APPENDIX F

TRAFFIC IMPACT ANALYSIS

TRAFFIC IMPACT ANALYSIS

Pauma Casino Expansion Project EIR

Prepared for:

Caltrans &
County of San Diego

Applicant:

Pauma Band of Mission Indians

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GLOSSARY

Level of Service (LOS) corresponds to "excellent" through "failure" conditions in terms of traffic congestions, both for road segments and for intersections. It is used to provide an indication of the amount of delay a driver would experience along a road segment or the amount of wait time a driver would experience at an intersection. *LOS* is rated on a scale of A through F, with A representing excellent, free flow condition, and F representing failures of road segments or intersections.

Volume to Capacity (V/C) Ratio is ratio of the actual traffic volume of a road segment or intersection to the design capacity of the road segment or intersection. It is used to provide an estimate of the LOS of the road segment or intersection.

AM or PM Peak Hours are those hours of the day in which the bulk of commute trips occur and in which traffic impacts are likely to be the greatest.

Average Daily Traffic (ADT) is the number of vehicles that use a roadway segment within a 24-hour period.

Capacity of a transportation facility is the maximum number of persons or vehicles that can be expected to traverse a point or uniform section of road within a specified time frame under prevailing roadway, traffic and control conditions. Theoretically, this is the point in which the flow rate (vehicles/hour) on the facility is the highest. The highest volume attainable under LOS E has been designated as the capacity of the roadway.

EXECUTIVE SUMMARY

This report provides a Traffic Impact Analysis (TIA) for the Pauma Casino Expansion project located in San Diego County. The proposed project is located approximately 11 miles east of Interstate 15 and 1/2 mile east of State Highway 76 on the south side of Pauma Reservation Road.

The traffic analysis will address effects of future development on the existing and planned transportation system.

For the purposes of the study, the "Project" will be defined as a casino expansion project that would include a 400 room hotel and expansion of the existing 43,260 square-foot casino (which includes 37,100 square feet of gaming area). The key proposed Project components are anticipated to include the construction and operation of the following:

- A new casino with approximately 73,583 square feet of gaming area and up to 2,500 slot machines.
- An approximately 400-room hotel.
- Multiple retail and food & beverage facilities (e.g., several specialty restaurants, a high-end restaurant, coffee shop, buffet, food court, cabaret lounge, and several retail shops).
- A 1500-seat Multi-Purpose Events Center.
- Meeting Facilities.
- A resort spa, two-acre pool, and pool bar.
- An Administrative and Facilities Center
- An approximately 1,500-space parking garage and 2,400-space surface parking lot.
- A new or upgraded wastewater treatment system.
- Potential improvements to Pauma Reservation Road and to the SR 76/Pauma Reservation Road intersection.

Results of the segment analysis indicate that SR 76, west of Old Highway 395, SR 76, I-15 to Pala Mission Road, and SR 76, Pala Mission Road to Cole Grade Road within the study area are currently operating at unacceptable levels of service.

The project is expected to generate 4,848 daily trips, and 339 PM peak hour trips. These trips were assigned to roadways in the vicinity of the project site and the resulting traffic increases were compared to Caltrans and County standards for the determination of significant traffic impacts. A summary of the results follows:

- Traffic increases generated by the project will not cause any roadway levels of service to be reduced below LOS D.

- Traffic increases generated by the project will impact SR 76, west of Old Highway 395 and between I-15 and Cole Grade Road, which currently operate at LOS E and/or F.

- Traffic increases generated by the project will cause the intersections of SR 76/I-15 NB Ramps and SR 76/Pauma Reservation Road to operate at LOS E and/or F.

- Traffic generated by the project will potentially cause traffic increases at intersections already operating at LOS E or F in Horizon Year (2030)

In order to mitigate these impacts the following mitigation measures are recommended:

- At the intersection of SR 76/I-15 NB Ramp, the Tribe shall work closely with Caltrans to develop its fair share costs for improvements if and when such improvements are implemented.

- At the intersection of SR 76/Pauma Reservation Road
    - Signalize (Signal warrant provided as Appendix C).
    - Add an eastbound left turn lane, a westbound right turn lane, and add a southbound lane that will provide for a dedicated left turn and dedicated right turn. These improvements will result in the following lane geometry
      Eastbound (SR76): 1 left, 1 thru
      Westbound (SR76): 1 thru, 1 right
      Southbound (Pauma Reservation Road): 1 left, 1 right

The following is an alternative mitigation measure to the SR 76/Pauma Reservation Road improvements:

- Construct a signalized access roadway from SR 76 to Pauma Casino east of existing Pauma Reservation Road.
    - Signalize
    - This access roadway will have the following lane geometry
      Eastbound (SR76): 1 left, 1 thru
      Westbound (SR76): 1 thru, 1 right
      Southbound (Access Road): 1 left, 1 right

It is recommended that the project applicant work with Caltrans and the County to provide the necessary improvements and a fair share towards the corridor study improvements along SR 76.

If the recommended mitigation measures are implemented project traffic impacts will decrease to insignificant levels.

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This traffic impact study has been prepared for the purpose of determining the direct and cumulative traffic impacts related to the development of a proposed casino expansion project located in San Diego County.

1.2 PROJECT LOCATION AND DESCRIPTION

The proposed project is located approximately 11 miles east of Interstate 15 and 1/2 mile north of State Highway 76, and on the east side of Pauma Reservation Road. The project location is shown in Figure 1-1. The study area was determined by VRPA, using other traffic impact studies in the area. The study area for the project is shown in Figure 1-2.

The traffic analysis will address effects of future development on the existing and planned transportation system.

For the purposes of the study, the "Project" will be defined as a casino expansion project that would include a 400 room hotel and expansion of the existing 43,260 square-foot casino (which includes 37,100 square feet of gaming area). The key proposed Project components are anticipated to include the construction and operation of the following:

- A new casino with approximately 73,583 square feet of gaming area and up to 2,500 slot machines.
- An approximately 400-room hotel.
- Multiple retail and food & beverage facilities (e.g., several specialty restaurants, a high-end restaurant, coffee shop, buffet, food court, cabaret lounge, and several retail shops).
- A 1500-seat Multi-Purpose Events Center.
- Meeting Facilities.
- A resort spa, two-acre pool, and pool bar.
- An Administrative and Facilities Center
- An approximately 1,500-space parking garage and 2,400-space surface parking lot.
- A new or upgraded wastewater treatment system.
- Potential improvements to Pauma Reservation Road and to the SR 76/Pauma Reservation Road intersection.

1.3 SUMMARY OF SIGNIFICANCE CRITERIA

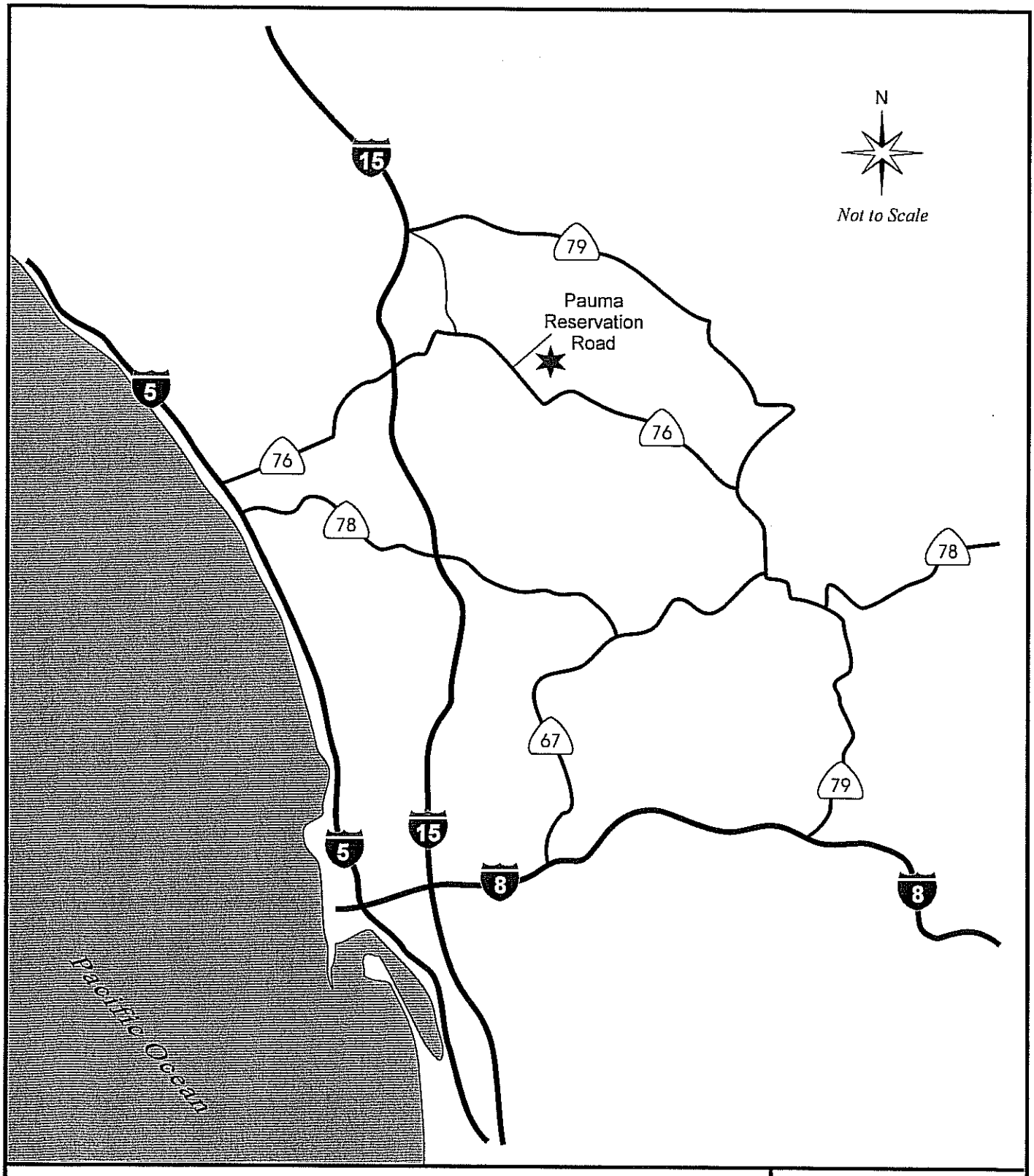
The project would cause a significant traffic impact if one of the following conditions were to occur:

- The project was expected to cause a roadway segment to fall below LOS D operating conditions.

- The project added a significant amount of traffic (200 ADT on a 2-lane roadway at LOS E and 100 ADT on a 2-lane roadway at LOS F) to a roadway segment expected to operate at LOS E or F.

- The project was expected to cause an intersection to fall below LOS D operating conditions.

- The project added a significant amount of traffic to an existing intersection operating at LOS E or F or an intersection expected to operate at LOS E or F in the future. For signalized intersections, the allowable increase in traffic prior to causing a significant increase would be an increase that would cause an increase of delay of 2 seconds at LOS E and 1 second (or 5 trips on a critical movement) at LOS F. For unsignalized intersections, the allowable increase in traffic prior to causing a significant increase would be 20 trips on a critical movement at LOS E and 5 trips on a critical movement at LOS F.



Project Location

Figure 1-1

Legend

Project Site

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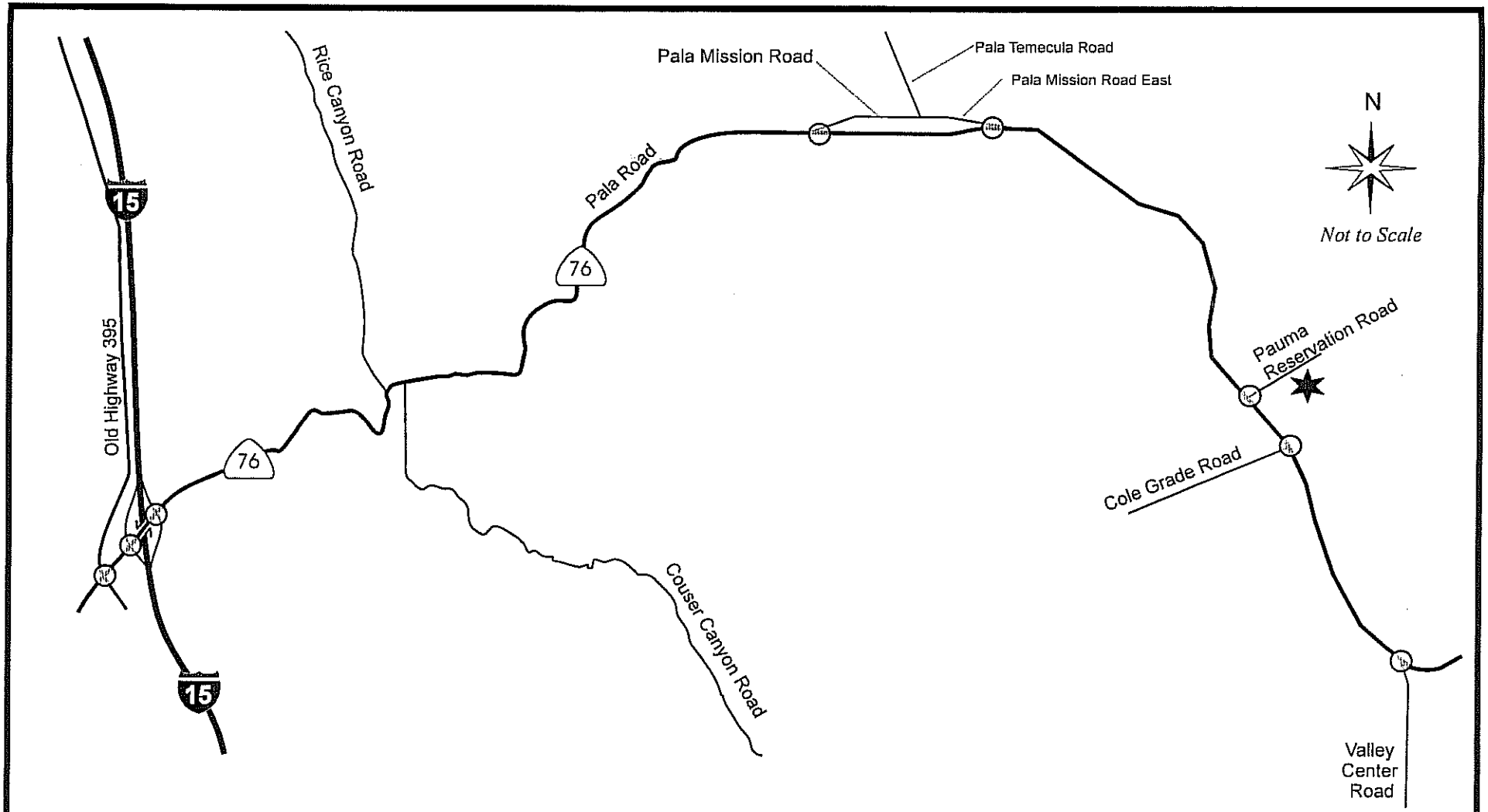

Study Area

Figure 1-2

Legend

- Project Site
- Key Intersection

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2.0 EXISTING CONDITIONS

2.1 EXISTING TRANSPORTATION CONDITIONS

Existing transportation conditions in the study area can be summarized as follows.

