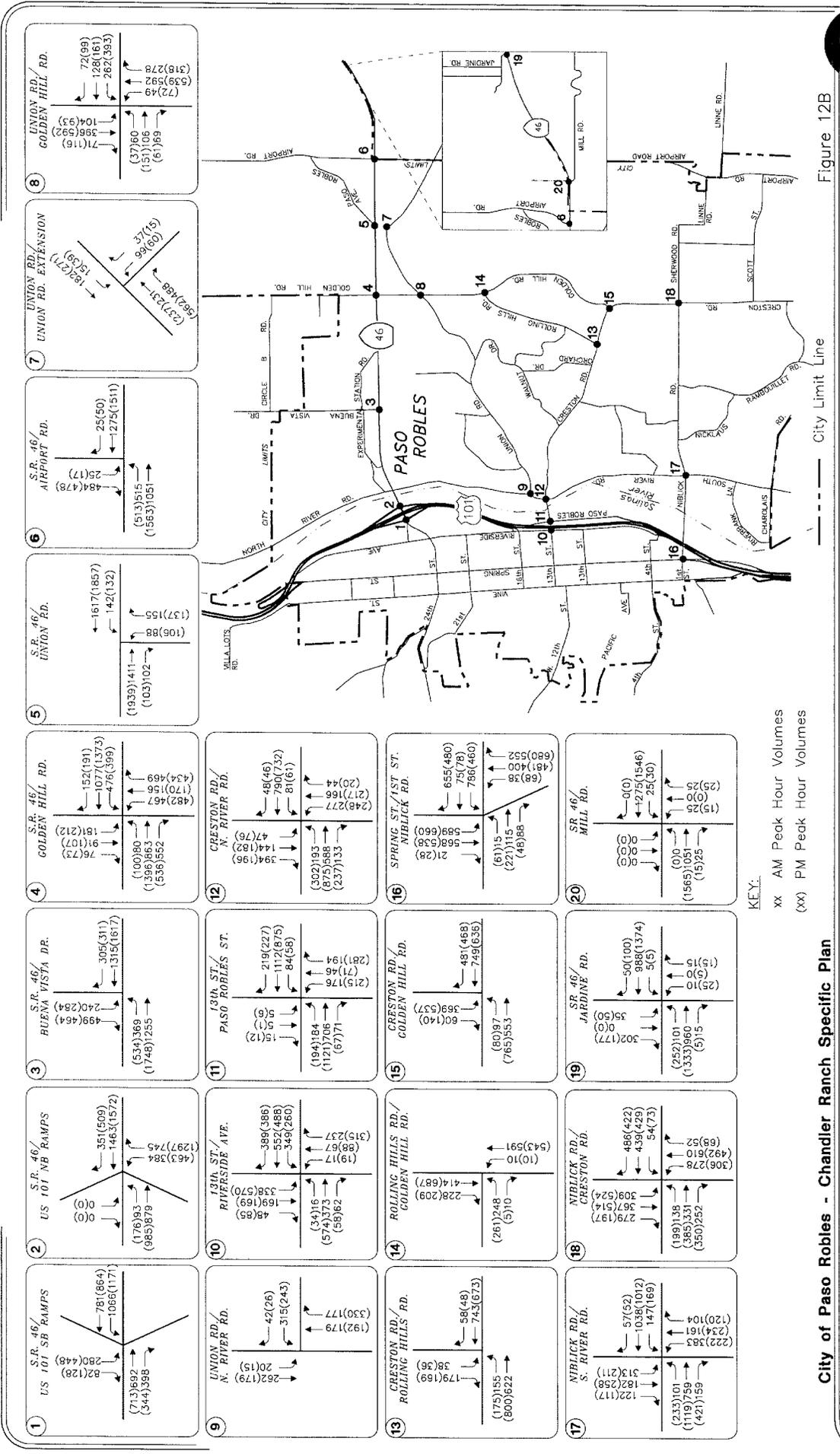
<p>1 S.R. 46/ S.D. RAMP</p> <p>713,982 (344,398) → 280(448) → 781(864) → 1066(1171) →</p>	<p>2 S.R. 46/ US 101 NB RAMP</p> <p>176,993 (985,879) → 0(0) → 0(0) → 351(509) → 1463(1572) → 1297,745 (45,384) →</p>	<p>3 S.R. 46/ DIENA VISTA DR.</p> <p>534,369 (1,745,125) → 499(464) → 240(284) → 305(311) → 1315(1617) →</p>	<p>4 S.R. 46/ GOLDEN HILL RD.</p> <p>100,80 (1,396,863) → 181(212) → 152(191) → 1077(1373) → 475(395) → 482,467 (434,469) →</p>	<p>5 S.R. 46/ UNION RD.</p> <p>1939,141 (1,031,102) → 106,88 → 167(1857) → 142(132) → 137,155 (106,88) →</p>	<p>6 S.R. 46/ AIRPORT RD.</p> <p>513,515 (1,563,105) → 484(478) → 25(17) → 25(50) → 484(478) →</p>	<p>7 UNION RD./ UNION RD. EXTENSION</p> <p>167(27) → 15(39) → 167(27) → 15(39) → 227,231 (52,488) → 167(27) → 15(39) →</p>	<p>8 UNION RD./ GOLDEN DILL RD.</p> <p>71(116) → 104(93) → 396(592) → 72(99) → 28(161) → 262(393) →</p>
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<p>9 UNION RD./ N. RIVER RD.</p> <p>291(199) → 20(15) → 42(26) → 350(270) →</p>	<p>10 18th ST./ RIVERSIDE AVE.</p> <p>638,814 (59,162) → 48(85) → 375(633) → 432(429) → 613(543) → 388(289) →</p>	<p>11 18th ST./ PASO ROBLES ST.</p> <p>215,204 (124,578) → 74(7) → 4(6) → 243(252) → 7236(972) → 94(64) →</p>	<p>12 CRESTON RD./ N. RIVER RD.</p> <p>225,208 (217,166) → 47(76) → 48(46) → 872(813) → 90(68) →</p>	<p>13 CRESTON RD./ ROLLING HILLS RD.</p> <p>179(169) → 38(36) → 58(48) → 743(673) →</p>	<p>14 ROLLING HILLS RD./ GOLDEN HILL RD.</p> <p>228(209) → 414(687) → 10(10) → 543(591) →</p>	<p>15 CRESTON RD./ GOLDEN HILL RD.</p> <p>60(140) → 569(537) → 48(466) → 745(636) →</p>	<p>16 SPRING ST./1ST ST. NIBLICK RD.</p> <p>16(26) → 59(660) → 790(480) → 172(83) → 942(696) →</p>	<p>17 NIBLICK RD./ S. RIVER RD.</p> <p>257(203) → 156(232) → 136(130) → 61(45) → 1195(1105) → 129(151) →</p>	<p>18 NIBLICK RD./ CRESTON RD.</p> <p>277(476) → 286(254) → 496(374) → 508(477) → 62(65) →</p>	<p>19 SR 46/ JARDINE RD.</p> <p>302(177) → 35(50) → 50(100) → 988(1374) → 5(5) →</p>	<p>20 SR 46/ MILL RD.</p> <p>0(0) → 0(0) → 0(0) → 225(1546) → 25(30) →</p>
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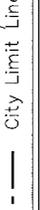
KEY:
 xx AM Peak Hour Volumes
 (xx) PM Peak Hour Volumes

City of Paso Robles - Chandler Ranch Specific Plan
 Year 2025 Intersection Traffic Volumes ("Base" Conditions) without Charolais Road Overcrossing
 City Limit Line
 Figure 12A



City of Paso Robles - Chandler Ranch Specific Plan
 Year 2025 Intersection Traffic Volumes
 ("Base" Conditions) with Charolais Road Overcrossing

Figure 12B



**TABLE 19
YEAR 2025 BASE CONDITIONS: INTERSECTION LEVELS OF SERVICE,
WITH EXISTING AND GENERAL PLAN IMPROVEMENT INTERSECTION GEOMETRICS**

#	Intersection	Short Term Intersection Geometrics and Control, without Charolais Rd. Bridge						Imprv. Ctrl. Type	General Plan Improvements, without Charolais Rd. Bridge						General Plan Improvements, with Charolais Rd. Bridge						
		AM Peak Hour			PM Peak Hour				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
		Ctrl. Type	Delay	LOS	Wrrt Met?	Delay	LOS		Wrrt Met?	Delay	LOS	Wrrt Met?	Delay	LOS	Wrrt Met?	Delay	LOS	Wrrt Met?	Delay	LOS	Wrrt Met?
1	US 101 SB Ramps/24th St./SR 46 East	Signal	OVR	F	-	OVR	F	-	Signal	56.5	E	-	OVR	F	-	56.5	E	-	OVR	F	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	OVR	F	-	OVR	F	-	Signal	26.4	C	-	48.3	D	-	26.4	C	-	48.3	D	-
3	Buena Vista Drive/SR 46 East	Signal	86.8	F	-	OVR	F	-	Signal	32.7	C	-	45.9	D	-	22.7	C	-	24.7	C	-
4	Golden Hill Road/SR 46 East	Signal	OVR	F	-	OVR	F	-	Signal	44.7	D	-	49.2	D	-	44.7	E	-	49.2	D	-
5	Union Road/SR 46 East	TWSC	OVR	F	Yes	OVR	F	Yes	-	-	-	-	-	-	-	-	-	-	-	-	
6	Airport Road/SR 46 East	TWSC	OVR	F	Yes	OVR	F	Yes	Signal	16.5	C	-	16.8	C	-	16.5	B	-	16.8	B	-
7	Union Road/Union Road Extension	TWSC	16.7	C	No	19.9	C	No	-	-	-	-	-	-	-	-	-	-	-	-	
8	Union Road/Golden Hill Road	AWSC	OVR	F	Yes	OVR	F	Yes	RND	2.7	A	-	3.1	A	-	2.7	A	-	3.1	A	-
9	Union Road/North River Road ¹	AWSC	18.9	C	No	13.4	C	No	TWSC	18.3	C	No	13.2	B	No	15.5	C	-	12.1	B	No
10	Riverside Avenue/13th St.	Signal	59.4	E	-	OVR	F	-	Signal	34.6	C	-	62.5	E	-	31.7	C	-	48.0	D	-
11	Paso Robles St./13th St.	Signal	44.5	D	-	42.0	D	-	Signal	44.2	D	-	40.6	D	-	32.5	C	-	32.0	C	-
12	North River Road/Creston Road	Signal	41.5	D	-	55.0	D	-	Signal	28.6	C	-	30.5	C	-	27.5	C	-	29.5	C	-
13	Creston Road/Rolling Hills Road	TWSC	39.4	D	Yes	45.1	D	Yes	TWSC	25.1	D	Yes	25.8	D	Yes	23.6	C	Yes	24.6	C	Yes
14	Golden Hill Road/Rolling Hills Road	TWSC	53.0	F	No	OVR	F	Yes	Signal	11.3	B	-	7.0	A	-	11.3	B	-	7.0	A	-
15	Creston Road/Golden Hill Road	Signal	17.3	B	-	19.7	B	-	Signal	17.3	B	-	19.7	B	-	17.3	B	-	19.7	B	-
16	Spring St./1st St./Niblick Road	Signal	42.8	D	-	46.0	D	-	Signal	42.8	D	-	46.0	D	-	30.6	C	-	32.4	C	-
17	Niblick Road/South River Road	Signal	48.1	D	-	44.7	D	-	Signal	31.0	C	-	32.1	C	-	31.5	C	-	31.3	C	-
18	Niblick Road/Creston Road	Signal	60.1	E	-	66.0	E	-	Signal	38.5	D	-	49.8	D	-	35.4	D	-	46.1	D	-
19	Jardine Road/SR 46 East	TWSC	OVR	F	Yes	OVR	F	Yes	Signal	21.7	C	-	26.7	C	-	21.7	C	-	26.7	C	-
20	Mill Road/SR 46 East	TWSC	OVR	F	No	OVR	F	No	-	-	-	-	-	-	-	-	-	-	-	-	

Notes: Pk. Hr. = Peak Hour, TWSC = Two-Way-Stop Control, AWSC = All-Way-Stop Control, RND = Roundabout
Warrant = MUTCD Peak-Hour-Volume Warrant-3 (Urban Areas), N/A = Not Applicable
Overflow = Delays exceed 99.9 seconds/vehicle.

