



## 5.1 TRAFFIC AND CIRCULATION

This section is based upon the *Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis* (October 10, 2006) prepared by Urban Crossroads, which is included as [Appendix 15.3, \*Traffic Impact Analysis\*](#). The purpose of the *Traffic Impact Analysis* is to evaluate development of the proposed Project from a traffic and circulation standpoint. The evaluation considers impacts on local roadways and intersections, as well as regional transportation facilities. Mitigation measures are recommended, if necessary, to avoid or reduce project impacts on traffic and circulation.

The following traffic analysis scenarios are evaluated in this study:

- ◆ 2006 Existing Conditions;
- ◆ 2030 Horizon Year Without Project Conditions (Without SR-62 Realignment); and
- ◆ 2030 Horizon Year With Project Conditions (With SR-62 Realignment).

The preparation of this traffic impact analysis is in conformance with the requirements of the San Bernardino County Congestion Management Program (CMP).

### 5.1.1 EXISTING SETTING

#### **ANALYSIS METHODOLOGIES**

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with the San Bernardino County Congestion Management Program (CMP). Both the overall methodologies used to develop future traffic volume forecasts, and the explicit traffic operations analysis methodologies, are summarized below.

#### **Overall Analysis Methodology**

Traffic conditions are evaluated in this report for both existing conditions and two future horizon year conditions. Urban Crossroads conducted the actual traffic counts to quantify existing traffic conditions. At the direction of the CMP, the analysis considers the weekday AM and PM peak hours of traffic.

The refined future peak hour forecasts are developed in a manner consistent with the National Cooperative Highway Research Program (NCHRP Report 255), using the collected existing peak-hour data. The recommended post-processing procedure is described in [Appendix 15.3](#).

The Morongo Basin Transportation Model (MBTM) has been reviewed to evaluate the representation of other planned development projects within the Town of Yucca Valley. The other development projects include the Mountain Vista at Western Hills



Ranch residential development, the Yucca Valley Retail Center, the K-Mart Reuse project, the Home Depot project, and several other projects; refer to [Section 4.0, Cumulative Projects](#).

The growth in socio-economic data (SED) between the baseline and horizon years for the traffic analysis zones (TAZs) containing these respective projects was assessed and modified to ensure proper representation of the planned development projects in the MBTM.

The TAZ structure for the MBTM has been reviewed within the Old Town Specific Plan Area (SPA). The initial TAZ structure for the MBTM has the same TAZ boundaries as the current San Bernardino Associated Governments (SANBAG) model. Under the initial structure, a total of ten TAZs comprise the Old Town SPA (as well as a portion of the surrounding area). These TAZs have been subdivided into 52 TAZs, 44 of which represent the Old Town SPA in its entirety, to better represent the proposed land use patterns and circulation features (including the SR-62 realignment) for the proposed Project under 2030 Horizon Year With Project conditions. This refined TAZ structure was then adopted for both the Existing (baseline) and 2030 Horizon Year Without Project conditions, so that a comparison of the Old Town SPA traffic characteristics across analysis conditions would yield meaningful results.

The traffic volume projections for the 2030 Horizon Year With Project condition were estimated via the MBTM. Given that there are existing land uses in the Old Town SPA that generate traffic, the proposed Old Town SPA Project trips are not the total trips resulting from the planned land uses, but rather the difference between the future trips and the existing trips. The net Project trips have been calculated by subtracting the trips generated in the SPA under Existing (baseline) conditions from the trips projected to be generated by the SPA under 2030 Horizon Year With Project conditions. A select zone (trip distribution) analysis for the proposed Specific Plan development was then performed using the MBTM under 2030 Horizon Year With Project conditions. The Project only traffic forecasts have been generated by applying the net Project trip generation, distribution, and traffic assignment calculations.

The 2030 Horizon Year Without Project traffic volumes have also been derived from the MBTM. As stated previously, the TAZ structure for the Old Town SPA has been subdivided in the same manner for all analysis conditions. The land uses proposed in the currently adopted Town of Yucca Valley General Plan for the area were used to replace the regional SED presently included in the model. The roadway network structure, however, was not changed to include the realignment of SR-62, and therefore is the same as the structure under Existing (baseline) conditions.

Flow conservation checks and forecast adjustments were performed as necessary to ensure that all future 2030 Horizon Year traffic volume forecasts are reasonable. The result of this traffic forecasting procedure is a series of traffic volumes suitable for traffic operations analysis.



## **Traffic Operations Analysis**

The current technical guide to the evaluation of traffic operations is the *2000 Highway Capacity Manual* (HCM) (Transportation Research Board Special Report 209). The HCM defines level of service as a qualitative measure, which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate Level of Service (LOS) conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted.

The definitions of level of service for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The level of service is typically dependent on the quality of traffic flow at the intersections along a roadway. The HCM methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control. The levels of service determined in this study are calculated using the HCM methodology.

For signalized intersections, average stopped delay per vehicle for the overall intersection is used to determine level of service. Levels of service at signalized study intersections have been evaluated using an HCM intersection analysis program.

For all way stop (AWS) controlled intersections, the ability of vehicles to enter the intersection is not controlled by the occurrence of gaps in the traffic flow along the major street. The AWS controlled intersection has been evaluated using the HCM methodology for this type of multi-way stop controlled intersection configuration. The level of service for this type of intersection analysis is also based on average stopped delay per vehicle for the overall intersection.

Study area intersections, which are stop sign controlled with stop-control on the minor street only (cross street stop [CSS]), have been analyzed using the two-way stop-controlled unsignalized intersection methodology of the HCM. For these intersections, the calculation of level of service is dependent on the occurrence of gaps occurring in the traffic flow along the major street.

The level of service has been calculated using data collected describing the intersection configuration and traffic volumes at signalized locations to calculate average intersection delay. The level of service for unsignalized intersections with stop control on the minor street is based on the stopped delay per vehicle for the worst minor street movement(s).

The levels of service are defined in [Table 5.1-1, \*Level of Service Definitions\*](#), in terms of average delay for the intersection analysis methodology as follows:



**Table 5.1-1  
Level of Service Definitions**

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

Per CMP guidelines, signalized intersections are considered deficient (LOS “F”) if the overall intersection critical volume-to-capacity (*V/C*) ratio exceeds 1.0, even if the level of service defined by the delay value is below the defined LOS standard. The *V/C* ratio is defined as the critical volumes divided by the intersection capacity. A *V/C* ratio greater than 1.0 implies an infinite queue.

A level of service analysis must be conducted on all existing segments and intersections on the CMP network potentially impacted by the project or plan (as defined by the thresholds in Section 1B of the 2005 San Bernardino CMP). Urban segments (i.e., segments on roadways that are generally signalized) do not require segment analysis. Segment requirements can normally be determined by the analysis of lane requirements at intersections.

The LOS analysis for signalized intersections has been performed using optimized signal timing. This analysis has included an assumed lost time of two seconds per phase in accordance with San Bernardino CMP recommended default values. Signal timing optimization has considered pedestrian safety and signal coordination requirements. Appropriate time for pedestrian crossings has also been considered in the signalized intersection analysis.

The following formula has been used to calculate the pedestrian minimum times for all HCM runs, pursuant to the 2003 Manual of Uniform Traffic Control Devices (MUTCD):

$$[(\text{Curb-to-Curb distance}) / (4 \text{ feet/second})] + 5 \text{ seconds}]$$

Saturation flow rates of 1,800 vehicles per hour of green (vphg) for through and right-turn lanes and 1,700 vphg for single left-turn lanes, 1,600 vphg per lane for dual left-turn lanes, and 1,500 vphg per lane for triple left-turn lanes have been assumed for all capacity analysis under 2006 Existing conditions. Under 2030 Horizon Year conditions, saturation flow rates of 1,900 vphg for through and right-turn lanes and 1,800 vphg for single left-turn lanes, 1,700 vphg per lane for dual left-turn lanes, and 1,600 vphg per lane for triple left-turn lanes have been assumed. These are the default values recommended by the CMP guidelines.



As required by the San Bernardino CMP, the peak-hour traffic volumes have been adjusted to peak 15 minute volumes for analysis purposes using the existing observed peak 15 minute to peak hour factors for all scenarios analyzed. Where feasible improvements, in accordance with the local jurisdiction's General Plan, which result in acceptable operations cannot be identified, the 2030 peak-hour factor has been adjusted upwards to 0.95. This is specifically allowed in the San Bernardino CMP guidelines to account for the effects of congestion on peak spreading under future year conditions. Peak spreading refers to the tendency of traffic to spread more evenly across time as congestion increases.

## **EXISTING ROADWAY SYSTEM AND DAILY TRAFFIC VOLUMES**

### **Study Area**

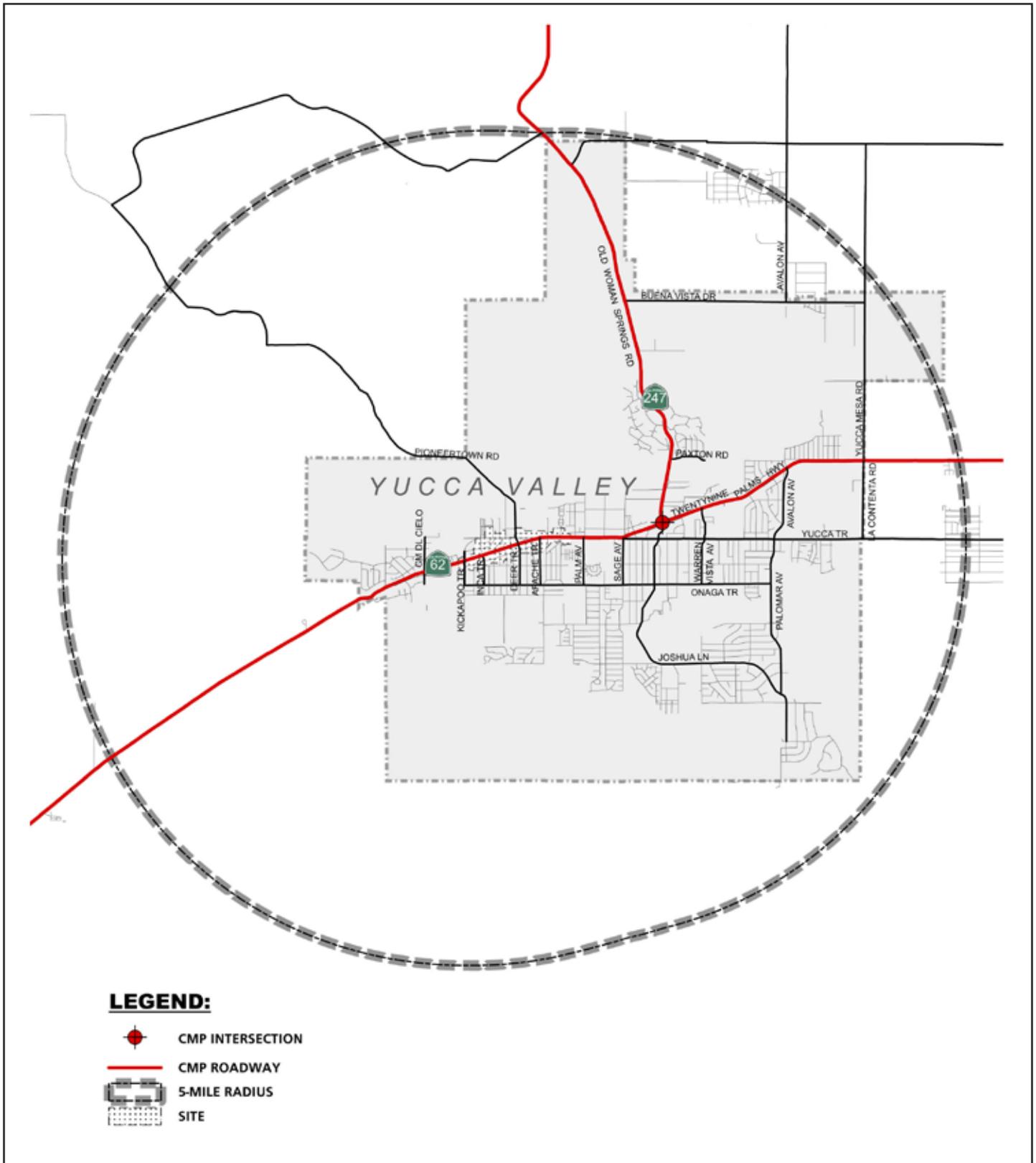
The overall study area evaluated in this traffic impact analysis is illustrated on Exhibit 5.1-1, *San Bernardino County Network*, which also identifies all CMP roadways within the study area. The roadway elements, which must be analyzed in accordance with CMP requirements, are dependent on both the analysis year (project Interim Year or CMP Horizon Year) and project-generated traffic volumes.

Twentynine Palms Highway (SR-62) and Old Woman Springs Road (SR-247) provide regional access to the site. Various arterial roadways in the vicinity of the Project area provide local access. The local arterials which would be most affected by the proposed Project include Yucca Trail, Pioneertown Road/Deer Trail, Santa Fe Trail, Kickapoo Trail, and Acoma Trail.

A series of scoping discussions were conducted with Town of Yucca Valley staff in order to define the desired (local agency required) analysis locations for existing and future analysis conditions. The 2030 Horizon Year analysis locations required by the CMP can only be determined once the project 2030 project-related traffic volumes have been developed. This information will be presented in subsequent sections of this report.

The number of through travel lanes for existing roadways and existing intersection controls within the study area are presented on Exhibit 5.1-2, *Number of Through Lanes and Intersection Controls – Existing*. Roadway median treatments are also depicted on Exhibit 5.1-2. A divided roadway has a median that is either painted or physically separated (raised concrete island or curbs). Exhibit 5.1-3, *Average Daily Traffic – Existing*, depicts the current average daily traffic (ADT) volumes in the study area. Existing ADT volumes have been obtained from the latest automatic traffic recorder counts (see Appendix 15.3) or have been estimated by factoring up peak hour counts conducted for Urban Crossroads using the following formula for each intersection leg:

$$[(AM \text{ Peak Hour} + PM \text{ Peak Hour Intersection } L_{eg} \text{ Volumes}) / (6.2\% + 7.9\%) = (\text{Daily } L_{eg} \text{ Volume})]$$



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE

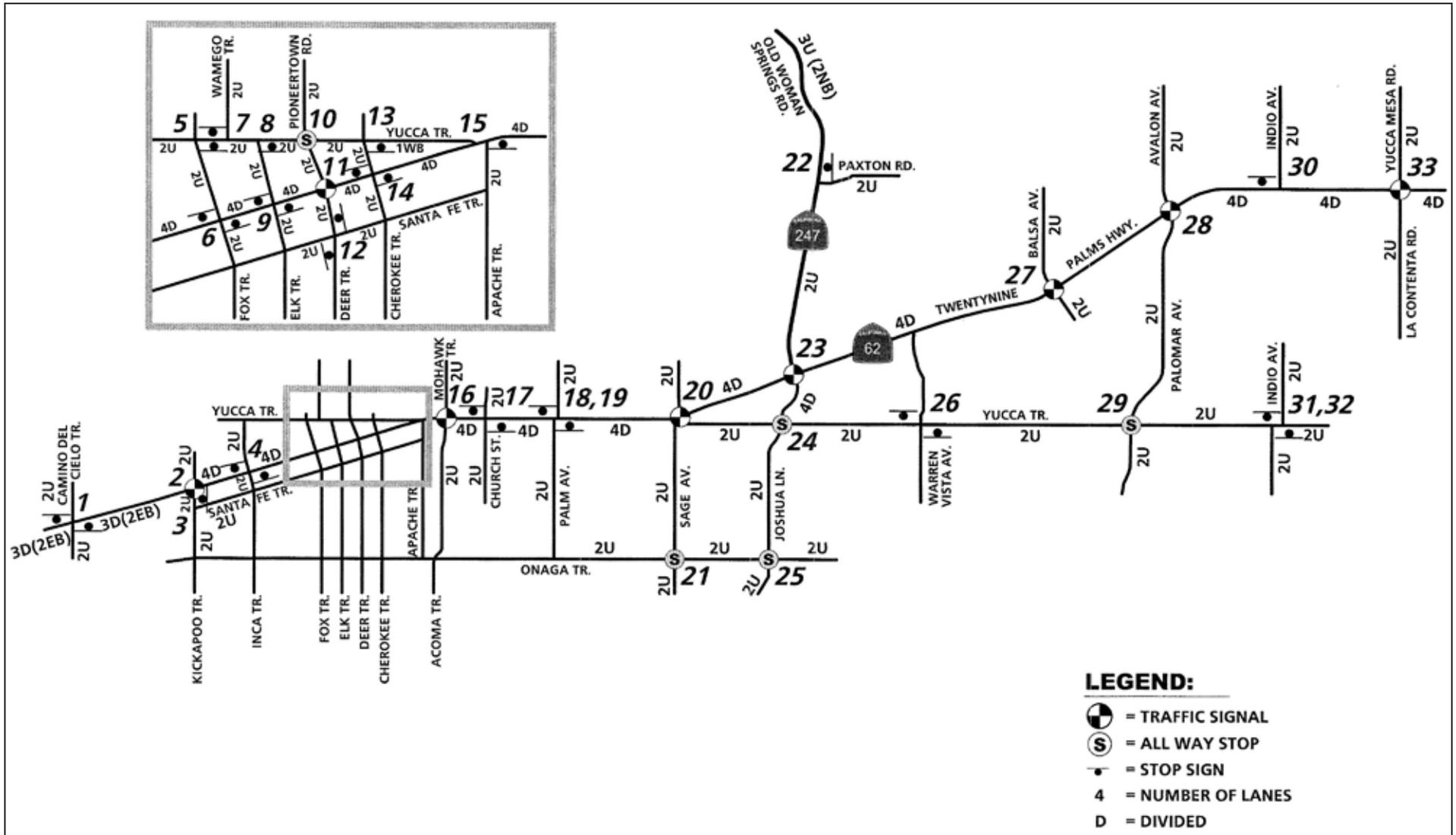


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# San Bernardino County Network

Exhibit 5.1-1



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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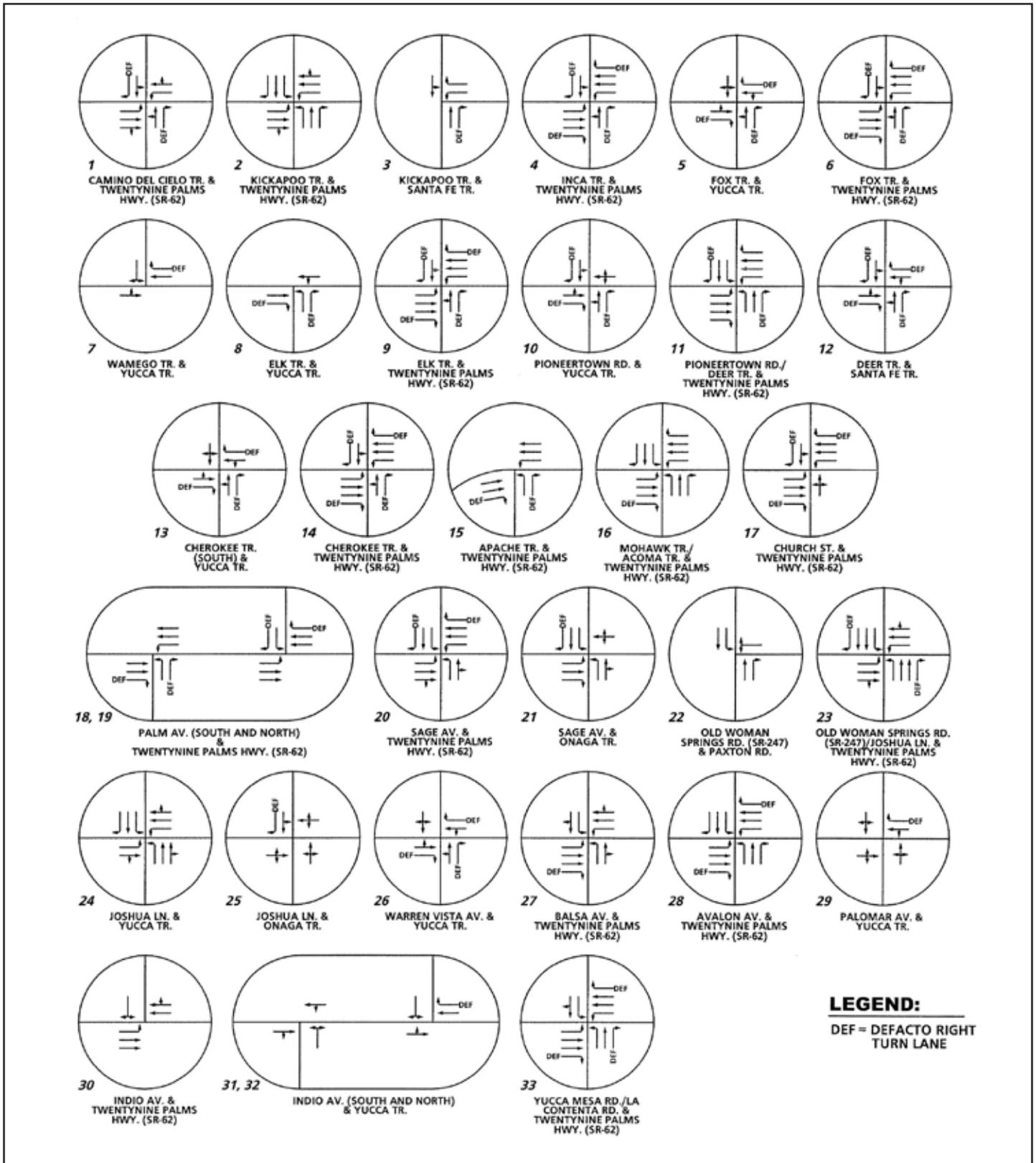


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## Number of Through Lanes and Intersection Controls - Existing

Exhibit 5.1-2a



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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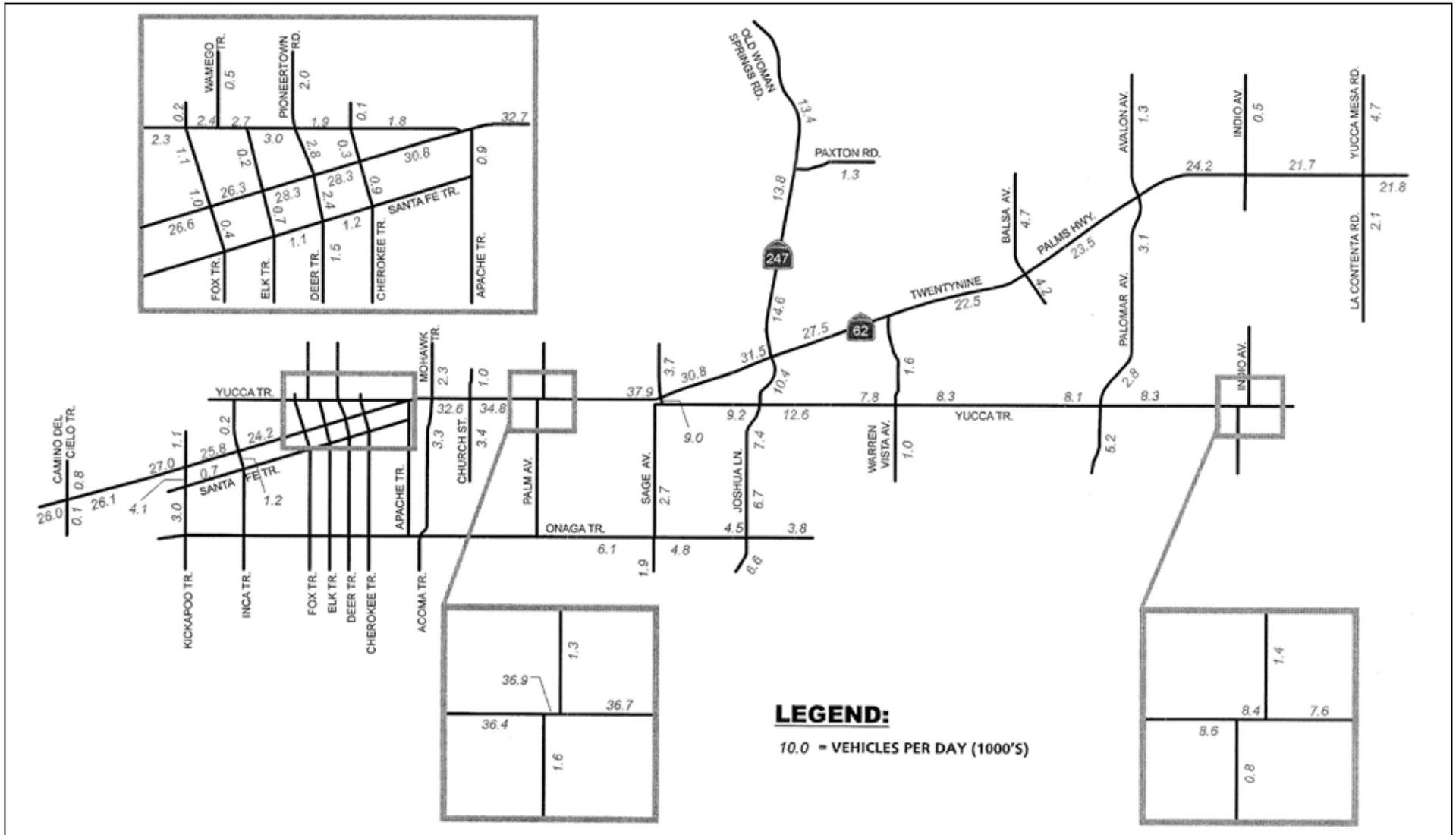


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## Number of Through Lanes and Intersection Controls - Existing

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Exhibit 5.1-2b



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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**Average Daily Traffic - Existing**

**Exhibit 5.1-3**



In the above formula, the constants of 6.2 percent and 7.9 percent are calculated AM and PM Peak Hour to ADT ratios based on the actual count data collected and included in [Appendix 15.3](#). Daily traffic volumes in the study area range from less than 1,000 vehicles per day (VPD) to a maximum volume of 37,900 VPD on SR-62 (west of Sage Avenue). The daily traffic volumes on SR-62 range between 21,700 VPD (east of Indio Avenue) to the previously mentioned maximum of 37,900 VPD. Old Woman Springs Road and Joshua Tree Lane are the only other roadways in the study area that carry daily traffic volumes in excess of 10,000 VPD under existing conditions.

