IONE BAND OF MIWOK INDIANS – CASINO/HOTEL PROPOSAL
TRAFFIC IMPACT ANALYSIS

Prepared for

Analytical Environmental Services

Prepared by

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SUMMARY

This traffic impact analysis (TIA) has been prepared for the Ione Band of Miwok Indian Casino project to evaluate potential transportation and circulation impacts resulting from the preferred project identified as Alternative A and three alternative development projects, B, C and D. This analysis considers the additional project alternatives to provide comparative traffic information for development of the project site located in the incorporated City of Plymouth and unincorporated Amador County with direct access from State Route (SR) 49. The preferred Alternative A consists of a 120,000 sq. ft. casino complex as Phase 1 by the year 2006 followed by the construction of a 250 room hotel by the year 2009. Alternative B consists of a slightly reduced casino complex, 100,750 sq. ft., as Phase 1 to be followed by the construction of a 250-room hotel by the year 2009. Alternatives C, has a reduced casino complex of 79,250 sq. ft and no hotel, and D consists of a 123,250 sq. ft. regional shopping center proposed as a single phase with full development anticipated by the year 2006. There are no published trip generation rates for casinos by the transportation industry standard the Institute of Transportation Engineers (ITE). The generation rates used within were developed by AES through the survey of eight existing casinos in the region.

The project site is located approximately one hour southeast of downtown Sacramento within and near the City of Plymouth. The approximately 228-acre site is regionally accessible from the north and west via Interstate 50 (I 50) via SR 16 to SR 49 or further east from I 50 in Placerville to SR 49. Access from the south is via SR 99 to SR 88 and SR 104. The project site will be served via two driveways on SR 49, a primarily rural two-lane roadway. The main driveway is located north of the project site and the secondary service driveway access to the southwest of the project site. The existing loop road within the site will remain and continue to provide access to existing users. The loop road currently has a northern and a southern access. The same main driveway and service driveway provide access to the site in all four development proposals.

Existing traffic operations were evaluated by collecting 24-hour traffic counts on nearby roadway segments and intersections. Turning movement counts were collected during the Weekday and Saturday PM peak hour at 25 identified study intersections. The list of intersections were determined from a prior initial assessment study conducted by AES for the Bureau of Indian Affairs (BIA) dated February 24, 2004. Approved projects were obtained from

appropriate jurisdictions to develop an existing plus approved projects (EPAP) Condition. The EPAP Condition serves as the baseline condition by which the alternatives are compared against to determine traffic impacts. In addition this report considers sight distance from the project driveways and on-site circulation.

The distance between the northern loop road driveway access and the primary project driveway is less than 200 feet. Under project conditions, the primary project driveway would be signalized. Delays and queuing at the project driveways would lead to operational problems at the northern loop road driveway due to the short distance between both intersections. It is recommended that the northern loop road driveway access be restricted to right-in/right out movements enforced by a raised median that would extend from the primary project driveway to just south of the northern loop road driveway. The southern loop road driveway will continue to allow all vehicular movements. This intersection modification is presented as part of the mitigation of the intersection of SR 49/Primary project driveway.

Appropriate mitigation measures for impacted facilities or deficiencies are also noted in this report. All of the intersections analyzed are under the California Department of Transportation (Caltrans) jurisdiction (District 3 or District 10). The standard for each Caltrans District was considered in the determination of acceptable levels of service (LOS). The results of the existing LOS calculations show 6 intersections currently operate at unacceptable LOS per the respective Caltrans District standard. The number of intersections projected to operate at unacceptable levels of service by the project year of 2006 increases to 7 due to area-wide growth (without the project).

Operation of the Preferred Alternative A (Phase 1) results in impacts to 12 study intersections. This increases to 14 by the year 2009 with construction of the hotel. Alternative B Phase 1 also results in significant impacts at 12 study intersections. Phase B in the year 2009 adds another impacted study intersection. Alternative C would impact 8 intersections in the year 2006 and Alternative D is projected to impact 12 intersections. Mitigation measures are provided for each impacted facility.

Future traffic conditions are also considered in a Cumulative (2025) condition without any alternative project at the subject site. The Cumulative condition identified 18 intersections that would be impacted by overall growth requiring some type of improvement to restore acceptable operating conditions at the intersections. When comparing the Cumulative (no project) condition to the Cumulative with Alternative A development proposal for the project site, one additional intersection was impacted and the subject driveways were impacted. Mitigation measures were identified for all intersections impacted. Alternatives B, C, and D identified the same 18 intersections impacted in both the Cumulative with the respective Alternative project and without any development.

Subsequent to completion of the original traffic impact study for the proposed Ione Casino/Hotel Project, we were requested to provide a supplemental analysis that considered the cumulative impacts from the proposed Buena Vista Casino project on the overlayping study intersections and segments analyzed for the cumulative condition with the preferred alternative for the Ione Casino/Hotel Project. This supplemental study was updated and revised to be consistent with this revised study and added to the end of this report.

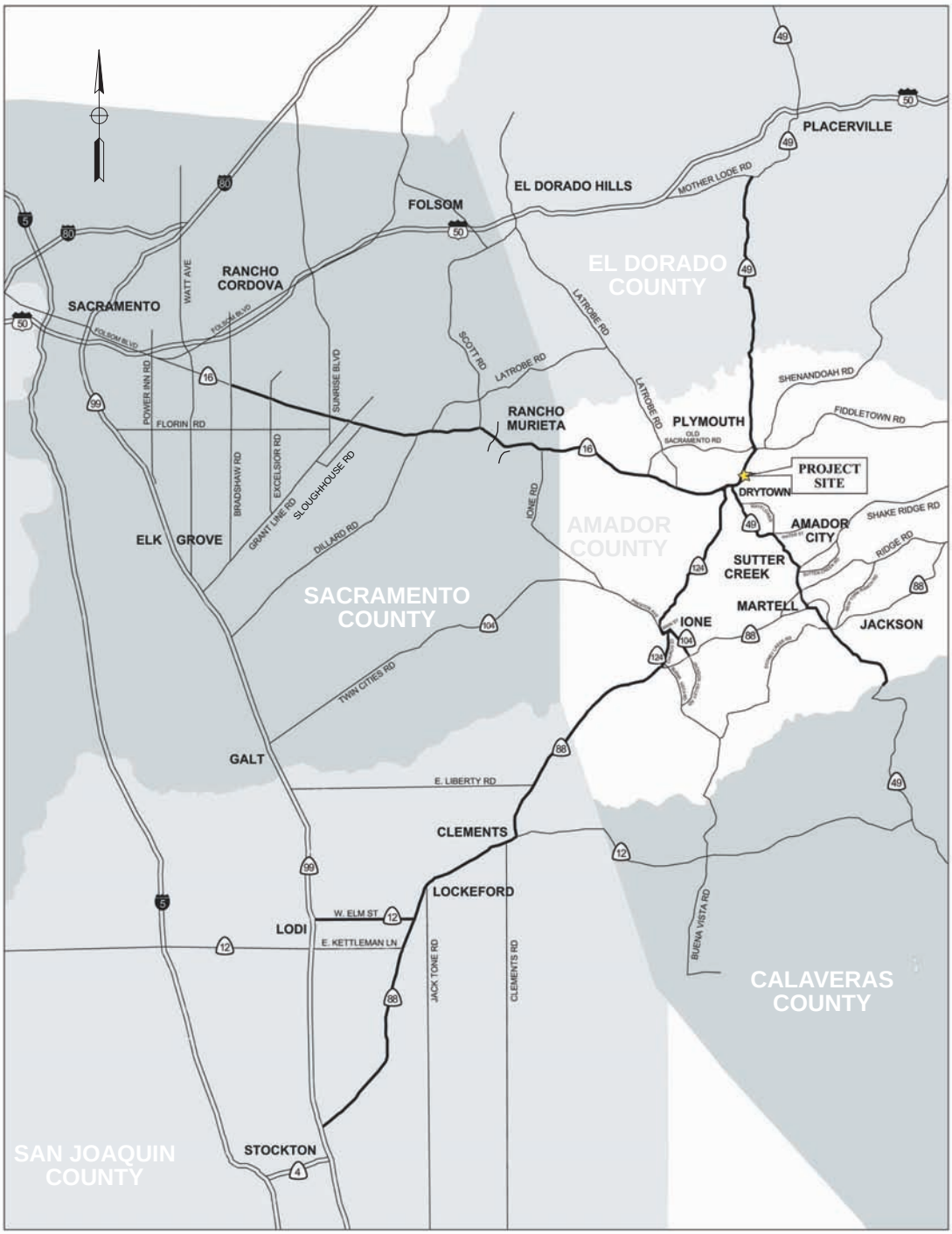
SECTION 1
INTRODUCTION

PROJECT DESCRIPTION

The project site consists of approximately 228 acres located within and outside of the City of Plymouth in Amador County. The project site will be served via two driveways on SR 49, a primarily rural two-lane roadway. The main driveway is located north of the site and the secondary service driveway access to the southwest of the project site. The existing loop road within the site will remain and continue to provide access to existing users. The loop road currently has a northern and a southern access. **Figure 1-1** shows the proposed location of the project with respect to the surrounding roadway network. The four development alternative projects are described below:

The Preferred Alternative, **Alternative A,** is proposed as a two-phase development. The single level gaming facility would include the casino floor, food and beverage areas, small retail shops, and offices for gaming related tribal activities and security. **Figure 1-2 and Figure 1-3** provide the site plan for preferred Alternative A Phase 1 and 2.

Alternative B consists of similar components as Alternative A, but includes a smaller casino totaling 100,750 square feet. Alternative B would be constructed in two phases with the casino proposed for operation in 2006, and with the hotel/convention center opening in 2009. **Figure 1-4** and **Figure 1-5** provide the site plan for preferred Alternative B Phase 1 and 2.



Ione Casino Traffic Impact Analysis	Figure 1-1
Vicinity Map	

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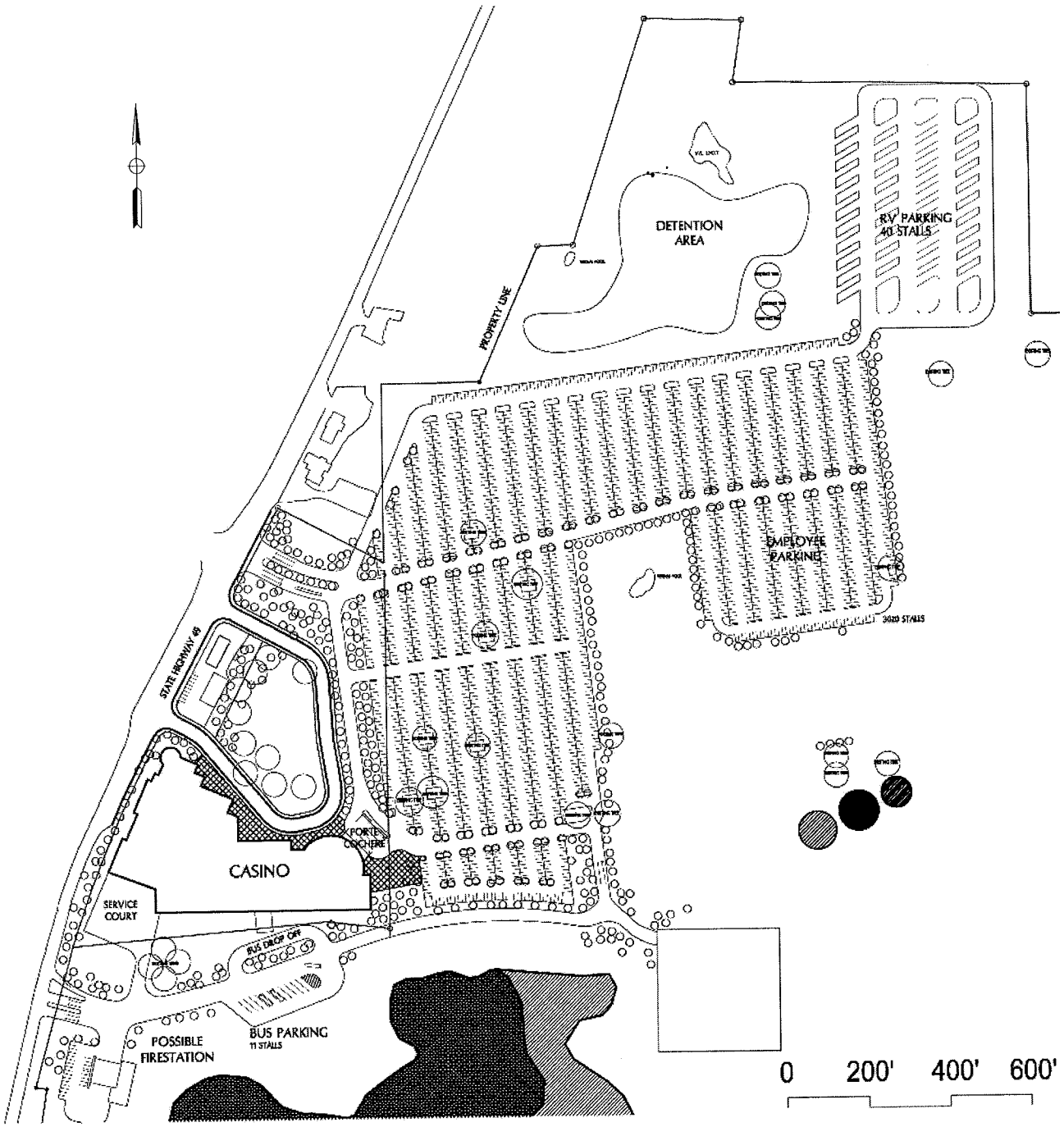

Ione Casino Traffic Impact Analysis	Figure 1-2
Alternative A Phase 1 Site Plan	

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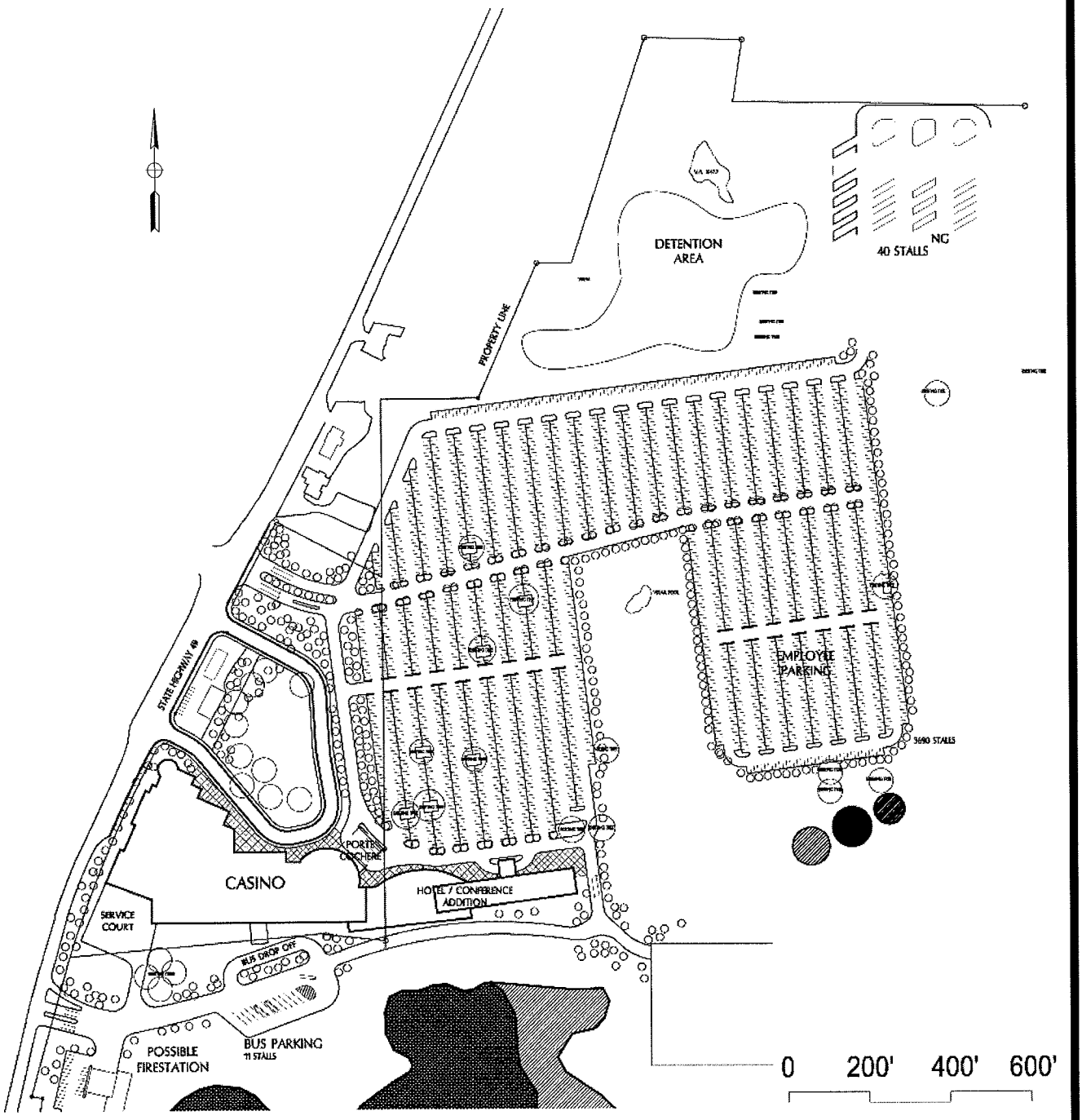

Ione Casino Traffic Impact Analysis	Figure 1-3
Alternative A Phase 1 & 2 Site Plan	

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Ione Casino Traffic Impact Analysis	Figure 1-4
Alternative B Phase 1 Site Plan	

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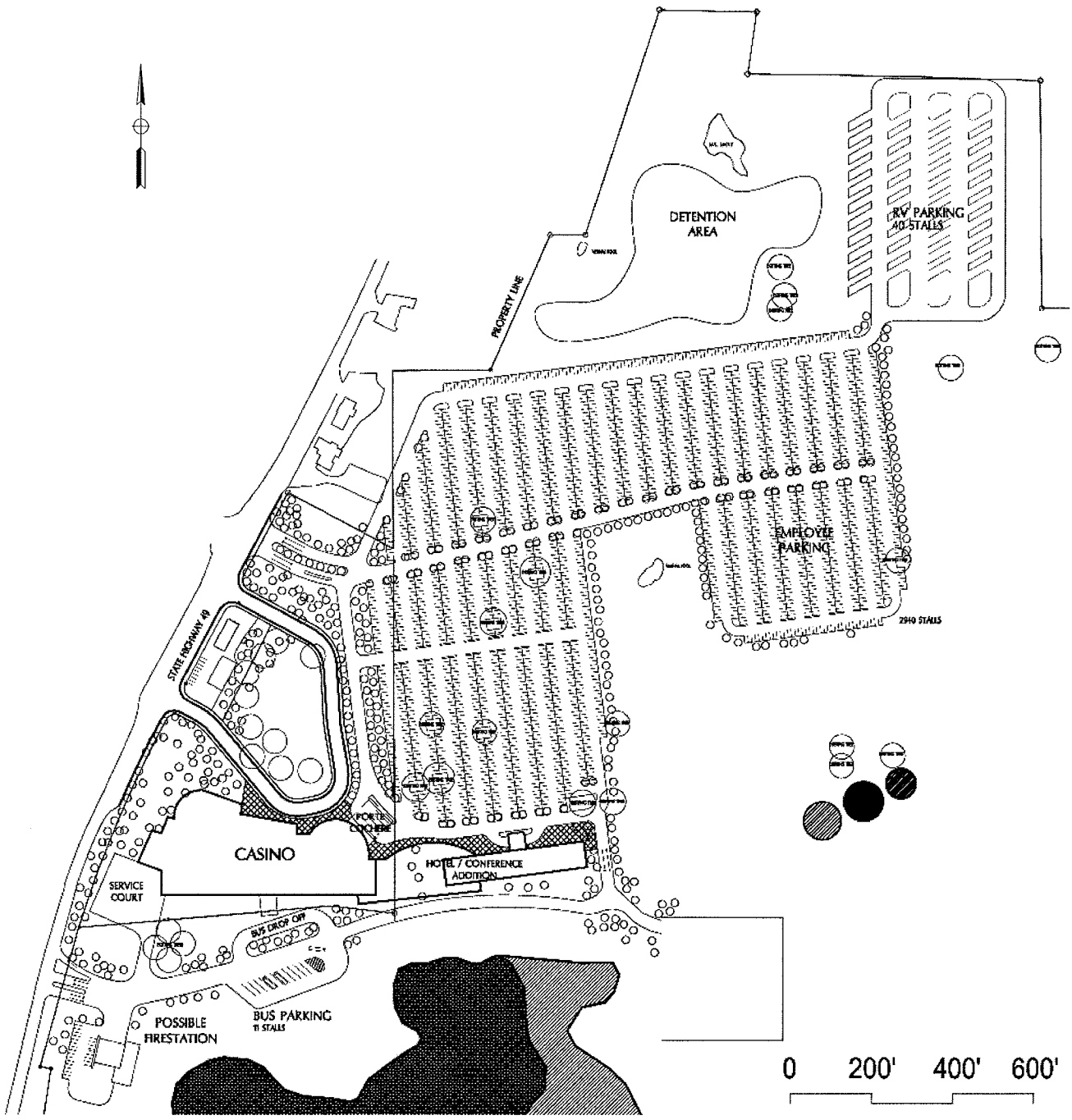

Ione Casino Traffic Impact Analysis	Figure 1-5
Altlernative B Phase 1 & 2 Site Plan	

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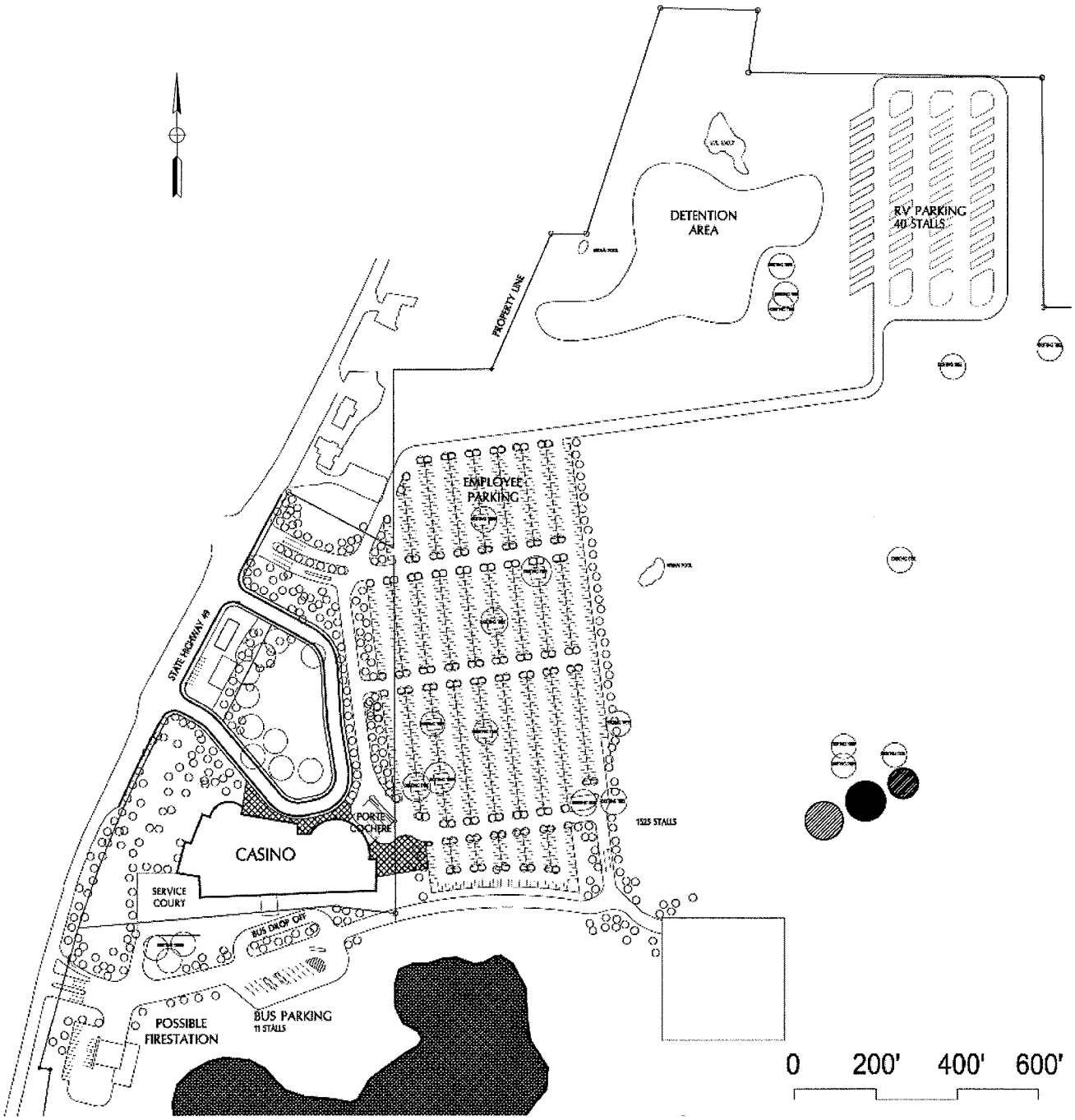
Alternative C would include a 79,250 square foot casino with no hotel or convention/event center. The casino would have similar proposed uses as Alternative A on a reduced scale including a buffet and sports bar. **Figure 1-6** shows the Alternative C site plan.

Alternative D consists of a 123,250 square foot regional retail outlet center with two anchor stores and a variety of smaller retail shops (**Figure 1-7)**.

Section 2 of this report discusses the existing traffic condition for a number of adjacent roadway segments and the 25 identified study intersections. Section 3 presents the Existing Plus Approved Project (EPAP) Condition for 2006 to correlate with completion of Phase 1 for Alternatives A, B, and as well as Alternatives C, D. Existing Plus Approved Projects Condition for 2009 correlates with construction of Phase 2 for Alternatives A and B only. Section 4 discusses project impacts and suggested mitigation measures. Section 5 describes the Cumulative year 2025 Condition (without the project) and follows with a discussion of Cumulative plus project impacts and suggested improvements.



Ione Casino Traffic Impact Analysis	Figure 1-6
Alternative C Site Plan	

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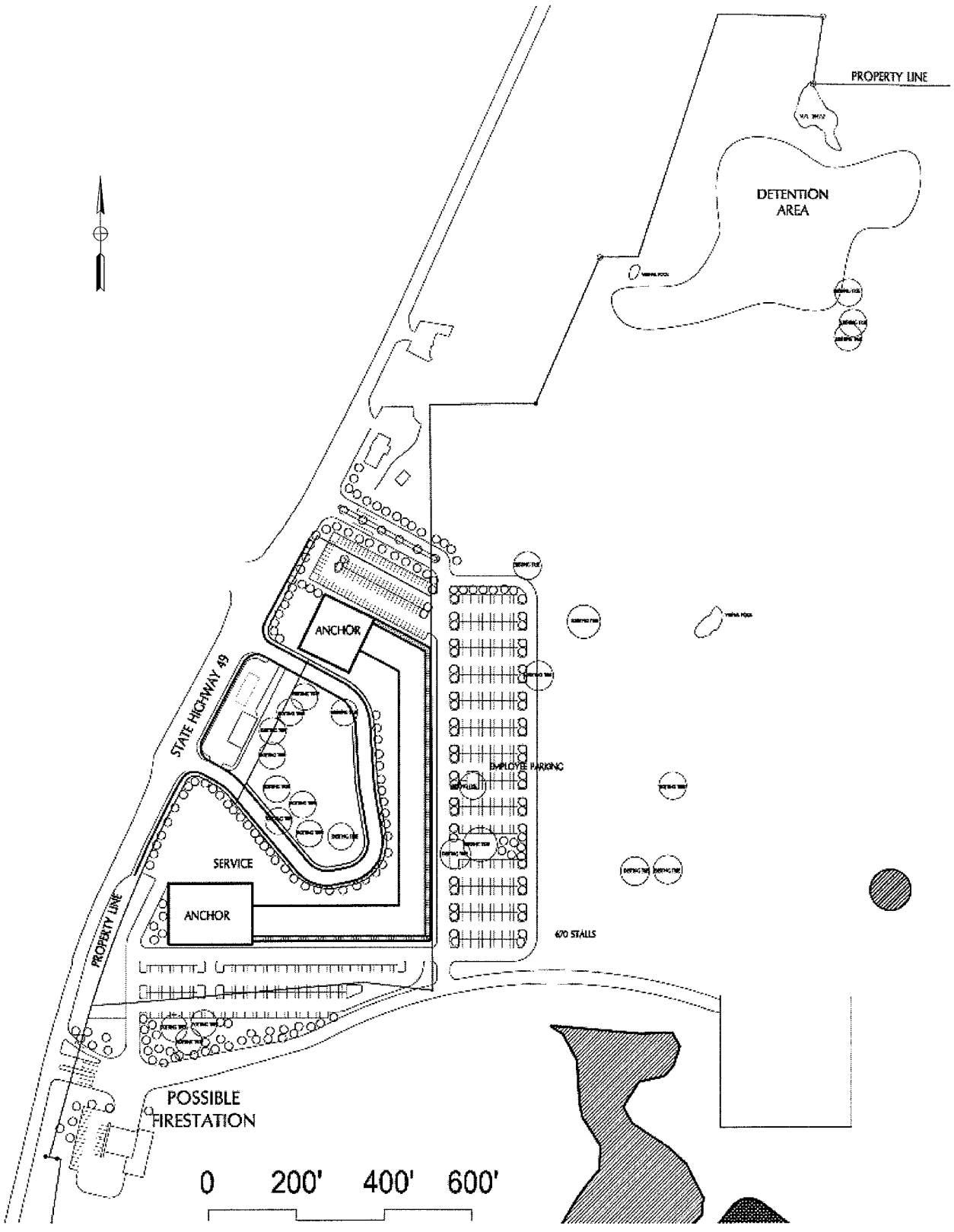

Ione Casino Traffic Impact Analysis	Figure 1-7
Alternative D Site Plan	

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SECTION 2
EXISTING CONDITION

This section describes the roads and existing traffic operations in the study area. As noted in the Introduction, **Figure 1-1** provides a regional map for the project site.

EXISTING ROADS

The following roadways would be more heavily utilized by the project traffic:

State Route 49 (SR 49) is a north-south primarily two-lane road extending nearly 300 miles between SR 70 in Plumas County to SR 41 in Oakhurst. The route serves residential and retail development and lacks curb, gutter, and sidewalk near the project site. SR 49 has a posted speed of 45 mph. In the vicinity of the project site, SR 49 has a center two-way left turn lane. It provides access to the site via two driveways.

Latrobe Road (Sacramento County) is a two-lane rural road with no paved shoulders. It runs between SR 16 and Green Valley Road with a posted speed limit of 55 mph. East of Scott Road, Latrobe Road is also known as Shingle Road.

Sunrise Avenue extends in a southern direction from Eureka Road in the City of Roseville and terminates at Grant Line Road south of the City of Rancho Cordova. Sunrise Avenue provides a direct linkage from Interstate 80 to Highway 50 with widths varying from 2 to 6 lanes. It has a posted speed limit of 55 mph.

Excelsior Road is a 2-lane road with a 55 mph posted speed limit with a southern terminus at Grant Line Road. North of Kiefer Road, Excelsior Road is also known as Mather Boulevard. Excelsior Road is generally rural in nature lacking curb, gutter and sidewalk.

Ione Road is a two-lane rural road between SR 16 and SR 104 with a posted speed limit of 50 mph and no curb, gutter and sidewalk.

State Route 88 (SR 88) begins in San Joaquin County at State Route 99 and terminates at the California/Nevada border. In the vicinity of the project site, SR 88 is a 2-lane road with a posted speed limit of 55 mph and paved shoulders on each side.

Kettleman Lane is an east-west roadway also known as SR 12 west of SR 99. East of SR 99, Kettleman Lane is 2-lanes wide with a posted speed limit that varies between 40 to 45 mph.

State Route 12 (SR 12) is extends from Highway 1 in Sonoma County and terminates at State Route 49 in Calaveras County. East of SR 99, SR 12 is a 2-lane road with a posted speed of 55 mph.

State Route 124 (SR 124) is a 2-lane rural road extending from SR 88 south of Ione to SR 49. It has a posted speed limit that varies from 55 to 65 mph.

Murieta Parkway serves the Rancho Murieta gated community north of SR 16. South of SR 16 Murieta Parkway is a 2-lane road with a posted speed limit of 25 mph and access to the Placerville Airport. Parking is allowed on Murieta Parkway.

Pleasant Valley Road runs in an east-west direction extending from Mother Lode Drive to Cedar Ravine Road. It has a posted speed limit that varies from 25 to 40 mph with no paved shoulders.

State Route 16 (SR 16) also known as Jackson Road originates in Colusa County at SR 20 and terminates at SR 49. SR 16 is 2-lanes wide with a posted speed limit that varies from 55 to 65 mph. SR 16 is a primary access road SR 49 and the project site.

State Route 104 (SR 104) is an east-west route connecting from SR 99 near the City of Galt to SR 88 near the City of Ione. In the vicinity of the project site, SR 104 is a two-lane roadway which generally lacks curbs, gutters and sidewalks.

EXISTING TRANSIT

Public transportation throughout Amador County is serviced by Amador Regional Transit System (ARTS). ARTS, which is based in the City of Jackson, services a range of communities linking them together through a regulated time and route schedule from Monday through Friday. There are six primary lines that provide service within Amador County and one route that is a direct route leading to and from Sacramento. This line known at the Sacramento/Amador express departs three times daily with 11 stops along the way.

Within the City of Plymouth there is one line known as the "P" line that runs between the City of Plymouth and the City of Jackson. There are three designated "P" lines departing at three different time intervals and with four designated route stops. In addition, there are three on-call stops for Fiddletown, River Pines and Amador High School that can be arranged by special request.

ARTS will deviate from the regular route within a ½ mile given a 24-hour notice. Once that stop has been approved, ARTS requires only a one-hour notification period. All buses are equipped to accommodate people with special needs and animals that serve to assist people with special needs.

EXISTING BICYCLE AND PEDESTRIAN SYSTEM

Field observations indicate that walking and bicycling activity is limited in the immediate vicinity of the proposed project site. This is primarily due to the lack of existing bicycle and pedestrian traffic generators in the vicinity of the project site. However, there is a lack of curbs, gutters, and sidewalks along SR 49 to accommodate pedestrian activity. On most of the roadways in the study area, bicyclists must ride in the roadway and share the travel lane with vehicular traffic.

EXISTING INTERSECTIONS

The following 25 intersections, considered most likely to be affected by the Alternatives, were evaluated in this traffic study. The list of 25 study intersections was provided by AES. AES developed this list from a list of more than 45 intersections. Intersections that would carry project traffic on the major routes are considered within this final list of 25 intersections. All of the intersections are under Caltrans jurisdiction (District 3 or 10):

1. SR 49 / Miller Road – Caltrans District 10
2. SR 49 / Main Street – Caltrans District 10
3. SR 49 / Poplar Street – Caltrans District 10
4. SR 49 / Empire Street– Caltrans District 10
5. SR 49 / SR 16 – Caltrans District 10
6. SR 16 / SR 124 – Caltrans District 10
7. SR 16 / Latrobe Road (Amador County) – Caltrans District 10
8. SR 104 (Preston Avenue) / SR 124 – Caltrans District 10
9. SR 104 (Main Street) / SR 124 (Church Street) – Caltrans District 10
10. SR 88 / SR 124 – Caltrans District 10
11. SR 88 / SR 12 (East) – Caltrans District 10
12. SR 88 / SR 12 (West) – Caltrans District 10
13. SR 88 / Kettleman Lane – Caltrans District 10
14. SR 49 / Pleasant Valley Road – Caltrans District 3
15. SR 16 / Ione Road – Caltrans District 3
16. SR 16 / Murieta South Parkway – Caltrans District 3
17. SR 16 / Murieta Parkway – Caltrans District 3
18. SR 16 / Stone House Road – Caltrans District 3
19. SR 16 / Latrobe Road (Sacramento County) – Caltrans District 3
20. SR 16 / Dilliard Road – Caltrans District 3
21. SR 16 / Sloughhouse Road – Caltrans District 3
22. SR 16 / Grant Line Road – Caltrans District 3

23. SR 16 / Sunrise Boulevard – Caltrans District 3
24. SR 16 / Excelsior Road – Caltrans District 3
25. SR 16 / Bradshaw Road – Caltrans District 3

The location of these intersections is shown in **Figure 2-1**. Seven of the study intersections are controlled by a traffic signal. Eighteen are unsignalized and controlled by either all way stops or stop signs on the minor street. The existing and existing plus project intersection lane configurations are presented in **Figure 2-2**.

EXISTING TRAFFIC OPERATIONS

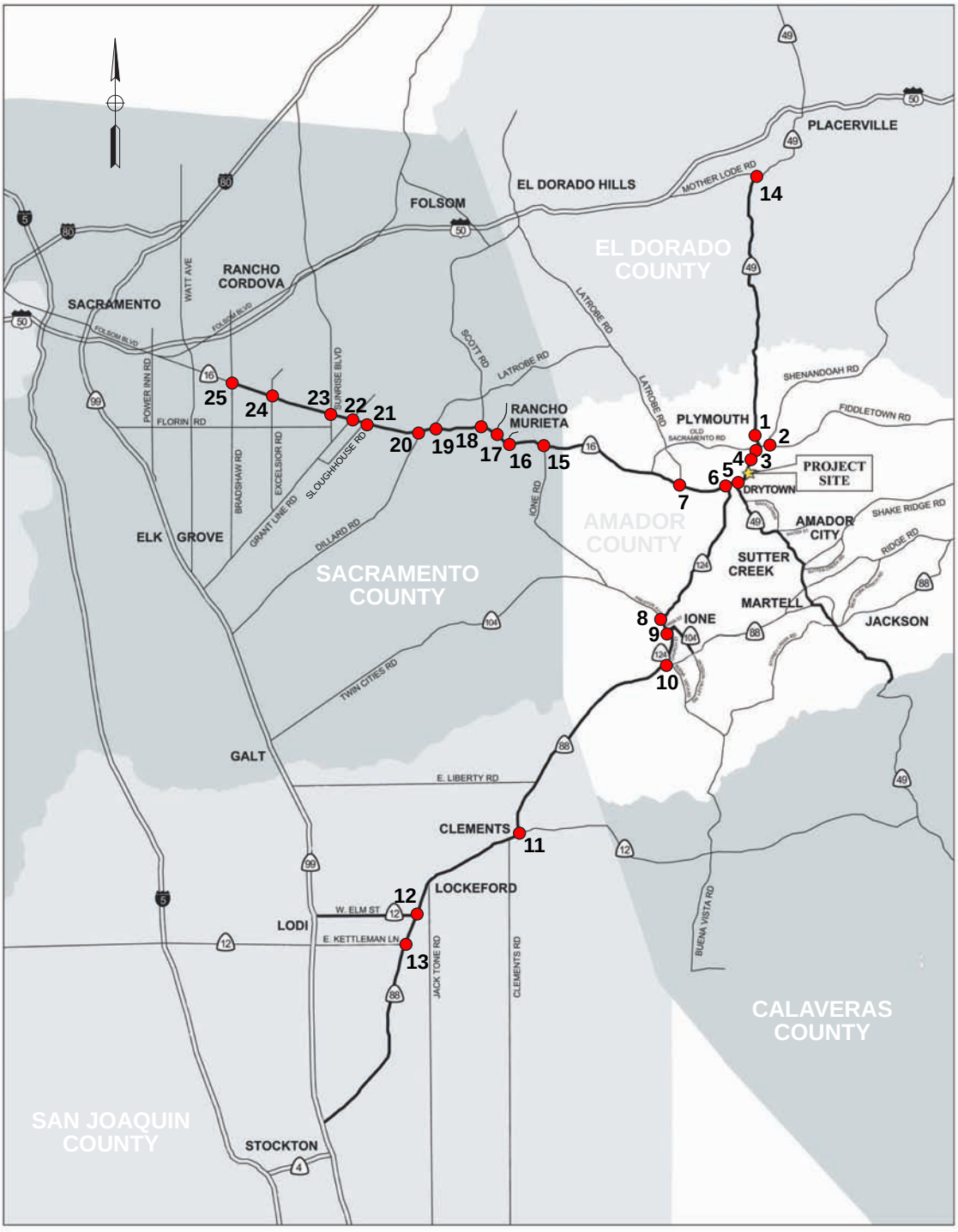
Period of Analysis

For this casino project, the highest project trips would occur during the weekday evening (PM) commute peak period. According to the 24-hour volume counts, the weekend peak period for a casino occurs on Saturdays also between the evening hours of 4-6 PM. These time periods are considered the peak periods because the project is expected to have the greatest impact on the local roadway network during these time periods. The study intersections and trip distribution were identified in the preliminary assessment study completed by AES dated February 24, 2004.

Level of Service Concept

The operating condition experienced by motorists is described as "levels of service" (LOS). Level of service is a qualitative measure of how traffic operations affect several factors, including speed and travel time, traffic interruptions, freedom to maneuver, and driving comfort and convenience. Levels of service are designated "A" through "F" from best to worst, which cover the entire range of traffic operations that might occur. Levels of service "A" through "E" generally represent traffic volumes at less than roadway capacity, while LOS "F" represents over capacity or forced flow condition.

Different types of analyses are used for roadway segments, unsignalized and signalized intersections. The methods used to analyze roadway segments and both signalized and unsignalized intersections are described below.



Legend

1 Study Intersection

Ione Casino Traffic Impact Analysis	Figure 2-1
Study Intersections	

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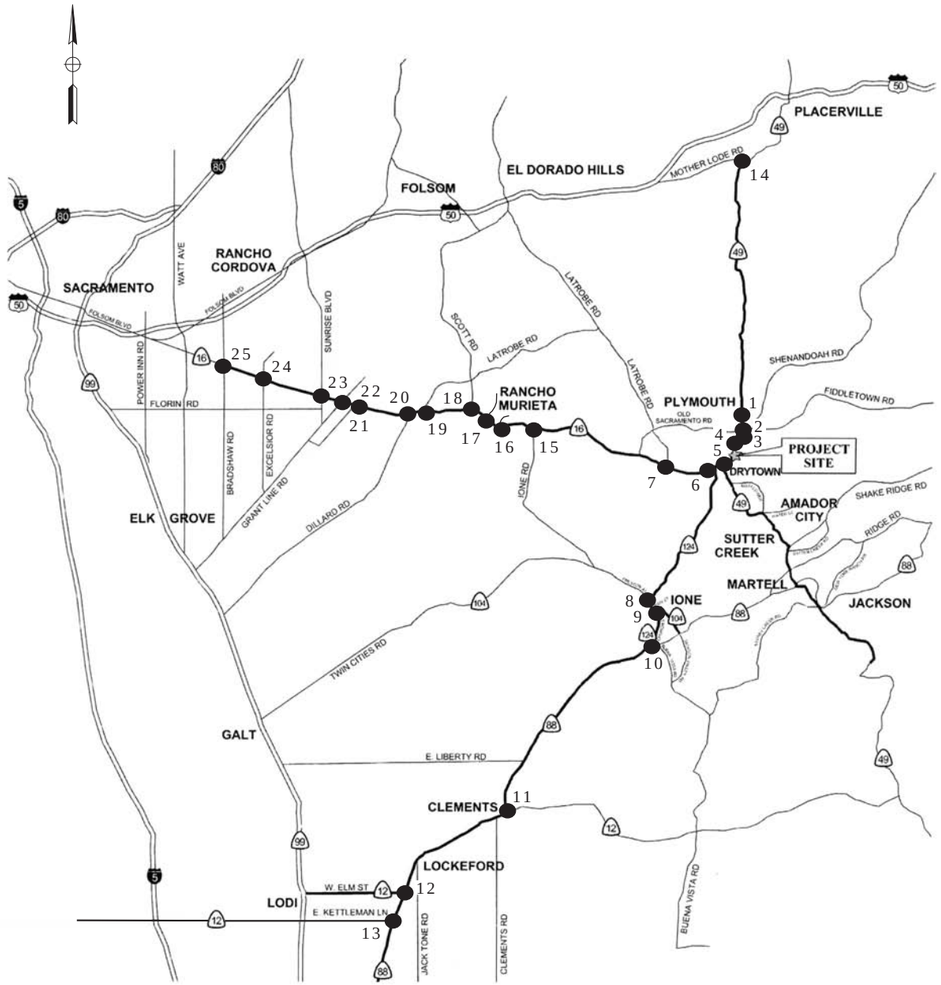

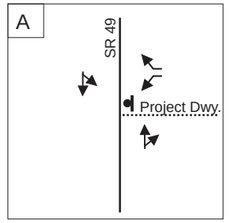

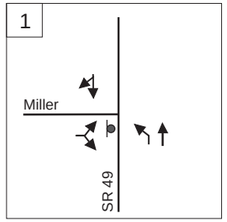

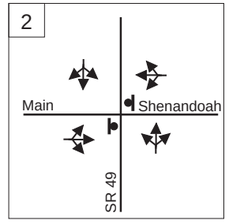

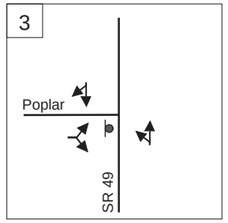

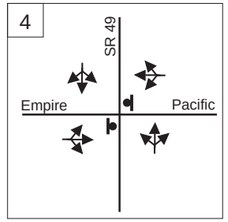

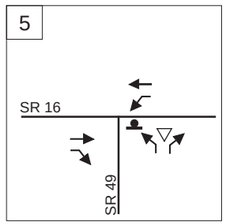

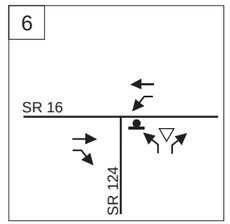

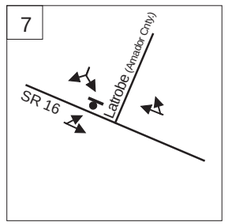

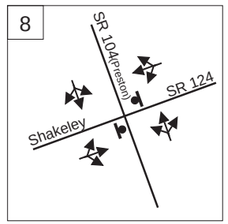

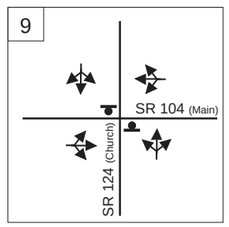

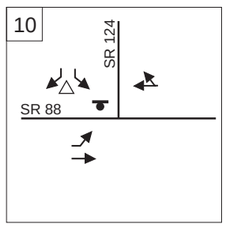

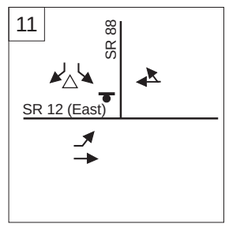

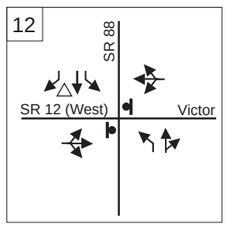

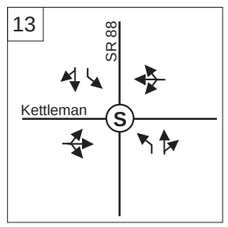

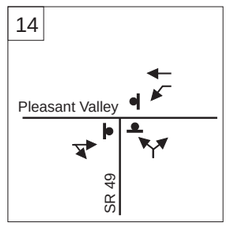

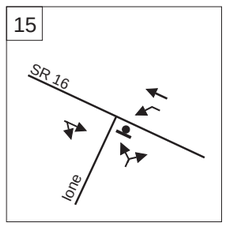

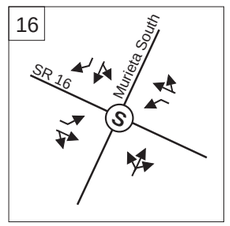

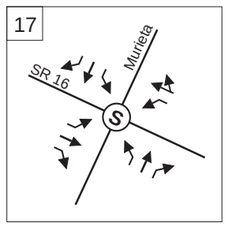

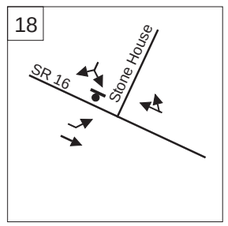

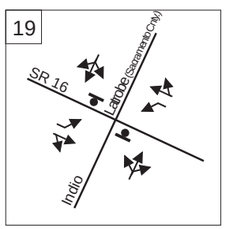

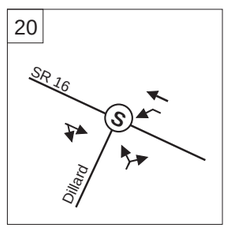

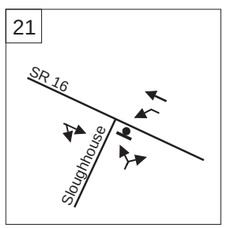

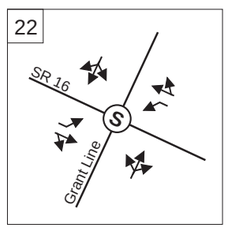

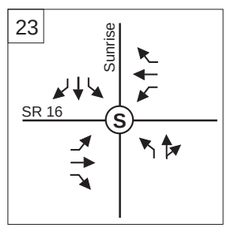

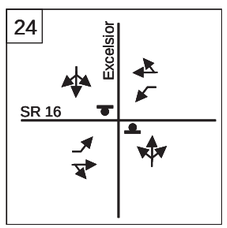

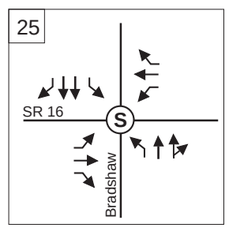

Legend

- 1 Study Intersection
- S Signalized Intersection
- Stop Controlled Intersection
- △ Yield Movement
- ----- Future Roadway

Ione Casino
Traffic Impact Analysis

Existing and Existing Plus Project Lane Configurations

Figure 2-2

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Roadway Segments

Roadway segment analysis is based upon the daily traffic volume thresholds established in the *Amador County Regional Transportation Plan (RTP) Update* dated September, 2004. The LOS methodology used to analyze the capacity of roadway segments was based on the Level of Service Criteria outlined in the RTP. This methodology examines the Average Daily Traffic (ADT) volumes as compared to the daily traffic volume capacity of the roadway facility. A roadway facility is classified as either an arterial or collector with a class ranging from I-V. The following describes class I – V:

- Class I: 11' – 12' Lanes, 4'+ Shoulders, 0-40% No Passing, Level-Rolling Terrain,
- Class II: 11' – 12' Lanes, 2'+ Shoulders, 40-60% No Passing, Level-Rolling Terrain,
- Class III: 10' – 11' Lanes, 2'+ Shoulders, 60-80% No Passing, Level-Rolling Terrain,
- Class IV: 10' – 11' Lanes, 0'- 4' Shoulders, 80-100% No Passing, Rolling-Mountainous Terrain, and
- Class V: 9' – 10' Lanes, No Shoulders, 80-100% No Passing, Rolling-Mountainous Terrain.