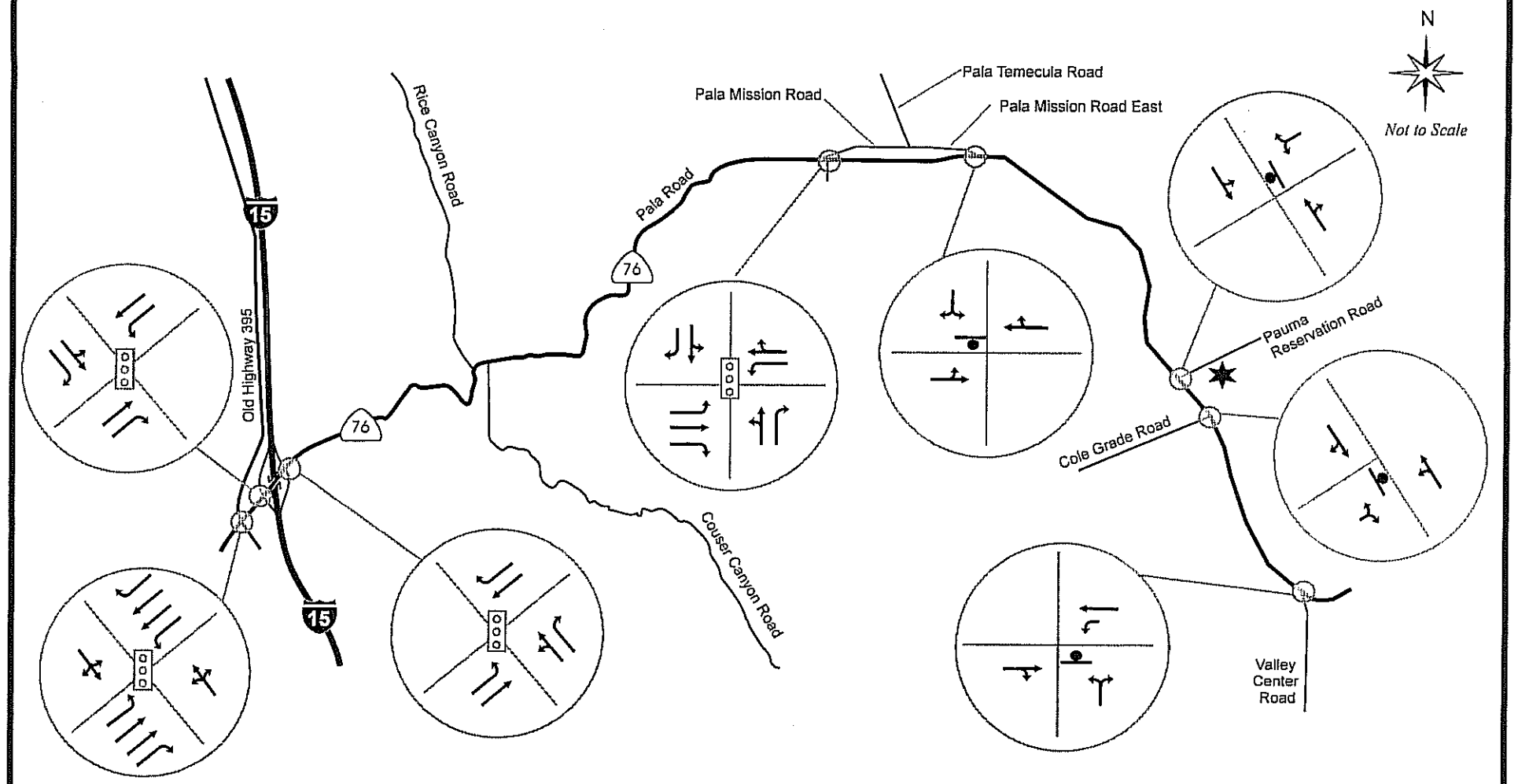
State Route 76 is located about a ½ mile south of the project site and provides local and regional access to other parts of San Diego County. In the area of the project site, SR 76 is a four-lane major road between Old Highway 395 and I-15 and a two-lane roadway east of I-15.

Pauma Reservation Road is located on the west side of the project site. It is a two-lane roadway. The roadway width is approximately 24 feet and unpaved shoulders are provided on both sides of the roadway. It should be noted that for purposes of studying the PM peak hour traffic for the project area, Pauma Reservation Road may have a higher volume of traffic other than the normal peak hour traffic between 4:00 PM and 6:00 PM.

Existing intersection lane geometry in the study area is shown in Figure 2-1.

The intersections at SR 76/Old Highway 395, SR 76/I-15 Southbound Ramps, SR 76/I-15 Northbound Ramps, and SR 76/Pala Mission Road West are currently signalized. The intersections of SR 76/Pala Mission Road East, SR 76/Pauma Reservation Road, SR 76/Cole Grade Road and SR 76/Valley Center Road are currently unsignalized.

Existing average daily traffic counts in the study area were obtained in 2006. Segment counts that could not be obtained were estimated based on peak hour turning movement counts. VRPA Technologies collected PM peak hour turning movement counts at each study area intersection in late 2006. The resulting traffic is shown in Figures 2-2 and 2-3.



Existing Lane Geometry

Figure 2-1

Legend

- Project Site
- Key Intersection
- Traffic Movement
- Traffic Signal
- Stop Sign

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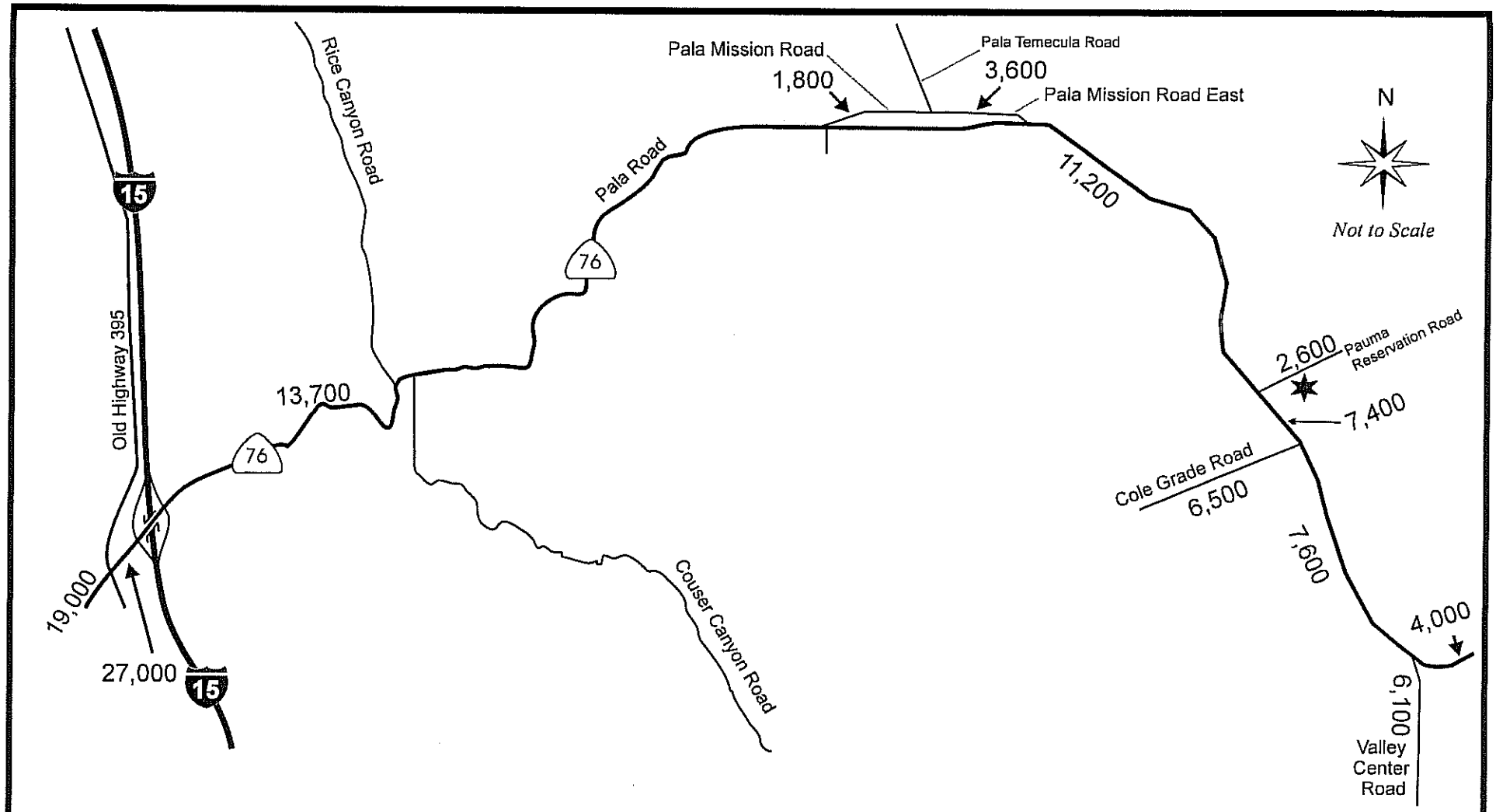

Existing Average Daily Traffic

Figure 2-2

Legend

✸ Project Site **XX,XXX** Average Daily Traffic

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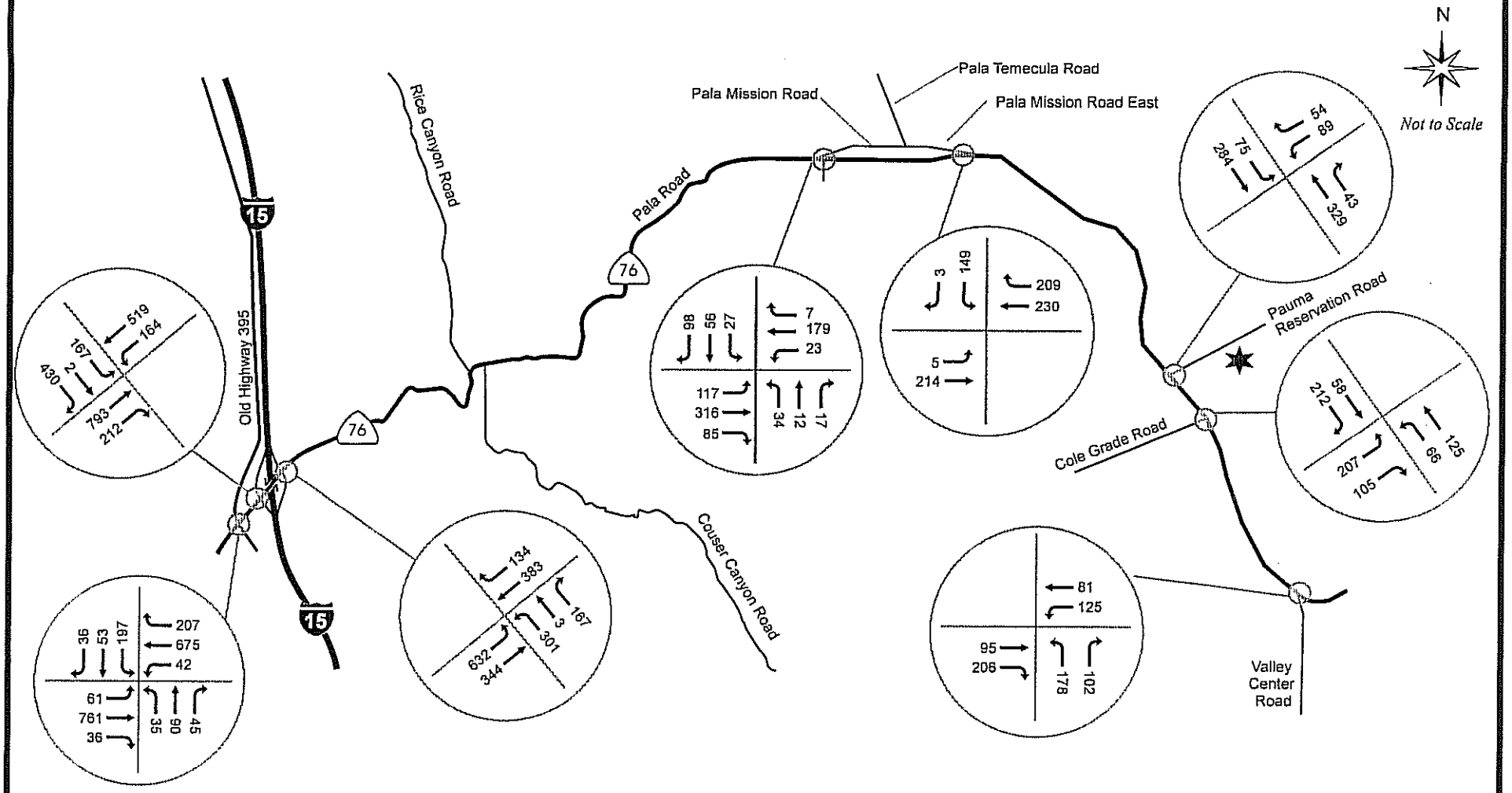

Existing PM Peak Hour Traffic

Figure 2-3

Legend

- Project Site
- Key Intersection
- PM Peak Hour Traffic

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The study area for the traffic impact analysis included the following street segments and intersections:

Street Segments:

SR 76, West of Old Highway 395
SR 76, West of I-15
SR 76, I-15 to Pala Mission Road
SR 76, Pala Mission Road to Cole Grade Road
SR 76, Cole Grade Road to Valley Center Road
SR 76, East of Valley Center Road
Pala Mission Road East, SR 76 to Pala Temecula Road
Cole Grade Road, West of SR 76
Valley Center Road, South of SR 76

Intersections:

SR 76/ Old Highway 395
SR 76/I-15 Southbound Ramps
SR 76/I-15 Northbound Ramps
SR 76/ Pala Mission Road
SR 76/Pala Mission Road East
SR 76/Pauma Reservation Road
SR 76/Cole Grade Road
SR 76/Valley Center Road

Results of the LOS segment analysis along the existing street and highway system in the project area are reflected in Table 2-1. Roadways were analyzed using the County's standard table of level of service for various street segments and daily traffic counts, which is included in Appendix A. Table 2-1 also shows the results for additional traffic scenarios that are described in Chapter 3.

All intersection LOS analyses were estimated using Highway Capacity Software (HCS), based on the 2000 Highway Capacity Manual. For reference, HCS LOS worksheets are provided in Technical Appendix B. The results of this analysis, as shown in Table 2-2, indicate that all intersections studied are operating at adequate LOS. This table also shows the results for additional traffic scenarios that are described in Chapter 3.