### **Major Roadways**

The characteristics of the major roadways in the vicinity of the Project area are described below:

- ◆ Twentynine Palms Highway/State Route 62 (SR-62) is a four-lane divided roadway from Kickapoo Trail throughout the Old Town area and surrounding study area to the east. West of Kickapoo Trail, SR-62 transitions to a three-lane divided facility with two through lanes eastbound and one through lane westbound. SR-62 provides regional access to the Project area.
- ◆ Yucca Trail is a four-lane east-west roadway, designated by the General Plan as an Industrial roadway; on-street parking is prohibited.
- ◆ Onaga Trail is a two-lane undivided roadway. On-street parking is permitted.
- ◆ Kickapoo Trail is a two-lane undivided roadway, which is designated as a two-lane Collector roadway between Yucca Trail and Santa Fe Trail, and a four-lane Collector roadway between Santa Fe Trail and Onaga Trail.
- ◆ Pioneertown Road/Deer Trail is a two-lane undivided roadway, which is designated as four-lane Collector roadway from the Town boundary to Onaga Trail; on-street parking is permitted south of Yucca Trail.
- ◆ Acoma Trail is a two-lane undivided roadway, which is designated as a four-lane Collector roadway south of Twentynine Palms Highway (SR-62).
- ◆ Santa Fe Trail is a two-lane undivided roadway, which is designated as a four-lane Collector roadway between Kickapoo Trail and Acoma Trail.
- ◆ Joshua Tree Lane south of Twentynine Palms Highway (SR-62) is a four-lane divided roadway, which is designated as a four-lane Divided Arterial; on-street parking is prohibited.

### **Study Intersections**

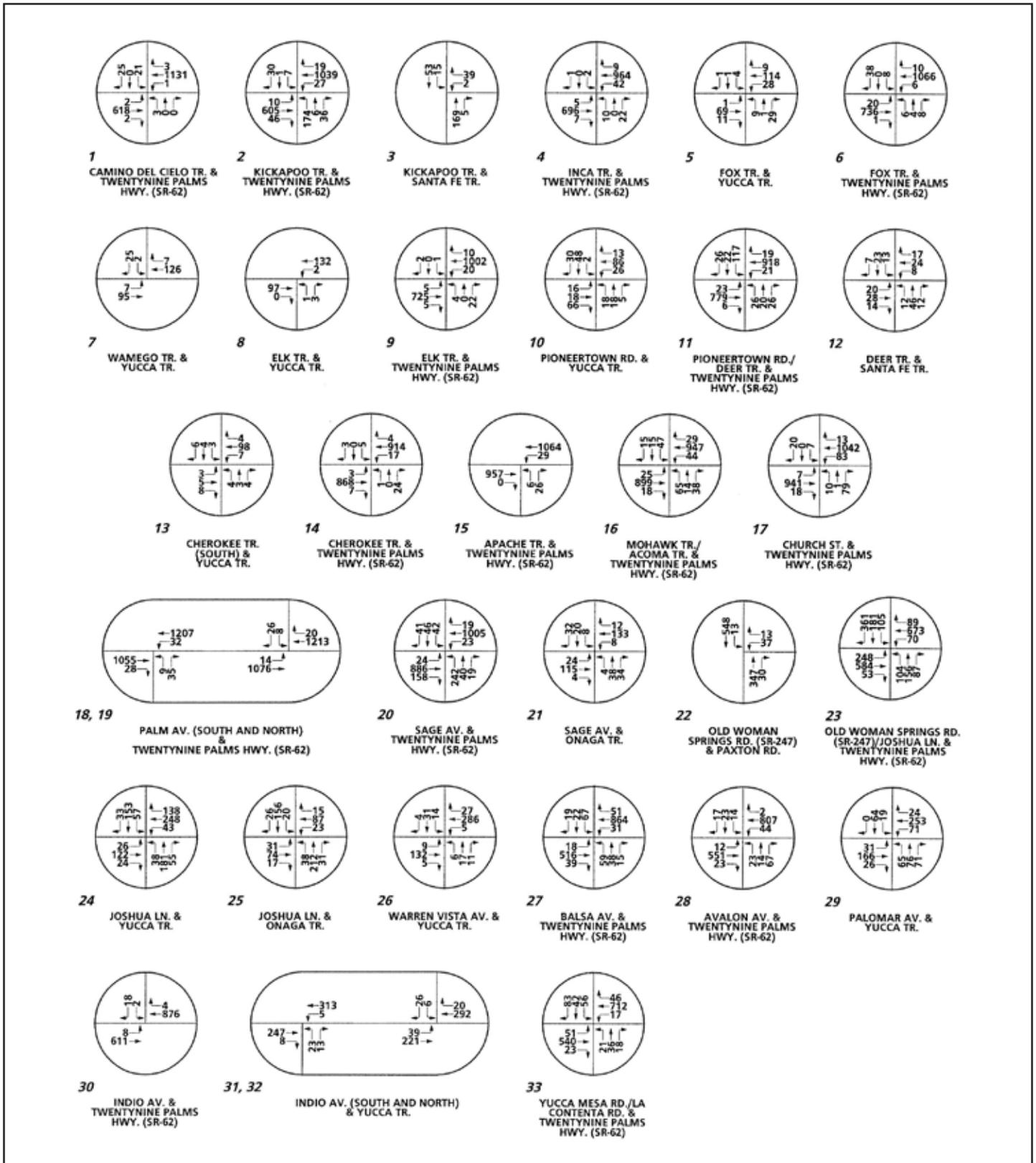
The Town of Yucca Valley (Town) has identified the following 33 intersections for analysis in this study, based on the roadways that would carry most of the Project-generated traffic. These intersections (shown on [Exhibit 5.1-2](#)) are as follows:



- ◆ Camino del Cielo/Twenty-nine Palms Highway (SR-62);
- ◆ Kickapoo Trail/Twenty-nine Palms Highway (SR-62);
- ◆ Kickapoo Trail/Santa Fe Trail;
- ◆ Inca Trail/Twenty-nine Palms Highway (SR-62);
- ◆ Fox Trail/Yucca Trail;
- ◆ Fox Trail/Twenty-nine Palms Highway (SR-62);
- ◆ Wamego Trail/Yucca Trail;
- ◆ Elk Trail/Yucca Trail;
- ◆ Elk Trail/Twenty-nine Palms Highway (SR-62);
- ◆ Pioneertown Road/Yucca Trail;
- ◆ Pioneertown Road, Deer Trail/ Twenty-nine Palms Highway (SR-62);
- ◆ Deer Trail/Santa Fe Trail;
- ◆ Cherokee Trail/Yucca Trail;
- ◆ Cherokee Trail/Twenty-nine Palms Highway (SR-62);
- ◆ Apache Trail/Twenty-nine Palms Highway (SR-62);
- ◆ Acoma Trail/Twenty-nine Palms Highway (SR-62);
- ◆ Church Street/Twenty-nine Palms Highway (SR-62);
- ◆ Palm Avenue (South)/Twenty-nine Palms Highway (SR-62);
- ◆ Palm Avenue (North)/Twenty-nine Palms Highway (SR-62);
- ◆ Sage Avenue/Twenty-nine Palms Highway (SR-62);
- ◆ Sage Avenue/Onaga Trail;
- ◆ Old Woman Springs Road (SR-247)/Paxton Road;
- ◆ Old Woman Springs Road (SR-247), Joshua Tree Lane/Twenty-nine Palms Highway (SR-62);
- ◆ Joshua Tree Lane/Yucca Trail;
- ◆ Joshua Tree Lane/Onaga Trail;
- ◆ Warren Vista Avenue/Yucca Trail;
- ◆ Balsa Avenue/Twenty-nine Palms Highway (SR-62);
- ◆ Avalon Avenue/Twenty-nine Palms Highway (SR-62);
- ◆ Palomar Avenue/Yucca Trail;
- ◆ Indio Avenue/Twenty-nine Palms Highway (SR-62);
- ◆ Indio Avenue(South)/Yucca Trail;
- ◆ Indio Avenue(North)/Yucca Trail; and
- ◆ Yucca Mesa Road, La Contenta Road/Twenty-nine Palms Highway (SR-62).

## **EXISTING PEAK-HOUR TRAFFIC VOLUMES**

The existing AM and PM peak-hour intersection turning movement volumes are presented on Exhibit 5.1-4, *AM Peak Hour Intersection Volumes – Existing*, and Exhibit 5.1-5, *PM Peak Hour Intersection Volumes – Existing*, respectively. The peak-hour volumes in the study area exhibit the same types of trends (in terms of magnitude) described for daily traffic volumes. Peak-hour directional flows are generally balanced along SR-62 from Cherokee Trail to the east. A greater imbalance occurs at the western portion of the study area, with a predominant westbound flow in the morning peak hour, mirrored by a predominant (although less imbalanced) eastbound flow in the evening peak hour.



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE

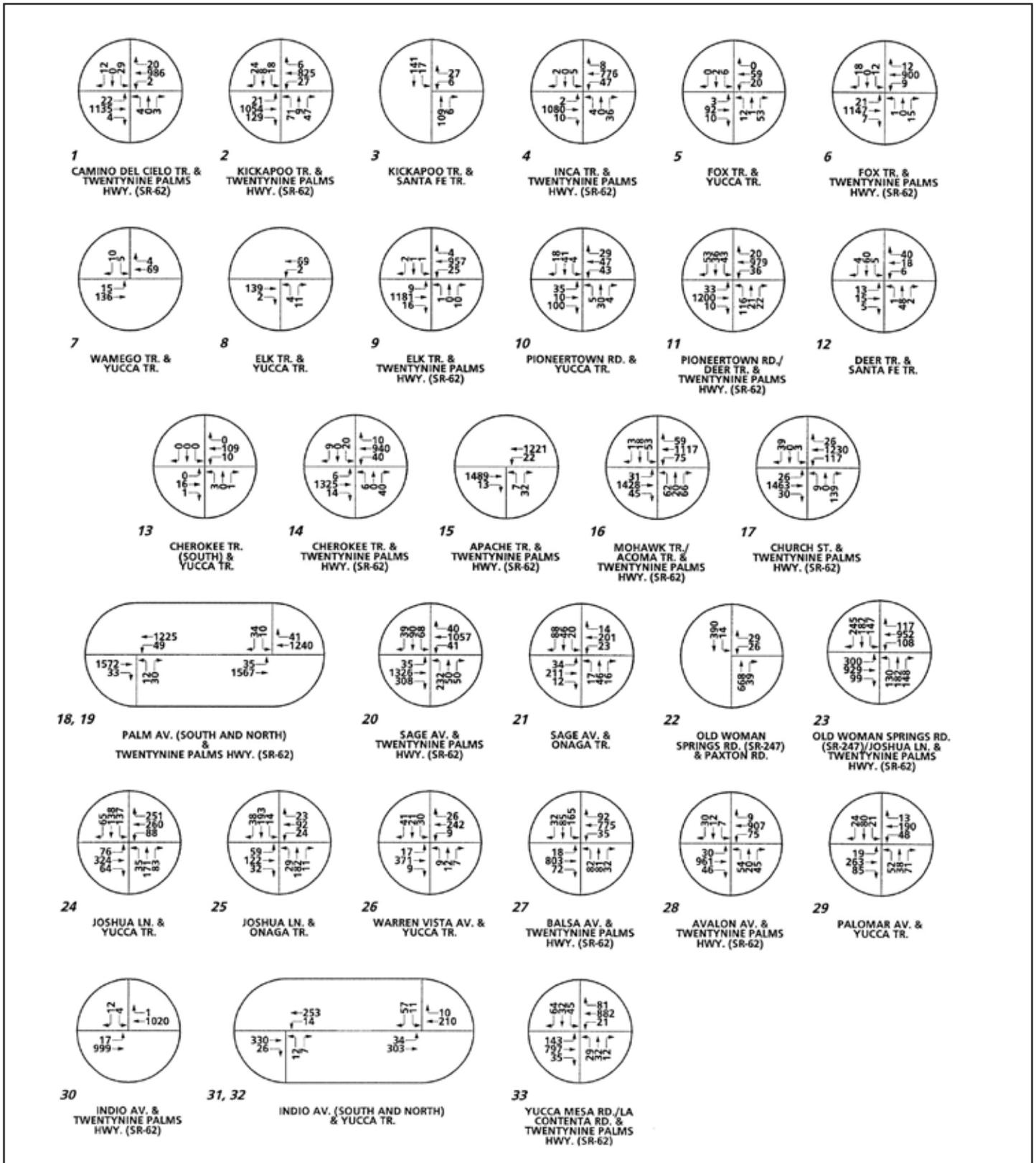


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## AM Peak Hour Intersection Volumes - Existing

Exhibit 5.1-4



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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# PM Peak Hour Intersection Volumes - Existing

Exhibit 5.1-5



Existing intersection level of service calculations are based upon manual AM and PM peak-hour turning movement counts conducted specifically for Urban Crossroads (traffic count worksheets are included in [Appendix 15.3](#)). The AM peak-hour traffic volumes were determined by counting the two-hour period from 7:00 AM to 9:00 AM on a typical weekday. Similarly, counting the two-hour period from 4:00 PM to 6:00 PM on a typical weekday identified the PM peak-hour traffic volumes. Per Town direction, the counts include the vehicle classification as shown below per the requirements of SANBAG and the San Bernardino CMP.

- ◆ Passenger cars;
- ◆ Buses/recreational vehicles (2-axle);
- ◆ 3-axle heavy vehicles; and
- ◆ 4+-axle heavy vehicles.

The overall existing count volumes illustrated on the exhibits and used for the analysis for the study are calculated passenger car equivalent (PCE) volumes. Explicit peak-hour factors have been calculated using the data collected for this effort as well.

### **EXISTING TRAFFIC OPERATIONS**

Existing peak-hour traffic operations have been evaluated for both the AM and PM peak hours of traffic at the study area intersections. The results of this analysis are summarized in [Table 5.1-2, \*Intersection Analysis – Existing\*](#), along with the existing intersection geometrics and control devices at each analysis location.

**Table 5.1-2**  
**Intersection Analysis – Existing**

Study Intersection	AM Peak Hour			PM Peak Hour	
	Traffic Control <sup>1</sup>	Delay <sup>2</sup> (seconds)	LOS	Delay <sup>2</sup> (seconds)	LOS
Camino del Cielo Trail (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	CSS	– <sup>3</sup>	F	– <sup>3</sup>	F
Kickapoo Trail (NS) at: • Twentynine Palms Hwy. (SR-62) (EW) • Santa Fe Trail (EW)	TS CSS	19.5 10.3	B B	18.2 10.7	B B
Inca Trail (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	CSS	66.9	F	67.0	F
Fox Trail (NS) at: • Yucca Trail (EW) • Twentynine Palms Hwy. (SR-62) (EW)	CSS CSS	11.0 <b>96.5</b>	B <b>F</b>	10.9 <b>76.6</b>	B <b>F</b>
Wamego Trail (NS) at: • Yucca Trail (EW)	CSS	9.3	A	9.3	A
Elk Trail (NS) at: • Yucca Trail (EW) • Twentynine Palms Hwy. (SR-62) (EW)	CSS CSS	10.1 <b>53.4</b>	B <b>F</b>	9.8 – <sup>3</sup>	A <b>F</b>
Pioneertown Road (NS) at: • Yucca Trail (EW)	AWS	8.5	A	8.5	A
Pioneertown Road/Deer Trail (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	TS	9.7	A	10.6	B



**Table 5.1-2 [continued]**  
**Intersection Analysis – Existing**

Study Intersection	AM Peak Hour			PM Peak Hour	
	Traffic Control <sup>1</sup>	Delay <sup>2</sup> (seconds)	LOS	Delay <sup>2</sup> (seconds)	LOS
Deer Trail (NS) at: • Santa Fe Trail (EW)	CSS	10.2	B	10.3	B
Cherokee Trail (South) (NS) at: • Yucca Trail (EW)	CSS	9.7	A	9.5	A
Cherokee Trail (South) (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	CSS	<b>55.2</b>	<b>F</b>	– <sup>3</sup>	<b>F</b>
Apache Trail (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	CSS	<b>48.6</b>	<b>F</b>	– <sup>3</sup>	<b>F</b>
Mohawk Trail/Acoma Trail (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	TS	17.7	B	19.6	B
Church Street (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	CSS	– <sup>3</sup>	<b>F</b>	– <sup>3</sup>	<b>F</b>
Palm Avenue (South) (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	CSS	<b>81.0</b>	<b>F</b>	– <sup>3</sup>	<b>F</b>
Palm Avenue (North) (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	CSS	<b>76.8</b>	<b>F</b>	– <sup>3</sup>	<b>F</b>
Sage Avenue (NS) at: • Twentynine Palms Hwy. (SR-62) (EW) • Onaga Trail (EW)	TS AWS	12.5 8.9	B A	12.6 11.2	B B
Old Woman Springs Road (SR-247) (NS) at: • Paxton Road (EW)	CSS	20.1	C	20.6	C
Old Woman Springs Road (SR-247)/Joshua Tree Lane (NS) at: • Twentynine Palms Highway (SR-62) (EW)	TS	24.0	C	26.5	C
Joshua Tree Lane (NS) at: • Yucca Trail (EW) • Onaga Trail (EW)	AWS AWS	13.7 12.2	B B	32.8 11.2	D B
Warren Vista Avenue (NS) at: • Yucca Trail (EW)	CSS	15.8	C	17.3	C
Balsa Avenue (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	TS	19.4	B	20.5	C
Avalon Avenue (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	TS	19.7	B	20.3	C
Camino del Cielo Trail (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	<b>CSS</b>	– <sup>3</sup>	<b>F</b>	– <sup>3</sup>	<b>F</b>
Palomar Avenue (NS) at: • Yucca Trail (EW)	AWS	15.7	C	13.1	B
Indio Avenue (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	CSS	14.0	B	23.0	C
Indio Avenue (South) (NS) at: • Yucca Trail (EW)	CSS	14.0	B	14.5	B
Indio Avenue (North) (NS) at: • Yucca Trail (EW)	CSS	11.9	B	11.5	B
Yucca Mesa Road/La Contenta Road (NS) at: • Twentynine Palms Hwy. (SR-62) (EW)	TS	17.7	B	19.4	B

1. CSS = Cross Street Stop; TS = Traffic Signal; AWS = All-Way Stop.  
2. Delay and level of service calculated using the following analysis software: Traffix, Version 7.8 R2 (2006). Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for worst individual movement (or movements sharing a single lane) are shown.  
3. – = Delay High or V/C Ratio exceeding 1.0, Intersection Unstable, Level of Service "F".



As indicated in [Table 5.1-2](#), according to Town of Yucca Valley performance criteria, all study intersections are currently operating at an acceptable LOS (LOS D or better) during the peak hours except for the following intersections:

- ◆ Camino del Cielo Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Inca Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Fox Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Elk Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Cherokee Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Apache Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Church Street (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Palm Avenue (South) (NS) at Twentynine Palms Highway (SR-62) (EW); and
- ◆ Palm Avenue (North) (NS) at Twentynine Palms Highway (SR-62) (EW).

The operations analysis worksheets for existing conditions are included in [Appendix 15.3](#). In general, existing traffic operations deficiencies occur at full access intersections with cross street STOP control along SR-62 in the vicinity of the Downtown area.

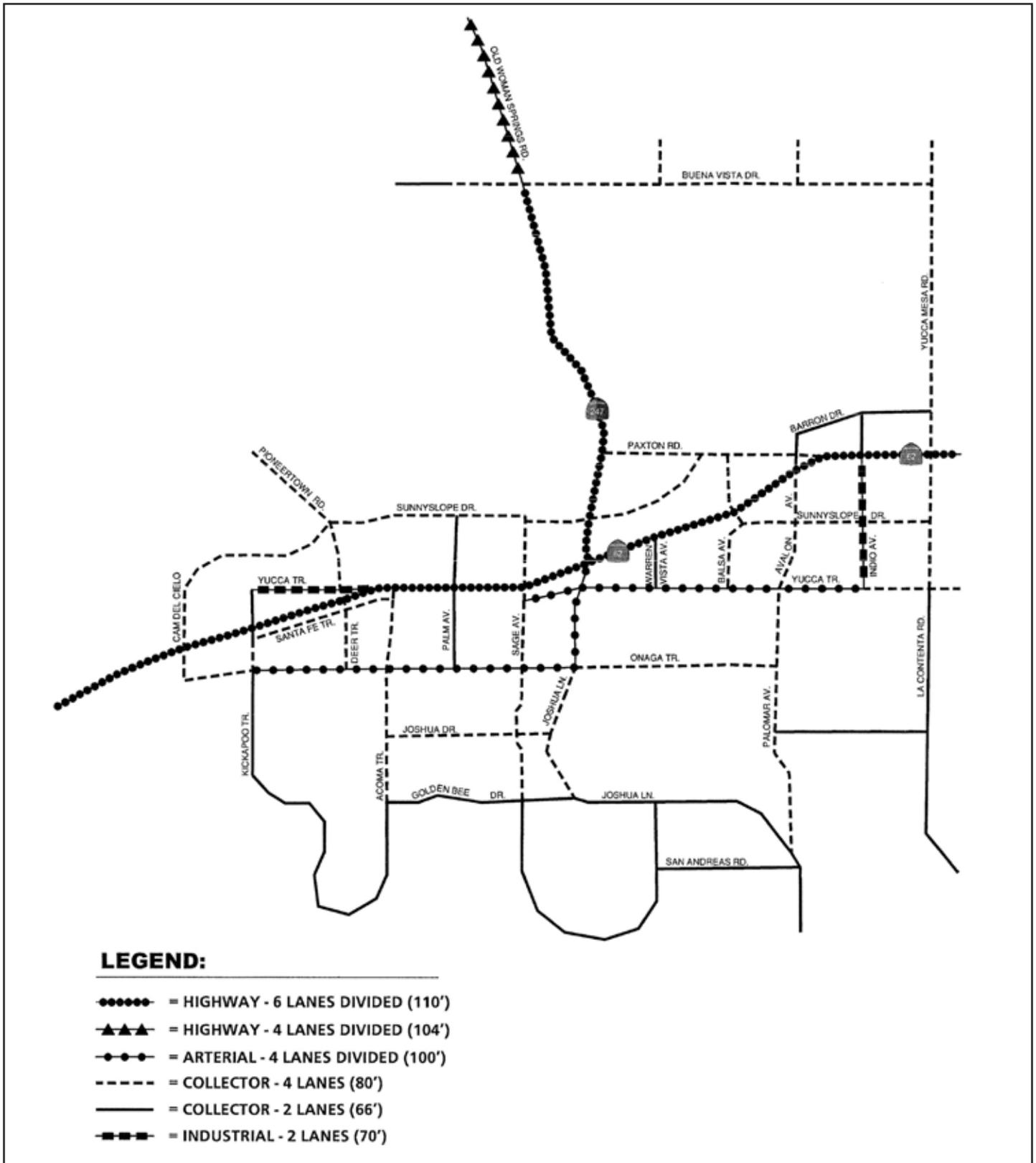
Traffic signal warrant analysis indicates that the following intersections appear to warrant a traffic signal under existing conditions (see [Appendix 15.3](#)):

- ◆ Inca Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Cherokee Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Church Street (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Palm Avenue (South) (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Palm Avenue (North) (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Joshua Tree Lane (NS) at Yucca Trail (EW); and
- ◆ Palomar Avenue (NS) at Yucca Trail (EW).

Additional signal warrant analysis (also included in [Appendix 15.3](#)) has been conducted for intersections potentially requiring traffic signal installation. The additional analysis indicates that no other traffic signals are currently warranted. Traffic signals are warranted at many (but not all) of the intersections experiencing deficient operations, as well as at some other intersections currently under all-way stop control.