The LOS thresholds for roadway segments are shown on **Table 2-1**.

Table 2-1
Level of Service for Roadways

Facility Type	Daily Service Volumes (vehicles per day)				
	A	B	C	D	E
Arterial, Class I[1]	2,600	5,900	10,300	16,900	20,200
Arterial, Class II [1]	2,200	5,200	9,300	15,300	18,900
Arterial, Class III[1]	1,600	4,500	8,600	14,200	18,600
Arterial, Class IV[1]	1,200	3,300	6,400	11,000	15,500
Arterial, Class V[1]	1,000	3,000	5,900	10,200	14,300
Arterial (with climbing lane)	N/A	12,200	16,500	22,200	25,100
Arterial (2 lanes each direction)[2]	N/A	24,900	30,800	32,700	34,900
Collector, Class I-III[1]	1,300	3,900	7,500	12,600	16,900
Collector, Class IV[1]	1,000	3,000	5,500	8,750	11,200
Collector, Class V[1]	600	2,000	3,500	4,900	5,500

Notes:
[1] – Source – *Transportation Research Record 1194*, Transportation Research Board, 1988.
[2]- Source – *Highway Capacity Manual – Special Report 209*, Transportation Research Board, 1994.
N/A = Not Achievable

Source: *Amador County RTP*, 2004.

Unsignalized Intersection Analysis

Unsignalized intersections (those controlled by stop signs) were analyzed using the method described in the Transportation Research Board's *Special Report 209, Highway Capacity Manual*, 2000. This method calculates an average total delay per vehicle for each controlled movement. **Table 2-2** presents the relationship of total delay to LOS for stop-controlled intersections. Intersection LOS reported in this analysis is based upon delay corresponding to the worst movement for unsignalized intersections. The LOS corresponding to the average delay for the whole intersection is also presented.

Table 2-2
Level of Service Criteria
Unsignalized Intersections

Level of Service	Control Delay per Vehicle (Seconds)	Description
A	0 – 10.0	Little or no delay
B	10.1 – 15.0	Short traffic delay
C	15.1 – 25.0	Average traffic delays
D	25.1 – 35.0	Long traffic delays
E	35.1 – 50.0	Very long traffic delays
F	> 50.1	Extreme delays potentially affecting other traffic movements in the intersection

Source: *Highway Capacity Manual*, Transportation Research Board, Special Report No. 209, Washington, D.C., 2000.

Signalized Intersection Analysis

Signalized intersection analyses were conducted using a methodology outlined in the Transportation Research Board's Special Report 209, *Highway Capacity Manual*, 2000. The methodology is known as "operations analysis." This procedure calculates an average control delay per vehicle at a signalized intersection, and assigns a LOS designation based on the delay. The method also provides a calculation of the volume-to-capacity (v/c) ratio of the critical movements at the intersection. The calculated peak hour factor based on traffic counts collected in April to May 2004 for the study intersections were applied in the LOS calculations. **Table 2-3** presents the LOS criteria for signalized intersections.

Table 2-3
Level of Service Criteria
Signalized Intersections

Level of Service	Control Delay per Vehicle (secs)	Description
A	0 - 10.0	Very low delay. Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	10.1 - 20.0	Generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS "A," causing higher levels of average delay.
C	20.1 - 35.0	These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though may still pass through the intersection without stopping.
D	35.1 - 55.0	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55.1 - 80.0	These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	> 80.0	This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: *Highway Capacity Manual*, Transportation Research Board, Special Report No. 209, Washington, D.C., 2000.

Signal Warrants

Traffic signal warrants are a series of standards that provide guidelines for determining if a traffic signal is appropriate. Signal warrant analyses are typically conducted at intersections of uncontrolled major streets and stop sign-controlled minor streets. If one or more signal warrants are met, signalization of the intersection may be appropriate. However, a signal should not be installed if none of the warrants are met, since the installation of signals would increase delays on the previously-uncontrolled major street, and may increase the occurrence of particular types of accidents.

For this traffic analysis report, available data are limited to peak hour volumes. Thus, unsignalized intersections were evaluated using the Peak Hour Volume Warrant (Warrant No. 11) from the Caltrans *Traffic Manual*. The Peak Hour Volume Warrant was applied where the minor street experiences long delays in entering or crossing the major street for at least one hour of the day.

Even if the Peak Hour Volume Warrant is met, a more detailed signal warrant study is recommended before a signal is installed. The more detailed study should consider volumes during the eight highest hours of the day, pedestrian traffic, and accident histories.

Standards of Significance

Level of service standards of significance are based on Caltrans guidelines. This is due to the fact that study intersections are located on state routes within District 3 and District 10. All of the roadway segments fall under the RTP guidelines for determining standards of significance.

The RTP considers a project to have a significant impact if it causes a roadway segment to degrade peak period LOS from C or better to D. The roadway segment of SR 88 west of SR 124 is allowed to operate at LOS D or better (existing Condition), and would be at LOS E or better (cumulative Condition). The roadway segment of SR 49 south of SR 16 is allowed to operate at LOS E or better (existing and cumulative Conditions). Therefore, the RTP also considers a project to have a significant impact if the project causes:

- the roadway segment of SR 88 west of SR 124 to degrade peak period LOS from D or better to E or F (existing Condition), and from E or better to F (cumulative Condition), and
- the roadway segment of SR 49 south of SR 16 to degrade peak period LOS from E or better to F (existing and cumulative Conditions).

In addition, if roadway segments are, or would be (cumulative Condition), operating an unacceptable LOS without the project, an impact is considered significant if the project contributes one or more vehicles to the roadway segment.

Caltrans District 3 considers a project to have a significant impact if the project causes the intersection to degrade peak period LOS from D or better to E or F in rural areas, and from LOS E or better to LOS F in urban areas. In addition, if intersections are, or would be (cumulative Condition), operating an unacceptable LOS without the project, an impact is considered significant if the project contributes one or more vehicles to the intersection.

Caltrans District 10 considers a project to have a significant impact if the project causes the intersection to degrade peak period LOS from C or better to D or worse in rural areas, and from LOS D or better to LOS E or F in urban or developing areas. In addition, if intersections are, or would be (cumulative Condition), operating an unacceptable LOS without the project, an impact is considered significant if the project contributes one or more vehicles to the intersection.

The same LOS standards of significance for each jurisdiction apply to both the Weekday PM peak hours and the Saturday PM peak hour.

EXISTING ROADWAY SEGMENT OPERATIONS

Automated machine counts for this TIA were conducted to characterize travel patterns in the study area. **Figure 2-3** below shows the ADT counts for the five roadway segment locations identified by AES in the vicinity of the project site:

- SR 49 north of Shenandoah Road,
- SR 49 south of SR 16,
- SR 16 west of Old Sacramento Road,
- SR 124 south of SR 16, and
- SR 88 west of SR 124.

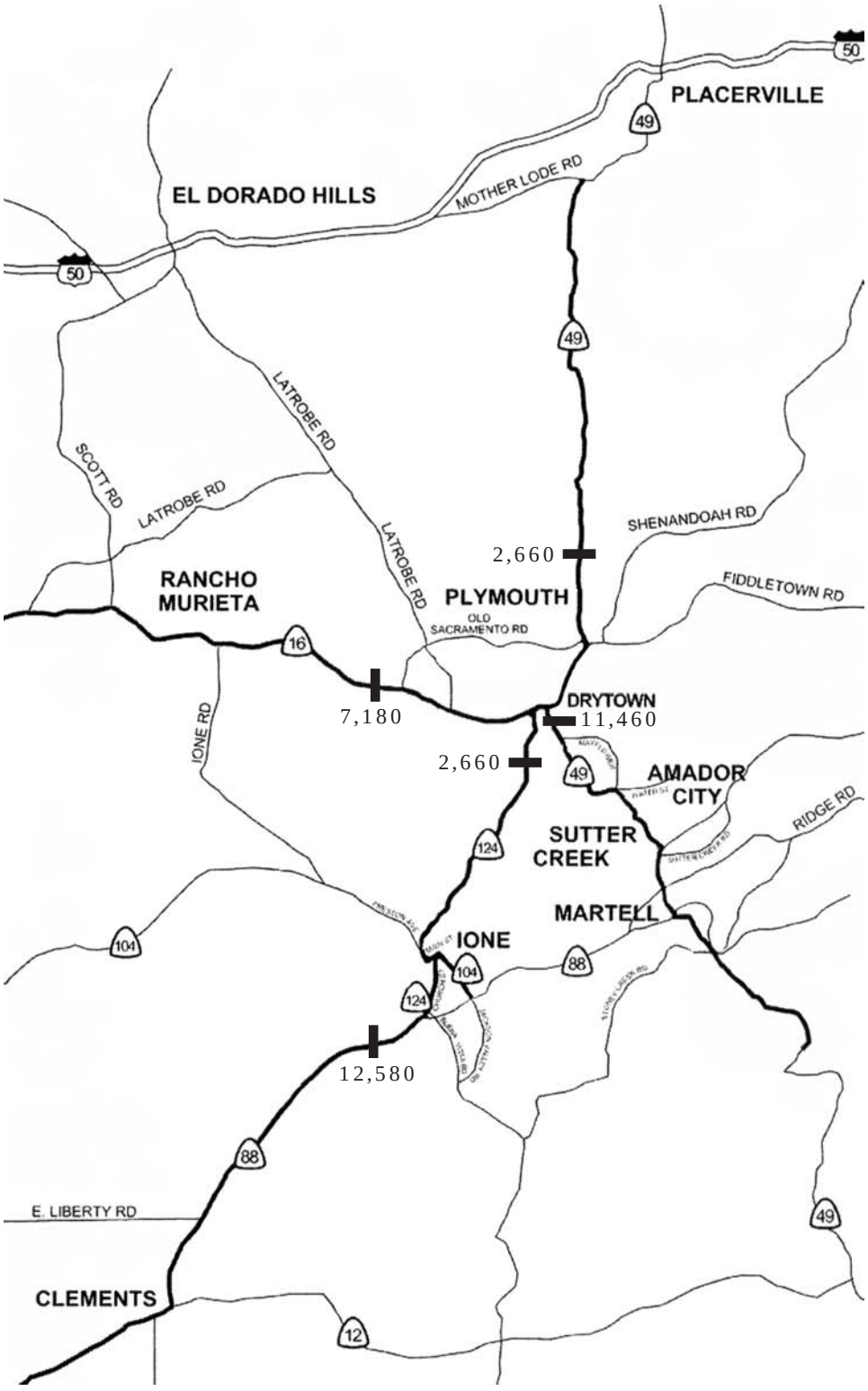
Level of Service

Levels of service for the study roadway segments are shown in **Table 2-4**. All of the roadway segments operate at LOS C or better in the Existing Condition.

Table 2-4
Roadway Segment Level of Service
Existing No Project

Roadway	Capacity	Class	Existing No Project		
			ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	2,300	0.15	B
SR 49 South of SR 16	18,900	Arterial II	7,900	0.42	C
SR 16 West of Old Sacramento Road	20,200	Arterial I	5,000	0.25	B
SR 124 South of SR 16	18,900	Arterial II	1,800	0.10	A
SR 88 West of SR 124	20,200	Arterial I	7,100	0.35	C

Source: *Amador County RTP*, 2004



Legend

12,580 Weekday Volumes

Ione Casino
Traffic Impact Analysis

Existing
Daily Traffic Volumes

Figure
2-3

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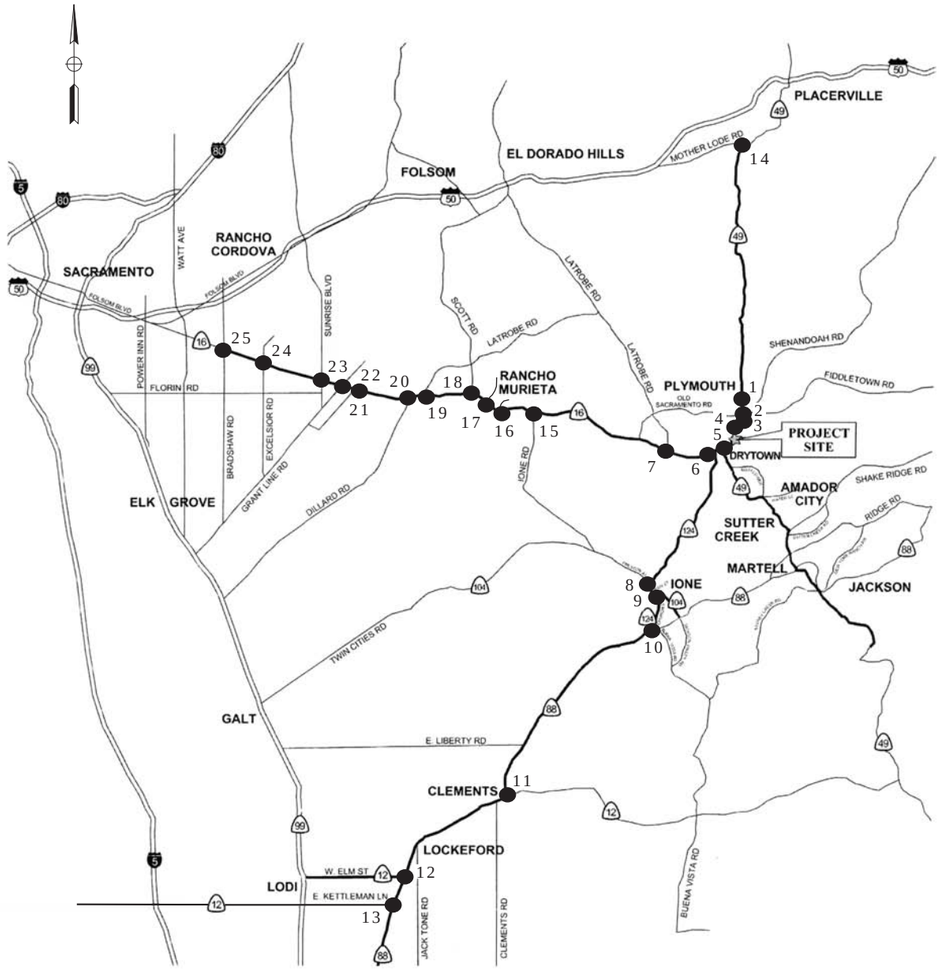
EXISTING INTERSECTION OPERATIONS

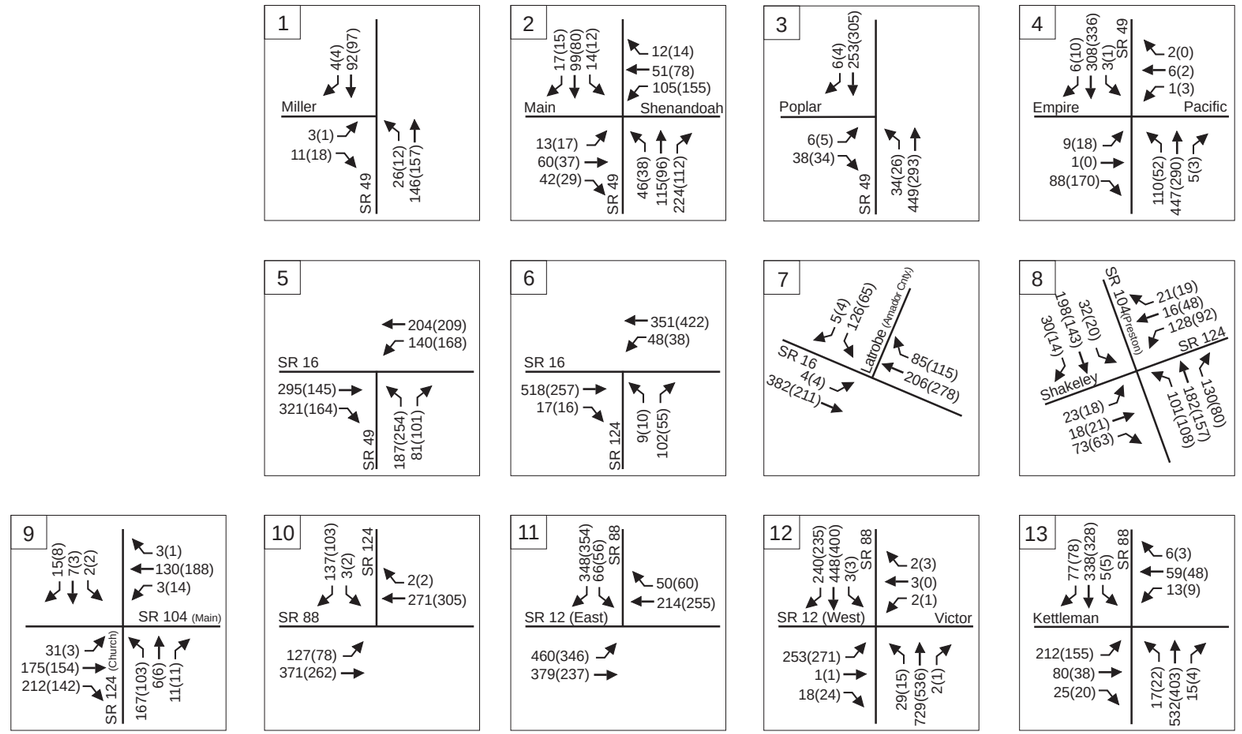
Weekday and weekend traffic counts were collected in June 2004 at the study intersections during the peak hours identified as the Weekday evening and Saturday evening periods. Because a casino project does not have a designated peak hour and because the PM peak hour is typically the most congested during a given weekday, evaluating traffic conditions during the evening peak period would reflect the worst case or more conservative conditions for both a weekday and weekend day. The collection of 24-hour traffic counts verified this finding, hence only the evening Weekday PM and Weekend PM peak hour (Saturday) were analyzed. The turning movement traffic counts are shown in **Figure 2-4**.

Level of Service

Existing Condition LOS were calculated for the Weekday and Saturday PM peak hour at the study intersections and are listed in **Table 2-5**. The peak hour factor (PHF) for the Amador County intersections (No. 1-10) and the project access were calculated based on collected traffic count data. The calculated PHF for Amador County intersections are listed in **Appendix A-1**. In accordance with the Sacramento County Traffic Impact Analysis guidelines, a 1.0 PHF was used for intersections No. 11-25. Detailed LOS analysis data and worksheets are provided in **Appendix A**. The following intersections operate at an unacceptable LOS:

- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 104 / SR 124 during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour, and
- SR 16 / Excelsior Road during the Weekday PM peak hour.





Legend

1 Study Intersection

13(5) Friday(Saturday) PMPeak Hour Volumes

Ione Casino
Traffic Impact Analysis

Existing (No Project)
Weekday & Saturday PM Peak Hour Volumes

Figure 2-4

Table 2-5
Existing No Project Intersection Level of Service

EXISTING NO PROJECT		Weekday PM Peak Hour						Saturday PM Peak Hour					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.1	A	9.2	A	-	-	0.9	A	8.9	A
2	SR 49 / Main Street	-	-	6.7	A	19.9	C	-	-	8.2	A	17.2	C
3	SR 49 / Poplar Street	-	-	1.0	A	10.9	B	-	-	0.9	A	10.9	B
4	SR 49 / Empire Street	-	-	2.4	A	21.4	C	-	-	3.4	A	22.3	C
5	SR 49 / SR 16	-	-	6.4	A	25.3	**D**	-	-	11.0	B	28.5	**D**
6	SR 16 / SR 124	-	-	1.8	A	13.6	B	-	-	1.3	A	11.0	B
7	SR 16 / Latrobe Road (Amador)	-	-	2.8	A	17.1	C	-	-	1.5	A	13.8	B
8	SR 104 (Preston Avenue) / SR 124	-	-	10.2	B	41.7	**E**	-	-	9.1	A	29.5	**D**
9	SR 104 (Main Street) / SR 124	-	-	5.2	A	18.6	C	-	-	3.3	A	15.0	B
10	SR 88 / SR 124	-	-	2.9	A	11.2	B	-	-	2.4	A	11.0	B
11	SR 88 / SR 12 (East)	-	-	10.9	B	29.7	**D**	-	-	8.0	A	18.0	C
12	SR 88 / SR 12 (West)	-	-	63.0	**F**	>100	**F**	-	-	31.7	**D**	>100	**F**
13	SR 88 / Kettleman Lane	27.4	C	-	-	-	-	18.0	B	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	18.8	C	-	-	-	-	12.0	B	-	-
15	SR 16 / Ione Road	-	-	1.0	A	15.0	C	-	-	1.4	A	12.9	B
16	SR 16 / Murieta South Parkway	13.0	B	-	-	-	-	7.8	A	-	-	-	-
17	SR 16 / Murieta Parkway	26.0	C	-	-	-	-	15.5	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.9	A	35.8	E	-	-	1.1	A	20.4	C
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.7	A	30.4	D	-	-	0.4	A	22.5	C
20	SR 16 / Dilliard Road	12.1	B	-	-	-	-	7.8	A	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.9	A	18.6	C	-	-	0.6	A	12.7	B
22	SR 16 / Grant Line Road	57.2	E	-	-	-	-	38.7	D	-	-	-	-
23	SR 16 / Sunrise Boulevard	30.0	C	-	-	-	-	15.4	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	4.9	A	18.5	C
25	SR 16 / Bradshaw Road	27.6	C	-	-	-	-	15.2	B	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized intersections, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Recommended Improvements

These impacted intersections can be restored to acceptable operating condition through either a targeted widening or upgrade to the traffic controls. The following is a description of recommended improvements for the Existing Condition. The resulting improved LOS for the weekday PM peak hour and Saturday PM peak hour is presented in **Table 2-6** and **Table 2-7**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix B**

SR 49 / SR 16. Signalize the intersection. With the implementation of this improvement, the intersection would operate acceptably at LOS B with 11.5 seconds of delay and LOS B with 10.6 seconds of delay during the weekday and Saturday PM peak hour, respectively. This intersection improvement is planned by Caltrans.

SR 104 (Preston) / SR 124. Upgrade the existing minor stop to a four-way stop. The northbound and westbound approaches would need to be widened to include an exclusive left-turn lane and a combined through/right-turn lane. With the implementation of these improvements, the intersection would operate acceptably at LOS B with 12.7 seconds of delay and LOS B with 10.9 seconds of delay during the weekday and Saturday PM peak hour, respectively. Caltrans has no planned improvements for this intersection.

SR 88 / SR 12 (East). Signalize the intersection. With the implementation of this improvement, the intersection would operate acceptably at LOS A with 9.2 seconds of delay and LOS A with 9.7 seconds of delay during the weekday and Saturday PM peak hour, respectively. This intersection improvement is planned by Caltrans.

SR 88 / SR 12 (West). Signalize the intersection. Signalization at this intersection is planned by Caltrans. Caltrans should also consider widening the eastbound approach to include an exclusive left-turn lane and a combined through/right-turn lane as part of their improvements for this intersection. With the implementation of these improvements, the intersection would operate acceptably at LOS B with 17.8 seconds of delay and LOS B with 16.3 seconds of delay during the weekday and Saturday PM peak hour, respectively.

SR 16 / Excelsior Road. Signalize the intersection. With the implementation of this improvement, the intersection would operate acceptably at LOS B with 15.2 seconds of delay and LOS A with 8.8 seconds of delay during the weekday and Saturday PM peak hour, respectively. This intersection improvement is planned by Sacramento County.

Table 2-6
Existing No Project - Recommended Improvements
Intersection Level of Service - Weekday PM Peak Hour

EXISTING NO PROJECT		Existing No Project - No Improvements						Existing No Project - with Improvements					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
5	SR 49 / SR 16	-	-	6.4	A	25.3	**D**	11.5	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	10.2	B	41.7	**E**	12.7	B	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	10.9	B	29.7	**D**	9.2	A	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	63.0	**F**	>100	**F**	17.8	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	15.2	B	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized intersections, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 2-7
Existing No Project - Recommended Improvements
Intersection Level of Service - Saturday PM Peak Hour

EXISTING NO PROJECT		Existing No Project - No Improvements						Existing No Project - with Improvements					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
5	SR 49 / SR 16	-	-	11.0	B	28.5	**D**	10.6	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	9.1	A	29.5	**D**	10.9	B	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	8.0	A	18.0	C	9.7	A	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	31.7	**D**	>100	**F**	16.3	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	4.9	A	18.5	C	8.8	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized intersections, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

SECTION 3
EXISTING PLUS APPROVED PROJECTS CONDITION

2006 EXISTING PLUS APPROVED PROJECTS (EPAP) CONDITION

This section describes conditions which would exist if traffic volumes associated with previously-approved projects in the vicinity of the site were added to existing traffic volumes. This EPAP scenario establishes a baseline condition for identifying project-related impacts.

Planned Roadway Improvements

In general, the analysis of EPAP Condition assumed the continued use of the existing roadway network, study intersections, intersection geometrics, and intersection traffic control. However, the analysis of EPAP Condition assumed the roadway improvement of the Amador 49 Bypass. The Amador 49 Bypass would be a 2-lane limited access expressway on new alignment in Amador County between the Junction of Route 104 (Ridge Road) and 0.2 miles south of Rancheria Creek Bridge north of Amador City. The proposed expressway would address the existing and projected traffic needs of Route 49 in and around the Cities of Sutter Creek and Amador City.

Planned/Approved Development Projects

Amador, Sacramento, and San Joaquin Counties were contacted to obtain an approved projects list. Amador County Public Works Department had no approved projects in the study area (Stewart pers. comm.). Only information from the Buena Vista Casino was made available. Buena Vista project trips for the cumulative year (2025) were considered for common roadway segments. This is presented in a separate chapter of this report. Sacramento County Department of Transportation staff had one approved project in the study area (Clark pers. comm.). The San Joaquin Public Works Department had one approved project in the study area (Violett pers. comm.). Very few approved projects were obtained from all three counties; therefore, to be conservative, a 2.2 percent annual growth rate based on Caltrans historical data was applied to existing turning movement counts to generate the 2006 EPAP turning movement volumes. Traffic count data or historical data was as listed in the State's website for state routes. A

comparison of individual segment growth for state routes within the study area was calculated and averaged to determine the annual growth rate applied to the study intersections and roadway segments.

2006 EPAP ROADWAY SEGMENT OPERATIONS

The ADT roadway segment volumes for 2006 EPAP (No Project) Condition were calculated by applying a 2.2 percent annual growth rate to existing ADT roadway volumes. **Figure 3-1** provides the daily roadway traffic volumes for the 2006 EPAP (No Project) Condition.

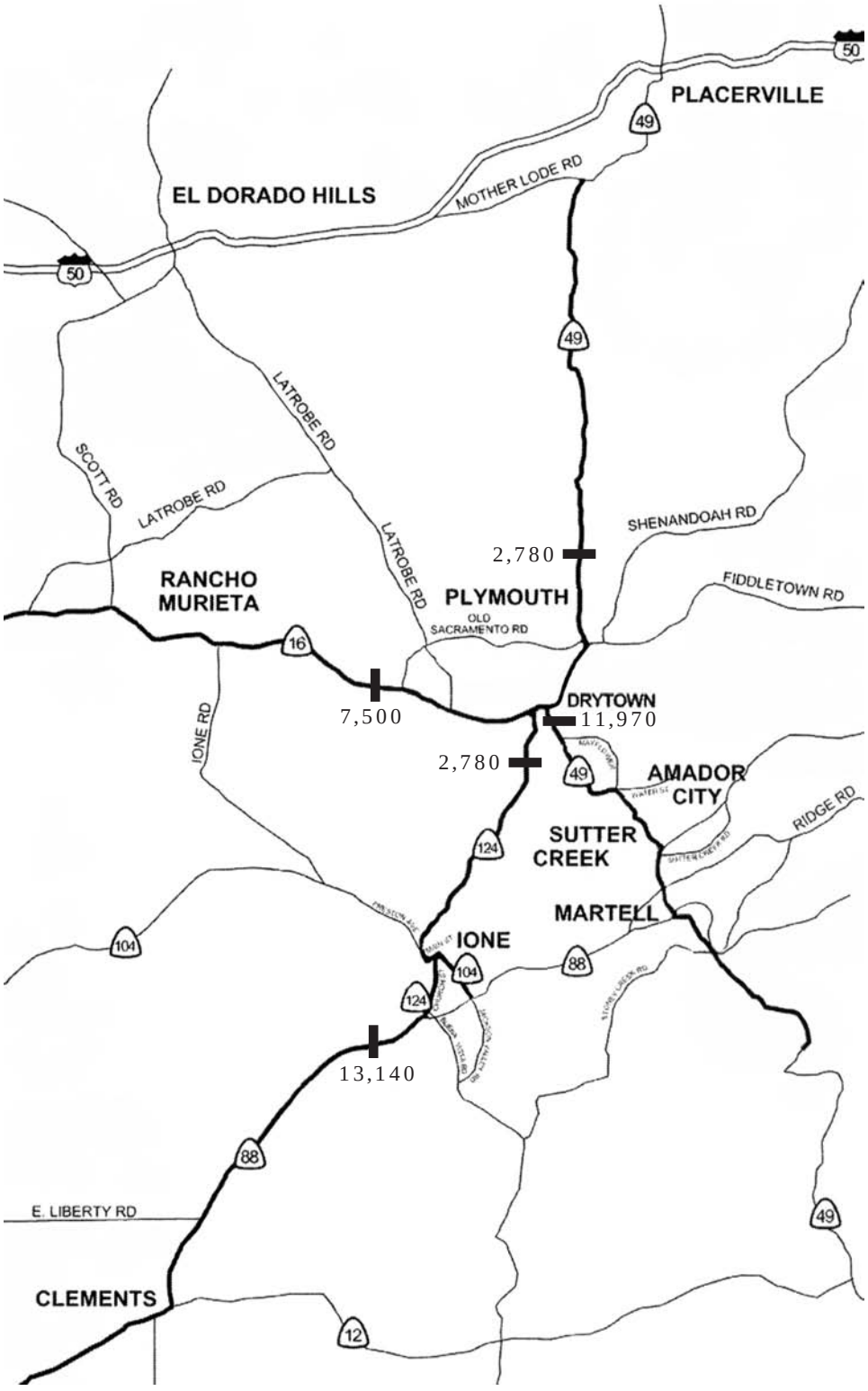
Level of Service

The results of the 2006 EPAP (No Project) Condition capacity analyses of study roadway segments, without the project, are shown in **Table 3-1.** All of the roadway segments operate at LOS C or better in the 2006 EPAP (No Project) Condition.

Table 3-1
Roadway Segment Level of Service
2006 EPAP (No Project)

Roadway	Capacity	Class	2006 EPAP (No Project)		
			ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	2,400	0.15	B
SR 49 South of SR 16	18,900	Arterial II	8,300	0.44	C
SR 16 West of Old Sacramento Road	20,200	Arterial I	5,200	0.26	B
SR 124 South of SR 16	18,900	Arterial II	1,900	0.10	A
SR 88 West of SR 124	20,200	Arterial I	7,400	0.37	C

Existing (No Project) ADT Source: *Amador County RTP*, 2004



Legend

13,140 Weekday Volumes

Ione Casino
Traffic Impact Analysis

2006 Existing Plus Approved Projects Daily Traffic Volumes

Figure 3-1

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2006 EPAP INTERSECTION OPERATIONS

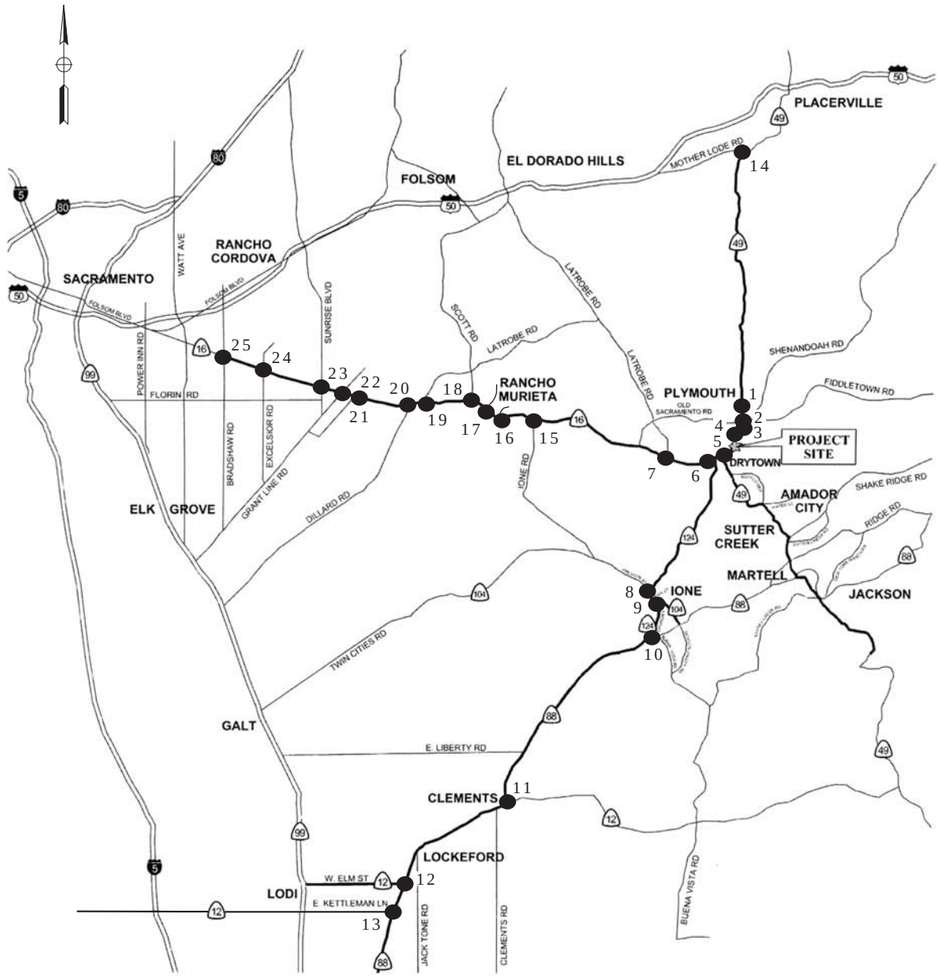
A 2.2 percent annual growth rate based on a review of Caltrans provided historical traffic count data for State Routes was calculated for the last few years (2002-2004). The calculated growth rate for each major roadway segment within the study area was determined. To be conservative the calculated average growth of 2.47 was reduced to 2.2% and applied to existing turning movement counts to generate the 2006 EPAP turning movement volumes. **Appendix C-1** provides the traffic count data, the individual growth rate, and the calculated average growth rate for the study area. **Figure 3-2** presents the EPAP PM peak hour turning movement volumes for the study intersections in the year 2006.

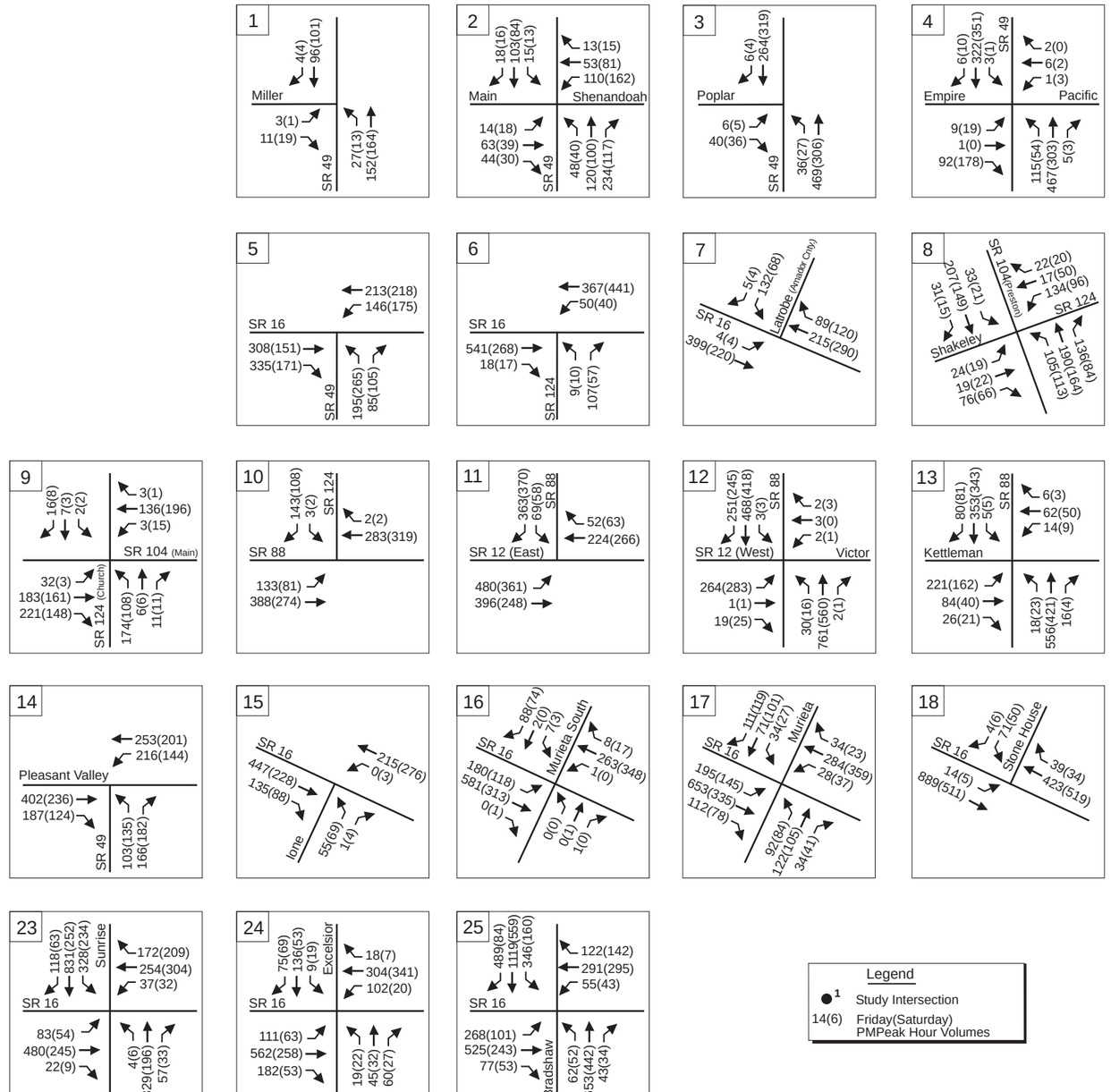
Level of Service

Levels of service for the 2006 EPAP Condition during the weekday and Saturday PM peak hour are summarized in **Table 3-2**. The following intersections are expected to operate at an unacceptable LOS:

- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 104 / SR 124 during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 16 / Excelsior Road during the Weekday PM peak hour,

Detailed LOS analysis data and worksheets are provided in **Appendix C**.





Legend

● 1 Study Intersection

14(6) Friday(Saturday) PMPeak Hour Volumes

Ione Casino
Traffic Impact Analysis

2006 Existing Plus Approved Projects Weekday & Saturday PM Peak Hour Volumes

Figure 3-2

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Table 3-2
2006 EPAP (No Project) Intersection Level of Service

2006 EPAP (No Project)		Weekday PM Peak Hour						Saturday PM Peak Hour					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.2	A	9.2	A	-	-	0.9	A	9.0	A
2	SR 49 / Main Street	-	-	7.1	A	21.7	C	-	-	8.7	A	18.4	C
3	SR 49 / Poplar Street	-	-	1.0	A	11.1	B	-	-	1.0	A	11.0	B
4	SR 49 / Empire Street	-	-	2.4	A	22.7	C	-	-	3.5	A	23.9	C
5	SR 49 / SR 16	-	-	7.8	A	31.3	**D**	-	-	14.1	B	37.6	**E**
6	SR 16 / SR 124	-	-	1.9	A	14.3	B	-	-	1.3	A	11.3	B
7	SR 16 / Latrobe Road (Amador)	-	-	3.0	A	18.1	C	-	-	1.5	A	14.2	B
8	SR 104 (Preston Avenue) / SR 124	-	-	12.6	B	55.0	**F**	-	-	10.5	B	35.6	**E**
9	SR 104 (Main Street) / SR 124	-	-	5.7	A	20.6	C	-	-	3.4	A	15.9	C
10	SR 88 / SR 124	-	-	2.9	A	11.6	B	-	-	2.4	A	11.4	B
11	SR 88 / SR 12 (East)	-	-	12.9	B	36.8	**E**	-	-	8.5	A	19.5	C
12	SR 88 / SR 12 (West)	-	-	80.1	**F**	>100	**F**	-	-	42.4	**E**	>100	**F**
13	SR 88 / Kettleman Lane	28.5	C	-	-	-	-	19.2	B	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	21.4	C	-	-	-	-	12.6	B	-	-
15	SR 16 / Ione Road	-	-	1.0	A	15.6	C	-	-	1.5	A	13.2	B
16	SR 16 / Murieta South Parkway	14.7	B	-	-	-	-	8.1	A	-	-	-	-
17	SR 16 / Murieta Parkway	18.7	B	-	-	-	-	15.7	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.2	A	41.0	E	-	-	1.1	A	21.7	C
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.7	A	33.1	D	-	-	0.5	A	23.9	C
20	SR 16 / Dilliard Road	13.1	B	-	-	-	-	8.1	A	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.9	A	19.6	C	-	-	0.6	A	13.0	B
22	SR 16 / Grant Line Road	70.5	E	-	-	-	-	27.8	C	-	-	-	-
23	SR 16 / Sunrise Boulevard	32.9	C	-	-	-	-	16.0	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	5.2	A	19.7	C
25	SR 16 / Bradshaw Road	31.1	C	-	-	-	-	15.8	B	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized intersections, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Recommended Improvements

The following is a description of recommended improvements for 2006 EPAP Condition. The resulting improved LOS is presented in **Table 3-3** and **Table 3-4**. Detailed LOS calculations for each of the intersections mitigated are provided in **Appendix D**.

SR 49 / SR 16. Signalize the intersection. With the implementation of this improvement, the intersection would operate acceptably at LOS B with 13.3 seconds of delay during the weekday PM peak and LOS B with 12.4 seconds of delay during the Saturday PM. This intersection improvement is planned by Caltrans.

SR 104 (Preston) / SR 124. Signalize the intersection. The northbound and westbound approaches would need to be widened to include an exclusive left-turn lane and a combined through/right-turn lane. The eastbound and westbound approaches could be operated as a split phase. With the implementation of these improvements, the intersection would operate acceptably at LOS B with 11.3 seconds of delay and LOS B with 12.0 seconds of delay during the weekday and Saturday PM peak hour, respectively. Caltrans has no planned improvements for this intersection, but the 2004 Amador County RTP has identified this as a problematic intersection.

SR 88 / SR 12 (East). Signalize the intersection. With the implementation of this improvement, the intersection would operate acceptably at LOS A with 10.0 seconds of delay and LOS B with 10.4 seconds of delay during the weekday and Saturday PM peak hour, respectively. This intersection improvement is planned by Caltrans.

SR 88 / SR 12 (West). Signalize the intersection. Signalization at this intersection is planned by Caltrans. Caltrans should also consider widening the eastbound approach to include an exclusive left-turn lane and a combined through/right-turn lane as part of their improvements for this intersection. The eastbound and westbound approaches could be operated as a split phasing. With the implementation of these improvements, the intersection would operate acceptably at LOS C with 30.3 seconds of delay and LOS C with 32.9 seconds of delay during the weekday and Saturday PM peak hour, respectively.

SR 16 / Excelsior Road. Signalize the intersection. With the implementation of these improvements, the intersection would operate acceptably at LOS B with 16.3 seconds of delay and LOS A with 8.7 seconds of delay during the weekday and Saturday PM peak hour, respectively. This intersection improvement is planned by Sacramento County.

Table 3-3
2006 EPAP (No Project)
Recommended Improvements - Intersection Level of Service
Weekday PM Peak Hour

2006 EPAP (No Project)		2006 EPAP (No Project) - No Improvements						2006 EPAP (No Project) - with Improvements					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
5	SR 49 / SR 16	-	-	7.8	A	31.3	**D**	13.3	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	12.6	B	55.0	**F**	11.3	B	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	12.9	B	36.8	**E**	10.0	A	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	80.1	**F**	>100	**F**	30.3	C	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	16.3	B	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized intersections, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 3-4
2006 EPAP (No Project)
Recommended Improvements - Intersection Level of Service
Saturday PM Peak Hour

2006 EPAP (No Project)		2006 EPAP (No Project) - No Improvements						2006 EPAP (No Project) - with Improvements					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
5	SR 49 / SR 16	-	-	14.1	B	37.6	**E**	12.4	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	10.5	B	35.6	**E**	12.0	B	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	8.5	A	19.5	C	10.4	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	42.4	**E**	>100	**F**	32.9	C	-	-	-	-
24	SR 16 / Excelsior Road	-	-	5.2	A	19.7	C	8.7	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized intersections, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

2009 EPAP CONDITION

This section of this traffic study describes 2009 conditions, which would exist if traffic volumes associated with previously-approved projects plus growth were added to existing traffic volumes. This EPAP scenario establishes a baseline condition for identifying project-related impacts.

Planned Roadway Improvements

The analysis of 2009 EPAP assumed the continued use of the 2006 EPAP roadway network, study intersections, intersection geometrics, and intersection traffic control. No additional roadway improvements are assumed.

2009 EPAP ROADWAY SEGMENT OPERATIONS

The ADT roadway segment volumes for 2009 EPAP (No Project) Condition were calculated by applying a 2.2 percent annual growth rate to existing ADT roadway volumes. As noted in the earlier discussion of 2006 impacts, the annual growth rate was derived by calculating the percent change between annual historical traffic count data collected in 2002-2004. This information can be found on the State's website for study area state routes. **Figure 3-3** provides the daily roadway traffic volumes for the 2009 EPAP (No Project) Condition.

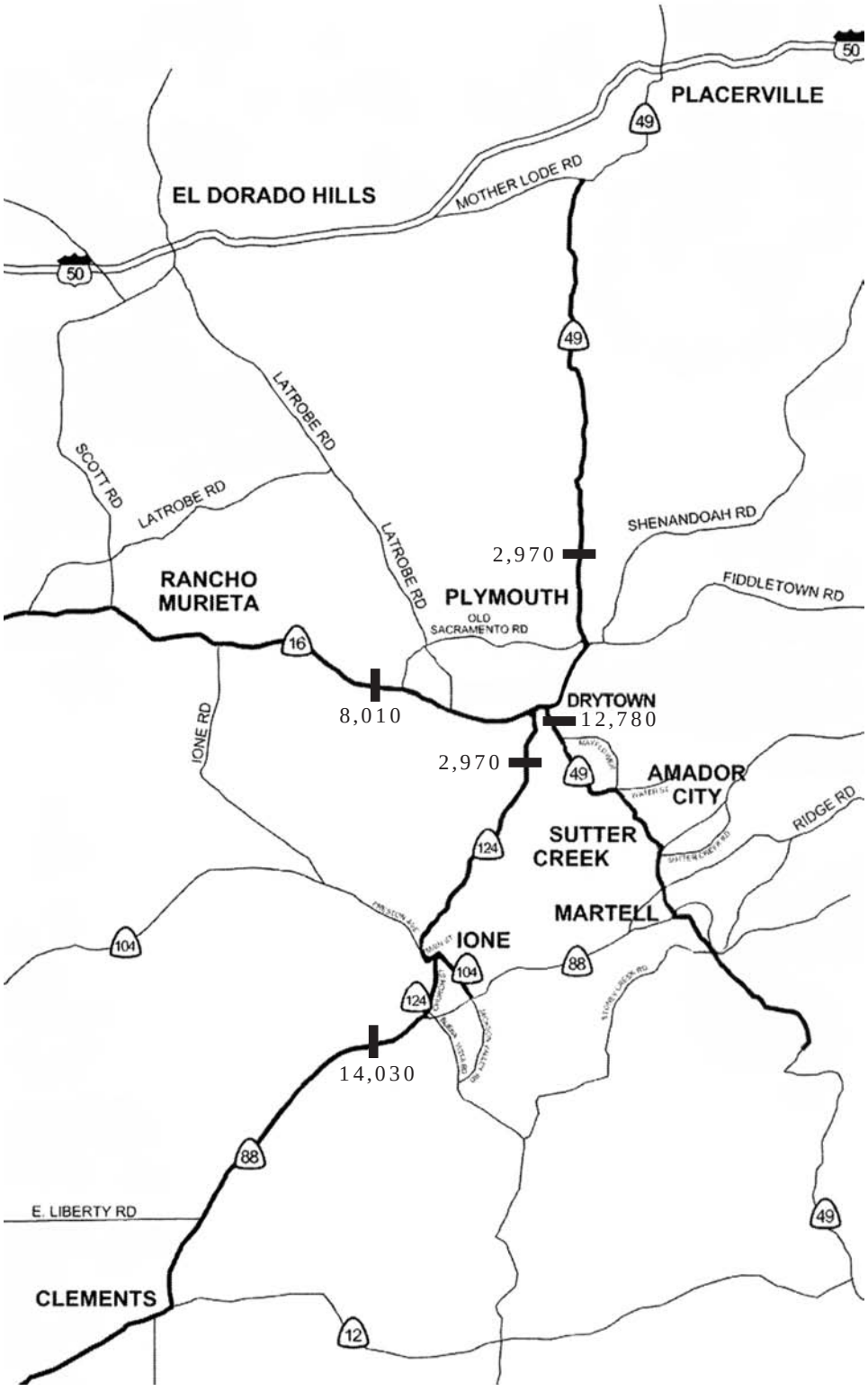
Level of Service

The results of the 2009 EPAP (No Project) Condition capacity analyses of study roadway segments, without the project, are shown in **Table 3-5.** All of the roadway segments operate at LOS C or better in the 2009 EPAP (No Project) Condition.