Table 2-1
Street Segment Operations

			Existing (2006)		Near Term (2009)		Near Term (2009) + Project		Horizon Year (2030)		Horizon Year (2030) + Project	
Roadway	**Location**	**Daily Capacity at LOS E**	**ADT**	**LOS**	**ADT**	**LOS**	**ADT**	**LOS**	**ADT**	**LOS**	**ADT**	**LOS**
SR 76	West of Old Highway 395	16,200	19,000	F	20,760	F	22,215	F	40,000	F	41,455	F
	West of I-15	37,000	27,000	C	29,500	C	30,946	D	46,000	F	47,455	F
	I-15 to Pala Mission Road	16,200	13,700	E	14,970	E	19,335	F	25,000	F	29,365	F
	Pala Mission Road to Cole Grade Road	16,200	11,200	E	12,240	E	16,702	F	15,000	E	19,462	F
	Cole Grade Road to Valley Center Road	16,200	7,600	D	8,300	D	8,494	D	15,000	E	15,194	E
	East of Valley Center Road	16,200	4,000	B	4,370	B	4,467	C	12,000	E	12,097	E
Pala Mission Road East	SR 76 to Pala Temecula Road	16,200	3,600	B	3,930	B	4,027	B	5,000	C	5,097	C
Pauma Reservation Road	East of SR 76	16,200	2,600	B	2,848	B	7,690	D	5,200	D	10,050	D
Cole Grade Road	West of SR 76	16,200	6,500	C	7,100	C	7,294	D	8,000	C	8,194	C
Valley Center Road	South of SR 76	16,200	6,100	C	6,670	C	6,767	C	14,000	E	14,097	E

LOS = Level of Service
ADT = Average Daily Traffic

Table 2-2
Intersection Operations (PM Peak Hour)

	Existing (2006)		Near Term (2009)		Near Term (2009) + Project		Horizon Year (2030)		Horizon Year (2030) + Project	
Intersection	**Avg. Delay (Sec)**	**LOS**	**Avg. Delay (Sec)**	**LOS**	**Avg. Delay (Sec)**	**LOS**	**Avg. Delay (Sec)**	**LOS**	**Avg. Delay (Sec)**	**LOS**
SR 76/Old Hwy 395	44.1	D	46.4	D	50.5	D	>80.0	F	>80.0	F
SR 76/I-15 NB Ramps	50.3	D	>80.0	F	>80	F	>80.0	F	>80.0	F
SR 76/I-15 SB Ramps	30.4	C	36.7	D	49.9	D	>80.0	F	>80.0	F
SR 76/Pala Mission Road West	34.3	C	34.7	C	37.8	D	43.1	D	45.3	D
SR 76/Pala Mission Road East	(1)	C	(1)	C	(1)	D*	(1)	E	(1)	F
SR 76/Pauma Reservation Road	(1)	C	(1)	D	(1)	F	(1)	F	(1)	F
SR 76/Cole Grade Rd	(1)	C	(1)	C	(1)	D	(1)	F	(1)	F
SR 76/Valley Center Rd	(1)	C	(1)	D	(1)	D	(1)	F	(1)	F

(1) Unsignalized intersection. Average delay not applicable.
* Signal not warranted. LOS D assumed.

3.0 PROJECT IMPACT ANALYSIS

3.1 ANALYSIS METHODOLOGY

This traffic impact study concentrated on the determination of whether the project would cause direct and cumulative traffic impacts. The following methodology was used:

- San Diego County has recommended a trip generation rate of 100 trips per 1,000 square feet of gaming area. This trip generation rate is considered by VRPA to be conservative and is recommended to be used for the identification of traffic impacts only. VRPA has conducted previous trip generation counts at the Pala Casino indicating a trip generation rate of 61.9 trips per 1,000 square feet of gaming area. This lower trip generation rate is considered to be applicable to the proposed project and is recommended to be used in any subsequent fair share calculations for traffic mitigation purposes.
- A trip generation rate of 3 trips per room was used for the hotel based on typical practice for San Diego area gaming casino hotel.
- Project trips were distributed based on prevailing traffic conditions in the vicinity of the project site and customer gaming survey conducted by the Pauma Tribe.
- Near term traffic conditions without the project were estimated using an assumed opening day of 2009 and a 3% per year growth in traffic from year 2006.
- Horizon year (2030) traffic conditions were estimated using the SANDAG regional transportation model.
- Increases in traffic expected to be caused by the project were compared to applicable significance criteria to determine whether the project would cause significant traffic impacts.

3.2 PROJECT TRIP GENERATION

Trip generation for the project is shown in Table 3-1. The project is expected to generate 4,848 daily trips, and 339 PM peak hour trips.

Trip generation for expansion of the gaming area and hotel was estimated using trip generation rates based on County of San Diego (100 trips per 1,000 square feet of gaming area) and ITE Trip Generation Manual for Hotels (3 trips per hotel room).

The 1500-seat Multi-Purpose Events Center was considered to be incidental to the gaming area for the purposes of PM Peak hour trip generation. The Events Center would be expected to be a primary trip generator for certain events, but traffic for these events were not considered significant by the Pauma Tribe because of the infrequency of use and the off-peak times, which would be less significant then PM Peak hour impacts.

Table 3-1
PROJECT TRIP GENERATION

Land Use	Size	Units	Daily Trip Generation Rate	Daily External Trips	% PM Peak	% PM Inbound	External PM Peak Hour Trips	
							In	Out
Casino	36.48 (1)	1,000 sq. ft.	100.0	3,648	7.0%	50%	128	128
Hotel	400	Rooms	3.0	1,200	7.0%	40%	34	50
			Total	4,848		**Subtotal**	161	178
						Total trips	339	

(1) Expanded gaming area (new gaming area minus existing gaming area).

3.3 PROJECT TRIP DISTRIBUTION

Project trip distribution is shown in Figure 3-1. A total of 92% of project trips head west towards I-15 and Pala Mission Road East and 8% of project trips head east towards Cole Grade Road and Valley Center Road. This information was based on prevailing traffic conditions in the study area and customer gaming survey conducted by the Pauma Tribe. The resulting project trips are shown in Figures 3-2 and 3-3.

3.4 NEAR-TERM CONDITIONS

Cumulative traffic conditions in the study area were analyzed, both with and without the development of the project. Cumulative traffic conditions were developed using a 3% growth rate per year.

The traffic conditions resulting from this scenario are shown in Figures 3-4 and 3-5.

3.5 NEAR-TERM PLUS PROJECT CONDITIONS

The addition of project trips to cumulative traffic conditions leads to the results shown in Figures 3-6 and 3-7.

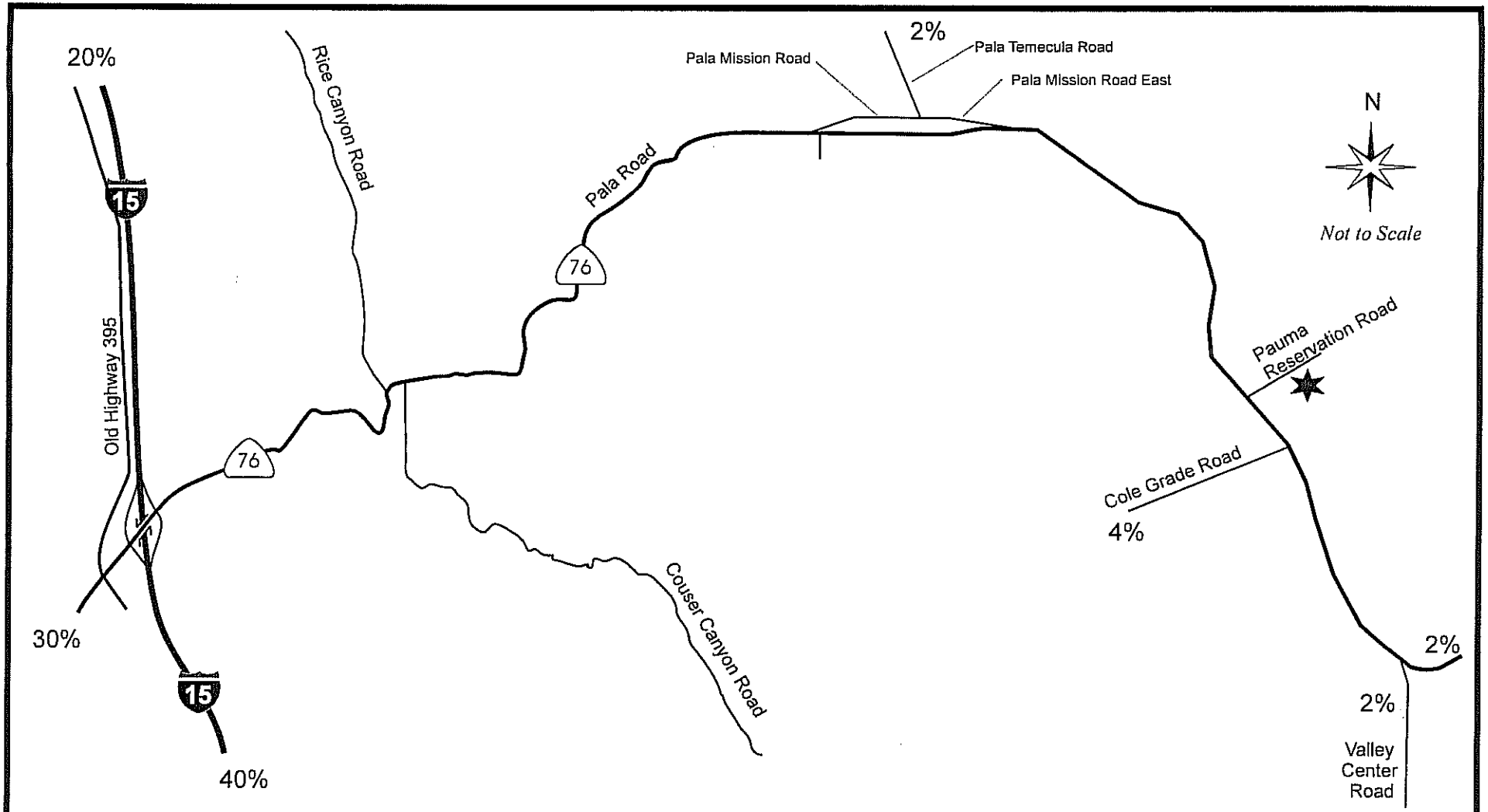
3.6 HORIZON YEAR

Future traffic conditions in the study area in the Year 2030 were analyzed, both with and without the development of the project. Future traffic conditions were developed using the SANDAG regional travel forecasting model for the Year 2030.

The traffic conditions resulting from this scenario are shown in Figures 3-8 and 3-9.

3.7 HORIZON YEAR TRANSPORTATION PLUS PROPOSED PROJECT CONDITIONS

The addition of project trips to future traffic conditions leads to the results shown in Figures 3-10 and 3-11.



Project Trip Distribution

Figure 3-1

Legend

Project Site

XX% Trip Percentage

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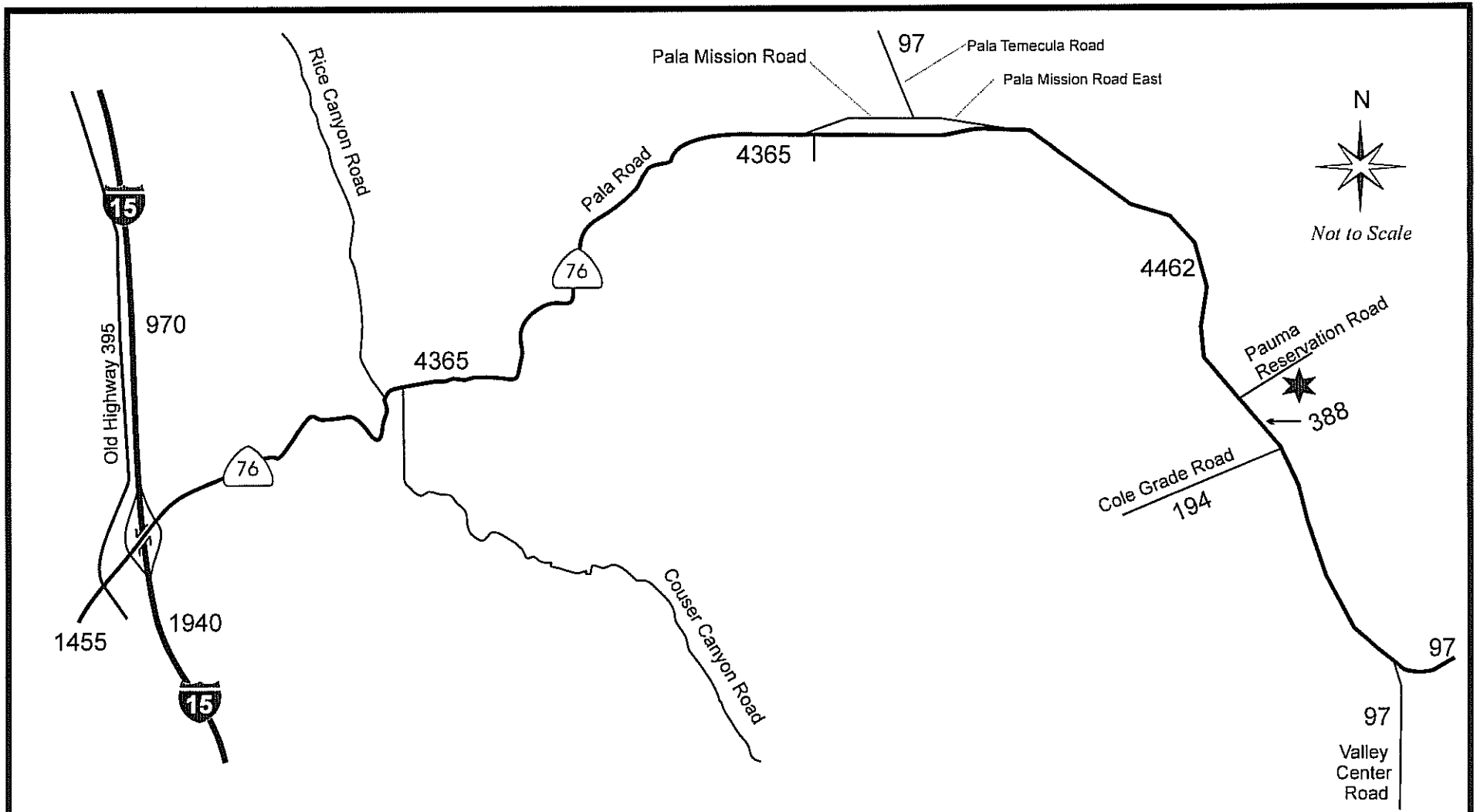

Project Average Daily Traffic

Figure 3-2

Legend

Project Site **XX,XXX** Average Daily Traffic

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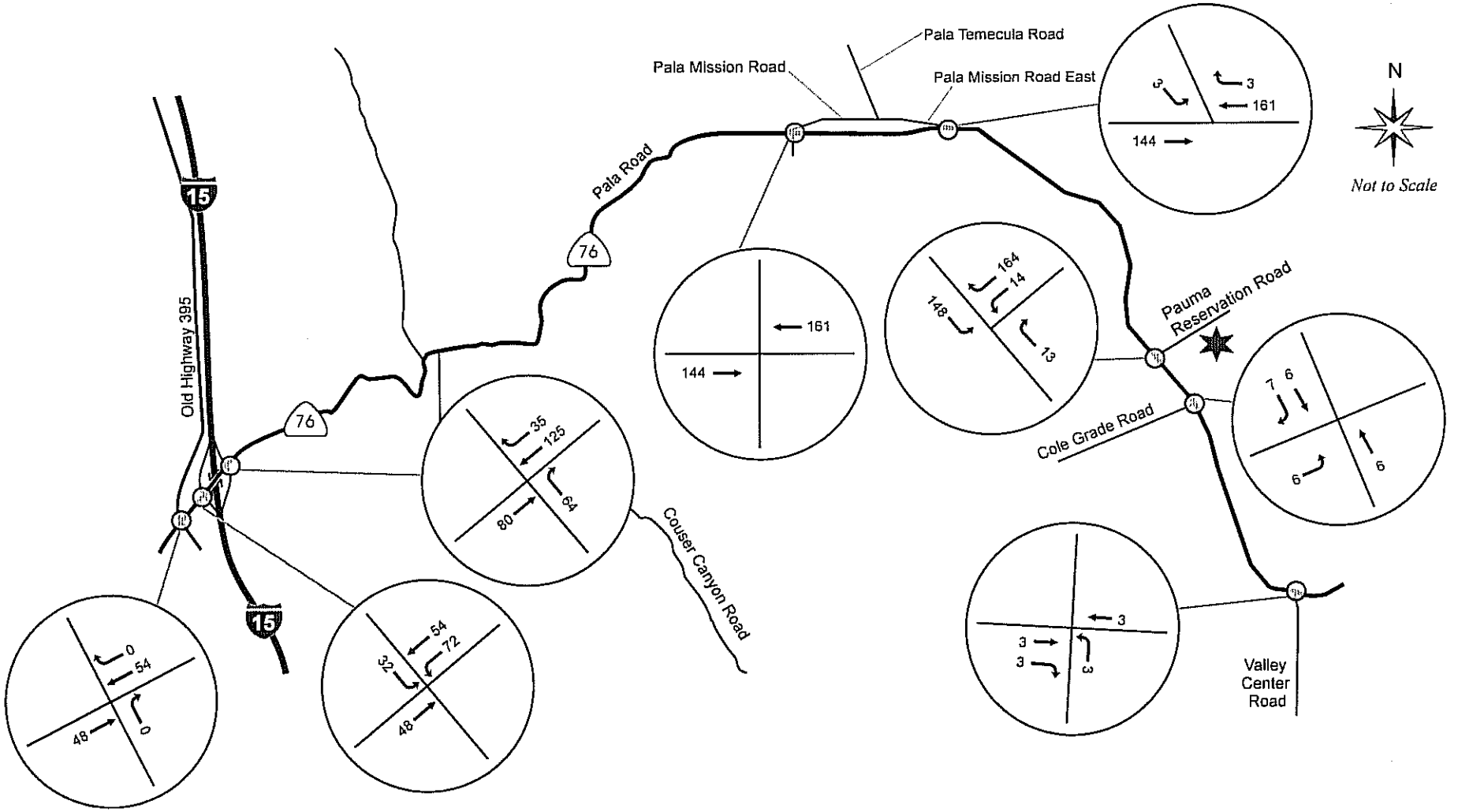