## **PLANNED TRANSPORTATION IMPROVEMENTS AND RELATIONSHIP TO GENERAL PLAN**

The long-range transportation system within the study area is expected to undergo significant improvement as a result of work to be performed by the California Department of Transportation (Caltrans) and the Town of Yucca Valley. The Town of Yucca Valley General Plan Circulation Element and General Plan roadway cross-sections are shown on [Exhibit 5.1-6](#), *Town of Yucca Valley General Plan Circulation Element*, and [Exhibit 5.1-7](#), *Town of Yucca Valley General Plan Roadway Cross-Sections*, respectively. The currently adopted General Plan does not include the proposed realignment of SR-62 along the existing Yucca Trail alignment and is used as the planned roadway system for the 2030 Horizon Year Without Project condition



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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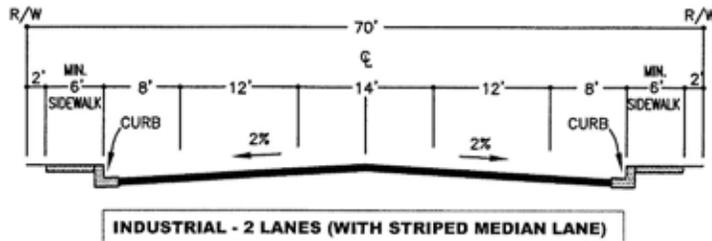
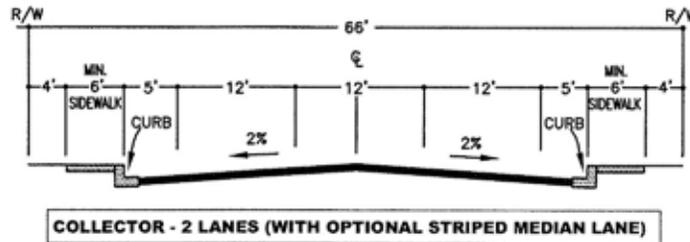
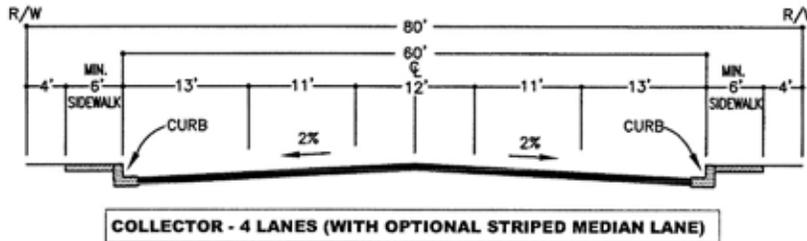
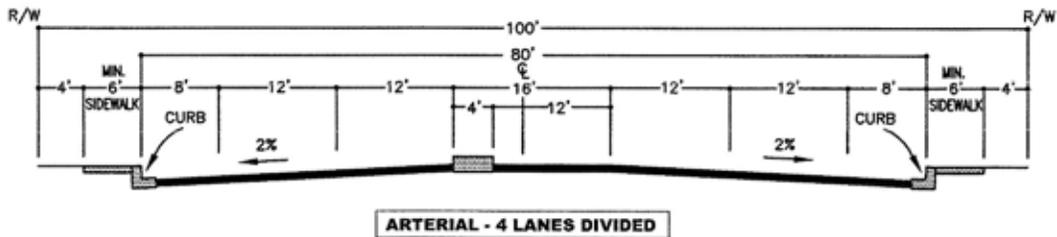
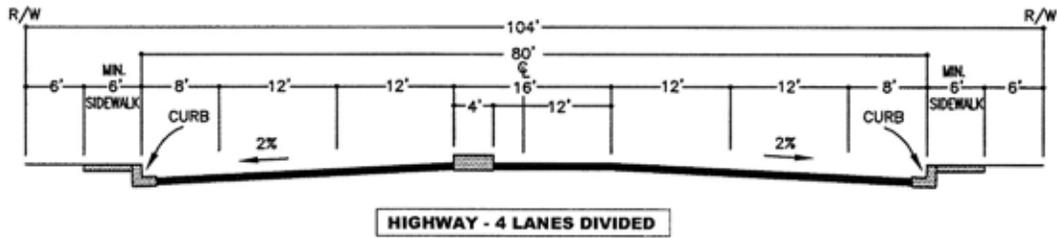
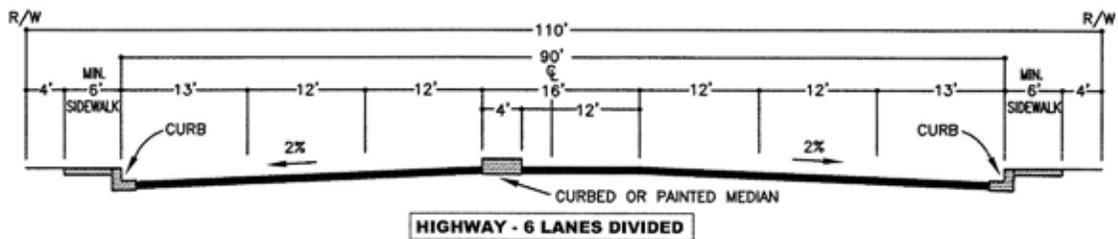


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# Town of Yucca Valley General Plan Circulation Element

Exhibit 5.1-6



\*PART WIDTH STREET SECTION FOR ALL COLLECTOR STREETS - 34' IMPROVEMENTS ON 48' R/W

SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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# Town of Yucca Valley General Plan Roadway Cross-Sections

Exhibit 5.1-7



in this analysis. In the currently adopted General Plan, Kickapoo Trail, between Yucca Trail and Santa Fe Trail, is designated as a 2-lane Collector roadway, becoming a 4-lane Collector roadway between Santa Fe Trail and Onaga Trail. Pioneertown Road/Deer Trail are designated as 4-lane Collector roadways from the Town boundary to Onaga Trail. Acoma Trail, south of Twentynine Palms Highway (SR-62), is designated as a 4-lane Collector roadway. Yucca Trail, west of Twentynine Palms Highway (SR-62), is designated as a 2-lane Industrial roadway. Twentynine Palms Highway (SR-62), throughout the Town of Yucca Valley, is designated as a 6-lane Divided Highway. Santa Fe Trail, between Kickapoo Trail and Acoma Trail, is designated as a 4-lane Collector roadway.

The County of San Bernardino General Plan Circulation Element and General Plan roadway cross-sections in the vicinity of the proposed project are depicted on Exhibit 5.1-8, County of San Bernardino General Plan Circulation Element, and Exhibit 5.1-9, County of San Bernardino General Plan Roadway Cross-Sections, respectively. Pioneertown Road is the only roadway within the study area that is given a specific designation on the County plan (SR-62 and SR-247 are simply identified as “highways”). The County’s designation of Pioneertown Road as a Secondary Highway is generally consistent with the Town of Yucca Valley’s designation as a 4-lane Collector Roadway. Both classifications provide for a 4-lane, undivided roadway. The Town’s designation provides for a right-of-way of 80 feet, while the County designation calls for an 88-foot right-of-way.

### **Funded Roadway Improvements**

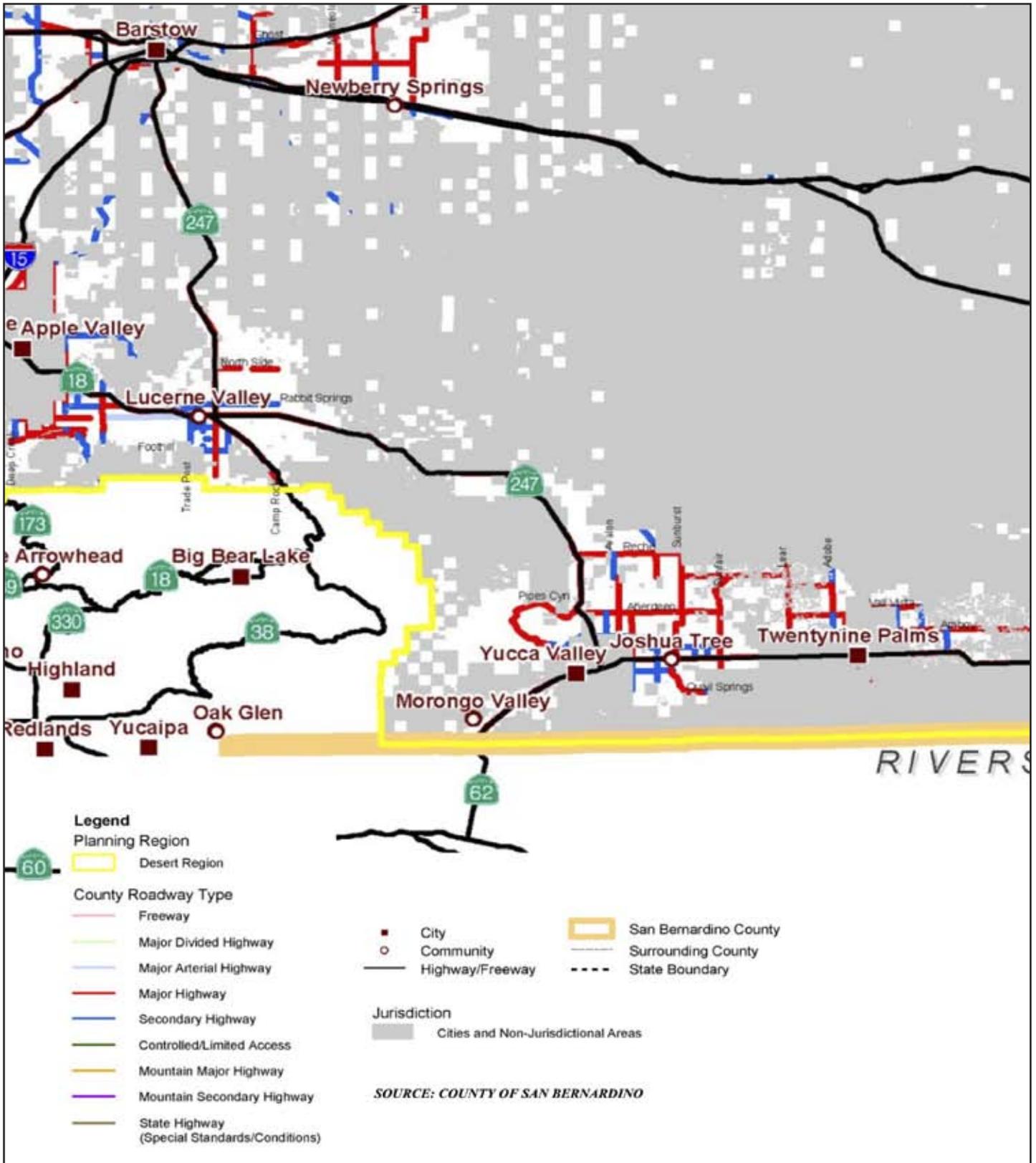
No committed sources of funding for additional improvements necessary to serve the increase in traffic other than the Town of Yucca Valley fee program or improvements that would occur in conjunction with other cumulative projects have been identified while conducting the study. A number of other known development projects are anticipated within the study area.

### **ALTERNATIVE TRANSPORTATION**

The Morongo Basin Transit Authority serves the Town of Yucca Valley with commuter, local, senior, disabled, and paratransit services. Refer to Section 10.0, Effects Found Not to Be Significant, for further discussion regarding alternative transportation.

## **5.1.2 REGULATORY SETTING**

The preparation of this traffic impact analysis is in conformance with the requirements of the San Bernardino County Congestion Management Program (CMP). Exhibit 5.1-1, San Bernardino County CMP Network, depicts the CMP roadway network and potential study area limits. The CMP requires no analysis further than five (5.0) miles from the Project site or where fewer than 50 peak hour Project trips are added to a CMP intersection or fewer than 100 peak hour Project trips (two-way) are added to freeway links. The CMP requires both an Interim Year analysis and a CMP Horizon Year analysis. However, as this project is a Specific Plan and involves an amendment to the currently adopted *General Plan*, the CMP Horizon Year also serves as the Project Opening Year (Interim Year).



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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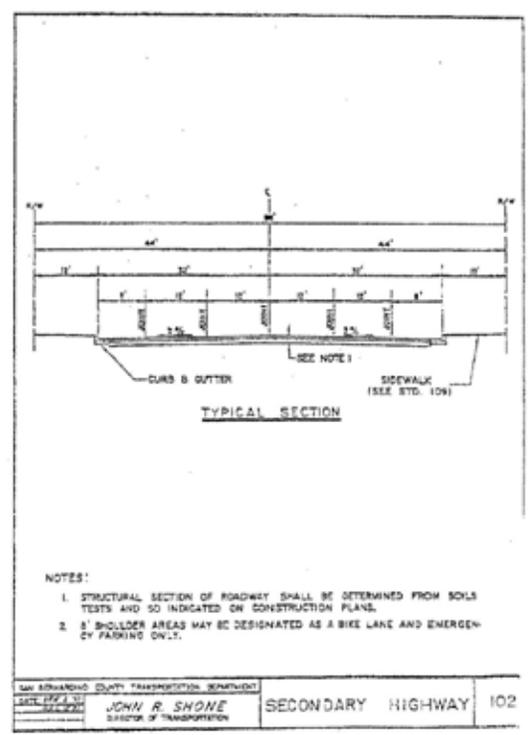
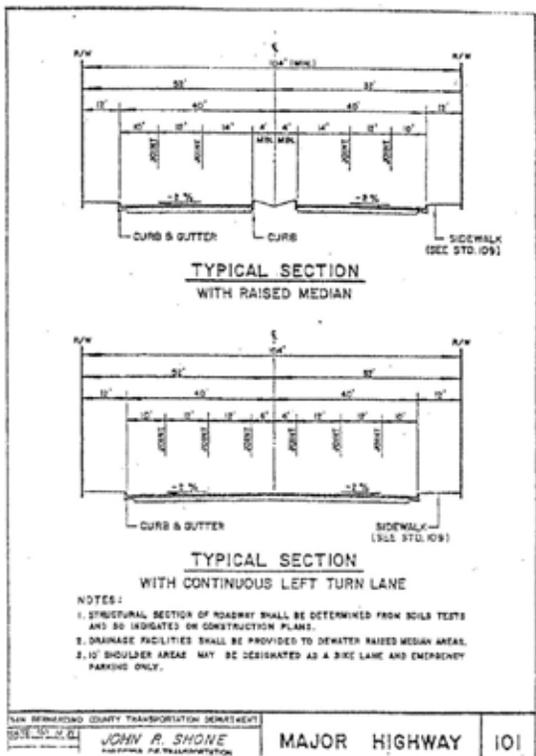
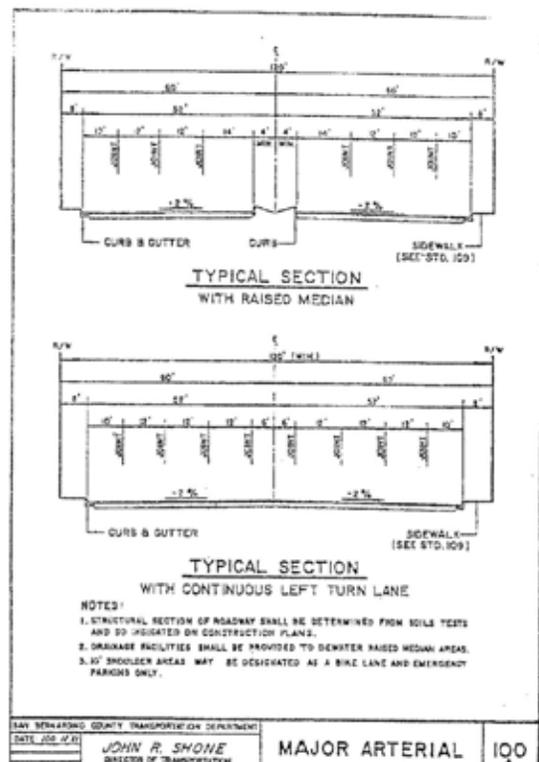
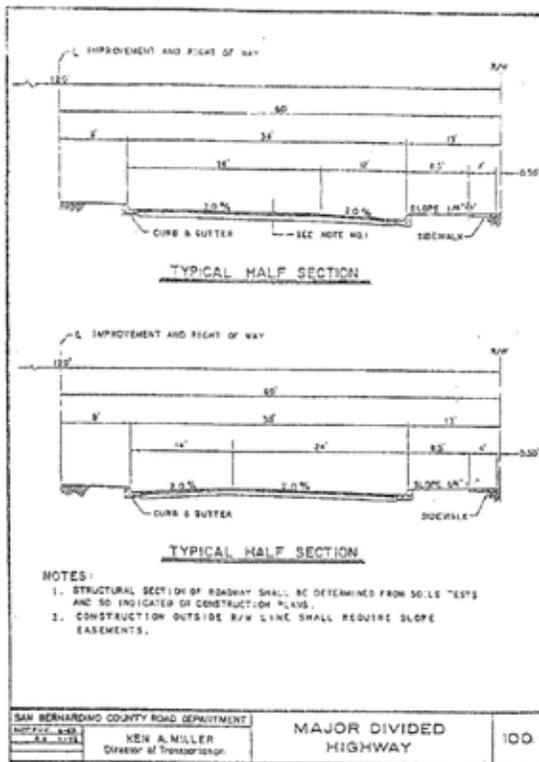


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## County of San Bernardino General Plan Circulation Element

Exhibit 5.1-8



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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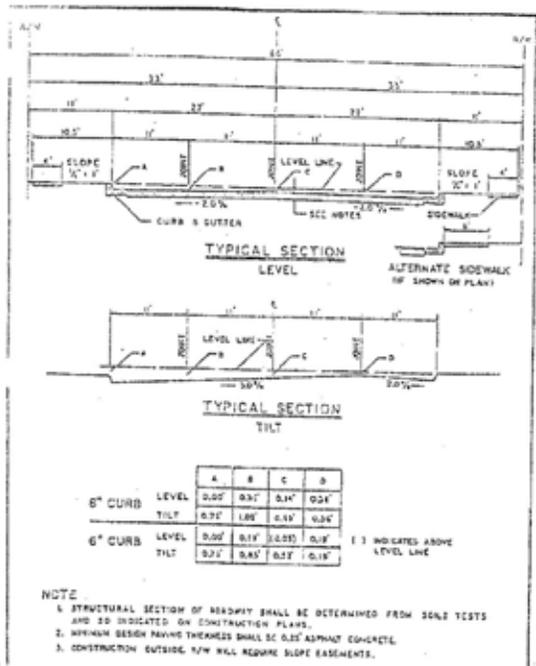


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County of San Bernardino General Plan Roadway Cross-Sections

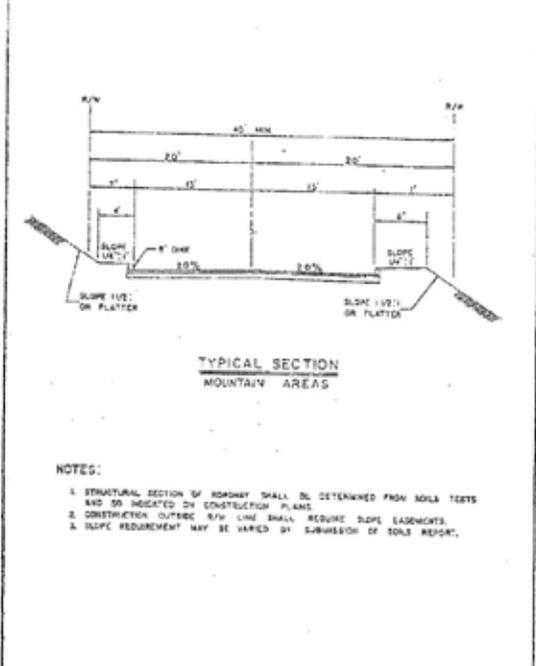
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 OLD TOWN YUCCA VALLEY SPECIFIC PLAN

Exhibit 5.1-9a



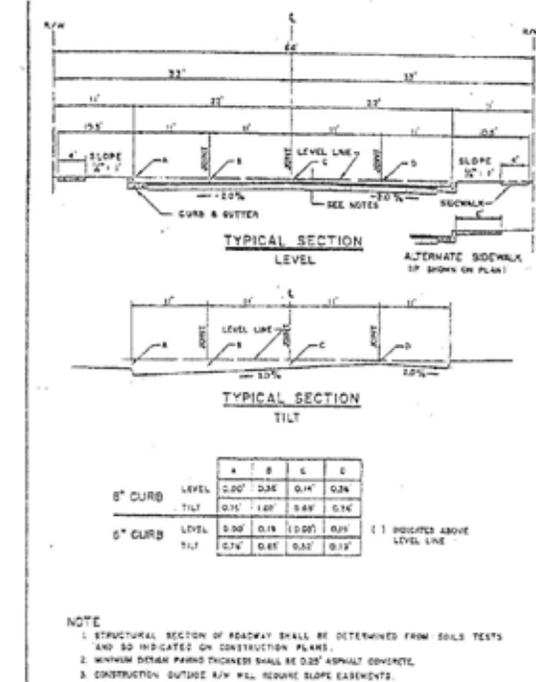
SAN BERNARDINO COUNTY TRANS. DEPT.  
KEN A. MILLER  
Director of Transportation

CONTROLLED LIMITED ACCESS COLLECTOR 103A



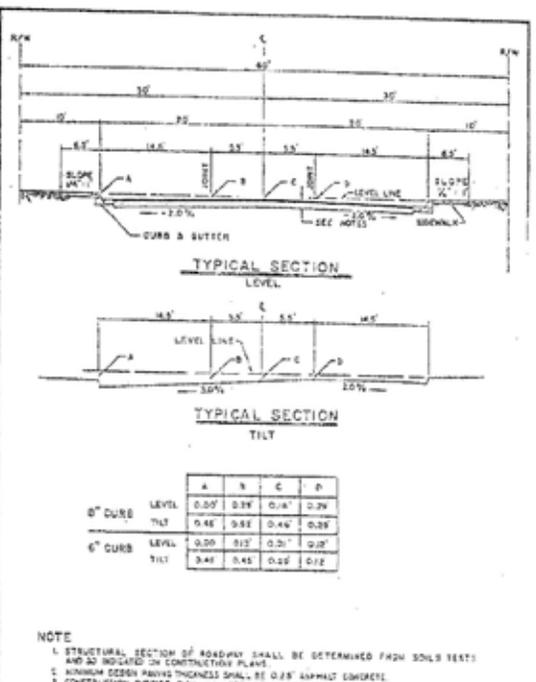
SAN BERNARDINO COUNTY ROAD DEPARTMENT  
KEN A. MILLER  
Director of Transportation

MOUNTAIN LOCAL PAVED ROAD 114b



SAN BERNARDINO COUNTY ROAD DEPARTMENT  
John R. Stone  
COUNTY HIGHWAY ENGINEER

COLLECTOR STREET 103



SAN BERNARDINO COUNTY TRANS. DEPT.  
KEN A. MILLER  
Director of Transportation

LOCAL STREET 104A

SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.



### **5.1.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA**

#### **DEFINITION OF DEFICIENCY AND SIGNIFICANT IMPACT**

The following definitions of deficiencies and significant impacts have been developed in accordance with the Town of Yucca Valley and County of San Bernardino CMP requirements.

##### **Definition of Deficiency**

The definition of an intersection deficiency for intersections in the Town of Yucca Valley sphere of influence has been obtained from the Town of Yucca Valley General Plan. The General Plan states that peak hour intersection operations of LOS "D" or better are considered acceptable. Therefore, any Town of Yucca Valley intersection operating at LOS "E" or LOS "F" would be considered deficient. Per CMP and CALTRANS direction, state controlled facilities (state highways, freeway ramp intersection, etc.) are subject to local jurisdiction traffic operations requirements, with no greater than a 45 second average stopped delay per vehicle during peak hour operations (middle of LOS "D").

The identification of a CMP deficiency requires further analysis in satisfaction of CMP requirements, including:

- ◆ Evaluation of the improvement measures required to restore traffic operations to an acceptable level of service with respect to CMP and local jurisdiction LOS standards.
- ◆ Calculation of the project share of new traffic on the impacted CMP facility during peak hours of traffic.
- ◆ Estimation of the cost required to implement the improvements required to restore traffic operations to an acceptable level of service as described above.

This study incorporates each of these aspects for all locations where a CMPO deficiency is identified.

##### **Definition of Significant Impact**

The identification of significant impacts is a requirement of the California Environmental Quality Act (CEQA), and is not directly addressed in the CMP document. The Town of Yucca Valley General Plan and Circulation Element have been adopted in accordance with CEQA requirements, and any roadway improvements within the Town of Yucca Valley, which are consistent with these documents, are not considered a significant impact, so long as the project contributes its "fair share" funding for improvements.

A traffic impact is considered significant and immitigable if the project both: 1) contributes measurable traffic to and 2) substantially and adversely changes the



level of service at any off-site location projected to experience deficient operations under foreseeable cumulative conditions, where feasible improvements consistent with the Town of Yucca Valley General Plan cannot be constructed.

### **Significance Criteria**

Environmental impact thresholds as indicated in Appendix G of the *CEQA Guidelines* (Initial Study Checklist Form) are also used as significance thresholds in this analysis. As such, a project would create a significant impact if it would:

- ◆ Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections).
- ◆ Exceed, either individually or cumulatively, an LOS standard established by the County CMP agency for designated roads or highways.
- ◆ Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; refer to Section 10.0, *Effects Found Not To Be Significant*.
- ◆ Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); refer to Section 10.0, *Effects Found Not To Be Significant*.
- ◆ Result in inadequate emergency access; refer to Section 10.0, *Effects Found Not To Be Significant*.
- ◆ Result in inadequate parking capacity; refer to Section 10.0, *Effects Found Not To Be Significant*.
- ◆ Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks); refer to Section 10.0, *Effects Found Not To Be Significant*.

## **5.1.4 IMPACTS AND MITIGATION MEASURES**

### **TRAFFIC GENERATION – LONG-TERM IMPACT (2030)**

- **PROJECT IMPLEMENTATION WOULD CAUSE A SIGNIFICANT INCREASE IN TRAFFIC FOR 2030 HORIZON YEAR WHEN COMPARED TO THE EXISTING TRAFFIC CAPACITY OF THE STREET SYSTEM AND WOULD EXCEED AN ESTABLISHED LOS STANDARD.**

***Impact Analysis:*** The Old Town Specific Plan includes four distinct districts that provide for a mix of complementary uses that would encourage compact, vertical



development, resulting in a street-oriented, pedestrian friendly environment; refer to Section 3.0, *Project Description*.