1. Union Rd./North River Road has an unconventional three-way stop control, that has been analyzed as an all-way-stop.

As shown in Table 19, all the study intersections except Union Road/Union Road Extension (#7), Creston Road/Rolling Hills (#13) and Creston Road/Golden Hill Road (#15) intersections are projected to operate at unacceptable LOS “E” or worse under *Year 2025 Base* conditions with existing lane geometrics and control (Figure 3).

For *Year 2025 Base* conditions, the following unsignalized study intersections are projected to meet Caltrans peak hour volume warrant-11 (Urban Areas) for both AM and PM peak hour conditions:

- SR 46E/Union Road
- SR 46E/Airport Road
- Union Road/Golden Hill Road
- Golden Hill Road/Rolling Hills Road
- SR 46E/Jardine Road

Recommended circulation improvements are discussed in the following section.

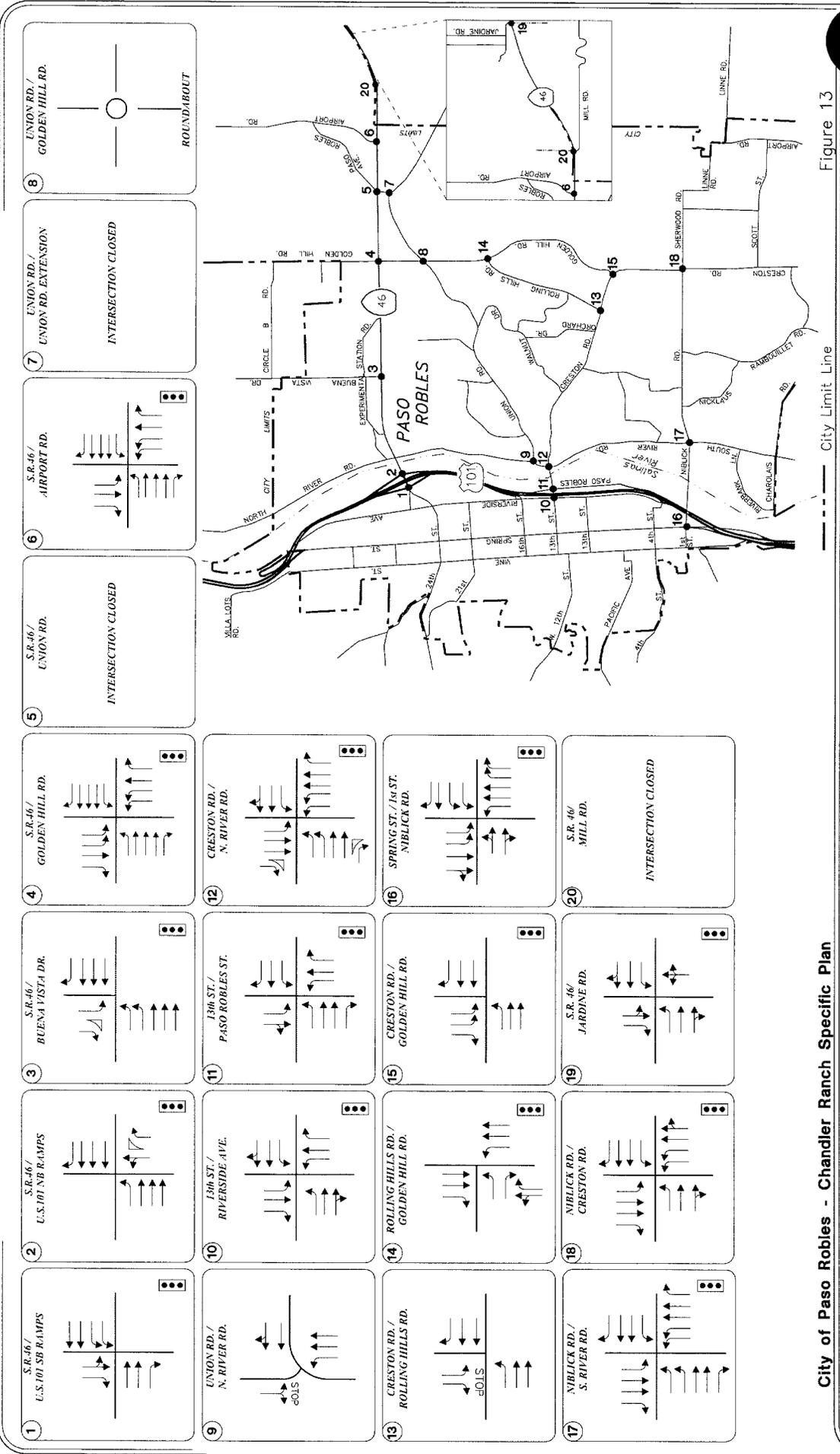
YEAR 2025 BASE INTERSECTION OPERATIONS, GENERAL PLAN IMPROVEMENT TRAFFIC NETWORK

As shown in Table 19, the existing intersection lane geometrics and control generally fail to provide acceptable traffic operations at many of the study intersections under *Year 2025 Base* conditions.

Recognizing that the existing traffic network is not adequate to accommodate future growth in the City, the City General Plan recommends several capacity improvements, e.g. roadway widening projects. The following section lists capacity improvements for intersections and roadways within the study area. Not all proposed improvements may be feasible. Locations with improvement capacity constraints have their feasibility issues disclosed and discussed within this report. Also note that the City General Plan recognizes the limited capacity of the existing Salinas River and US 101 crossings within the City, i.e. at SR 46E, 13th Street (currently being widened), and Niblick Road. The General Plan improvements may fail to alleviate all traffic demand moving through these access points between the east and west portions of the City. This traffic analysis considers the projected traffic operations both without and with a future Charolais Road overcrossing connection across the Salinas River.

Figure 13 illustrates the General Plan improved traffic network intersection lane geometrics and control.

1. US 101 SB Ramps/24th Street/SR 46E Intersection – Caltrans, which holds jurisdictional authority over the SR 46E/US 101 interchange, has programmed for the adding of a second westbound left-turn lane at this intersection. This improvement is independent from other improvement strategies explored in various transportation planning studies conducted on the SR 46E corridor. These other studies, including the SR 46 Corridor Study currently being conducted by Caltrans, have and are analyzing various transportation corridor improvements, including alternative bypass alignments and specific widening improvements along its existing alignment.



City of Paso Robles - Chandler Ranch Specific Plan

Year 2025 General Plan Improvement Intersection Lane Geometrics and Control

Figure 13



T217033.DWG (6/8/2023) 25-5645-02

Lastly, in accordance with the existing Freeway Agreement of 1964, the primary obligation for improvements for SR 46E between US 101 and Huer Huero Creek are to be largely funded by Caltrans. This primary obligation, as understood, is not only to the improvement of this interchange, but also extends to potential future interchange improvements at Buena Vista Road and Golden Hill Road. Such primary obligation by Caltrans, however, may not totally exempt the City of Paso Robles, and specifically, the CRASP from participation in some proportional financing. To assure adequate funding of the SR 46E improvements, some funding through impact fees or other financing mechanism should be considered should such proportional funding be needed and required.

2. US 101 NB Ramps/24th Street/SR 46E Intersection – The following intersection geometrics are recommended at this intersection to remain consistent with the City General Plan concept for widening SR 46E to six lanes between US 101 and Airport Road:
 - Westbound approach – Three through lanes, one right-turn lane
 - Eastbound approach – One left-turn lane, four through-lanes
 - Northbound approach – Convert existing through-right turn lane in the northbound direction to through-left turn lane, convert right turn lane to a free right-turn lane (island right turn lane) in the northbound direction

Other alternative improvements have been studied at this intersection, similar to the US 101 southbound ramp intersection. Pending the completion of a traffic study that specifically identifies a recommended mitigation strategy for the improvement of the entire interchange, a more definitive direction will be provided to serve the forecast traffic volumes at acceptable LOS.

The Freeway Agreement of 1964 needs to be referenced and consulted when considering the funding of this interchange modification.

3. Buena Vista Drive/SR 46E Intersection – The following intersection geometrics are recommended at this intersection to remain consistent with the City General Plan concept for widening SR 46E to six lanes between US 101 and Airport Road:
 - Eastbound approach – Two left-turn lanes, three through-lanes
 - Westbound approach – Three through-lanes, one right-turn lane
 - Southbound approach – One left-turn lane, one right-turn lane

The Freeway Agreement of 1964 needs to be referenced and consulted when considering funding of this intersection modification.

4. Golden Hill Road/SR 46E Intersection – The following intersection geometrics are recommended at this intersection to remain consistent with the City General Plan concept for widening SR 46E to six lanes between US 101 and Airport Road:
 - Improve the traffic signal to provide protected phasing for north- and southbound traffic
 - Northbound, southbound approaches – One lane for each turning movement (left, through, right)
 - Eastbound, westbound approaches – One left-turn lane, three through-lanes, one right-turn lane

The Freeway Agreement of 1964 needs to be referenced and consulted when considering funding of this intersection modification.

5. Union Road/SR 46E Intersection – Caltrans has indicated that signalization of this intersection (as a mitigation measure) would not be allowed because of close intersection spacing between this intersection and the SR 46 connection with Airport Road. As a year 2025 mitigation measure, Caltrans has indicated that the closure of this intersection would be required with the improvement of the Airport Road connection or if it was to be improved as an interchange. Therefore, for all other intersections, the closure and redistribution of traffic has been assumed in assessing traffic impacts and their required mitigations.
6. Airport Road/SR 46E Connection – A new connection to SR 46E from the south was considered as part of the proposed Chandler Ranch Specific Plan. This report contains separate analysis scenarios that consider both the inclusion and exclusion of an Airport Road/SR 46E connection. No improvements at the existing intersection were analyzed for “no Airport Road/SR 46E connection” scenario. The following geometrics are presented as part of the improved signalized intersection concept and are consistent with General Plan concept for widening SR 46E to six lanes, west of Airport Road, and to four lanes, east of Airport Road:
 - Signalize the intersection, with protected phasing for the east-west and north-south approaches.
 - Northbound, southbound approaches - One lane for each turning movement (left, through, right)
 - Eastbound, westbound approaches – One left-turn lane, three through-lanes, one right-turn lane

Note that Caltrans anticipates the future need for an interchange and has requested that a Project Study Report (PSR) be prepared prior to further improvements on the State right-of-way. The cost of this additional planning analysis along with the costs for the connection improvements (both interim and long-term) should be fairly allocated among the benefiting parties.