Table 3-5
Roadway Segment Level of Service
2009 EPAP (No Project)

Roadway	Capacity	Class	2009 EPAP (No Project)		
			ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	2,600	0.17	B
SR 49 South of SR 16	18,900	Arterial II	8,900	0.47	C
SR 16 West of Old Sacramento Road	20,200	Arterial I	5,600	0.28	B
SR 124 South of SR 16	18,900	Arterial II	2,000	0.11	A
SR 88 West of SR 124	20,200	Arterial I	7,900	0.39	C

Existing (No Project) ADT Source: *Amador County RTP*, 2004



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14,030 Weekday Volumes

Ione Casino
Traffic Impact Analysis

2009 Existing Plus Approved Projects Daily Traffic Volumes

Figure 3-3

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2009 EPAP INTERSECTION OPERATIONS

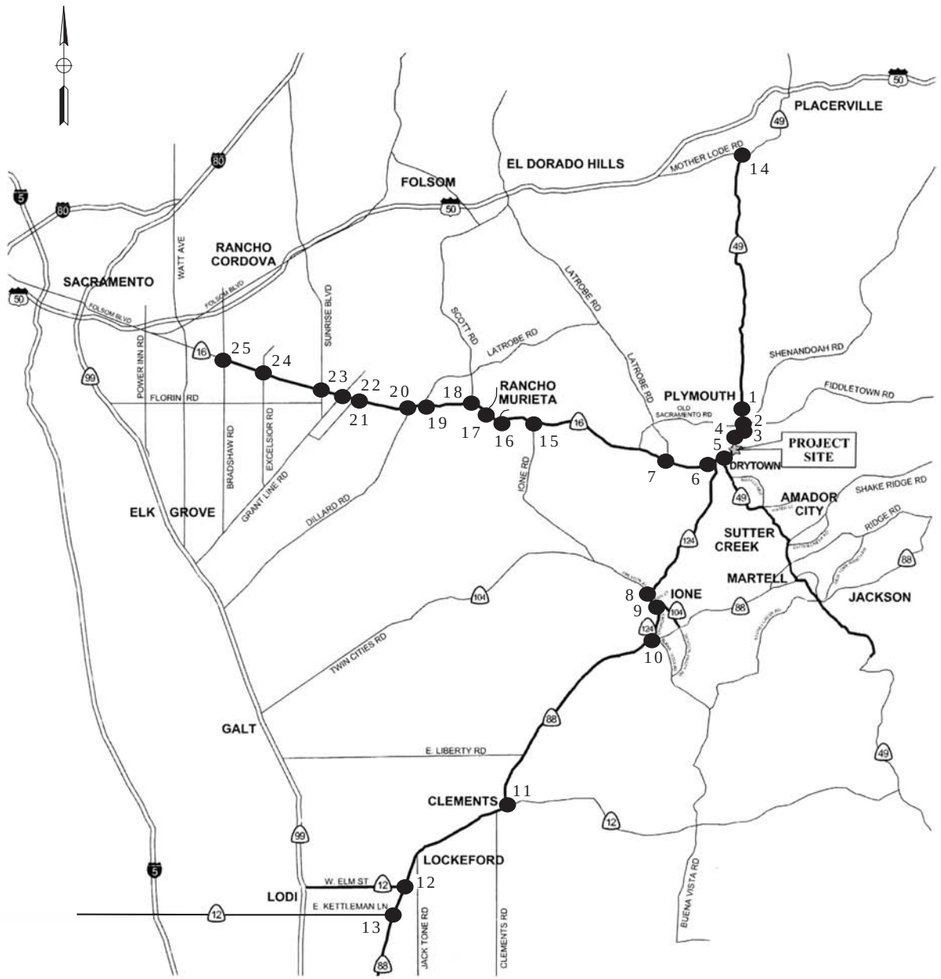
To approximate 2009 Condition, a 2.2% annual growth rate was applied to the 2006 volumes. **Figure 3-4** presents the EPAP PM peak hour turning movement volumes for the study intersections in the year 2009.

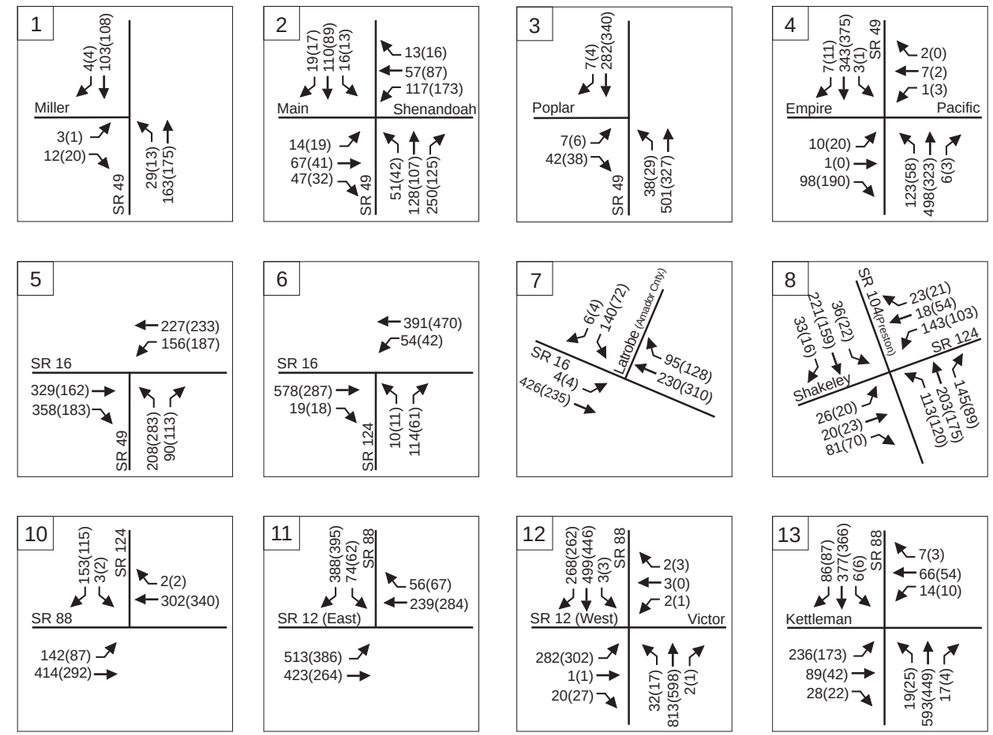
Level of Service

Levels of service for the 2009 EPAP Condition during the weekday and Saturday PM peak hour are summarized in **Table 3-6**. The following intersections are expected to operate at an unacceptable LOS:

- SR 49 / Main Street during the Weekday PM peak hour,
- SR 49 / Empire Street during the Weekday and Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 104 / SR 124 during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 16 / Stone House Road during the Weekday PM peak hour,
- SR 16 / Grant Line Road during the Weekday PM peak hour,
- SR 16 / Excelsior Road during the Weekday PM peak hour,

Detailed LOS analysis data and worksheets are provided in **Appendix E.**





Legend

1 Study Intersection

14(6) Friday(Saturday) PMPeak Hour Volumes

Ione Casino
Traffic Impact Analysis

2009 Existing Plus Approved Projects Weekday & Saturday PM Peak Hour Volumes

Figure 3-4

Table 3-6
2009 EPAP (No Project) Intersection Level of Service

2009 EPAP (No Project)		Weekday PM Peak Hour						Saturday PM Peak Hour					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.2	A	9.3	A	-	-	0.9	A	9.0	A
2	SR 49 / Main Street	-	-	8.4	A	26.9	**D**	-	-	9.9	A	21.8	C
3	SR 49 / Poplar Street	-	-	1.0	A	11.6	B	-	-	1.0	A	11.4	B
4	SR 49 / Empire Street	-	-	2.6	A	25.9	**D**	-	-	3.7	A	27.8	**D**
5	SR 49 / SR 16	-	-	11.4	B	47.9	**E**	-	-	23.0	C	63.7	**F**
6	SR 16 / SR 124	-	-	2.1	A	15.4	C	-	-	1.3	A	11.7	B
7	SR 16 / Latrobe Road (Amador)	-	-	3.4	A	20.7	C	-	-	1.6	A	15.3	C
8	SR 104 (Preston Avenue) / SR 124	-	-	20.7	C	>100	**F**	-	-	14.4	B	54.1	**F**
9	SR 104 (Main Street) / SR 124	-	-	6.7	A	24.9	C	-	-	3.8	A	17.6	C
10	SR 88 / SR 124	-	-	3.0	A	12.1	B	-	-	2.5	A	11.8	B
11	SR 88 / SR 12 (East)	-	-	17.6	C	53.5	**F**	-	-	9.6	A	22.7	C
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	-	-	62.8	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.9	C	-	-	-	-	21.5	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	27.6	D	-	-	-	-	13.5	B	-	-
15	SR 16 / Ione Road	-	-	1.1	A	16.6	C	-	-	1.5	A	13.8	B
16	SR 16 / Murieta South Parkway	13.9	B	-	-	-	-	8.3	A	-	-	-	-
17	SR 16 / Murieta Parkway	18.8	B	-	-	-	-	15.4	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.8	A	52.3	**F**	-	-	1.3	A	24.2	C
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.8	A	38.1	E	-	-	0.5	A	26.5	D
20	SR 16 / Dilliard Road	15.2	B	-	-	-	-	8.5	A	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	1.0	A	21.6	C	-	-	0.6	A	13.5	B
22	SR 16 / Grant Line Road	85.2	**F**	-	-	-	-	24.7	C	-	-	-	-
23	SR 16 / Sunrise Boulevard	39.2	D	-	-	-	-	17.2	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	5.7	A	22.1	C
25	SR 16 / Bradshaw Road	36.9	D	-	-	-	-	16.5	B	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized intersections, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Recommended Improvements

The following is a description of recommended improvements for 2009 EPAP Condition. The resulting improved LOS is presented in **Table 3-7** and **Table 3-8**. Detailed LOS calculations for each of the intersections mitigated are provided in **Appendix F**.

SR 49 / Main Street. Signalize the intersection. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization. With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.1 seconds of delay and LOS A with 5.9 seconds of delay during the weekday and Saturday PM peak hour, respectively.

SR 49 / Empire Street. Signalize the intersection. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization. With the implementation of these improvements, the intersection would operate acceptably at LOS A with 5.3 seconds of delay and LOS A with 5.4 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

SR 49 / SR 16. Signalize the intersection. With the implementation of this improvement, the intersection would operate acceptably at LOS B with 12.4 seconds of delay and LOS B with 13.1 seconds of delay during the weekday and Saturday PM peak hour, respectively. This intersection improvement is planned by Caltrans.

SR 104 (Preston) / SR 124. Signalize the intersection. The northbound and westbound approaches would need to be widened to include an exclusive left-turn lane and a combined through/right-turn lane. With the implementation of these improvements, the intersection would operate acceptably at LOS A with 4.8 seconds of delay and LOS B with 14.8 seconds of delay during the weekday and Saturday PM peak hour, respectively. Caltrans has no planned improvements for this intersection, but the 2004 Amador County RTP has identified this as a problematic intersection.

SR 88 / SR 12 (East). Signalize the intersection. With the implementation of this improvement, the intersection would operate acceptably at LOS B with 10.6 seconds of delay and LOS B with 11.0 seconds of delay during the weekday and Saturday PM peak hour, respectively. This intersection improvement is planned by Caltrans.

SR 88 / SR 12 (West). Signalize the intersection. Signalization at this intersection is planned by Caltrans. Caltrans should also consider widening the eastbound approach to include an exclusive left-turn lane and a combined through/right-turn lane as part of their improvements for this intersection. With the implementation of these improvements, the intersection would operate acceptably at LOS C with 30.7 seconds of delay and LOS C with 31.7 seconds of delay during the weekday and Saturday PM peak hour, respectively.

SR 16 / Stone House Road. The eastbound approach would need to be widened to include an exclusive left-turn lane, two through lanes, and at the westbound approach one through lane and one combined through/right-turn lane. The intersection does not meet signal warrants. With the implementation of this improvement, the intersection would operate acceptably at LOS C with 24.7 seconds of delay and LOS C with 18.6 seconds of delay during the weekday and Saturday PM peak hour, respectively. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

SR 16 / Grant Line Road. The northbound approach would need to be widened to include a combined through/left-turn lane and an exclusive right-turn lane, and at the southbound approach an exclusive left-turn lane and a combined through/right-turn lane. With the implementation of these improvements, the intersection would operate acceptably at LOS E with 65.3 seconds of delay and LOS C with 28.9 seconds of delay during the weekday and Saturday PM peak hour, respectively. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes, and from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

SR 16 / Excelsior Road. Signalize the intersection. With the implementation of these improvements, the intersection would operate acceptably at LOS B with 18.6 seconds of delay and LOS A with 9.0 seconds of delay during the weekday and Saturday PM peak hour, respectively. This intersection improvement is planned by Sacramento County.

Table 3-7
2009 EPAP (No Project)
Recommended Improvements - Intersection Level of Service
Weekday PM Peak Hour

2009 EPAP (No Project)		2009 EPAP (No Project) - No Improvements						2009 EPAP (No Project) - with Improvements					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	8.4	A	26.9	**D**	6.1	A	-	-	-	-
4	SR 49 / Empire Street	-	-	2.6	A	25.9	**D**	5.3	A	-	-	-	-
5	SR 49 / SR 16	-	-	11.4	B	47.9	**E**	12.4	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	20.7	C	>100	**F**	4.8	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	17.6	C	53.5	**F**	10.6	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	30.7	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.8	A	52.3	**F**	-	-	1.4	A	24.7	C
22	SR 16 / Grant Line Road	85.2	**F**	-	-	-	-	65.3	E	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	18.6	B	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized intersections, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 3-8
2009 EPAP (No Project)
Recommended Improvements - Intersection Level of Service
Saturday PM Peak Hour

2009 EPAP (No Project)		2009 EPAP (No Project) - No Improvements						2009 EPAP (No Project) - with Improvements					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	9.9	A	21.8	C	5.9	A	-	-	-	-
4	SR 49 / Empire Street	-	-	3.7	A	27.8	**D**	5.4	A	-	-	-	-
5	SR 49 / SR 16	-	-	23.0	C	63.7	**F**	13.1	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	14.4	B	54.1	**F**	14.8	B	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	9.6	A	22.7	C	11.0	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	62.8	**F**	>100	**F**	31.7	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.3	A	24.2	C	-	-	1.0	A	18.6	C
22	SR 16 / Grant Line Road	24.7	C	-	-	-	-	28.9	C	-	-	-	-
24	SR 16 / Excelsior Road	-	-	5.7	A	22.1	C	9.0	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized intersections, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

SECTION 4
PROJECT IMPACTS AND MITIGATION

This section presents a description of the analysis of project-related impacts conducted for this study. Traffic impacts were evaluated for the following scenarios:

- 2006 EPAP Plus Alternative A Phase 1,
- 2009 EPAP Plus Alternative A Phase 1 & 2,
- 2006 EPAP Plus Alternative B Phase 1,
- 2009 EPAP Plus Alternative B Phase 1 & 2,
- 2006 EPAP Plus Alternative C,
- 2006 EPAP Plus Alternative D.

For each of the scenarios listed above, traffic operations during both the Weekday PM peak hour and Saturday PM peak hour were analyzed. Traffic impacts associated with each of the alternatives were also evaluated. Parking and site circulation, access and sight distance from the project driveway are discussed following the alternative intersection impact discussion.

PROJECT TRIP GENERATION

Standard trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation, 6th Edition* (commonly referred to as the ITE Trip Generation Manual), are often used for common types of land use. There are no published trip generation rates for casinos by ITE. Therefore, the generation rates used within were developed by AES through the survey of eight existing casinos in the region. The trip generation estimates for the project are shown in **Table 4-1** through **Table 4-7**.

Table 4-1
New Primary Trip Generation [1]
Alternative A Phase 1

Land Use	Size	Scenario	Rate	In / Out %	Total Trip Generation [2]			Pass-by/Diversion [3]			"New" Primary Trips		
			(trips/ ksf)		In	Out	Total	In	Out	Total	In	Out	Total
Casino	120 ksf	Weekday PM Peak Hour	4.54	52% / 48%	283	262	545	-8	-8	-16	275	254	529
		Saturday PM Peak Hour	6.25	50% / 50%	375	375	750	-11	-11	-22	364	364	728
		Daily Weekday	68.24	---	---	---	8,189	---	---	-246	---	---	7,943

Notes:
(1) - New Primary Trip Generation = Total Trip - Pass-by/Diverted Trips
(2) - Total Trip Geneartion = New Primary Trips + Pass-by Trips
(3) - 3% of all the trips generated by the Ione Casino would be pass-by or diverted trips on their way to, or leaving from, the Jackson Rancheria.
ksf = 1,000 square feet

Table 4-2
New Primary Trip Generation [1]
Alternative A Phase 1 & 2 Preferred Casino and Hotel

Land Use	Trip Generation						
	Weekday	Weekday PM Peak Hour			Saturday PM Peak Hour		
	Daily	Inbound	Outbound	Total	Inbound	Outbound	Total
Casino	8,189	283	262	545	375	375	750
Hotel	745	29	26	55	36	29	65
TOTAL (Hotel + Casino)	8,934	312	288	600	411	404	815
Reductions:							
Jackson Rancheria Pass-by/Diversion [2]	-246	-8	-8	-16	-11	-11	-22
"New" Primary Trips (Hotel + Casino)	8,688	304	280	584	400	393	793

Notes:
(1) - New Primary Trip Generation = Total Trip - Pass-by/Diverted Trips
(2) - 3% of all the trips generated by the Ione Casino would be pass-by or diverted trips on their way to, or leaving from, the Jackson Rancheria.

Table 4-3
New Primary Trip Generation [1]
Alternative B Phase 1

Land Use	Size	Scenario	Rate	In / Out %	Total Trip Generation [2]			Pass-by/Diversion [3]			"New" Primary Trips		
			(trips/ ksf)		In	Out	Total	In	Out	Total	In	Out	Total
Casino	100.75 ksf	Weekday PM Peak Hour	4.54	52% / 48%	238	219	457	-7	-7	-14	231	212	443
		Saturday PM Peak Hour	6.25	50% / 50%	315	315	630	-9	-9	-18	306	306	612
		Daily Weekday	68.24	---	---	---	6,875	---	---	-206	---	---	6,669

Notes:
(1) - New Primary Trip Generation = Total Trip - Pass-by/Diverted Trips
(2) - Total Trip Geneartion = New Primary Trips + Pass-by Trips
(3) - 3% of all the trips generated by the Ione Casino would be pass-by or diverted trips on their way to, or leaving from, the Jackson Rancheria.
ksf = 1,000 square feet

Table 4-4
New Primary Trip Generation [1]
Alternative B Phase 1 & 2 Slightly Reduced Casino and Hotel

Land Use	Trip Generation						
	Weekday	Weekday PM Peak Hour			Saturday PM Peak Hour		
	Daily	Inbound	Outbound	Total	Inbound	Outbound	Total
Casino	6,875	238	219	457	315	315	630
Hotel	745	29	26	55	36	29	65
TOTAL (Hotel + Casino)	7,620	267	245	512	351	344	695
Reductions:							
Jackson Rancheria Pass-by/Diversion [2]	-206	-7	-7	-14	-9	-9	-18
"New" Primary Trips (Hotel + Casino)	7,414	260	238	498	342	335	677

Notes:
(1) - New Primary Trip Generation = Total Trip - Pass-by/Diverted Trips
(2) - 3% of all the trips generated by the Ione Casino would be pass-by or diverted trips on their way to, or leaving from, the Jackson Rancheria.

Table 4-5
New Primary Trip Generation [1]
Alternative C

Land Use	Size	Scenario	Rate	In / Out %	Total Trip Generation [2]			Pass-by/Diversion [3]			"New" Primary Trips		
			(trips/ ksf)		In	Out	Total	In	Out	Total	In	Out	Total
Casino	79.25 ksf	Weekday PM Peak Hour	4.54	52% / 48%	187	173	360	-5	-5	-10	182	168	350
		Saturday PM Peak Hour	6.25	50% / 50%	248	248	496	-7	-7	-14	241	241	482
		Daily Weekday	68.24	---	---	---	5,408	---	---	-162	---	---	5,246

Notes:
(1) - New Primary Trip Generation = Total Trip - Pass-by/Diverted Trips
(2) - Total Trip Geneartion = New Primary Trips + Pass-by Trips
(3) - 3% of all the trips generated by the Ione Casino would be pass-by or diverted trips on their way to, or leaving from, the Jackson Rancheria.
ksf = 1,000 square feet

Table 4-6
Project Trip Generation
Alternative D

Land Use	Size	Scenario	Rate	In / Out %	Trip Generation		
			(trips/ ksf)		In	Out	Total
Shopping Center	123.250 ksf	Weekday PM Peak Hour	3.75	48% / 52%	222	240	462
		Saturday PM Peak Hour	4.97	52% / 48%	319	294	613
		Daily Weekday	42.94	---	---	---	5,292

Note: ksf = 1,000 square feet

Table 4-7
Project Trip Generation
Hotel

Land Use	Size	Scenario	Rate	In / Out %	Trip Generation		
			(trips/ ksf)		In	Out	Total
Hotel	250 Rooms	Weekday PM Peak Hour	0.22	53% / 47%	29	26	55
		Saturday PM Peak Hour	0.26	56% / 44%	36	29	65
		Daily Weekday	2.98	---	---	---	745

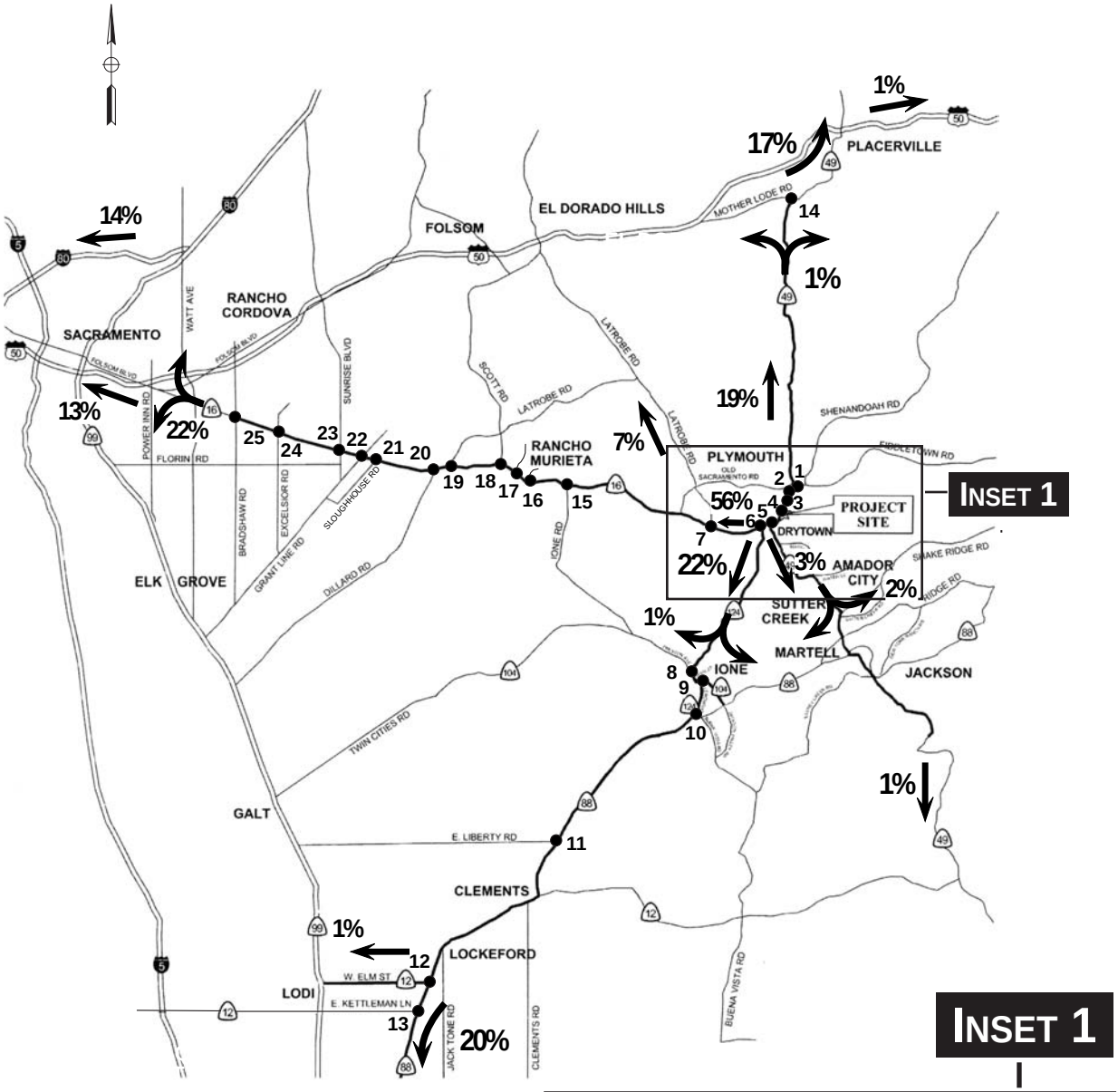
Note: ksf = 1,000 square feet

TRIP DISTRIBUTION

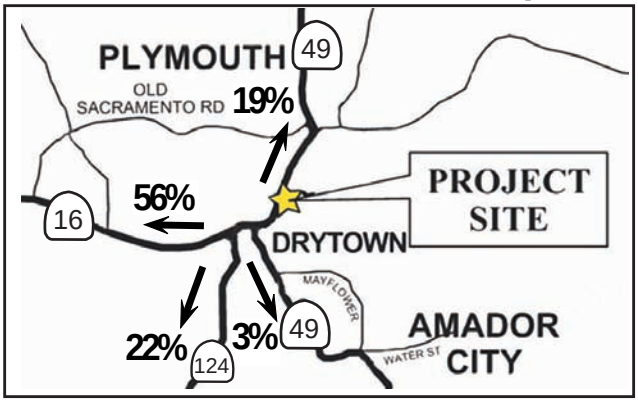
To evaluate the traffic-related effects of the project, trips that would be generated by the project were distributed on the roadway network. Trip distribution patterns to and from the project site were obtained from a zip code based origin and destination study for similar casinos in northern California. Trip distribution patterns are shown in **Figure 4-1**.

TRIP ASSIGNMENT

Trips derived for each development alternative were independently assigned to the roadway network and study intersections from the project driveways based upon the trip distribution patterns described above after considering the origin and destination of vehicles.



INSET 1



Legend

● 1 Study Intersection

← 2 % Trip Distribution Percentage

Ione Casino
Traffic Impact Analysis

Figure 4-1

Trip Distribution

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ALTERNATIVE A (PREFERRED CASINO AND HOTEL)

As noted earlier, the preferred Alternative A is proposed in two phases. Phase 1 consists of the casino proposed for operation by the year 2006 with the addition of a hotel to follow in Phase 2 three years later (2009).

2006 EPAP PLUS ALTERNATIVE A PHASE 1 ROADWAY SEGMENT OPERATIONS

Trips to and from the project site were assigned through the roadway segments and added to 2006 EPAP (No Project) roadway segment volumes. **Figure 4-2** depicts ADT volumes for the 2006 EPAP Plus Alternative A Phase 1 Condition.

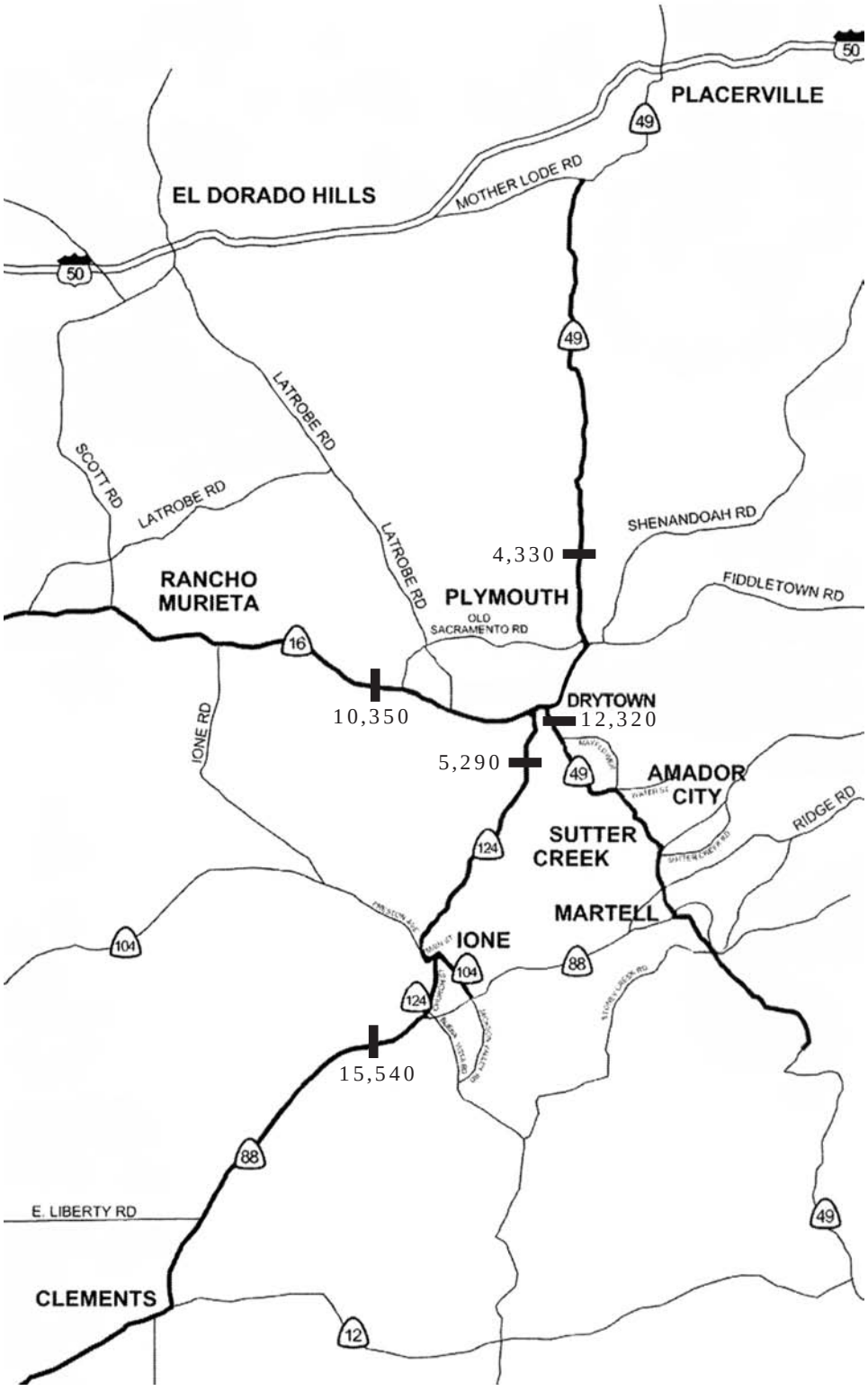
Level of Service

Levels of service for the 2006 EPAP Plus Alternative A Phase 1 Condition are summarized in **Table 4-8**. All of the roadway segments operate at LOS C or better under the 2006 EPAP Plus Alternative A Phase 1 Condition.

Table 4-8
Roadway Segment Level of Service
2006 EPAP Plus Alternative A Phase 1

Roadway	Capacity	Class	2006 EPAP (No Project)			2006 EPAP Plus Alternative A Phase 1		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	2,400	0.15	B	3,950	0.25	C
SR 49 South of SR 16	18,900	Arterial II	8,300	0.44	C	8,650	0.46	C
SR 16 West of Old Sacramento Road	20,200	Arterial I	5,200	0.26	B	8,050	0.40	C
SR 124 South of SR 16	18,900	Arterial II	1,900	0.10	A	4,400	0.23	B
SR 88 West of SR 124	20,200	Arterial I	7,400	0.37	C	9,800	0.49	C

Existing (No Project) ADT Source: *Amador County RTP*, 2004



Legend

15,540 Weekday Volumes

Ione Casino
Traffic Impact Analysis

2006 Existing Plus Approved Projects Plus Alternative A Phase 1 Daily Traffic Volumes

Figure 4-2

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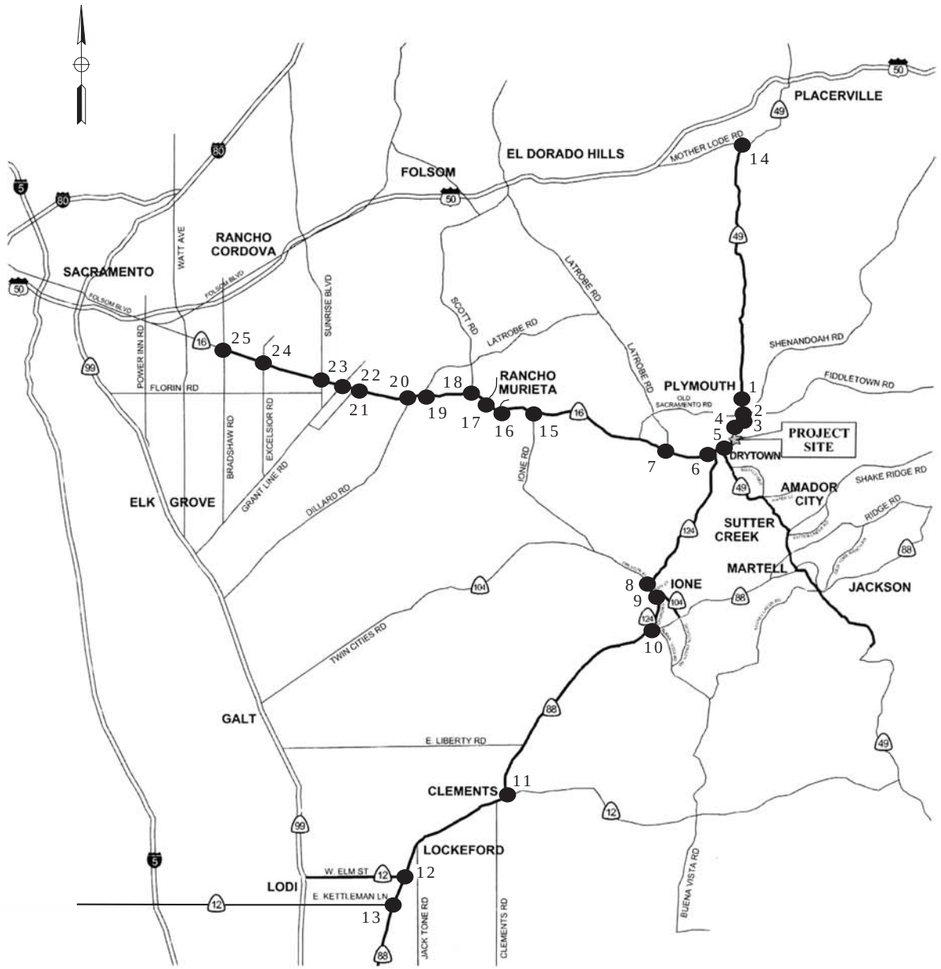
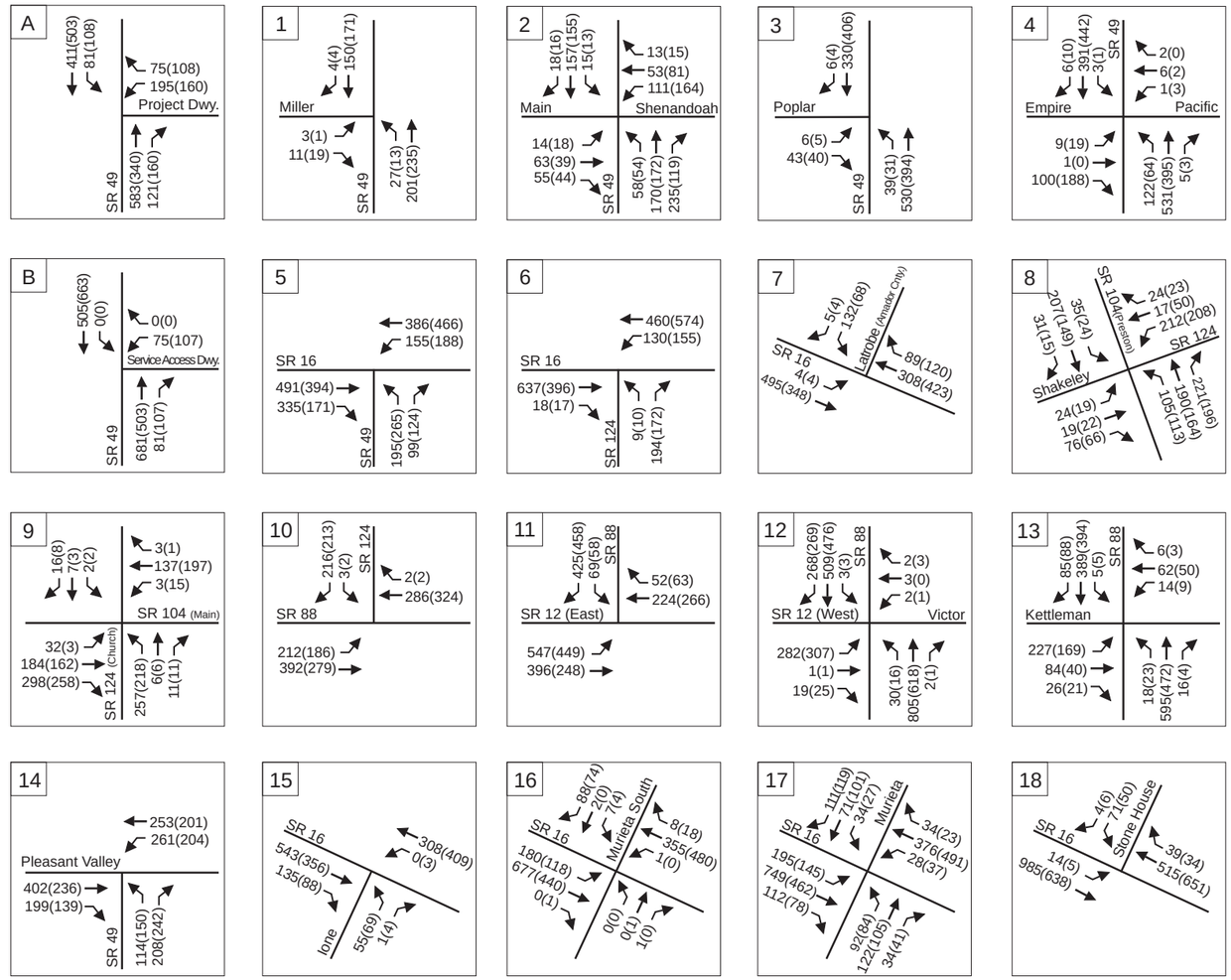
2006 EPAP PLUS ALTERNATIVE A PHASE 1 INTERSECTION OPERATIONS

Anticipated project trips were assigned through the study intersections and added to the 2006 EPAP (No Project) weekday and Saturday PM peak hour turning volumes. The resulting weekday and Saturday EPAP Plus Alternative A Phase 1 volumes for the weekday and Saturday PM peak hour are shown in **Figure 4-3**.

Level of Service

Levels of service for the 2006 EPAP Plus Alternative A Phase 1 weekday PM peak hour and Saturday PM peak hour are summarized in **Table 4-9** and **Table 4-10**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix G**.





Legend

1 Study Intersection

14(6) Friday(Saturday) PMPeak Hour Volumes

Ione Casino
Traffic Impact Analysis

2006 Existing Plus Approved Plus Alternative A Phase 1 Weekday & Saturday PM Peak Hour Volumes

Figure 4-3

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Table 4-9
2006 EPAP Plus Alternative A Phase 1
Intersection Level of Service – Weekday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE A PHASE 1		2006 EPAP (No Project)						2006 EPAP Plus Alternative A Phase 1					
		Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
Number	Intersection Location	Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.2	A	9.2	A	-	-	1.2	A	9.7	A
2	SR 49 / Main Street	-	-	7.1	A	21.7	C	-	-	8.6	A	31.9	**D**
3	SR 49 / Poplar Street	-	-	1.0	A	11.1	B	-	-	1.0	A	12.0	B
4	SR 49 / Empire Street	-	-	2.4	A	22.7	C	-	-	2.4	A	27.6	**D**
5	SR 49 / SR 16	-	-	7.8	A	31.3	**D**	-	-	24.1	C	>100	**F**
6	SR 16 / SR 124	-	-	1.9	A	14.3	B	-	-	3.6	A	19.5	C
7	SR 16 / Latrobe Road (Amador)	-	-	3.0	A	18.1	C	-	-	3.4	A	25.1	**D**
8	SR 104 (Preston Avenue) / SR 124	-	-	12.6	B	55.0	**F**	-	-	43.9	**E**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	5.7	A	20.6	C	-	-	10.5	B	34.6	**D**
10	SR 88 / SR 124	-	-	2.9	A	11.6	B	-	-	4.1	A	12.7	B
11	SR 88 / SR 12 (East)	-	-	12.9	B	36.8	**E**	-	-	17.6	C	50.2	**F**
12	SR 88 / SR 12 (West)	-	-	80.1	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.5	C	-	-	-	-	29.2	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	21.4	C	-	-	-	-	26.4	D	-	-
15	SR 16 / Ione Road	-	-	1.0	A	15.6	C	-	-	1.0	A	19.3	C
16	SR 16 / Murieta South Parkway	14.7	B	-	-	-	-	16.8	B	-	-	-	-
17	SR 16 / Murieta Parkway	18.7	B	-	-	-	-	19.4	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.2	A	41.0	E	-	-	3.0	A	62.4	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.7	A	33.1	D	-	-	0.8	A	43.3	E
20	SR 16 / Dilliard Road	13.1	B	-	-	-	-	14.7	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.9	A	19.6	C	-	-	0.9	A	22.4	C
22	SR 16 / Grant Line Road	70.5	E	-	-	-	-	83.0	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	32.9	C	-	-	-	-	38.0	D	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	31.1	C	-	-	-	-	34.6	C	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	6.9	A	46.4	**E**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	2.4	A	44.5	**E**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-10
2006 EPAP Plus Alternative A Phase 1
Intersection Level of Service – Saturday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE A PHASE 1		2006 EPAP (No Project)						2006 EPAP Plus Alternative A Phase 1					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	0.9	A	9.0	A	-	-	0.9	A	9.4	A
2	SR 49 / Main Street	-	-	8.7	A	18.4	C	-	-	11.2	B	31.2	**D**
3	SR 49 / Poplar Street	-	-	1.0	A	11.0	B	-	-	1.0	A	12.1	B
4	SR 49 / Empire Street	-	-	3.5	A	23.9	C	-	-	3.5	A	34.4	**D**
5	SR 49 / SR 16	-	-	14.1	B	37.6	**E**	-	-	70.7	**F**	>100	**F**
6	SR 16 / SR 124	-	-	1.3	A	11.3	B	-	-	3.0	A	14.5	B
7	SR 16 / Latrobe Road (Amador)	-	-	1.5	A	14.2	B	-	-	1.5	A	19.5	C
8	SR 104 (Preston Avenue) / SR 124	-	-	10.5	B	35.6	**E**	-	-	52.9	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	3.4	A	15.9	C	-	-	7.5	A	26.8	**D**
10	SR 88 / SR 124	-	-	2.4	A	11.4	B	-	-	4.4	A	13.0	B
11	SR 88 / SR 12 (East)	-	-	8.5	A	19.5	C	-	-	11.2	B	25.2	**D**
12	SR 88 / SR 12 (West)	-	-	42.4	**E**	>100	**F**	-	-	73.9	**F**	>100	**F**
13	SR 88 / Kettleman Lane	19.2	B	-	-	-	-	28.1	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	12.6	B	-	-	-	-	14.9	B	-	-
15	SR 16 / Ione Road	-	-	1.5	A	13.2	B	-	-	1.4	A	17.4	C
16	SR 16 / Murieta South Parkway	8.1	A	-	-	-	-	8.8	A	-	-	-	-
17	SR 16 / Murieta Parkway	15.7	B	-	-	-	-	16.7	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.1	A	21.7	C	-	-	1.3	A	31.4	D
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.5	A	23.9	C	-	-	0.5	A	34.0	D
20	SR 16 / Dilliard Road	8.1	A	-	-	-	-	8.8	A	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.6	A	13.0	B	-	-	0.5	A	14.5	B
22	SR 16 / Grant Line Road	27.8	C	-	-	-	-	23.5	C	-	-	-	-
23	SR 16 / Sunrise Boulevard	16.0	B	-	-	-	-	18.1	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	5.2	A	19.7	C	-	-	5.7	A	24.9	C
25	SR 16 / Bradshaw Road	15.8	B	-	-	-	-	17.1	B	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	18.9	C	96.5	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	5.6	A	73.9	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

The following intersections would operate at an unacceptable LOS under the 2006 EPAP Plus Alternative A Phase 1 Condition:

- SR 49 / Main Street during the Weekday and Saturday PM peak hour,
- SR 49 / Empire Road during the Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 16 / Latrobe Road (Amador) during the Weekday PM peak hour,
- SR 104 (Preston Avenue) / SR 124 during the Weekday and Saturday PM peak hour,
- SR 104 (Main Street) / SR 124 (Church Street) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 16 / Stone House Road during the Weekday PM peak hour,
- SR 16 / Grant Line Road during the Weekday PM peak hour,
- SR 16 / Excelsior Road during the Weekday PM peak hour,
- SR 49 / Project Driveway during the Weekday and Saturday PM peak hour, and
- SR 49 / Service Access Driveway during the Weekday and Saturday PM peak hour.

Mitigation Measures

When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are described. The resulting improved LOS during the weekday PM peak hour and Saturday PM peak hour is presented in **Table 4-11** and **Table 4-12**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix H**

Table 4-11
2006 EPAP Plus Alternative A Phase 1
Mitigation Measures - Intersection Level of Service
Weekday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE A PHASE 1		2006 EPAP Plus Alternative A Phase 1 (No Mitigation)						2006 EPAP Plus Alternative A Phase 1 with Mitigation					
		Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
Number	Intersection Location	Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	8.6	A	31.9	**D**	6.3	A	-	-	-	-
4	SR 49 / Empire Street	-	-	2.4	A	27.6	**D**	6.9	A	-	-	-	-
5	SR 49 / SR 16	-	-	24.1	C	>100	**F**	12.2	B	-	-	-	-
7	SR 16 / Latrobe Road (Amador)	-	-	3.4	A	25.1	**D**	-	-	2.4	A	17.9	C
8	SR 104 (Preston Avenue) / SR 124	-	-	43.9	**E**	>100	**F**	6.6	A	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	10.5	B	34.6	**D**	8.9	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	17.6	C	50.2	**F**	10.6	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	31.3	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	3.0	A	62.4	**F**	-	-	1.3	A	27.6	D
22	SR 16 / Grant Line Road	83.0	**F**	-	-	-	-	64.7	E	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	F	>100	**F**	17.5	B	-	-	-	-
A	SR 49 / Project Driveway	-	-	6.9	A	46.4	**E**	10.6	B	-	-	-	-
B	SR 49 / Service Access	-	-	2.4	A	44.5	**E**	5.3	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-12
2006 EPAP Plus Alternative A Phase 1
Mitigation Measures - Intersection Level of Service
Saturday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE A PHASE 1		2006 EPAP Plus Alternative A Phase 1 (No Mitigation)						2006 EPAP Plus Alternative A Phase 1 with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	11.2	B	31.2	**D**	6.3	A	-	-	-	-
4	SR 49 / Empire Street	-	-	3.5	A	34.4	**D**	6.1	A	-	-	-	-
5	SR 49 / SR 16	-	-	70.7	**F**	>100	**F**	13.8	B	-	-	-	-
7	SR 16 / Latrobe Road (Amador)	-	-	1.5	A	19.5	C	-	-	1.3	A	16.6	C
8	SR 104 (Preston Avenue) / SR 124	-	-	52.9	**F**	>100	**F**	6.4	A	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	7.5	A	26.8	**D**	6.8	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	11.2	B	25.2	**D**	11.5	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	73.9	**F**	>100	**F**	32.6	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.3	A	31.4	**D**	-	-	0.9	A	22.2	C
22	SR 16 / Grant Line Road	23.5	C	-	-	-	-	29.4	C	-	-	-	-
24	SR 16 / Excelsior Road	-	-	5.7	A	24.9	C	9.4	A	-	-	-	-
A	SR 49 / Project Driveway	-	-	18.9	C	96.5	**F**	9.7	A	-	-	-	-
B	SR 49 / Service Access	-	-	5.6	A	73.9	**F**	5.4	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measure: SR 49 / Main Street. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.3 seconds of delay and LOS A with 6.3 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Empire Street. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.9 seconds of delay and LOS A with 6.1 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / SR 16. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 12.2 seconds of delay and LOS B with 13.8 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Amador County). The owners, developers and/or successors-in-interest shall:

- Add an additional through lane to the eastbound and westbound approaches. Caltrans has no planned improvements for this intersection.