Project PM Peak Hour Traffic

Figure 3-3

Legend

Project Site | Key Intersection | PM Peak Hour Traffic

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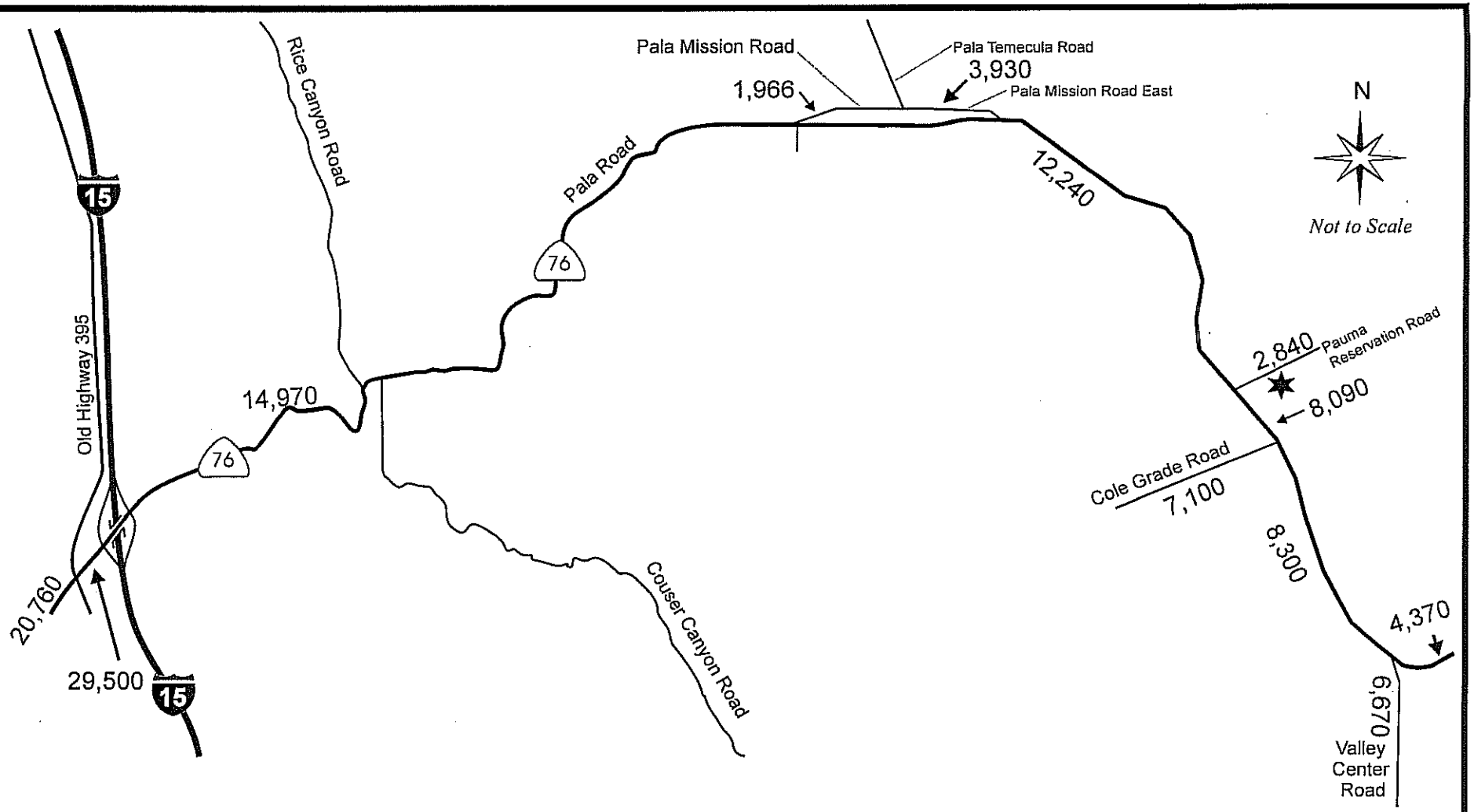

Near Term Average Daily Traffic

Figure 3-4

Legend

✸ Project Site **XX,XXX** Average Daily Traffic

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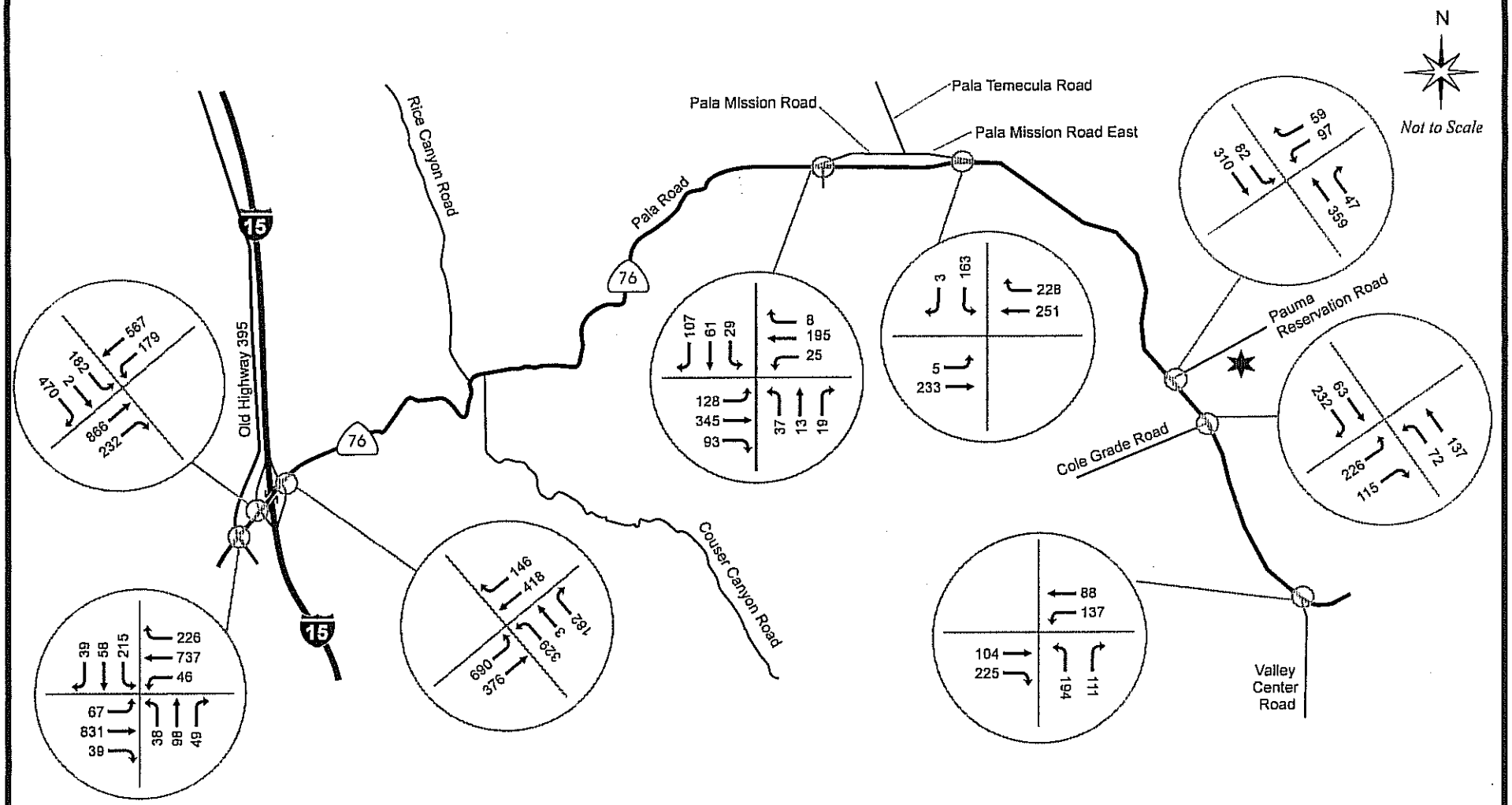

Near Term PM Peak Hour Traffic

Figure 3-5

Legend

- Project Site
- Key Intersection
- PM Peak Hour Traffic

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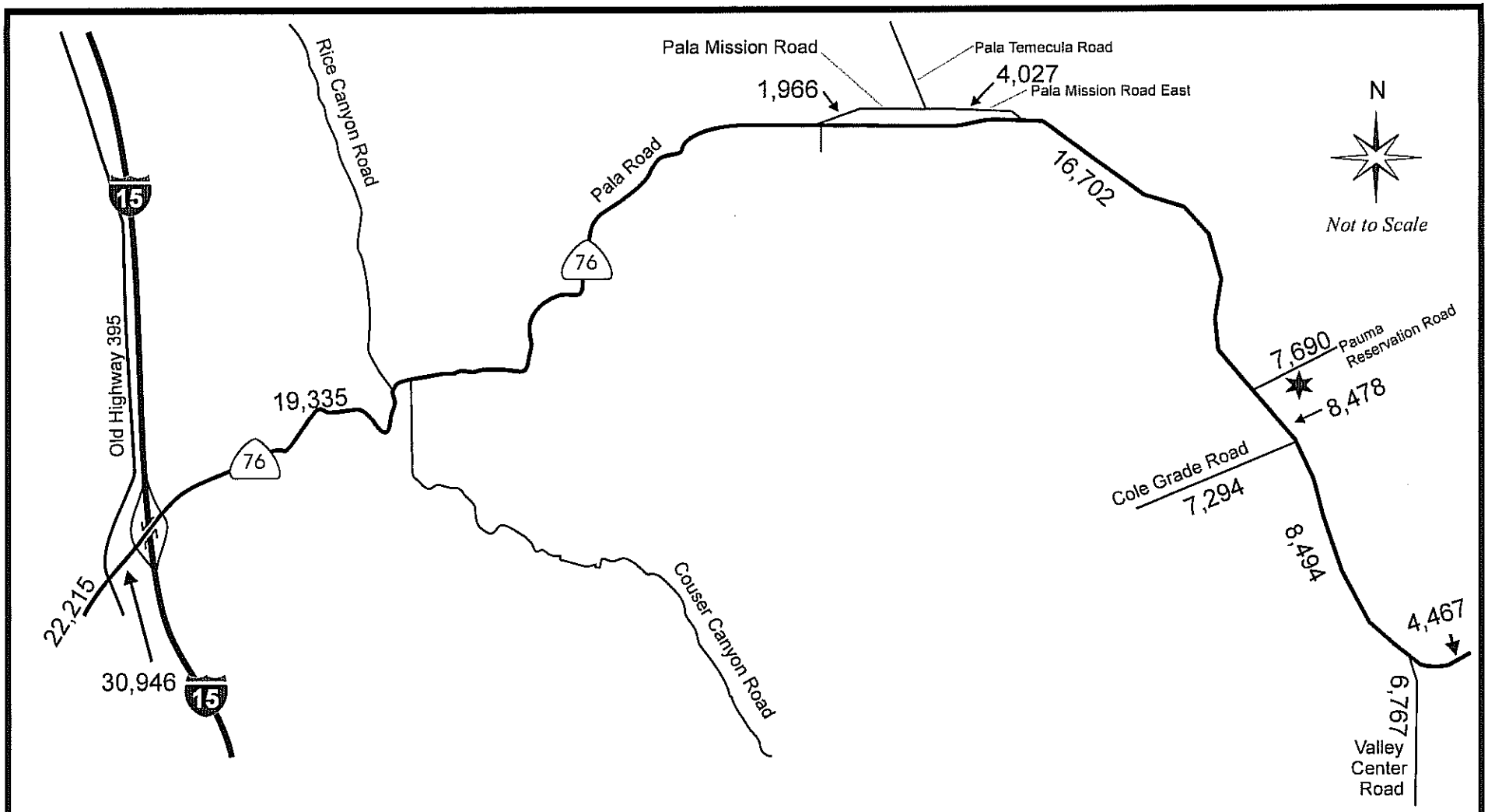