7. Union Road/Union Road Extension Intersection - This intersection will not exist with the closure of SR 46/Union Road intersection.
8. Union Road/Golden Hill Road Intersection – The General Plan lists the widening of Union Road, between SR 46E and North River Road, to a four-lane arterial as a future improvement. Consistent with the future Union Road widening, the City plans to improve this intersection as a two-lane roundabout.
9. Union Road/North River Road Intersection – This intersection is being improved with the 13th Street/Creston Road improvements. There are no future improvements at this intersection anticipated by the General Plan.
10. Riverside Avenue/13th Street Intersection – This intersection is being improved as a result of the 13th Street Bridge widening concurrently with the Paso Robles Street/13th Street intersection. The bridge widening project is part of the General Plan improvement concept to widen Creston Road to a four lane arterial.
11. Paso Robles Street/13th Street Intersection – This intersection is being improved as a result of the 13th Street Bridge widening occurring concurrently with the Riverside Avenue/13th Street intersection. The bridge widening project is part of the General Plan improvement concept to widen Creston Road to a four lane arterial. The following intersection improvements will be formed as a result of the widening project:
 - Northbound approach – One lane for each turning movement (left, through, right)

- Southbound approach – One left-turn lane, one through-right turn lane
 - Eastbound approach – One left-turn lane, two through-lanes, one right-turn lane
 - Westbound approach – One left-turn lane, two through-lanes, one right-turn lane
12. North River Road/Creston Road Intersection – This intersection is being improved as a result of the General Plan improvement concept to widen Creston Road to a four lane arterial. The following intersection improvements will be formed as a result of the widening project:
- Northbound approach – Two left-turn lanes, two through lanes, one right-turn lane
 - Southbound approach – One left-turn lane, two through-lanes, one free right-turn lane
 - Eastbound approach – Two left-turn lanes, two through-lanes, one free right-turn lane
 - Westbound approach – One left-turn lane, one through lane, one through-right turn lane
13. Creston Road/Rolling Hills Road Intersection This intersection is being improved as a result of the General Plan improvement concept to widen Creston Road to a four lane arterial. The following intersection improvements will be formed as a result of the widening project:
- Southbound approach – One left-turn lane, one right-turn lane
 - Eastbound approach – One left-turn lane, two through-lanes
 - Westbound approach – Two through-lanes, one right-turn lane
- Consistent with City policy, consideration of improving the intersection with a roundabout should be evaluated.
14. Golden Hill Road/Rolling Hills Road Intersection – Signalizing this intersection is projected to accommodate year 2025 General Plan build-out traffic volumes. Consistent with City policy, consideration of improving the intersection with a roundabout should be evaluated.
15. Creston Road/Golden Hill Road Intersection – There are no improvements at this intersection anticipated by the General Plan.
16. Spring Street/1st Street/Niblick Road Intersection – This intersection has been improved with the construction of the Niblick Road Bridge, which is part of the recently completed General Plan widening of Niblick Road to a four-lane arterial. Keeping the existing intersection geometrics, additional improvements at this intersection include the following:
- Provide overlap phasing in the northbound right turn approach and restrict the U-turn movements in the westbound left turn movements
 - Provide overlap phasing in the westbound right turn approach and restrict the U-turn movements in the southbound left turn movements

The General Plan recognizes that the Niblick Road Bridge is a future traffic capacity constraint and that the sufficient capacity may not be available to accommodate year 2025 east-west travel demand over the Salinas River and US 101. Per the General Plan, “this lack of capacity will not only exist at the Niblick Road Bridge but at the Creston Road/13th Street Bridge as well. Either potential further widening of both these bridges to six (6) lanes may be necessary or a new bridge crossing, such as at Charolais Road, may be required to provide sufficient east-west corridor capacity for the projected Paso Robles community.” This report includes analyses with and without a Charolais Road overcrossing.

17. Niblick Road/South River Road Intersection – This intersection has been improved with the recently completed General Plan widening of Niblick Road to a four-lane arterial. Adding a second northbound left-turn lane is projected to accommodate year 2025 General Plan build-out

traffic volumes. Consistent with City policy, consideration of improving the intersection with a roundabout should be evaluated.

18. Niblick Road/Creston Road Intersection – This intersection has been improved with the recently completed General Plan widening of Niblick Road to a four-lane arterial. Adding a second northbound left-turn lane is projected to accommodate year 2025 General Plan build-out traffic volumes. Consistent with City policy, consideration of improving the intersection with a roundabout should be evaluated.
19. Jardine Road/SR 46E – Signalizing this intersection, with semi-actuated split phasing at the north- and southbound approaches, and protected phasing at the east- and westbound approaches is projected alleviate existing and future traffic congestion.
20. Mill Road/SR 46E - Similar to the Union Road/SR 46E intersection, the Mill Road/SR 46E intersection may be required to close due to its proximity with the future SR 46 connection with Airport Road. The extension of Mill Road to the future Airport Road southern extension would provide necessary access to the highway without interfering with the operations at the new Airport Road/SR 46E connection.

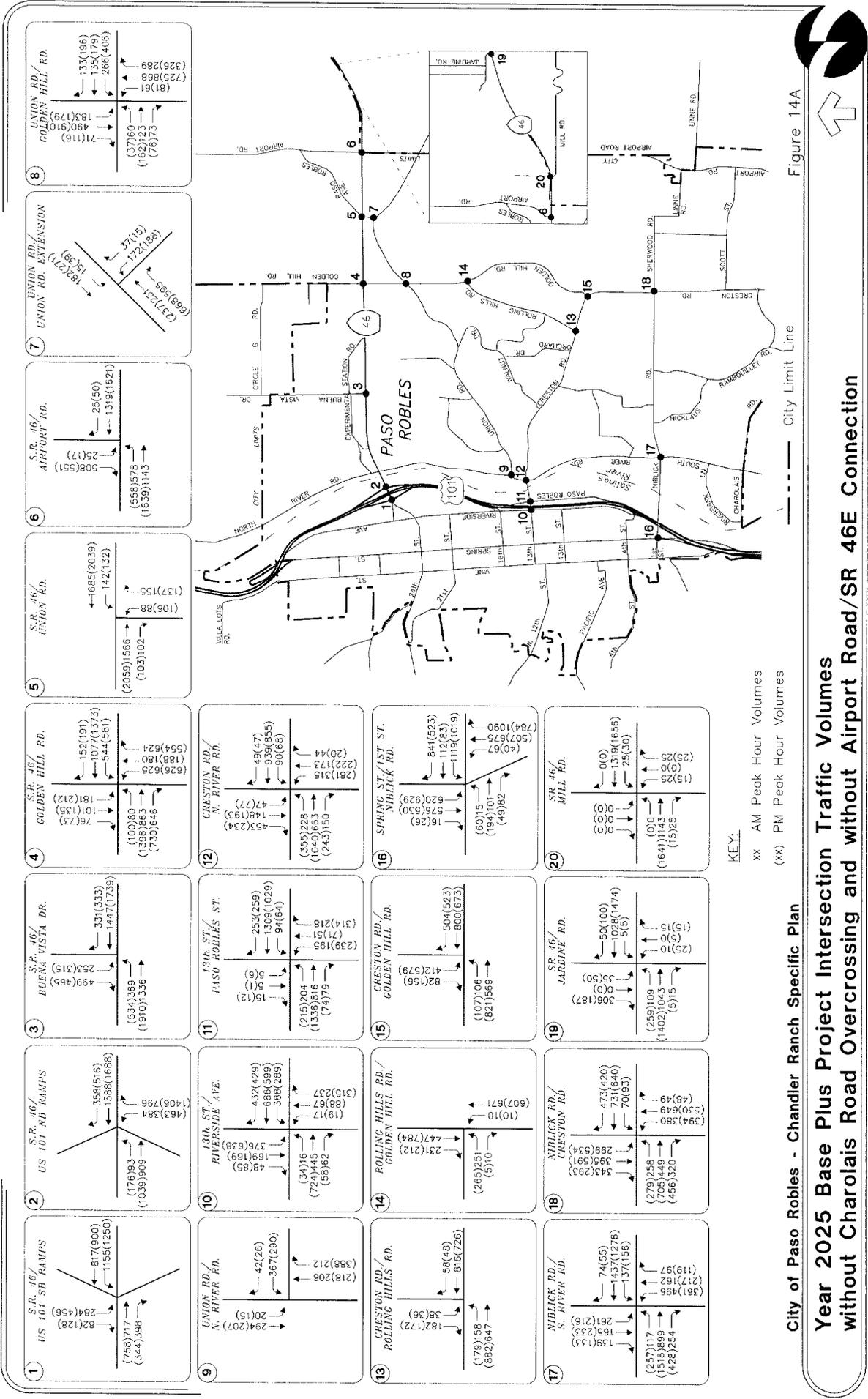
As shown in the second and third columns of Table 19, all study intersections are projected to operate at LOS (“C” or better within Caltrans right-of-way, “D” or better within City right-of-way) with the General Plan Improvements, except for the Riverside Avenue/13th Street intersection and the US 101/SR 46E interchange. The US 101/SR 46E interchange intersections are projected to operate at the cusp of LOS “C/D”, which is acceptable under Caltrans standards. The Riverside Avenue/13th Street intersection operates at deficient LOS “E” without the proposed Charolais Road overcrossing, but operates at acceptable LOS “D” with the proposed Charolais Road overcrossing.

YEAR 2025 BASE PLUS PROJECT CONDITIONS

Year 2025 traffic volumes under “General Plan build-out conditions with the proposed Chandler Ranch Specific Plan” were forecasted utilizing the Citywide Traffic Model. Year 2025 conditions with the proposed project are also referred to as *Year 2025 Base Plus Project* conditions in this report.

YEAR 2025 BASE PLUS PROJECT INTERSECTION OPERATIONS, GENERAL PLAN IMPROVEMENT TRAFFIC NETWORK

The *Year 2025 Base Plus Project* peak hour intersection traffic conditions are simulated by superimposing traffic generated by the proposed project (Figures 8A and 8B) over the *Year 2025 Base* traffic volumes (Figures 12A and 12B) at the study intersections and roadway segments. The resulting *Year 2025 Base Plus Project* traffic volumes are illustrated on Figures 14A and 14B. Peak hour intersection operations were quantified utilizing the resulting aforementioned traffic volumes and the General Plan Improvement intersection lane geometrics and control (Figure 13). The resulting LOS are summarized without and with the Charolais Road overcrossing.