The Old Town Specific Plan includes the proposed realignment of State Route (SR-62) in order to allow through traffic along the highway to bypass the Old Town area, thus promoting a more pedestrian-oriented environment. The preferred realignment alternative (California Department of Transportation (Caltrans) Alternative D) transitions SR-62 to the north, east of Kickapoo Trail, and onto the existing Yucca Trail alignment, in the vicinity of Fox Trail. The Old Town Specific Plan includes a highway environs overlay intended to address redevelopment in the context of the proposed future realignment. The existing alignment of SR-62 through the SPA would be reconstituted as a “Main Street” design feature that incorporates enhanced gateways for access to/from SR-62 and traffic calming measures to enhance pedestrian safety, reduce traffic speeds, and promote walkability within the area. The preferred alignment alternative is depicted on Exhibit 5.1-10, State Route 62 Preferred Realignment Alternative (Caltrans Alternative D).

The Old Town Yucca Valley Specific Plan also calls for the closure of roadways, and portions thereof, within the Specific Plan Area. Inca Trail would be closed north of Main Street (existing SR-62). Hopi Trail, between SR-62 (existing Yucca Trail) and Benicia Trail, would be closed and converted into a recreational trail. Benicia Trail and Miami Trail would be eliminated altogether.

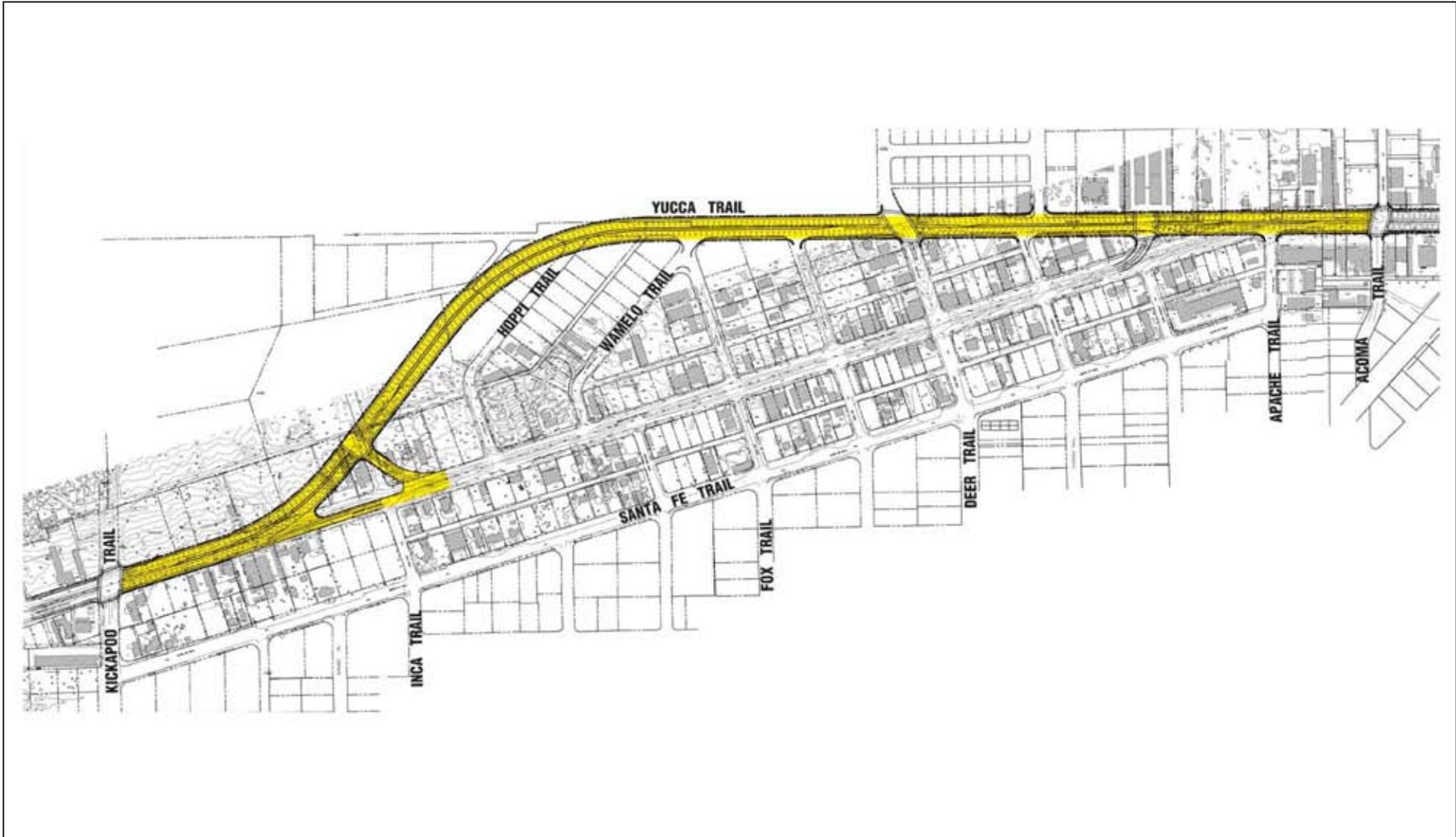
Under existing conditions, these roadways, and portions thereof, provide access to specific developments and are not utilized for travel through the Specific Plan area. Even with these closures, the Old Town Yucca Valley Specific Plan would provide adequate access for the land uses proposed via local streets and alleys.

Properties along the eastbound one-way travel lane at the western gateway could access SR-62 westbound via a right turn onto Inca Trail, a right turn onto Santa Fe Trail, followed by a right turn onto Kickapoo Trail, which would presumably be shorter both distance-wise and time-wise than (the alternative of) traveling east along the low-speed Main Street route to Pioneertown Road and making a left turn.

“U”-turns may not be possible. However, the extensive grid system of streets and alleys on either side of Main Street would provide adequate opportunities to reverse direction.

### **Project Model Representation**

In order to determine the traffic characteristics of the proposed Old Town Specific Plan, particularly in relation to the existing and currently adopted *General Plan* land uses, it is necessary to understand how the Old Town area is represented in the Morongo Basin Transportation Model (MBTM).



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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## State Route 62 Preferred Realignment Alternative (Caltrans Alternative D)

Exhibit 5.1-10



The TAZ structure for the MBTM has been reviewed within the Old Town SPA. The initial TAZ structure for the MBTM has the same TAZ boundaries as the current SANBAG model. Under the initial structure, a total of ten TAZs comprise the Old Town SPA (as well as a portion of the surrounding area). The initial MBTM TAZ structure is illustrated on [Exhibit 5.1-11, \*Initial MBTM TAZ Structure SPA\*](#). These TAZs have been subdivided into 52 TAZs, 44 of which constitute the Old Town SPA in its entirety, to better represent the proposed land use patterns and circulation features (including the SR-62 realignment) for the proposed Project under 2030 Horizon Year With Project conditions. The refined MBTM TAZ structure is depicted on [Exhibit 5.1-12, \*Refined MBTM TAZ Structure SPA\*](#). This refined TAZ structure was then used for both the Existing (baseline) and 2030 Horizon Year Without Project conditions, so that a comparison of the Old Town SPA traffic characteristics across analysis conditions would yield comparable results.

The Old Town SPA, with the refined TAZ structure, has been defined within the model in terms of socio-economic data (SED) for all conditions. The Southern California Association of Governments (SCAG) provided SED by TAZ for 1994 and 2020 during the MBTM development project completed by Urban Crossroads, Inc. staff in 1994. The SED was refined during the original model development effort to incorporate additional knowledge regarding housing and employment in the Morongo Basin. Final SED by TAZ used in the original version of the MBTM is included in [Appendix 15.3](#). Current regional SED forecasts were obtained from SANBAG for the entire Morongo Basin area. Based on comparisons of the new regional data to the old MBTM data under Base Year conditions and Horizon Year conditions, the data in the MBTM is fairly similar and for the most part a little higher (and therefore more conservative) than the current regional forecasts. The baseline SED from the MBTM was used to develop the traffic characteristics of the existing land uses occupying the Old Town SPA. Refer to [Appendix 15.3](#) for a detailed discussion of the SED used for traffic modeling.

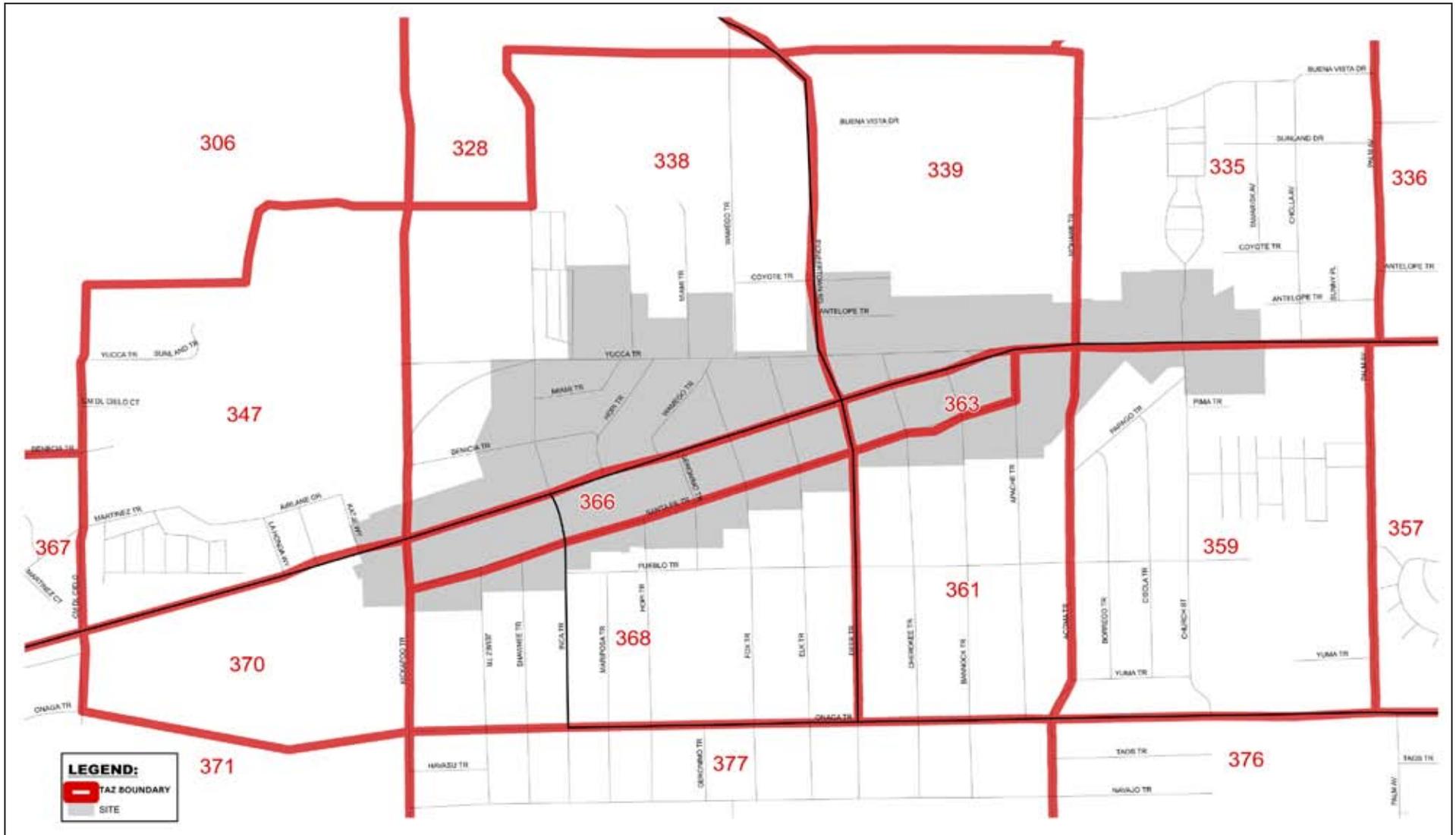
### **Project Traffic**

The traffic related to the Project has been calculated in accordance with the following accepted procedural steps:

- ◆ Trip Generation
- ◆ Trip Distribution
- ◆ Traffic Assignment

### **Project Trip Generation Rates**

Trip generation has been calculated for the Project by the Morongo Basin Transportation Model; refer to [Table 5.1-3, \*Project Trip Generation Summary\*](#). The Project is projected to generate a net increase over existing 2005 conditions of 6,144 AM peak hour trips, 9,970 PM peak hour trips, and 107,463 daily trips. No credit has been taken in this calculation for the mixed-use nature of the development.



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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## Initial MBTM TAZ Structure SPA

Exhibit 5.1-11



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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## Refined MBTM TAZ Structure SPA

Exhibit 5.1-12



**Table 5.1-3  
Project Trip Generation Summary**

Scenario	AM Peak Hour			PM Peak Hour			Daily Trips
	In	Out	Total	In	Out	Total	
Existing	537	309	846	603	757	1,360	14,681
General Plan With Project	4,870	2,120	6,990	4,748	6,581	11,329	122,144
Project Only	4,333	1,811	6,144	4,145	5,824	9,969	107,463
Percent Growth	807%	586%	726%	687%	769%	733%	732%

Internal capture rates for the Project, which have been derived directly from the model for the AM peak hour, PM peak hour, and daily timeframes, are 22.8 percent, 24.2 percent, and 24.3 percent, respectively. The proposed Project would create a more pedestrian friendly environment and is expected to further reduce vehicle traffic, but no additional reduction has been assumed in this analysis.

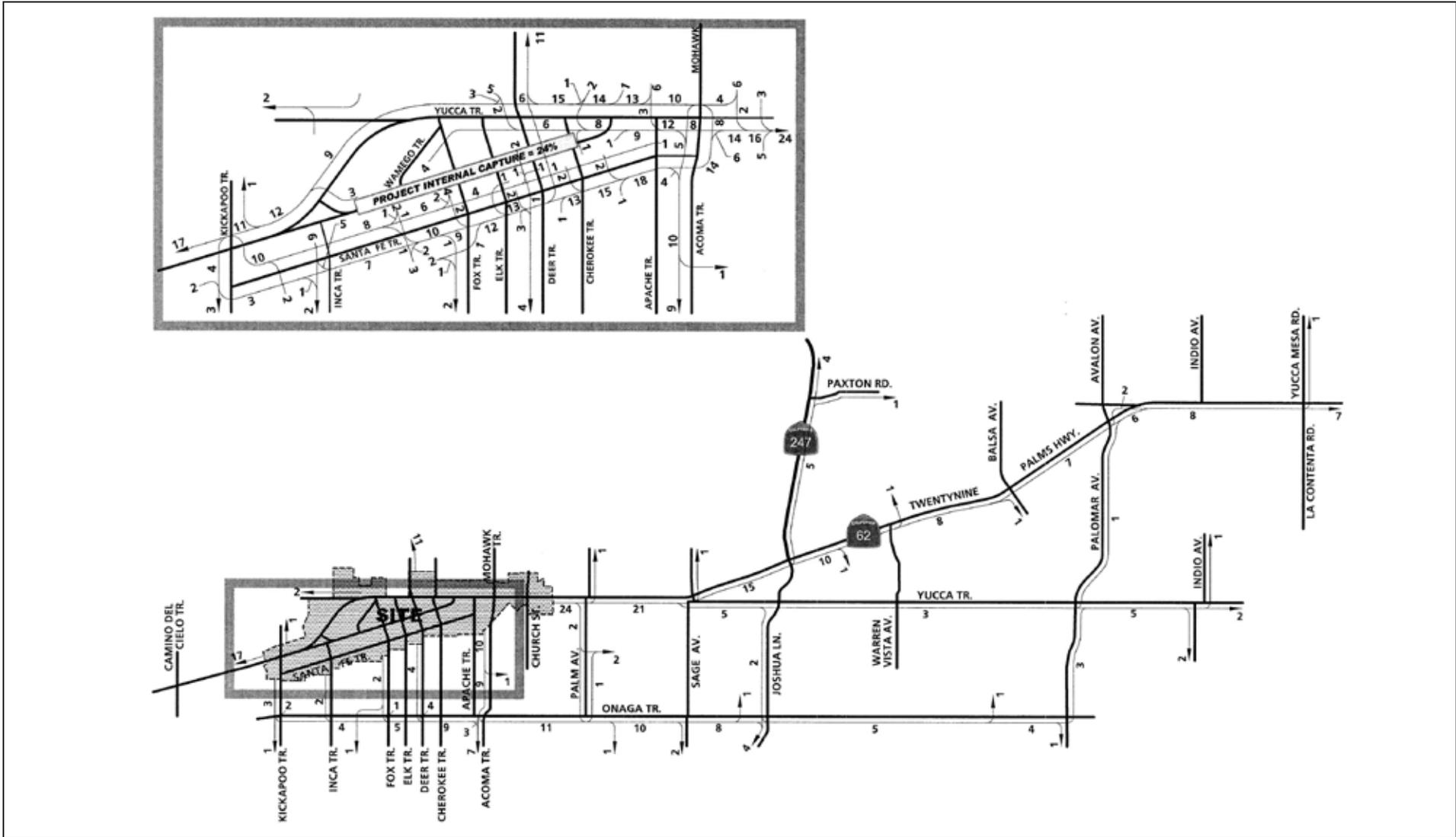
### **Project Trip Distribution and Assignment**

The 2030 Horizon Year Project trip distribution and assignment process represents the directional orientation of traffic to and from the project site. Trip distribution is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional highway/freeway system. The RSA 33 – Morongo Basin Transportation Model (MBTM) has been used to evaluate the distribution and likely travel routes of the local traffic. A select zone (trip distribution) analysis for the Old Town Yucca Valley Specific Plan development was performed using the model for the Horizon Year.

The Project traffic distribution pattern is shown on Exhibit 5.1-13, Trip Distribution – Project Buildout. As illustrated on Exhibit 5.1-13, approximately 17 percent of the Project-related traffic would be distributed to/from the west of the site via SR-62, with 11 percent oriented to/from the north on Pioneertown Road, 24 percent to/from the east on Yucca Trail, one percent to/from the north on Kickapoo Trail, two percent to/from the west on Yucca Trail, three percent to/from the south on Kickapoo Trail, two percent to/from the south on Fox Trail and Inca Trail, four percent to/from the south on Deer Trail, and ten percent to/from the south on Acoma Trail.

### **Project Only Traffic Volume Forecasts**

The Old Town Yucca Valley Specific Plan Project only traffic forecasts have been generated by calculating the difference between future with Project forecast volumes and existing model volumes. The Project traffic volumes are the criteria determining the limits of the required CMP Horizon Year (2030) analysis. The CMP states that any CMP roadway link carrying 50 or more two-way project trips or any CMP freeway link carrying 100 or more two-way project trips during the AM or PM peak hour must be analyzed to ensure that no CMP deficiencies are anticipated within the study area.



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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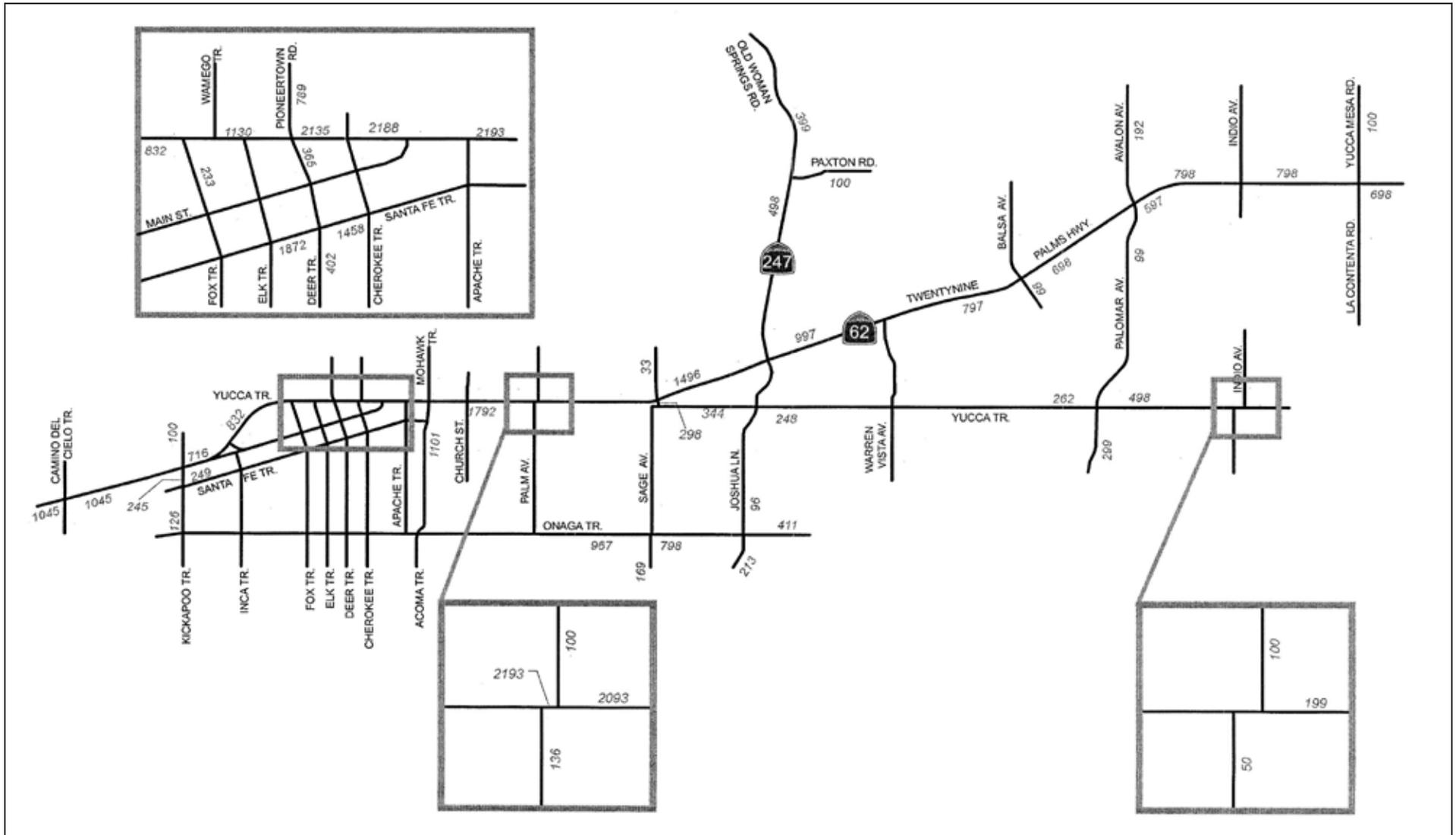
**Trip Distribution - Buildout Project**

**Exhibit 5.1-13**



Exhibit 5.1-14, 2030 Horizon Year CMP Project Only Traffic Contribution Test Volumes (PM Peak Hour), illustrates the 2030 CMP project only traffic contribution test volumes (PM peak hour) for the proposed mixed-use project. Because the project PM peak hour trip generation is higher than the Project AM peak hour trip generation, only the PM peak hour volumes have been examined for the CMP test. The only CMP intersection within five miles of the Project is Old Woman Springs Road (SR-247) at Twentynine Palms Highway (SR-62). The CMP criterion is satisfied at this location; thus, it has been analyzed. Additional intersections have been analyzed pursuant to direction from Town of Yucca Valley staff. The additional analysis locations along SR-62 and SR-247 (CMP roadways) have been completed in lieu of segment level analysis, consistent with CMP guidelines. Exhibit 5.1-15, Intersection Analysis Locations, depicts the resulting intersection analysis locations, based upon the CMP analysis and Town of Yucca Valley staff direction. The intersection analysis locations include the following:

- ◆ Camino del Cielo Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Kickapoo Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Kickapoo Trail (NS) at Santa Fe Trail (EW);
- ◆ Inca Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Fox Trail (NS) at Yucca Trail (EW);
- ◆ Fox Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Wamego Trail (NS) at Yucca Trail (EW);
- ◆ Elk Trail (NS) at Yucca Trail (EW);
- ◆ Elk Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Pioneertown Road (NS) at Yucca Trail (EW);
- ◆ Pioneertown Road/Deer Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Deer Trail (NS) at Santa Fe Trail (EW);
- ◆ Cherokee Trail (South) (NS) at Yucca Trail (EW);
- ◆ Cherokee Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Apache Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Acoma Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Church Street (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Palm Avenue (South) (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Palm Avenue (North) (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Sage Avenue (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Sage Avenue (NS) at Onaga Trail (EW);
- ◆ Old Woman Springs Road (SR-247) (NS) at Paxton Road (EW);
- ◆ Old Woman Springs Road (SR-247)/Joshua Tree Lane (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Joshua Tree Lane (NS) at Yucca Trail (EW);
- ◆ Joshua Tree Lane (NS) at Onaga Trail (EW);
- ◆ Warren Vista Avenue (NS) at Yucca Trail (EW);
- ◆ Balsa Avenue (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Avalon Avenue (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Palomar Avenue (NS) at Yucca Trail (EW);
- ◆ Indio Avenue (NS) at Twentynine Palms Highway (SR-62) (EW);



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

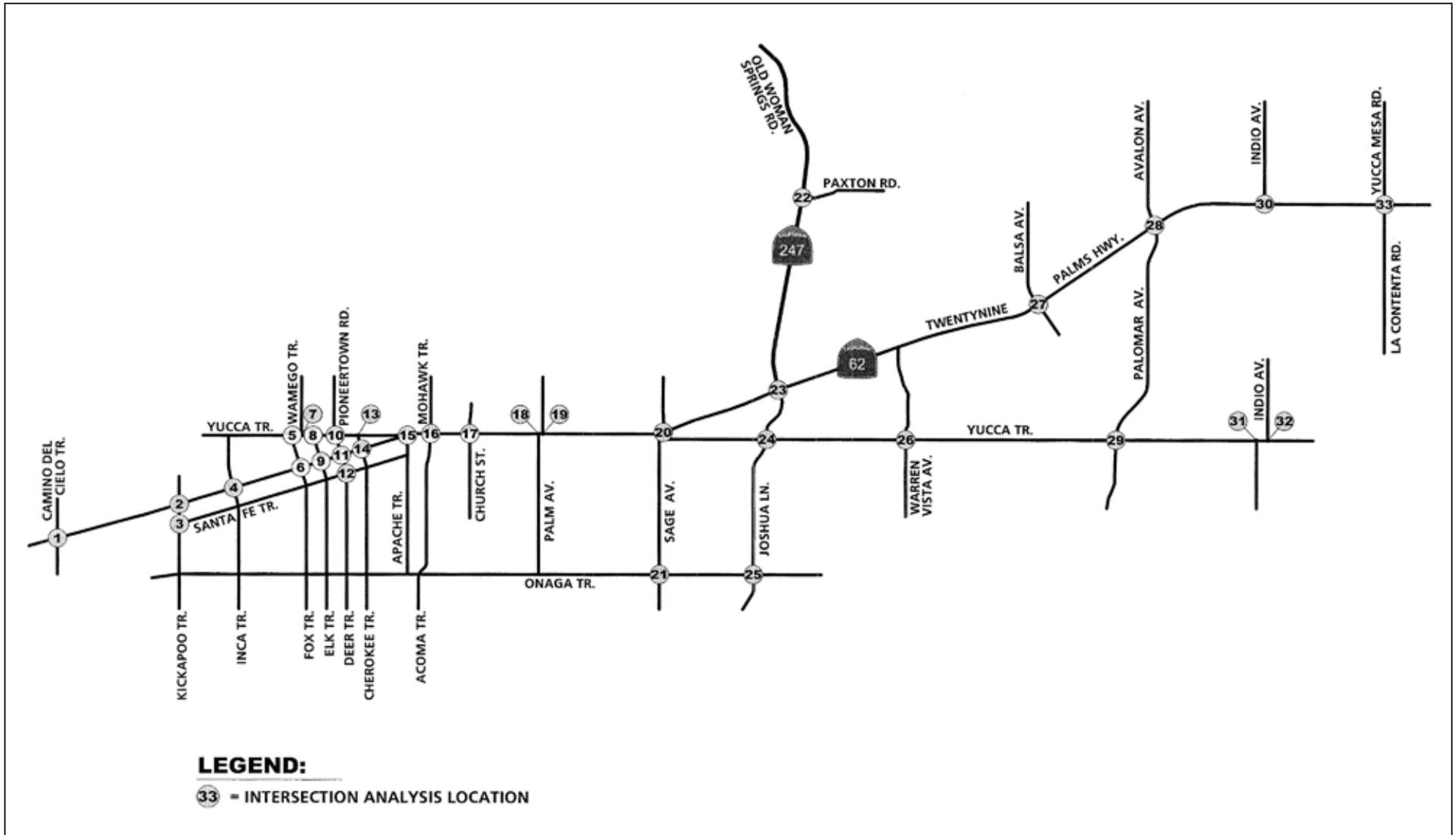
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## 2030 Horizon Year CMP Project Only Traffic Contribution Test Volumes (PM Peak Hour)

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SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

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## Intersection Analysis Locations

Exhibit 5.1-15



- ◆ Indio Avenue (South) (NS) at Yucca Trail (EW);
- ◆ Indio Avenue (North) (NS) at Yucca Trail (EW); and
- ◆ Yucca Mesa Road/La Contenta Road (NS) at Twentynine Palms Highway (SR-62) (EW).