With the implementation of this improvement, the intersection would operate acceptably at LOS C with 17.9 seconds of delay and LOS C with 16.6 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Preston) / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP Condition. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.6 seconds of delay and LOS A with 6.4 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Main Street) / SR 124 (Church Street). The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 8.9 seconds of delay and LOS A with 6.8 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (East). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 10.6 seconds of delay and LOS B with 11.5 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (West). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP Condition. Signalization at this intersection is planned by Caltrans.

With the implementation of these improvements, the intersection would operate acceptably at LOS C with 31.3 seconds of delay and LOS C with 32.6 seconds of delay during the weekday and Saturday PM peak hour, respectively Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Stone House Road. The owners, developers and/or successors-in-interest shall:

- Add an additional through lane to the eastbound and westbound approaches. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of this improvement, the intersection would operate acceptably at LOS D with 27.6 seconds of delay and LOS C with 22.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Grant Line Road. The owners, developers and/or successors-in-interest shall:

- Widen the intersection to accommodate at the northbound approach a combined through/left-turn lane and an exclusive right-turn lane, and at the southbound approach an exclusive left-turn lane and a combined through/right-turn lane. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes, and from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of these improvements, the intersection would operate acceptably at LOS E with 64.7 seconds of delay and LOS C with 29.4 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Excelsior Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. This intersection improvement is planned by Sacramento County.

With the implementation of these improvements, the intersection would operate acceptably at LOS B with 17.5 seconds of delay and LOS A with 9.4 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Project Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants. Split out the southbound approach combined through/left-turn lane into an exclusive left-turn lane and an exclusive through lane. It is also recommended that the northern loop road driveway access be restricted to right-in/right out movements enforced by a raised median that would extend from the primary project driveway to just south of the northern loop road driveway. The southern loop road driveway will continue to allow all vehicular movements. This intersection modification would be included in the mitigation of this project driveway intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS B with 10.6 seconds of delay and LOS A and 9.7 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Service Access Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 5.4 seconds of delay and LOS A with 6.7 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

2009 EPAP PLUS ALTERNATIVE A PHASE 1 & 2 ROADWAY SEGMENT OPERATIONS

Trips to and from the project site were assigned through the roadway segments and added to 2009 EPAP (No Project) roadway segment volumes. **Figure 4-4** depicts ADT volumes for the 2009 EPAP Plus Alternative A Phase 1 & 2 Condition.

Level of Service

Levels of service for the 2009 EPAP Plus Alternative A Phase 1 & 2 Condition are summarized in **Table 4-13**. All of the roadway segments operate at LOS C or better, except the segment of SR 88 West of SR 124, which is allowed to operate at LOD D or better, in the 2009 EPAP Plus Alternative A Phase 1 & 2 Condition.

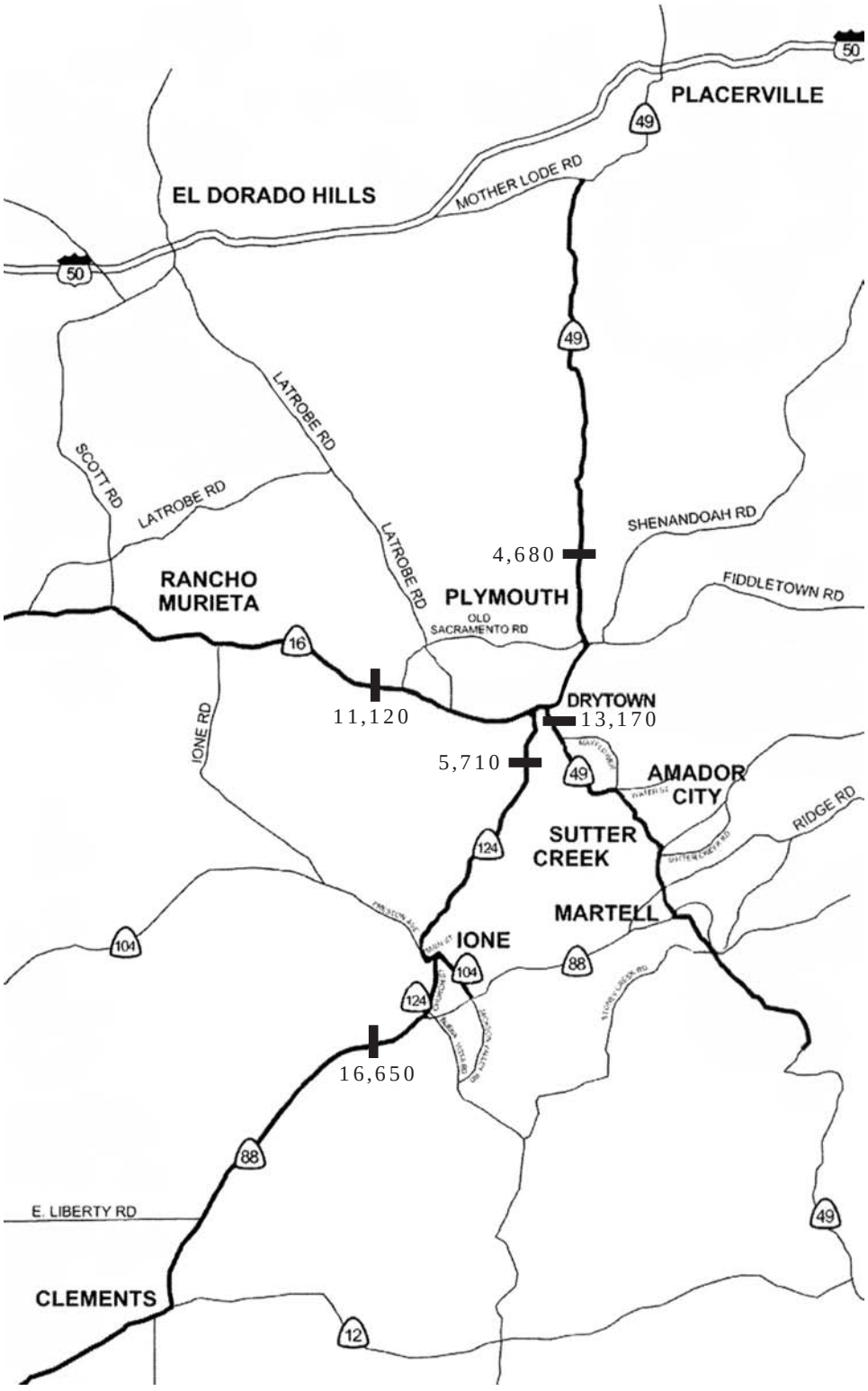
Table 4-13
Roadway Segment Level of Service
2009 EPAP Plus Alternative A Phase 1 & 2

Roadway	Capacity	Class	2009 EPAP (No Project)			2009 EPAP Plus Alternative A Phase 1 & 2		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	2,600	0.17	B	4,310	0.28	C
SR 49 South of SR 16	18,900	Arterial II	8,900	0.47	C	9,290	0.49	C
SR 16 West of Old Sacramento Road	20,200	Arterial I	5,600	0.28	B	8,710	0.43	C
SR 124 South of SR 16	18,900	Arterial II	2,000	0.11	A	4,740	0.25	B
SR 88 West of SR 124	20,200	Arterial I	7,900	0.39	C	10,520	0.52	D

Existing (No Project) ADT Source: *Amador County RTP*, 2004

2009 EPAP PLUS ALTERNATIVE A PHASE 1 & 2 INTERSECTION OPERATIONS

Using the volume estimates developed for the 2006 EPAP Plus Alternative A Phase 1 and applying a 2.2% annual growth rate generated a year 2009 base Condition to which volumes from Phase 2 of that project were applied for both the weekday PM peak hour and Saturday PM peak hour. Project trips were assigned through the study intersections and the results are shown in **Figure 4-5**.



Legend

16,650 Weekday Volumes

Ione Casino
Traffic Impact Analysis

Figure 4-4

2009 Existing Plus Approved Projects Plus Alternative A Phase 1 & 2 Daily Traffic Volumes

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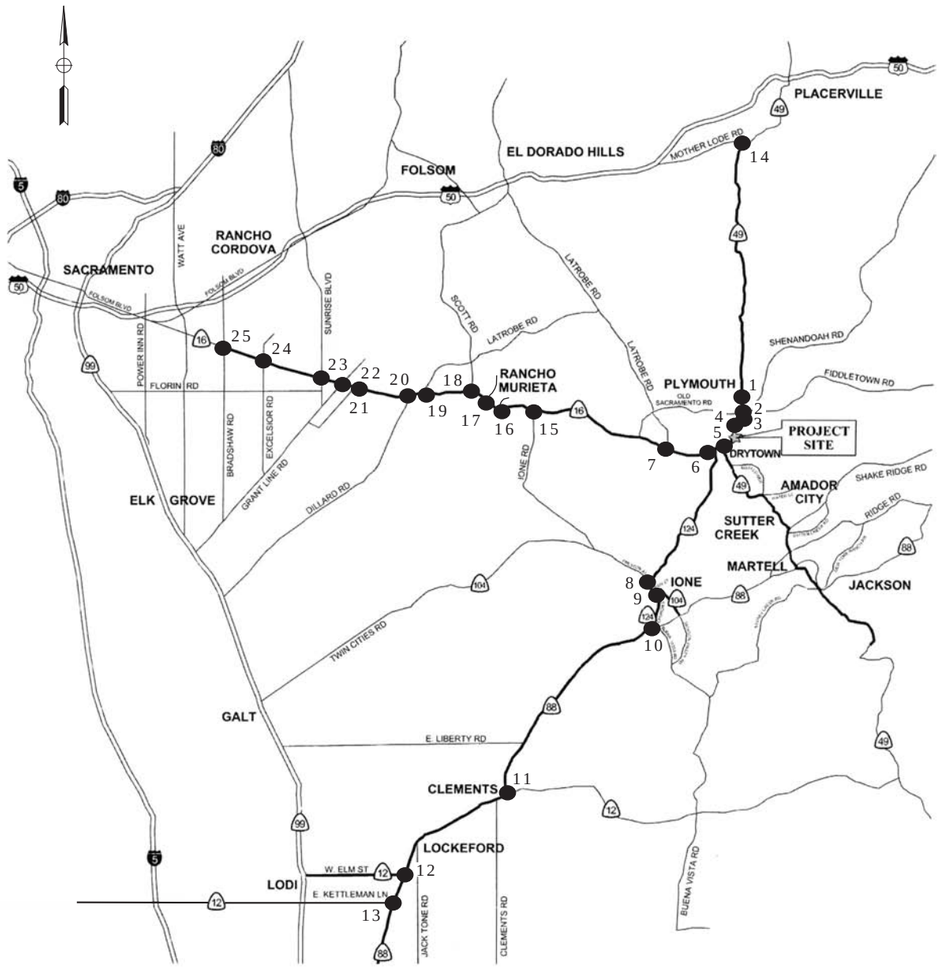
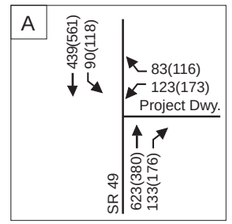
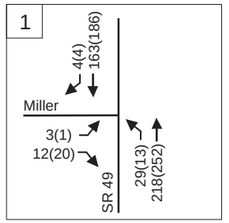
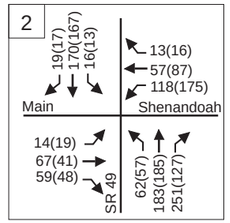
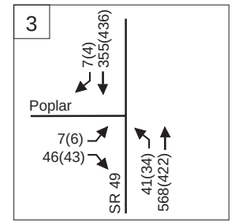
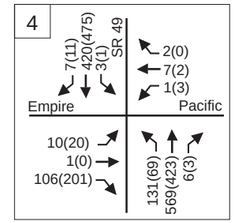


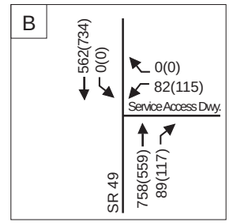


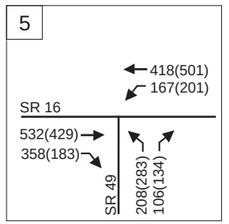


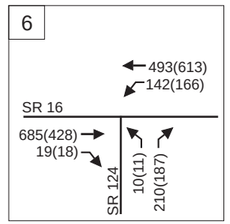


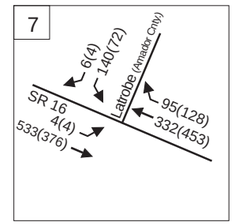


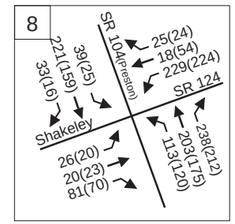


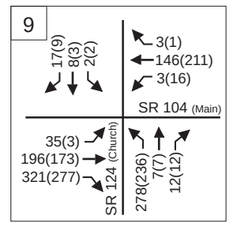


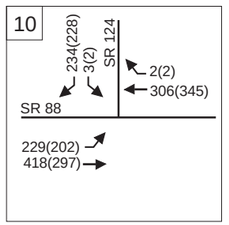


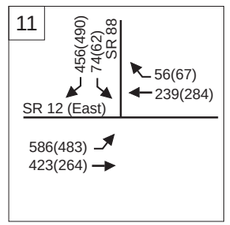


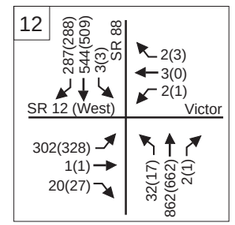


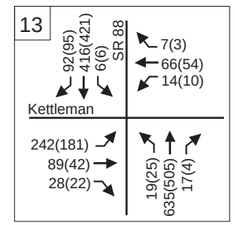


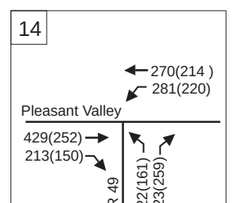


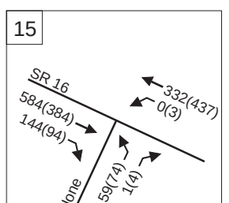


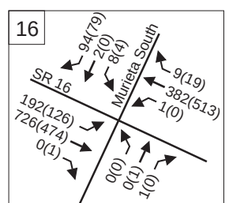


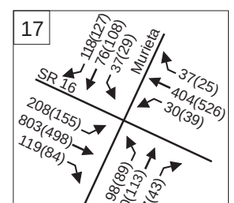


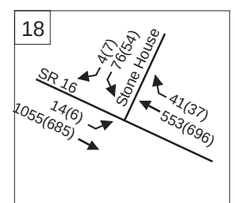


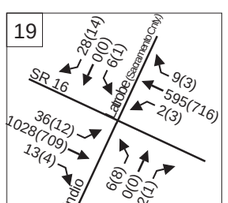


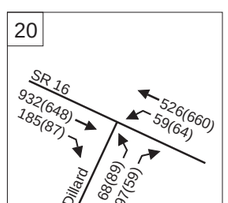


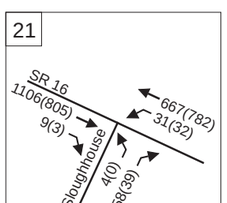


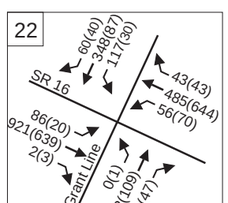


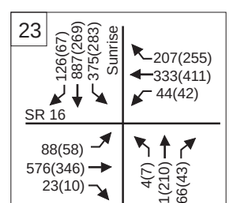


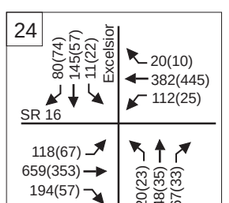


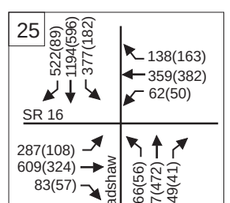












Legend
- ●1 Study Intersection
- 14(6) Friday(Saturday) PMPeak Hour Volumes

Ione Casino Traffic Impact Analysis	Figure 4-5
2009 Existing Plus Approved Plus Alternative A Phase 1 & 2 Weekday & Saturday PM Peak Hour Volumes	

Level of Service

Study intersection LOS calculation results for the 2009 EPAP Plus Alternative A Phase 1 & 2 project Condition during the weekday and Saturday PM peak hour are summarized in **Table 4-14 and Table 4-15,** respectively. Detailed LOS analysis data and worksheets are provided in **Appendix I**. The following intersections are expected to operate at an unacceptable LOS:

- SR 49 / Main Street during the Weekday and Saturday PM peak hour,
- SR 49 / Empire Road during the Weekday and Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 16 / Latrobe Road (Amador County) during the Weekday PM peak hour,
- SR 104 (Preston Avenue) / SR 124 during the Weekday and Saturday PM peak hour,
- SR 104 (Main Street) / SR 124 (Church Street) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 16 / Stone House Road during the Weekday PM peak hour,
- SR 16 / Latrobe Road (Sacramento County) during the Weekday PM peak hour,
- SR 16 / Grant Line Road during the Weekday PM peak hour,
- SR 16 / Excelsior Road during the Weekday PM peak hour,
- SR 49 / Project Driveway during the Weekday and Saturday PM peak hour, and
- SR 49 / Service Access Driveway during the Weekday and Saturday PM peak hour.

Table 4-14
2009 EPAP Plus Alternative A Phase 1 & 2
Intersection Level of Service – Weekday PM Peak Hour

2009 EPAP PLUS ALTERNATIVE A PHASE 1 & 2		2009 EPAP (No Project)						2009 EPAP Plus Alternative A Phase 1 & 2					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.2	A	9.3	A	-	-	1.2	A	9.9	A
2	SR 49 / Main Street	-	-	8.4	A	26.9	**D**	-	-	11.8	B	48.4	**E**
3	SR 49 / Poplar Street	-	-	1.0	A	11.6	B	-	-	1.0	A	12.6	B
4	SR 49 / Empire Street	-	-	2.6	A	25.9	**D**	-	-	2.6	A	33.0	**D**
5	SR 49 / SR 16	-	-	11.4	B	47.9	**E**	-	-	43.4	**E**	>100	**F**
6	SR 16 / SR 124	-	-	2.1	A	15.4	C	-	-	4.1	A	23.0	C
7	SR 16 / Latrobe Road (Amador)	-	-	3.4	A	20.7	C	-	-	4.2	A	31.7	**D**
8	SR 104 (Preston Avenue) / SR 124	-	-	20.7	C	>100	**F**	-	-	77.0	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	6.7	A	24.9	C	-	-	15.9	C	53.3	**F**
10	SR 88 / SR 124	-	-	3.0	A	12.1	B	-	-	4.3	A	13.5	B
11	SR 88 / SR 12 (East)	-	-	17.6	C	53.5	**F**	-	-	25.1	**D**	75.2	**F**
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.9	C	-	-	-	-	29.7	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	27.6	D	-	-	-	-	35.9	E	-	-
15	SR 16 / Ione Road	-	-	1.1	A	16.6	C	-	-	1.1	A	21.4	C
16	SR 16 / Murieta South Parkway	13.9	B	-	-	-	-	22.0	C	-	-	-	-
17	SR 16 / Murieta Parkway	18.8	B	-	-	-	-	20.8	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.8	A	52.3	**F**	-	-	4.2	A	90.0	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.8	A	38.1	E	-	-	0.8	A	52.0	**F**
20	SR 16 / Dilliard Road	15.2	B	-	-	-	-	18.3	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	1.0	A	21.6	C	-	-	1.0	A	25.2	D
22	SR 16 / Grant Line Road	85.2	**F**	-	-	-	-	98.1	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	39.2	D	-	-	-	-	47.5	D	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	36.9	D	-	-	-	-	42.9	D	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	10.9	B	77.6	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	2.8	A	49.7	**E**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-15
2009 EPAP Plus Alternative A Phase 1 & 2
Intersection Level of Service – Saturday PM Peak Hour

2009 EPAP PLUS ALTERNATIVE A PHASE 1 & 2		2009 EPAP (No Project)						2009 EPAP Plus Alternative A Phase 1 & 2					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	0.9	A	9.0	A	-	-	0.9	A	9.6	A
2	SR 49 / Main Street	-	-	9.9	A	21.8	C	-	-	16.0	C	47.4	**E**
3	SR 49 / Poplar Street	-	-	1.0	A	11.4	B	-	-	1.0	A	12.7	B
4	SR 49 / Empire Street	-	-	3.7	A	27.8	**D**	-	-	3.9	A	43.6	**E**
5	SR 49 / SR 16	-	-	23.0	C	63.7	**F**	-	-	>100	**F**	>100	**F**
6	SR 16 / SR 124	-	-	1.3	A	11.7	B	-	-	3.2	A	15.8	C
7	SR 16 / Latrobe Road (Amador)	-	-	1.6	A	15.3	C	-	-	1.7	A	22.2	C
8	SR 104 (Preston Avenue) / SR 124	-	-	14.4	B	54.1	**F**	-	-	86.1	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	3.8	A	17.6	C	-	-	9.8	A	35.7	**E**
10	SR 88 / SR 124	-	-	2.5	A	11.8	B	-	-	4.5	A	13.8	B
11	SR 88 / SR 12 (East)	-	-	9.6	A	22.7	C	-	-	13.8	B	32.4	**D**
12	SR 88 / SR 12 (West)	-	-	62.8	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	21.5	C	-	-	-	-	27.7	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	13.5	B	-	-	-	-	16.8	C	-	-
15	SR 16 / Ione Road	-	-	1.5	A	13.8	B	-	-	1.5	A	19.0	C
16	SR 16 / Murieta South Parkway	8.3	A	-	-	-	-	9.3	A	-	-	-	-
17	SR 16 / Murieta Parkway	15.4	B	-	-	-	-	17.3	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.3	A	24.2	C	-	-	1.6	A	37.6	E
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.5	A	26.5	D	-	-	0.5	A	39.5	E
20	SR 16 / Dilliard Road	8.5	A	-	-	-	-	9.5	A	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.6	A	13.5	B	-	-	0.5	A	15.4	C
22	SR 16 / Grant Line Road	24.7	C	-	-	-	-	21.9	C	-	-	-	-
23	SR 16 / Sunrise Boulevard	17.2	B	-	-	-	-	19.2	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	5.7	A	22.1	C	-	-	6.8	A	30.3	D
25	SR 16 / Bradshaw Road	16.5	B	-	-	-	-	18.0	B	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	31.1	**D**	>100	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	8.8	A	>100	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measures

When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are described. The resulting improved LOS during the weekday PM peak hour and Saturday PM peak hour is presented in **Table 4-16** and **Table 4-17,** respectively. Detailed LOS analysis data and worksheets are provided in **Appendix J**.

Table 4-16
2009 EPAP Plus Alternative A Phase 1 & 2
Mitigation Measures - Intersection Level of Service
Weekday PM Peak Hour

2009 EPAP PLUS ALTERNATIVE A PHASE 1 & 2		2009 EPAP Plus Alternative A Phase 1 & 2 (No Mitigation)						2009 EPAP Plus Alternative A Phase 1 & 2 with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	11.8	B	48.4	**E**	7.0	A	-	-	-	-
4	SR 49 / Empire Street	-	-	2.6	A	33.0	**D**	7.5	A	-	-	-	-
5	SR 49 / SR 16	-	-	43.4	**E**	>100	**F**	14.3	B	-	-	-	-
7	SR 16 / Latrobe Road (Amador)	-	-	4.2	A	31.7	**D**	-	-	2.5	A	20.5	C
8	SR 104 (Preston Avenue) / SR 124	-	-	77.0	**F**	>100	**F**	7.2	A	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	15.9	C	53.3	**F**	10.5	B	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	25.1	**D**	75.2	**F**	11.3	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	32.4	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	4.2	A	90.0	**F**	-	-	1.6	A	32.6	D
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.8	A	52.0	**F**	-	-	0.6	A	36.3	E
22	SR 16 / Grant Line Road	98.1	**F**	-	-	-	-	79.5	E	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	20.3	C	-	-	-	-
A	SR 49 / Project Driveway	-	-	10.9	B	77.6	**F**	13.1	B	-	-	-	-
B	SR 49 / Service Access	-	-	2.8	A	49.7	**E**	5.7	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-17
2009 EPAP Plus Alternative A Phase 1 & 2
Mitigation Measures - Intersection Level of Service
Saturday PM Peak Hour

2009 EPAP PLUS ALTERNATIVE A PHASE 1 & 2		2009 EPAP Plus Alternative A Phase 1 & 2 (No Mitigation)						2009 EPAP Plus Alternative A Phase 1 & 2 with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	16.0	C	47.4	**E**	7.0	A	-	-	-	-
4	SR 49 / Empire Street	-	-	3.9	A	43.6	**E**	6.9	A	-	-	-	-
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	16.3	B	-	-	-	-
7	SR 16 / Latrobe Road (Amador)	-	-	1.7	A	22.2	C	-	-	1.4	A	18.4	C
8	SR 104 (Preston Avenue) / SR 124	-	-	86.1	**F**	>100	**F**	7.1	A	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	9.8	A	35.7	**E**	7.7	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	13.8	B	32.4	**D**	12.4	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	32.0	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.6	A	37.6	E	-	-	1.0	A	24.9	C
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.5	A	39.5	E	-	-	0.4	A	26.0	D
22	SR 16 / Grant Line Road	21.9	C	-	-	-	-	24.1	C	-	-	-	-
24	SR 16 / Excelsior Road	-	-	6.8	A	30.3	D	9.0	A	-	-	-	-
A	SR 49 / Project Driveway	-	-	31.1	**D**	>100	**F**	13.1	B	-	-	-	-
B	SR 49 / Service Access	-	-	8.8	A	>100	**F**	7.5	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measure 2009: SR 49 / Main Street. The owners, developers and/or successors-in-interest shall:

- Improvements identified for the 2009 EPAP (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 7.0 seconds of delay and LOS A with 7.0 seconds of delay during the weekday and

Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure 2009: SR 49 / Empire Street. The owners, developers and/or successors-in-interest shall:

- Improvements identified for the 2009 EPAP (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 7.5 seconds of delay and LOS A with 6.9 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / SR 16. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 14.3 seconds of delay and LOS B with 16.3 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Amador County). The owners, developers and/or successors-in-interest shall:

- Add an additional through lane to the eastbound and westbound approaches. Caltrans has no planned improvements for this intersection.

With the implementation of this improvement, the intersection would operate acceptably at LOS C with 20.5 seconds of delay and LOS C with 18.4 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Preston) / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 7.2 seconds of delay and LOS A with 7.1 seconds of delay during the weekday and

Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Main Street) / SR 124 (Church Street). The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS B with 10.5 seconds of delay and LOS A with 7.7 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (East). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 11.3 seconds of delay and LOS B with 12.4 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (West). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. Signalization at this intersection is planned by Caltrans.

With the implementation of these improvements, the intersection would operate acceptably at LOS C with 32.4 seconds of delay and LOS C with 32.0 seconds of delay during the weekday and Saturday PM peak hour, respectively Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Stone House Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of this improvement, the intersection would operate acceptably at LOS D with 32.6 seconds of delay and LOS C with 24.9 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Sacramento County). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Add an additional through lane to the eastbound and westbound approaches. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of this improvement, the intersection would operate acceptably at LOS E with 36.3 seconds of delay and LOS D with 26.0 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Grant Line Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes, and from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of these improvements, the intersection would operate acceptably at LOS E with 79.5 seconds of delay and LOS C with 24.1 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Excelsior Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. This intersection improvement is planned by Sacramento County.

With the implementation of these improvements, the intersection would operate acceptably at LOS C with 20.3 seconds of delay and LOS A with 9.0 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Project Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants. Split out the southbound approach combined through/left-turn lane into an exclusive left-turn lane and an exclusive through lane. It is also recommended that the northern loop road driveway access be restricted to right-in/right out movements enforced by a raised median that would extend from the primary project driveway to just south of the northern loop road driveway. The southern loop road driveway will continue to allow all vehicular

movements. This intersection modification would be included in the mitigation of this project driveway intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS B with 13.1 seconds of delay and LOS B with 13.1 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Service Access Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants.

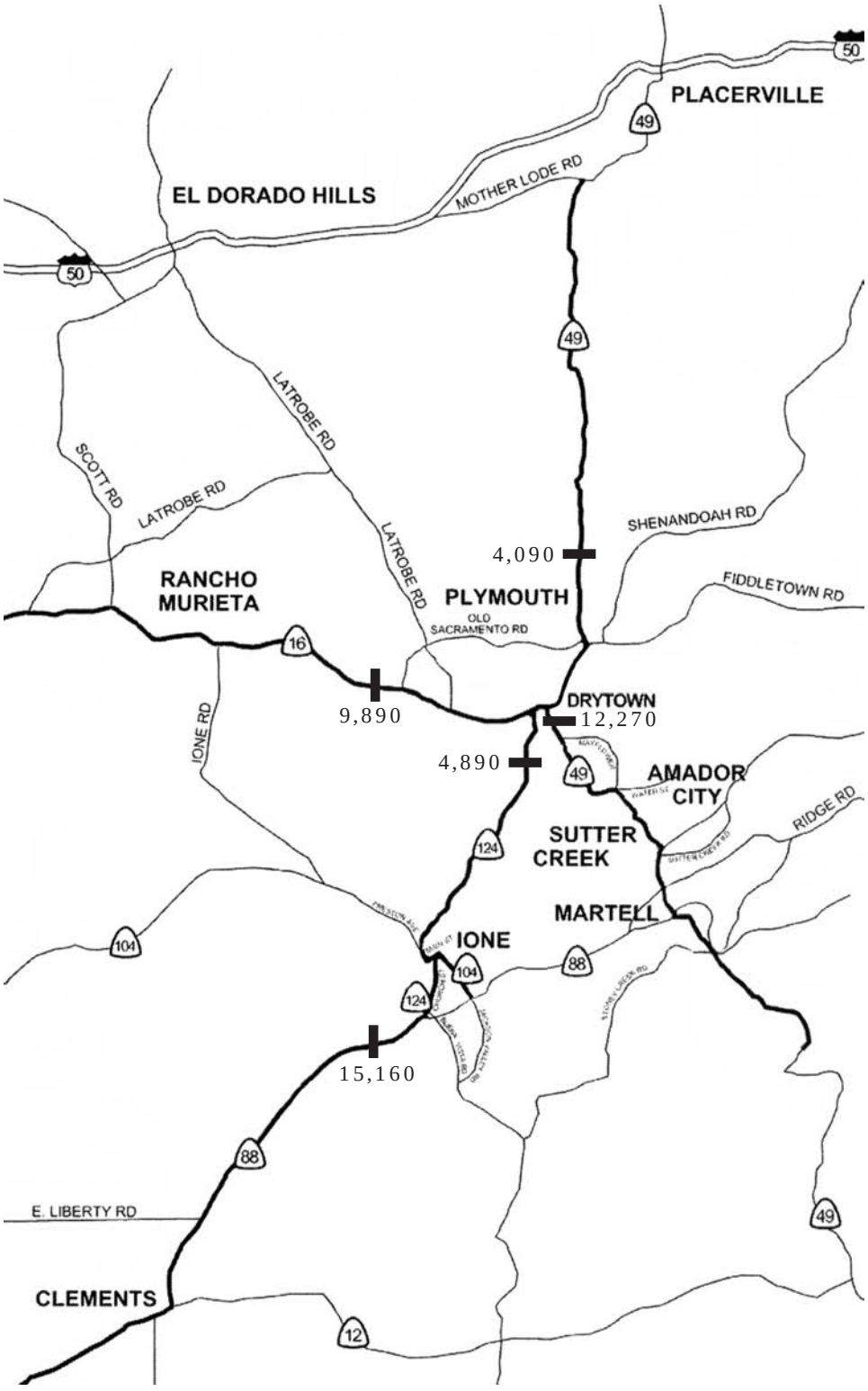
With the implementation of these improvements, the intersection would operate acceptably at LOS A with 5.7 seconds of delay and LOS A with 7.5 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

ALTERNATIVE B (SLIGHTY REDUCED CASINO AND HOTEL)

As noted earlier, Alternative B is proposed in two phases. Phase 1 consists of the reduced size casino proposed for operation by the year 2006 with the addition of a hotel to follow in Phase 2 three years later (2009).

2006 EPAP PLUS ALTERNATIVE B PHASE 1 ROADWAY SEGMENT OPERATIONS

Trips to and from the project site were assigned through the roadway segments and added to 2006 EPAP (No Project) roadway segment volumes. **Figure 4-6** depicts ADT volumes for the 2006 EPAP Plus Alternative B Phase 1 Condition.



Legend

15,160 Weekday Volumes

Ione Casino
Traffic Impact Analysis

2006 Existing Plus Approved Projects Plus Alternative B Phase 1 Daily Traffic Volumes

Figure 4-6

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Level of Service

Levels of service for the 2006 EPAP Plus Alternative B Phase 1 Condition are summarized in **Table 4-18**. All of the roadway segments operate at LOS C or better in the 2006 EPAP Plus Alternative B Phase 1 Condition.

Table 4-18
Roadway Segment Level of Service
2006 EPAP Plus Alternative B Phase 1

Roadway	Capacity	Class	2006 EPAP (No Project)			2006 EPAP Plus Alternative B Phase 1		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	2,400	0.15	B	3,710	0.24	C
SR 49 South of SR 16	18,900	Arterial II	8,300	0.44	C	8,600	0.46	C
SR 16 West of Old Sacramento Road	20,200	Arterial I	5,200	0.26	B	7,590	0.38	C
SR 124 South of SR 16	18,900	Arterial II	1,900	0.10	A	4,010	0.21	B
SR 88 West of SR 124	20,200	Arterial I	7,400	0.37	C	9,420	0.47	C

Existing (No Project) ADT Source: *Amador County RTP*, 2004

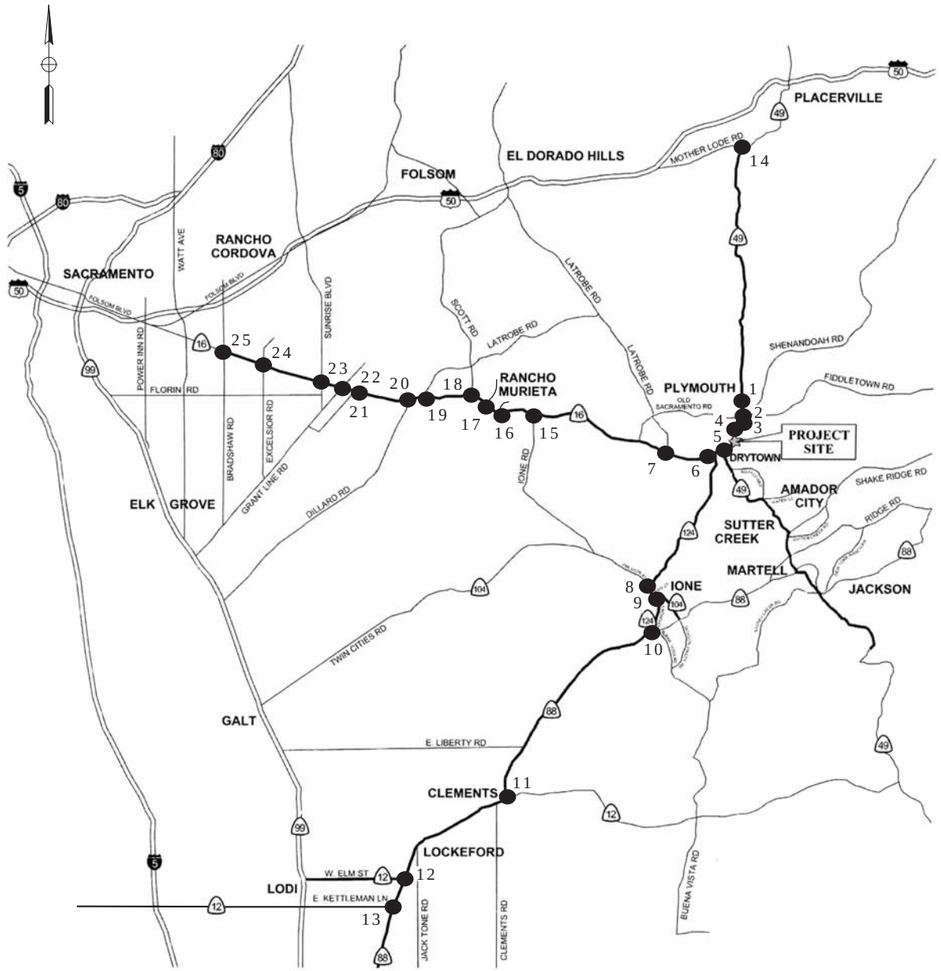
2006 EPAP PLUS ALTERNATIVE B PHASE 1 INTERSECTION OPERATIONS

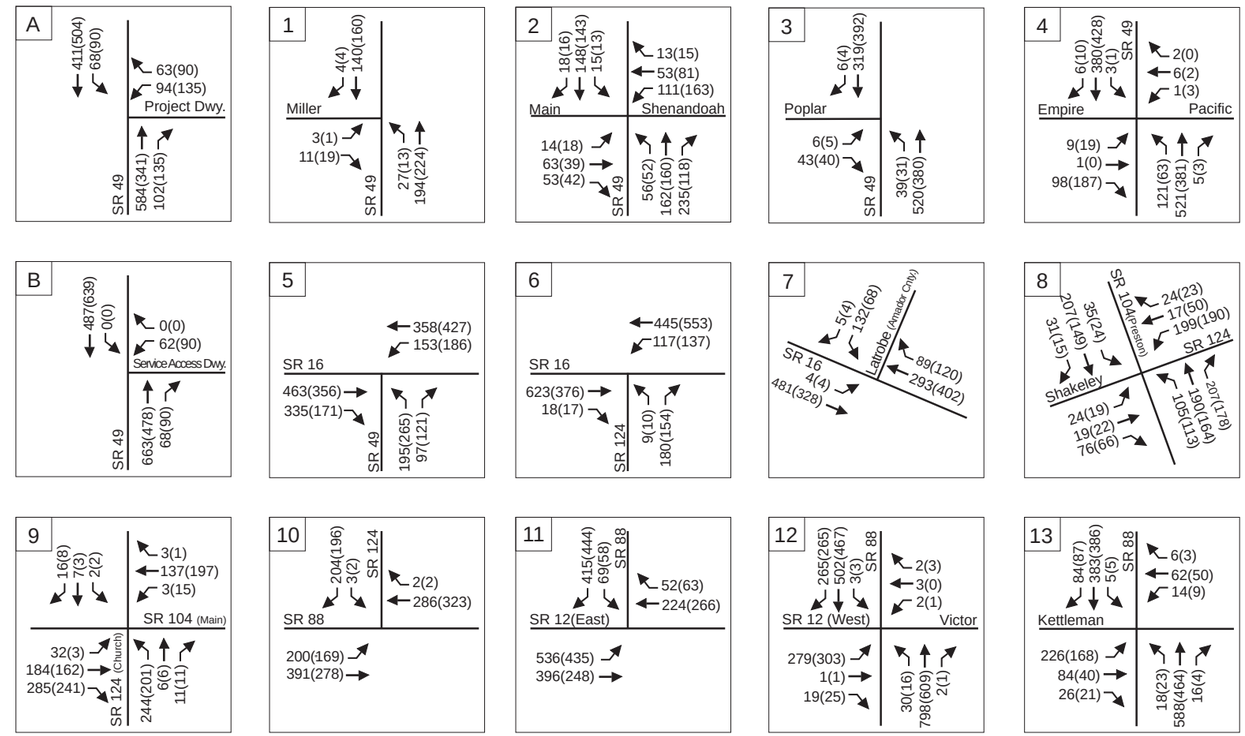
Project trips were assigned through the study intersections, and added to 2006 EPAP (No Project) weekday and Saturday PM peak hour turning volumes. The resulting weekday and Saturday PM peak hour 2006 EPAP Plus Alternative B Phase 1 volumes are shown in **Figure 4-7**.

Level of Service

Levels of service for the 2006 EPAP Plus Alternative B Phase 1 Condition during the weekday and Saturday PM peak hour are summarized in **Table 4-19** and **Table 4-20**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix K**. The following intersections are expected to operate at an unacceptable LOS:

- SR 49 / Main Street during the Weekday and Saturday PM peak hour,
- SR 49 / Empire Road during the Weekday and Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 104 (Preston Avenue) / SR 124 during the Weekday and Saturday PM peak hour,
- SR 104 (Main Street) / SR 124 (Church Street) during the Weekday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 16 / Stone House Road during the Weekday PM peak hour,
- SR 16 / Grant Line Road during the Weekday PM peak hour,
- SR 16 / Excelsior Road during the Weekday PM peak hour,
- SR 49 / Project Driveway during the Weekday and Saturday PM peak hour, and
- SR 49 / Service Access Driveway during the Weekday and Saturday PM peak hour.





Legend

● 1 Study Intersection

14(5) Friday(Saturday) PM Peak Hour Volumes

Ione Casino
Traffic Impact Analysis

2006 Existing Plus Approved Projects Plus Alternative B Phase 1 Weekday & Saturday PM Peak Hour Volumes

Figure 4-7

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Table 4-19
2006 EPAP Plus Alternative B Phase 1
Intersection Level of Service – Weekday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE B PHASE 1		2006 EPAP (No Project)						2006 EPAP Plus Alternative B Phase 1					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.2	A	9.2	A	-	-	1.2	A	9.6	A
2	SR 49 / Main Street	-	-	7.1	A	21.7	C	-	-	8.2	A	29.6	**D**
3	SR 49 / Poplar Street	-	-	1.0	A	11.1	B	-	-	1.0	A	11.8	B
4	SR 49 / Empire Street	-	-	2.4	A	22.7	C	-	-	2.4	A	26.8	**D**
5	SR 49 / SR 16	-	-	7.8	A	31.3	**D**	-	-	19.8	C	>100	**F**
6	SR 16 / SR 124	-	-	1.9	A	14.3	B	-	-	3.3	A	18.3	C
7	SR 16 / Latrobe Road (Amador)	-	-	3.0	A	18.1	C	-	-	3.3	A	23.7	C
8	SR 104 (Preston Avenue) / SR 124	-	-	12.6	B	55.0	**F**	-	-	36.1	**D**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	5.7	A	20.6	C	-	-	9.4	A	31.2	**D**
10	SR 88 / SR 124	-	-	2.9	A	11.6	B	-	-	4.0	A	12.5	B
11	SR 88 / SR 12 (East)	-	-	12.9	B	36.8	**E**	-	-	16.8	C	47.6	**E**
12	SR 88 / SR 12 (West)	-	-	80.1	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.5	C	-	-	-	-	28.5	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	21.4	C	-	-	-	-	25.4	D	-	-
15	SR 16 / Ione Road	-	-	1.0	A	15.6	C	-	-	1.0	A	18.6	C
16	SR 16 / Murieta South Parkway	14.7	B	-	-	-	-	14.5	B	-	-	-	-
17	SR 16 / Murieta Parkway	18.7	B	-	-	-	-	19.3	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.2	A	41.0	E	-	-	2.8	A	58.0	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.7	A	33.1	D	-	-	0.7	A	41.4	E
20	SR 16 / Dilliard Road	13.1	B	-	-	-	-	14.5	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.9	A	19.6	C	-	-	0.9	A	21.9	C
22	SR 16 / Grant Line Road	70.5	E	-	-	-	-	81.2	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	32.9	C	-	-	-	-	37.0	D	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	31.1	C	-	-	-	-	34.9	C	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	4.6	A	34.6	**D**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	1.7	A	36.4	**E**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-20
2006 EPAP Plus Alternative B Phase 1
Intersection Level of Service – Saturday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE B PHASE 1		2006 EPAP (No Project)						2006 EPAP Plus Alternative B Phase 1					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	0.9	A	9.0	A	-	-	0.9	A	9.3	A
2	SR 49 / Main Street	-	-	8.7	A	18.4	C	-	-	10.5	B	28.0	**D**
3	SR 49 / Poplar Street	-	-	1.0	A	11.0	B	-	-	1.0	A	11.9	B
4	SR 49 / Empire Street	-	-	3.5	A	23.9	C	-	-	3.5	A	32.5	**D**
5	SR 49 / SR 16	-	-	14.1	B	37.6	**E**	-	-	58.1	**F**	>100	**F**
6	SR 16 / SR 124	-	-	1.3	A	11.3	B	-	-	2.8	A	13.7	B
7	SR 16 / Latrobe Road (Amador)	-	-	1.5	A	14.2	B	-	-	1.5	A	18.5	C
8	SR 104 (Preston Avenue) / SR 124	-	-	10.5	B	35.6	**E**	-	-	40.8	**E**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	3.4	A	15.9	C	-	-	6.5	A	24.1	C
10	SR 88 / SR 124	-	-	2.4	A	11.4	B	-	-	4.1	A	12.7	B
11	SR 88 / SR 12 (East)	-	-	8.5	A	19.5	C	-	-	10.7	B	24.0	C
12	SR 88 / SR 12 (West)	-	-	42.4	**E**	>100	**F**	-	-	68.3	**F**	>100	**F**
13	SR 88 / Kettleman Lane	19.2	B	-	-	-	-	31.8	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	12.6	B	-	-	-	-	14.4	B	-	-
15	SR 16 / Ione Road	-	-	1.5	A	13.2	B	-	-	1.4	A	16.6	C
16	SR 16 / Murieta South Parkway	8.1	A	-	-	-	-	8.5	A	-	-	-	-
17	SR 16 / Murieta Parkway	15.7	B	-	-	-	-	16.1	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.1	A	21.7	C	-	-	1.3	A	29.4	D
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.5	A	23.9	C	-	-	0.5	A	32.0	D
20	SR 16 / Dilliard Road	8.1	A	-	-	-	-	8.7	A	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.6	A	13.0	B	-	-	0.5	A	14.3	B
22	SR 16 / Grant Line Road	27.8	C	-	-	-	-	23.7	C	-	-	-	-
23	SR 16 / Sunrise Boulevard	16.0	B	-	-	-	-	17.7	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	5.2	A	19.7	C	-	-	5.6	A	24.0	C
25	SR 16 / Bradshaw Road	15.8	B	-	-	-	-	16.9	B	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	9.9	A	54.8	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	3.4	A	50.1	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measures

When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are described. The resulting improved LOS during the weekday PM peak hour and Saturday PM peak hour is presented in **Table 4-21** and **Table 4-22**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix L**.

Table 4-21
2006 EPAP Plus Alternative B Phase 1
Mitigation Measures - Intersection Level of Service
Weekday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE B PHASE 1		2006 EPAP Plus Alternative B Phase 1 (No Mitigation)						2006 EPAP Plus Alternative B Phase 1 with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	8.2	A	29.6	**D**	6.2	A	-	-	-	-
4	SR 49 / Empire Street	-	-	2.4	A	26.8	**D**	6.6	A	-	-	-	-
5	SR 49 / SR 16	-	-	19.8	C	>100	**F**	12.0	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	36.1	**D**	>100	**F**	6.2	A	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	9.4	A	31.2	**D**	8.4	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	16.8	C	47.6	**E**	10.5	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	31.6	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.8	A	58.0	**F**	-	-	1.3	A	26.5	D
22	SR 16 / Grant Line Road	81.2	**F**	-	-	-	-	61.7	E	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	17.3	B	-	-	-	-
A	SR 49 / Project Driveway	-	-	4.6	A	34.6	**D**	9.0	A	-	-	-	-
B	SR 49 / Service Access	-	-	1.7	A	36.4	**E**	4.5	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-22
2006 EPAP Plus Alternative B Phase 1
Mitigation Measures - Intersection Level of Service
Saturday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE B PHASE 1		2006 EPAP Plus Alternative B Phase 1 (No Mitigation)						2006 EPAP Plus Alternative B Phase 1 with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	10.5	B	28.0	**D**	6.2	A	-	-	-	-
4	SR 49 / Empire Street	-	-	3.5	A	32.5	**D**	6.2	A	-	-	-	-
5	SR 49 / SR 16	-	-	58.1	**F**	>100	**F**	13.2	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	40.8	**E**	>100	**F**	6.0	A	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	6.5	A	24.1	C	6.3	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	10.7	B	24.0	C	11.3	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	68.3	**F**	>100	**F**	30.8	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.3	A	29.4	D	-	-	0.9	A	21.2	C
22	SR 16 / Grant Line Road	23.7	C	-	-	-	-	30.6	C	-	-	-	-
24	SR 16 / Excelsior Road	-	-	5.6	A	24.0	C	9.2	A	-	-	-	-
A	SR 49 / Project Driveway	-	-	9.9	A	54.8	**F**	9.9	A	-	-	-	-
B	SR 49 / Service Access	-	-	3.4	A	50.1	**F**	5.9	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measure: SR 49 / Main Street. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.2 seconds of delay and LOS A with 6.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Empire Street. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.6 seconds of delay and LOS A with 6.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / SR 16. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 12.0 seconds of delay and LOS B with 13.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Preston) / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.2 seconds of delay and LOS A with 6.0 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Main Street) / SR 124 (Church Street). The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 8.4 seconds of delay and LOS A with 6.3 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (East). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 10.5 seconds of delay and LOS B with 11.3 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (West). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. Signalization at this intersection is planned by Caltrans.