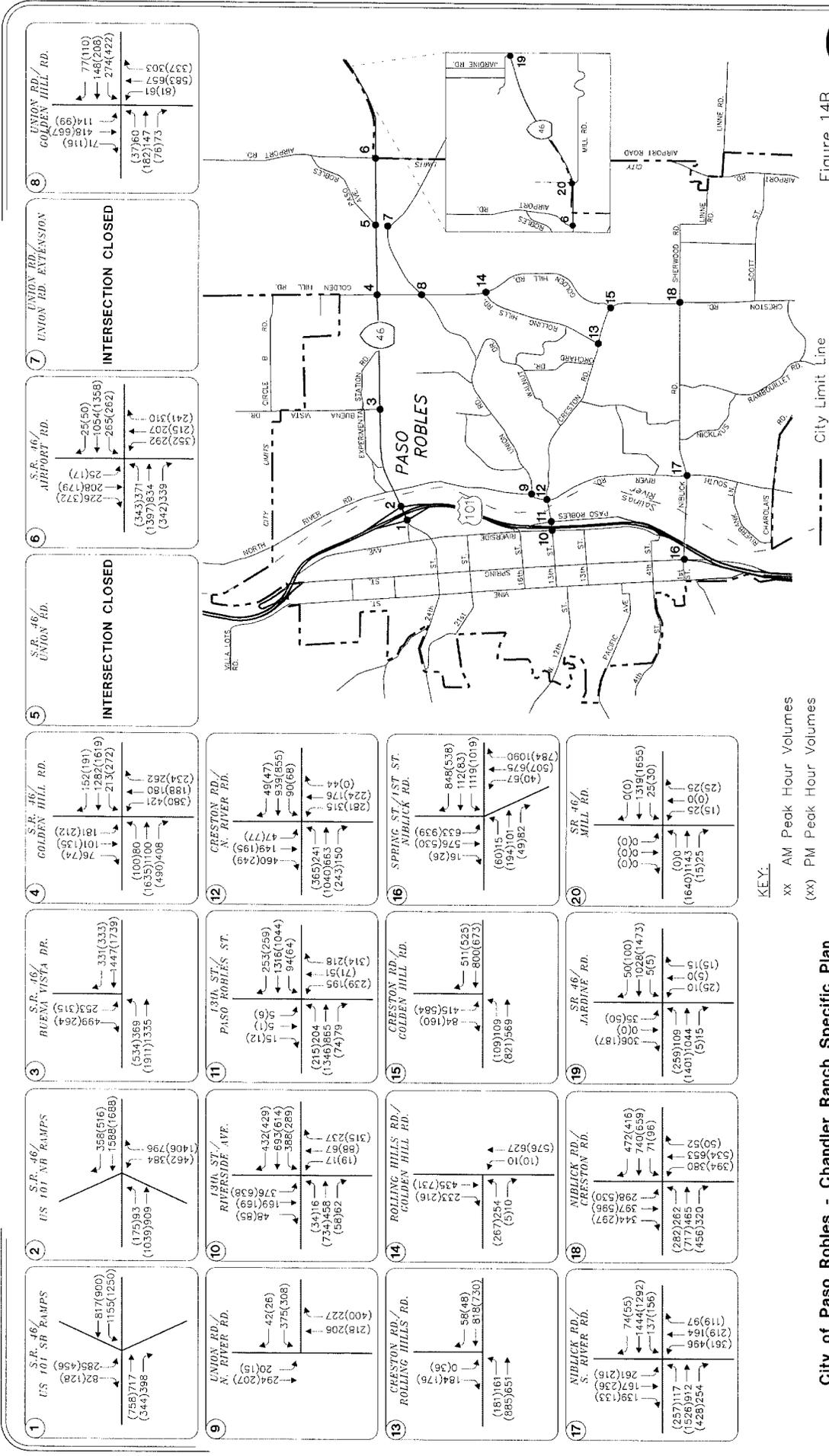
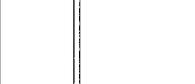


Figure 14B



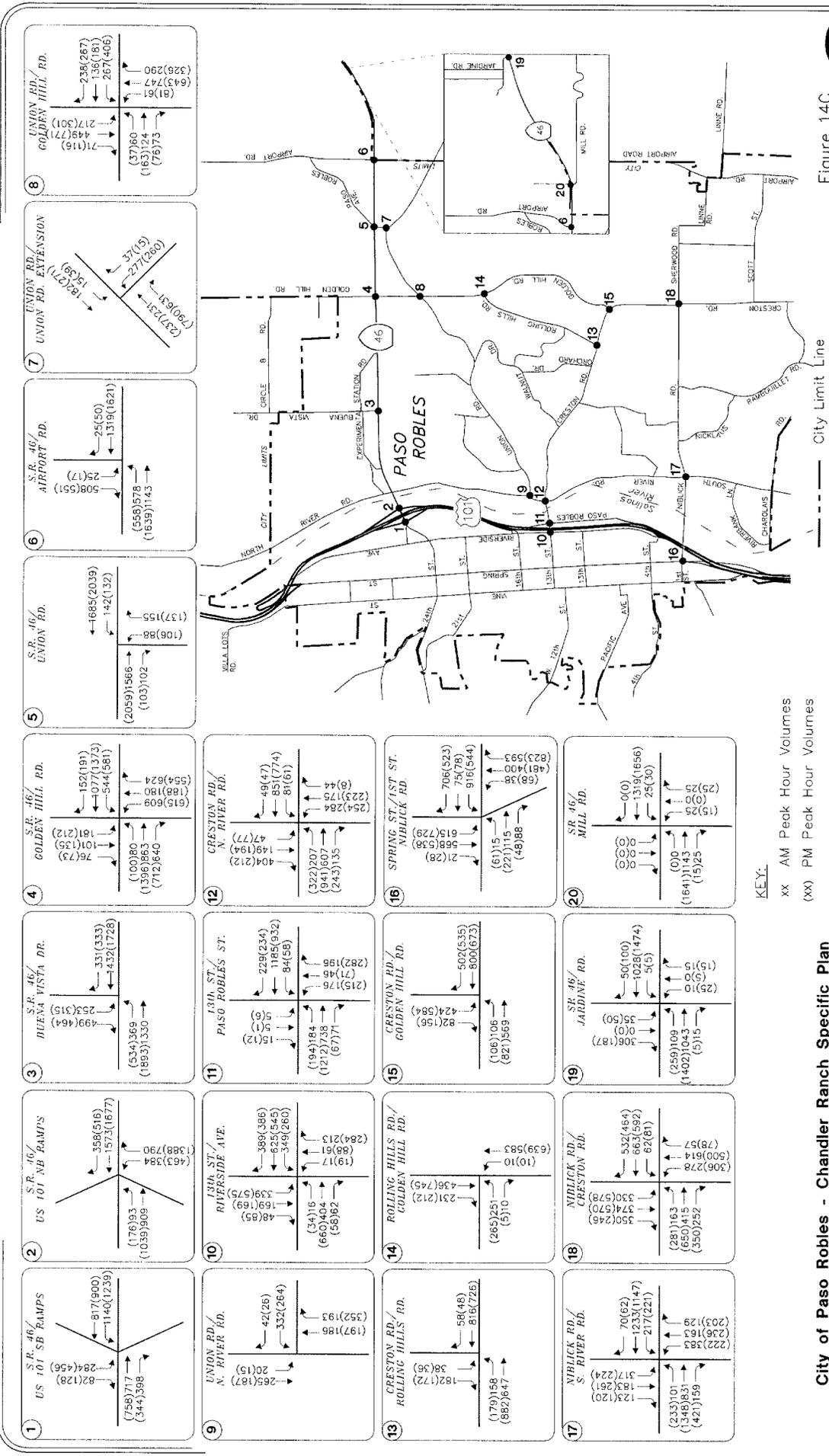


Figure 14C

City of Paso Robles - Chandler Ranch Specific Plan

Year 2025 Base Plus Project Intersection Traffic Volumes with Charolais Road Overcrossing and without Airport Road/SR 46E Connection

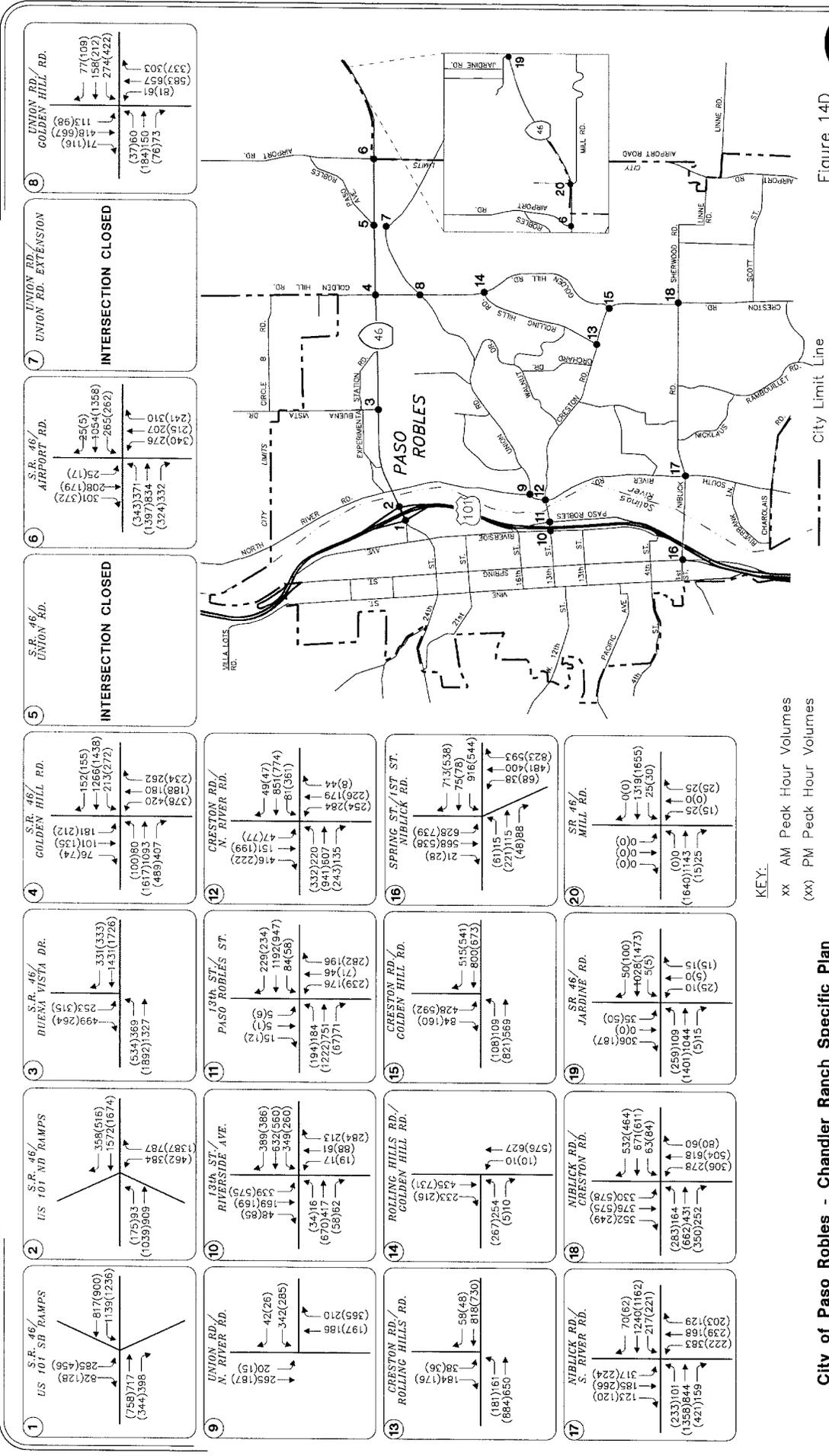


Figure 14D

City Limit Line

KEY:

xx AM Peak Hour Volumes

(xx) PM Peak Hour Volumes

City of Paso Robles - Chandler Ranch Specific Plan

Year 2025 Base Plus Project Intersection Traffic Volumes with Charolais Road Overcrossing and with Airport Road/SR 46E Connection