Exhibit 5.1-16, *Intersection Analysis Locations With Proposed State Route 62 Realignment*, depicts the resulting intersection analysis location with the proposed SR-62 realignment. Due to the realignment and the proposed Old Town Yucca Valley Specific Plan, name and geometry changes are assumed for intersections within the Old Town area. The intersection of Inca Trail at Main Street has been removed, as it is no longer a primary access location for the Old Town area. The intersection of Main Street (Western Gateway and Eastern Gateway) with SR-62 have been added, resulting in a total of 34 intersection analysis locations under 2030 Horizon Year With Project conditions.

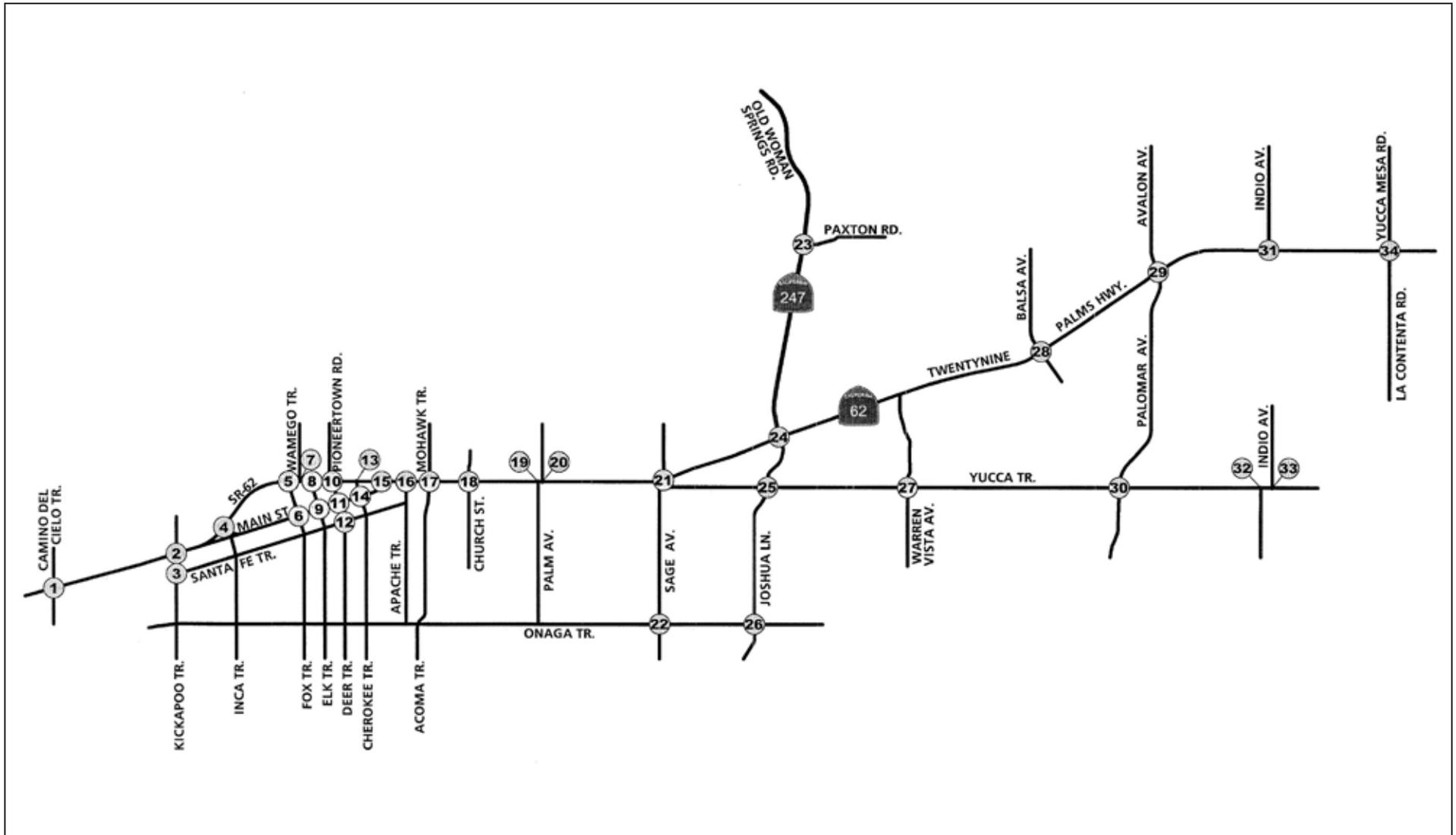
The 2030 Horizon Year Project only ADT volumes are presented on Exhibit 5.1-17, *Average Daily Traffic – Project Only*. The 2030 Horizon Year Project only AM and PM peak hour intersection turning movement volumes are depicted on Exhibit 5.1-18, *AM Peak Hour Intersection Volumes – Project Only*, and Exhibit 5.1-19, *PM Peak Hour Intersection Volumes – Project Only*, respectively.

### **Future (Cumulative) Project Traffic Conditions**

As described above, the 2030 Horizon Year ADT volume forecasts are developed using the long-range volumes predicted by the RSA 33 – Morongo Basin Transportation Model (MBTM). For 2030 Horizon Year Without Project conditions, the Old Town SPA has been represented by the explicit land uses detailed in the currently adopted *General Plan*. Similarly, for 2030 Horizon Year With Project conditions, the Old Town SPA has been represented by the land uses detailed in the proposed Specific Plan. The growth increment for both 2030 Horizon Year conditions on each roadway segment is the increase in MBTM volume from existing to their respective future conditions. The final 2030 Horizon Year Without and With Project roadway segment volumes are then determined by adding their respective 2030 growth increments to the existing counted volumes. Appendix 15.3 includes the worksheets showing daily traffic volume calculations for all scenarios.

In order to ensure the 2030 Horizon Year traffic volumes include other developments, which are planned within the Town of Yucca Valley, Town staff was contacted in order to determine if there were any projects planned outside of the Old Town area that would have an impact on future traffic volumes at the study area intersections. Town staff provided information regarding 23 other cumulative projects within the study area. Exhibit 5.1-20, *Other Development Location Map*, shows the locations of the other developments.

For each traffic analysis zone (TAZ) in the MBTM containing one or more of the other development projects, the growth in socio-economic data (SED) between existing and 2030 Horizon Year conditions was verified to include the development project(s). The project-generated SED forecasts for the other development are based on land use information provided in available traffic studies and from the Town of Yucca



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE

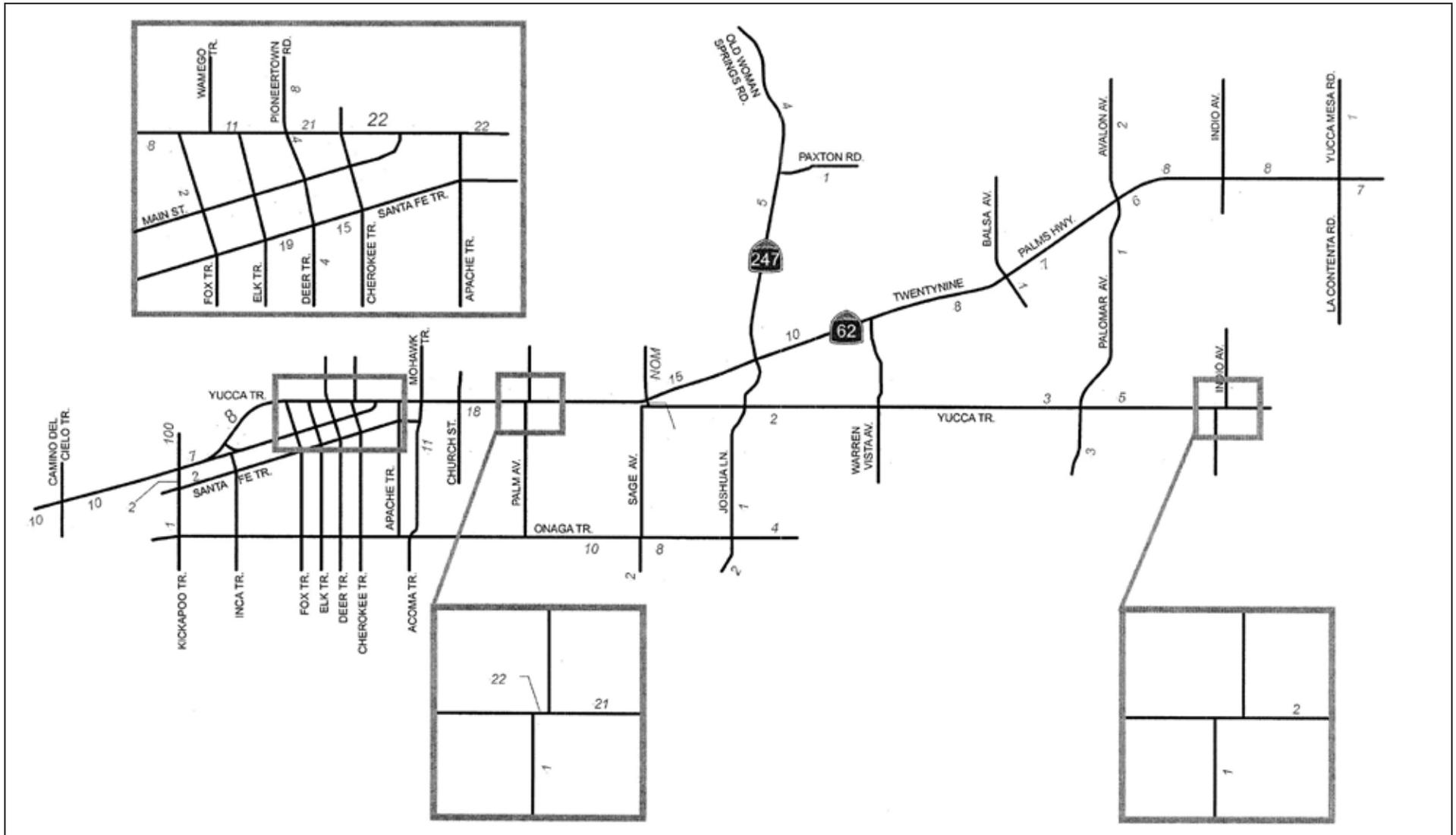


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### Intersection Analysis Locations With Proposed State Route 62 Realignment

Exhibit 5.1-16



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE

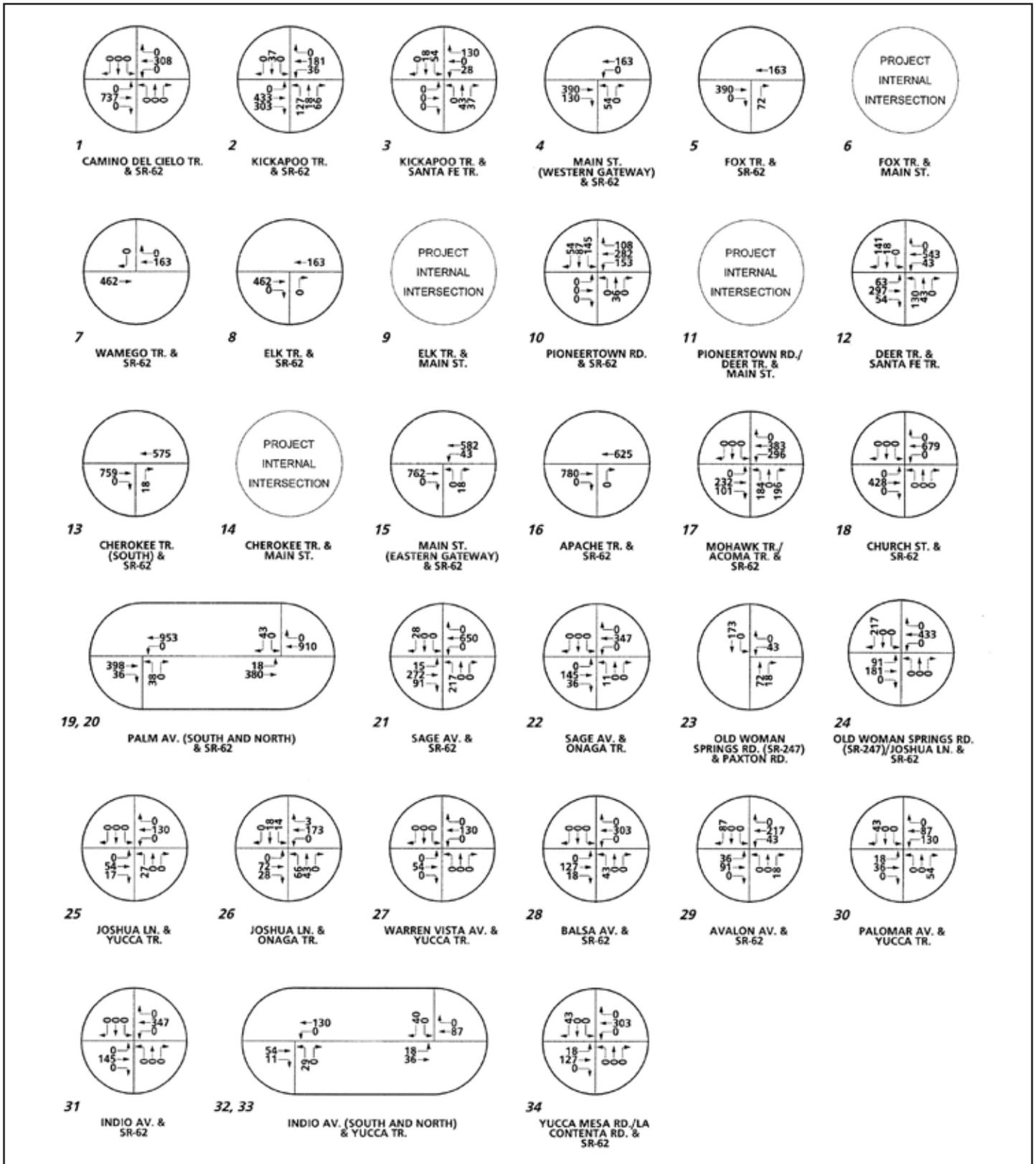


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OLD TOWN YUCCA VALLEY SPECIFIC PLAN

**Average Daily Traffic Project Only**

**Exhibit 5.1-17**



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE

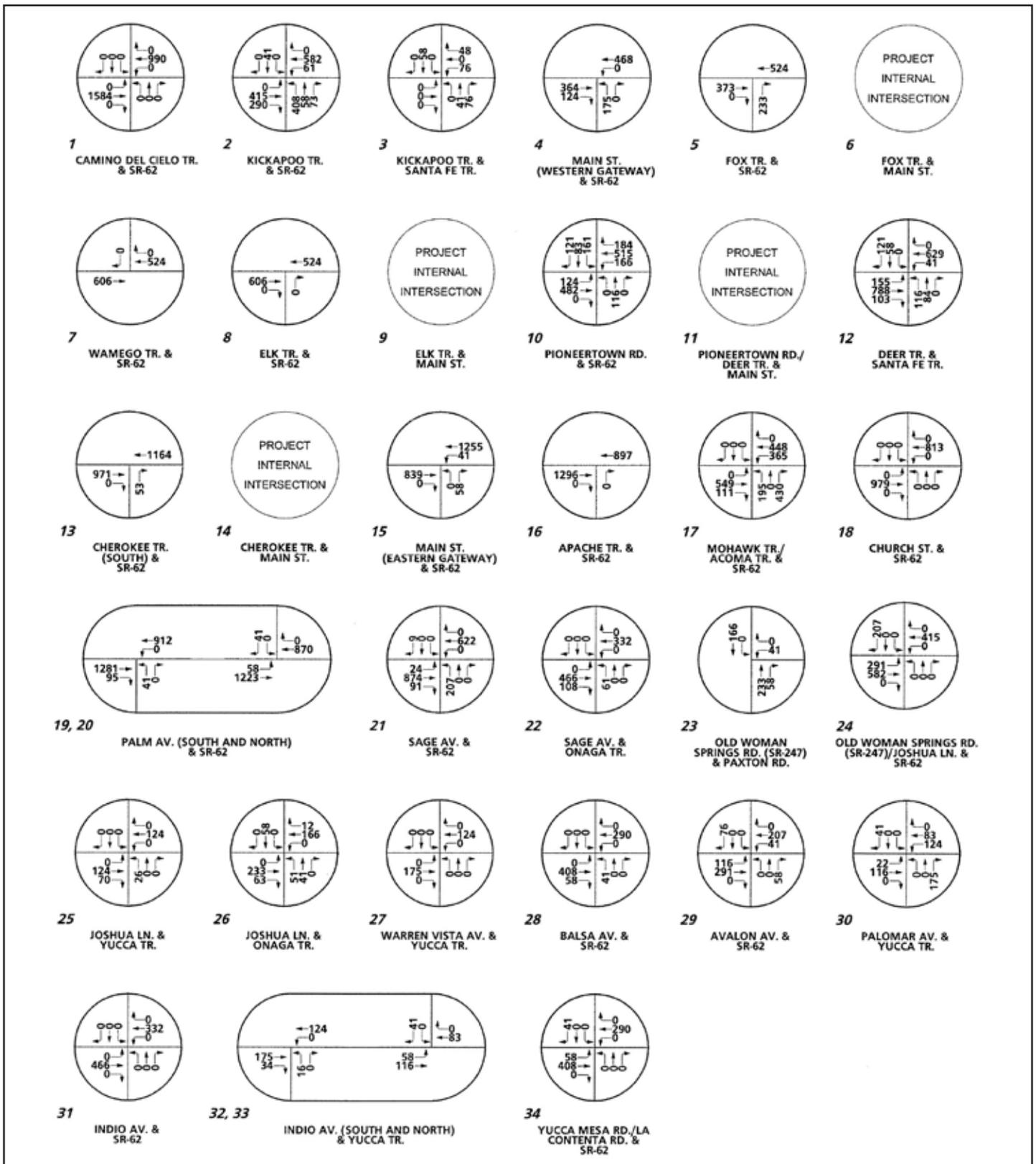


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ENVIRONMENTAL IMPACT REPORT  
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## AM Peak Hour Intersection Volumes - Project Only

Exhibit 5.1-18



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE



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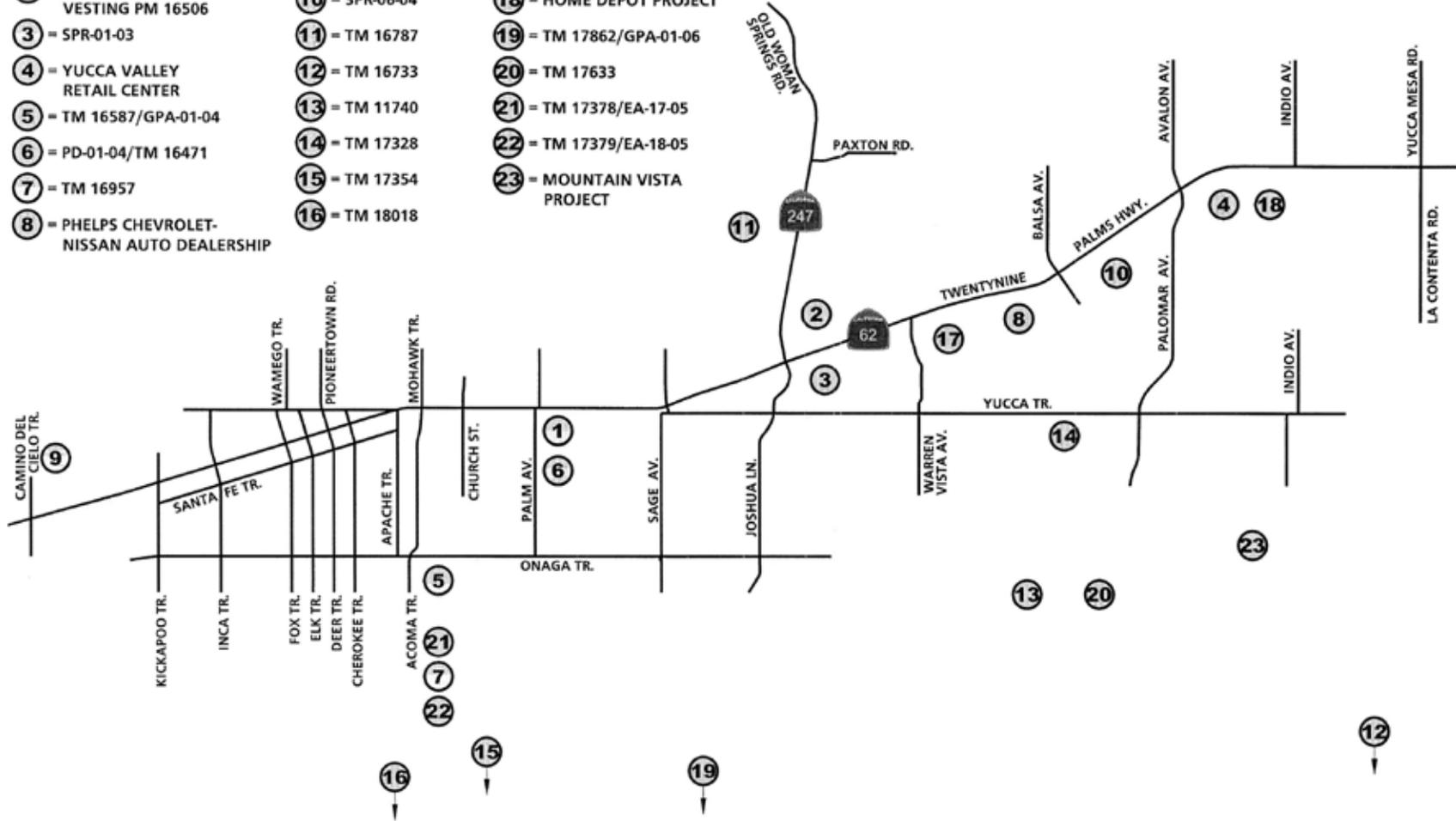
ENVIRONMENTAL IMPACT REPORT  
OLD TOWN YUCCA VALLEY SPECIFIC PLAN

## PM Peak Hour Intersection Volumes - Project Only

Exhibit 5.1-19

**LEGEND:**

- |   |                            |                                 |
|---|----------------------------|---------------------------------|
| ① = SPR-01-04                                   | ⑨ = SPR-02-03/<br>TM 16649 | ⑰ = CUP-03-05<br>(K-MART REUSE) |
| ② = CUP-07-03 &<br>VESTING PM 16506             | ⑩ = SPR-06-04              | ⑱ = HOME DEPOT PROJECT          |
| ③ = SPR-01-03                                   | ⑪ = TM 16787               | ⑲ = TM 17862/GPA-01-06          |
| ④ = YUCCA VALLEY<br>RETAIL CENTER               | ⑫ = TM 16733               | ⑳ = TM 17633                    |
| ⑤ = TM 16587/GPA-01-04                          | ⑬ = TM 11740               | ㉑ = TM 17378/EA-17-05           |
| ⑥ = PD-01-04/TM 16471                           | ⑭ = TM 17328               | ㉒ = TM 17379/EA-18-05           |
| ⑦ = TM 16957                                    | ⑮ = TM 17354               | ㉓ = MOUNTAIN VISTA<br>PROJECT   |
| ⑧ = PHELPS CHEVROLET-<br>NISSAN AUTO DEALERSHIP | ⑯ = TM 18018               |                                 |



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE



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OLD TOWN YUCCA VALLEY SPECIFIC PLAN

**Other Development Location Map**

**Exhibit 5.1-20**



Valley's Active Projects Map. The land use information for each of these developments has been converted into SED by way of the land use-to-SED factors. Refer to [Appendix 15.3](#) for further discussion regarding cumulative project SED.