With the implementation of these improvements, the intersection would operate acceptably at LOS C with 31.6 seconds of delay and LOS C with 30.8 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Stone House Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Add an additional through lane to the eastbound and westbound approaches. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of this improvement, the intersection would operate acceptably at LOS D with 26.5 seconds of delay and LOS C with 21.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Grant Line Road. The owners, developers and/or successors-in-interest shall:

- Widen the intersection to accommodate at the northbound approach a combined through/left-turn lane and an exclusive right-turn lane, and at the southbound approach an exclusive left-turn lane and a combined through/right-turn lane. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes, and from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of these improvements, the intersection would operate acceptably at LOS E with 61.7 seconds of delay and LOS C with 30.6 seconds of delay during the weekday

and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Excelsior Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. This intersection improvement is planned by Sacramento County.

With the implementation of these improvements, the intersection would operate acceptably at LOS B with 17.3 seconds of delay and LOS A with 9.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Project Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants. Split out the southbound approach combined through/left-turn lane into an exclusive left-turn lane and an exclusive through lane. It is also recommended that the northern loop road driveway access be restricted to right-in/right out movements enforced by a raised median that would extend from the primary project driveway to just south of the northern loop road driveway. The southern loop road driveway will continue to allow all vehicular movements. This intersection modification would be included in the mitigation of this project driveway intersection.

With implementation of these improvements, the intersection would operate acceptably at LOS A with 9.0 seconds of delay and LOS A with 9.9 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

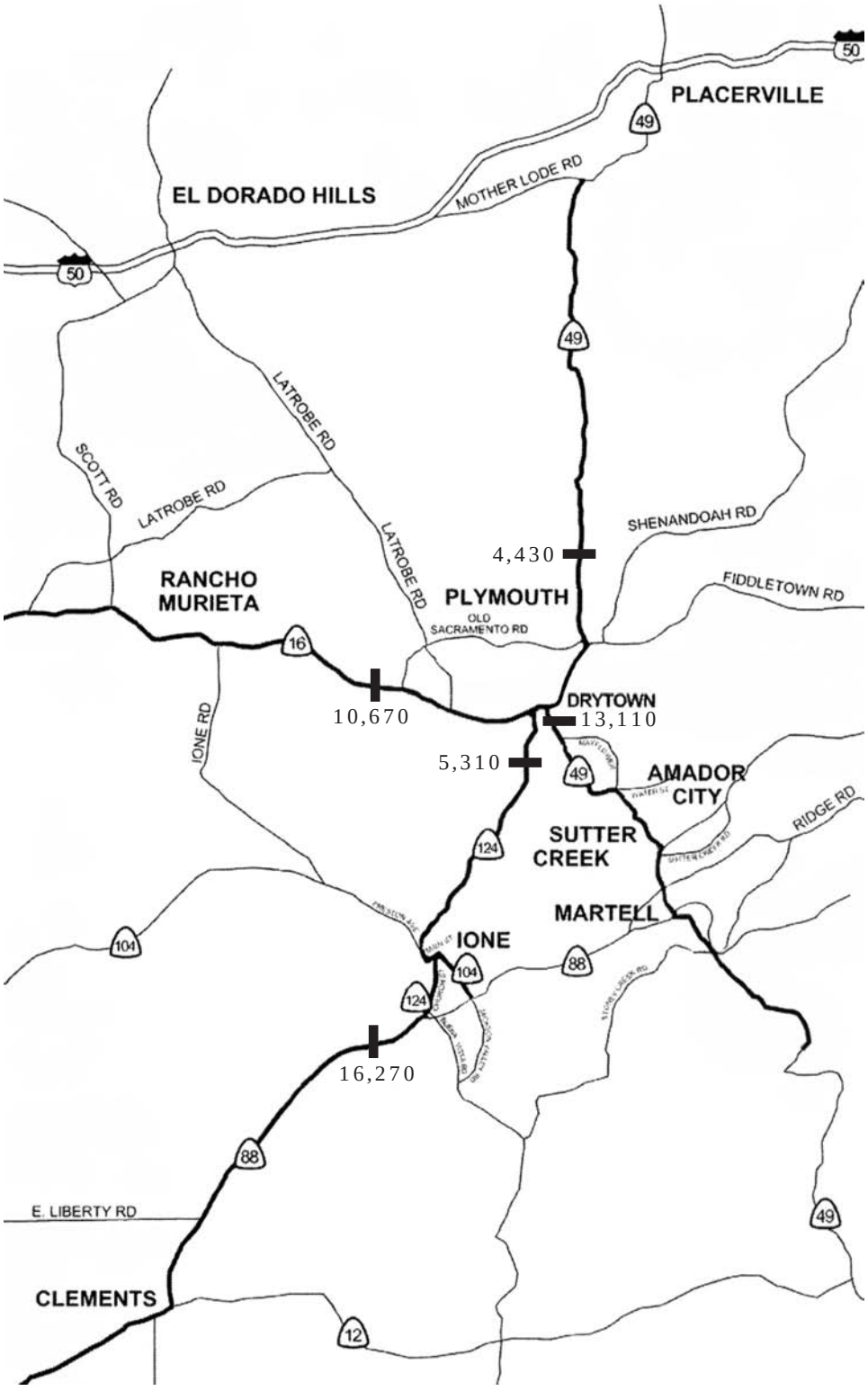
Mitigation Measure: SR 49 / Service Access Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 4.5 seconds of delay and LOS A with 5.9 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

2009 EPAP PLUS ALTERNATIVE B PHASE 1 & 2 ROADWAY SEGMENT OPERATIONS

Trips to and from the project site were assigned through the roadway segments and added to 2009 EPAP (No Project) roadway segment volumes. **Figure 4-8** depicts ADT volumes for the 2009 EPAP Plus Alternative B Phase 1 & 2 Condition.



Legend

16,270 Weekday Volumes

Ione Casino
Traffic Impact Analysis

2009 Existing Plus Approved Projects Plus Alternative B Phase 1 & 2 Daily Traffic Volumes

Figure 4-8

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Level of Service

Levels of service for the 2009 EPAP Plus Alternative B Phase 1 & 2 Condition are summarized in **Table 4-23**. All of the roadway segments operate at LOS C or better in the 2009 EPAP Plus Alternative B Phase 1 & 2 Condition.

Table 4-23
Roadway Segment Level of Service
2009 EPAP Plus Alternative B Phase 1 & 2

Roadway	Capacity	Class	2009 EPAP (No Project)			2009 EPAP Plus Alternative B Phase 1 & 2		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	2,600	0.17	B	4,060	0.26	C
SR 49 South of SR 16	18,900	Arterial II	8,900	0.47	C	9,230	0.49	C
SR 16 West of Old Sacramento Road	20,200	Arterial I	5,600	0.28	B	8,260	0.41	C
SR 124 South of SR 16	18,900	Arterial II	2,000	0.11	A	4,340	0.23	B
SR 88 West of SR 124	20,200	Arterial I	7,900	0.39	C	10,140	0.50	C

Existing (No Project) ADT Source: *Amador County RTP*, 2004

2009 EPAP PLUS ALTERNATIVE B PHASE 1 & 2 INTERSECTION OPERATIONS

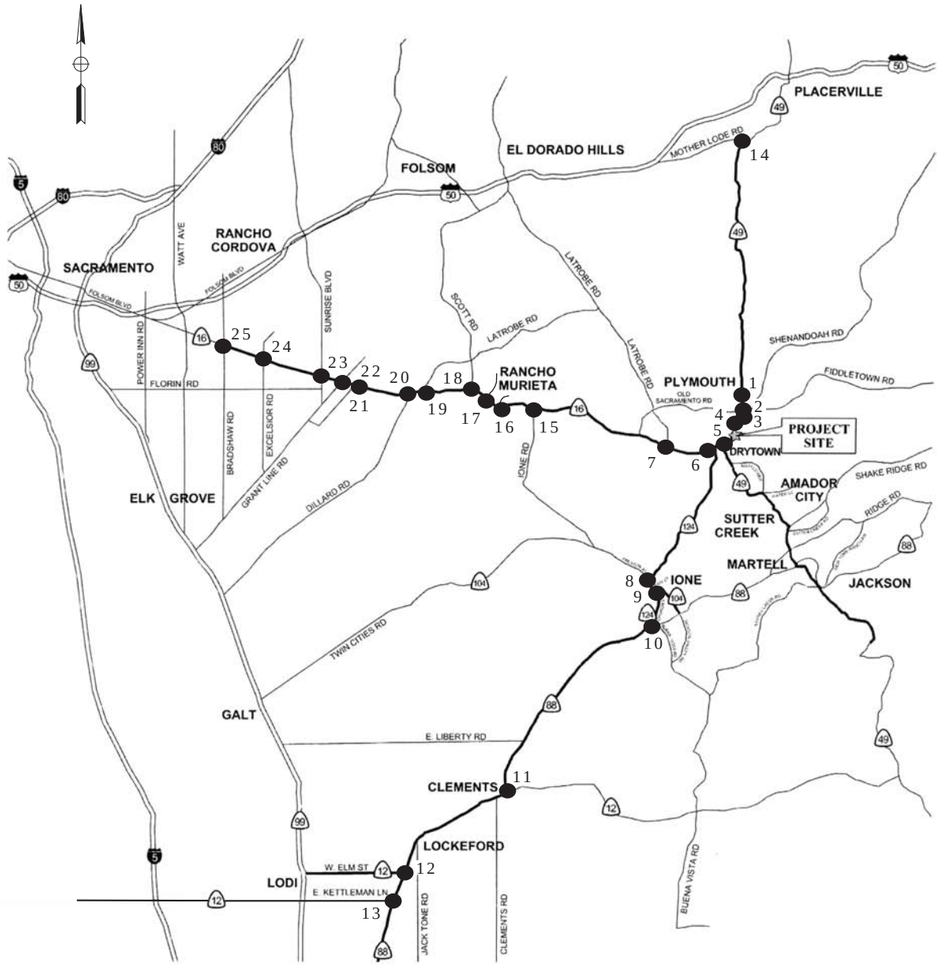
Project trips were assigned through the study intersections, and added to 2009 EPAP (No Project) weekday and Saturday PM peak hour turning volumes. The resulting weekday and Saturday PM peak hour 2009 EPAP Plus Alternative B Phase 1 & 2 volumes are shown in **Figure 4-9**.

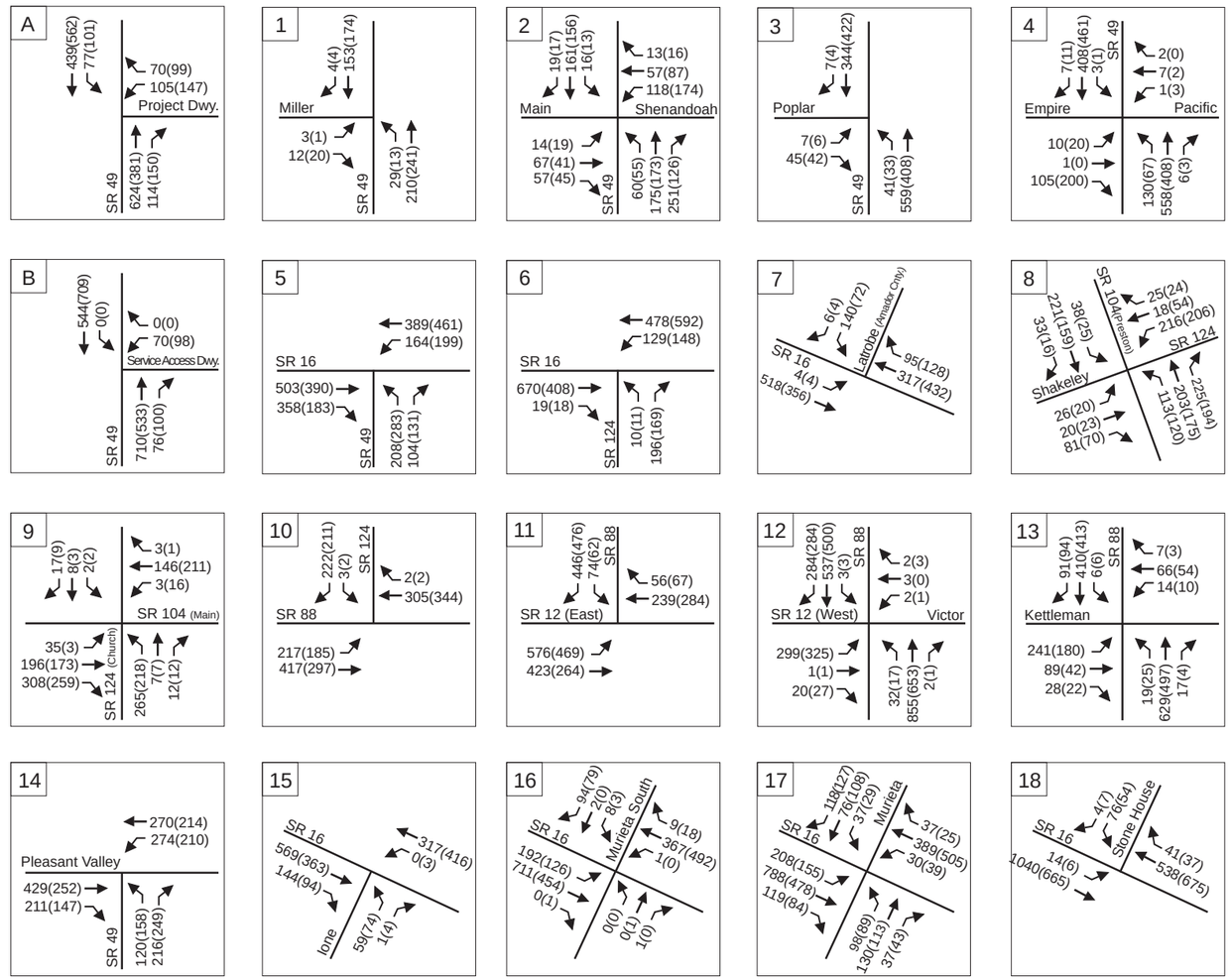
Level of Service

2009 EPAP Plus Alternative B Phase 1 & 2 Condition during the weekday and Saturday PM peak hour are summarized in **Table 4-24** and **Table 4-25,** respectively. Detailed LOS analysis data and worksheets are provided in **Appendix M**. The following intersections are expected to operate at an unacceptable LOS:

- SR 49 / Main Street during the Weekday and Saturday PM peak hour,
- SR 49 / Empire Road during the Weekday and Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 16 / Latrobe Road (Amador County) during the Weekday PM peak hour,
- SR 104 (Preston Avenue) / SR 124 during the Weekday and Saturday PM peak hour,
- SR 104 (Main Street) / SR 124 (Church Street) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday and Saturday PM peak hour,

- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 16 / Stone House Road during the Weekday PM peak hour,
- SR 16 / Grant Line Road during the Weekday PM peak hour,
- SR 16 / Excelsior Road during the Weekday PM peak hour,
- SR 49 / Project Driveway during the Weekday and Saturday PM peak hour, and
- SR 49 / Service Access Driveway during the Weekday and Saturday PM peak hour.





Legend

● 1 Study Intersection

14(6) Friday(Saturday) PMPeak Hour Volumes

Ione Casino
Traffic Impact Analysis

2009 Existing Plus Approved Plus Alternative B Phase 1 & 2 Weekday & Saturday PM Peak Hour Volumes

Figure 4-9

Table 4-24
2009 EPAP Plus Alternative B Phase 1 & 2
Intersection Level of Service
Weekday PM Peak Hour

2009 EPAP PLUS ALTERNATIVE B PHASE 1 & 2		2009 EPAP (No Project)						2009 EPAP Plus Alternative B Phase 1 & 2					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.2	A	9.3	A	-	-	1.2	A	9.8	A
2	SR 49 / Main Street	-	-	8.4	A	26.9	**D**	-	-	11.0	B	43.6	**E**
3	SR 49 / Poplar Street	-	-	1.0	A	11.6	B	-	-	1.0	A	12.5	B
4	SR 49 / Empire Street	-	-	2.6	A	25.9	**D**	-	-	2.6	A	31.7	**D**
5	SR 49 / SR 16	-	-	11.4	B	47.9	**E**	-	-	37.0	**E**	>100	**F**
6	SR 16 / SR 124	-	-	2.1	A	15.4	C	-	-	3.7	A	21.4	C
7	SR 16 / Latrobe Road (Amador)	-	-	3.4	A	20.7	C	-	-	4.1	A	29.5	**D**
8	SR 104 (Preston Avenue) / SR 124	-	-	20.7	C	>100	**F**	-	-	65.2	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	6.7	A	24.9	C	-	-	13.7	B	46.3	**E**
10	SR 88 / SR 124	-	-	3.0	A	12.1	B	-	-	4.1	A	13.3	B
11	SR 88 / SR 12 (East)	-	-	17.6	C	53.5	**F**	-	-	23.9	C	72.0	**F**
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.9	C	-	-	-	-	29.9	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	27.6	D	-	-	-	-	34.5	D	-	-
15	SR 16 / Ione Road	-	-	1.1	A	16.6	C	-	-	1.1	A	20.5	C
16	SR 16 / Murieta South Parkway	13.9	B	-	-	-	-	19.2	B	-	-	-	-
17	SR 16 / Murieta Parkway	18.8	B	-	-	-	-	20.7	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.8	A	52.3	**F**	-	-	3.9	A	82.6	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.8	A	38.1	E	-	-	0.8	A	49.6	E
20	SR 16 / Dilliard Road	15.2	B	-	-	-	-	17.9	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	1.0	A	21.6	C	-	-	1.0	A	24.6	C
22	SR 16 / Grant Line Road	85.2	**F**	-	-	-	-	96.1	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	39.2	D	-	-	-	-	46.3	D	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	36.9	D	-	-	-	-	41.9	D	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	6.7	A	52.4	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	2.0	A	40.2	**E**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-25
2009 EPAP Plus Alternative B Phase 1 & 2
Intersection Level of Service – Saturday PM Peak Hour

2009 EPAP PLUS ALTERNATIVE B PHASE 1 & 2		2009 EPAP (No Project)						2009 EPAP Plus Alternative B Phase 1 & 2					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	0.9	A	9.0	A	-	-	0.9	A	9.5	A
2	SR 49 / Main Street	-	-	9.9	A	21.8	C	-	-	14.4	B	40.9	**E**
3	SR 49 / Poplar Street	-	-	1.0	A	11.4	B	-	-	1.0	A	12.5	B
4	SR 49 / Empire Street	-	-	3.7	A	27.8	**D**	-	-	3.9	A	40.5	**E**
5	SR 49 / SR 16	-	-	23.0	C	63.7	**F**	-	-	96.0	**F**	>100	**F**
6	SR 16 / SR 124	-	-	1.3	A	11.7	B	-	-	2.9	A	14.9	B
7	SR 16 / Latrobe Road (Amador)	-	-	1.6	A	15.3	C	-	-	1.7	A	20.8	C
8	SR 104 (Preston Avenue) / SR 124	-	-	14.4	B	54.1	**F**	-	-	70.5	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	3.8	A	17.6	C	-	-	8.3	A	30.9	**D**
10	SR 88 / SR 124	-	-	2.5	A	11.8	B	-	-	4.3	A	13.4	B
11	SR 88 / SR 12 (East)	-	-	9.6	A	22.7	C	-	-	13.0	B	30.5	**D**
12	SR 88 / SR 12 (West)	-	-	62.8	**F**	>100	**F**	-	-	98.5	**F**	>100	**F**
13	SR 88 / Kettleman Lane	21.5	C	-	-	-	-	26.7	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	13.5	B	-	-	-	-	16.1	C	-	-
15	SR 16 / Ione Road	-	-	1.5	A	13.8	B	-	-	1.5	A	18.0	C
16	SR 16 / Murieta South Parkway	8.3	A	-	-	-	-	8.9	A	-	-	-	-
17	SR 16 / Murieta Parkway	15.4	B	-	-	-	-	17.0	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.3	A	24.2	C	-	-	1.5	A	35.0	E
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.5	A	26.5	D	-	-	0.5	A	37.1	E
20	SR 16 / Dilliard Road	8.5	A	-	-	-	-	9.4	A	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.6	A	13.5	B	-	-	0.6	A	15.1	C
22	SR 16 / Grant Line Road	24.7	C	-	-	-	-	21.6	C	-	-	-	-
23	SR 16 / Sunrise Boulevard	17.2	B	-	-	-	-	18.8	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	5.7	A	22.1	C	-	-	6.5	A	28.4	D
25	SR 16 / Bradshaw Road	16.5	B	-	-	-	-	17.6	B	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	16.5	C	96.7	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	5.0	A	76.0	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measures

When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are described. The resulting improved LOS during the weekday PM peak hour and Saturday PM peak hour is presented in **Table 4-26** and **Table 4-27**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix N**.

Table 4-26
2009 EPAP Plus Alternative B Phase 1 & 2
Mitigation Measures - Intersection Level of Service
Weekday PM Peak Hour

2009 EPAP PLUS ALTERNATIVE B PHASE 1 & 2		2009 EPAP Plus Alternative B Phase 1 & 2 (No Mitigation)						2009 EPAP Plus Alternative B Phase 1 & 2 with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	11.0	B	43.6	**E**	6.9	A	-	-	-	-
4	SR 49 / Empire Street	-	-	2.6	A	31.7	**D**	7.6	A	-	-	-	-
5	SR 49 / SR 16	-	-	37.0	**E**	>100	**F**	13.8	B	-	-	-	-
7	SR 16 / Latrobe Road (Amador)	-	-	4.1	A	29.5	**D**	-	-	2.7	A	19.7	C
8	SR 104 (Preston Avenue) / SR 124	-	-	65.2	**F**	>100	**F**	6.8	A	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	13.7	B	46.3	**E**	9.9	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	23.9	C	72.0	**F**	11.2	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	31.2	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	3.9	A	82.6	**F**	-	-	1.5	A	31.2	D
22	SR 16 / Grant Line Road	96.1	**F**	-	-	-	-	77.8	E	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	20.0	C	-	-	-	-
A	SR 49 / Project Driveway	-	-	6.7	A	52.4	**F**	10.7	B	-	-	-	-
B	SR 49 / Service Access	-	-	2.0	A	40.2	**E**	5.1	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-27
2009 EPAP Plus Alternative B Phase 1 & 2
Mitigation Measures - Intersection Level of Service
Saturday PM Peak Hour

2009 EPAP PLUS ALTERNATIVE B PHASE 1 & 2		2009 EPAP Plus Alternative B Phase 1 & 2 (No Mitigation)						2009 EPAP Plus Alternative B Phase 1 & 2 with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	14.4	B	40.9	**E**	6.9	A	-	-	-	-
4	SR 49 / Empire Street	-	-	3.9	A	40.5	**E**	6.6	A	-	-	-	-
5	SR 49 / SR 16	-	-	96.0	**F**	>100	**F**	15.3	B	-	-	-	-
7	SR 16 / Latrobe Road (Amador)	-	-	1.7	A	20.8	C	-	-	1.4	A	17.6	C
8	SR 104 (Preston Avenue) / SR 124	-	-	70.5	**F**	>100	**F**	6.6	A	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	8.3	A	30.9	**D**	7.0	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	13.0	B	30.5	**D**	12.2	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	98.5	**F**	>100	**F**	32.6	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.5	A	35.0	**E**	-	-	1.0	A	23.8	C
22	SR 16 / Grant Line Road	21.6	C	-	-	-	-	24.1	C	-	-	-	-
24	SR 16 / Excelsior Road	-	-	6.5	A	28.4	D	9.7	A	-	-	-	-
A	SR 49 / Project Driveway	-	-	16.5	C	96.7	**F**	11.0	B	-	-	-	-
B	SR 49 / Service Access	-	-	5.0	A	76.0	**F**	6.5	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measure: SR 49 / Main Street. The owners, developers and/or successors-in-interest shall:

- Improvements identified for the 2009 EPAP (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.9 seconds of delay and LOS A with 6.9 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Empire Street. The owners, developers and/or successors-in-interest shall:

- Improvements identified for the 2009 EPAP (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 7.6 seconds of delay and LOS A with 6.6 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / SR 16. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 13.8 seconds of delay and LOS B with 15.3 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Amador County). The owners, developers and/or successors-in-interest shall:

- Add an additional through lane to the eastbound and westbound approaches. Caltrans has no planned improvements for this intersection.

With the implementation of this improvement, the intersection would operate acceptably at LOS C with 19.7 seconds of delay and LOS C with 17.6 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Preston) / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.8 seconds of delay and LOS A with 6.6 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Main Street) / SR 124 (Church Street). The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 9.9 seconds of delay and LOS A with 7.0 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (East). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 11.2 seconds of delay and LOS B with 12.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (West). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. Signalization at this intersection is planned by Caltrans.

With the implementation of these improvements, the intersection would operate acceptably at LOS C with 31.2 seconds of delay and LOS C with 32.6 seconds of delay during the weekday and Saturday PM peak hour, respectively Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Stone House Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of this improvement, the intersection would operate acceptably at LOS D with 31.2 seconds of delay and LOS C with 23.8 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Grant Line Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes, and from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of these improvements, the intersection would operate acceptably at LOS E with 77.8 seconds of delay and LOS C with 24.1 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Excelsior Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2009 EPAP (No Project) Condition. This intersection improvement is planned by Sacramento County.

With the implementation of these improvements, the intersection would operate acceptably at LOS C with 20.0 seconds of delay and LOS A with 9.7 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Project Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants. Split out the southbound approach combined through/left-turn lane into an exclusive left-turn lane and an exclusive through lane. It is also recommended that the northern loop road driveway access be restricted to right-in/right out movements enforced by a raised median that would extend from the primary project driveway to just south of the northern loop road driveway. The southern loop road driveway will continue to allow all vehicular movements. This intersection modification would be included in the mitigation of this project driveway intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS B with 10.7 seconds of delay and LOS B with 11.0 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Service Access Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 5.1 seconds of delay and LOS A with 6.5 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

ALTERNATIVE C (REDUCED CASINO)

As noted earlier, Alternative C consists of a reduced size casino proposed for operation by the year 2006 with no addition of a hotel.

2006 EPAP PLUS ALTERNATIVE C ROADWAY SEGMENT OPERATIONS

Trips to and from the project site were assigned through the roadway segments and added to 2006 EPAP (No Project) roadway segment volumes. **Figure 4-10** depicts ADT volumes for the 2006 EPAP Plus Alternative C Condition.

Level of Service

Levels of service for the 2006 EPAP Plus Alternative C Condition are summarized in **Table 4-28**. All of the roadway segments operates at an unacceptable LOS C or better in the 2006 EPAP Plus Alternative C Condition.

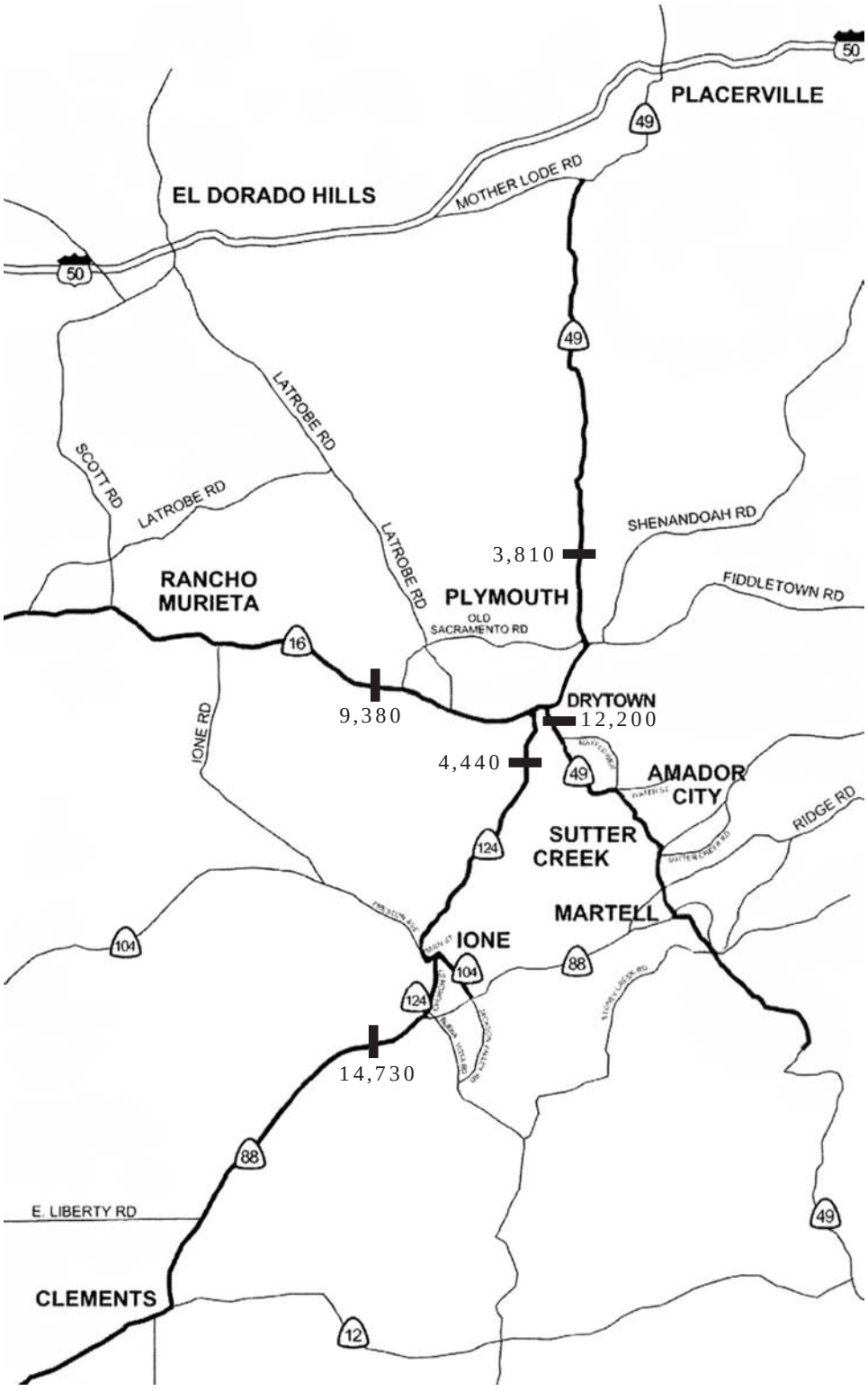
Table 4-28
Roadway Segment Level of Service
2006 EPAP Plus Alternative C

Roadway	Capacity	Class	2006 EPAP (No Project)			2006 EPAP Plus Alternative C		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	2,400	0.15	B	3,430	0.22	C
SR 49 South of SR 16	18,900	Arterial II	8,300	0.44	C	8,530	0.45	C
SR 16 West of Old Sacramento Road	20,200	Arterial I	5,200	0.26	B	7,080	0.35	C
SR 124 South of SR 16	18,900	Arterial II	1,900	0.10	A	3,560	0.19	B
SR 88 West of SR 124	20,200	Arterial I	7,400	0.37	C	8,990	0.45	C

Existing (No Project) ADT Source: *Amador County RTP*, 2004

2006 EPAP PLUS ALTERNATIVE C INTERSECTION OPERATIONS

Project trips were assigned through the study intersections, and added to 2006 EPAP (No Project) weekday and Saturday PM peak hour turning volumes. The resulting weekday and Saturday PM peak hour 2006 EPAP Plus Alternative C volumes are shown in **Figure 4-11**.



Legend

14,730 Weekday Volumes

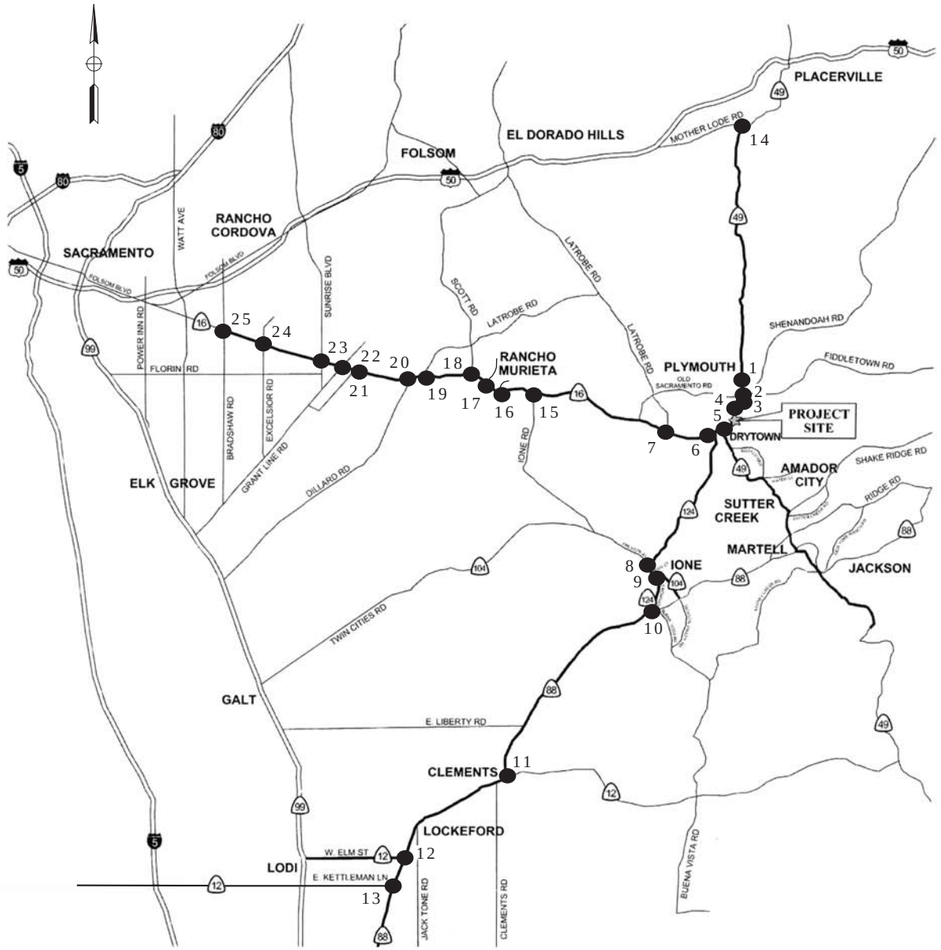
Ione Casino
Traffic Impact Analysis

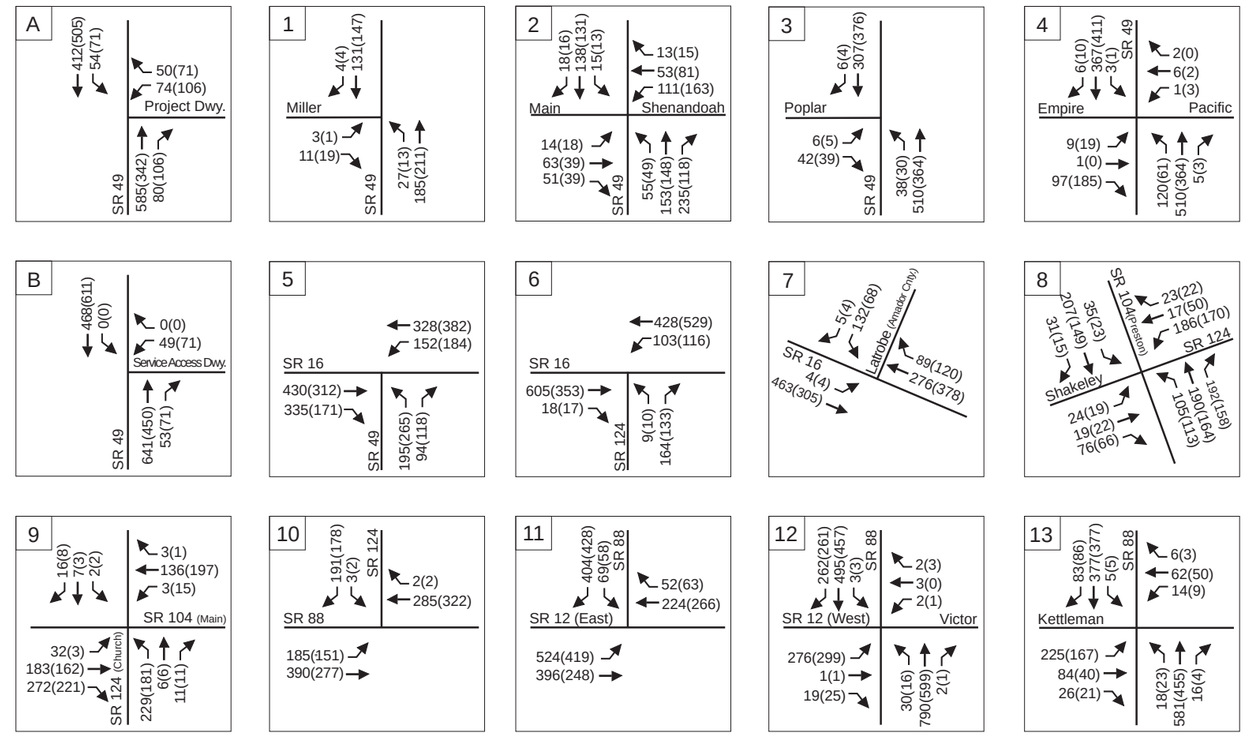
Figure 4-10

2006 Existing Plus Approved Projects Plus Alternative C Daily Traffic Volumes

T·Y·LIN INTERNATIONAL / CCS

y:\340283\figures\fig1.fh10





Legend

● 1 Study Intersection

14(5) Friday(Saturday) PM Peak Hour Volumes

Ione Casino
Traffic Impact Analysis

2006 Existing Plus Approved Projects Plus Alternative C Weekday and Saturday PM Peak Hour Volumes

Figure 4-11

Level of Service

Levels of service for the 2006 EPAP Plus Alternative C Condition during the weekday and Saturday PM peak hour are summarized in **Table 4-29 and Table 4-30,** respectively. Detailed LOS analysis data and worksheets are provided in **Appendix O**. The following intersections are expected to operate at an unacceptable LOS:

- SR 49 / Main Street during the Weekday and Saturday PM peak hour,
- SR 49 / Empire Road during the Weekday and Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 104 (Preston Avenue) / SR 124 during the Weekday and Saturday PM peak hour,
- SR 104 (Main Street) / SR 124 (Church Street) during the Weekday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 16 / Stone House Road during the Weekday PM peak hour,
- SR 16 / Excelsior Road during the Weekday PM peak hour,
- SR 49 / Project Driveway during the Weekday and Saturday PM peak hour, and
- SR 49 / Service Access Driveway during the Weekday and Saturday PM peak hour.

Deficiencies and Mitigation Measures

When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are described. The resulting improved LOS during the weekday PM peak hour and Saturday PM peak hour is presented in **Table 4-31** and **Table 4-32**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix P.**

Table 4-29
2006 EPAP Plus Alternative C
Intersection Level of Service – Weekday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE C		2006 EPAP (No Project)						2006 EPAP Plus Alternative C					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.2	A	9.2	A	-	-	1.2	A	9.5	A
2	SR 49 / Main Street	-	-	7.1	A	21.7	C	-	-	8.0	A	27.6	**D**
3	SR 49 / Poplar Street	-	-	1.0	A	11.1	B	-	-	1.0	A	11.7	B
4	SR 49 / Empire Street	-	-	2.4	A	22.7	C	-	-	2.4	A	25.8	**D**
5	SR 49 / SR 16	-	-	7.8	A	31.3	**D**	-	-	15.8	C	79.4	**F**
6	SR 16 / SR 124	-	-	1.9	A	14.3	B	-	-	3.0	A	17.2	C
7	SR 16 / Latrobe Road (Amador)	-	-	3.0	A	18.1	C	-	-	3.2	A	22.2	C
8	SR 104 (Preston Avenue) / SR 124	-	-	12.6	B	55.0	**F**	-	-	29.1	**D**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	5.7	A	20.6	C	-	-	8.3	A	27.9	**D**
10	SR 88 / SR 124	-	-	2.9	A	11.6	B	-	-	3.7	A	12.3	B
11	SR 88 / SR 12 (East)	-	-	12.9	B	36.8	**E**	-	-	15.8	C	45.0	**E**
12	SR 88 / SR 12 (West)	-	-	80.1	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.5	C	-	-	-	-	28.9	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	21.4	C	-	-	-	-	24.5	C	-	-
15	SR 16 / Ione Road	-	-	1.0	A	15.6	C	-	-	1.0	A	17.9	C
16	SR 16 / Murieta South Parkway	14.7	B	-	-	-	-	13.5	B	-	-	-	-
17	SR 16 / Murieta Parkway	18.7	B	-	-	-	-	19.2	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.2	A	41.0	E	-	-	2.7	A	53.7	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.7	A	33.1	D	-	-	0.7	A	39.5	E
20	SR 16 / Dilliard Road	13.1	B	-	-	-	-	14.2	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.9	A	19.6	C	-	-	0.9	A	21.4	C
22	SR 16 / Grant Line Road	70.5	E	-	-	-	-	79.4	E	-	-	-	-
23	SR 16 / Sunrise Boulevard	32.9	C	-	-	-	-	36.1	D	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	31.1	C	-	-	-	-	34.1	C	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	3.1	A	27.3	**D**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	1.2	A	30.6	**D**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-30
2006 EPAP Plus Alternative C
Intersection Level of Service
Saturday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE C		2006 EPAP (No Project)						2006 EPAP Plus Alternative C					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	0.9	A	9.0	A	-	-	0.9	A	9.3	A
2	SR 49 / Main Street	-	-	8.7	A	18.4	C	-	-	9.9	A	25.3	**D**
3	SR 49 / Poplar Street	-	-	1.0	A	11.0	B	-	-	1.0	A	11.7	B
4	SR 49 / Empire Street	-	-	3.5	A	23.9	C	-	-	3.5	A	30.3	**D**
5	SR 49 / SR 16	-	-	14.1	B	37.6	**E**	-	-	45.0	**E**	>100	**F**
6	SR 16 / SR 124	-	-	1.3	A	11.3	B	-	-	2.5	A	13.0	B
7	SR 16 / Latrobe Road (Amador)	-	-	1.5	A	14.2	B	-	-	1.5	A	17.4	C
8	SR 104 (Preston Avenue) / SR 124	-	-	10.5	B	35.6	**E**	-	-	29.3	**D**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	3.4	A	15.9	C	-	-	5.6	A	21.5	C
10	SR 88 / SR 124	-	-	2.4	A	11.4	B	-	-	3.8	A	12.4	B
11	SR 88 / SR 12 (East)	-	-	8.5	A	19.5	C	-	-	10.2	B	22.8	C
12	SR 88 / SR 12 (West)	-	-	42.4	**E**	>100	**F**	-	-	62.5	**F**	>100	**F**
13	SR 88 / Kettleman Lane	19.2	B	-	-	-	-	29.6	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	12.6	B	-	-	-	-	14.0	B	-	-
15	SR 16 / Ione Road	-	-	1.5	A	13.2	B	-	-	1.4	A	15.8	C
16	SR 16 / Murieta South Parkway	8.1	A	-	-	-	-	8.5	A	-	-	-	-
17	SR 16 / Murieta Parkway	15.7	B	-	-	-	-	15.8	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.1	A	21.7	C	-	-	1.2	A	27.4	D
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.5	A	23.9	C	-	-	0.5	A	30.0	D
20	SR 16 / Dilliard Road	8.1	A	-	-	-	-	8.5	A	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.6	A	13.0	B	-	-	0.5	A	14.0	B
22	SR 16 / Grant Line Road	27.8	C	-	-	-	-	23.8	C	-	-	-	-
23	SR 16 / Sunrise Boulevard	16.0	B	-	-	-	-	17.2	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	5.2	A	19.7	C	-	-	5.4	A	22.9	C
25	SR 16 / Bradshaw Road	15.8	B	-	-	-	-	16.9	B	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	5.2	A	33.0	**D**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	2.1	A	36.0	**E**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-31
2006 EPAP Plus Alternative C
Mitigation Measures - Intersection Level of Service – Weekday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE C		2006 EPAP Plus Alternative C (No Mitigation)						2006 EPAP Plus Alternative C with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	8.0	A	27.6	**D**	6.1	A	-	-	-	-
4	SR 49 / Empire Street	-	-	2.4	A	25.8	**D**	6.8	A	-	-	-	-
5	SR 49 / SR 16	-	-	15.8	C	79.4	**F**	11.7	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	29.1	**D**	>100	**F**	5.9	A	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	8.3	A	27.9	**D**	8.6	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	15.8	C	45.0	**E**	10.3	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	30.3	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.7	A	53.7	**F**	-	-	1.3	A	25.5	D
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	17.2	B	-	-	-	-
A	SR 49 / Project Driveway	-	-	3.1	A	27.3	**D**	8.1	A	-	-	-	-
B	SR 49 / Service Access	-	-	1.2	A	30.6	**D**	2.4	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-32
2006 EPAP Plus Alternative C
Mitigation Measures - Intersection Level of Service – Saturday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE C		2006 EPAP Plus Alternative C (No Mitigation)						2006 EPAP Plus Alternative C with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	9.9	A	25.3	**D**	6.2	A	-	-	-	-
4	SR 49 / Empire Street	-	-	3.5	A	30.3	**D**	5.9	A				
5	SR 49 / SR 16	-	-	45.0	**E**	>100	**F**	12.5	B				
8	SR 104 (Preston Avenue) / SR 124	-	-	1.5	A	17.4	C	5.6	B	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	29.3	**D**	>100	**F**	6.3	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	10.2	B	22.8	C	11.1	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	62.5	**F**	>100	**F**	31.5	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.2	A	27.4	D	-	-	0.9	A	20.2	C
24	SR 16 / Excelsior Road	-	-	5.4	A	22.9	C	9.2	A	-	-	-	-
A	SR 49 / Project Driveway	-	-	5.2	A	33.0	**D**	8.0	A	-	-	-	-
B	SR 49 / Service Access	-	-	2.1	A	36.0	**E**	3.6	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measure: SR 49 / Main Street. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.1 seconds of delay and LOS A with 6.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Empire Street. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.8 seconds of delay and LOS A with 5.9 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / SR 16. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 11.7 seconds of delay and LOS B with 12.5 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure 2006: SR 104 (Preston) / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 5.9 seconds of delay and LOS A with 5.6 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Main Street) / SR 124 (Church Street). The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 8.6 seconds of delay and LOS A with 6.3 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (East). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 10.3 seconds of delay and LOS B with 11.1 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (West). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. Signalization at this intersection is planned by Caltrans.

With the implementation of these improvements, the intersection would operate acceptably at LOS C with 30.3 seconds of delay and LOS C with 31.5 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Stone House Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Add an additional through lane to the eastbound and westbound approaches. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of this improvement, the intersection would operate acceptably at LOS D with 25.5 seconds of delay and LOS C with 20.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Excelsior Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. This intersection improvement is planned by Sacramento County.

With the implementation of these improvements, the intersection would operate acceptably at LOS B with 17.2 seconds of delay and LOS A with 9.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Project Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants. Split out the southbound approach combined through/left-turn lane into an exclusive left-turn lane and an exclusive through lane. It is also recommended that the northern loop road driveway access be restricted to right-in/right out movements enforced by a raised median that would extend from the primary project driveway to just south of the northern loop road driveway. The southern loop road driveway will continue to allow all vehicular movements. This intersection modification would be included in the mitigation of this project driveway intersection.

With implementation of these improvements, the intersection would operate acceptably at LOS A with 8.1 seconds of delay and LOS A with 8.0 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Service Access Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants.

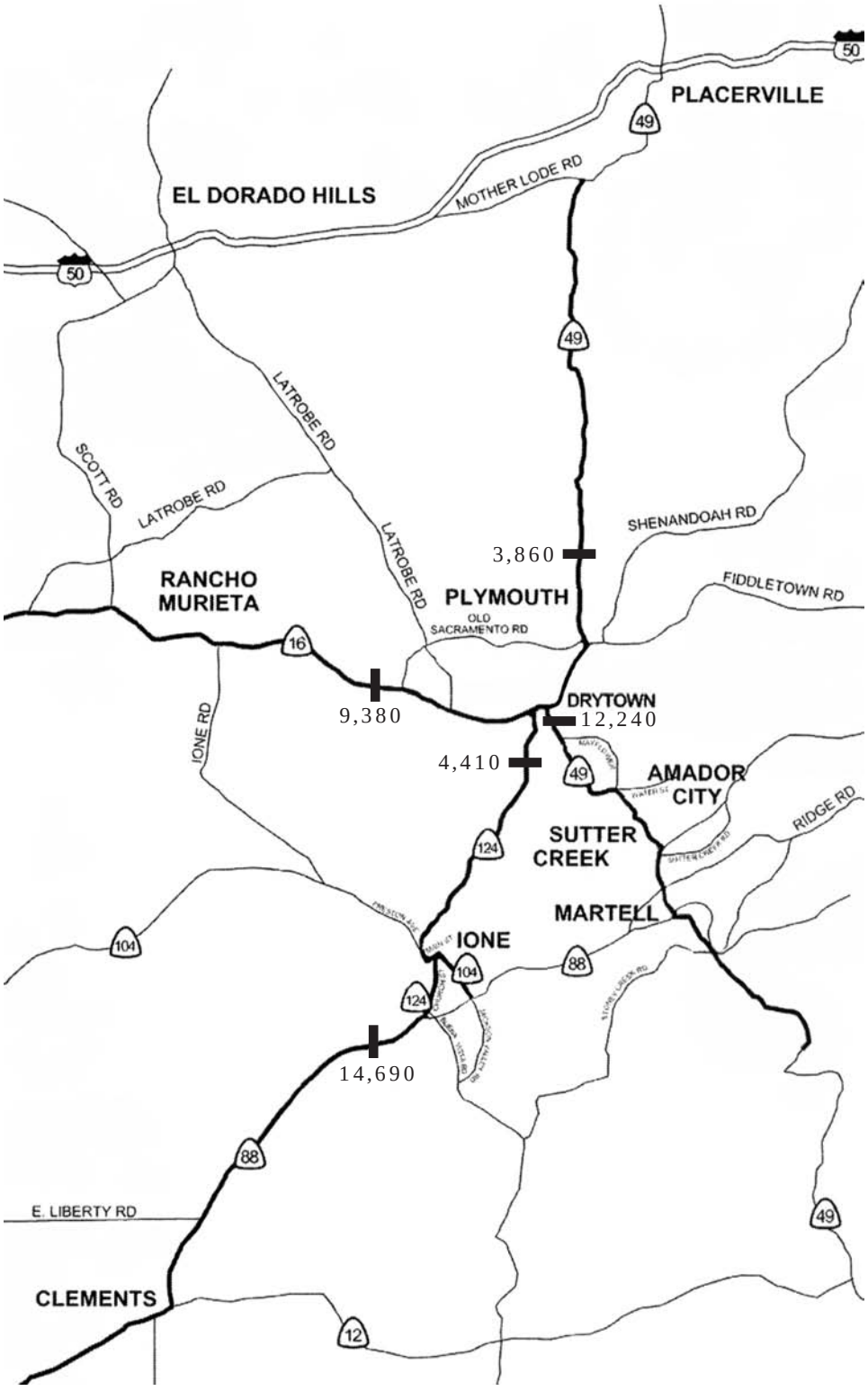
With the implementation of these improvements, the intersection would operate acceptably at LOS A with 2.4 seconds of delay and LOS A with 3.6 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

ALTERNATIVE D (RETAIL SHOPPING CENTER)

As noted earlier, Alternative D consists of a retail shopping center proposed for operation by the year 2006.