TABLE 20A
YEAR 2025 BASE PLUS PROJECT CONDITIONS, WITHOUT AIRPORT ROAD CONNECTION:
INTERSECTION LEVELS OF SERVICE, WITH GENERAL PLAN IMPROVEMENT INTERSECTION GEOMETRICS

#	Intersection	Improved Control Type	Without Charolais Rd. Bridge						With Charolais Rd. Bridge					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?
1	US 101 SB Ramps/24th St./SR 46 East	Signal	65.4	E	-	OVR	F	-	64.0	E	-	OVR	F	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	27.4	C	-	54.5	D	-	27.2	C	-	54.1	D	-
3	Buena Vista Drive/SR 46 East	Signal	35.2	D	-	51.2	D	-	23.1	C	-	27.6	C	-
4	Golden Hill Road/SR 46 East	Signal	65.0	E	-	OVR	F	-	64.3	E	-	99.2	F	-
5	Union Road/SR 46 East	TWSC	-	-	-	-	-	-	-	-	-	-	-	-
6	Airport Road/SR 46 East	Signal	19.9	C	-	21.3	C	-	19.9	B	-	21.3	C	-
7	Union Road/Union Road Extension	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Union Road/Golden Hill Road	RND	3.6	A	-	4.7	A	-	3.4	A	-	4.6	A	-
9	Union Road/North River Road ¹	TWSC	19.8	C	No	14.0	B	No	16.4	C	No	12.7	B	No
10	Riverside Avenue/13th St.	Signal	35.4	D	-	68.7	E	-	32.2	C	-	52.1	D	-
11	Paso Robles St./13th St.	Signal	49.8	D	-	44.6	D	-	35.1	D	-	33.6	C	-
12	North River Road/Creston Road	Signal	29.0	C	-	31.0	C	-	27.7	C	-	29.8	C	-
13	Creston Road/Rolling Hills Road	TWSC	29.8	D	Yes	31.3	D	Yes	27.9	D	Yes	29.6	D	Yes
14	Golden Hill Road/Rolling Hills Road	Signal	11.8	B	-	7.2	A	-	11.6	B	-	7.2	A	-
15	Creston Road/Golden Hill Road	Signal	18.5	B	-	21.2	C	-	18.7	B	-	21.2	C	-
16	Spring St./1st St./Niblick Road	Signal	50.0	D	-	56.8	E	-	32.3	C	-	34.2	C	-
17	Niblick Road/South River Road	Signal	33.4	C	-	37.0	D	-	33.7	C	-	36.7	D	-
18	Niblick Road/Creston Road	Signal	45.5	D	-	77.4	E	-	39.0	D	-	74.2	E	-
19	Jardine Road/SR 46 East	Signal	22.0	C	-	31.9	C	-	22.0	C	-	31.9	C	-
20	Mill Road/SR 46 East	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes: TWSC = Two-Way-Stop Control; AWSC = All-Way-Stop Control.
Warrant = MUTCD Peak-Hour-Volume Warrant-3 (Urban Areas). N/A = Not Applicable
1. Union Rd./North River Road has an unconventional three-way stop control, that has been analyzed an all-way-stop.

TABLE 20B
YEAR 2025 BASE PLUS PROJECT CONDITIONS, WITH AIRPORT ROAD CONNECTION:
INTERSECTION LEVELS OF SERVICE, WITH GENERAL PLAN IMPROVEMENT INTERSECTION GEOMETRICS

#	Intersection	Improved Control Type	Without Charolais Rd. Bridge						With Charolais Rd. Bridge					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?
1	US 101 SB Ramps/24th St./SR 46 East	Signal	65.7	E	-	OVR	F	-	64.1	E	-	OVR	F	-
2	US 101 NB Ramps/24th St./SR 46 East	Signal	27.4	C	-	54.1	D	-	27.2	C	-	53.6	D	-
3	Buena Vista Drive/SR 46 East	Signal	23.2	C	-	27.1	C	-	23.1	C	-	26.9	C	-
4	Golden Hill Road/SR 46 East	Signal	30.5	C	-	42.3	D	-	28.9	C	-	36.5	D	-
5	Union Road/SR 46 East	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Airport Road/SR 46 East	Signal	38.4	D	-	46.9	D	-	37.7	D	-	46.2	D	-
7	Union Road/Union Road Extension	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Union Road/Golden Hill Road	RND	3.0	A	-	3.5	A	-	3.0	A	-	3.5	A	-
9	Union Road/North River Road ¹	TWSC	21.0	C	No	14.9	B	No	17.4	C	No	13.5	B	No
10	Riverside Avenue/13th St.	Signal	35.6	D	-	69.6	E	-	32.3	C	-	52.6	D	-
11	Paso Robles St./13th St.	Signal	50.2	D	-	45.6	D	-	35.3	D	-	35.1	D	-
12	North River Road/Creston Road	Signal	29.3	C	-	30.5	C	-	28.9	C	-	38.0	D	-
13	Creston Road/Rolling Hills Road	TWSC	28.4	D	No	30.0	D	No	28.4	D	No	30.0	D	No
14	Golden Hill Road/Rolling Hills Road	Signal	9.6	A	-	10.1	B	-	9.6	A	-	10.1	B	-
15	Creston Road/Golden Hill Road	Signal	18.6	B	-	21.3	C	-	18.9	B	-	21.5	C	-
16	Spring St./1st St./Niblick Road	Signal	50.9	D	-	57.4	E	-	32.5	C	-	34.4	C	-
17	Niblick Road/South River Road	Signal	33.5	C	-	37.3	D	-	33.9	C	-	37.0	D	-
18	Niblick Road/Creston Road	Signal	46.3	D	-	79.1	E	-	39.6	D	-	76.7	E	-
19	Jardine Road/SR 46 East	Signal	22.0	C	-	31.9	C	-	22.0	C	-	31.9	C	-
20	Mill Road/SR 46 East	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes: TWSC = Two-Way-Stop Control; AWSC = All-Way-Stop Control.
Warrant = MUTCD Peak-Hour-Volume Warrant-3 (Urban Areas). N/A = Not Applicable
1. Union Rd./North River Road has an unconventional three-way stop control, that has been analyzed an all-way-stop.

As shown in Tables 20A and 20B, the US 101/SR 46E interchange intersections, the SR 46E intersections at Golden Hill Road and Airport Road, the Riverside Avenue/13th Street intersection, and the Niblick Road/Creston Road intersections are projected to operate at deficient conditions without a Charolais Road overcrossing. The Riverside Avenue/13th Street intersection is projected to operate at acceptable LOS “D” with the Charolais Road overcrossing, while deficient conditions at the US 101/SR 46E interchange, the SR 46E intersections at Golden Hill Road and Airport Road, and the Niblick Road/Creston Road intersection are projected to continue regardless.

Tables 20A and 20B show that an Airport Road/SR 46E connection would most significantly alleviate deficient operations at the Golden Hill Road/SR 46E intersection. The projected LOS at the SR 46E intersections with Golden Hill Road and Airport Road are LOS “D” at both intersections. Although LOS “D” is adequate for City standards, the projected delay would exceed Caltrans-standard “cusp of LOS C/D”. This projection supports the notion that an interchange will be required in the future at the SR 46E/Airport Road connection. Further mitigation at the SR 46E/Airport Road connection and/or along the SR 46E corridor will be left to the SR 46E/Airport Road interchange PSR process, which was being initiated at the time of this analysis.

YEAR 2025 ROADWAY TRAFFIC OPERATIONS

This section discusses year 2025 roadway traffic operations. Table 21A provides a summary of year 2025 annual average daily traffic projections on city street segments without the proposed project, with and without the Charolais Road overcrossing. Table 21B provides a summary of year 2025 annual average daily traffic projections on City street segments with the proposed project, with and without the Charolais Road overcrossing, and with and without an Airport Road/SR 46E connection. Year 2025 roadway operations have been estimated based upon capacity thresholds presented in Table 2.

The City is concerned about the increasing traffic demand across the different east-west corridors that cross the Salinas River. The currently existing three “trans-Salinas River” facilities (namely the SR 46, 13th Street/Creston Road, and Niblick Road Bridges) would continue to represent capacity limitations through year 2025, despite plans for widening Creston Road. In order that traffic congestion on existing bridges may be alleviated and greater cross-town traffic access across the Salinas River may be achieved, the City has included in their recent General Plan Circulation Element Update a fourth bridge crossing represented by a conceptual westerly extension of Charolais Road across Salinas River to tie-in with the US 101/SR 46W interchange. In this study, the Charolais Road overcrossing has been regarded as a year 2025 mitigation measure.

From a Citywide circulation viewpoint, the Charolais Road overcrossing is projected to divert a significant portion of the traffic that would otherwise utilize the Niblick Road Bridge. For year 2025 buildout conditions with the proposed Chandler Ranch project, the Niblick Road Bridge is projected to carry a daily traffic volume of over 31,000 vehicles without the Charolais Road overcrossing but only about 23,000 vehicles with the Charolais Road overcrossing. At a projected average daily traffic of approximately 18,000 vehicles on the Charolais Road overcrossing itself, smaller amounts of traffic diversion are expected to occur from the Creston Road and SR 46E bridge crossings.

From a Chandler Ranch trip distribution viewpoint, the construction of the Charolais Road overcrossing is projected to affect a negligible amount of change in the total proportion of project traffic crossing the Salinas River. Although the Charolais Road overcrossing will provide an alternate route for Chandler Ranch traffic to gain access to and from the south on US 101 and SR 46 West, the greater benefit would actually be the redistribution of other traffic within the City. With reduction in overall traffic volumes at the other bridge crossings, particularly on Niblick Road, sufficient capacity becomes available to

potentially accommodate the Chandler Ranch project traffic, without having to implement additional improvements to other bridge crossings that may not be feasible.