Near Term + Project Average Daily Traffic

Figure 3-6

Legend

Project Site **XX,XXX** Average Daily Traffic

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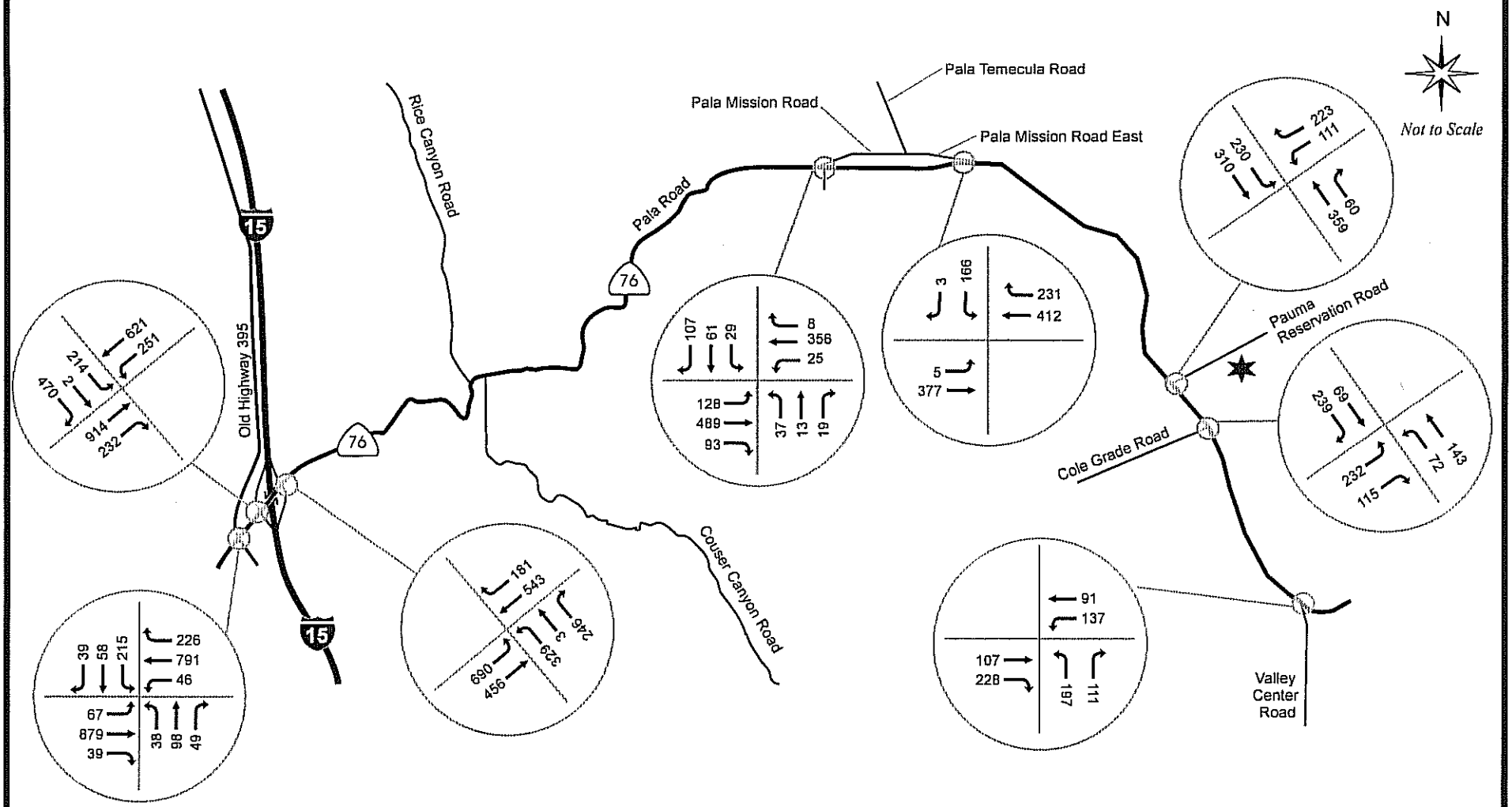

Near Term + Project PM Peak Hour Traffic

Figure 3-7

Legend

- Project Site
- Key Intersection
- PM Peak Hour Traffic

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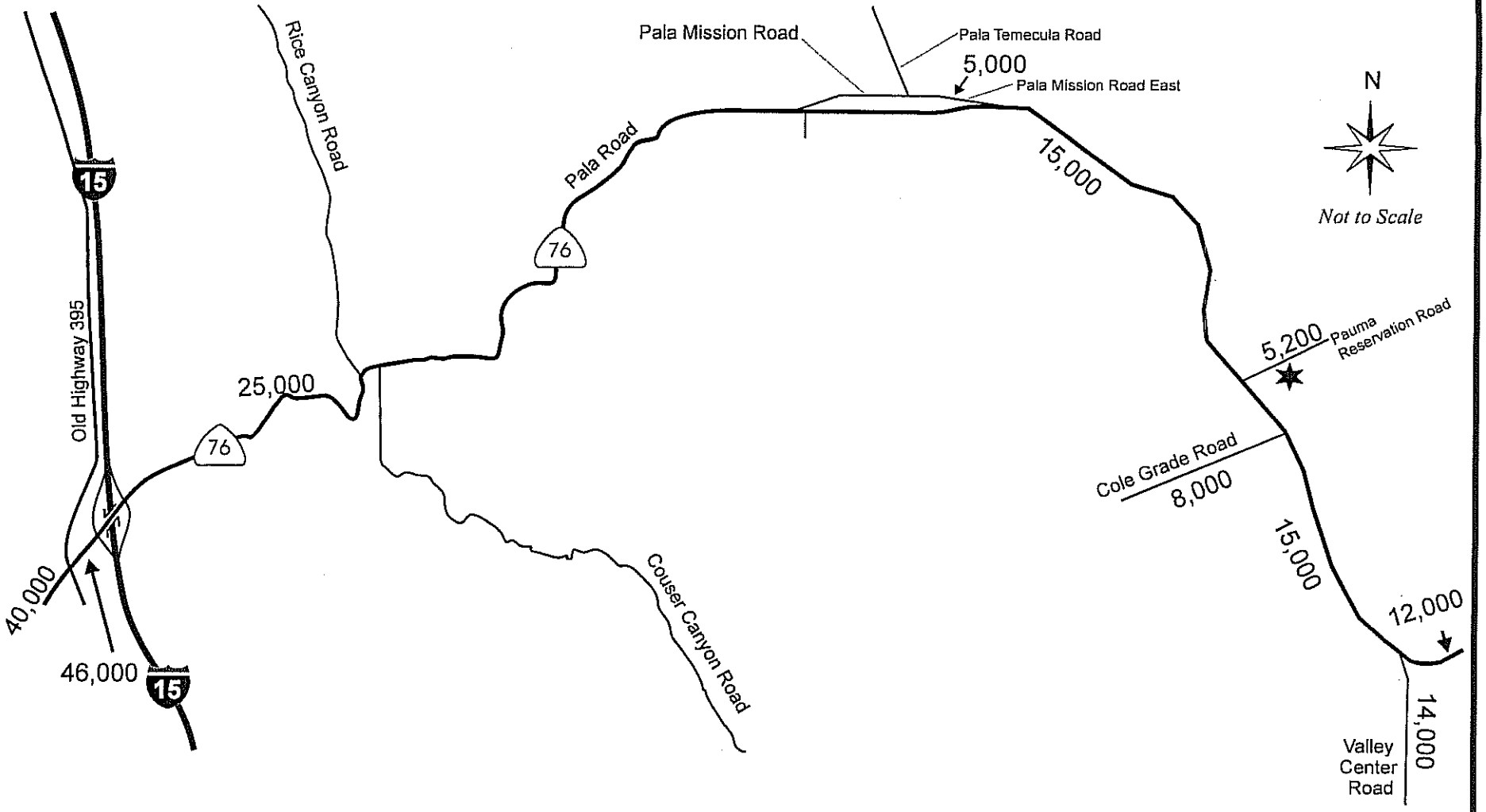

Horizon Year (2030) Average Daily Traffic

Figure 3-8

Legend

✸ Project Site **XX,XXX** Average Daily Traffic

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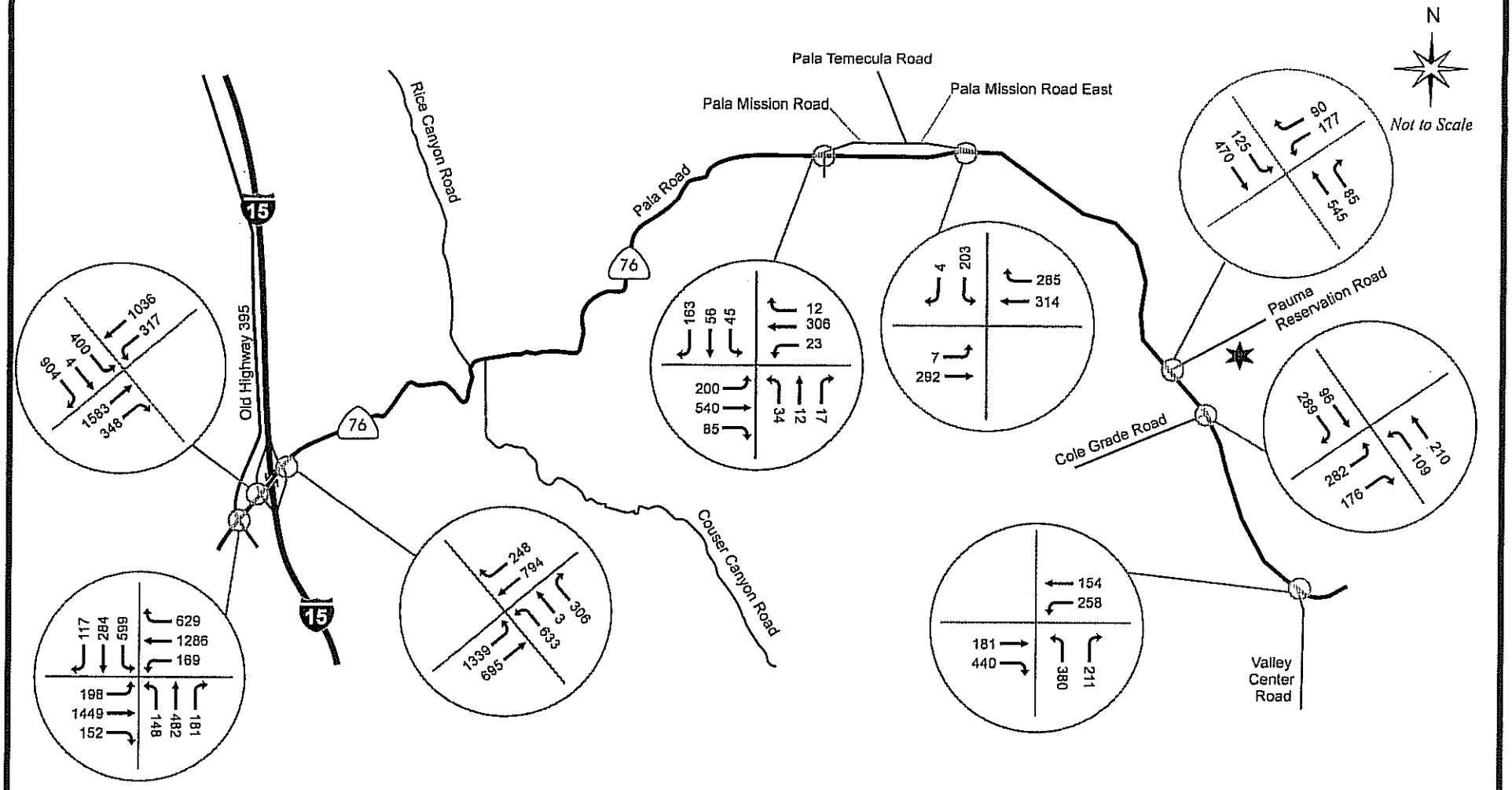

Horizon Year (2030) PM Peak Hour Traffic

Figure 3-9

Legend

- Project Site
- Key Intersection
- PM Peak Hour Traffic

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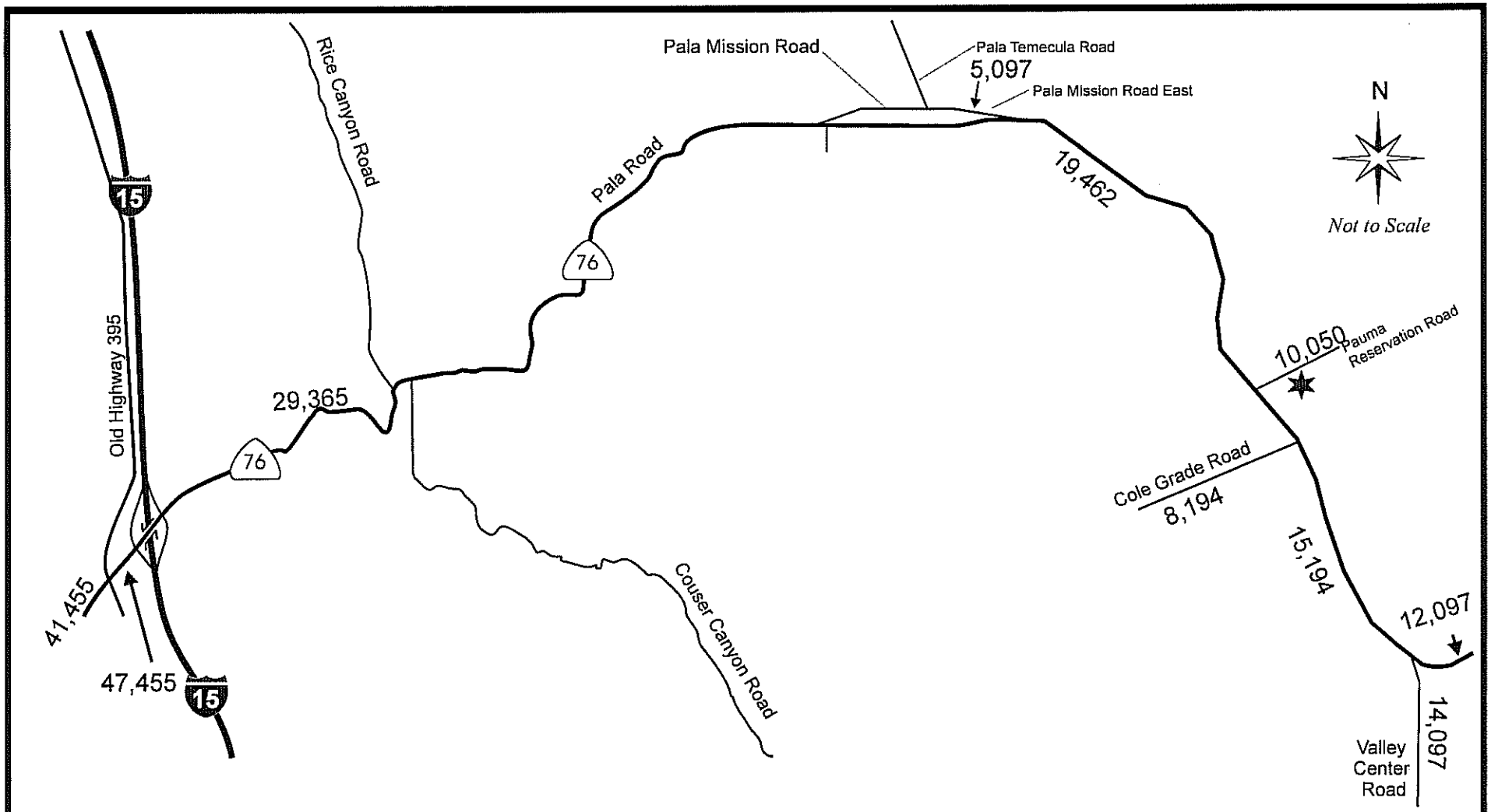