2006 EPAP PLUS ALTERNATIVE D ROADWAY SEGMENT OPERATIONS

Trips to and from the project site were assigned through the roadway segments and added to 2006 EPAP (No Project) roadway segment volumes. **Figure 4-12** depicts ADT volumes for the 2006 EPAP Plus Alternative D Condition.



Legend

14,690 Weekday Volumes

Ione Casino
Traffic Impact Analysis

2006 Existing Plus Approved Projects Plus Alternative D Daily Traffic Volumes

Figure 4-12

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Level of Service

Levels of service for the 2006 EPAP Plus Alternative D Condition are summarized in **Table 4-33**. All of the roadway segments operate at LOS C or better in the 2006 EPAP Plus Alternative D Condition.

Table 4-33
Roadway Segment Level of Service
2006 EPAP Plus Alternative D

Roadway	Capacity	Class	2006 EPAP (No Project)			2006 EPAP Plus Alternative D		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	2,400	0.15	B	3,480	0.22	C
SR 49 South of SR 16	18,900	Arterial II	8,300	0.44	C	8,570	0.45	C
SR 16 West of Old Sacramento Road	20,200	Arterial I	5,200	0.26	B	7,080	0.35	C
SR 124 South of SR 16	18,900	Arterial II	1,900	0.10	A	3,530	0.19	B
SR 88 West of SR 124	20,200	Arterial I	7,400	0.37	C	8,950	0.44	C

Existing (No Project) ADT Source: *Amador County RTP*, 2004

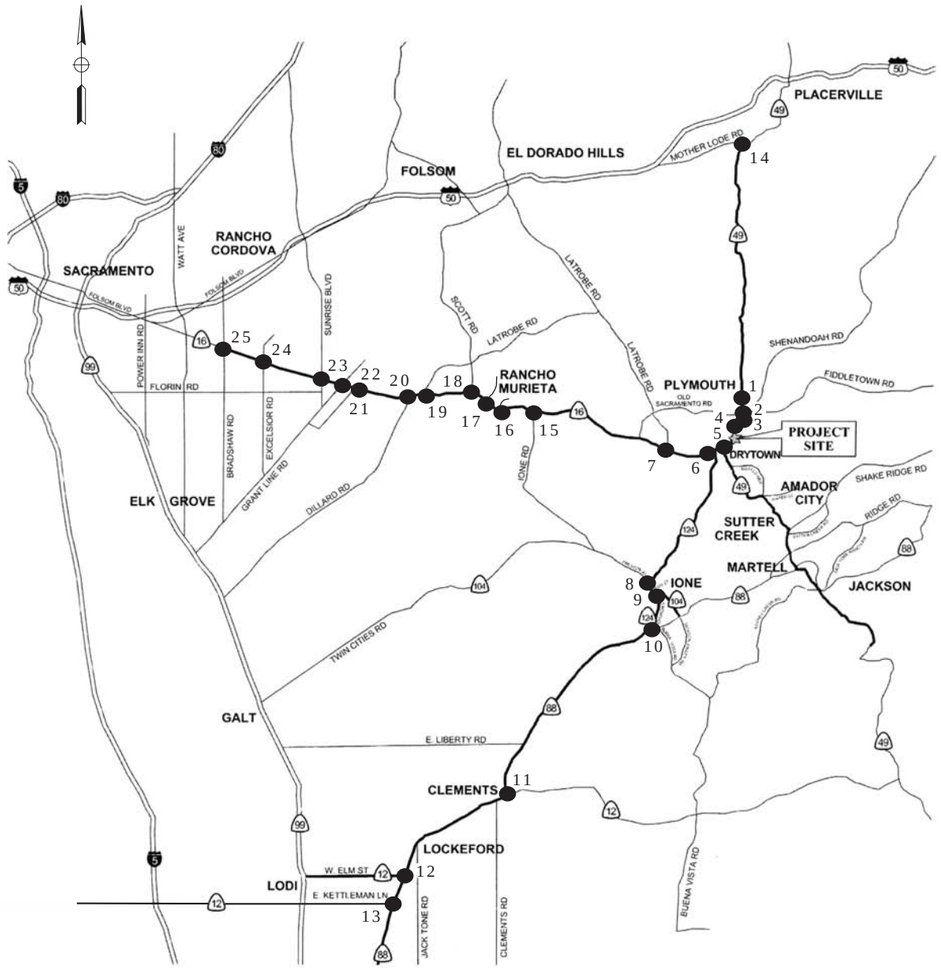
2006 EPAP PLUS ALTERNATIVE D INTERSECTION OPERATIONS

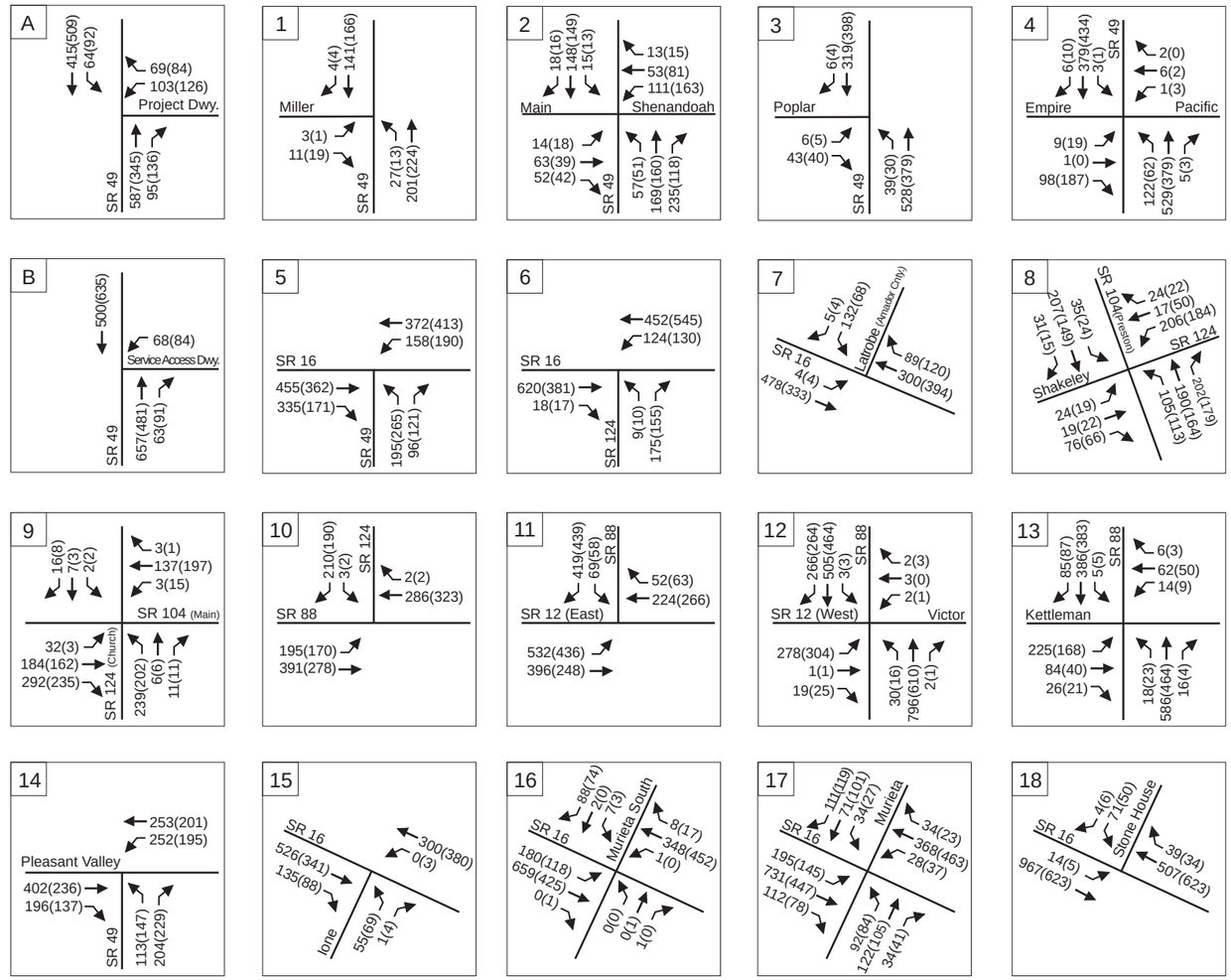
Project trips were assigned through the study intersections, and added to 2006 EPAP (No Project) weekday and Saturday PM peak hour turning volumes. The resulting weekday and Saturday PM peak hour 2006 EPAP Plus Alternative D volumes are shown in **Figure 4-13**.

Level of Service

Levels of service for the 2006 EPAP Plus Alternative D Condition during the weekday and Saturday PM peak hour are summarized in **Table 4-34 and Table 4-35,** respectively. Detailed LOS analysis data and worksheets are provided in **Appendix Q**. The following intersections are expected to operate at an unacceptable LOS:

- SR 49 / Main Street during the Weekday and Saturday PM peak hour,
- SR 49 / Empire Road during the Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 104 (Preston Avenue) / SR 124 during the Weekday and Saturday PM peak hour,
- SR 104 (Main Street) / SR 124 (Church Street) during the Weekday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 16 / Stone House Road during the Weekday PM peak hour,
- SR 16 / Grant Line Road during the Weekday PM peak hour,
- SR 16 / Excelsior Road during the Weekday PM peak hour,
- SR 49 / Project Driveway during the Weekday and Saturday PM peak hour, and
- SR 49 / Service Access Driveway during the Weekday and Saturday PM peak hour.





Legend
● 1 Study Intersection
14(5) Friday(Saturday) PMPeak Hour Volumes

Ione Casino
Traffic Impact Analysis

2006 Existing Plus Approved Plus Project Alternative D Weekday & Saturday PM Peak Hour Volumes

Figure 4-13

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Table 4-34
2006 EPAP Plus Alternative D
Intersection Level of Service – Weekday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE D		2006 EPAP (No Project)						2006 EPAP Plus Alternative D					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.2	A	9.2	A	-	-	1.2	A	9.5	A
2	SR 49 / Main Street	-	-	7.1	A	21.7	C	-	-	7.5	A	26.4	**D**
3	SR 49 / Poplar Street	-	-	1.0	A	11.1	B	-	-	1.0	A	11.4	B
4	SR 49 / Empire Street	-	-	2.4	A	22.7	C	-	-	2.3	A	24.5	C
5	SR 49 / SR 16	-	-	7.8	A	31.3	**D**	-	-	16.5	C	86.3	**F**
6	SR 16 / SR 124	-	-	1.9	A	14.3	B	-	-	3.1	A	17.3	C
7	SR 16 / Latrobe Road (Amador)	-	-	3.0	A	18.1	C	-	-	3.0	A	21.9	C
8	SR 104 (Preston Avenue) / SR 124	-	-	12.6	B	55.0	**F**	-	-	26.9	**D**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	5.7	A	20.6	C	-	-	7.6	A	25.5	**D**
10	SR 88 / SR 124	-	-	2.9	A	11.6	B	-	-	3.9	A	12.0	B
11	SR 88 / SR 12 (East)	-	-	12.9	B	36.8	**E**	-	-	16.5	C	46.4	**E**
12	SR 88 / SR 12 (West)	-	-	80.1	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.5	C	-	-	-	-	28.3	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	21.4	C	-	-	-	-	25.5	D	-	-
15	SR 16 / Ione Road	-	-	1.0	A	15.6	C	-	-	1.0	A	18.8	C
16	SR 16 / Murieta South Parkway	14.7	B	-	-	-	-	14.3	B	-	-	-	-
17	SR 16 / Murieta Parkway	18.7	B	-	-	-	-	19.3	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.2	A	41.0	E	-	-	2.8	A	58.6	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.7	A	33.1	D	-	-	0.7	A	41.6	E
20	SR 16 / Dilliard Road	13.1	B	-	-	-	-	14.4	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.9	A	19.6	C	-	-	0.9	A	21.9	C
22	SR 16 / Grant Line Road	70.5	E	-	-	-	-	81.0	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	32.9	C	-	-	-	-	37.0	D	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	31.1	C	-	-	-	-	35.0	C	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	5.2	A	36.8	**E**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	2.0	A	38.5	**E**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-35
2006 EPAP Plus Alternative D
Intersection Level of Service
Saturday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE D		2006 EPAP (No Project)						2006 EPAP Plus Alternative D					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	0.9	A	9.0	A	-	-	0.9	A	9.3	A
2	SR 49 / Main Street	-	-	8.7	A	18.4	C	-	-	10.0	A	26.7	**D**
3	SR 49 / Poplar Street	-	-	1.0	A	11.0	B	-	-	1.0	A	11.6	B
4	SR 49 / Empire Street	-	-	3.5	A	23.9	C	-	-	3.2	A	26.9	**D**
5	SR 49 / SR 16	-	-	14.1	B	37.6	**E**	-	-	49.3	**E**	>100	**F**
6	SR 16 / SR 124	-	-	1.3	A	11.3	B	-	-	2.6	A	13.0	B
7	SR 16 / Latrobe Road (Amador)	-	-	1.5	A	14.2	B	-	-	1.5	A	17.2	C
8	SR 104 (Preston Avenue) / SR 124	-	-	10.5	B	35.6	**E**	-	-	18.3	C	61.7	**F**
9	SR 104 (Main Street) / SR 124	-	-	3.4	A	15.9	C	-	-	5.5	A	19.8	C
10	SR 88 / SR 124	-	-	2.4	A	11.4	B	-	-	3.9	A	12.1	B
11	SR 88 / SR 12 (East)	-	-	8.5	A	19.5	C	-	-	10.7	B	24.0	C
12	SR 88 / SR 12 (West)	-	-	42.4	**E**	>100	**F**	-	-	68.6	**F**	>100	**F**
13	SR 88 / Kettleman Lane	19.2	B	-	-	-	-	31.4	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	12.6	B	-	-	-	-	14.3	B	-	-
15	SR 16 / Ione Road	-	-	1.5	A	13.2	B	-	-	1.4	A	16.5	C
16	SR 16 / Murieta South Parkway	8.1	A	-	-	-	-	8.4	A	-	-	-	-
17	SR 16 / Murieta Parkway	15.7	B	-	-	-	-	16.3	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.1	A	21.7	C	-	-	1.3	A	29.3	D
19	SR 16 / Latrobe Road (Sacramento)	-	-	0.5	A	23.9	C	-	-	0.5	A	31.9	D
20	SR 16 / Dilliard Road	8.1	A	-	-	-	-	8.7	A	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.6	A	13.0	B	-	-	0.5	A	14.3	B
22	SR 16 / Grant Line Road	27.8	C	-	-	-	-	23.4	C	-	-	-	-
23	SR 16 / Sunrise Boulevard	16.0	B	-	-	-	-	17.6	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	5.2	A	19.7	C	-	-	5.6	A	24.0	C
25	SR 16 / Bradshaw Road	15.8	B	-	-	-	-	16.8	B	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	8.8	A	51.6	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	3.0	A	47.0	**E**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measures

When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are described. The resulting improved LOS during the weekday PM peak hour and Saturday PM peak hour is presented in **Table 4-36** and **Table 4-37**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix R**.

Table 4-36
2006 EPAP Plus Alternative D
Mitigation Measures - Intersection Level of Service
Weekday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE D		2006 EPAP Plus Alternative D (No Mitigation)						2006 EPAP Plus Alternative D with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	7.5	A	26.4	**D**	6.3	A	-	-	-	-
4	SR 49 / Empire Street	-	-	2.3	A	24.5	C	6.8	A	-	-	-	-
5	SR 49 / SR 16	-	-	16.5	C	86.3	**F**	12.0	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	26.9	**D**	>100	**F**	6.3	A	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	7.6	A	25.5	**D**	8.3	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	16.5	C	46.4	**E**	10.5	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	F	>100	**F**	31.3	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	2.8	A	58.6	**F**	-	-	1.3	A	26.8	D
22	SR 16 / Grant Line Road	81.0	**F**	-	-	-	-	61.3	E	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	17.3	B	-	-	-	-
A	SR 49 / Project Driveway	-	-	5.2	A	36.8	**E**	5.7	A	-	-	-	-
B	SR 49 / Service Access	-	-	2.0	A	38.5	**E**	5.5	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 4-37
2006 EPAP Plus Alternative D
Mitigation Measures - Intersection Level of Service
Saturday PM Peak Hour

2006 EPAP PLUS ALTERNATIVE D		2006 EPAP Plus Alternative D (No Mitigation)						2006 EPAP Plus Alternative D with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	10.0	A	26.7	**D**	6.2	A	-	-	-	-
4	SR 49 / Empire Street	-	-	3.2	A	26.9	**D**	6.2	A	-	-	-	-
5	SR 49 / SR 16	-	-	49.3	**E**	>100	**F**	13.4	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	18.3	C	61.7	**F**	5.9	A	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	5.5	A	19.8	C	6.2	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	10.7	B	24.0	C	11.3	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	68.6	**F**	>100	**F**	31.1	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	1.3	A	29.3	**D**	-	-	0.9	A	21.1	C
22	SR 16 / Grant Line Road	23.4	C	-	-	-	-	30.2	C	-	-	-	-
24	SR 16 / Excelsior Road	-	-	5.6	A	24.0	C	9.3	A	-	-	-	-
A	SR 49 / Project Driveway	-	-	8.8	A	51.6	**F**	6.1	A	-	-	-	-
B	SR 49 / Service Access	-	-	3.0	A	47.0	**E**	5.7	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measure: SR 49 / Main Street. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.3 seconds of delay and LOS A with 6.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Empire Street. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.8 seconds of delay and LOS A with 6.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / SR 16. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 12.0 seconds of delay and LOS B with 13.4 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Preston) / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 6.3 seconds of delay and LOS A with 5.9 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Main Street) / SR 124 (Church Street). The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Caltrans has no planned improvements for this intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 8.3 seconds of delay and LOS A with 6.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (East). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. This intersection improvement is planned by Caltrans.

With the implementation of this improvement, the intersection would operate acceptably at LOS B with 10.5 seconds of delay and LOS B with 11.3 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (West). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. Signalization at this intersection is planned by Caltrans.

With the implementation of these improvements, the intersection would operate acceptably at LOS C with 31.3 seconds of delay and LOS C with 31.1 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Stone House Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Add an additional through lane to the eastbound and westbound approaches. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of this improvement, the intersection would operate acceptably at LOS D with 26.8 seconds of delay and LOS C with 21.1 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Grant Line Road. The owners, developers and/or successors-in-interest shall:

- Widen the intersection to accommodate at the northbound approach a combined through/left-turn lane and an exclusive right-turn lane, and at the southbound approach an exclusive left-turn lane and a combined through/right-turn lane. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes, and from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

With the implementation of these improvements, the intersection would operate acceptably at LOS E with 61.3 seconds of delay and LOS C with 30.2 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Excelsior Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the 2006 EPAP (No Project) Condition. This intersection improvement is planned by Sacramento County.

With the implementation of these improvements, the intersection would operate acceptably at LOS B with 17.3 seconds of delay and LOS A with 9.3 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Project Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants. Split out the southbound approach combined through/left-turn lane into an exclusive left-turn lane and an exclusive through lane. It is also recommended that the northern loop road driveway access be restricted to right-in/right out movements enforced by a raised median that would extend from the primary project driveway to just south of the northern loop road driveway. The southern loop road driveway will continue to allow all vehicular movements. This intersection modification would be included in the mitigation of this project driveway intersection.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 5.7 seconds of delay and LOS A with 6.1 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Service Access Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. The intersection meets signal warrants.

With the implementation of these improvements, the intersection would operate acceptably at LOS A with 5.5 seconds of delay and LOS A with 5.7 seconds of delay during the weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

SIGHT DISTANCE, CIRCULATION AND PARKING

Each of the development alternatives are proposed to use the same two driveways as access, a main driveway and a service driveway. Based on field observations at the main driveway, there is adequate sight distance at the proposed main driveway. Some grading would need to be pursued to the west of the service driveway to insure adequate sight distance at this driveway. Traffic circulation concerns were considered prior to the completion of the development site

plans. Based on suggested comments by T.Y. Lin staff and others, the resulting site plan adequately addresses on-site circulation needs and attempts to minimize conflicts between the different users through the assignment of parking.

SECTION 5
CUMULATIVE CONDITION

This section describes the roads and traffic operations in the study area for Cumulative (2025) Condition without and with the proposed project.

ROADWAY IMPROVEMENTS

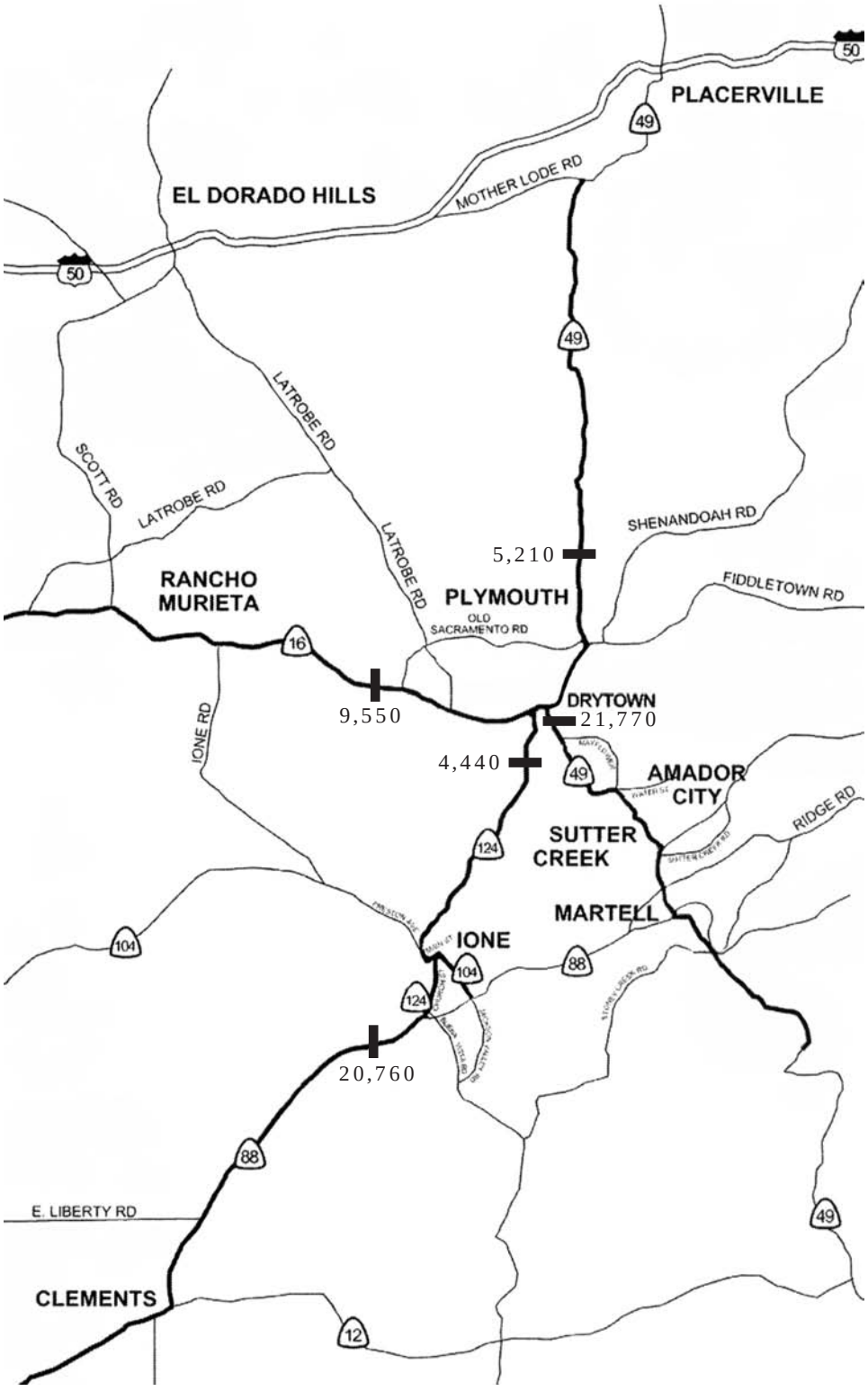
The analysis of Cumulative (No Project) Condition assumed the same study intersections, intersection geometrics, and intersection traffic control used in the analysis of Existing (No Project) Condition. The roadway network was changed from the Existing (No Project) Condition. These improvements include the Amador 49 Bypass being added to the 2025 roadway network.

CUMULATIVE ROADWAY SEGMENT OPERATIONS

Roadway segment operations were analyzed at the study roadways for Cumulative (2025) Condition. The ADT roadway segment volumes for Cumulative Condition were calculated by applying growth rates to existing ADT roadway volumes. The growth rates were developed using data from the RTP. **Figure 5-1** provides the daily roadway traffic volumes for the Cumulative Condition.

Level of Service

The results of the Cumulative Condition capacity analyses of study roadway segments, without the project, are shown in **Table 5-1.** All of the roadway segments are expected to operate at LOS C or better, except for the roadway segments of SR 49 south of SR 16 and SR 88 west of SR 124, which are allowed to operate at LOS E or better, in the Cumulative Condition.



Legend

20,760 Weekday Volumes

Ione Casino
Traffic Impact Analysis

Figure 5-1

Cumulative (No Project) Daily Traffic Volumes

TY·LIN INTERNATIONAL / CCS

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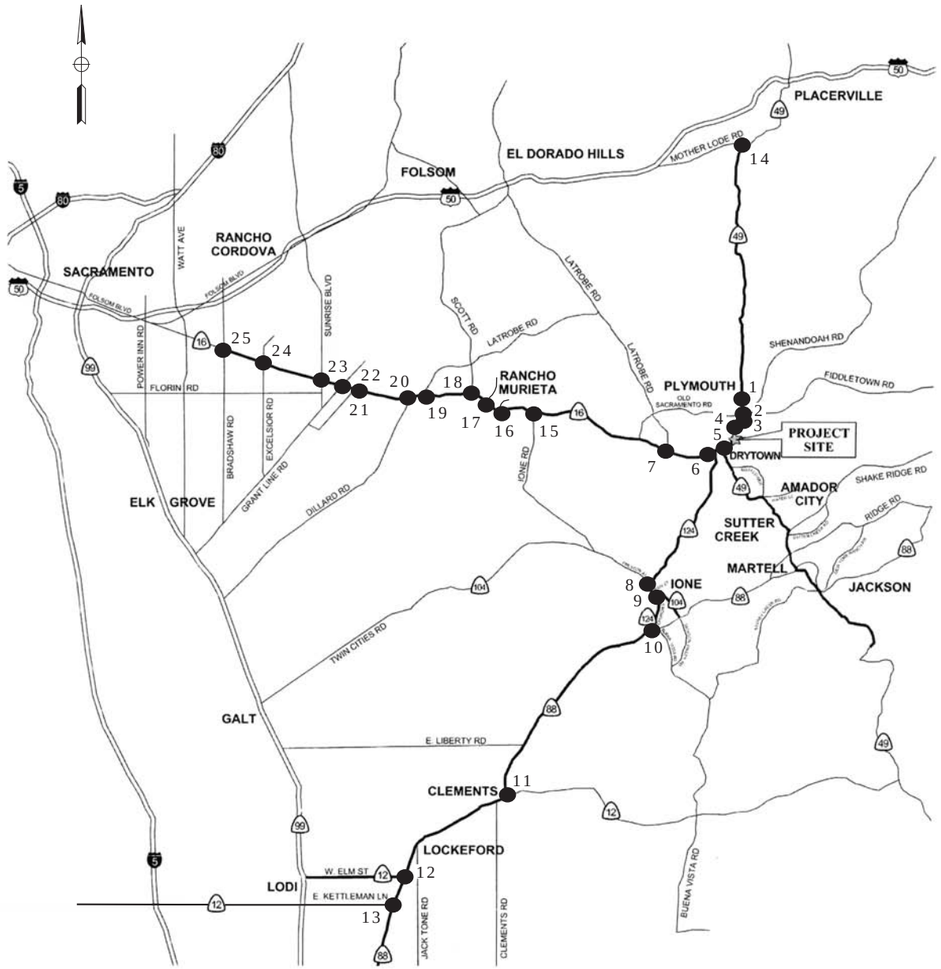
Table 5-1
Roadway Segment Level of Service
Cumulative (No Project)

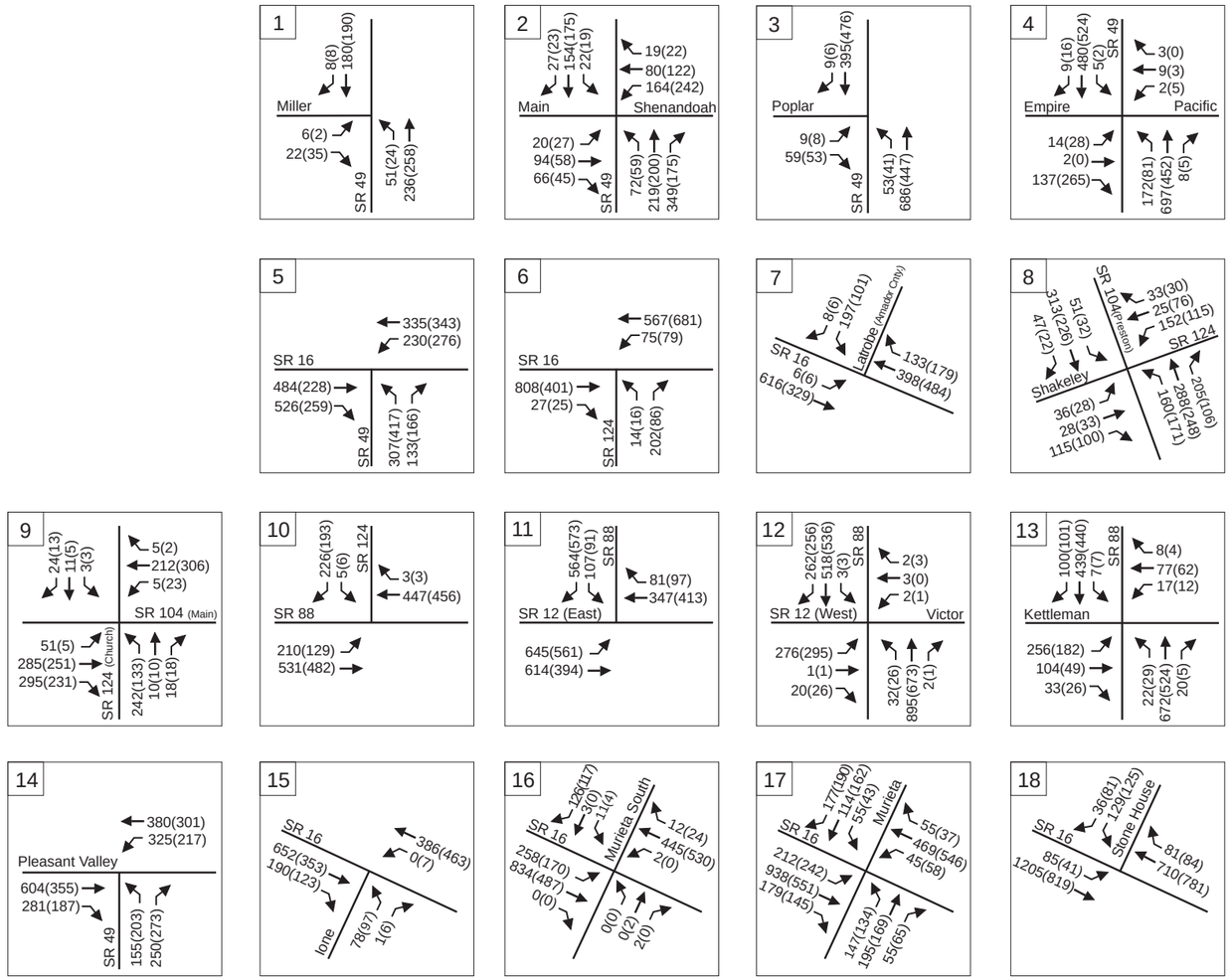
Roadway	Capacity	Class	Cumulative (No Project)		
			ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	4,500	0.29	C
SR 49 South of SR 16	18,900	Arterial II	12,300	0.65	D
SR 16 West of Old Sacramento Road	20,200	Arterial I	7,900	0.39	C
SR 124 South of SR 16	18,900	Arterial II	3,000	0.16	B
SR 88 West of SR 124	20,200	Arterial I	11,700	0.58	D

Source: *Amador County RTP*, 2004

CUMULATIVE INTERSECTION OPERATIONS

Forecasts of future year intersection turning movement traffic volumes were prepared using methods described in the Transportation Research Board's (TRB's) National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design* (Transportation Research Board 1982). Using the TRB methods, existing peak hour turning movement traffic volumes were increased using growth factors from the Sacramento Metropolitan (SACMET) and San Joaquin Council of Governments (SJCOG) traffic models and the Regional Transportation Plan (RTP). The NCHRP 255 method applies the traffic model growth factors to the intersection turning movement volumes, using an iterative process to balance and adjust the resulting forecasts to match the growth factors. Weekday PM peak hour and Saturday PM peak hour volumes are depicted in **Figure 5-2.**





Legend

1 Study Intersection

85(41) Friday(Saturday) PMPeak Hour Volumes

Ione Casino Traffic Impact Analysis	Figure 5-2
Cumulative (No Project) Weekday & Saturday PM Peak Hour Volumes	

T·Y LIN INTERNATIONAL / CCS

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Level of Service

Cumulative Condition LOS were calculated for the weekday and Saturday PM peak hour at the study intersections and are listed in **Table 5-2**. Detailed LOS analysis data and worksheets are provided in **Appendix S**. The following intersections are expected to operate at an unacceptable LOS:

- SR 49 / Main Street during the Weekday and Saturday PM peak hour,
- SR 49 / Empire Street during the Weekday and Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 16 / SR 124 during the Weekday PM peak hour,
- SR 16 / Latrobe Road (Amador County) during the Weekday and Saturday PM peak hour,
- SR 104 (Preston Avenue) / SR 124 during the Weekday and Saturday PM peak hour,
- SR 104 (Main Street) / SR 124 (Church Street) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 49 / Pleasant Valley Road during the Weekday PM peak hour,
- SR 16 / Stone House Road during the Weekday and Saturday PM peak hour,
- SR 16 / Latrobe Road (Sacramento County) during the Weekday and Saturday PM peak hour,
- SR 16 / Dillard Road during the Weekday PM peak hour,
- SR 16 / Sloughhouse Road during the Weekday PM peak hour,
- SR 16 / Grant Line Road during the Weekday and Saturday PM peak hour,
- SR 16 / Sunrise Boulevard during the Weekday PM peak hour,
- SR 16 / Excelsior Road during the Weekday and Saturday PM peak hour, and
- SR 16 / Bradshaw Road during the Weekday PM peak hour.

Table 5-2
Cumulative (No Project) Intersection Level of Service

CUMULATIVE (NO PROJECT)		Weekday PM Peak Hour						Saturday PM Peak Hour					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.4	A	10.2	B	-	-	1.1	A	9.7	A
2	SR 49 / Main Street	-	-	54.7	**F**	>100	**F**	-	-	59.5	**F**	>100	**F**
3	SR 49 / Poplar Street	-	-	1.2	A	14.1	B	-	-	1.2	A	13.6	B
4	SR 49 / Empire Street	-	-	3.6	A	56.0	**F**	-	-	5.8	A	72.1	**F**
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
6	SR 16 / SR 124	-	-	4.1	A	28.5	**D**	-	-	1.7	A	14.9	B
7	SR 16 / Latrobe Road (Amador)	-	-	13.6	B	89.8	**F**	-	-	2.5	A	25.1	**D**
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	-	-	80.4	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	26.7	**D**	>100	**F**	-	-	5.9	A	33.1	**D**
10	SR 88 / SR 124	-	-	4.1	A	16.6	C	-	-	3.3	A	15.4	C
11	SR 88 / SR 12 (East)	-	-	>100	**F**	>100	**F**	-	-	56.0	**F**	>100	**F**
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	-	-	94.4	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.8	C	-	-	-	-	19.7	B	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	>100	**F**	-	-	-	-	32.1	D	-	-
15	SR 16 / Ione Road	-	-	1.7	A	28.8	D	-	-	2.1	A	20.9	C
16	SR 16 / Murieta South Parkway	9.4	A	-	-	-	-	8.4	A	-	-	-	-
17	SR 16 / Murieta Parkway	24.4	C	-	-	-	-	21.9	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	50.0	E	>100	**F**	-	-	19.1	C	>100	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	2.3	A	>100	**F**	-	-	1.1	A	85.6	**F**
20	SR 16 / Dilliard Road	81.3	**F**	-	-	-	-	18.7	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	2.3	A	56.3	**F**	-	-	0.8	A	19.1	C
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	>100	**F**	-	-	-	-	55.4	E	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	>100	**F**	-	-	-	-	47.8	D	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Recommended Improvements

As noted above, 18 intersections are projected to operate at an unacceptable LOS during the Weekday and Saturday PM peak hour. These impacted intersections can be restored to acceptable operating condition through either a targeted widening or upgrade to the traffic controls. The following is a description of recommended improvements for the Cumulative Condition. The resulting improved LOS for the weekday PM peak hour and Saturday PM peak hour is presented in **Table 5-3** and **Table 5-4**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix T.**

Table 5-3
Cumulative (No Project)
Recommended Improvements - Intersection Level of Service
Weekday PM Peak Hour

CUMULATIVE (NO PROJECT)		Cumulative (No Project) - No Improvements						Cumulative (No Project) - with Improvements					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	54.7	**F**	>100	**F**	23.4	C	-	-	-	-
4	SR 49 / Empire Street	-	-	3.6	A	56.0	**F**	13.0	B	-	-	-	-
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	29.1	C	-	-	-	-
6	SR 124 / SR 16	-	-	4.1	A	28.5	**D**	11.7	B	-	-	-	-
7	SR 16 / Latrobe (Amador)	-	-	13.6	B	89.8	**F**	10.9	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	21.7	C	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	26.7	**D**	>100	**F**	11.4	B	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	>100	**F**	>100	**F**	16.7	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	21.6	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	>100	**F**	-	-	27.8	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	50.0	E	>100	**F**	13.7	B	-	-	-	-
19	SR 16 / Latrobe Road (Sacramento)	-	-	2.3	A	>100	**F**	-	-	2.3	A	>100	**F**
20	SR 16 / Dillard Road	81.3	**F**	-	-	-	-	48.1	D	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	2.3	A	56.3	**F**	-	-	2.3	A	56.3	**F**
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	34.2	C	-	-	-	-
23	SR 16 / Sunrise Boulevard	>100	**F**	-	-	-	-	36.1	D	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	33.3	C	-	-	-	-
25	SR 49 / Bradshaw Road	>100	**F**	-	-	-	-	52.6	D	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 5-4
Cumulative (No Project)
Recommended Improvements - Intersection Level of Service
Saturday PM Peak Hour

CUMULATIVE (NO PROJECT)		Cumulative (No Project) - No Improvements						Cumulative (No Project) - with Improvements					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	59.5	**F**	>100	**F**	18.2	B	-	-	-	-
4	SR 49 / Empire Street	-	-	5.8	A	72.1	**F**	11.7	B	-	-	-	-
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	23.3	C	-	-	-	-
6	SR 124 / SR 16	-	-	1.7	A	14.9	B	6.8	A	-	-	-	-
7	SR 16 / Latrobe (Amador)	-	-	2.5	A	25.1	**D**	7.8	A	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	80.4	**F**	>100	**F**	18.9	B	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	5.9	A	33.1	**D**	5.0	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	56.0	**F**	>100	**F**	18.7	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	94.4	**F**	>100	**F**	18.9	B	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	32.1	D	-	-	14.4	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	19.1	C	>100	**F**	9.5	A	-	-	-	-
19	SR 16 / Latrobe Road (Sacramento)	-	-	1.1	A	85.6	**F**	-	-	1.1	A	85.6	**F**
20	SR 16 / Dillard Road	18.7	B	-	-	-	-	13.3	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.8	A	19.1	C	-	-	0.8	A	19.1	C
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	14.5	B	-	-	-	-
23	SR 16 / Sunrise Boulevard	55.4	E	-	-	-	-	16.6	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	12.4	B	-	-	-	-
25	SR 49 / Bradshaw Road	47.8	D	-	-	-	-	22.5	C	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

- **SR 49 / Main Street**. Signalize the intersection. All approaches would need to be widened to include an exclusive left–turn lane and a combined through/right–turn lane. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization. With the implementation of these improvements, the intersection would operate acceptably at LOS C with 23.4 seconds of delay and LOS B with 18.2 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 49 / Empire Street. Signalize the intersection. The northbound and southbound approaches would need to be widened to include an exclusive left–turn lane and a combined through/right–turn lane. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization. With the implementation of these improvements, the intersection would operate acceptably at LOS B with 13.0 seconds of delay and LOS B with 11.7 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 49 / SR 16. Signalize the intersection. This intersection improvement is planned by Caltrans. With the implementation of this improvement, the intersection would operate acceptably at LOS C with 29.1 seconds of delay and LOS C with 23.3 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 16 / SR 124. Signalize the intersection. With the implementation of this improvement, the intersection would operate acceptably at LOS B with 11.7 seconds of delay and LOS A with 6.8 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 16 / Latrobe Road (Amador County). Signalize the intersection. Caltrans has no planned improvements for this intersection. The eastbound approach would need to be widened to include an exclusive left–turn lane and a combined through/right–turn lane. With the implementation of these improvements, the intersection would operate acceptably at LOS B with 10.9 seconds of delay and LOS A with 7.8 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 104 (Preston) / SR 124. Signalize the intersection. Caltrans has no planned improvements for this intersection. The northbound, southbound, and westbound approaches would need to be widened to include an exclusive left–turn lane and a combined through/right–turn lane. The eastbound and westbound approaches should be coded with split phasing. With the implementation of these improvements, the intersection would operate acceptably at LOS C with 21.7 seconds of delay and LOS B with 18.9 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 104 (Main Street) / SR 124 (Church Street). Signalize the intersection. Caltrans has no planned improvements for this intersection. The northbound approach would need to be widened to include an exclusive left–turn lane and a combined through/right–turn lane. With the implementation of these improvements, the intersection would operate acceptably at LOS B with 11.4 seconds of delay and LOS A with 5.0 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 88 / SR 12 (East). Signalize the intersection. This intersection improvement is planned by Caltrans. With the implementation of this improvement, the intersection would operate acceptably at LOS B with 16.7 seconds of delay and LOS B with 18.7 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 88 / SR 12 (West). Signalize the intersection. This intersection improvement is planned by Caltrans. The eastbound approach would need to be widened to include an exclusive left–turn lane and a combined through/right–turn lane. The eastbound and westbound approaches should be coded with split phasing. With the implementation of these improvements, the intersection would operate acceptably at LOS C with 21.6 seconds of delay and LOS B with 18.9 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 49 / Pleasant Valley Road. Signalize the intersection. Caltrans has no planned improvements for this intersection. The northbound approach would need to be widened to include an exclusive left–turn lane and an exclusive right–turn lane. With the implementation of these improvements, the intersection would operate acceptably at LOS C with 27.8 seconds of delay and LOS B with 14.4 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 16 / Stone House Road. Signalize the intersection. With the implementation of this improvement, the intersection would operate acceptably at LOS B with 13.7 seconds of delay and LOS A with 9.5 seconds of delay during the Weekday and Saturday PM peak hour, respectively. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

SR 16 / Latrobe Road (Sacramento County). This intersection does not meet the Peak Hour Warrant (Warrant No. 11) from the Caltrans *Traffic Manual*. The other 10 signal warrants in the Caltrans *Traffic Manual* would need to be checked to see if a signal is needed at this intersection. The overall LOS is LOS A during both the weekday and Saturday PM peak hour. However, the low volume on the minor road and the high volume on the major road is causing the minor approach to operate at LOS F. Therefore, no additional improvements are recommended at this intersection. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

SR 16 / Dillard Road. The northbound approach would need to be widened to include an exclusive left–turn lane and an exclusive right–turn lane. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes. With the implementation of this improvement, the intersection would operate acceptably at LOS D with 48.1 seconds of delay and LOS B with 13.3 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 16 / Sloughhouse Road. This intersection does not meet the Peak Hour Warrant (Warrant No. 11) from the Caltrans *Traffic Manual*. The other 10 signal warrants in the Caltrans *Traffic Manual* would need to be checked to see if a signal is needed at this intersection. The overall LOS is LOS A during both the weekday and Saturday PM peak hour. However, the low volume on the minor road and the high volume on the major road is causing the minor approach to operate at LOS F. Therefore, no additional improvements are recommended at this intersection. The Sacramento County General

Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

SR 16 / Grant Line Road. The northbound and southbound approaches would need to be widened to include an exclusive left–turn lane, an exclusive through–lane and a combined through/right–turn lane with protected phasing. Also, the eastbound and westbound approaches would need to be widened to include an additional exclusive through–lane. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes, and from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes. With the implementation of these improvements, the intersection would operate acceptably at LOS C with 34.2 seconds of delay and LOS B with 14.5 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 16 / Sunrise Boulevard. The southbound approach would need to be widened to include an exclusive left–turn lane, creating dual left–turn lanes, and an additional exclusive through–lane. The northbound, eastbound, and westbound approaches would need to be widened to include an exclusive through–lane. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes. With the implementation of these improvements, the intersection would operate acceptably at LOS D with 36.1 seconds of delay and LOS B with 16.6 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 16 / Excelsior Road. Signalize the intersection. This improvement is planned by Sacramento County. Also, the eastbound and westbound approaches would need to be widened to include an additional exclusive through–lane. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6–lanes. With the implementation of these improvements, the intersection would operate acceptably at LOS C with 33.3 seconds of delay and LOS B with 12.4 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

SR 16 / Bradshaw Road. The northbound and southbound approaches would need to be widened to include an exclusive left–turn lane, creating dual left–turn lanes. Also, the eastbound and westbound approaches would need to be widened to include an additional exclusive through–lane. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes. With the implementation of these improvements, the intersection would operate acceptably at LOS D with 52.6 seconds of delay and LOS C with 22.5 seconds of delay during the Weekday and Saturday PM peak hour, respectively.

ALTERNATIVE A (PREFERRED CASINO AND HOTEL)

CUMULATIVE PLUS ALTERNATIVE A ROADWAY OPERATIONS

Trips to and from the project site were assigned through the roadway segments and added to projected cumulative (2025) roadway segment volumes. **Figure 5-3** depicts ADT volumes for the Cumulative Plus Alternative A Condition.