**TABLE 21A
YEAR 2025 BASE CONDITIONS:
ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE**

Roadway Segment	Capacity Configuration	Year 2025 Base No Project			
		No Charolais Rd. Bridge		W\ Charolais Rd. Bridge	
		Average Daily Traffic (ADT)	LOS	Average Daily Traffic (ADT)	LOS
SR 46E east of US 101	<i>6-Lane Divided Arterial</i>	43,600	C	43,600	C
SR 46E west of Airport Road	<i>6-Lane Divided Arterial</i>	40,700	C	40,700	C
SR 46W west of US 101	2-Lane Collector	7,200	B	7,200	B
US 101 south of SR 46 West	4-Lane Freeway	62,200	B	62,200	B
US 101 north of SR 46 West	4-Lane Freeway	72,000	D	72,000	D
Airport Road north of SR 46 East	2-Lane Collector	7,400	B	7,400	B
Union Road east of Golden Hill Road	<i>2-Lane Divided Arterial</i>	12,200	B	12,200	B
24th Street west of US 101	4-Lane Undivided Arterial	19,300	B	19,300	B
Charolais Road east of River Road	2-Lane Collector	9,500	D	9,500	D
Creston Road east of River Road	4-Lane Undivided Arterial	17,500	A	15,000	A
Creston Road east of US 101	4-Lane Undivided Arterial	28,500	E	25,600	D
Creston Road south of Niblick Road	<i>4-Lane Undivided Arterial</i>	20,800	B	18,000	A
Creston Road west of Rolling Hills Rd	<i>4-Lane Undivided Arterial</i>	18,200	A	18,200	A
Golden Hill Road south of SR 46 East	<i>4-Lane Undivided Arterial</i>	15,700	A	15,700	A
Golden Hill Road south of Union Road	<i>4-Lane Undivided Arterial</i>	19,800	A	19,800	A
Linne Road east of Airport Road	2-Lane Collector	2,000	A	2,000	A
Niblick Road east of US 101	4-Lane Divided Arterial	31,000	D	23,400	C
Niblick Road east of Creston Road	4-Lane Divided Arterial	18,900	A	19,000	A
River Road north of Niblick Road	2-Lane Collector	10,800	D	9,200	C
River Road south of SR 46 East	2-Lane Collector	4,500	A	4,500	A
Union Road east of River Road	2-Lane Collector	7,600	B	7,600	B
Union Road west of Golden Hill Road	2-Lane Collector	6,000	A	6,000	A

Note: *Italicized capacity configurations in the table denote changes from the existing capacity configuration.*

Per the City General Plan, several roadways are either presently in the process of being widened (e.g. Creston Road) or are planned for widening in the future. The roadway classifications shown in italics in Figure 21A are future classifications. With the General Plan improvements, all roadways are projected to operate at acceptable LOS “D” or better at year 2025, with the exception of Creston Road east of US 101. This roadway segment is adjacent to the Salinas River/US 101 overcrossing and is projected to operate at unacceptable LOS “E” without the Charolais Road overcrossing. The roadway segment is projected to operate at acceptable LOS “D” with the Charolais Road overcrossing.

**TABLE 21B
YEAR 2025 BASE PLUS PROJECT CONDITIONS:
ROADWAY TRAFFIC VOLUMES AND LEVELS OF SERVICE**

Roadway Segment	Capacity Configuration	Year 2025 Base Plus Project, no Airport Road/SR 46E Connection				Year 2025 Base Plus Project, with Airport Road/SR 46E Connection			
		No Charolais Rd. Bridge		W\ Charolais Rd. Bridge		No Charolais Rd. Bridge		W\ Charolais Rd. Bridge	
		Average Daily Traffic (ADT)	LOS	Average Daily Traffic (ADT)	LOS	Average Daily Traffic (ADT)	LOS	Average Daily Traffic (ADT)	LOS
SR 46E east of US 101	<i>6-Lane Divided Arterial</i>	46,400	D	46,100	D	47,700	D	47,400	D
SR 46E west of Airport Road	<i>6-Lane Divided Arterial</i>	43,700	C	43,700	C	44,700	D	44,500	D
SR 46W west of US 101	2-Lane Collector	7,500	B	7,500	B	7,500	B	7,500	B
US 101 south of SR 46 West	4-Lane Freeway	66,900	C	66,900	C	67,700	C	67,700	C
US 101 north of SR 46 West	4-Lane Freeway	76,900	D	75,800	D	77,800	D	76,500	D
Airport Road north of SR 46 East	2-Lane Collector	8,500	C	8,500	C	8,700	C	8,700	C
Airport Road south of SR 46 East	<i>4-Lane Divided Arterial</i>	-	-	-	-	26,300	C	26,300	C
Union Road east of Golden Hill Road	<i>2-Lane Divided Arterial</i>	14,600	D	16,500	D	13,600	C	13,700	C
24th Street west of US 101	4-Lane Undivided Arterial	20,100	B	20,100	B	20,600	B	20,600	B
Charolais Road east of River Road	2-Lane Collector	9,500	D	9,500	D	9,500	D	9,500	D
Creston Road east of River Road	4-Lane Undivided Arterial	18,600	B	16,100	A	18,600	B	16,100	A
Creston Road east of US 101	<i>4-Lane Undivided Arterial</i>	30,000	E	26,614	D	30,100	E	26,840	D
Creston Road south of Niblick Road	<i>4-Lane Undivided Arterial</i>	21,100	B	18,300	B	21,300	C	18,500	B
Creston Road west of Rolling Hills Rd	<i>4-Lane Undivided Arterial</i>	19,600	B	19,600	B	19,700	A	19,700	B
Golden Hill Road south of SR 46 East	<i>4-Lane Undivided Arterial</i>	22,400	C	22,200	C	17,100	A	17,000	A
Golden Hill Road south of Union Road	<i>4-Lane Undivided Arterial</i>	25,100	D	23,000	C	21,600	C	21,600	C
Linne Road east of Airport Road	2-Lane Collector	4,800	A	4,800	A	4,900	A	4,900	A
Niblick Road east of US 101	<i>4-Lane Divided Arterial</i>	35,900	E	26,700	C	35,500	E	26,900	C
Niblick Road east of Creston Road	4-Lane Divided Arterial	24,400	B	24,400	B	24,600	B	24,700	B
River Road north of Niblick Road	2-Lane Collector	11,100	D	9,500	D	11,100	D	9,600	D
River Road south of SR 46 East	2-Lane Collector	4,600	A	4,600	A	4,600	A	4,600	A
Union Road east of River Road	2-Lane Collector	8,000	C	8,000	C	8,300	C	8,400	C
Union Road west of Golden Hill Road	2-Lane Collector	6,600	B	6,600	B	7,000	C	7,100	C

Note: *Italicized capacity configurations in the table denote changes from the existing capacity configuration.*

As with the *Year 2025 Base* conditions, several roadways are projected to operate at deficient LOS in year 2025 with the full build-out of the CRASP. The build-out with the City, including CRASP development, and the growth of interregional traffic along the SR 46E corridor at an annual rate of 4.1% is projected to result in Level of Service “D” at year 2025.

Per the City General Plan, several roadways are either presently in the process of being widened (e.g. Creston Road) or are planned for widening in the future. The roadway classifications shown in italics in Figure 21B are future classifications. The construction of the Charolais Road overcrossing is projected to alleviate deficient roadway operations at Niblick Road and Creston Road east of US 101.

YEAR 2025 FREEWAY RAMP OPERATIONS

This section discusses year 2025 US 101 freeway ramp operations. Table 22A provides a summary of year 2025 annual average daily traffic projections on US 101 freeway ramp segments without the proposed project, both with and without the Charolais Road overcrossing. Table 22B provides a summary of year 2025 annual average daily traffic projections on US 101 freeway ramp segments with the proposed project, both with and without the Charolais Road overcrossing.

TABLE 22A
YEAR 2025 BASE CONDITIONS: US 101 RAMP VOLUMES AND LEVELS OF SERVICE

US 101 Count Location	Lanes	No Charolais Rd. Bridge				With Charolais Rd. Bridge			
		Volume (ADT)	Volume (PM Pk)	Density (pc/mi/ln)	LOS	Volume (ADT)	Volume (PM Pk)	Density (pc/mi/ln)	LOS
SR 46E southbound on-ramp	2	14,620	1,637	25.2	C ¹	14,620	1,637	24.2	C ¹
SR 46E northbound off-ramp	2	13,930	1,560	29.4	D	13,930	1,560	28.2	D
Mainline - US 101, south of SR 46E (PM 57.92)	4	45,700	-	-	A	43,700	-	-	A
16th Street southbound off-ramp	1	3,100	347	27.5	C	3,000	336	26.4	C
Mainline - US 101, south of 13th Street (PM 56.88)	4	54,800	6,138	-	B	38,290	4,288	-	A
Spring Street southbound on-ramp	2	13,584	1,521	28.7	D	11,600	1,299	22.0	C
Spring Street northbound off-ramp¹	2	14,490	1,623	48.0	F	12,300	1,378	37.8	E
Mainline - US 101, south of Niblick Road (PM 55.67)	4	78,000	-	-	D	60,700	-	-	B
SR 46W southbound on-ramp¹	1	5,418	607	38.6	F	9,855	1,104	32.6	D
SR 46W southbound off-ramp¹	1	8,143	912	44.8	F	4,073	456	35.3	E
SR 46W northbound on-ramp¹	1	8,976	1,005	44.7	F	4,177	468	30.7	D
SR 46W northbound off-ramp¹	1	5,380	603	44.3	F	9,330	1,045	37.8	E
Mainline - US 101, south of SR 46W (PM 54.12)	4	71,700	-	-	D	70,700	-	-	D

Note: pc/mi/ln – Passenger car / mile / lane

1. Part of the estimated deficiency is attributable to the rolling terrain of the area and short acceleration/deceleration lane lengths

**TABLE 22B
YEAR 2025 BASE PLUS PROJECT CONDITIONS: US 101 RAMP VOLUMES AND LEVELS OF SERVICE**

US 101 Count Location	No Charolais Rd. Bridge					With Charolais Rd. Bridge				
	Lanes	Volume (ADT)	Volume (PM Pk)	Density (pc/mi/ln)	LOS	Volume (ADT)	Volume (PM Pk)	Density (pc/mi/ln)	LOS	
SR 46E southbound on-ramp	2	16,038	1,796	26.5	C ¹	15,871	1,778	24.2	C ¹	
SR 46E northbound off-ramp	2	15,348	1,719	31.1	D	15,306	1,714	29.7	D	
Mainline - US 101, south of SR 46E (PM 57.92)	4	48,536	-	-	A	46,327	-	-	A	
16th Street southbound off-ramp	1	3,136	351	29.1	D	3,036	340	27.8	C	
Mainline - US 101, south of 13th Street (PM 56.88)	4	57,708	6,463	-	A	40,989	4,591	-	A	
Spring Street southbound on-ramp	2	15,575	1,744	31.3	D	13,104	1,468	24.1	C	
Spring Street northbound off-ramp¹	2	16,193	1,814	51.9	F	13,536	1,516	41.0	F	
Mainline - US 101, south of Niblick Road (PM 55.67)	4	84,602	-	-	E	66,139	-	-	C	
SR 46W southbound on-ramp ¹	1	5,418	607	42.1	F	10,364	1,161	40.7	F	
SR 46W southbound off-ramp ¹	1	8,352	935	48.4	F	4,073	456	38.3	E	
SR 46W northbound on-ramp ¹	1	9,166	1,027	48.6	F	4,177	468	39.0	F	
SR 46W northbound off-ramp ¹	1	5,380	603	48.4	F	9,839	1,102	47.5	F	
Mainline - US 101, south of SR 46W (PM 54.12)	4	78,701	-	-	D	77,157	-	-	C	

Note: pc/mi/ln – Passenger car / mile / lane

1. Part of the estimated deficiency is attributable to the rolling terrain of the area and short acceleration/deceleration lane lengths

As shown in Tables 22A and 22B, the merge and diverge ramp operations at the US 101/SR 46W interchange are projected to operate at LOS “D”, while the Spring Street northbound off-ramp is projected to operate at LOS “E”. The mainline US 101 freeway segment south of Niblick Road is also shown to operate at deficient LOS, primarily due to local traffic utilizing the route to access SR 46W and the adjacent shopping center. As observed in previous analyses, part of the estimated deficiency at the ramp junctions is attributable to the rolling terrain of the area and short acceleration/deceleration lane lengths.