## **2030 Horizon Year Without Project Conditions (Without SR-62 Realignment)**

### **2030 HORIZON YEAR WITHOUT PROJECT DAILY TRAFFIC VOLUMES**

ADT volumes for 2030 Horizon Year Without Project conditions have been determined, as described above. [Exhibit 5.1-21, 2030 Horizon Year ADT – Without Project](#), shows the ADT volumes, which can be expected for 2030 Horizon Year Without Project conditions. SR-62 is the most heavily traveled roadway under future conditions with daily traffic volumes ranging from 34,000 vehicles per day (VPD) to 59,800 VPD in the study area. A number of other roadways are projected to carry daily traffic volumes in excess of 20,000 VPD, including SR-247, Yucca Trail, Joshua Tree Lane, and Onaga Trail.

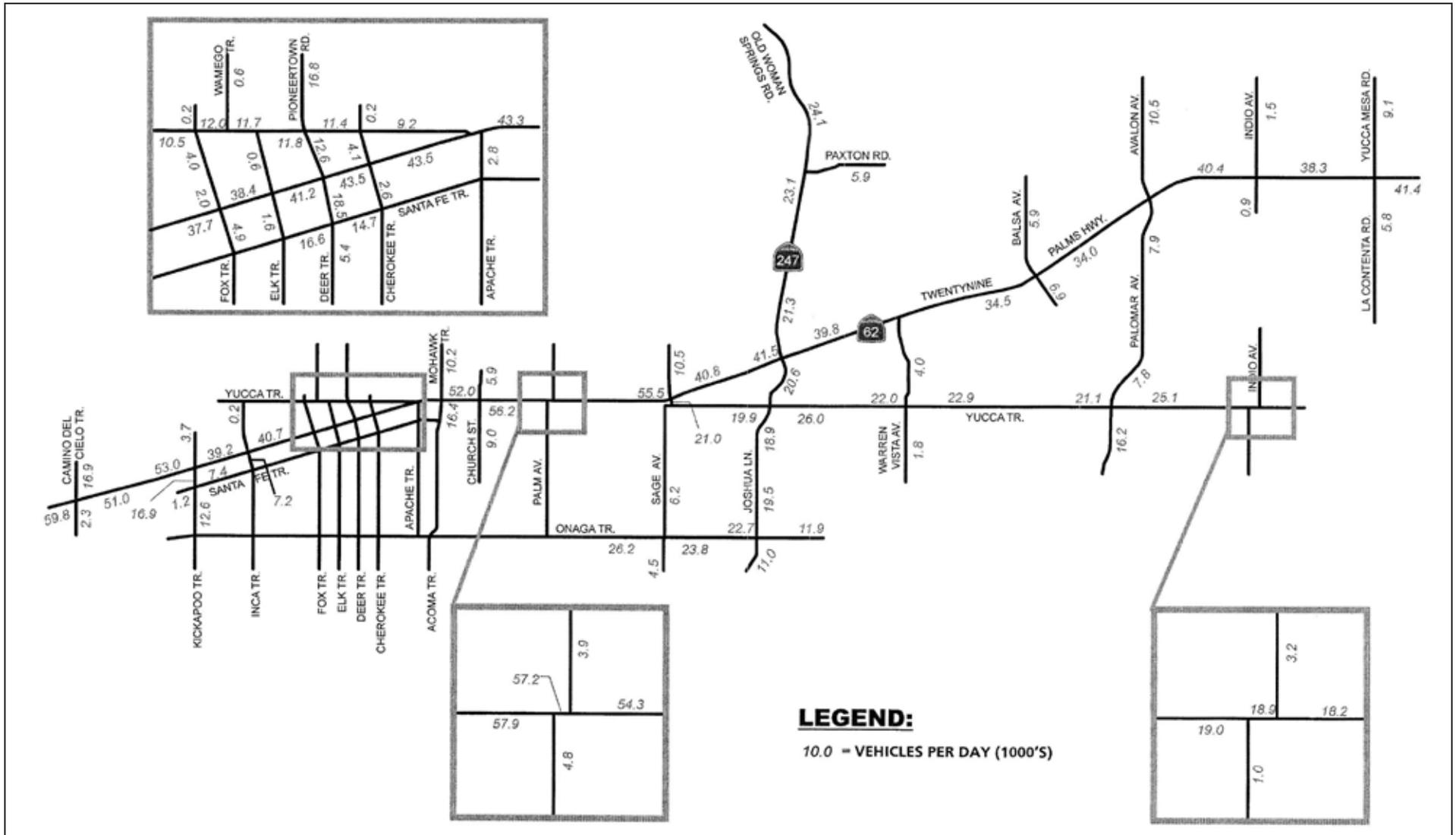
For 2030 Horizon Year Without Project conditions, the following study area intersections are projected to warrant a traffic signal (in addition to those intersections that warrant a traffic signal under existing conditions):

- ◆ Camino del Cielo Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Kickapoo Trail (NS) at Santa Fe Trail (EW);
- ◆ Fox Trail (NS) at Yucca Trail (EW);
- ◆ Fox Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Pioneertown Road (NS) at Yucca Trail (EW);
- ◆ Deer Trail (NS) at Santa Fe Trail (EW);
- ◆ Cherokee Trail (South) (NS) at Yucca trail (EW);
- ◆ Apache Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Sage Avenue (NS) at Onaga Trail (EW);
- ◆ Old Woman Springs Road (SR-247) (NS) at Paxton Road (EW);
- ◆ Joshua Tree Lane (NS) at Onaga Trail (EW);
- ◆ Warren Vista Avenue (NS) at Yucca rail (EW); and
- ◆ Indio Avenue (North) (NS) at Yucca Trail (EW).

[Appendix 15.3](#) includes the traffic signal warrant analysis worksheet and the daily traffic volume calculations.

### **2030 HORIZON YEAR WITHOUT PROJECT OPERATIONS**

The intersection operations analysis for 2030 Horizon Year Without Project conditions is summarized in [Table 5.1-4, Intersection Analysis – 2030 Horizon Year Without Project Conditions](#). 2030 Horizon Year without Project AM and PM peak hour intersection turning movement volumes are presented on [Exhibits 5.1-22, 2030 Horizon Year AM Peak Hour Intersection Volumes – Without Project](#), and [5.1-23, 2030 Horizon Year PM Peak Hour Intersection Volumes – Without Project](#), respectively. The operations analysis worksheets for 2030 Horizon Year Without



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE

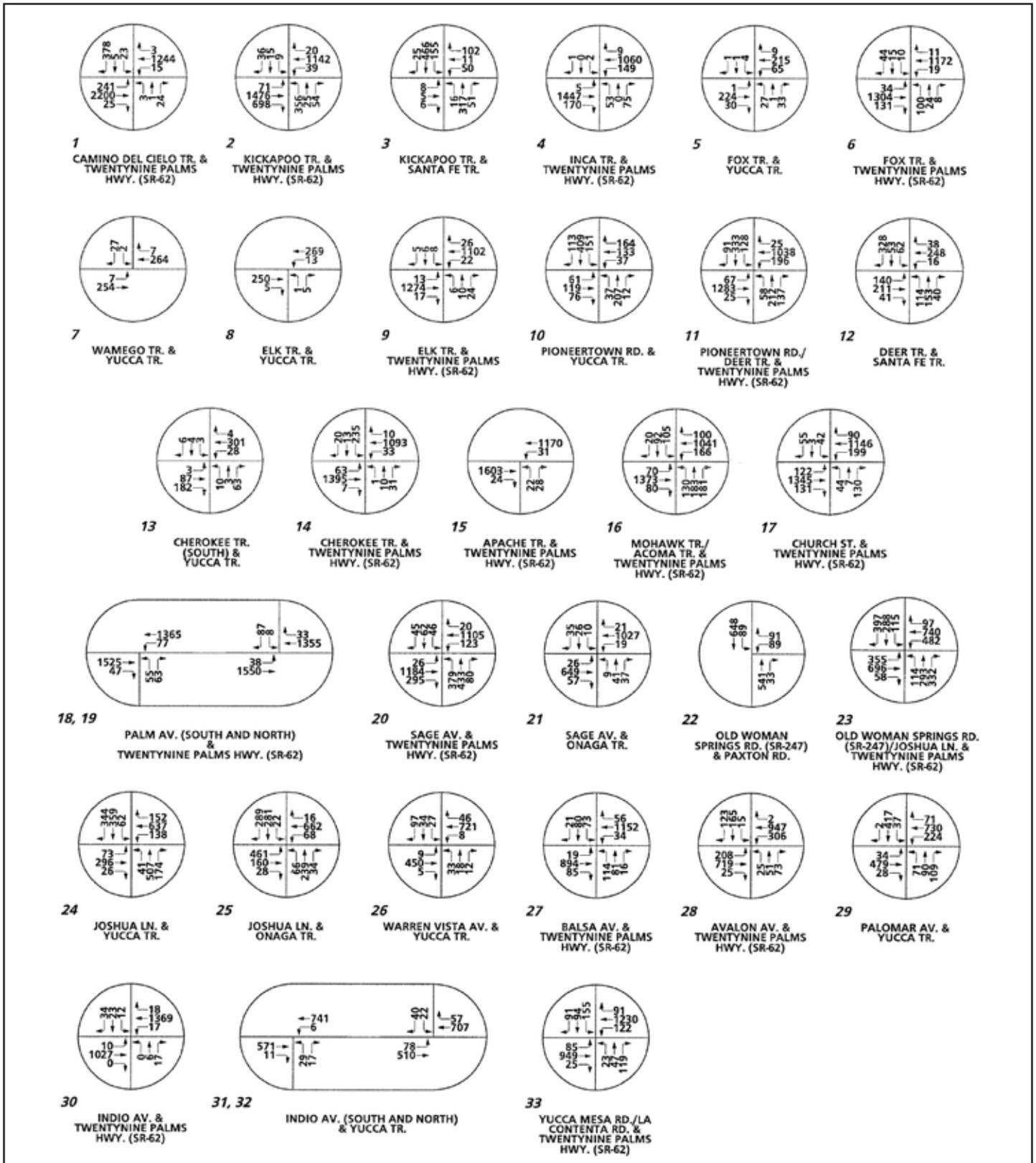


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**2030 Horizon Year ADT Without Project**

**Exhibit 5.1-21**



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE

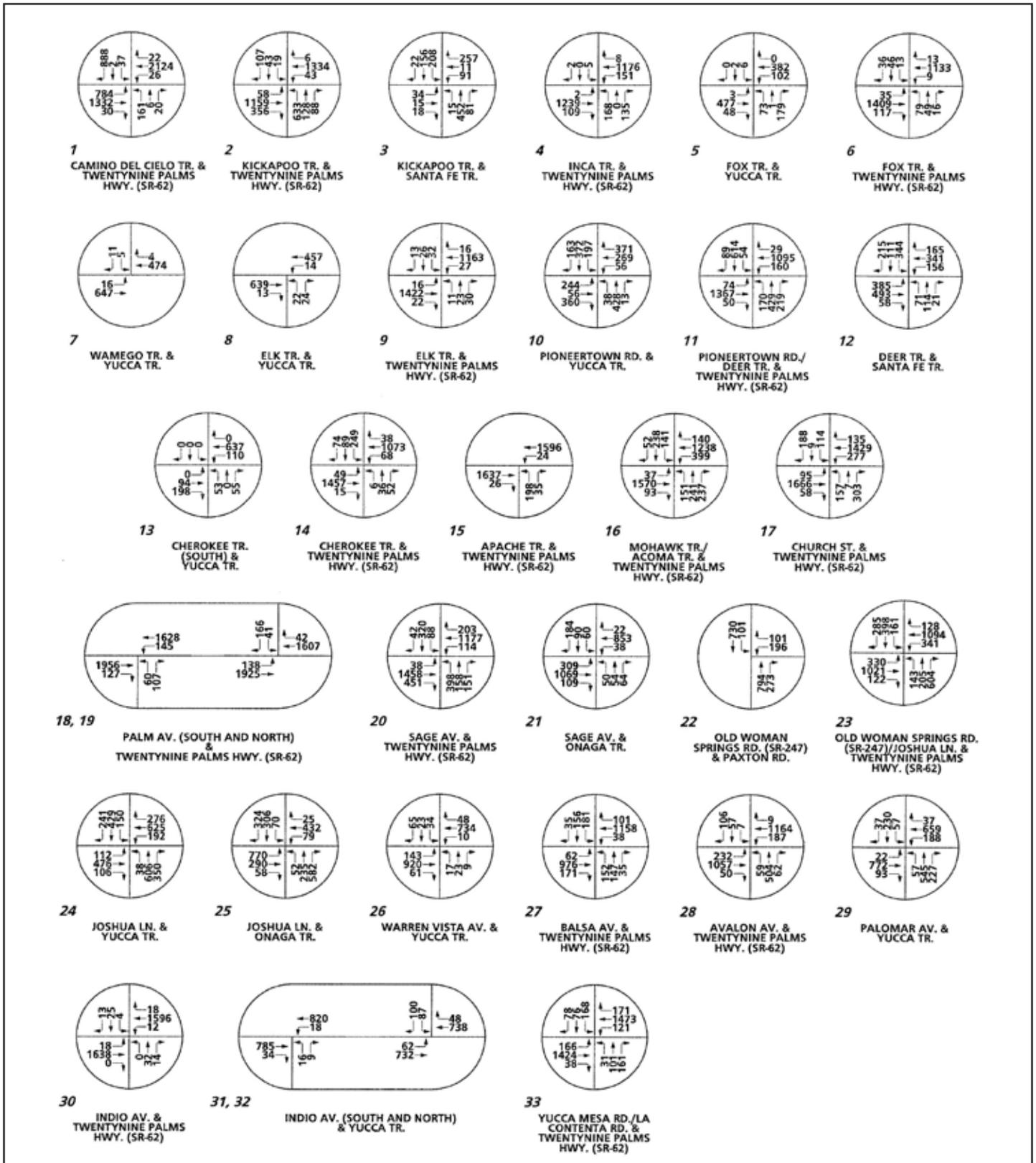


# 2030 Horizon Year AM Peak Hour Intersection Volumes - Without Project

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OLD TOWN YUCCA VALLEY SPECIFIC PLAN

Exhibit 5.1-22



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE



2030 Horizon Year PM Peak Hour Intersection Volumes - Without Project

ENVIRONMENTAL IMPACT REPORT  
OLD TOWN YUCCA VALLEY SPECIFIC PLAN



**Table 5.1-4**  
**Intersection Analysis – 2030 Horizon Year Without Project Conditions**

Study Intersection	AM Peak Hour			PM Peak Hour	
	Traffic Control <sup>1</sup>	Delay (seconds) <sup>2</sup>	LOS	Delay (seconds) <sup>2</sup>	LOS
Camino del Cielo Trail (NS) at: • Twentynine Palms Hwy. (SR-62) (EW) - With Improvements <sup>4</sup>	CSS <u>TS</u> <sup>5</sup>	- <sup>3</sup> 17.5	F B	- <sup>3</sup> 32.5	F C
Kickapoo Trail (NS) at: • Twentynine Palms Highway (SR-62) (EW) • Santa Fe Trail - With Improvements	TS CSS <u>TS</u>	32.4 49.8 20.7	C E C	35.1 - <sup>3</sup> 30.4	D F C
Inca Trail (NS) at: • Twentynine Palms Highway (SR-62) (EW) - With Improvements	CSS <u>TS</u>	- <sup>3</sup> 20.5	F C	- <sup>3</sup> 27.4	F C
Fox Trail (NS) at: • Yucca Trail (EW) - With Improvements • Twentynine Palms Highway (SR-62) (EW) - With Improvements	CSS <u>TS</u> CSS <u>TS</u>	14.9 19.0 - <sup>3</sup> 17.9	B B F B	44.4 23.5 - <sup>3</sup> 17.7	E C F B
Wamego Trail (NS) at: • Yucca Trail (EW)	CSS	10.1	B	15.4	C
Elk Trail (NS) at: • Yucca Trail (EW) • Twentynine Palms Highway (SR-62) (EW) - With Improvements <sup>6</sup>	CSS CSS <u>TS</u>	12.5 - <sup>3</sup> 15.1	B F B	24.4 - <sup>3</sup> 16.7	C F B
Pioneertown Road (NS) at: • Yucca Trail (EW) - With Improvements	AWS <u>TS</u>	- <sup>3</sup> 24.8	F C	- <sup>3</sup> 38.5	F D
Pioneertown Road/Deer Trail (NS) at: • Twentynine Palms Highway (SR-62) (EW)	TS	12.3	B	19.0	B
Deer Trail (NS) at: • Santa Fe Trail (EW) - With Improvements	CSS <u>TS</u>	- <sup>3</sup> 25.7	F C	- <sup>3</sup> 48.7	F D
Cherokee Trail (South) (NS) at: • Yucca Trail (EW) - With Improvements	CSS <u>TS</u>	12.7 21.6	B C	23.4 9.4	C A
Cherokee Trail (NS) at: • Twentynine Palms Highway (SR-62) (EW) - With Improvements	CSS <u>TS</u>	- <sup>3</sup> 29.1	F C	- <sup>3</sup> 31.5	F C
Apache Trail (NS) at: • Twentynine Palms Highway (SR-62) (EW) - With Improvements	CSS <u>TS</u>	- <sup>3</sup> 3.7	F A	- <sup>3</sup> 6.3	F A
Mohawk Trail/Acoma Trail (NS) at:] • Twentynine Palms Highway (SR-62) (EW) - With Improvements	TS	21.1	C	35.5	D
Church Street (NS) at: • Twentynine Palms Highway (SR-62) (EW) - With Improvements	CSS <u>TS</u>	- <sup>3</sup> 24.9	F C	- <sup>3</sup> 43.6	F D
Palm Avenue (South) (NS) at: • Twentynine Palms Highway (SR-62) (EW) - With Improvements	CSS	- <sup>3</sup>	F	- <sup>3</sup>	F
Palm Avenue (North) (NS) at: • Twentynine Palms Highway (SR-62) (EW)	CSS	- <sup>3</sup>	F	- <sup>3</sup>	F



**Table 5.1-4 [continued]**  
**Intersection Analysis – 2030 Horizon Year Without Project Conditions**

Study Intersection	AM Peak Hour			PM Peak Hour	
	Traffic Control <sup>1</sup>	Delay (seconds) <sup>2</sup>	LOS	Delay (seconds) <sup>2</sup>	LOS
Palm Avenue (NS) at: • Twentynine Palms Highway (SR-62) (EW) - With Improvements <sup>7</sup>	<b>TS</b>	17.6	B	24.5	C
Sage Avenue (NS) at: • Twentynine Palms Highway (SR-62) (EW) • Onaga Trail (EW) - With Improvements	TS AWS <b>TS</b>	15.1 - <sup>3</sup> 22.7	B F C	13.6 - <sup>3</sup> 41.0	B F D
Old Woman Springs Road (SR-247) (NS) at: • Paxton Road (EW) - With Improvements	CSS <b>TS</b>	76.7 9.8	F A	- <sup>3</sup> 12.2	F B
Old Woman Springs Road (SR-247)/Joshua Tree Lane (NS) at: • Twentynine Palms Highway (SR-62) (EW) - With Improvements	TS	31.7	C	39.1	D
Joshua Tree Lane (NS) at: • Yucca Trail (EW) - With Improvements • Onaga Trail (EW) - With Improvements	AWS <b>TS</b> AWS <b>TS</b>	- <sup>3</sup> 27.3 - <sup>3</sup> 37.6	F C F D	- <sup>3</sup> 39.5 - <sup>3</sup> 42.9	F D F D
Warren Vista Avenue (NS) at: • Yucca Trail (EW) - With Improvements	CSS <b>TS</b>	84.0 17.7	F B	- <sup>3</sup> 20.4	F C
Balsa Avenue (NS) at: • Twentynine Palms Highway (SR-62) (EW)	TS	16.7	B	18.9	B
Avalon Avenue (NS) at: • Twentynine Palms Highway (SR-62) (EW)	TS	30.1	C	33.6	C
Palomar Avenue (NS) at: • Yucca Trail (EW) - With Improvements	AWS <b>TS</b>	- <sup>3</sup> 40.2	F D	- <sup>3</sup> 34.8	F C
Indio Avenue (NS) at: • Twentynine Palms Highway (SR-62) (EW) - With Improvements <sup>6</sup>	CSS <b>TS</b>	- <sup>3</sup> 13.6	F B	- <sup>3</sup> 15.5	F B
Indio Avenue(South) (NS) at: • Yucca Trail (EW) - With Improvements	CSS <b>AWS</b>	27.4 13.7	D B	40.1 18.3	E C
Indio Avenue(North) (NS) at: • Yucca Trail (EW) - With Improvements	CSS <b>TS</b>	25.5 6.6	D A	- <sup>3</sup> 9.2	F A
Yucca Mesa Road/La Contenta Road (NS) at: • Twentynine Palms Highway (SR-62) (EW)	TS	19.3	B	24.5	C

1. CSS = Cross Street Stop; TS = Traffic Signal; AWS = All-Way Stop.
2. Delay and level of service calculated using the following analysis software: Traffix, Version 7.8 R2 (2006). Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for worst individual movement (or movements sharing a single lane) are shown.
3. - = Delay High or V/C Ratio exceeding 1.0, Intersection Unstable, Level of Service "F".
4. Pedestrian crossing would be prohibited along the east and west legs of the intersection in order to provide acceptable LOS operations.
5. **Bold** = Improvement.
6. This intersection does not warrant a traffic signal; however, no other feasible improvements would provide acceptable LOS operations.
7. The adjacent intersections of Palm Avenue (South) and Palm Avenue (North) at Twentynine Palms Highway (SR-62) are to be improved by means of a single traffic signal to control both of them. Pedestrian crossing would be prohibited along the east leg of the intersection in order to provide acceptable LOS operations.



Project conditions are included in Appendix 15.3. As shown in Table 5-1, the following study area intersections are projected to experience unacceptable levels of service during the peak hours (without improvements) and are, therefore, deficient per Town of Yucca Valley/County of San Bernardino criteria:

- ◆ Camino del Cielo Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Kickapoo Trail (NS) at Santa Fe Trail (EW);
- ◆ Inca Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Fox Trail (NS) at Yucca Trail (EW);
- ◆ Fox Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Elk Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Pioneertown Road (NS) at Yucca Trail (EW);
- ◆ Deer Trail (NS) at Santa Fe Trail (EW);
- ◆ Cherokee Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Apache Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Church Street (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Palm Avenue (South) (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Palm Avenue (North) (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Sage Avenue (NS) at Onaga Trail (EW);
- ◆ Old Woman Springs Road (SR-247) (NS) at Paxton Road (EW);
- ◆ Joshua Tree Lane (NS) at Yucca Trail (EW);
- ◆ Joshua Tree Lane (NS) at Onaga Trail (EW);
- ◆ Warren Vista Avenue (NS) at Yucca Trail (EW);
- ◆ Palomar Avenue (NS) at Yucca Trail (EW);
- ◆ Indio Avenue (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Indio Avenue (South) (NS) at Yucca Trail (EW); and
- ◆ Indio Avenue (North) (NS) at Yucca Trail (EW).

In addition, traffic signal control is anticipated to be warranted at the following study area intersection for 2030 Horizon Year Without Project conditions. Although the intersection is projected to operate at acceptable LOS, it was also analyzed assuming the provision of traffic signal control:

- ◆ Cherokee Trail (South) (NS) at Yucca Trail (EW).

Three of the study area intersections that have been identified as operationally deficient do not meet planning level signal warrants. Improvements analysis has included traffic signal control, as no other feasible improvements would provide acceptable LOS operations at the following locations:

- ◆ Elk Trail (NS) at Twentynine Palms Highway (SR-62) (EW);
- ◆ Indio Avenue (NS) at Twentynine Palms Highway (SR-62) (EW); and
- ◆ Indio Avenue (South) (NS) at Yucca Trail (EW).

The adjacent intersections of Palm Avenue (South) and Palm Avenue (North) at Twentynine Palms Highway (SR-62) present a special case. Both Palm Avenue intersections with Twentynine Palms Highway (SR-62) warrant traffic signal control and operate at deficient levels of service under 2030 Horizon Year Without Project



conditions. In order to provide acceptable traffic operations, a traffic signal is required, which would control both Palm Avenue (South and North) intersections with Twentynine Palms Highway (SR-62). The Caltrans Traffic Manual requires that offset intersections be within 60 meters (outside curb-to-outside curb distance) of each other in order to be signalized as a single intersection. The Palm Avenue (South and North) legs fit this criterion. This improvement for the Palm Avenue intersections with Twentynine Palms Highway (SR-62) are also assumed in the 2030 Horizon Year With Project operations analysis.