Level of Service

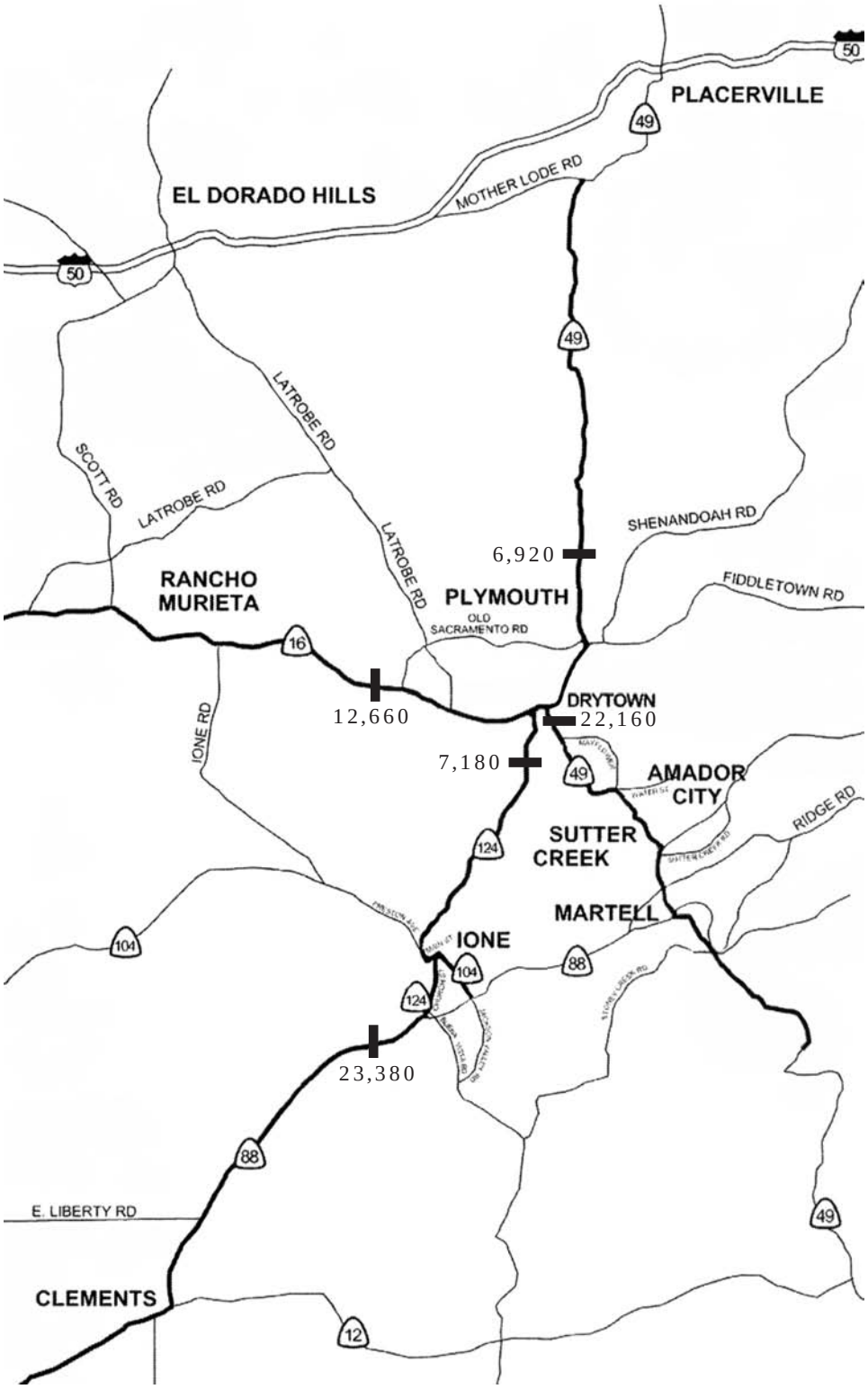
Levels of service for the Cumulative Plus Alternative A Condition are summarized in **Table 5-5**. The following roadway segments are expected to operate at an unacceptable LOS:

- SR 16 west of Old Sacramento Road.

Table 5-5
Roadway Segment Level of Service
Cumulative Plus Alternative A

Roadway	Capacity	Class	Cumulative (No Project)			Cumulative Plus Alternative A		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	4,500	0.29	C	6,210	0.40	C
SR 49 South of SR 16	18,900	Arterial II	12,300	0.65	D	12,690	0.67	D
SR 16 West of Old Sacramento Road	20,200	Arterial I	7,900	0.39	C	11,010	0.55	**D**
SR 124 South of SR 16	18,900	Arterial II	3,000	0.16	B	5,740	0.30	C
SR 88 West of SR 124	20,200	Arterial I	11,700	0.58	D	14,320	0.71	D

Cumulative (No Project) ADT Source: *Amador County RTP*, 2004
Bold denotes unacceptable LOS.



Legend

23,380 Weekday Volumes

Ione Casino
Traffic Impact Analysis

Cumulative Plus Project Alternative A Daily Traffic Volumes

Figure 5-3

T·Y·LIN INTERNATIONAL / CCS

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Mitigation Measures

When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are described. The resulting improved LOS for the study roadway segments are presented in **Table 5-6**.

Table 5-6
Roadway Segment Level of Service
Cumulative Plus Alternative A
Mitigation Measures

Roadway	Capacity	Class	Cumulative Plus Alternative A (No Mitigation)			Cumulative Plus Alternative A with Mitigation Measures		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	6,210	0.40	C	6,210	0.40	C
SR 49 South of SR 16	18,900	Arterial II	12,690	0.67	D	12,690	0.67	D
SR 16 West of Old Sacramento Road	34,900	Arterial	11,010	0.55	**D**	11,010	0.32	B
SR 124 South of SR 16	18,900	Arterial II	5,740	0.30	C	5,740	0.30	C
SR 88 West of SR 124	20,200	Arterial I	14,320	0.71	D	14,320	0.71	D

Cumulative (No Project) ADT Source: *Amador County RTP*, 2004
Notes:
Capacity and Class are the standards for the Recommended Improvements
Bold denotes unacceptable LOS.

Mitigation Measure: SR 16 west of Old Sacramento Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Widen the roadway segment to 4-lanes from Bradshaw Road to Old Sacramento Road. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

Implementation of this mitigation measure would result in the roadway segment operating at an acceptable LOS B with a V/C ratio of 0.32. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

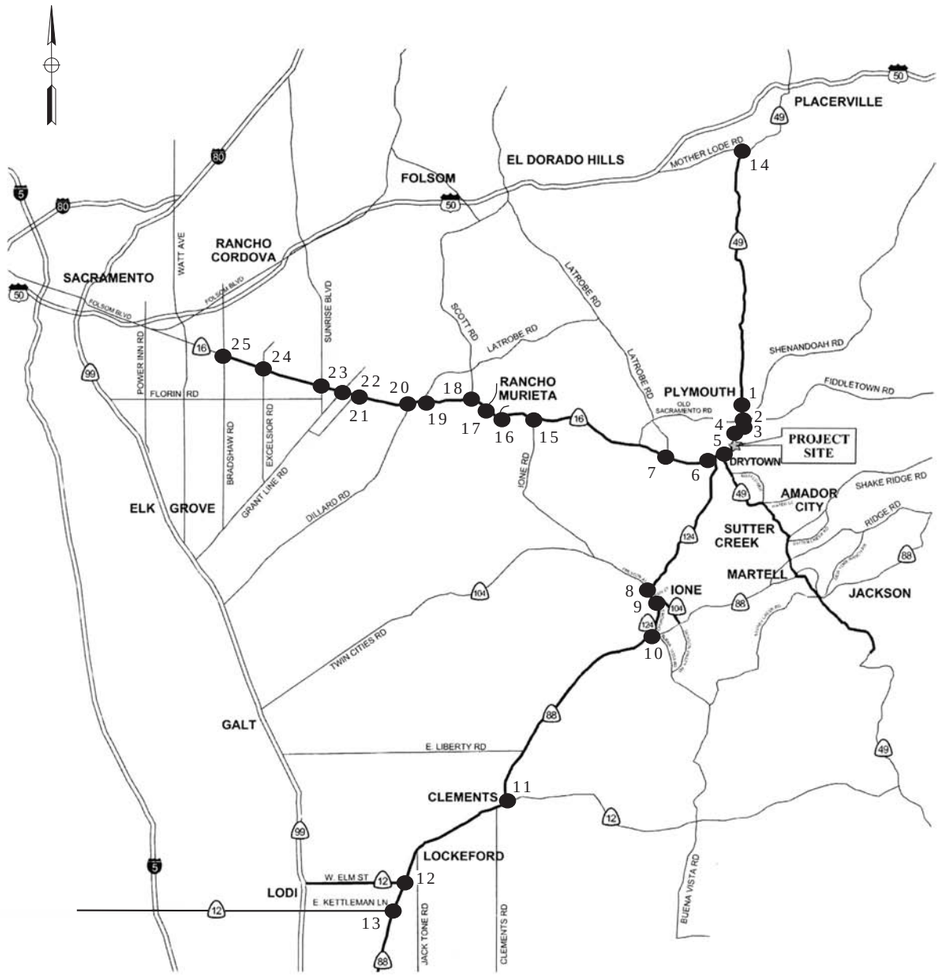
CUMULATIVE PLUS ALTERNATIVE A INTERSECTION OPERATIONS

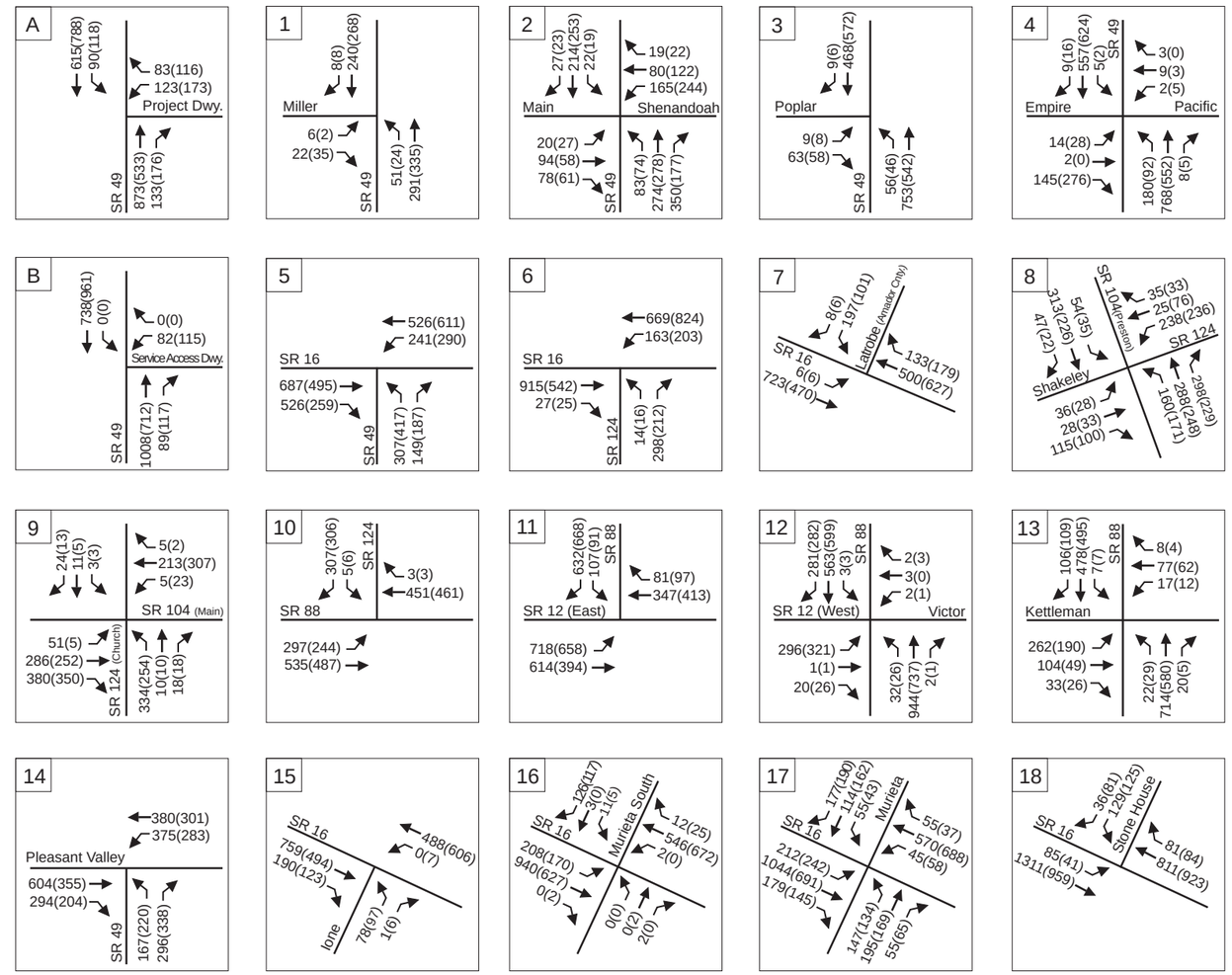
Trips to and from the project site were assigned through the study intersections and added to projected cumulative (2025) weekday and Saturday PM peak hour turning volumes. The resulting weekday and Saturday PM peak hour Cumulative Plus Alternative A volumes are shown on **Figure 5-4**.

Level of Service

Levels of service for the Cumulative Plus Alternative A Condition during the Weekday and Saturday PM peak hour are summarized in **Table 5-7** and **Table 5-8**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix U**. The following intersections would operate at an unacceptable LOS under the Cumulative Plus Alternative A Condition:

- SR 49 / Main Street during the Weekday and Saturday PM peak hour,
- SR 49 / Empire Street during the Weekday and Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 16 / SR 124 during the Weekday PM peak hour,
- SR 16 / Latrobe Road (Amador County) during the Weekday and Saturday PM peak hour,
- SR 104 (Preston) /d SR 124 during the Weekday and Saturday PM peak hour,
- SR 104 (Main Street) / SR 124 (Church Street) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 88 / Kettleman Lane during the Weekday PM peak hour,
- SR 49 / Pleasant Valley Road during the Weekday and Saturday PM peak hour,
- SR 16 / Stone House Road during the Weekday and Saturday PM peak hour,
- SR 16 / Latrobe Road (Sacramento County) during the Weekday and Saturday PM peak hour,
- SR 16 / Dillard Road during the Weekday PM peak hour,
- SR 16 / Sloughhouse Road during the Weekday PM peak hour,
- SR 16 / Grant Line Road during the Weekday and Saturday PM peak hour,
- SR 16 / Sunrise Boulevard during the Weekday PM peak hour,
- SR 16 / Excelsior Road during the Weekday and Saturday PM peak hour,
- SR 16 / Bradshaw Road during the Weekday PM peak hour,
- SR 49 / Project Driveway during the Weekday and Saturday PM peak hour, and
- SR 49 / Service Access Driveway during the Weekday and Saturday PM peak hour.





Legend

● 1 Study Intersection

85(41) Friday(Saturday) PMPeak Hour Volumes

Ione Casino
Traffic Impact Analysis

Cumulative Plus Alternative A Weekday & Saturday PM Peak Hour Volumes

Figure 5-4

Table 5-7
Cumulative Plus Alternative A
Intersection Level of Service
Weekday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE A		Cumulative (No Project)						Cumulative Plus Alternative A					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.4	A	10.2	B	-	-	1.4	A	10.9	B
2	SR 49 / Main Street	-	-	54.7	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
3	SR 49 / Poplar Street	-	-	1.2	A	14.1	B	-	-	1.2	A	15.7	C
4	SR 49 / Empire Street	-	-	3.6	A	56.0	**F**	-	-	4.2	A	79.0	**F**
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
6	SR 16 / SR 124	-	-	4.1	A	28.5	**D**	-	-	13.5	B	84.3	**F**
7	SR 16 / Latrobe Road (Amador)	-	-	13.6	B	89.8	**F**	-	-	27.8	**D**	>100	**F**
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	26.7	**D**	>100	**F**	-	-	82.4	**F**	>100	**F**
10	SR 88 / SR 124	-	-	4.1	A	16.6	C	-	-	5.9	A	20.7	C
11	SR 88 / SR 12 (East)	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.8	C	-	-	-	-	38.4	**D**	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	>100	**F**	-	-	-	-	>100	**F**	-	-
15	SR 16 / Ione Road	-	-	1.7	A	28.8	D	-	-	2.2	A	42.8	E
16	SR 16 / Murieta South Parkway	9.4	A	-	-	-	-	11.8	B	-	-	-	-
17	SR 16 / Murieta Parkway	24.4	C	-	-	-	-	43.6	D	-	-	-	-
18	SR 16 / Stone House Road	-	-	50.0	E	>100	**F**	-	-	69.8	**F**	>100	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	2.3	A	>100	**F**	-	-	3.1	A	>100	**F**
20	SR 16 / Dilliard Road	81.3	**F**	-	-	-	-	>100	**F**	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	2.3	A	56.3	**F**	-	-	2.7	A	73.6	**F**
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	33.4	**E**	>100	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	10.3	B	>100	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 5-8
Cumulative Plus Alternative A
Intersection Level of Service
Saturday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE A		Cumulative (No Project)						Cumulative Plus Alternative A					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.1	A	9.7	A	-	-	1.1	A	10.3	B
2	SR 49 / Main Street	-	-	59.5	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
3	SR 49 / Poplar Street	-	-	1.2	A	13.6	B	-	-	1.2	A	15.6	C
4	SR 49 / Empire Street	-	-	5.8	A	72.1	**F**	-	-	7.5	A	>100	**F**
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
6	SR 16 / SR 124	-	-	1.7	A	14.9	B	-	-	4.0	A	22.9	C
7	SR 16 / Latrobe Road (Amador)	-	-	2.5	A	25.1	**D**	-	-	3.7	A	47.2	**E**
8	SR 104 (Preston Avenue) / SR 124	-	-	80.4	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	5.9	A	33.1	**D**	-	-	36.5	**E**	>100	**F**
10	SR 88 / SR 124	-	-	3.3	A	15.4	C	-	-	5.8	A	20.4	C
11	SR 88 / SR 12 (East)	-	-	56.0	**F**	>100	**F**	-	-	95.3	**F**	>100	**F**
12	SR 88 / SR 12 (West)	-	-	94.4	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	19.7	B	-	-	-	-	20.9	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	32.1	D	-	-	-	-	51.0	**F**	-	-
15	SR 16 / Ione Road	-	-	2.1	A	20.9	C	-	-	2.7	A	34.1	D
16	SR 16 / Murieta South Parkway	8.4	A	-	-	-	-	9.0	A	-	-	-	-
17	SR 16 / Murieta Parkway	21.9	C	-	-	-	-	26.5	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	19.1	C	>100	**F**	-	-	34.8	D	>100	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	1.1	A	85.6	**F**	-	-	1.6	A	>100	**F**
20	SR 16 / Dilliard Road	18.7	B	-	-	-	-	24.1	C	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.8	A	19.1	C	-	-	0.8	A	22.7	C
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	55.4	E	-	-	-	-	69.9	E	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	47.8	D	-	-	-	-	55.3	E	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	75.3	**F**	>100	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	26.8	B	>100	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measures

The following is a description of the intersections that would operate at unacceptable LOS under the Cumulative Project Alternative A Condition. When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are also described. The resulting improved LOS during the Weekday PM peak hour and Saturday PM peak hour is presented in **Table 5-9** and **Table 5-10**, respectively. Detailed intersection operation calculation sheets showing improved operations are included in **Appendix V.**

Table 5-9
Cumulative Plus Alternative A
Mitigation Measures - Intersection Levsel of Service – Weekday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE A		Cumulative Plus Alternative A (No Mitigation)						Cumulative Plus Alternative A with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	>100	**F**	>100	**F**	29.8	C	-	-	-	-
4	SR 49 / Empire Street	-	-	4.2	A	79.0	**F**	17.8	B	-	-	-	-
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	30.4	C	-	-	-	-
6	SR 124 / SR 16	-	-	13.5	B	84.3	**F**	21.0	C	-	-	-	-
7	SR 16 / Latrobe (Amador)	-	-	27.8	D	>100	**F**	12.3	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	32.6	C	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	82.4	**F**	>100	**F**	22.8	C	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	>100	**F**	>100	**F**	19.3	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	23.9	C	-	-	-	-
13	SR 88 / Kettleman Lane	38.4	**D**	-	-	-	-	23.1	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	>100	**F**	-	-	33.9	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	69.8	**F**	>100	**F**	16.6	B	-	-	-	-
19	SR 16 / Latrobe Road (Sacramento)	-	-	3.1	A	>100	**F**	-	-	3.1	A	>100	**F**
20	SR 16 / Dillard Road	>100	**F**	-	-	-	-	60.8	E	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	2.7	A	73.6	**F**	-	-	2.7	A	73.6	**F**
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	38.5	D	-	-	-	-
23	SR 16 / Sunrise Boulevard	>100	**F**	-	-	-	-	39.6	D	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	36.0	D	-	-	-	-
25	SR 16 / Bradshaw Road	>100	**F**	-	-	-	-	56.4	E	-	-	-	-
A	SR 49 / Project Driveway	-	-	33.4	**E**	>100	**F**	21.6	C	-	-	-	-
B	SR 49 / Service Access	-	-	10.3	B	>100	**F**	8.8	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 5-10
Cumulative Plus Alternative A
Mitigation Measures - Intersection Level of Service
Saturday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE A		Cumulative Plus Alternative A (No Mitigation)						Cumulative Plus Alternative A with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	>100	**F**	>100	**F**	20.8	C	-	-	-	-
4	SR 49 / Empire Street	-	-	7.5	A	>100	**F**	14.2	B	-	-	-	-
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	32.5	C	-	-	-	-
6	SR 124 / SR 16	-	-	4.0	A	22.9	C	10.2	B	-	-	-	-
7	SR 16 / Latrobe (Amador)	-	-	3.7	A	47.2	**E**	8.5	A	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	25.9	C	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	36.5	**E**	>100	**F**	10.1	B	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	95.3	**F**	>100	**F**	23.0	C	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	20.9	C	-	-	-	-
13	SR 88 / Kettleman Lane	20.9	C	-	-	-	-	18.0	B	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	51.0	**F**	-	-	17.4	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	34.8	D	>100	**F**	11.1	B	-	-	-	-
19	SR 16 / Latrobe Road (Sacramento)	-	-	1.6	A	>100	**F**	-	-	1.6	A	>100	**F**
20	SR 16 / Dillard Road	24.1	C	-	-	-	-	16.4	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.8	A	22.7	C	-	-	0.8	A	22.7	C
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	15.9	B	-	-	-	-
23	SR 16 / Sunrise Boulevard	69.9	E	-	-	-	-	17.7	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	12.5	B	-	-	-	-
25	SR 16 / Bradshaw Road	55.3	E	-	-	-	-	24.0	C	-	-	-	-
A	SR 49 / Project Driveway	-	-	75.3	**F**	>100	**F**	16.3	B	-	-	-	-
B	SR 49 / Service Access	-	-	26.8	B	>100	**F**	7.6	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measure: SR 49 / Main Street. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 29.8 seconds of delay and LOS C with 20.8 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Empire Street. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 17.8 seconds of delay and LOS B with 14.2 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / SR 16. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This intersection improvement is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 30.4 seconds of delay and LOS C with 32.5 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 21.0 seconds of delay and LOS B with 10.2 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Amador County). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 12.3 seconds of delay and LOS A with 8.5 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Preston) / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 32.6 seconds of delay and LOS C with 25.9 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Main Street) / SR 124 (Church Street). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 22.8 seconds of delay and LOS B with 10.1 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (East). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This intersection improvement is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 19.3 seconds of delay and LOS C with 23.0 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (West). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Signalization at this intersection is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 23.9 seconds of delay and LOS C with 20.9 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / Kettleman Lane. The owners, developers and/or successors-in-interest shall:

- Widen the intersection to accommodate at the eastbound approach an exclusive left-turn lane and a combined through/right-turn lane. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 23.1 seconds of delay and LOS B with 18.0 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Pleasant Valley Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 33.9 seconds of delay and LOS B with 17.4 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Stone House Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 16.6 seconds of delay and LOS B with 11.1 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Sacramento County). None Available. This intersection does not meet the Peak Hour Warrant (Warrant No. 11) from the Caltrans *Traffic Manual*. There are 10 other signal warrants in the Caltrans *Traffic Manual* that would need to be checked to see if a signal is needed at this intersection. These consider overall operations during the highest four and eight hours of the day. The overall LOS is LOS A during both the weekday and Saturday PM peak hour. However, the low volume on the minor road and the high volume on the major road would cause the minor approach to operate at LOS F. The delays are typically with left turns from the minor street. Operationally motorists will either take advantage of the traffic platoons finding a gap to enter the facility or re-route by entering the facility with a right turn. No additional improvements are recommended at this intersection. This impact is considered significant and unavoidable. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Mitigation Measure: SR 16 / Dillard Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS E with 60.8 seconds of delay and LOS B with 16.4 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Sloughhouse Road. None Available. This intersection does not meet the Peak Hour Warrant (Warrant No. 11) from the Caltrans *Traffic Manual*. There are 10 other signal warrants in the Caltrans *Traffic Manual* that would need to be checked to see if a signal is needed at this intersection. These consider overall operations during the highest four and eight hours of the day. The overall LOS is LOS A during both the weekday and Saturday PM peak hour. However, the low volume on the minor road and the high volume on the major road would cause the minor approach to operate at LOS F. The delays are typically with left turns from the minor street. Operationally motorists will either take advantage of the traffic platoons finding a gap to enter the facility or re-route by entering the facility with a right turn. No additional improvements are recommended at this intersection. This impact is considered significant and unavoidable. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Mitigation Measure: SR 16 / Grant Line Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to

Grant Line to 6-lanes, and from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 38.5 seconds of delay and LOS B with 15.9 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Sunrise Boulevard. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 39.6 seconds of delay and LOS B with 17.7 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Excelsior Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This improvement is planned by Sacramento County. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 36.0 seconds of delay and LOS B with 12.5 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Bradshaw Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS E with 56.4 seconds of delay and LOS C with 24.0 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Project Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Split out the southbound approach combined through lane/left-turn lane into an exclusive left-turn lane and an exclusive through lane. It is also recommended that the northern loop road driveway access be restricted to right-in/right out movements enforced by a raised median that would extend from the primary project driveway to just south of the northern loop road driveway. The southern loop road driveway will continue to allow all vehicular movements. This intersection modification would be included in the mitigation of this project driveway intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 21.6 seconds of delay and LOS B with 16.3 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Service Access Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS A with 8.8 seconds of delay and LOS A with 7.6 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

ALTERNATIVE B (SLIGHTLY REDUCED CASINO AND HOTEL)

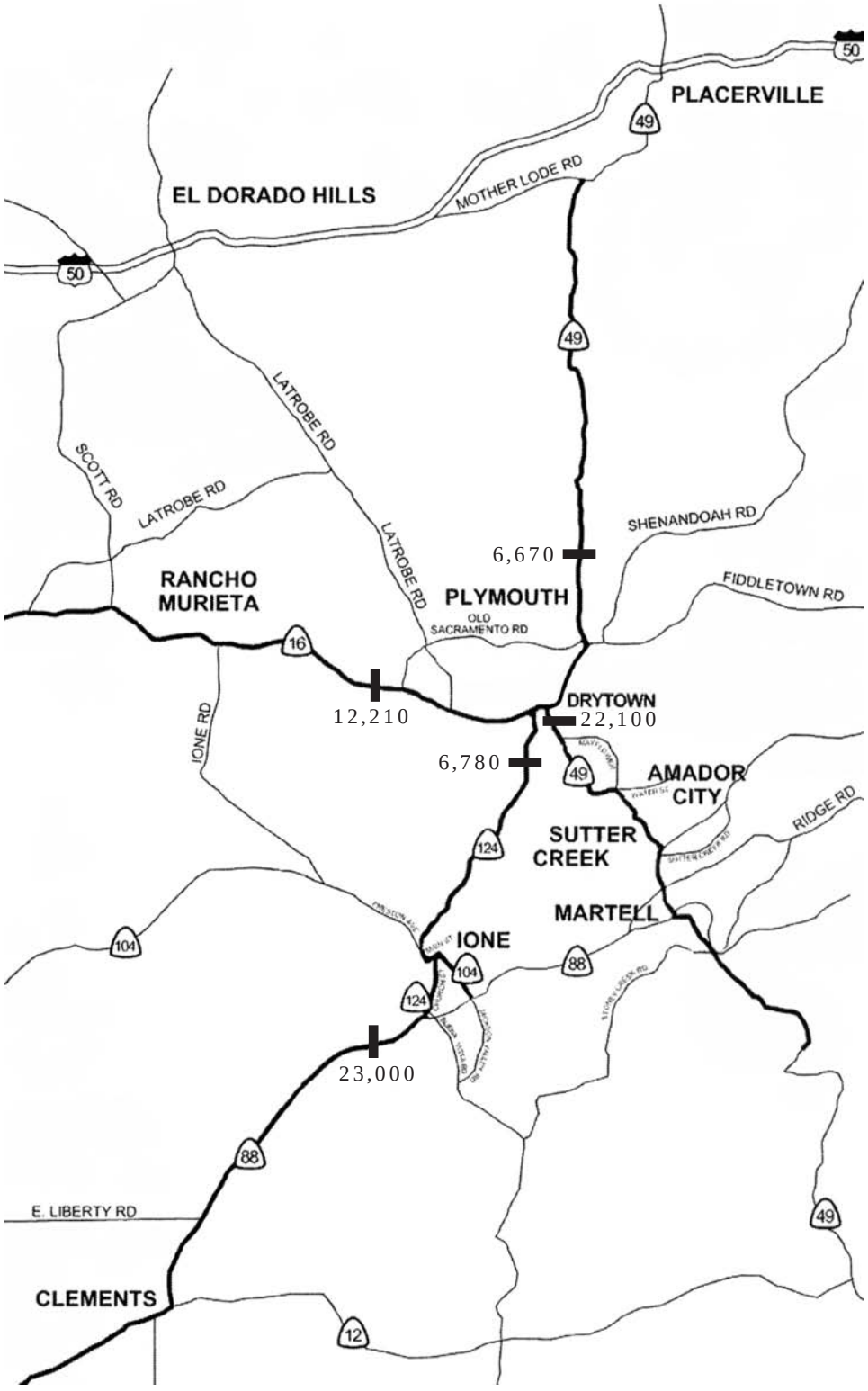
CUMULATIVE PLUS ALTERNATIVE B ROADWAY SEGMENT OPERATIONS

Trips to and from the project site were assigned through the roadway segments and added to projected cumulative (2025) roadway segment volumes. **Figure 5-5** depicts ADT volumes for the Cumulative Plus Alternative B Condition.

Level of Service

Levels of service for the Cumulative Plus Alternative B Condition are summarized in **Table 5-11**. The following roadway segments are expected to operate at an unacceptable LOS:

- SR 16 west of Old Sacramento Road.



Legend	
23,000	Weekday Volumes

Ione Casino
Traffic Impact Analysis

Cumulative Plus Project
Alternative B Daily Traffic Volumes

Figure
5-5

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Table 5-11
Roadway Segment Level of Service
Cumulative Plus Alternative B

Roadway	Capacity	Class	Cumulative (No Project)			Cumulative Plus Alternative B		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	4,500	0.29	C	5,960	0.38	C
SR 49 South of SR 16	18,900	Arterial II	12,300	0.65	D	12,630	0.67	D
SR 16 West of Old Sacramento Road	20,200	Arterial I	7,900	0.39	C	10,560	0.52	**D**
SR 124 South of SR 16	18,900	Arterial II	3,000	0.16	B	5,340	0.28	C
SR 88 West of SR 124	20,200	Arterial I	11,700	0.58	D	13,940	0.69	D

Cumulative (No Project) ADT Source: *Amador County RTP*, 2004
Note: **Bold denotes unacceptable LOS.**

Mitigation Measures

The following is a description of the roadway segments that would operate at unacceptable LOS under the Cumulative Plus Alternative B Condition. When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are also described. The resulting improved LOS for the study roadway segments are presented in **Table 5-12**.

Table 5-12
Roadway Segment Level of Service
Cumulative Plus Alternative B
Mitigation Measures

Roadway	Capacity	Class	Cumulative Plus Alternative B (No Mitigation)			Cumulative Plus Alternative B with Mitigation Measures		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	5,960	0.38	C	5,340	0.28	C
SR 49 South of SR 16	18,900	Arterial II	12,630	0.67	D	13,940	0.69	D
SR 16 West of Old Sacramento Road	34,900	Arterial	10,560	0.52	**D**	10,560	0.30	B
SR 124 South of SR 16	18,900	Arterial II	5,340	0.28	C	5,340	0.28	C
SR 88 West of SR 124	20,200	Arterial I	13,940	0.69	D	13,940	0.69	D

Cumulative (No Project) ADT Source: *Amador County RTP*, 2004
Notes:
Capacity and Class are the standards for the Recommended Improvements.
Bold denotes unacceptable LOS.

Mitigation Measure: SR 16 west of Old Sacramento Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Widen the roadway segment to 4-lanes from Bradshaw Road to Old Sacramento Road. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

Implementation of this mitigation measure would result in the roadway segment operating at an acceptable LOS B with a V/C ratio of 0.30. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

CUMULATIVE PLUS ALTERNATIVE B INTERSECTION OPERATIONS

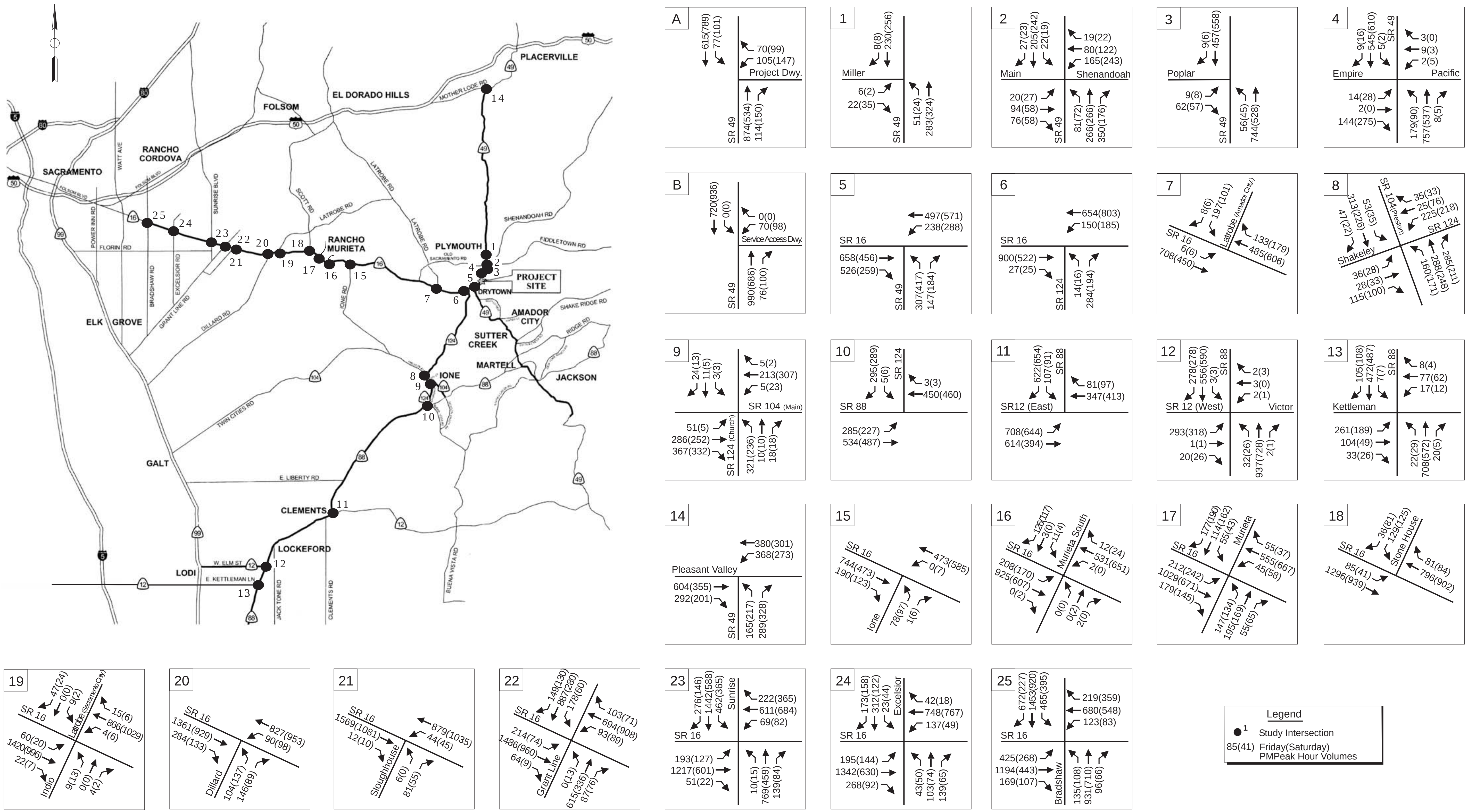
Trips to and from the project site were assigned through the study intersections and added to projected cumulative (2025) weekday and Saturday PM peak hour turning volumes. The resulting weekday and Saturday PM peak hour Cumulative Plus Alternative B volumes are shown on **Figure 5-6**.

Level of Service

Levels of service for the Cumulative Plus Alternative B Condition during the Weekday and Saturday PM peak hour are summarized in **Table 5-13** and **Table 5-14**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix W**. The following intersections are expected to operate at an unacceptable LOS in the Cumulative Plus Alternative B Condition:

- SR 49 / Main Street during the Weekday and Saturday PM peak hour,
- SR 49 / Empire Street during the Weekday and Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 16 / SR 124 during the Weekday PM peak hour,
- SR 16 / Latrobe Road (Amador County) during the Weekday and Saturday PM peak hour,
- SR 104 (Preston) / SR 124 during the Weekday and Saturday PM peak hour,
- SR 104 (Main Street) / SR 124 (Church Street) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 49 / Pleasant Valley Road during the Weekday PM peak hour,
- SR 16 / Stone House Road during the Weekday and Saturday PM peak hour,
- SR 16 / Latrobe Road (Sacramento County) during the Weekday and Saturday PM peak hour,
- SR 16 / Dillard Road during the Weekday PM peak hour,
- SR 16 / Sloughhouse Road during the Weekday PM peak hour,
- SR 16 / Grant Line Road during the Weekday and Saturday PM peak hour,
- SR 16 / Sunrise Boulevard during the Weekday PM peak hour,

- SR 16 / Excelsior Road during the Weekday and Saturday PM peak hour,
- SR 16 / Bradshaw Road during the Weekday PM peak hour,
- SR 49 / Project Driveway during the Weekday and Saturday PM peak hour, and
- SR 49 / Service Access Driveway during the Weekday and Saturday PM peak hour.



Ione Casino
Traffic Impact Analysis

Cumulative Plus Alternative B Weekday & Saturday PM Peak Hour Volumes

Figure 5-6

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Table 5-13
Cumulative Plus Alternative B
Intersection Level of Service – Weekday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE B		Cumulative (No Project)						Cumulative Plus Alternative B					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.4	A	10.2	B	-	-	1.4	A	10.8	B
2	SR 49 / Main Street	-	-	54.7	**F**	>100	**F**	-	-	93.0	**F**	>100	**F**
3	SR 49 / Poplar Street	-	-	1.2	A	14.1	B	-	-	1.2	A	15.5	C
4	SR 49 / Empire Street	-	-	3.6	A	56.0	**F**	-	-	4.1	A	74.8	**F**
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
6	SR 16 / SR 124	-	-	4.1	A	28.5	**D**	-	-	11.0	B	68.9	**F**
7	SR 16 / Latrobe Road (Amador)	-	-	13.6	B	89.8	**F**	-	-	25.4	**D**	>100	**F**
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	26.7	**D**	>100	**F**	-	-	72.7	**F**	>100	**F**
10	SR 88 / SR 124	-	-	4.1	A	16.6	C	-	-	5.6	A	19.9	C
11	SR 88 / SR 12 (East)	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.8	C	-	-	-	-	30.4	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	>100	**F**	-	-	-	-	>100	**F**	-	-
15	SR 16 / Ione Road	-	-	1.7	A	28.8	D	-	-	2.1	A	40.2	E
16	SR 16 / Murieta South Parkway	9.4	A	-	-	-	-	10.0	A	-	-	-	-
17	SR 16 / Murieta Parkway	24.4	C	-	-	-	-	27.7	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	50.0	E	>100	**F**	-	-	66.6	**F**	>100	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	2.3	A	>100	**F**	-	-	3.0	A	>100	**F**
20	SR 16 / Dilliard Road	81.3	**F**	-	-	-	-	94.4	**F**	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	2.3	A	56.3	**F**	-	-	2.6	A	70.9	**F**
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	20.4	C	>100	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	6.2	A	>100	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 5-14
Cumulative Plus Alternative B
Intersection Level of Service
Saturday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE B		Cumulative (No Project)						Cumulative Plus Alternative B					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.1	A	9.7	A	-	-	1.1	A	10.2	B
2	SR 49 / Main Street	-	-	59.5	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
3	SR 49 / Poplar Street	-	-	1.2	A	13.6	B	-	-	1.2	A	15.3	C
4	SR 49 / Empire Street	-	-	5.8	A	72.1	**F**	-	-	7.2	A	>100	**F**
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
6	SR 16 / SR 124	-	-	1.7	A	14.9	B	-	-	3.5	A	20.9	C
7	SR 16 / Latrobe Road (Amador)	-	-	2.5	A	25.1	**D**	-	-	3.4	A	42.4	**E**
8	SR 104 (Preston Avenue) / SR 124	-	-	80.4	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	5.9	A	33.1	**D**	-	-	27.8	**D**	>100	**F**
10	SR 88 / SR 124	-	-	3.3	A	15.4	C	-	-	5.3	A	19.3	C
11	SR 88 / SR 12 (East)	-	-	56.0	**F**	>100	**F**	-	-	88.5	**F**	>100	**F**
12	SR 88 / SR 12 (West)	-	-	94.4	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	19.7	B	-	-	-	-	20.8	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	32.1	D	-	-	-	-	47.4	**E**	-	-
15	SR 16 / Ione Road	-	-	2.1	A	20.9	C	-	-	2.6	A	31.4	D
16	SR 16 / Murieta South Parkway	8.4	A	-	-	-	-	8.9	A	-	-	-	-
17	SR 16 / Murieta Parkway	21.9	C	-	-	-	-	25.8	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	19.1	C	>100	**F**	-	-	32.1	D	>100	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	1.1	A	85.6	**F**	-	-	1.5	A	>100	**F**
20	SR 16 / Dilliard Road	18.7	B	-	-	-	-	23.2	C	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.8	A	19.1	C	-	-	0.8	A	22.1	C
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	55.4	E	-	-	-	-	67.5	E	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	47.8	D	-	-	-	-	54.1	D	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	45.8	**E**	>100	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	15.4	C	>100	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measures

The following is a description of the intersections that would operate at unacceptable LOS under the Cumulative Plus Alternative B Condition. When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are also described. The resulting improved LOS during the Weekday PM peak hour and Saturday PM peak hour is presented in **Table 5-15** and **Table 5-16**, respectively. Detailed intersection operation calculation sheets showing improved operations is included in **Appendix X**

Table 5-15
Cumulative Plus Alternative B
Mitigation Measures - Intersection Level of Service
Weekday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE B		Cumulative Plus Alternative B (No Mitigation)						Cumulative Plus Alternative B with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	93.0	**F**	>100	**F**	28.8	C	-	-	-	-
4	SR 49 / Empire Street	-	-	4.1	A	74.8	**F**	16.8	B	-	-	-	-
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	29.4	C	-	-	-	-
6	SR 124 / SR 16	-	-	11.0	B	68.9	**F**	18.9	B	-	-	-	-
7	SR 16 / Latrobe (Amador)	-	-	25.4	**D**	>100	**F**	11.9	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	29.8	C	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	72.7	**F**	>100	**F**	19.7	B	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	>100	**F**	>100	**F**	18.8	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	23.5	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	>100	**F**	-	-	33.0	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	66.6	**F**	>100	**F**	16.1	B	-	-	-	-
19	SR 16 / Latrobe Road (Sacramento)	-	-	3.0	A	>100	**F**	-	-	3.0	A	>100	**F**
20	SR 16 / Dillard Road	94.4	**F**	-	-	-	-	58.9	E	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	2.6	A	70.9	**F**	-	-	2.6	A	70.9	**F**
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	37.8	D	-	-	-	-
23	SR 16 / Sunrise Boulevard	>100	**F**	-	-	-	-	39.1	D	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	35.5	D	-	-	-	-
25	SR 16 / Bradshaw Road	>100	**F**	-	-	-	-	55.8	E	-	-	-	-
A	SR 49 / Project Driveway	-	-	20.4	C	>100	**F**	21.1	C	-	-	-	-
B	SR 49 / Service Access	-	-	6.2	A	>100	**F**	6.6	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 5-16
Cumulative Plus Alternative B
Mitigation Measures - Intersection Level of Service
Saturday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE B		Cumulative Plus Alternative B (No Mitigation)						Cumulative Plus Alternative B with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	>100	**F**	>100	**F**	20.3	C	-	-	-	-
4	SR 49 / Empire Street	-	-	7.2	A	>100	**F**	13.7	B	-	-	-	-
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	30.2	C	-	-	-	-
6	SR 124 / SR 16	-	-	3.5	A	20.9	C	9.6	A	-	-	-	-
7	SR 16 / Latrobe (Amador)	-	-	3.4	A	42.4	**E**	8.4	A	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	23.8	C	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	27.8	**D**	>100	**F**	9.0	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	88.5	**F**	>100	**F**	22.3	C	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	20.7	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	47.4	**E**	-	-	16.9	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	32.1	D	>100	**F**	10.8	B	-	-	-	-
19	SR 16 / Latrobe Road (Sacramento)	-	-	1.5	A	>100	**F**	-	-	1.5	A	>100	**F**
20	SR 16 / Dillard Road	23.2	C	-	-	-	-	15.9	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.8	A	22.1	C	-	-	0.8	A	22.1	C
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	15.6	B	-	-	-	-
23	SR 16 / Sunrise Boulevard	67.5	E	-	-	-	-	17.5	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	12.4	B	-	-	-	-
25	SR 16 / Bradshaw Road	54.1	D	-	-	-	-	23.7	C	-	-	-	-
A	SR 49 / Project Driveway	-	-	45.8	**E**	>100	**F**	13.8	B	-	-	-	-
B	SR 49 / Service Access	-	-	15.4	C	>100	**F**	6.2	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measure: SR 49 / Main Street. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 28.8 seconds of delay and LOS C with 20.3 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Empire Street. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 16.8 seconds of delay and LOS B with 13.7 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / SR 16. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This intersection improvement is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 29.4 seconds of delay and LOS C with 30.2 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- See improvements identified for the Cumulative (No Project) Condition.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 18.9 seconds of delay and LOS A with 9.6 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Amador County). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 11.9 seconds of delay and LOS A with 8.4 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Preston) / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 29.8 seconds of delay and LOS C with 23.8 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Main Street) / SR 124 (Church Street). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 19.7 seconds of delay and LOS A with 9.0 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (East). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This intersection improvement is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 18.8 seconds of delay and LOS C with 22.3 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (West). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Signalization at this intersection is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 23.5 seconds of delay and LOS C with 20.7 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Pleasant Valley Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 33.0 seconds of delay and LOS B with 16.9 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Stone House Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 16.1 seconds of delay and LOS B with 10.8 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Sacramento County). None Available. This intersection does not meet the Peak Hour Warrant (Warrant No. 11) from the Caltrans *Traffic Manual*. There are 10 other signal warrants in the Caltrans *Traffic Manual* that would need to be checked to see if a signal is needed at this intersection. These consider overall operations during the highest four and eight hours of the day. The overall LOS is LOS A during both the weekday and Saturday PM peak hour. However, the low volume on the minor road and the high volume on the major road would cause the minor approach to operate at LOS F. The delays are typically with left turns from the minor street. Operationally motorists will either take advantage of the traffic platoons finding a gap to enter the facility or re-route by entering the facility with a right turn. No additional improvements are recommended at this intersection. This impact is considered significant and unavoidable. The Sacramento County General Plan of 1993 identified

the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Mitigation Measure: SR 16 / Dillard Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS E with 58.9 seconds of delay and LOS B with 15.9 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Sloughhouse Road. None Available. This intersection does not meet the Peak Hour Warrant (Warrant No. 11) from the Caltrans *Traffic Manual*. There are 10 other signal warrants in the Caltrans *Traffic Manual* that would need to be checked to see if a signal is needed at this intersection. These consider overall operations during the highest four and eight hours of the day. The overall LOS is LOS A during both the weekday and Saturday PM peak hour. However, the low volume on the minor road and the high volume on the major road would cause the minor approach to operate at LOS F. The delays are typically with left turns from the minor street. Operationally motorists will either take advantage of the traffic platoons finding a gap to enter the facility or re-route by entering the facility with a right turn. No additional improvements are recommended at this intersection. This impact is considered significant and unavoidable. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Mitigation Measure: SR 16 / Grant Line Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes, and from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 37.8 seconds of delay and LOS B with 15.6 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Sunrise Boulevard. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 39.1 seconds of delay and LOS B with 17.5 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Excelsior Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This improvement is planned by Sacramento County. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 35.5 seconds of delay and LOS B with 12.4 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Bradshaw Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS E with 55.8 seconds of delay and LOS C with 23.7 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 and Project Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Split out the southbound approach combined through lane/left-turn lane into an exclusive left-turn lane and an exclusive through lane. It is also recommended that the northern loop road driveway access be restricted to right-in/right out movements enforced by a raised median that would extend from the primary project driveway to just south of the northern loop road driveway. The southern loop road driveway will continue to allow all vehicular movements. This intersection modification would be included in the mitigation of this project driveway intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 21.1 seconds of delay and LOS B with 13.8 seconds of delay during the

Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 and Service Access Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS A with 6.6 seconds of delay and LOS A with 6.2 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

ALTERNATIVE C (REDUCED CASINO)

CUMULATIVE PLUS ALTERNATIVE C ROADWAY SEGMENT OPERATIONS

Trips to and from the project site were assigned through the roadway segments and added to projected cumulative (2025) roadway segment volumes. **Figure 5-7** depicts ADT volumes for the Cumulative Plus Alternative C Condition.