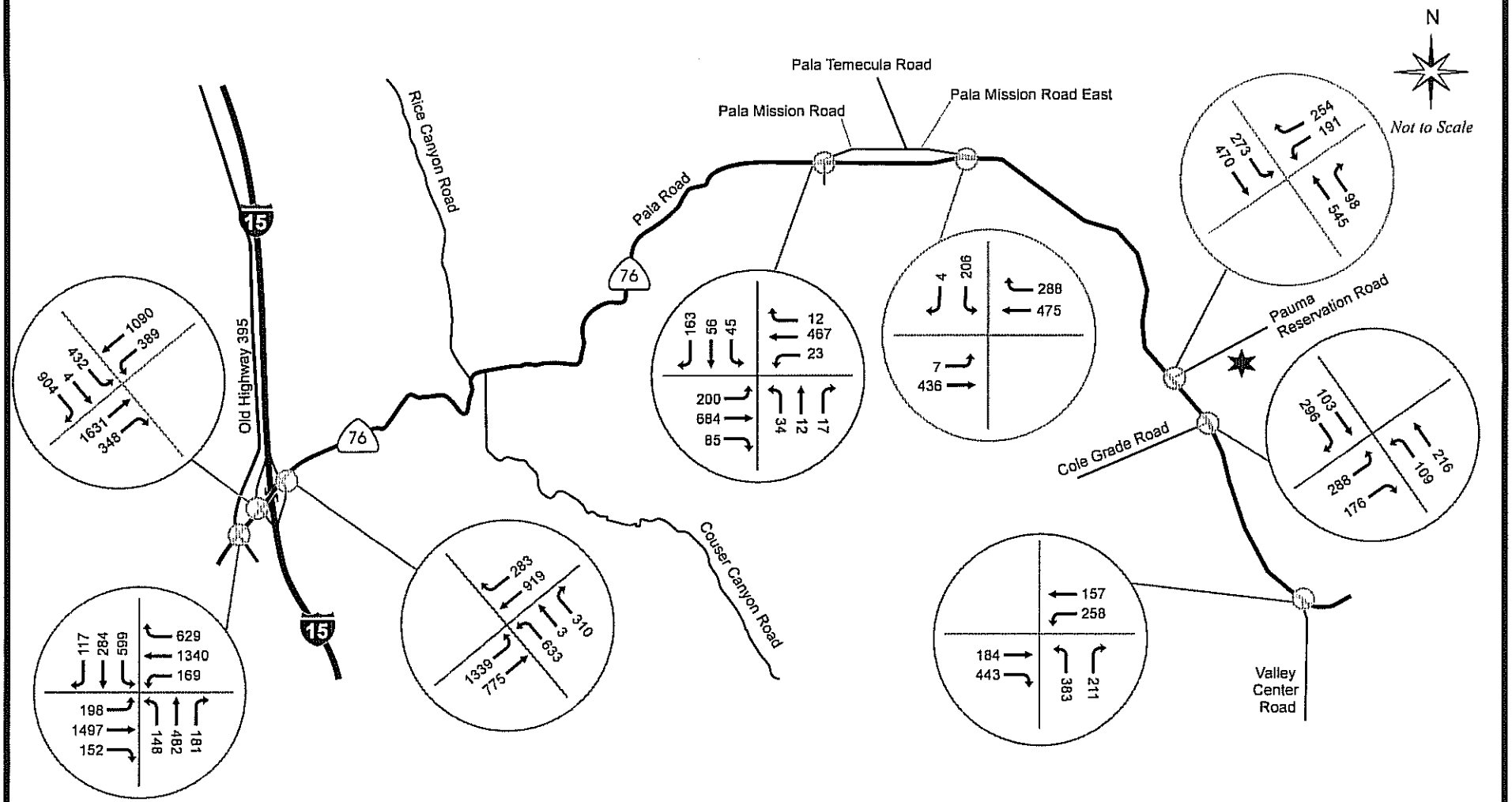
Horizon Year (2030) + Project Average Daily Traffic

Figure 3-10

Legend

Project Site **XX,XXX** Average Daily Traffic

VRPA Technologies, Inc.



Horizon Year (2030) + Project PM Peak Hour Traffic

Figure 3-11

Legend

- Project Site
- Key Intersection
- PM Peak Hour Traffic

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4.0 IMPACT SUMMARY

4.1 IMPACT SUMMARY

The project's impacts can be summarized as follows:

- Traffic increases generated by the project will not cause any roadway levels of service to be reduced below LOS D.
- Traffic increases generated by the project will impact SR 76, west of Old Highway 395 and between I-15 and Cole Grade Road, which are considered to operate at LOS E and/or F.
- Traffic increases generated by the project will cause the intersection of SR 76/I-15 NB Ramps (currently LOS D) and SR 76/Pauma Reservation Road (currently LOS C) to operate at LOS F.
- Traffic generated by the project will potentially cause traffic increases at intersections already operating at LOS E or F in Horizon Year (2030) at the following intersections.
    - SR 76/Old Hwy 395
    - SR 76/I-15 NB Ramps
    - SR 76/I-15 SB Ramps
    - SR 76/Pala Mission Road East
    - SR 76/Pauma Reservation Road
    - SR 76/Cole Grade Road
    - SR 76/Valley Center Road

4.2 ROAD SEGMENTS

4.2.1 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

The project would cause a traffic impact if one of the following conditions were to occur:

- The project was expected to cause a roadway segment to fall below LOS D operating conditions.
- The project added a significant amount of traffic (200 ADT on a 2-lane roadway at LOS E and 100 ADT on a 2-lane roadway at LOS F) to a roadway segment expected to operate at LOS E or F.

4.2.2 SIGNIFICANCE OF IMPACTS PRIOR TO MITIGATION

According to Caltrans and County guidelines the project is expected to add a significant amount of traffic to the following segments operating at LOS E or F within the Existing, Near Term, and Near Term Plus Project conditions:

- SR 76, West of Old Highway 395
- SR 76, I-15 to Cole Grade Road

The project is expected to add a significant amount of traffic to the following segments operating at LOS E and/or F within the Horizon Year (2030) and Horizon Year (2030) Plus Project conditions:

- SR 76, West of Old Highway 395
- SR 76, Old Highway 395 to I-15
- SR 76, I-15 to Cole Grade Road
- SR 76 Cole Grade Road to Valley Center Road
- SR 76 East of Valley Center Road
- Valley Center Road, South of SR 76

4.2.3 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

The following mitigation measures are recommended for all scenarios:

- SR 76, West of 1-15: SANDAG is leading a funded corridor study to improve this area of SR 76. Therefore, mitigation is not necessary.

For the roadway segments listed below, Caltrans is in the process of conducting a corridor study along SR 76 from I-15 to SR 79, it is recommended that the project pay a fair share toward implementation of the results of the corridor study.

- SR 76, I-15 to Cole Grade Road
- SR 76 Cole Grade Road to Valley Center Road
- SR 76 East of Valley Center Road
- Valley Center Road, South of SR 76

4.3 INTERSECTIONS

4.3.1 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

The project's traffic impacts on intersections would be significant if the project caused an existing intersection to be reduced to an operating condition below LOS D or if the project added a significant amount of traffic to an intersection operating at LOS E or F. For signalized intersections, the allowable increase in traffic prior to causing a significant increase would be a traffic increase that would cause an increase of delay of 2 seconds at LOS E and 1 second (or 5 trips on a critical movement) at LOS F. For unsignalized intersections, the allowable increase in traffic prior to causing a significant increase would be 20 trips on a critical movement at LOS E and 5 trips on a critical movement at LOS F.

4.3.2 SIGNIFICANCE OF IMPACTS PRIOR TO MITIGATION

The project is expected to cause an impact due to the increase of traffic at the following intersections operating at LOS E and/or F within the Near Term and Near Term Plus Project conditions:

- SR 76/I-15 NB Ramps

The project is expected to cause an existing intersection to be reduced to an operating condition below LOS D at the following intersections within the Near Term Plus Project condition:

- SR 76/Pauma Reservation Road

The project is expected to cause an impact due to the increase of traffic at the following intersections operating at LOS E and/or F within the Horizon Year (2030) and Horizon Year (2030) Plus Project conditions:

- SR 76/Old Highway 395
- SR 76/I-15 SB Ramp
- SR 76/I-15 NB Ramp
- SR 76/Pala Mission Road East
- SR 76/Pauma Reservation Road
- SR 76/Cole Grade Road
- SR 76/Valley Center Road

4.3.3 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

The sections below describe recommended off-site roadway mitigation measures for various scenarios.

NEAR TERM PLUS PROJECT CONDITIONS

The following mitigation measures are recommended:

- At the intersection of SR 76/I-15 NB Ramp, the Tribe shall work closely with Caltrans to develop its fair share costs for improvements if and when such improvements are implemented.

- At the intersection of SR 76/Pauma Reservation Road
  - Signalize (Signal warrant provided as Appendix C).
  - Add an eastbound left turn lane, a westbound right turn lane, and add a southbound lane that will provide for a dedicated left turn and dedicated right turn. These improvements will result in the following lane geometry
    Eastbound (SR76): 1 left, 1 thru
    Westbound (SR76): 1 thru, 1 right
    Southbound (Pauma Reservation Road): 1 left, 1 right

The following is an alternative mitigation measure to the SR 76/Pauma Reservation Road improvements:

- Construct a signalized access roadway from SR 76 to Pauma Casino east of existing Pauma Reservation Road.

  - Signalize
  - This access roadway will have the following lane geometry
    Eastbound (SR76): 1 left, 1 thru
    Westbound (SR76): 1 thru, 1 right
    Southbound (Access Road): 1 left, 1 right

HORIZON YEAR (2030)/HORIZON YEAR (2030) PLUS PROJECT CONDITIONS

In the case of the following intersections, SANDAG is leading a funded corridor study to improve these intersections of SR 76. Therefore, mitigation is not necessary.

- SR 76/Old Highway 395
- SR 76/I-15 SB Ramp
- SR 76/I-15 NB Ramp

In the case of the following intersections, Caltrans is in the process of conducting a corridor

study from I-15 to SR 79, it is recommended that the project pay a fair share when the findings are complete.

- SR 76/Pala Mission Road East
- SR 76/Pauma Reservation Road
- SR 76/Cole Grade Road
- SR 76/Valley Center Road

Table 4-1 shows the traffic conditions that would result if the recommended mitigation measures were implemented. Capacity calculations are shown in Appendix B.

Table 4-1
Intersection Operations (PM Peak Hour), with Mitigation

	Existing (2006)		Near Term (2009)		Near Term (2009) + Project		Horizon Year (2030)		Horizon Year (2030) + Project	
Intersection	**Avg. Delay (Sec)**	**LOS**	**Avg. Delay (Sec)**	**LOS**	**Avg. Delay (Sec)**	**LOS**	**Avg. Delay (Sec)**	**LOS**	**Avg. Delay (Sec)**	**LOS**
SR 76/Old 395 Hwy	44.1	D	44.8	D	50.5	D	(2)	(2)	(2)	(2)
SR 76/I-15 NB Ramps	50.3	D	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
SR 76/I-15 SB Ramps	30.4	C	36.7	D	49.9	D	(2)	(2)	(2)	(2)
SR 76/Pala Mission Road West	34.3	C	34.6	C	37.8	D	(2)	(2)	(2)	(2)
SR 76/Pala Mission Road East	(1)	C	(1)	C	(1)	*D	(2)	(2)	(2)	(2)
SR 76/Pauma Reservation Road	(1)	C	(1)	C	35.4	D	(2)	(2)	(2)	(2)
SR 76/Cole Grade Rd	(1)	C	(1)	C	(1)	C	(2)	(2)	(2)	(2)
SR 76/Valley Center Rd	(1)	C	(1)	C	(1)	C	(2)	(2)	(2)	(2)

(1) Unsignalized intersection. Average delay not applicable.
(2) There are ongoing corridor studies on SR 76 from Melrose to the west to SR 79 to the east, the results of those studies are expected to improve these intersections to a LOS D or better.
* Signal not warranted. LOS D assumed.

5.0 SUMMARY OF RECOMMENDED DESIGN FEATURES, IMPACTS, AND MITIGATION

Based on the results of Chapter 4, the following mitigation measures are recommended:

- At the intersection of SR 76/I-15 NB Ramp, the Tribe shall work closely with Caltrans to develop its fair share costs for improvements if and when such improvements are implemented.

- At the intersection of SR 76/Pauma Reservation Road
  - Signalize (Signal warrant provided as Appendix C).
  - Add an eastbound left turn lane, a westbound right turn lane, and add a southbound lane that will provide for a dedicated left turn and dedicated right turn. These improvements will result in the following lane geometry
    Eastbound (SR76): 1 left, 1 thru
    Westbound (SR76): 1 thru, 1 right
    Southbound (Pauma Reservation Road): 1 left, 1 right

The following is an alternative mitigation measure to the SR 76/Pauma Reservation Road improvements:

- Construct a signalized access roadway from SR 76 to Pauma Casino east of existing Pauma Reservation Road.

  - Signalize
  - This access roadway will have the following lane geometry
    Eastbound (SR76): 1 left, 1 thru
    Westbound (SR76): 1 thru, 1 right
    Southbound (Access Road): 1 left, 1 right

As stated in Chapter 4, when the Caltrans corridor study findings are complete, it is recommended that the project pay a fair share towards improvements along SR 76.

6.0 REFERENCES

1. Transportation and Traffic Report Format & Content Requirements, County of San Diego, Land Use and Environment Group, September 26, 2006.

2. Transportation and Traffic Guidelines for Determining Significance, County of San Diego, Land Use and Environment Group, September 26, 2006.

3. Transportation Data, Average Traffic Volumes, San Diego Association of Governments (www.sandag.org/resources/demographics_and_other_data/transportation/adtv/).

4. Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region. San Diego Association of Governments, April 2002.

7.0 LIST OF PREPARERS AND ORGANIZATIONS CONTACTED

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APPENDIX A

TABLE 1

AVERAGE DAILY VEHICLE TRIPS

CIRCULATION ELEMENT ROADS		LEVEL OF SERVICE				
CLASS	X-SECTION	A	B	C	D	E
Expressway	126/146	<36,000	<54,000	<70,000	<86,000	<108,000
Prime Arterial	102/122	<22,200	<37,000	<44,600	<50,000	<57,000
Major Road	78/98	<14,800	<24,700	<29,600	<33,400	<37,000
Collector	64/84	<13,700	<22,800	<27,400	<30,800	<34,200
Town Collector	54/74	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector	40/60	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Collector	40/84	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Light Collector	40/60	<1,900	<4,100	<7,100	<10,900	<16,200
Recreational Parkway	40/100	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Mountain	40/100	<1,900	<4,100	<7,100	<10,900	<16,200

NON – CIRCULATION ELEMENT ROADS		LEVEL OF SERVICE				
CLASS	X-SECTION	A	B	C	D	E
Residential Collector	40/60	*	*	<4,500	*	*
Residential Road	36/56	*	*	<1,500	*	*
Residential Cul-de-sac or Loop Road	32/52	*	*	< 200	*	*

*Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

APPENDIX B

PM PEAK HOUR

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 7-11-06
Period: PM
Project ID: Existing Peak Hour Traffic
E/W St: SR 76

Inter.: Old Hwy 395 & SR 76
Area Type: All other areas
Jurisd:
Year : 2006
N/S St: Old Hwy 395

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	0	1	0	0	1	0
LGConfig	L	TR		L	T	R		LTR			LTR	
Volume	61	761	36	42	675	207	35	90	45	197	53	36
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			7			20			13			10

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left		A		
	Thru		A				Thru		A		
	Right		A				Right		A		
	Peds						Peds				
WB	Left	A				SB	Left	A			
	Thru		A				Thru	A			
	Right		A				Right	A			
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		19.0	35.0					27.0	19.0		
Yellow		4.0	4.0					4.0	4.0		
All Red		1.0	1.0					1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	280	1770	0.24	0.16	44.6	D		
TR	1029	3527	0.83	0.29	45.9	D	45.8	D
Westbound								
L	280	1770	0.16	0.16	43.9	D		
T	1035	3547	0.71	0.29	40.0	D	39.2	D
R	462	1583	0.44	0.29	35.2	D		
Northbound								
LTR	284	1791	0.60	0.16	50.6	D	50.6	D
Southbound								
LTR	400	1776	0.75	0.22	51.4	D	51.4	D

Intersection Delay = 44.1 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: MCP
Date: 7-11-06
Period: PM
Project ID: Existing Peak Hour Traffic
E/W St: SR 76

Inter.: SR 76 and I-15 SB Ramps
Area Type: All other areas
Jurisd:
Year : 2006

N/S St: SB Ramps

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	1	1
LGConfig		T	R	L	T						LT	R
Volume		793	212	164	519					167	2	430
Lane Width		12.0	12.0	12.0	12.0						12.0	12.0
RTOR Vol			58									99