MITIGATION COSTS

The following intersections and associated roadways require improvements to mitigate future 2025 traffic conditions to acceptable levels. The locations requiring improvement are as follows:

Intersections

- State Route 46 East/US 101 NB Ramps
- State Route 46 East/US 101 SB Ramps
- State Route 46 East/Buena Vista Drive
- State Route 46 East/Golden Hill Road
- State Route 46 East/Airport Road
- State Route 46 East/Jardine Road
- Union Road/Golden Hill Road
- Creston Road/Rolling Hills Road
- Rolling Hills Road/Golden Hill Road
- Niblick Road/South River Road
- Niblick Road/Creston Road

Roadways

- State Route 46 East east of US 101 to west of Airport Road
- Union Road east of Golden Hill Road to west of Airport Road
- Creston Road west of Rolling Hills Road
- Golden Hill Road south of State Route 46
- Golden Hill Road south of Union Road

Under year 2025 traffic conditions with the Charolais Road overcrossing and with the Chandler Ranch Specific Plan project, General Plan improvements are expected to yield acceptable LOS “D”. The CRASP project will be expected to contribute to these long range improvements.

PROJECT PHASING

Years 2015 and 2020 have been identified by the City and the project proponents as “threshold years”, for which project development thresholds and improvement thresholds were identified. The timing of improvements and development should be coordinated to ensure that project-generated traffic will not exceed available traffic network capacity. At the same time, the project development phasing must also ensure that funding for improvements will be available at the time of their need. However, due to funding and processing constraints, the goal of such timing coordination may not always be possible. Therefore, their priorities and projected threshold years for improvements and their potential to degrade before improvement have been noted in Table 23 with the listed *2025 Base* and *2025 Base Plus Project* traffic network improvements.

**TABLE 23
TRAFFIC NETWORK IMPROVEMENTS**

Roadway Segment	Limits	Improvement	Priority	Approximate Year Of Needed Improvement		Further Degraded LOS Before Improvement
				LOS C	LOS D	
S.R. 46	At U.S. 101	Interchange Modification	1	2005	2005	X
S.R. 46	From east of US 101 interchange to west of Airport Road and from east of Airport Road to Dry Creek Road/Jardine Road	Six-lane Expressway or Four-lane Freeway (Corridor Study)	2	2005	2005	X
S.R. 46	At Airport Road	New Intersection or Interchange	4	2005/2010	2010/2015	
Creston Road	From South River Road to Golden Hill Road	Two Lane to Four Lane Road Widening	5	-	2010	X
Sherwood Road	From Creston Road to Fontana Road	Two Lane to Four Lane Road Widening	11	-	2015	
Union Road	At Golden Hill Road	Round-about Improvements	6	-	2010	
Golden Hill Road	At Rolling Hills Road	Intersection Signal or Round-about	7	-	2010	
Spring Street	At 1 st / Niblick Road	Signal Modification	8	-	2010	
Niblick Road	At South River Road	Intersection Modification	9	-	2010	
Niblick Road	At Creston Road	Intersection Modification	10	-	2010	
Charolais Road	From South River Road to U.S. 101	New Roadway and Four-Lane Bridge Over the Salinas River	12	-	2025	

Facilities projected to have “further degraded LOS before improvement” in Table 23 indicate that those locations where, if CRASP is allowed to start developing, will further degrade before improvements can be accomplished. Consideration to allow CRASP to initiate such development is based on the fact that these are existing deficiencies that are in the process of being funded and designed for improvement.

MITIGATION COSTS AND COST ALLOCATION

With recognition that the proposed Chandler Ranch Specific Plan project will significantly effect projected traffic conditions within the City of Paso Robles and surrounding area as presented in the Traffic Section of the Chandler Ranch Specific Plan EIR, a method to fairly spread the cost of mitigation to the project and other growth within the community needed to be determined. In determining a fair share allocation, a recognition of other potential development within the City needed to be identified along with other potential funding sources which could reduce the overall cost to be funded by new development. The following, therefore, describes a methodology, projected costs for project mitigation and a preliminary allocation and fee estimate for off-site traffic mitigation.

Methodology

In determining an appropriate cost allocation methodology, several goals were desired to be accomplished as follows:

- Needs to be fair, understandable and flexible.
- Needs to be compatible with the City's Citywide Traffic Impact Fee, such that new development does not double pay for transportation mitigation improvements.
- Needs to be adjustable should State and/or Federal grant funding become available.

Also, as understood, the City is in the process of updating their Citywide Traffic Impact Fee. In that the updated fee is not known at this time, nor the proposed transportation improvements and associated costs, the following methodology assumes that this cost allocation to the Chandler Ranch Specific Plan area is based on zero fees are being generated from the Citywide Traffic Impact Fee. Upon when the Citywide Traffic Impact Fee is completed and adopted, for overlapping transportation mitigation improvements between the two programs, the proportional fee collected under the Citywide Traffic Impact Fee program will need to be deducted from this Chandler Ranch cost allocation.

Additionally, under Government Code 66000 (created by AB 1600), new development is not responsible for the correction of existing deficiencies. Traffic operations on SR 46E, particularly at the US 101/SR 46E interchange, currently are at unacceptable levels and are especially poor during summertime months. Participation by the City and potential new development is still, however, in discussion. Therefore, the allocation of costs for SR 46E improvement has been identified and can be charged or eliminated based on the outcome of discussions between the City and Caltrans.

In meeting the goals for this cost allocation methodology, procedures that attempted to track individual shares of off-site traffic mitigation improvements and costs for individual intersections and roadway segments were not considered. The following methodology isolates the traffic improvements necessary to maintain acceptable LOS "D" traffic conditions in the southeast quadrant of the City bounded by US 101 to the west, SR 46E to the north and the City limits both east and south of the City.

The locations requiring mitigation were listed in the previous section.

In determining the "fair share" cost allocation for necessary traffic mitigation measures, although the percentage of Project responsibility could be calculated at individual locations, the administrative ability to collect appropriate funds when each mitigation measure is required, would not be easy. Therefore, the following cost allocation methodology has been established and is described in five steps.

Step 1 – Identify the traffic mitigation improvements within the southeast quadrant of the City to

maintain acceptable LOS “D” conditions at each of the study locations as identified above.

Step 2 – Estimate the feasibility and cost to accomplish each of the traffic mitigation improvements and determine the total off-site traffic mitigation cost for the southeast area of the City.

Step 3 – Identify any potential traffic mitigation improvements that will receive State or Federal grant funding and/or that are included in the existing and/or updated Citywide Traffic Impact Fee program. *(For the purpose of this initial analysis, because the existing traffic impact fees are being updated, zero traffic impact fees have been assumed to be collected for this Project’s required mitigation.)*

From the estimated total improvement costs identified in Step 2, subtract any State/Federal grant funding and/or overlapping improvement costs included in the Citywide Traffic Impact Fee program.

Step 4 – Use the Citywide Traffic Model to determine both the total net new development trip end generation through buildout of the General Plan in the southeast quadrant of the City and the percentage proportion of the Project trip end generation of that total. *(Net new development trip end generation is determined by identifying total buildout trip end generation less existing trip end generation within the southeast quadrant of the City.)*

Apply the percentage of the Project trip end generation to the net total improvement costs after subtraction of State/Federal grant funding and costs covered under the current Citywide fee program. *(Presumed zero for this initial analysis.)* The outcome of this calculation will provide the fair share cost allocation to the Chandler Ranch Specific Plan project.

Step 5 – Upon allocation of cost to the Project, such allocation can then be divided among the Specific Plan land uses based on projected trip end generation. An Equivalent Dwelling Unit (EDU) factor can then be assigned so that as development occurs within the Project, an EDU fee can be paid based on the developed dwelling units and/or square foot of non-residential development.

Based on the above cost allocation methodology, development within the Chandler Ranch Specific Plan project can pay a fair share off-site traffic impact fee as development occurs over time. As fees are collected, priority mitigation improvements can then be constructed to maintain the City’s Level of Service goals.

Mitigation Improvements and Associated Costs

In accordance with the above Step 1 of the Cost Allocation Methodology, the proposed mitigation measures are as described in the mitigation section of this report. For each of the mitigation measures identified, associated costs have been estimated, per Step 2, based on available documentation and bid summary information. These costs should be considered preliminary and should only be used for general budgeting purposes. Where design information was available, it was used as the basis for preliminary cost estimation. Where, however, such design information was not available, broad cost assumptions were utilized to derive “ballpark” cost estimates sufficient for the purposes for this study. Shown on Table 24 is the list of projected off-site mitigation improvements and their associated costs.

**TABLE 24
COST ESTIMATES FOR ROADWAY IMPROVEMENTS**

Roadway Segment	Limits	Improvement	Preliminary Cost Estimate
S.R. 46	At U.S. 101	Westbound SR 46E dual left-turn lanes onto	\$5.9 M
S.R. 46	At U.S. 101	Interchange Modification	\$14.4 M - \$19.8 M
S.R. 46	From east of US 101 interchange to west of Airport Road and from east of Airport Road to Dry Creek Road/Jardine Road	Six-lane Expressway or Four-lane Freeway (Corridor Study)	\$29.0 - \$30.0 M for Expressway \$40.0 - \$50.0 M for Freeway
S.R. 46	At Airport Road	New Intersection or Interchange	\$4.0 - \$5.0 M for Intersection \$18.0 - \$22.0 M* for Interchange
Airport Road	South of S.R. 46E	Huer Huero Bridge	\$3.0 M
Creston Road	From South River Road to Golden Hill Road	Two Lane to Four Lane Road Widening	\$20.0 – \$25.0 M
Sherwood Road	From Creston Road to Fontana Road	Two Lane to Four Lane Road Widening	\$0.25 – \$1.0 M
Union Road	At Golden Hill Road	Round-about Improvements	\$1.5 M
Golden Hill Road	At Rolling Hills Road	Intersection Signal or Round-about	\$0.25 M for Intersection Signal \$0.9 – \$1.1M for Round-about
Spring Street	At 1 st / Niblick Road	Signal Modification	\$0.02
Niblick Road	At South River Road	Intersection Modification	\$0.72 M
Niblick Road	At Creston Road	Intersection Modification	\$1.5 M
Charolais Road	From South River Road to U.S. 101	New Roadway and Bridge Over the Salinas River	\$35M - \$45M
Total			\$153.3 - \$205.4 M

* Preliminary cost estimate dependent on outcome of project study report.