The intersection operations analyses for 2030 Horizon Year Without Project conditions *with improvements* are also included in [Table 5.1-4](#). As shown in [Table 5.1-4](#), all of the study area intersections are projected to operate at acceptable levels of service during the peak hours, with the identified improvements.

### **2030 Horizon Year With Project Conditions (With SR-62 Realignment)**

#### **2030 HORIZON YEAR WITH PROJECT DAILY TRAFFIC VOLUMES**

ADT volumes for 2030 Horizon Year With Project conditions have been determined, as described above. [Exhibit 5.1-24, 2030 Horizon Year ADT – With Project](#), shows the ADT volumes, which can be expected for the 2030 Horizon Year With Project conditions. The traffic patterns are generally similar to 2030 without Project conditions. SR-62 is projected to carry traffic volumes ranging from 34,300 VPD to 59,700 VPD in the study area. SR-247, Yucca Trail, Joshua Tree Lane, and Onaga Trail are also expected to carry daily traffic volumes in excess of 20,000 VPD. The primary difference is that realigning SR-62 would reduce traffic volumes on Main Street in the Old Town area to between 3,200 and 6,600 VPD.

As described above, the proposed SR-62 realignment and Old Town Yucca Valley Specific Plan circulation plan have altered the names and geometric configurations of intersections within the SPA (as well as added two additional analysis locations). As such, regardless of whether the affected intersections warranted a traffic signal under existing or 2030 Horizon Year Without Project conditions, the intersections were reanalyzed with respect to traffic signal warrants under 2030 Horizon Year With Project conditions. Intersections outside the SPA were compared only with existing conditions, as the proposed Project is a Specific Plan that proposes a *General Plan* amendment (and not an additional project added) to the currently adopted *General Plan*. Traffic signals are anticipated to be warranted at the following intersections for 2030 Horizon Year With Project conditions:

- ◆ Camino del Cielo Trail (NS) at SR-62 (EW);
- ◆ Kickapoo Trail (NS) at Santa Fe Trail (EW);
- ◆ Main Street (Western Gateway) (NS) at SR-62 (EW);
- ◆ Fox Trail (NS) at SR-62 (EW);
- ◆ Elk Trail (NS) at SR-62 (EW);
- ◆ Pioneertown Road (NS) at SR-62 (EW);
- ◆ Pioneertown Road/Deer Trail (NS) at Main Street (EW);





- ◆ Deer Trail (NS) at Santa Fe Trail (EW);
- ◆ Main Street (Eastern Gateway) (NS) at SR-62 (EW);
- ◆ Apache Trail (NS) at SR-62 (EW);
- ◆ Sage Avenue (NS) at Onaga Trail (EW);
- ◆ Old Woman Springs Road (SR-247) (NS) at Paxton Road (EW);
- ◆ Joshua Tree Lane (NS) at Onaga Trail (EW);
- ◆ Warren Vista Avenue (NS) at Yucca Trail (EW); and
- ◆ Indio Avenue (North) (NS) at Yucca Trail (EW).

The intersection of the North Site Access Driveway at Yucca Trail does not satisfy the Planning Level traffic signal warrant (based on intersection approach ADT), but does satisfy the Peak Hour warrant (Warrant 3) detailed in the 2003 Manual of Uniform Traffic Control Devices (MUTCD).

Appendix 15.3 includes the traffic signal warrant analysis worksheets and the daily traffic volume calculations.

### **2030 HORIZON YEAR WITH PROJECT OPERATIONS**

The intersection operations analysis for 2030 Horizon Year With Project conditions is summarized in Table 5.1-5, *Intersection Analysis – 2030 Horizon Year With Project Conditions*. 2030 Horizon Year with Project AM and PM peak hour intersection turning movement volumes are presented on Exhibits 5.1-25, *2030 Horizon Year AM Peak Hour Intersection Volumes – With Project*, and 5.1-26, *2030 Horizon Year PM Peak Hour Intersection Volumes – With Project*, respectively. The operations analysis worksheets for 2030 Horizon Year With Project conditions are included in Appendix 15.3. As shown in Table 5.1-5, the following study area intersections are projected to experience unacceptable levels of service during the peak hours (without improvements) and are, therefore, deficient per the Town of Yucca Valley/County of San Bernardino criteria:

- ◆ Camino del Cielo Trail (NS) at SR-62 (EW);
- ◆ Kickapoo Trail (NS) at Santa Fe Trail (EW);
- ◆ Pioneertown Road (NS) at SR-62 (EW);
- ◆ Deer Trail (NS) at Santa Fe Trail (EW);
- ◆ Church Street (NS) at SR-62 (EW);
- ◆ Palm Avenue (South) (NS) at SR-62 (EW);
- ◆ Palm Avenue (North) (NS) at SR-62 (EW);
- ◆ Sage Avenue (NS) at Onaga Trail (EW);
- ◆ Old Woman Springs Road (SR-247) (NS) at Paxton Road (EW);
- ◆ Old Woman Springs Road (SR-247)/Joshua Tree Lane (NS) at SR-62 (EW);
- ◆ Joshua Tree Lane (NS) at Yucca Trail (EW);
- ◆ Joshua Tree Lane (NS) at Onaga Trail (EW);
- ◆ Warren Vista Avenue (NS) at Yucca Trail (EW);
- ◆ Palomar Avenue (NS) at Yucca Trail (EW);
- ◆ Indio Avenue (NS) at SR-62 (EW);
- ◆ Indio Avenue (South) (NS) at Yucca Trail (EW); and
- ◆ Indio Avenue (North) (NS) at Yucca Trail (EW).



**Table 5.1-5**  
**Intersection Analysis – 2030 Horizon Year With Project Conditions**

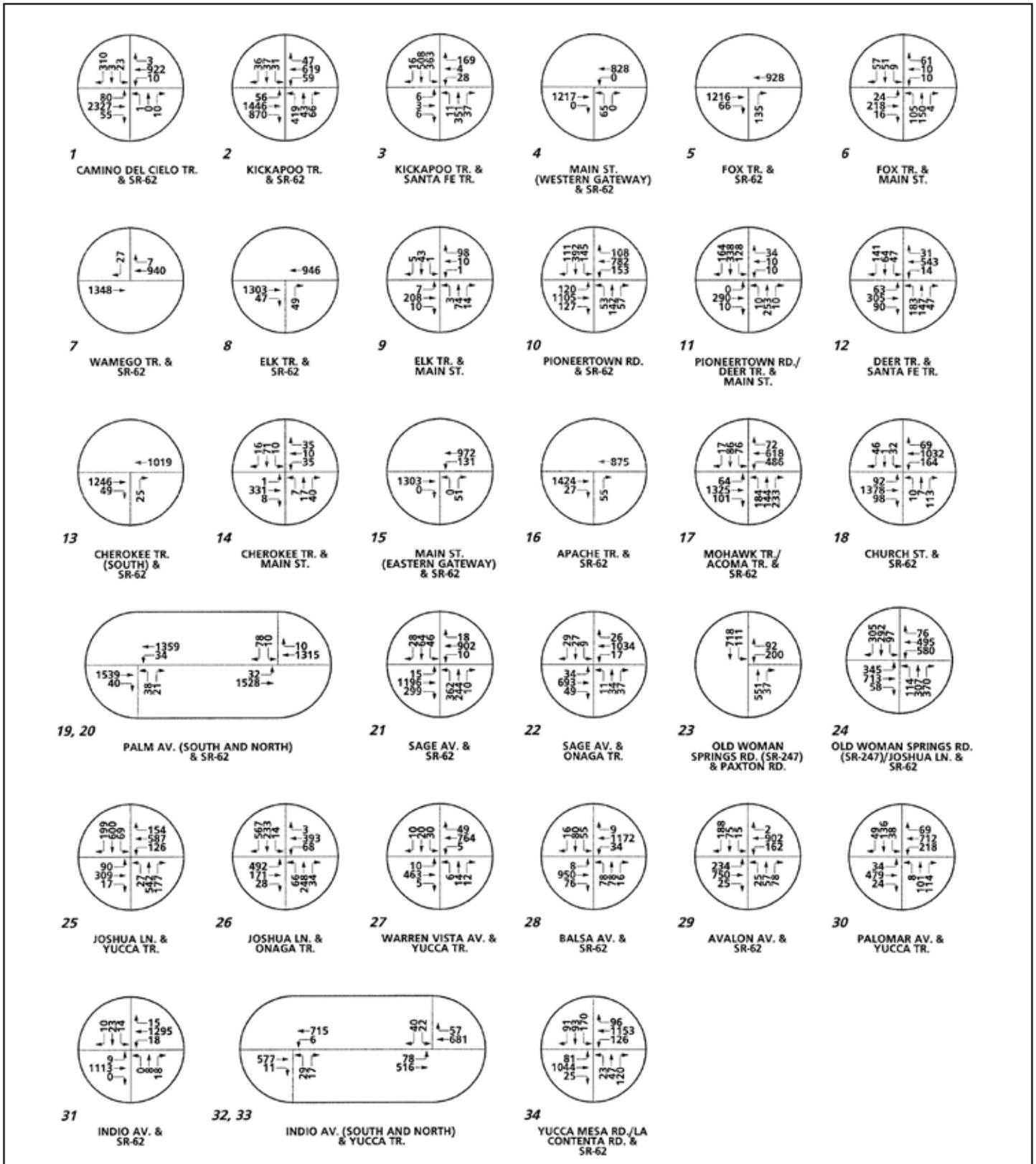
Study Intersection	AM Peak Hour			PM Peak Hour	
	Traffic Control <sup>1</sup>	Delay (seconds) <sup>2</sup>	LOS	Delay (seconds) <sup>2</sup>	LOS
Camino del Cielo Trail (NS) at: • SR-62 (EW) - With Improvements <sup>4</sup>	CSS <u>TS</u> <sup>5</sup>	– <sup>3</sup> 24.2	F C	– <sup>3</sup> 30.5	F C
Kickapoo Trail (NS) at: • SR-62 (EW) <sup>6</sup> - With Improvements <sup>4</sup> • Santa Fe Trail - With Improvements	TS TS CSS <u>TS</u>	53.5 34.3 – <sup>3</sup> 28.3	F C F C	42.9 28.9 – <sup>3</sup> 46.7	D C F D
Main St. (Western Gateway) at: • SR-62 (EW) <sup>7</sup> - With Improvements	– <u>TS</u>	– 6.5	– A	– 8.9	– A
Fox Trail (NS) at: • SR-62 (EW) <sup>6</sup> - With Improvements Main St. (EW) <sup>6</sup>	– CSS CSS	– <sup>3</sup> 13.8 19.6	– B C	– 22.5 16.8	– C C
Wamego Trail (NS) at: • SR-62 (EW) <sup>6</sup> - With Improvements	– CSS	– 10.6	– B	– 11.8	– B
Elk Trail (NS) at: • SR-62 (EW) <sup>6</sup> - With Improvements • Main St. (EW) <sup>6</sup>	– CSS CSS	– 12.4 12.1	– B B	– 15.7 12.3	– C B
Pioneertown Road (NS) at: • SR-62 (EW) <sup>6</sup> - With Improvements	– <u>TS</u>	– 29.3	– C	– 39.6	– D
Pioneertown Road/Deer Trail (NS) at: • Main St. (EW) <sup>6</sup>	TS	18.1	B	16.9	B
Deer Trail (NS) at: • Santa Fe Trail (EW) - With Improvements	CSS <u>TS</u>	– 28.6	F C	– 35.9	F D
Cherokee Trail (South) (NS) at: • SR-62 (EW) <sup>6</sup> - With Improvements	– CSS	– 11.9	– B	– 13.3	– B
Cherokee Trail (NS) at: • Main St. (EW) <sup>6</sup>	CSS	13.5	B	11.7	B
Main St. (Eastern Gateway) (NS) at: • SR-62 (EW) <sup>7</sup> - With Improvements	– <u>TS</u>	– <sup>3</sup> 12.7	– B	– 12.8	– B
Apache Trail (NS) at: • SR-62 (EW) <sup>6</sup> - With Improvements	– CSS	– 12.9	– B	– 15.7	– C
Mohawk Trail/Acoma Trail (NS) at: • SR-62 (EW) <sup>6</sup>	TS	33.5	C	40.0	D
Church Street (NS) at: • SR-62 (EW) - With Improvements	CSS <u>TS</u>	– <sup>3</sup> 22.7	F C	– <sup>3</sup> 41.5	F D
Palm Avenue (South) (NS) at: • SR-62 (EW)	CSS	– <sup>3</sup>	F	– <sup>3</sup>	F
Palm Avenue (North) (NS) at: • SR-62 (EW)	CSS	– <sup>3</sup>	F	– <sup>3</sup>	F



**Table 5.1-5 [continued]**  
**Intersection Analysis – 2030 Horizon Year With Project Conditions**

Study Intersection	AM Peak Hour			PM Peak Hour	
	Traffic Control <sup>1</sup>	Delay (seconds) <sup>2</sup>	LOS	Delay (seconds) <sup>2</sup>	LOS
Palm Avenue (NS) at: • SR-62 (EW) - With Improvements <sup>8</sup>	<b>TS</b>	16.5	B	20.0	C
Sage Avenue (NS) at: • SR-62 (EW) • Onaga Trail (EW) - With Improvements	TS AWS <b>TS</b>	10.7 - <sup>3</sup> 23.3	B F C	15.6 - <sup>3</sup> 29.6	B F C
Old Woman Springs Road (SR-247) (NS) at: • Paxton Road (EW) - With Improvements	CSS <b>TS</b>	- <sup>3</sup> 12.1	F B	- <sup>3</sup> 13.8	F B
Old Woman Springs Road (SR-247)/Joshua Tree Lane (NS) at: • SR-62 (EW) - With Improvements	TS TS	37.5 27.9	D C	- 38.5	F D
Joshua Tree Lane (NS) at: • Yucca Trail (EW) - With Improvements • Onaga Trail (EW) - With Improvements	AWS <b>TS</b> AWS <b>TS</b>	- <sup>3</sup> 32.8 - <sup>3</sup> 40.8	F C F D	- <sup>3</sup> 47.4 - <sup>3</sup> 52.3	F D F D
Warren Vista Avenue (NS) at: • Yucca Trail (EW) - With Improvements	CSS <b>TS</b>	47.7 13.3	E B	- <sup>3</sup> 17.3	F B
Balsa Avenue (NS) at: • SR-62 (EW)	TS	15.0	B	17.1	B
Avalon Avenue (NS) at: • SR-62 (EW)	TS	25.6	C	30.5	C
Palomar Avenue (NS) at: • Yucca Trail (EW) - With Improvements	AWS <b>TS</b>	- <sup>3</sup> 27.7	F C	- <sup>3</sup> 35.2	F D
Indio Avenue (NS) at: • SR-62 (EW) - With Improvements <sup>9</sup>	CSS <b>TS</b>	- <sup>3</sup> 13.2	F B	- <sup>3</sup> 16.1	F B
Indio Avenue(South) (NS) at: • Yucca Trail (EW) - With Improvements	CSS <b>AWS</b>	26.7 13.4	D B	40.5 18.6	E C
Indio Avenue(North) (NS) at: • Yucca Trail (EW) - With Improvements	CSS <b>TS</b>	24.6 6.6	C A	- <sup>3</sup> 9.4	F A
Yucca Mesa Road/La Contenta Road (NS) at: • SR-62 (EW)	TS	17.7	B	20.8	C

1. CSS = Cross Street Stop; TS = Traffic Signal; AWS = All-Way Stop.
2. Delay and level of service calculated using the following analysis software: Traffix, Version 7.8 R2 (2006). Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for worst individual movement (or movements sharing a single lane) are shown.
3. - = Delay High or V/C Ratio exceeding 1.0, Intersection Unstable, Level of Service "F".
4. Pedestrian crossing would be prohibited along the east and/or west legs of the intersection in order to provide acceptable LOS operations.
5. **Bold** = Improvement.
6. Geometric changes assumed at intersection in conjunction with the SR-62 Realignment (Alt. D) and proposed Old Town Yucca Valley Specific Plan Circulation Plan.
7. New analysis locations resulting from the SR-62 Realignment (Alt. D) and proposed Old Town Yucca Valley Specific Plan Circulation Plan.
8. The adjacent intersections of Palm Avenue (south) and Palm Avenue (North) at SR-62 are to be improved by means of a single traffic signal to control both of them. Pedestrian crossing would be prohibited along the east leg of the intersection in order to provide acceptable LOS operations.
9. This intersection does not warrant a traffic signal; however, no other feasible improvements would provide acceptable LOS operations.



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE

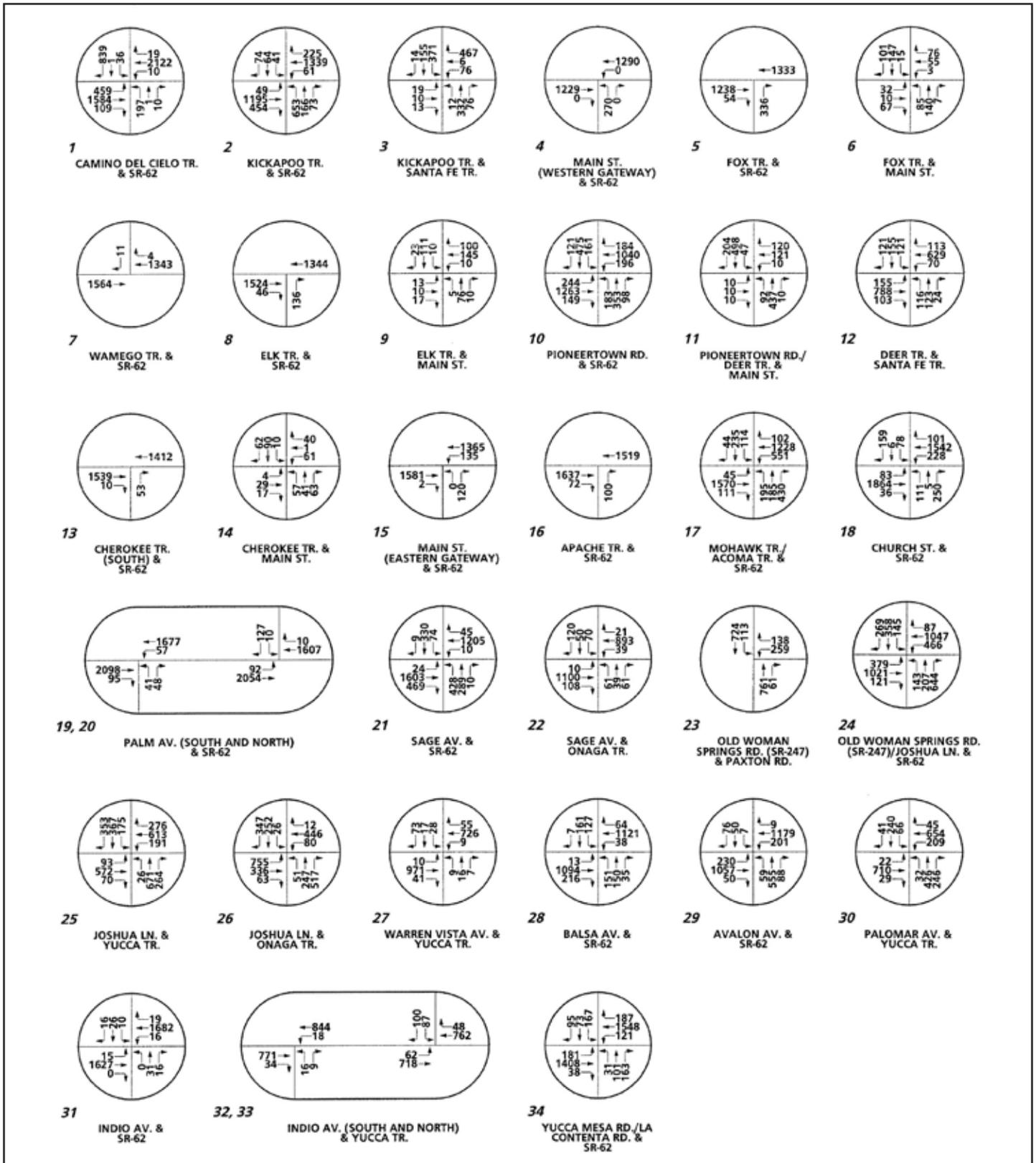


08/07 • JN 10-104893

## 2030 Horizon Year AM Peak Hour Intersection Volumes - With Project

ENVIRONMENTAL IMPACT REPORT  
OLD TOWN YUCCA VALLEY SPECIFIC PLAN

Exhibit 5.1-25



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE



## 2030 Horizon Year PM Peak Hour Intersection Volumes - With Project

ENVIRONMENTAL IMPACT REPORT  
OLD TOWN YUCCA VALLEY SPECIFIC PLAN

Exhibit 5.1-26

08/07 • JN 10-104893



The intersections (outside the Project area) expected to experience deficient operations are consistent with the intersections identified for 2030 Without Project conditions.

Two of the study area intersections that have been identified as operationally deficient do not meet planning level signal warrants. Improvements analysis has included traffic signal control, as no other feasible improvements would provide acceptable LOS operations at the following locations:

- ◆ Indio Avenue (NS) at SR-62 (EW); and
- ◆ Indio Avenue (South) (NS) at Yucca Trail (EW).

The intersection operations analyses for 2030 Horizon Year With Project conditions *with improvements* are also included in Table 5.1-5, *Intersection Analysis – 2030 Horizon Year With Project Conditions*. As shown in Table 5.1-5, all of the study area intersections are projected to operate at acceptable levels of service during the peak hours, with the identified improvements. Most of the differences in required improvements compared to the 2030 Without Project (currently adopted *General Plan*) conditions occur within the SPA and are a direct result of the proposed realignment of SR-62. The only other difference identified through this analysis is a second westbound left-turn lane at the intersection of SR-247 and SR-62.

### **Required Improvements and Project Contribution**

This section of the report summarizes the improvements required to meet CMP level of service requirements at CMP analysis locations.

#### **2030 CMP REQUIRED IMPROVEMENTS**

Improvements, which would eliminate all anticipated roadway operational deficiencies throughout the study area, have been identified for 2030 Horizon Year traffic conditions. The improvements were determined as part of the operations analysis presented above. Table 5.1-6, *2030 Improvements*, specifies the needed 2030 improvements for the study area intersections.

The definition of an intersection deficiency for intersections in the Town of Yucca Valley sphere of influence has been obtained from the Town of Yucca Valley General Plan. The General Plan states that peak hour intersection operations of LOS “D” or better are considered acceptable. Therefore, any Town of Yucca Valley intersection operating at LOS “E” or LOS “F” would be considered deficient. Per CMP and CALTRANS direction, state controlled facilities (state highways, freeway ramp intersection, etc.) are subject to local jurisdiction traffic operations requirements, with no greater than a 45-second average stopped delay per vehicle during peak hour operations (middle of LOS “D”).

Improvement measures have been evaluated based on each intersection’s mitigation requirements, to restore traffic operations to an acceptable level of service with respect to CMP and local jurisdiction LOS standards.