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru		A			Thru			
Right		A			Right			
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	18.0	61.0				26.0		
Yellow	4.0	4.0				4.0		
All Red	1.0	1.0				1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	947	1863	0.91	0.51	35.5	D	32.4	C
R	805	1583	0.21	0.51	16.3	B		
Westbound								
L	266	1770	0.67	0.15	54.7	D		
T	947	1863	0.60	0.51	16.7	B	25.8	C
Northbound								
Southbound								
LT	385	1775	0.48	0.22	42.0	D	32.9	C
R	646	1583	0.56	0.41	28.3	C		

Intersection Delay = 30.4 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 7-11-06
Period: PM
Project ID: Existing Peak Hour Traffic
E/W St: SR 76

Inter.: SR 76 and I-15 NB Ramps
Area Type: All other areas
Jurisd:
Year : 2006
N/S St: NB Ramps

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	1	1	0	0	0
LGConfig	L	T			T	R		LT	R			
Volume	632	344			383	134	301	3	167			
Lane Width	12.0	12.0			12.0	12.0		12.0	12.0			
RTOR Vol						47			42			

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A			
	Thru	A	A				Thru	A			
	Right						Right	A			
	Peds						Peds				
WB	Left					SB	Left				
	Thru		A				Thru				
	Right		A				Right				
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		50.0	30.0					25.0			
Yellow		4.0	4.0					4.0			
All Red		1.0	1.0					1.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	737	1770	0.93	0.42	58.3	E		
T	1320	1863	0.28	0.71	1.5	A	38.3	D
Westbound								
T	466	1863	0.89	0.25	67.3	E	61.5	E
R	396	1583	0.24	0.25	36.2	D		
Northbound								
LT	370	1775	0.89	0.21	75.2	E	65.5	E
R	330	1583	0.41	0.21	42.0	D		
Southbound								

Intersection Delay = 50.3 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 10-02-06
Period: PM
Project ID: Existing Peak Hour Traffic
E/W St: SR 76

Inter.: Pala Mission Rd & SR 76
Area Type: All other areas
Jurisd:
Year : 2006
N/S St: Pala Mission Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	1	1	0	1	1
LGConfig	L	T	R	L	T	R		LT	R		LT	R
Volume	117	316	85	23	179	7	34	12	17	27	56	98
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0		12.0	12.0
RTOR Vol			21			2			4			24

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	23.0	43.0			19.0	15.0		
Yellow	4.0	4.0			4.0	4.0		
All Red	1.0	1.0			1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	339	1770	0.37	0.19	42.9	D		
T	668	1863	0.51	0.36	29.0	C	31.9	C
R	508	1417	0.14	0.36	26.1	C		
Westbound								
L	339	1770	0.07	0.19	39.9	D		
T	668	1863	0.29	0.36	26.1	C	27.6	C
R	567	1583	0.01	0.36	24.8	C		
Northbound								
LT	225	1796	0.22	0.13	47.8	D	47.5	D
R	198	1583	0.07	0.13	46.5	D		
Southbound								
LT	290	1833	0.31	0.16	45.3	D	45.7	D
R	224	1417	0.36	0.16	46.0	D		

Intersection Delay = 34.3 (sec/veh) Intersection LOS = C

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 12-10-06
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Pala Mission East
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2006
Project ID: Existing
East/West Street: SR 76
North/South Street: Pala Mission Rd East
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	214			230	209
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	5	237			255	232
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				149		3
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				165		3
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			/
Lanes				1		1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT					L		R
v (vph)	5					165		3
C(m) (vph)	1086					454		679
v/c	0.00					0.36		0.00
95% queue length	0.01					1.69		0.01
Control Delay	8.3					17.4		10.3
LOS	A					C		B
Approach Delay							17.3	
Approach LOS							C	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 07-11-06
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Pauma Reservation Rd
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2006
Project ID: Existing
East/West Street: SR 76
North/South Street: Pauma Reservation Road
Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		329	43	75	284	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		365	47	83	315	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1 0		0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	54	0	89			
Peak Hour Factor, PHF	0.90	0.90	0.90			
Hourly Flow Rate, HFR	60	0	98			
Percent Heavy Vehicles	0	0	0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	1 0				
Configuration		LTR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LTR				
v (vph)		83		158				
C(m) (vph)		1158		457				
v/c		0.07		0.35				
95% queue length		0.23		1.57				
Control Delay		8.3		17.0				
LOS		A		C				
Approach Delay				17.0				
Approach LOS				C				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 07-11-06
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Cole Grade Rd
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2006
Project ID: Existing
East/West Street: SR 76
North/South Street: Cole Grade Rd
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		58	212	66	125	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		64	235	73	138	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	207		105			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	230		116			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		73		346				
C(m) (vph)		1274		607				
v/c		0.06		0.57				
95% queue length		0.18		3.86				
Control Delay		8.0		18.7				
LOS		A		C				
Approach Delay				18.7				
Approach LOS				C				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 07-11-06
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Valley Center Road
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2006
Project ID: Existing
East/West Street: SR 76
North/South Street: Valley Center Road
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		95	206	125	81	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		105	228	138	90	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1 0		1	1	
Configuration		TR		L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	178		102			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	197		113			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			/
Lanes	1		1			
Configuration	L		R			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		L	L		R			
v (vph)		138	197		113			
C(m) (vph)		1238	424		826			
v/c		0.11	0.46		0.14			
95% queue length		0.38	2.55		0.47			
Control Delay		8.3	20.8		10.0+			
LOS		A	C		B			
Approach Delay				16.9				
Approach LOS				C				

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 11-14-07
Period: PM
Project ID: Near Term + Project
E/W St: SR 76

Inter.: Old Hwy 395 & SR 76
Area Type: All other areas
Jurisd: Pauma Indian Reservation
Year : 2006

N/S St: Old Hwy 395

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	0	1	0	0	1	0
LGConfig	L	TR		L	T	R		LTR			LTR	
Volume	67	879	39	46	791	226	38	98	49	215	58	39
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			9			55			12			10

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left		A		
	Thru		A				Thru		A		
	Right		A				Right		A		
	Peds						Peds				
WB	Left	A				SB	Left	A			
	Thru		A				Thru	A			
	Right		A				Right	A			
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		17.0	36.0					28.0	19.0		
Yellow		4.0	4.0					4.0	4.0		
All Red		1.0	1.0					1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	251	1770	0.29	0.14	46.8	D		
TR	1059	3529	0.93	0.30	58.6	E	57.8	E
Westbound								
L	251	1770	0.20	0.14	45.9	D		
T	1064	3547	0.81	0.30	43.2	D	41.7	D
R	475	1583	0.39	0.30	33.8	C		
Northbound								
LTR	283	1790	0.66	0.16	53.4	D	53.4	D
Southbound								
LTR	414	1775	0.79	0.23	54.4	D	54.4	D

Intersection Delay = 50.5 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 7-14-07
Period: PM
Project ID: Near Term + Project
E/W St: SR 76

Inter.: SR 76 and I-15 NB Ramps
Area Type: All other areas
Jurisd: Pauma Indian Reservation
Year : 2006

N/S St: NB Ramps

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	1	1	0	0	0
LGConfig	L	T			T	R		LT	R			
Volume	690	456			543	181	329	3	246			
Lane Width	12.0	12.0			12.0	12.0		12.0	12.0			
RTOR Vol						44			59			

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A	A			Thru	A		
Right					Right	A		
Peds					Peds			
WB Left					SB Left			
Thru		A			Thru			
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	46.0	36.0				23.0		
Yellow	4.0	4.0				4.0		
All Red	1.0	1.0				1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	678	1770	1.13	0.38	294.3	F		
T	1351	1863	0.38	0.73	1.5	A	177.8	F
Westbound								
T	559	1863	1.08	0.30	218.4	F	181.1	F
R	475	1583	0.32	0.30	32.9	C		
Northbound								
LT	340	1775	1.09	0.19	252.7	F	180.2	F
R	303	1583	0.69	0.19	51.7	D		
Southbound								

Intersection Delay = 179.3 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: MCP
Date: 7-14-07
Period: PM
Project ID: Near Term + Project
E/W St: SR 76

Inter.: SR 76 and I-15 SB Ramps
Area Type: All other areas
Jurisd: Pauma Indian Reservation
Year : 2006

N/S St: SB Ramps

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	1	1
LGConfig		T	R	L	T						LT	R
Volume		914	232	251	621					214	2	470
Lane Width		12.0	12.0	12.0	12.0						12.0	12.0
RTOR Vol			58									118

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru		A			Thru			
Right		A			Right			
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	22.0	64.0				19.0		
Yellow	4.0	4.0				4.0		
All Red	1.0	1.0				1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	994	1863	1.00	0.53	76.0	E	66.3	E
R	844	1583	0.22	0.53	15.0	B		
Westbound								
L	325	1770	0.84	0.18	67.7	E		
T	994	1863	0.68	0.53	16.5	B	31.2	C
Northbound								
Southbound								
LT	281	1775	0.84	0.16	71.6	E	47.2	D
R	607	1583	0.63	0.38	32.2	C		

Intersection Delay = 49.9 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 7-14-07
Period: PM
Project ID: Near Term + Project
E/W St: SR 76

Inter.: Pala Mission Rd & SR 76
Area Type: All other areas
Jurisd: Pauma Indian Reservation
Year : 2006

N/S St: Pala Mission Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	1	0	1	1	0	1	1
LGConfig	L	T	R	L	T	R		LT	R		LT	R
Volume	128	489	93	25	356	8	37	13	19	29	61	107
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0		12.0	12.0
RTOR Vol			21			2			4			25

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left		A		
	Thru		A				Thru		A		
	Right		A				Right		A		
	Peds						Peds				
WB	Left	A				SB	Left	A			
	Thru		A				Thru	A			
	Right		A				Right	A			
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		23.0	43.0					19.0	15.0		
Yellow		4.0	4.0					4.0	4.0		
All Red		1.0	1.0					1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	339	1770	0.41	0.19	43.4	D		
T	668	1863	0.80	0.36	39.4	D	38.8	D
R	567	1583	0.14	0.36	26.1	C		
Westbound								
L	339	1770	0.08	0.19	39.9	D		
T	668	1863	0.58	0.36	30.5	C	31.0	C
R	567	1583	0.01	0.36	24.8	C		
Northbound								
LT	225	1796	0.24	0.13	47.9	D	47.6	D
R	198	1583	0.08	0.13	46.6	D		
Southbound								
LT	290	1833	0.34	0.16	45.6	D	45.7	D
R	251	1583	0.35	0.16	45.9	D		

Intersection Delay = 37.8 (sec/veh) Intersection LOS = D

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 11-14-07
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Pala Mission East
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2006
Project ID: Near Term + Project
East/West Street: SR 76
North/South Street: Pala Mission Rd East
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	377			412	231
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	5	418			457	256
Percent Heavy Vehicles	2	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				166		3
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				184		3
Percent Heavy Vehicles				2		2
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
Lanes				1		1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT					L		R
v (vph)	5					184		3
C(m) (vph)	887					264		511
v/c	0.01					0.70		0.01
95% queue length	0.02					6.00		0.02
Control Delay	9.1					48.4		12.1
LOS	A					E		B
Approach Delay							47.8	
Approach LOS							E	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 11-14-07
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Pauma Reservation Rd
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2007
Project ID: Near Term + Project
East/West Street: SR 76
North/South Street: Pauma Reservation Road
Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		359	60	230	310	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		398	66	255	344	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	111	0	223			
Peak Hour Factor, PHF	0.90	0.90	0.90			
Hourly Flow Rate, HFR	123	0	247			
Percent Heavy Vehicles	2	2	2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	1	0			
Configuration		LTR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LTR				
v (vph)		255		370				
C(m) (vph)		1097		290				
v/c		0.23		1.28				
95% queue length		0.91		50.90				
Control Delay		9.3		565.9				
LOS		A		F				
Approach Delay				565.9				
Approach LOS				F				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 2/15/07
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Cole Grade Rd
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2006
Project ID: Near Term + Project
East/West Street: SR 76
North/South Street: Cole Grade Rd
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		69	239	72	143	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		76	265	80	158	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	232		115			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	257		127			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		80		384				
C(m) (vph)		1218		556				
v/c		0.07		0.69				
95% queue length		0.21		6.24				
Control Delay		8.2		25.6				
LOS		A		D				
Approach Delay				25.6				
Approach LOS				D				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 2/15/07
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Valley Center Road
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2006
Project ID: Near Term + Project
East/West Street: SR 76
North/South Street: Valley Center Road
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		107	228	137	91	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		118	253	152	101	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	1	1	
Configuration			TR	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	197		111			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	218		123			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			/
Lanes	1		1			
Configuration	L		R			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		L	L		R			
v (vph)		152	218		123			
C(m) (vph)		1188	378		795			
v/c		0.13	0.58		0.15			
95% queue length		0.44	3.90		0.55			
Control Delay		8.5	27.3		10.4			
LOS		A	D		B			
Approach Delay				21.2				
Approach LOS				C				

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 7-11-06
Period: PM
Project ID: Future Without Project
E/W St: SR 76

Inter.: Old Hwy 395 & SR 76
Area Type: All other areas
Jurisd: n
Year : 2006
N/S St: Old Hwy 395

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	0	1	0	0	1	0
LGConfig	L	TR		L	T	R		LTR			LTR	
Volume	198	1449	152	169	1286	629	148	482	181	599	284	117
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			7			20			13			10

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right		A			Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	19.0	35.0				27.0	19.0	
Yellow	4.0	4.0				4.0	4.0	
All Red	1.0	1.0				1.0	1.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	280	1770	0.77	0.16	61.5	E		
TR	1020	3498	1.70	0.29	1305	F	1167	F
Westbound								
L	280	1770	0.66	0.16	53.1	D		
T	1035	3547	1.35	0.29	680.1	F	674.2	F
R	462	1583	1.43	0.29	834.4	F		
Northbound								
LTR	284	1793	3.06	0.16	3761	F	3761	F
Southbound								
LTR	401	1782	2.68	0.22	3084	F	3084	F

Intersection Delay = 1690 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: MCP
Date: 7-11-06
Period: PM
Project ID: Future Without Project
E/W St: SR 76

Inter.: SR 76 and I-15 SB Ramps
Area Type: All other areas
Jurisd:
Year : 2006

N/S St: SB Ramps

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	1	1
LGConfig		T	R	L	T						LT	R
Volume		1583	348	317	1036					400	4	904
Lane Width		12.0	12.0	12.0	12.0						12.0	12.0
RTOR Vol			58									99

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru		A			Thru			
Right		A			Right			
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	18.0	61.0				26.0		
Yellow	4.0	4.0				4.0		
All Red	1.0	1.0				1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	947	1863	1.82	0.51	1505	F	1275	F
R	805	1583	0.39	0.51	18.4	B		
Westbound								
L	266	1770	1.30	0.15	613.7	F		
T	947	1863	1.19	0.51	374.0	F	430.2	F
Northbound								
Southbound								
LT	385	1775	1.14	0.22	333.0	F	566.8	F
R	646	1583	1.35	0.41	684.1	F		

Intersection Delay = 824.2 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 7-11-06
Period: PM
Project ID: Future Without Project
E/W St: SR 76

Inter.: SR 76 and I-15 NB Ramps
Area Type: All other areas
Jurisd:
Year : 2006
N/S St: NB Ramps

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	1	1	0	0	0
LGConfig	L	T			T	R		LT	R			
Volume	1339	695			794	248	633	3	306			
Lane Width	12.0	12.0			12.0	12.0		12.0	12.0			
RTOR Vol						47			42			