Other Potential Funding

Consistent with Step 3, there is anticipation that some State and/or Federal funding could be available for needed improvements to SR 46E and US 101. Full funding however, is not anticipated and some local funding match will be required. For the purposes of this analysis, no specific Federal or State funding assistance has been assumed. Additionally, the City is in the process of updating their Citywide Traffic Impact Fees. Without knowing the potential outcome of their update process, a zero Citywide Traffic Fee was assumed. With such an assumption, the Specific Plan Traffic Impact Fee will represent the full traffic impact fee obligation for improvements at the study area locations. Other Citywide traffic impact fees may also still be imposed for other circulation improvements within the City.

Cost Allocation

The traffic volumes attributed to the project were calculated on transportation facilities impacted by the project and that required mitigation. Consistent with the project trip generation (Table 8B), pass-by factors were assumed in calculating overall trip generation, depending on the type of land use. A further pass-by reduction was taken along SR 46E, where 33 percent of the CRASP traffic was considered “link-diverted” from traffic that was either existing or projected without the project. This pass-by reduction was applied to the peak hour non-residential traffic volumes only, as the amount of trip diversion was expected to be

substantially less on a daily basis. Table 25 provides the CRASP cost allocation summary for each of the main circulation components for determining a fair share traffic fee, which is also restated in the following:

**TABLE 25
CRASP COST ALLOCATION**

Improvement	CRASP Trips	Total Trips ¹	Less Existing Trips ¹	Net New Trips	CRASP % of Net New Trips ¹	Cost of Improvement	CRASP Allocation of Net New Trips
Corridor Improvements (Daily trips)							
SR 46 East Corridor Improvements (Expressway)*	3,100	47,700 (58,400)	23,000 (28,200)	24,700 (30,200)	10%	\$29.0m	\$3.0m
SR 46 East Corridor Improvements (Freeway)*						\$30.0m	\$3.1m
						\$40.0m	\$4.1m
Airport Road south of SR 46 East	7,200	26,300	3,700	22,600	100%	\$3.0m	\$3.0m
Sherwood Rd. Corridor Improvements	5,700	24,800	11,900	12,900	46%	\$.25m	\$0.12m
						\$1.0m	\$0.46m
Creston Rd. Corridor Improvements	1,700	29,100	18,500	10,600		\$20.0m	-
						\$25.0m	-
Niblick Rd. Corridor Improvements	3,500	29,500	26,000	3,500			
Spring Street / 1 st / Niblick Rd. Intersection Improvements	-	-	-	-		\$.02m	-
Niblick Rd. / S. River Rd. Intersection Improvements	-	-	-	-		\$.72m	-
Niblick Rd. / Creston Rd. Intersection Improvements	-	-	-	-		\$1.5m	-
Charolais Road Overcrossing Extension	1,300	19,400	0	19,400		\$35.0m	-
						\$45.0m	-
East-West Cross-City Connection	6,500	78,000	44,500	33,500	19%	\$57.2m	\$11.1m
						\$72.2m	\$14.0m
Intersection Improvements (Peak hour trips)							
US 101/ SR 46 East Interchange - Westbound dual left-turn lanes*	399	5,725 (7,013)	3,098 (3,795)	2,627 (3,218)	12%	\$5.9m	\$0.7m
US 101/ SR 46 East Interchange*						\$14.4m	\$1.8m
						\$19.8m	\$2.5m
Airport Rd./SR 46 East Intersection**	762	5,098 (6,245)	2,156 (2,641)	2,942 (3,604)	21%	\$4.0m	\$0.8m
						\$5.0m	\$1.1m
Airport Rd. / SR 46 East Interchange**						\$18.0m	\$3.8m
						\$22.0m	\$4.7m
Union Rd. / Golden Hill Rd. Intersection Improvements	280	2,922	1,565	1,357	21%	\$1.5m	\$0.31m
Rolling Hills Rd. / Golden Hill Rd. Intersection Improvements	90	1,805	1,026	779	12%	\$.25m	\$0.03m
						\$1.1m	\$0.13m
Total						\$115.5m	\$20.9m
						\$176.5m	\$30.9m

*Assume additional 33% pass-by reduction on State Route 46 East for commercial/retail development.

** The ultimate improvement for this location is an interchange for which the CRASP area will benefit. The intersection is only an interim improvement that will allow the CRASP area to start development sooner, rather than later.

1. Per Caltrans' Guide for the Preparation of Traffic Impact Studies, Methodology for Calculating Equitable Mitigation Costs, truck traffic should be converted to passenger car equivalents before computing project fair share. The SR 46E corridor currently carries 15% trucks between US 101 and Airport Road. Per Highway Capacity Manual methodology, one truck has a Passenger Car Equivalent value of 1.5 on level terrain. The unadjusted value is not enclosed in parenthesis; the Passenger Car Equivalent-adjusted value is enclosed in parenthesis. CRASP fair share is computed from the Passenger Car Equivalent-adjusted increase in traffic, which is consistent with Caltrans' Guide for the Preparation of Traffic Impact Studies, Methodology for Calculating Equitable Mitigation Costs.

- **Fair Share of US 101/SR 46 East Interchange**

Based on the projected CRASP traffic through this interchange, 12 percent of the estimated \$5.9 million to add westbound dual left turn lanes on SR 46E through the interchange (interim) or \$14.4 to \$19.8 million to modify the interchange with a westbound to southbound flyover (long term) would result in an assignment of \$0.7 million to CRASP for the interim improvement and \$1.8 to \$2.5 million for the ultimate improvement based on net new trips.

- **Fair Share of State Route 46 East Corridor Improvements**

In accordance to the Freeway Agreement of 1964 between Caltrans and the City of Paso Robles, improvements of SR 46E to freeway standards from and including the US 101 interchange to, but not including Airport Road were to be funded by Caltrans. However, based on projected CRASP traffic along this corridor west of the US 101 interchange, and presuming widening to a six lane expressway, if the Project were to participate, 10 percent of the estimated \$29 to \$30 million would result in an assignment of \$3 to \$3.1 million to CRASP based on net new trips. Presuming widening to a four-lane freeway, 10 percent of the estimated \$40 to \$50 million would result in an assignment of \$4.1 to \$5.1 million to CRASP based on net new trips.

- **Fair Share of Airport Road/State Route 46 East Intersection/Interchange Improvements**

Based on projected CRASP traffic through this proposed intersection/interchange, including the southerly extension of Airport Road across Huer Huero Creek, 21 percent of the estimated \$4 million intersection or \$22 million interchange would result in an assignment of \$0.8 million or \$4.7 million, respectively, to CRASP.

- **Fair Share of Airport Road south of SR 46 East**

The primary reason for the extension of Airport Road south of SR 46 East is to support the CRASP area development. With however, the improvement, existing City traffic and future traffic from County lands could also use the new facility and benefit. Because other roadway users may benefit, some of whom already either exist in the City or in the County, from which a City fee could not be collected, 100 percent of the financing for this southerly extension of Airport Road to Union Road over the Huer Huero Creek has been assigned to the CRASP area.

- **Fair Share of East-West Cross City Connections**

Based on projected CRASP traffic through the major street system spanning across the Salinas River and US 101, 19 percent of the estimated \$57.2 to \$72.2 million for mitigation improvements within the area would result in an assignment of \$11.1 to \$14.1 million to CRASP on net new trips. The cost of these improvements includes the construction of the Charolais Road overcrossing and Niblick Road and Creston Road improvements.

Based on the above assignment of total cost allocation to the CRASP area, a cost reasonably attributable to the project is \$20.9 million. Shown on Table 26 is a summary of potential traffic impact fees to CRASP land uses based on the \$20.9 million assigned to the area based on their share of net new trips.

**TABLE 26
CITY OF PASO ROBLES CHANDLER RANCH AREA SPECIFIC PLAN TRAFFIC FEE, SPREAD BY ACTIVITY**

Land Use Activity	New Development	Units	ITE-based Daily Trip Generation Rate ¹ per Unit	Pass-by Adjustment Factor ²	Trip Causality Factor ³	Daily Trip Generation	Percentage Share of Daily Trips	Collected Fees	Fee per Unit
Single Family	1,187	DUs	9.57	100%	110%	12,496	62.23%	\$13,004,848	\$10,956
Multiple Family	252	DUs	6.72	100%	110%	1,863	9.28%	\$1,938,708	\$7,693
Shopping Center	73	KSF	42.94	60%	70%	1,317	6.56%	\$1,370,201	\$18,770
Fast Food Restaurant	3.5	KSF	496.12	60%	70%	729	3.63%	\$759,021	\$216,863
High-turnover Restaurant	11	KSF	127.15	80%	70%	783	3.90%	\$815,168	\$74,106
Quality Restaurant	5	KSF	89.95	80%	70%	252	1.25%	\$262,125	\$52,425
Bank	4	KSF	156.48	75%	70%	329	1.64%	\$342,002	\$85,500
Gasoline/Service Station	8	Pumps	162.78	20%	70%	182	0.91%	\$189,744	\$23,718
Industrial	131	KSF	6.69	100%	110%	964	4.80%	\$1,003,321	\$7,659
Office	51	KSF	11.01	100%	110%	618	3.08%	\$642,836	\$12,605
Recreational	21.8	KSF	22.88	100%	110%	549	2.73%	\$571,025	\$26,194
Total Trips						20,081	100.00%		
Total Cost of Improvements								\$20,899,000	

Source: OMNI-MEANS, Ltd.

- Notes:
1. Daily trip-ends for which this category is a source on destination
 2. Pass-by trip reduction of 40% was applied against retail trip generation. For SR 46E travel, a separate 33% of CRASP traffic was assumed to be a diversion of existing and projected traffic on SR 46E to US 101.
 3. Trip Causality Factor represents responsibility for all primary trip generating land use trips to trip attracting land uses assigned to trip generation land uses.

APPENDICES

Appendix A - Final Summary of Meeting between City of Paso Robles
and Caltrans, February 9, 2005 (Available Under Separate Cover)

Appendix B - Memorandum – July 9, 2004 Chandler Ranch Area Specific Plan
Transportation Improvement Cost Estimates (Available Under Separate Cover)

Appendix C - Level Of Service Worksheets (Available Under Separate Cover)

Appendix D - Peak Hour Volume (Warrant 3) Worksheets (Available Under Separate Cover)

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