**Table 5.1-6**  
**2030 Improvements**

Intersection	Improvement
Camino Del Cielo Tr. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Install a traffic signal Restripe NB shared left through lane as 1st exclusive left turn lane Reconstruct NB right turn lane as 1st through lane Restripe SB shared left through lane as 1st exclusive left turn lane Construct 1st SB through lane Construct 2nd SB right turn lane with Overlap phase Construct 2nd EB Left Turn lane Construct 2nd and 3rd WB through lane
Kickapoo Tr. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Construct 2nd NB Left Turn Lane Construct 3rd EB Through Lane Construct 3rd WB Through Lane
<ul style="list-style-type: none"> <li>• Santa Fe Tr. (EW)</li> </ul>	Install a traffic signal Construct 1st SB Left Turn Lane Construct 1st EB Left Turn Lane
Main St. (Western Gateway) (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Install a traffic signal Construct 1st NB Left Turn Lane Construct 1st NB Right Turn Lane Construct 1st, 2nd, and 3rd EB Through Lanes <sup>1</sup> Construct 1st WB Left Turn Lane Construct 1st, 2nd, and 3rd WB Through Lanes <sup>1</sup>
Fox Tr. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Construct 1st NB Right Turn Lane Construct 1st, 2nd, and 3rd EB Through lanes <sup>1</sup> Construct 1st, 2nd, and 3rd WB Through lanes <sup>1</sup>
Warrego Tr. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Construct 1st SB Right Turn lane Construct 1st, 2nd, and 3rd EB Through lanes <sup>1</sup> Construct 1st, 2nd, and 3rd WB Through lanes <sup>1</sup>
Elk Tr. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Construct 1st NB Right Turn Lane Construct 1st, 2nd, and 3rd EB Through lanes <sup>1</sup> Construct 1st, 2nd, and 3rd WB Through lanes <sup>1</sup>
Pioneertown Rd. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Install a traffic signal Construct 1st NB left Turn lane Construct 1st NB Through lane Construct 1st SB left Turn lane Construct 1st SB through lane Construct 1st SB Right Turn lane Construct 1st EB left Turn Lane
Cherokee Tr. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Construct 1st NB Right Turn Lane Construct 1st, 2nd, and 3rd EB Through Lanes <sup>1</sup> Construct 1st, 2nd, and 3rd WB Through Lanes <sup>1</sup>
Main St. (Eastern Gateway) (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Install a traffic signal Construct 1st NB Left Turn Lane Construct 1st NB Right Turn Lane Construct 1st, 2nd, and 3rd EB Through Lanes <sup>1</sup> Construct 1st WB Left Turn Lane Construct 1st, 2nd, and 3rd WB Through Lanes <sup>1</sup>
Apache Tr. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Construct 1st NB Right Turn Lane Reconstruct Existing EB Right Turn Lane as 3rd Through Lane Reconstruct Existing WB Left Turn Lane as 3rd Through Lane



**Table 5.1-6 [continued]**  
**2030 Improvements**

Intersection	Improvement
Mohawk Tr./Acoma Tr. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Reconstruct Existing EB Right Turn Lane as 3rd Through Lane Reconstruct Existing WB Right Turn Lane as 2nd Through Lane Construct 3rd WB Through Lane
Church St. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Install a traffic signal Construct 1st NB Left Turn Lane Restripe SB shared left through lane as 1st exclusive left turn lane Reconstruct SB Right Turn Lane as 1st Through lane
Palm Av. (South) (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Install a Traffic Signal <sup>2</sup> Construct 3rd EB Through Lane
Palm Av. (North) (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Install a Traffic Signal
Sage Av. (NS) at: <ul style="list-style-type: none"> <li>• Onaga Tr. (EW)</li> </ul>	Install a Traffic Signal Construct 1st WB Left Turn Lane
Old Woman Springs Rd. (SR 247) (NS) at: <ul style="list-style-type: none"> <li>• Paxton Rd. (EW)</li> </ul>	Install a Traffic Signal Construct 2nd NB Through Lane Construct 2nd SB Through Lane
Old Woman Springs Rd. (SR 247)/Joshua Ln. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Construct 2nd WB Left Turn Lane
Joshua Ln. (NS) at: <ul style="list-style-type: none"> <li>• Yucca Tr. (EW)</li> </ul>	Install a Traffic Signal
Warren Vista Av. (NS): <ul style="list-style-type: none"> <li>• Yucca Tr. (EW)</li> </ul>	Install a Traffic Signal Restripe NB Shared Left Through Lane as 1st Exclusive Left Turn Lane Reconstruct NB Right Turn Lane as 1st Through Lane Construct 1st SB Left Turn Lane Restripe EB Shared Left Through Lane as 1st Exclusive Left Turn Lane Reconstruct EB Right Turn Lane as 1st Through Lane Restripe WB Shared Left Through Lane as 1st Exclusive Left Turn Lane Reconstruct WB Right Turn Lane as 1st Through Lane
Palomar Av. (NS) at: <ul style="list-style-type: none"> <li>• Yucca Tr. (EW)</li> </ul>	Install a Traffic Signal Construct 1st NB Left Turn Lane Construct 2nd NB Through Lane Construct 1st SB Left Turn Lane Construct 1st EB Left Turn Lane Construct 2nd EB Through Lane Restripe WB Shared Left Through Lane as 1st Exclusive Left Turn Lane Reconstruct WB Right Turn Lane as 1st Through Lane
Indio Av. (NS) at: <ul style="list-style-type: none"> <li>• SR-62 (EW)</li> </ul>	Install a Traffic Signal Construct 1st NB Left Turn Lane Construct 1st SB Left Turn Lane
Indio Av. (South) (NS) at: <ul style="list-style-type: none"> <li>• Yucca Tr. (EW)</li> </ul>	Install All Way Stop Construct 2nd EB Through Lane Restripe WB Shared Left Through Lane as 1st Exclusive Left Turn Lane Construct 1st and 2nd WB Through Lanes
Indio Av. (North) (NS) at: <ul style="list-style-type: none"> <li>• Yucca Tr. (EW)</li> </ul>	Install a Traffic Signal Restripe EB Shared Left Through Lane as 1st Exclusive Left Turn Lane Construct 1st EB Through Lane
1. See Appendix H for "through" cost calculation 2. Cost of \$250,000 for Traffic Signal Installation is divided between Palm Avenue (North) and Palm Avenue (South) at SR-62	



## 2030 Improvements

Camino Del Cielo Trail (NS) at SR-62 (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. Needed improvements include installing a traffic signal. The northbound approach should be restriped to provide an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). The southbound approach would require an exclusive left turn lane, an exclusive through lane, and two right turn lanes with an overlap phase (this approach currently includes a shared left-through lane and an exclusive right turn lane). The eastbound approach would require the construction of a second EB left turn lane (this approach currently includes a single left turn lane). The westbound approach would require the construction of a second and third through lane (this approach currently includes a single through lane). These improvements would provide acceptable AM and PM peak hour operations.

Kickapoo Trail (NS) at SR-62 (EW). Deficiencies are projected for AM peak hour traffic operations. The intersection should be reconstructed to include a second northbound left turn lane, third eastbound through lane, and a third westbound through lane. These improvements would provide acceptable AM peak hour operations (there is no PM peak hour deficiency).

Kickapoo Trail (NS) at Santa Fe Trail (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. The intersection should be improved by installing a traffic signal. The southbound approach should also be reconstructed to provide its first exclusive left turn lane (this approach currently includes a shared left-through-right turn lane). The eastbound approach should also be reconstructed to provide its first exclusive left turn lane (this approach currently includes a shared left-through-right turn lane). These improvements would provide acceptable AM and PM peak hour operations.

Main Street (Western Gateway) (NS) at SR-62 (EW). This intersection is part of the SR-62 realignment. The intersection would need to be reconstructed to provide a traffic signal as its traffic control. The northbound approach should include an exclusive left turn lane and an exclusive right turn lane. The eastbound approach would need to be reconstructed to include three through lanes. The westbound approach would require reconstruction to include an exclusive left turn lane and three through lanes. These improvements would provide excellent AM and PM peak hour operations.

Fox Trail (NS) at SR-62 (EW). This intersection is part of the SR-62 realignment. The northbound approach should include an exclusive right turn lane. The eastbound approach would need to be reconstructed to include three through lanes. The westbound approach would require reconstruction to also include three through lanes. These improvements would provide acceptable AM and PM peak hour operations.

Wamego Trail (NS) at SR-62 (EW). This intersection is part of the SR-62 realignment. The southbound approach should include an exclusive right turn lane. The eastbound approach would need to be reconstructed to include three through



lanes. The westbound approach would require reconstruction to also include three through lanes. These improvements would provide acceptable AM and PM peak hour operations.

Elk Trail (NS) at SR-62 (EW). This intersection is part of the SR-62 realignment. The northbound approach should include an exclusive right turn lane. The eastbound approach would need to be reconstructed to include three through lanes. The westbound approach would require reconstruction to also include three through lanes. These improvements would provide acceptable AM and PM peak hour operations.

Pioneertown Road (NS) at SR-62 (EW). This intersection is part of the SR-62 realignment. The intersection would need to be reconstructed to provide a traffic signal as its traffic control. The northbound approach should include an exclusive left turn lane and a through lane. The southbound approach should be improved to include an exclusive left turn lane, a single through lane, and an exclusive right turn lane. The eastbound approach would need to be reconstructed to include an exclusive left turn lane and three through lanes. The westbound approach would require reconstruction to include an exclusive left turn lane and three through lanes. These improvements would provide acceptable AM and PM peak hour operations.

Deer Trail (NS) at Santa Fe Trail (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. Needed improvements include installing a traffic signal. The northbound approach should be restriped to provide an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). The southbound approach would require an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). The eastbound approach should be restriped to provide an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). The southbound approach should be restriped to provide an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). These improvements would provide acceptable AM and PM peak hour operations.

Cherokee Trail (South) (NS) at SR-62 (EW). This intersection is part of the SR-62 realignment. The northbound approach should include an exclusive right turn lane. The eastbound approach would need to be reconstructed to include three through lanes. The westbound approach would require reconstruction to also include three through lanes. These improvements would provide acceptable AM and PM peak hour operations.

Main Street (Eastern Gateway) (NS) at SR-62 (EW). This intersection is part of the SR-62 realignment. The intersection would need to be reconstructed to provide a traffic signal as its traffic control. The northbound approach should include an exclusive left turn lane and an exclusive right turn lane. The eastbound approach would need to be reconstructed to include three through lanes. The westbound approach would require reconstruction to include an exclusive left turn lane and three



through lanes. These improvements would provide acceptable AM and PM peak hour operations.

Apache Trail (NS) at SR-62 (EW). This intersection is part of the SR-62 realignment. The northbound approach should include an exclusive right turn lane. The eastbound approach would need to be reconstructed to include three through lanes. The westbound approach would require reconstruction to also include three through lanes. These improvements would provide acceptable AM and PM peak hour operations.

Mohawk Trail/Acoma Trail (NS) at SR-62 (EW). This intersection is part of the SR-62 realignment. The eastbound approach would need to be reconstructed to include three through lanes. The westbound approach would require reconstruction to also include three through lanes. These improvements would provide acceptable AM and PM peak hour operations.

Church Street (NS) at SR-62 (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. Needed improvements include installing a traffic signal. The northbound approach should be reconstructed to provide an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). The southbound approach would require an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). These improvements would provide acceptable AM and PM peak hour operations.

Palm Avenue (North and South) (NS) at SR-62 (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. Needed improvements include installing a traffic signal and phasing these two intersections to function as one intersection. The eastbound approach improvement should include the construction of a third through lane (this approach currently includes two through lanes). These improvements would provide acceptable AM and PM peak hour operations.

Sage Avenue (NS) at Onaga Trail (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. Needed improvements include installing a traffic signal. The westbound approach would require the construction of an exclusive left turn lane (this approach currently includes a shared left-through-right turn lane). These improvements would provide acceptable AM and PM peak hour operations.

Old Woman Springs Road (SR-247) (NS) at Paxton Road (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. Needed improvements include installing a traffic signal. The northbound approach should be reconstructed to provide a second through lane (this approach currently includes a single through lane). The southbound approach should be reconstructed to provide a second through lane (this approach currently includes a single through lane). These improvements would provide acceptable AM and PM peak hour operations.

Old Woman Springs Road (SR-247)/Joshua Tree Lane (NS) at SR-62 (EW). Deficiencies are projected for PM peak hour traffic operations. The westbound approach improvement includes the construction of a second westbound left turn



lane. This improvement would provide acceptable PM peak hour operations (there is no AM peak hour deficiency).

Joshua Tree Lane (NS) at Yucca Trail (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. The needed improvement is installation of a traffic signal. This improvement would provide acceptable AM and PM peak hour operations.

Joshua Tree Lane (NS) at Onaga Trail (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. Needed improvements include installing a traffic signal. The northbound approach improvements should include the construction of an exclusive left turn lane (this approach currently includes a shared left-through-right turn lane). The southbound approach improvements require restriping to include an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). The eastbound approach would require the construction of a two EB left turn lanes (this approach currently includes a shared left-through-right turn lane). The westbound approach would require the construction of an exclusive left turn lane and a second through lane (this approach currently includes a shared left-through-right turn lane). These improvements would provide acceptable AM and PM peak hour operations.

Warren Vista Avenue (NS) at Yucca Trail (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. Needed improvements include installing a traffic signal. The northbound approach improvements require restriping to include an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). The southbound approach would require the construction of an exclusive left turn lane (this approach currently includes a shared left-through-right turn lane). The eastbound approach improvements require restriping to include an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). The westbound approach improvements should include an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). These improvements would provide acceptable AM and PM peak hour operations.

Palomar Avenue (NS) at Yucca Trail (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. Needed improvements include installing a traffic signal. The northbound approach improvements should include the construction of an exclusive left turn lane and a second through lane (this approach currently includes a shared left-through-right turn lane). The southbound approach improvements include the construction of an exclusive left turn (this approach currently includes a shared left-through-right turn lane). The eastbound approach would require the construction of a left turn lane and a second through lane (this approach currently includes a shared left-through-right turn lane). The westbound approach would require restriping to include an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane and an exclusive right turn lane). These improvements would provide acceptable AM and PM peak hour operations.



Indio Avenue (NS) at SR-62 (EW). Deficiencies are projected for both AM and PM peak hour traffic operations. Needed improvements include installing a traffic signal. The northbound and southbound approach improvements include the construction of an exclusive left turn lane for each approach. These improvements would provide acceptable AM and PM peak hour operations.

Indio Avenue (South) (NS) at Yucca Trail (EW). Deficiencies are projected for PM peak hour traffic operations. Needed improvements include installing an All-Way-Stop. The eastbound approach improvements include the construction of a second through lane (this approach currently includes a shared through-right turn lane). The westbound approach improvements construction to include an exclusive left turn lane, and two through lanes (this approach currently includes a shared left-through lane). These improvements would provide acceptable PM peak hour operations (there is no AM peak hour deficiency).

Indio Avenue. (North) (NS) at Yucca Trail (EW). Deficiencies are projected for AM peak hour traffic operations. Needed improvements include installing a traffic signal. The eastbound approach improvements include the construction of an exclusive left turn lane and a through lane (this approach currently includes a shared left-through lane). These improvements would provide excellent AM and PM peak hour operations.

### **Project Contribution**

The Project's fair share contribution towards the required improvements has also been calculated, based on the Project's percent of new traffic; refer to Table 5.1-7, Project Fair Share Contribution.

The necessary off-site improvement recommendations were described above. The Project would be required to contribute towards the cost of necessary study area improvements on a fair share or "pro-rata" basis by paying development impact fees and/or additional fair share contributions towards improvements not included in the adopted fee program.

### **ON-SITE IMPROVEMENTS**

On-site improvements and improvements within the Old Town SPA would be required in conjunction with proposed development to ensure adequate circulation within the Project itself. Exhibit 5.1-27, Project Circulation Recommendations, illustrates the recommended roadway improvements to address on-site and regional (SR-62) circulation requirements within the SPA, which include the following:

- ◆ Construct a realigned SR-62 along Yucca Trail at its ultimate width as a 6-Lane Divided Highway in conjunction with the proposed Project.



**Table 5.1-7**  
**Project Fair Share Contribution**

Intersection	Peak Hour	Existing Traffic	2030 Horizon Year With Project Traffic	Project Traffic	Total New Traffic	Project Percent Of New Traffic
Camino Del Cielo Tr. (NS) at: • SR-62 (EW)	AM PM	1,806 2,217	3,744 5,387	1,045 2,574	1,938 3,170	53.92% 81.20%
Kickapoo Tr. (NS) at: • SR-62 (EW)	AM PM	2,000 2,239	3,729 4,394	1,201 1,928	1,729 2,155	69.46% 89.47%
• Santa Fe Tr. (EW)	AM PM	283 306	1,502 1551	310 299	1,219 1245	25.43% 24.02%
Main Sl. (Western Gateway) (NS) at: • SR-62 (EW)	AM PM	0 0	2,110 2,789	737 1,131	2,110 2,789	34.93% 40.55%
Fox Tr. (NS) at: • SR-62 (EW)	AM PM	277 258	2,345 2,961	625 1,130	2,068 2,703	30.22% 41.81%
Wamego Tr. (NS) at: • SR-62 (EW)	AM PM	262 239	2,322 2,922	625 1,130	2,060 2,683	30.34% 42.12%
Elk Tr. (NS) at: • SR-62 (EW)	AM PM	235 227	2,345 3,050	625 1,130	2,110 2,823	29.62% 40.03%
Pioneertown Rd. (NS) at: • SR-62 (EW)	AM PM	346 366	3,295 4,467	865 1,952	2,949 4,101	29.33% 47.60%
Deer Tr. (NS) at: • Santa Fe Tr. (EW)	AM PM	224 217	1,675 2,518	1,332 2,095	1,451 2,301	91.80% 91.05%
Cherokee Tr. (NS) at: • SR-62 (EW)	AM PM	149 140	2,339 3,014	1,352 2,188	2,190 2,874	61.74% 76.13%
Main Sl. (Eastern Gateway) (NS) at: • SR-62 (EW)	AM PM	0 0	2,457 3,203	1,405 2,193	2,457 3,203	57.18% 68.47%
Apache Tr. (NS) at: • SR-62 (EW)'	AM PM	2,082 2,784	2,381 3,328	1,405 2,193	299 544	469.90% 403.13%
Mohawk Tr./Acoma Tr. (NS) at: • SR-62 (EW)'	AM PM	2,156 2,987	3,406 4,810	1,392 2,098	1,250 1,823	111.36% 115.09%
Church Sl. (NS) at: • SR-62 (EW)'	AM PM	2,221 3,082	3,042 4,463	1,107 1,792	821 1,381	134.84% 129.76%
Palm Av. (South) (NS) at: • SR-62 (EW)'	AM PM	2,366 2,921	3,031 4,016	1,425 2,329	665 1,095	214.29% 212.69%
Palm Av. (North) (NS) at: • SR-62 (EW)'	AM PM	2,357 2927	2,973 3,900	1,351 2,192	616 973	219.32% 225.28%
Sage Av. (NS) at: • Onaga Tr. (EW)	AM PM	432 728	2,000 2,572	539 967	1,568 1,844	34.38% 52.44%
Old Woman Springs Rd. (SR 247) (NS) at: • Paxton Rd. (EW)	AM PM	988 1,166	1,709 2,056	306 498	721 890	42.44% 55.96%
Old Woman Springs Rd. (SR 247)/Joshua Ln. (NS) at: • SR-62 (EW)	AM PM	2,711 3,539	3,752 4,887	922 1,495	1,041 1,348	88.57% 110.91%
Joshua Ln. (NS) at: • Yucca Tr. (EW) • Onaga Tr. (EW)	AM PM AM PM	1,118 1,692 730 819	2,897 3,671 2,317 3,132	228 344 417 624	1,779 1,979 1,587 2,313	12.82% 17.38% 26.28% 26.98%



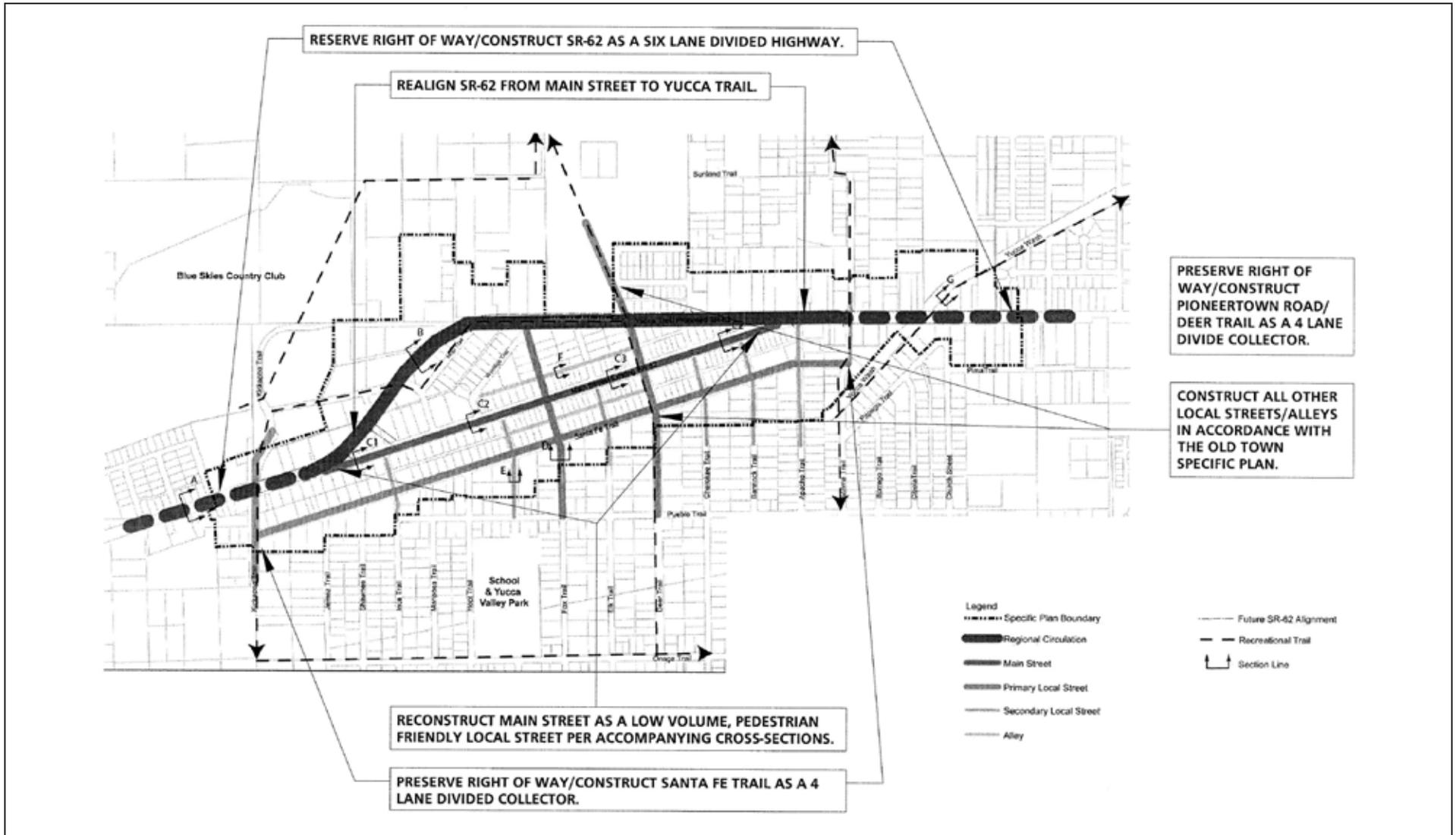
**Table 5.1-7 [continued]  
Project Fair Share Contribution**

Intersection	Peak Hour	Existing Traffic	2030 Horizon Year With Project Traffic	Project Traffic	Total New Traffic	Project Percent Of New Traffic
Warren Vista Av. (NS) : • Yucca Tr. (EW)	AM	547	1,388	184	841	21.88%
	PM	794	1,962	299	1,168	25.60%
Palomar Av. (NS) at: • Yucca Tr. (EW)	AM	866	1,982	368	1,116	32.97%
	PM	904	2,720	561	1,816	30.89%
Indio Av. (NS) at: • SR-62 (EW)	AM	1,519	2,523	492	1,004	49.00%
	PM	2,053	3,458	798	1,405	56.80%
Indio Av. (South) (NS) at: • Yucca Tr. (EW)	AM	609	1,355	224	746	30.03%
	PM	642	1,692	349	1,050	33.24%
Indio Av. (North) (NS) at: • Yucca Tr. (EW)	AM	604	1,394	181	790	22.91%
	PM	625	1,777	298	1,152	25.87%

- ◆ Reconstruct Main Street to provide a pedestrian-friendly local street per Specific Plan cross-sections and recommendations.
- ◆ Signal coordination should be considered for signalized intersections less than 0.25-mile apart. Additional analysis should be completed in conjunction with actual construction of traffic signals and related improvements.
- ◆ Construct Santa Fe Trail through the SPA at its ultimate section width as a 4-Lane Collector in conjunction with the proposed Project.
- ◆ Construct Pioneertown Road/Deer Trail through the SPA at its ultimate section width as a 4-Lane Collector in conjunction with the proposed Project.
- ◆ Provide stop sign control for all unsignalized site access driveways.
- ◆ Sight distance at the Project area access points should be reviewed with respect to Town of Yucca Valley standards in conjunction with the preparation of precise grading and landscape plans.
- ◆ Participate in the phased construction of off-site traffic signals and roadway improvements through payment of established fees or fair share contribution towards improvements not included in the fee program(s).

**Mitigation Measures:**

TRA-1 Future development projects shall contribute towards the cost of necessary study area improvements on a fair share or “pro-rata” basis by paying development impact fees and/or additional fair share contributions towards improvements not included in the adopted fee program; refer to Table 5.1-6, 2030 Roadway Improvements, and Table 5.1-7, Project Fair Share Contribution.



SOURCE: Old Town Yucca Valley Specific Plan CMP Traffic Impact Analysis, Urban Crossroads, August 7, 2005.

NOT TO SCALE



08/07 • JN 10-104893

ENVIRONMENTAL IMPACT REPORT  
OLD TOWN YUCCA VALLEY SPECIFIC PLAN

## Project Circulation Recommendations

Exhibit 5.1-27



- TRA-2 On-site improvements and improvements within the SPA shall be implemented by future development projects to ensure adequate circulation within the Project itself, as illustrated on Exhibit 5.1-27, *Project Circulation Recommendations*, and shall include the following:
- ◆ Construct a realigned SR-62 along Yucca Trail at its ultimate width as a 6-Lane Divided Highway in conjunction with the proposed Project.
  - ◆ Reconstruct Main Street to provide a pedestrian-friendly local street per Specific Plan cross-sections and recommendations.
  - ◆ Signal coordination shall be considered for signalized intersections less than 0.25-mile apart. Additional analysis shall be completed in conjunction with actual construction of traffic signals and related improvements.
  - ◆ Construct Santa Fe Trail through the SPA at its ultimate section width as a 4-Lane Collector in conjunction with the proposed Project.
  - ◆ Construct Pioneertown Road/Deer Trail through the SPA at its ultimate section width as a 4-Lane Collector in conjunction with the proposed Project.
  - ◆ Provide stop sign control for all unsignalized site access driveways.
  - ◆ Sight distance at the Project area access points should be reviewed with respect to Town of Yucca Valley standards in conjunction with the preparation of precise grading and landscape plans.
  - ◆ Participate in the phased construction of off-site traffic signals and roadway improvements through payment of established fees or fair share contribution towards improvements not included in the fee program(s).

**Level of Significance:** Less Than Significant Impact After Mitigation.

### **5.1.5 SIGNIFICANT UNAVOIDABLE IMPACTS**

Following implementation of all mitigation measures (i.e., all recommended improvements), traffic and circulation impacts would be reduced to a less than significant level.