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	A			
Thru	A	A			Thru	A			
Right					Right	A			
Peds					Peds				
WB Left					SB Left				
Thru		A			Thru				
Right		A			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	50.0	30.0				25.0			
Yellow	4.0	4.0				4.0			
All Red	1.0	1.0				1.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	737	1770	1.97	0.42	1794	F		
T	1320	1863	0.57	0.71	2.5	A	1182	F
Westbound								
T	466	1863	1.85	0.25	1587	F	1275	F
R	396	1583	0.55	0.25	40.8	D		
Northbound								
LT	370	1774	1.87	0.21	1620	F	1165	F
R	330	1583	0.87	0.21	72.0	E		
Southbound								

Intersection Delay = 1202 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 10-02-06
Period: PM
Project ID: Future Peak Hour Traffic
E/W St: SR 76

Inter.: Pala Mission Rd & SR 76
Area Type: All other areas
Jurisd:
Year : 2006
N/S St: Pala Mission Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	0	0	1	1	0	1	1
LGConfig	L	T	R	L	TR			LT	R		LT	R
Volume	200	540	85	23	306	12	34	12	17	45	56	163
Lane Width	12.0	12.0	12.0	12.0	12.0			12.0	12.0		12.0	12.0
RTOR Vol			21			3			4			41

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left		A		
	Thru		A				Thru		A		
	Right		A				Right		A		
	Peds						Peds				
WB	Left	A				SB	Left	A			
	Thru		A				Thru	A			
	Right		A				Right	A			
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		23.0	43.0					19.0	15.0		
Yellow		4.0	4.0					4.0	4.0		
All Red		1.0	1.0					1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	339	1770	0.64	0.19	48.8	D		
T	668	1863	0.88	0.36	48.6	D	46.8	D
R	508	1417	0.14	0.36	26.1	C		
Westbound								
L	339	1770	0.07	0.19	39.9	D		
TR	665	1855	0.52	0.36	29.1	C	29.8	C
Northbound								
LT	225	1796	0.22	0.13	47.8	D	47.5	D
R	198	1583	0.07	0.13	46.5	D		
Southbound								
LT	288	1822	0.38	0.16	46.1	D	48.9	D
R	224	1417	0.59	0.16	51.2	D		

Intersection Delay = 43.1 (sec/veh) Intersection LOS = D

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 12-10-06
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Pala Mission East
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2006
Project ID: Future
East/West Street: SR 76
North/South Street: Pala Mission Rd East
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	7	292			314	285
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	7	324			348	316
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				203		4
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				225		4
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
Lanes				1		1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT					L		R
v (vph)	7					225		4
C(m) (vph)	935					333		570
v/c	0.01					0.68		0.01
95% queue length	0.02					5.66		0.02
Control Delay	8.9					37.5		11.4
LOS	A					E		B
Approach Delay							37.1	
Approach LOS							E	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 07-11-06
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Pauma Reservation Rd
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2006
Project ID: Future
East/West Street: SR 76
North/South Street: Pauma Reservation Road
Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		545	85	125	470	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		605	94	138	522	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1 0		0 1		
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	177	0	90			
Peak Hour Factor, PHF	0.90	0.90	0.90			
Hourly Flow Rate, HFR	196	0	100			
Percent Heavy Vehicles	0	0	0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	1 0				
Configuration		LTR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LTR				
v (vph)		138		296				
C(m) (vph)		907		165				
v/c		0.15		1.79				
95% queue length		0.54		71.69				
Control Delay		9.7		1504				
LOS		A		F				
Approach Delay				1504				
Approach LOS				F				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 07-11-06
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Cole Grade Rd
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2006
Project ID: Future
East/West Street: SR 76
North/South Street: Cole Grade Rd
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		96	289	109	210	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		106	321	121	233	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1 0		0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	282		176			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	313		195			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		121		508				
C(m) (vph)		1143		440				
v/c		0.11		1.15				
95% queue length		0.35		49.42				
Control Delay		8.5		342.9				
LOS		A		F				
Approach Delay				342.9				
Approach LOS				F				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 07-11-06
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Valley Center Road
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2006
Project ID: Future Without Project
East/West Street: SR 76
North/South Street: Valley Center Road
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		181	440	258	154	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		201	488	286	171	
Percent Heavy Vehicles		--	--	0	--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes		1 0		1	1	
Configuration		TR		L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	380		211			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	422		234			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			/
Lanes	1		1			
Configuration	L		R			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		L	L		R			
v (vph)		286	422		234			
C(m) (vph)		915	144		617			
v/c		0.31	2.93		0.38			
95% queue length		1.36	143.41		1.82			
Control Delay		10.7	3543		14.4			
LOS		B	F		B			
Approach Delay			2284					
Approach LOS			F					

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 11/14/07
Period: PM
Project ID: Future + Project
E/W St: SR 76

Inter.: Old Hwy 395 & SR 76
Area Type: All other areas
Jurisd: Pauma Indian Reservation
Year : 2006

N/S St: Old Hwy 395

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	1	2	1	0	1	0	0	1	0
LGConfig	L	TR		L	T	R		LTR			LTR	
Volume	198	1497	152	169	1340	629	148	482	181	599	284	117
Lane Width	12.0	12.0		12.0	12.0	12.0		12.0			12.0	
RTOR Vol			38			157			45			29

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left		A		
	Thru		A				Thru		A		
	Right		A				Right		A		
	Peds						Peds				
WB	Left	A				SB	Left	A			
	Thru		A				Thru	A			
	Right		A				Right	A			
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		19.0	35.0					27.0	19.0		
Yellow		4.0	4.0					4.0	4.0		
All Red		1.0	1.0					1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	280	1770	0.77	0.16	61.5	E		
TR	1023	3509	1.71	0.29	1327	F	1189	F
Westbound								
L	280	1770	0.66	0.16	53.1	D		
T	1035	3547	1.41	0.29	782.0	F	599.0	F
R	462	1583	1.11	0.29	274.7	F		
Northbound								
LTR	285	1801	2.92	0.16	3521	F	3521	F
Southbound								
LTR	402	1785	2.63	0.22	2982	F	2982	F

Intersection Delay = 1616 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: MCP
Date: 11/14/07
Period: PM
Project ID: Future + Project
E/W St: SR 76

Inter.: SR 76 and I-15 SB Ramps
Area Type: All other areas
Jurisd: Pauma Indian Reservation
Year : 2006

N/S St: SB Ramps

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	1	0	0	0	0	0	1	1
LGConfig		T	R	L	T						LT	R
Volume		1631	348	389	1090					432	4	904
Lane Width		12.0	12.0	12.0	12.0						12.0	12.0
RTOR Vol			87									226

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru		A			Thru			
Right		A			Right			
Peds					Peds			
WB Left	A				SB Left	A		
Thru		A			Thru	A		
Right					Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right	A				WB Right			
Green	18.0	61.0				26.0		
Yellow	4.0	4.0				4.0		
All Red	1.0	1.0				1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	947	1863	1.87	0.51	1604	F	1385	F
R	805	1583	0.35	0.51	17.9	B		
Westbound								
L	266	1770	1.59	0.15	1131	F		
T	947	1863	1.25	0.51	483.9	F	654.2	F
Northbound								
Southbound								
LT	385	1775	1.23	0.22	486.7	F	379.1	F
R	646	1583	1.14	0.41	309.9	F		

Intersection Delay = 894.0 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 11/14/07
Period: PM
Project ID: Future + Project
E/W St: SR 76

Inter.: SR 76 and I-15 NB Ramps
Area Type: All other areas
Jurisd: Pauma Indian Reservation
Year : 2006

N/S St: NB Ramps

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	1	1	0	0	0
LGConfig	L	T			T	R		LT	R			
Volume	1339	775			919	283	633	3	310			
Lane Width	12.0	12.0			12.0	12.0		12.0	12.0			
RTOR Vol						71			77			

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A			
	Thru	A	A				Thru	A			
	Right						Right	A			
	Peds						Peds				
WB	Left					SB	Left				
	Thru		A				Thru				
	Right		A				Right				
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		50.0	30.0					25.0			
Yellow		4.0	4.0					4.0			
All Red		1.0	1.0					1.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	737	1770	1.97	0.42	1794	F		
T	1320	1863	0.64	0.71	3.1	A	1137	F
Westbound								
T	466	1863	2.14	0.25	2111	F	1724	F
R	396	1583	0.58	0.25	41.7	D		
Northbound								
LT	370	1774	1.87	0.21	1620	F	1200	F
R	330	1583	0.77	0.21	55.9	E		
Southbound								

Intersection Delay = 1312 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 11/14/07
Period: PM
Project ID: Future + Project
E/W St: SR 76

Inter.: Pala Mission Rd & SR 76
Area Type: All other areas
Jurisd: Pauma Indian Reservation
Year : 2006

N/S St: Pala Mission Rd

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	1	1	0	0	1	1	0	1	1
LGConfig	L	T	R	L	TR			LT	R		LT	R
Volume	200	684	85	23	467	12	34	12	17	45	56	163
Lane Width	12.0	12.0	12.0	12.0	12.0			12.0	12.0		12.0	12.0
RTOR Vol			21			3			4			41

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left		A		
Thru		A			Thru		A		
Right		A			Right		A		
Peds					Peds				
WB Left	A				SB Left	A			
Thru		A			Thru	A			
Right		A			Right	A			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	19.0	51.0				18.0	12.0		
Yellow	4.0	4.0				4.0	4.0		
All Red	1.0	1.0				1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	280	1770	0.77	0.16	62.3	E		
T	792	1863	0.94	0.43	54.0	D	53.5	D
R	602	1417	0.12	0.43	21.0	C		
Westbound								
L	280	1770	0.09	0.16	43.3	D		
TR	789	1857	0.66	0.43	25.9	C	26.7	C
Northbound								
LT	180	1796	0.28	0.10	50.8	D	50.5	D
R	158	1583	0.09	0.10	49.3	D		
Southbound								
LT	273	1822	0.40	0.15	47.1	D	50.7	D
R	213	1417	0.62	0.15	53.6	D		

Intersection Delay = 45.3 (sec/veh) Intersection LOS = D

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 11/14/07
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Pala Mission East
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2006
Project ID: Future + Project
East/West Street: SR 76
North/South Street: Pala Mission Rd East
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	7	436			475	288
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	7	484			527	320
Percent Heavy Vehicles	2	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				206		4
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				228		4
Percent Heavy Vehicles				2		2
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			/
Lanes				1		1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT					L		R
v (vph)	7					228		4
C(m) (vph)	790					207		447
v/c	0.01					1.10		0.01
95% queue length	0.03					24.47		0.03
Control Delay	9.6					320.6		13.1
LOS	A					F		B
Approach Delay							315.3	
Approach LOS							F	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 11/14/07
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Pauma Reservation Rd
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2006
Project ID: Future + Project
East/West Street: SR 76
North/South Street: Pauma Reservation Road
Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		545	98	273	470	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		605	108	303	522	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	191		254			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	212		282			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		303		494				
C(m) (vph)		887		118				
v/c		0.34		4.19				
95% queue length		1.55		191.86				
Control Delay		11.2		5811				
LOS		B		F				
Approach Delay				5811				
Approach LOS				F				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 07-11-06
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Cole Grade Rd
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2006
Project ID: Future + Project
East/West Street: SR 76
North/South Street: Cole Grade Rd
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		103	296	109	216	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		114	328	121	240	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	288		176			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	320		195			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		121		515				
C(m) (vph)		1118		424				
v/c		0.11		1.21				
95% queue length		0.36		58.67				
Control Delay		8.6		443.0				
LOS		A		F				
Approach Delay				443.0				
Approach LOS				F				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: VRPA Technologies
Agency/Co.: SD County
Date Performed: 07-11-06
Analysis Time Period: PM Peak Hour
Intersection: SR 76 & Valley Center Road
Jurisdiction: Pauma Indian Reservation
Units: U. S. Customary
Analysis Year: 2006
Project ID: Future + Project
East/West Street: SR 76
North/South Street: Valley Center Road
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		184	443	258	157	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		204	492	286	174	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	1	1	
Configuration			TR	L	T	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	383		211			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	425		234			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			/
Lanes	1		1			
Configuration	L		R			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		L	L		R			
v (vph)		286	425		234			
C(m) (vph)		900	141		609			
v/c		0.32	3.01		0.38			
95% queue length		1.39	146.36		1.85			
Control Delay		10.9	3694		14.6			
LOS		B	F		B			
Approach Delay			2387					
Approach LOS			F					

MITIGATION

HCS2000: Signalized Intersections Release 4.1e

Analyst: VRPA Technologies
Agency: SD County
Date: 2/20/07
Period: PM
Project ID: Near Term + Project - Mitigated Signalize
E/W St: Pauma Reservation Road

Inter.: Pauma Reservation & SR 76
Area Type: All other areas
Jurisd:
Year : 2006
N/S St: SR 76

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	1	1	1	0
LGConfig				L		R		T	R	L	T	
Volume				111		221		359	60	230	310	
Lane Width				12.0		12.0		12.0	12.0	12.0	12.0	
RTOR Vol						52			14			

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	A		
Right					Right	A		
Peds					Peds			
WB Left		A			SB Left	A		
Thru					Thru	A		
Right		A			Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		23.1				46.6	35.3	
Yellow		4.0				4.0	4.0	
All Red		1.0				1.0	1.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

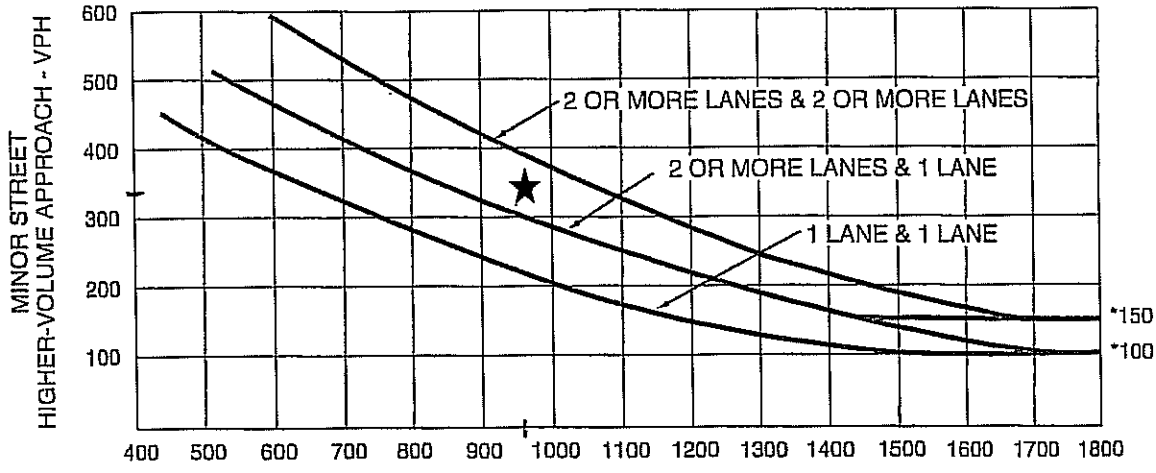
Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	341	1770	0.35	0.19	42.6	D		
							45.7	D
R	305	1583	0.60	0.19	47.7	D		
Northbound								
T	548	1863	0.71	0.29	41.9	D	40.6	D
R	466	1583	0.11	0.29	31.0	C		
Southbound								
L	615	1583	0.41	0.39	27.1	C		
T	723	1863	0.47	0.39	25.3	C	26.1	C

Intersection Delay = 35.4 (sec/veh) Intersection LOS = D

APPENDIX C

Signal Warrant
Pauma Reservation Road
and SR 76
Near Term + Project

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.