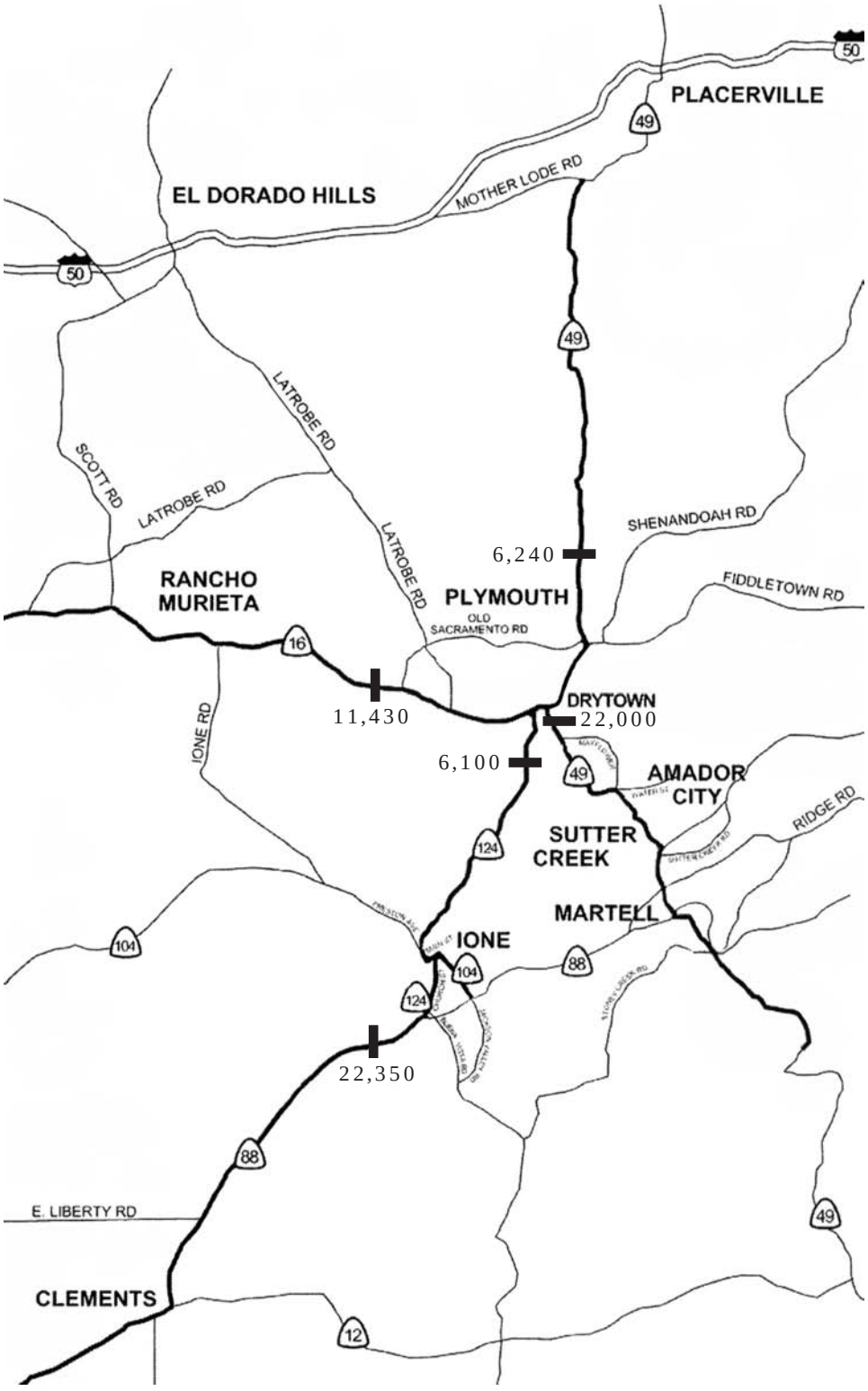
Level of Service

Levels of service for the Cumulative Plus Alternative C Condition are summarized in **Table 5-17** All of the roadway segments are expected to operate at LOS C or better, except for the roadway segments of SR 49 south of SR 16 and SR 88 west of SR 124, which are allowed to operate at LOS E or better, in the Cumulative Plus Alternative C Condition.

Table 5-17
Roadway Segment Level of Service
Cumulative Plus Alternative C

Roadway	Capacity	Class	Cumulative (No Project)			Cumulative Plus Alternative C		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	4,500	0.29	C	5,530	0.36	C
SR 49 South of SR 16	18,900	Arterial II	12,300	0.65	D	12,530	0.66	D
SR 16 West of Old Sacramento Road	20,200	Arterial I	7,900	0.39	C	9,780	0.48	C
SR 124 South of SR 16	18,900	Arterial II	3,000	0.16	B	4,660	0.25	B
SR 88 West of SR 124	20,200	Arterial I	11,700	0.58	D	13,290	0.66	D

Cumulative (No Project) ADT Source: *Amador County RTP*, 2004
Note: **Bold denotes unacceptable LOS.**



Legend

22,350 Weekday Volumes

Ione Casino
Traffic Impact Analysis

Cumulative Plus Project Alternative C Daily Traffic Volumes

Figure 5-7

T·Y·LIN INTERNATIONAL / CCS

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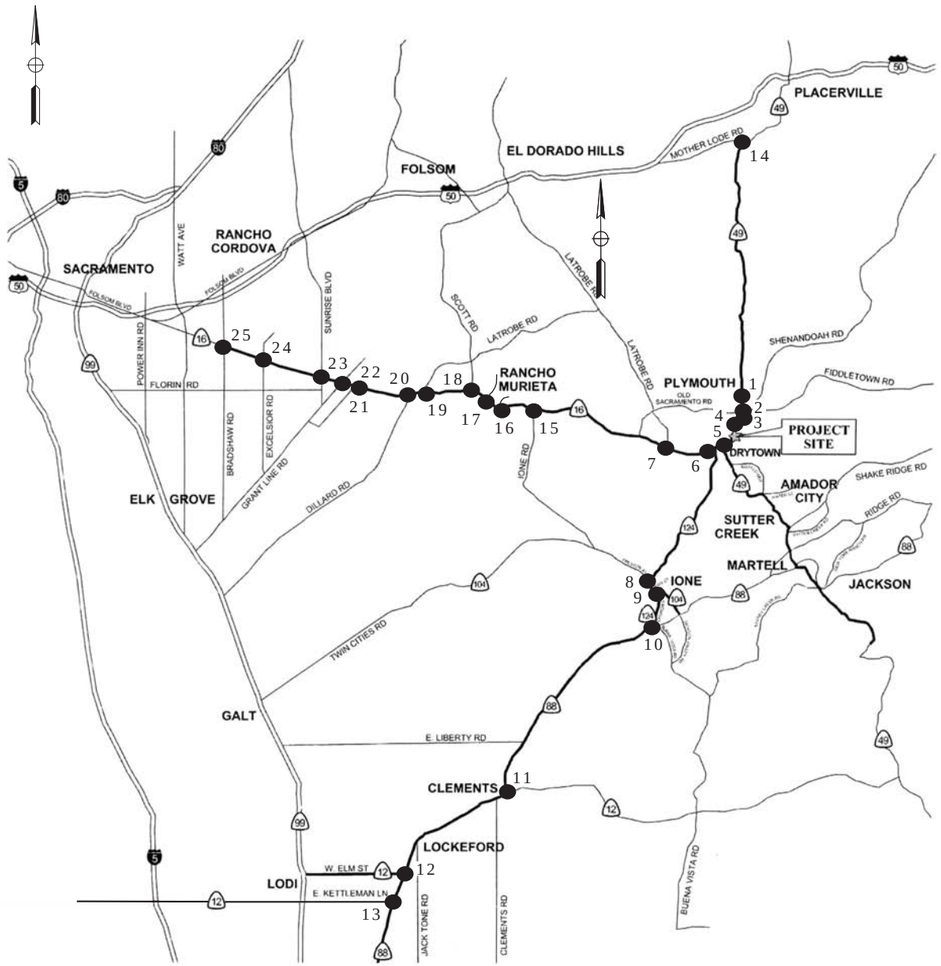
CUMULATIVE PLUS ALTERNATIVE C INTERSECTION OPERATIONS

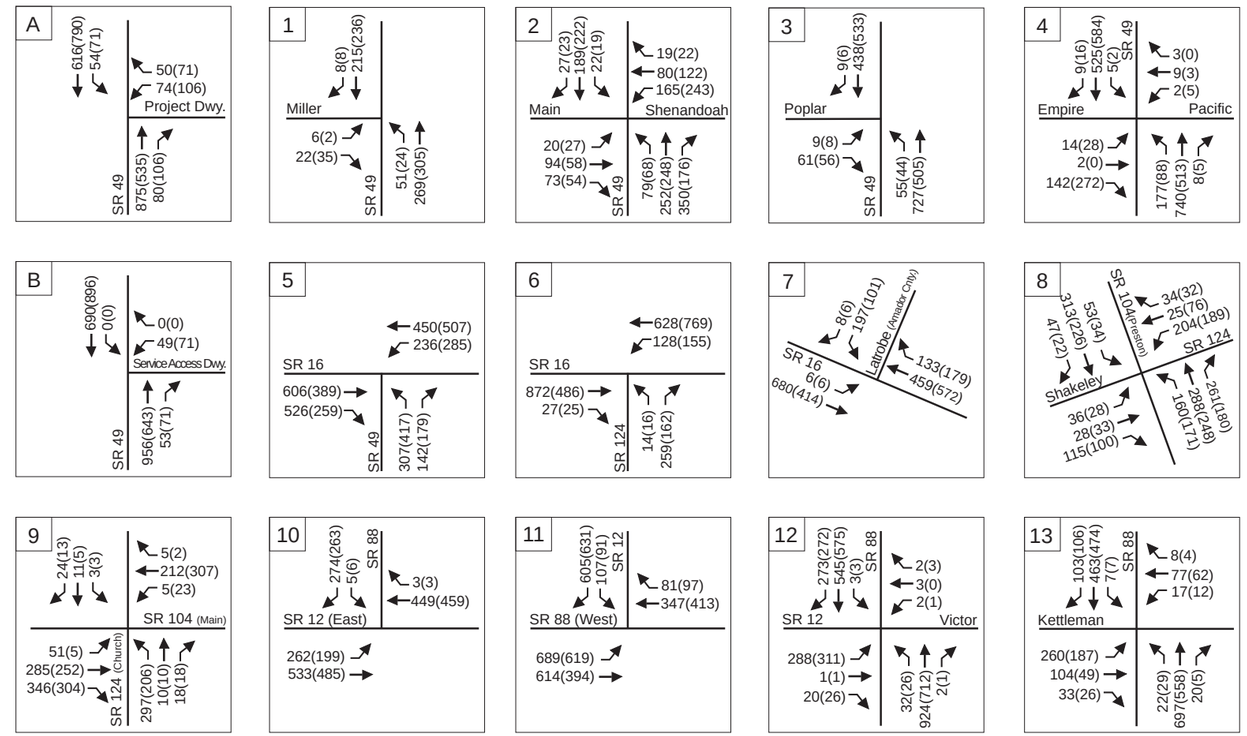
Trips to and from the project site were assigned through the study intersections and added to projected cumulative (2025) weekday and Saturday PM peak hour turning volumes. The resulting weekday and Saturday PM peak hour Cumulative Plus Alternative C volumes are shown on **Figure 5-8**.

Level of Service

Levels of service for the Cumulative Plus Alternative C Condition during the Weekday and Saturday PM peak hour are summarized in **Table 5-18** and **Table 5-19**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix Y**. The following intersections are expected to operate at an unacceptable LOS in the Cumulative Plus Alternative C Condition:

- SR 49 / Main Street during the Weekday and Saturday PM peak hour,
- SR 49 / Empire Street during the Weekday and Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 16 / SR 124 during the Weekday PM peak hour,
- SR 16 / Latrobe Road (Amador County) during the Weekday and Saturday PM peak hour,
- SR 104 (Preston) / SR 124 during the Weekday and Saturday PM peak hour,
- SR 104 (Main Street) / SR 124 (Church Street) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 49 / Pleasant Valley Road during the Weekday PM peak hour,
- SR 16 / Stone House Road during the Weekday and Saturday PM peak hour,
- SR 16 / Latrobe Road (Sacramento County) during the Weekday and Saturday PM peak hour,
- SR 16 / Dillard Road during the Weekday PM peak hour,
- SR 16 / Sloughhouse Road during the Weekday PM peak hour,
- SR 16 / Grant Line Road during the Weekday and Saturday PM peak hour,
- SR 16 / Sunrise Boulevard during the Weekday PM peak hour,
- SR 16 / Excelsior Road during the Weekday and Saturday PM peak hour,
- SR 16 / Bradshaw Road during the Weekday PM peak hour,
- SR 49 / Project Driveway during the Weekday and Saturday PM peak hour, and
- SR 49 / Service Access Driveway during the Weekday and Saturday PM peak hour





Legend

1 Study Intersection

85(41) Friday(Saturday) PMPeak Hour Volumes

Ione Casino
Traffic Impact Analysis

Cumulative Plus Alternative C
Weekday & Saturday
PM Peak Hour Volumes

Figure
5-8

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Table 5-18
Cumulative Plus Alternative C
Intersection Level of Service – Weekday PM Peak Hour Weekday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE C		Cumulative (No Project)						Cumulative Plus Alternative C					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.4	A	10.2	B	-	-	1.4	A	10.6	B
2	SR 49 / Main Street	-	-	54.7	**F**	>100	**F**	-	-	80.6	**F**	>100	**F**
3	SR 49 / Poplar Street	-	-	1.2	A	14.1	B	-	-	1.2	A	15.0	B
4	SR 49 / Empire Street	-	-	3.6	A	56.0	**F**	-	-	3.9	A	68.4	**F**
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
6	SR 16 / SR 124	-	-	4.1	A	28.5	**D**	-	-	7.7	A	49.3	**E**
7	SR 16 / Latrobe Road (Amador)	-	-	13.6	B	89.8	**F**	-	-	21.2	C	>100	**F**
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	26.7	**D**	>100	**F**	-	-	55.9	**F**	>100	**F**
10	SR 88 / SR 124	-	-	4.1	A	16.6	C	-	-	5.1	A	18.7	C
11	SR 88 / SR 12 (East)	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.8	C	-	-	-	-	29.9	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	>100	**F**	-	-	-	-	>100	**F**	-	-
15	SR 16 / Ione Road	-	-	1.7	A	28.8	D	-	-	2.0	A	36.1	E
16	SR 16 / Murieta South Parkway	9.4	A	-	-	-	-	9.8	A	-	-	-	-
17	SR 16 / Murieta Parkway	24.4	C	-	-	-	-	26.6	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	50.0	E	>100	**F**	-	-	61.4	**F**	>100	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	2.3	A	>100	**F**	-	-	2.8	A	>100	**F**
20	SR 16 / Dilliard Road	81.3	**F**	-	-	-	-	90.7	**F**	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	2.3	A	56.3	**F**	-	-	2.5	A	66.0	**F**
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	7.0	A	94.6	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	2.4	A	86.6	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 5-19
Cumulative Plus Alternative C
Intersection Level of Service
Saturday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE C		Cumulative (No Project)						Cumulative Plus Alternative C					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.1	A	9.7	A	-	-	1.1	A	10.1	B
2	SR 49 / Main Street	-	-	59.5	**F**	>100	**F**	-	-	95.1	**F**	>100	**F**
3	SR 49 / Poplar Street	-	-	1.2	A	13.6	B	-	-	1.2	A	14.7	B
4	SR 49 / Empire Street	-	-	5.8	A	72.1	**F**	-	-	6.7	A	>100	**F**
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
6	SR 16 / SR 124	-	-	1.7	A	14.9	B	-	-	2.9	A	18.4	C
7	SR 16 / Latrobe Road (Amador)	-	-	2.5	A	25.1	**D**	-	-	3.0	A	35.8	**E**
8	SR 104 (Preston Avenue) / SR 124	-	-	80.4	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	5.9	A	33.1	**D**	-	-	17.0	C	>100	**F**
10	SR 88 / SR 124	-	-	3.3	A	15.4	C	-	-	4.7	A	18.0	C
11	SR 88 / SR 12 (East)	-	-	56.0	**F**	>100	**F**	-	-	77.5	**F**	>100	**F**
12	SR 88 / SR 12 (West)	-	-	94.4	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	19.7	B	-	-	-	-	20.5	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	32.1	D	-	-	-	-	42.3	**E**	-	-
15	SR 16 / Ione Road	-	-	2.1	A	20.9	C	-	-	2.4	A	27.6	D
16	SR 16 / Murieta South Parkway	8.4	A	-	-	-	-	8.8	A	-	-	-	-
17	SR 16 / Murieta Parkway	21.9	C	-	-	-	-	24.5	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	19.1	C	>100	**F**	-	-	27.9	D	>100	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	1.1	A	85.6	**F**	-	-	1.3	A	>100	**F**
20	SR 16 / Dilliard Road	18.7	B	-	-	-	-	21.6	C	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.8	A	19.1	C	-	-	0.8	A	21.1	C
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	55.4	E	-	-	-	-	63.7	E	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	47.8	D	-	-	-	-	52.3	D	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	15.6	C	>100	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	5.1	A	>100	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measures

The following is a description of the intersections that would operate at unacceptable LOS under the Cumulative Plus Alternative C Condition. When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are also described. The resulting improved LOS during the Weekday PM peak hour and Saturday PM peak hour is presented in **Table 5-20** and **Table 5-21**, respectively. Detailed intersection operation calculation sheets showing improved operations is included in **Appendix Z.**

Table 5-20
Cumulative Plus Alternative C
Mitigation Measures - Intersection Level of Service
Weekday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE C		Cumulative Plus Alternative C (No Mitigation)						Cumulative Plus Alternative C with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	91.1	**F**	>100	**F**	25.5	C	-	-	-	-
4	SR 49 / Empire Street	-	-	4.0	A	73.6	**F**	15.5	B	-	-	-	-
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	28.7	C	-	-	-	-
6	SR 124 / SR 16	-	-	9.0	A	57.7	**E**	16.2	B	-	-	-	-
7	SR 16 / Latrobe (Amador)	-	-	24.2	C	>100	**F**	11.8	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	26.2	C	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	63.9	**F**	>100	**F**	19.5	B	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	>100	**F**	>100	**F**	18.1	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	22.9	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	>100	**F**	-	-	31.3	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	61.4	**F**	>100	**F**	15.3	B	-	-	-	-
19	SR 16 / Latrobe Road (Sacramento)	-	-	2.8	A	>100	**F**	-	-	2.8	A	>100	**F**
20	SR 16 / Dillard Road	90.7	**F**	-	-	-	-	55.7	E	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	2.5	A	66.0	**F**	-	-	2.5	A	66.0	**F**
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	36.7	D	-	-	-	-
23	SR 16 / Sunrise Boulevard	>100	**F**	-	-	-	-	38.2	D	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	34.9	C	-	-	-	-
25	SR 16 / Bradshaw Road	>100	**F**	-	-	-	-	54.9	D	-	-	-	-
A	SR 49 / Project Driveway	-	-	7.0	A	94.6	**F**	17.1	B	-	-	-	-
B	SR 49 / Service Access	-	-	2.4	A	86.6	**F**	-	A	0.0	A	0.0	A

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 5-23
Cumulative Plus Alternative C
Mitigation Measures - Intersection Level of Service
Saturday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE C		Cumulative Plus Alternative C (No Mitigation)						Cumulative Plus Alternative C with Mitigation					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	>100	**F**	>100	**F**	19.1	B	-	-	-	-
4	SR 49 / Empire Street	-	-	7.1	A	>100	**F**	13.7	B	-	-	-	-
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	26.9	C	-	-	-	-
6	SR 124 / SR 16	-	-	3.3	A	19.9	C	8.7	A	-	-	-	-
7	SR 16 / Latrobe (Amador)	-	-	3.3	A	39.7	**E**	8.2	A	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	21.6	C	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	23.8	C	>100	**F**	7.8	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	77.5	**F**	>100	**F**	21.1	C	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	20.1	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	42.3	**E**	-	-	16.1	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	27.9	D	>100	**F**	10.4	B	-	-	-	-
19	SR 16 / Latrobe Road (Sacramento)	-	-	1.3	A	>100	**F**	-	-	1.3	A	>100	**F**
20	SR 16 / Dillard Road	21.6	C	-	-	-	-	15.0	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.8	A	21.1	C	-	-	0.8	A	21.1	C
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	15.2	B	-	-	-	-
23	SR 16 / Sunrise Boulevard	63.7	E	-	-	-	-	17.2	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	12.3	B	-	-	-	-
25	SR 16 / Bradshaw Road	52.3	D	-	-	-	-	23.4	C	-	-	-	-
A	SR 49 / Project Driveway	-	-	15.6	C	>100	**F**	13.7	B	-	-	-	-
B	SR 49 / Service Access	-	-	5.1	A	>100	**F**	0	-	0.0	A	0.0	A

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measure: SR 49 / Main Street. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 25.5 seconds of delay and LOS B with 19.1 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Empire Street. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 15.5 seconds of delay and LOS B with 13.7 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / SR 16. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This intersection improvement is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 28.7 seconds of delay and LOS C with 26.9 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- See improvements identified for the Cumulative (No Project) Condition.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 16.2 seconds of delay and LOS A with 8.7 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Amador County). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 11.8 seconds of delay and LOS A with 8.2 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Preston) / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 26.2 seconds of delay and LOS C with 21.6 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Main Street) / SR 124 (Church Street). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 19.5 seconds of delay and LOS A with 7.8 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (East). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This intersection improvement is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 18.1 seconds of delay and LOS C with 21.1 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (West). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Signalization at this intersection is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 22.9 seconds of delay and LOS C with 20.1 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Pleasant Valley Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 31.3 seconds of delay and LOS B with 16.1 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Stone House Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 15.3 seconds of delay and LOS B with 10.4 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Sacramento County). None Available. This intersection does not meet the Peak Hour Warrant (Warrant No. 11) from the Caltrans *Traffic Manual*. There are 10 other signal warrants in the Caltrans *Traffic Manual* that would need to be checked to see if a signal is needed at this intersection. These consider overall operations during the highest four and eight hours of the day. The overall LOS is LOS A during both the weekday and Saturday PM peak hour. However, the low volume on the minor road and the high volume on the major road would cause the minor approach to operate at LOS F. The delays are typically with left turns from the minor street. Operationally motorists will either take advantage of the traffic platoons finding a gap to enter the facility or re-route by entering the facility with a right turn. No additional improvements are recommended at this intersection. This impact is considered significant and unavoidable. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Mitigation Measure: SR 16 / Dillard Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS E with 55.7 seconds of delay and LOS B with 15.0 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Sloughhouse Road. None Available. This intersection does not meet the Peak Hour Warrant (Warrant No. 11) from the Caltrans *Traffic Manual*. There are 10 other signal warrants in the Caltrans *Traffic Manual* that would need to be checked to see if a signal is needed at this intersection. These consider overall operations during the highest four and eight hours of the day. The overall LOS is LOS A during both the weekday and Saturday PM peak hour. However, the low volume on the minor road and the high volume on the major road would cause the minor approach to operate at LOS F. The delays are typically with left turns from the minor street. Operationally motorists will either take advantage of the traffic platoons finding a gap to enter the facility or re-route by entering the facility with a right turn. No additional improvements are recommended at this intersection. This impact is considered significant and unavoidable. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Mitigation Measure: SR 16 / Grant Line Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes, and from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 36.7 seconds of delay and LOS B with 15.2 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Sunrise Boulevard. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 38.2 seconds of delay and LOS B with 17.2 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Excelsior Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This improvement is planned by Sacramento County. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 34.9 seconds of delay and LOS B with 12.3 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Bradshaw Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 54.9 seconds of delay and LOS C with 23.4 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 and Project Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Split out the southbound approach combined through lane/left-turn lane into an exclusive left-turn lane and an exclusive through lane. It is also recommended that the northern loop road driveway access be restricted to right-in/right out movements enforced by a raised median that would extend from the primary project driveway to just south of the northern loop road driveway. The southern loop road driveway will continue to allow all vehicular movements. This intersection modification would be included in the mitigation of this project driveway intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 17.1 seconds of delay and LOS B with 13.7 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 and Service Access Driveway. The owners, developers and/or successors-in-interest shall:

- Prohibit left-turns exiting the driveway.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS A with 0.0 seconds of delay and LOS A with 0.0 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

ALTERNATIVE D (RETAIL SHOPPING CENTER)

CUMULATIVE PLUS ALTERNATIVE D ROADWAY SEGMENT OPERATIONS

Trips to and from the project site were assigned through the roadway segments and added to projected cumulative (2025) roadway segment volumes. **Figure 5-9** depicts ADT volumes for the Cumulative Plus Alternative D Condition.

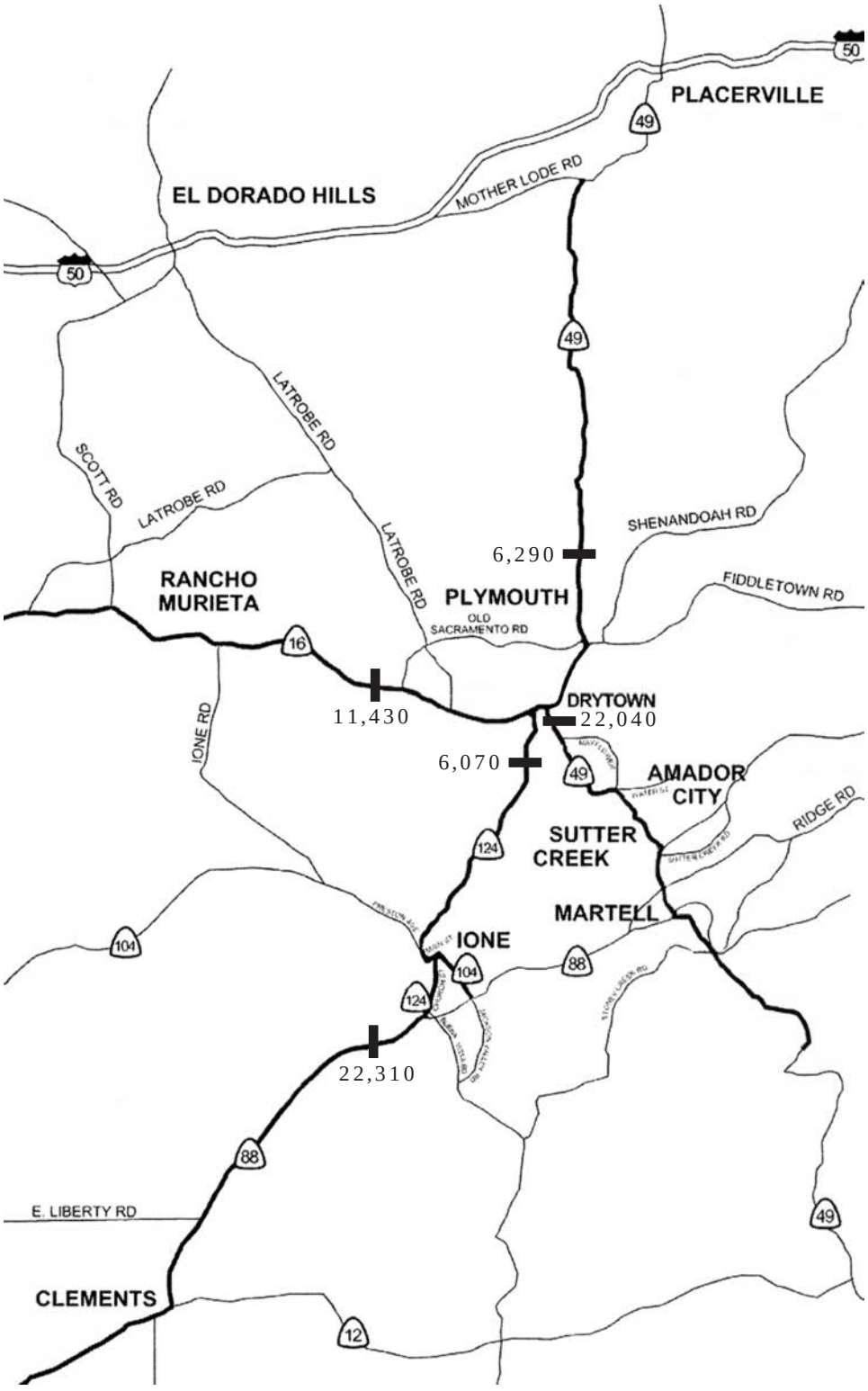
Level of Service

Levels of service for the Cumulative Plus Alternative D Condition are summarized in **Table 5-22**. All of the roadway segments are expected to operate at LOS C or better, except for the roadway segments of SR 49 south of SR 16 and SR 88 west of SR 124, which are allowed to operate at LOS E or better, in the Cumulative Plus Alternative D Condition.

Table 5-22
Roadway Segment Level of Service
Cumulative Plus Alternative D

Roadway	Capacity	Class	Cumulative (No Project)			Cumulative Plus Alternative D		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 49 North of Shenandoah Road	15,500	Arterial IV	4,500	0.29	C	5,580	0.36	C
SR 49 South of SR 16	18,900	Arterial II	12,300	0.65	D	12,570	0.67	D
SR 16 West of Old Sacramento Road	20,200	Arterial I	7,900	0.39	C	9,780	0.48	C
SR 124 South of SR 16	18,900	Arterial II	3,000	0.16	B	4,630	0.24	B
SR 88 West of SR 124	20,200	Arterial I	11,700	0.58	D	13,250	0.66	D

Cumulative (No Project) ADT Source: *Amador County RTP*, 2004
Note: **Bold denotes unacceptable LOS.**



Legend

22,310 Weekday Volumes

Ione Casino
Traffic Impact Analysis

Cumulative Plus Project Alternative D Daily Traffic Volumes

Figure 5-9

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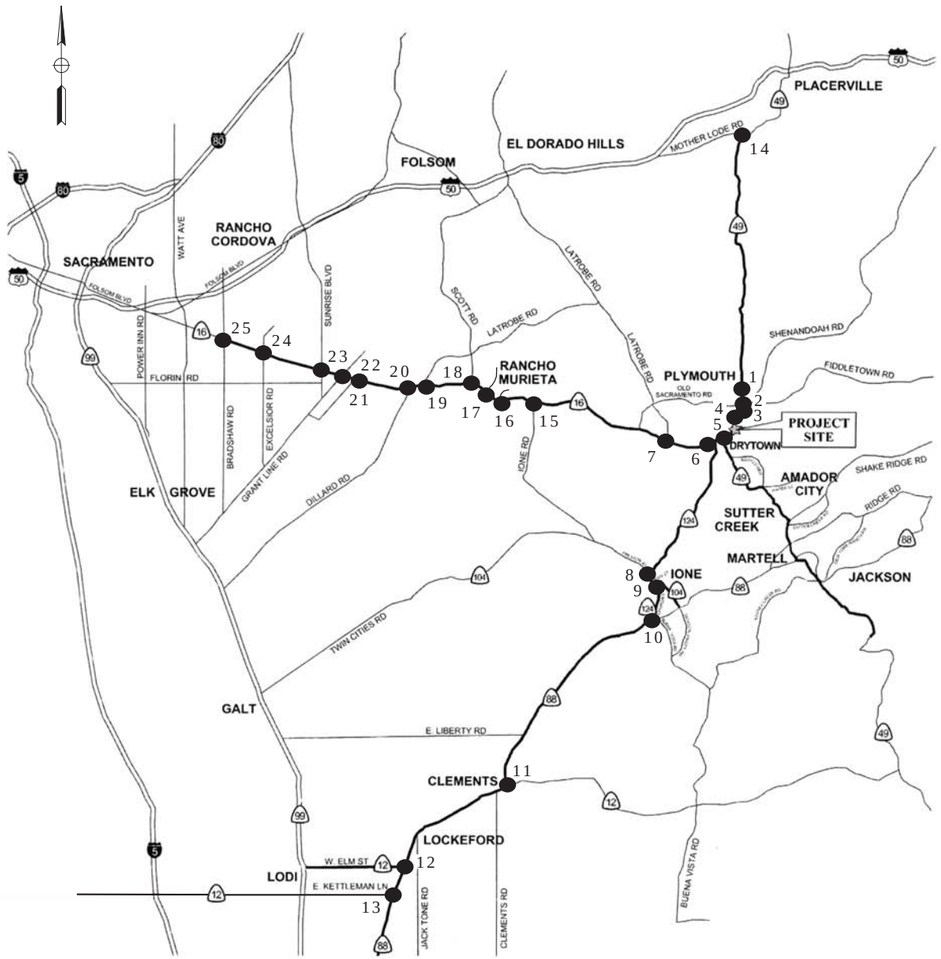
CUMULATIVE PLUS ALTERNATIVE D INTERSECTION OPERATIONS

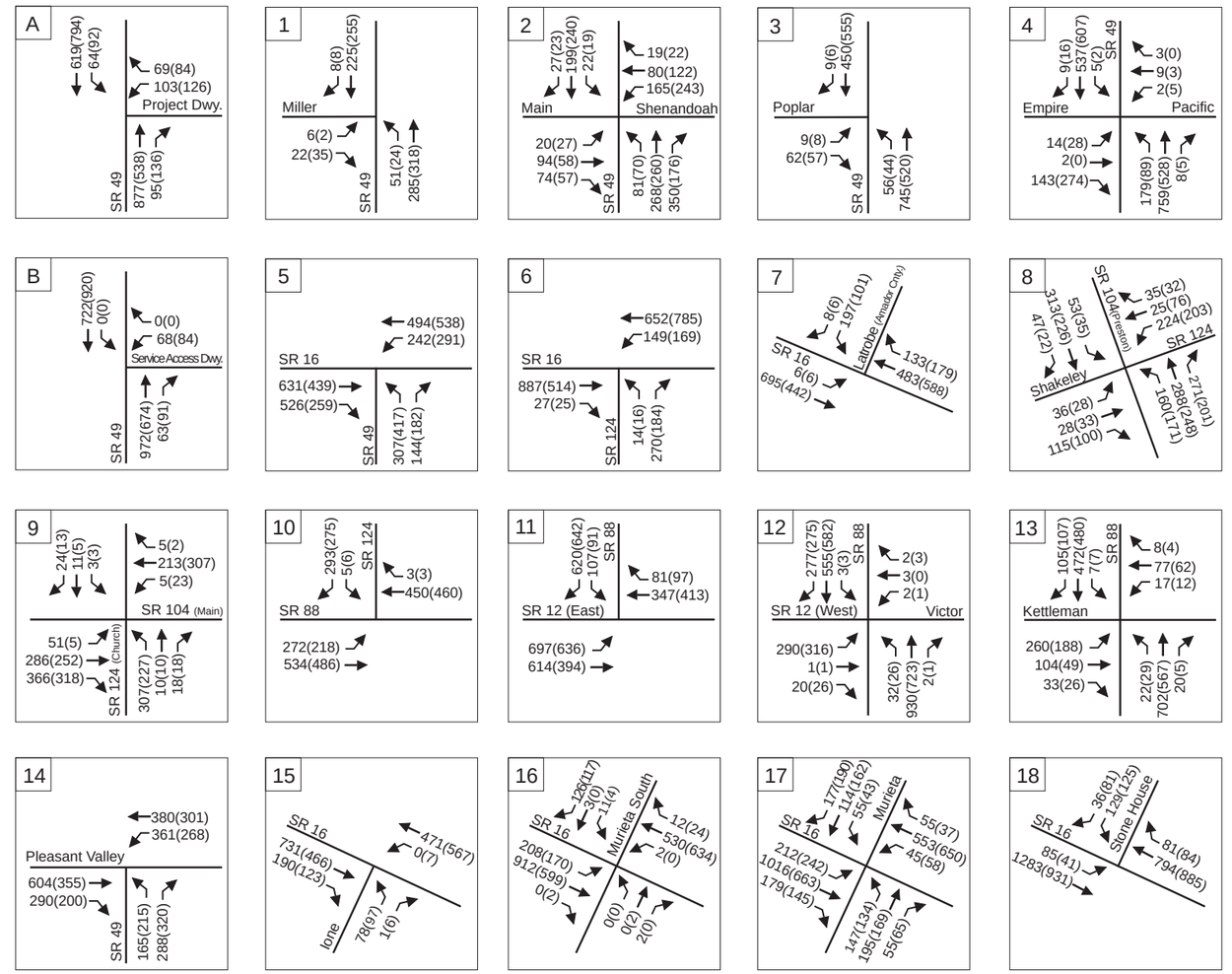
Trips to and from the project site were assigned through the study intersections and added to projected cumulative (2025) weekday and Saturday PM peak hour turning volumes. The resulting weekday and Saturday PM peak hour Cumulative Plus Alternative D volumes are shown on **Figure 5-10**.

Level of Service

Levels of service for the Cumulative Plus Alternative D Condition during the Weekday and Saturday PM peak hour are summarized in **Table 5-23** and **Table 5-24**, respectively. Detailed LOS analysis data and worksheets are provided in **Appendix AA**. The following intersections are expected to operate at an unacceptable LOS in the Cumulative Plus Alternative D Condition:

- SR 49 / Main Street during the Weekday and Saturday PM peak hour,
- SR 49 / Empire Street during the Weekday and Saturday PM peak hour,
- SR 49 / SR 16 during the Weekday and Saturday PM peak hour,
- SR 16 / SR 124 during the Weekday PM peak hour,
- SR 16 / Latrobe Road (Amador County) during the Weekday and Saturday PM peak hour,
- SR 104 (Preston) / SR 124 during the Weekday and Saturday PM peak hour,
- SR 104 (Main Street) / SR 124 (Church Street) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (East) during the Weekday and Saturday PM peak hour,
- SR 88 / SR 12 (West) during the Weekday and Saturday PM peak hour,
- SR 49 / Pleasant Valley Road during the Weekday PM peak hour,
- SR 16 / Stone House Road during the Weekday and Saturday PM peak hour,
- SR 16 / Latrobe Road (Sacramento County) during the Weekday and Saturday PM peak hour,
- SR 16 / Dillard Road during the Weekday PM peak hour,
- SR 16 / Sloughhouse Road during the Weekday PM peak hour,
- SR 16 / Grant Line Road during the Weekday and Saturday PM peak hour,
- SR 16 / Sunrise Boulevard during the Weekday PM peak hour,
- SR 16 / Excelsior Road during the Weekday and Saturday PM peak hour,
- SR 16 / Bradshaw Road during the Weekday PM peak hour,
- SR 49 / Project Driveway during the Weekday and Saturday PM peak hour, and
- SR 49 / Service Access Driveway during the Weekday and Saturday PM peak hour.





Legend

1 Study Intersection

85(41) Friday(Saturday) PMPeak Hour Volumes

Ione Casino
Traffic Impact Analysis

Cumulative Plus Alternative D
Weekday & Saturday
PM Peak Hour Volumes

Figure
5-10

T·Y·LIN INTERNATIONAL / CCS

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Table 5-23
Cumulative Plus Alternative D
Intersection Level of Service
Weekday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE D		Cumulative (No Project)						Cumulative Plus Alternative D					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.4	A	10.2	B	-	-	1.4	A	10.8	B
2	SR 49 / Main Street	-	-	54.7	**F**	>100	**F**	-	-	91.1	**F**	>100	**F**
3	SR 49 / Poplar Street	-	-	1.2	A	14.1	B	-	-	1.2	A	15.4	C
4	SR 49 / Empire Street	-	-	3.6	A	56.0	**F**	-	-	4.0	A	73.6	**F**
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
6	SR 16 / SR 124	-	-	4.1	A	28.5	**D**	-	-	9.0	A	57.7	**E**
7	SR 16 / Latrobe Road (Amador)	-	-	13.6	B	89.8	**F**	-	-	24.2	C	>100	**F**
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	26.7	**D**	>100	**F**	-	-	63.9	**F**	>100	**F**
10	SR 88 / SR 124	-	-	4.1	A	16.6	C	-	-	5.5	A	19.7	C
11	SR 88 / SR 12 (East)	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	28.8	C	-	-	-	-	30.1	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	>100	**F**	-	-	-	-	>100	**F**	-	-
15	SR 16 / Ione Road	-	-	1.7	A	28.8	D	-	-	2.1	A	39.0	E
16	SR 16 / Murieta South Parkway	9.4	A	-	-	-	-	9.9	A	-	-	-	-
17	SR 16 / Murieta Parkway	24.4	C	-	-	-	-	27.2	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	50.0	E	>100	**F**	-	-	65.1	**F**	>100	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	2.3	A	>100	**F**	-	-	2.9	A	>100	**F**
20	SR 16 / Dilliard Road	81.3	**F**	-	-	-	-	92.2	**F**	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	2.3	A	56.3	**F**	-	-	2.6	A	68.7	**F**
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	17.4	C	>100	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	5.5	A	>100	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 5-24
Cumulative Plus Alternative D
Intersection Level of Service
Saturday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE D		Cumulative (No Project)						Cumulative Plus Alternative D					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	SR 49 / Miller Road	-	-	1.1	A	9.7	A	-	-	1.1	A	10.2	B
2	SR 49 / Main Street	-	-	59.5	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
3	SR 49 / Poplar Street	-	-	1.2	A	13.6	B	-	-	1.2	A	15.2	C
4	SR 49 / Empire Street	-	-	5.8	A	72.1	**F**	-	-	7.1	A	>100	**F**
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
6	SR 16 / SR 124	-	-	1.7	A	14.9	B	-	-	3.3	A	19.9	C
7	SR 16 / Latrobe Road (Amador)	-	-	2.5	A	25.1	**D**	-	-	3.3	A	39.7	**E**
8	SR 104 (Preston Avenue) / SR 124	-	-	80.4	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
9	SR 104 (Main Street) / SR 124	-	-	5.9	A	33.1	**D**	-	-	23.8	C	>100	**F**
10	SR 88 / SR 124	-	-	3.3	A	15.4	C	-	-	5.0	A	18.6	C
11	SR 88 / SR 12 (East)	-	-	56.0	**F**	>100	**F**	-	-	84.1	**F**	>100	**F**
12	SR 88 / SR 12 (West)	-	-	94.4	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
13	SR 88 / Kettleman Lane	19.7	B	-	-	-	-	20.6	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	32.1	D	-	-	-	-	45.0	**E**	-	-
15	SR 16 / Ione Road	-	-	2.1	A	20.9	C	-	-	2.5	A	29.9	D
16	SR 16 / Murieta South Parkway	8.4	A	-	-	-	-	8.8	A	-	-	-	-
17	SR 16 / Murieta Parkway	21.9	C	-	-	-	-	25.2	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	19.1	C	>100	**F**	-	-	30.6	D	>100	**F**
19	SR 16 / Latrobe Road (Sacramento)	-	-	1.1	A	85.6	**F**	-	-	1.4	A	>100	**F**
20	SR 16 / Dilliard Road	18.7	B	-	-	-	-	22.8	C	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.8	A	19.1	C	-	-	0.8	A	21.9	C
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	>100	**F**	-	-	-	-
23	SR 16 / Sunrise Boulevard	55.4	E	-	-	-	-	66.1	E	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	-	-	>100	**F**	>100	**F**
25	SR 16 / Bradshaw Road	47.8	D	-	-	-	-	53.1	D	-	-	-	-
A	SR 49 / Project Driveway	-	-	-	-	-	-	-	-	30.0	**D**	>100	**F**
B	SR 49 / Service Access	-	-	-	-	-	-	-	-	9.4	A	>100	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measures

The following is a description of the intersections that would operate at unacceptable LOS under the Cumulative Plus Alternative D Condition. When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are also described. The resulting improved LOS during the Weekday PM peak hour and Saturday PM peak hour is presented in **Table 5-25** and **Table 5-26**, respectively. Detailed intersection operation calculation sheets showing improved operations is included in **Appendix AB.**

Table 5-25
Cumulative Plus Alternative D
Mitigation Measures - Intersection Level of Service
Weekday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE D		Cumulative (No Project)						Cumulative Plus Alternative D					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	91.1	**F**	>100	**F**	26.7	C	-	-	-	-
4	SR 49 / Empire Street	-	-	4.0	A	73.6	**F**	16.8	B	-	-	-	-
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	28.9	C	-	-	-	-
6	SR 124 / SR 16	-	-	9.0	A	57.7	**E**	17.2	B	-	-	-	-
7	SR 16 / Latrobe (Amador)	-	-	24.2	C	>100	**F**	11.9	B	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	28.6	C	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	63.9	**F**	>100	**F**	18.1	B	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	>100	**F**	>100	**F**	18.5	B	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	23.2	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	>100	**F**	-	-	32.2	C	-	-	-	-
18	SR 16 / Stone House Road	-	-	65.1	**F**	>100	**F**	15.7	B	-	-	-	-
19	SR 16 / Latrobe Road (Sacramento)	-	-	2.9	A	>100	**F**	-	-	2.9	A	>100	**F**
20	SR 16 / Dillard Road	92.2	**F**	-	-	-	-	57.0	E	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	2.6	A	68.7	**F**	-	-	2.6	A	68.7	**F**
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	37.3	D	-	-	-	-
23	SR 16 / Sunrise Boulevard	>100	**F**	-	-	-	-	38.8	D	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	35.2	D	-	-	-	-
25	SR 16 / Bradshaw Road	>100	**F**	-	-	-	-	55.6	E	-	-	-	-
A	SR 49 / Project Driveway	-	-	17.4	C	>100	**F**	18.2	B	-	-	-	-
B	SR 49 / Service Access	-	-	5.5	A	>100	**F**	5.4	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Table 5-26
Cumulative Plus Alternative D
Mitigation Measures - Intersection Level of Service
Saturday PM Peak Hour

CUMULATIVE PLUS ALTERNATIVE D		Cumulative (No Project)						Cumulative Plus Alternative D					
Number	Intersection Location	Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
2	SR 49 / Main Street	-	-	>100	**F**	>100	**F**	19.3	B	-	-	-	-
4	SR 49 / Empire Street	-	-	7.1	A	>100	**F**	14.2	B	-	-	-	-
5	SR 49 / SR 16	-	-	>100	**F**	>100	**F**	29.5	C	-	-	-	-
6	SR 124 / SR 16	-	-	3.3	A	19.9	C	9.2	A	-	-	-	-
7	SR 16 / Latrobe (Amador)	-	-	3.3	A	39.7	**E**	8.2	A	-	-	-	-
8	SR 104 (Preston Avenue) / SR 124	-	-	>100	**F**	>100	**F**	22.8	C	-	-	-	-
9	SR 104 (Main Street) / SR 124	-	-	23.8	C	>100	**F**	8.5	A	-	-	-	-
11	SR 88 / SR 12 (East)	-	-	84.1	**F**	>100	**F**	21.7	C	-	-	-	-
12	SR 88 / SR 12 (West)	-	-	>100	**F**	>100	**F**	20.5	C	-	-	-	-
14	SR 49 / Pleasant Valley Road	-	-	45.0	**E**	-	-	16.6	B	-	-	-	-
18	SR 16 / Stone House Road	-	-	30.6	D	>100	**F**	10.6	B	-	-	-	-
19	SR 16 / Latrobe Road (Sacramento)	-	-	1.4	A	>100	**F**	-	-	1.4	A	>100	**F**
20	SR 16 / Dillard Road	22.8	C	-	-	-	-	15.6	B	-	-	-	-
21	SR 16 / Sloughhouse Road	-	-	0.8	A	21.9	C	-	-	0.8	A	21.9	C
22	SR 16 / Grant Line Road	>100	**F**	-	-	-	-	15.4	B	-	-	-	-
23	SR 16 / Sunrise Boulevard	66.1	E	-	-	-	-	17.4	B	-	-	-	-
24	SR 16 / Excelsior Road	-	-	>100	**F**	>100	**F**	12.3	B	-	-	-	-
25	SR 16 / Bradshaw Road	53.1	D	-	-	-	-	23.5	C	-	-	-	-
A	SR 49 / Project Driveway	-	-	30.0	**D**	>100	**F**	12.1	B	-	-	-	-
B	SR 49 / Service Access	-	-	9.4	A	>100	**F**	5.3	A	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes unacceptable LOS.

Mitigation Measure: SR 49 / Main Street. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 26.7 seconds of delay and LOS B with 19.3 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Empire Street. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Improvements to this intersection are planned as noted in the RTP. These improvements to this intersection should also include signalization.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 16.8 seconds of delay and LOS B with 14.2 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / SR 16. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This intersection improvement is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 28.9 seconds of delay and LOS C with 29.5 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- See improvements identified for the Cumulative (No Project) Condition.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 17.2 seconds of delay and LOS A with 9.2 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Amador County). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 11.9 seconds of delay and LOS A with 8.2 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Preston) / SR 124. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 28.6 seconds of delay and LOS C with 22.8 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 104 (Main Street) / SR 124 (Church Street). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 18.1 seconds of delay and LOS A with 8.5 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (East). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This intersection improvement is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 18.5 seconds of delay and LOS C with 21.7 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 88 / SR 12 (West). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Signalization at this intersection is planned by Caltrans.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 23.2 seconds of delay and LOS C with 20.5 seconds of delay during the

Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 / Pleasant Valley Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. Caltrans has no planned improvements for this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 32.2 seconds of delay and LOS B with 16.6 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Stone House Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 15.7 seconds of delay and LOS B with 10.6 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Latrobe Road (Sacramento County). None Available. This intersection does not meet the Peak Hour Warrant (Warrant No. 11) from the Caltrans *Traffic Manual*. There are 10 other signal warrants in the Caltrans *Traffic Manual* that would need to be checked to see if a signal is needed at this intersection. These consider overall operations during the highest four and eight hours of the day. The overall LOS is LOS A during both the weekday and Saturday PM peak hour. However, the low volume on the minor road and the high volume on the major road would cause the minor approach to operate at LOS F. The delays are typically with left turns from the minor street. Operationally motorists will either take advantage of the traffic platoons finding a gap to enter the facility or re-route by entering the facility with a right turn. No additional improvements are recommended at this intersection. This impact is considered significant and unavoidable. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Mitigation Measure: SR 16 / Dillard Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS E with 57.0 seconds of delay and LOS B with 15.6 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Sloughhouse Road. None Available. This intersection does not meet the Peak Hour Warrant (Warrant No. 11) from the Caltrans *Traffic Manual*. There are 10 other signal warrants in the Caltrans *Traffic Manual* that would need to be checked to see if a signal is needed at this intersection. These consider overall operations during the highest four and eight hours of the day. The overall LOS is LOS A during both the weekday and Saturday PM peak hour. However, the low volume on the minor road and the high volume on the major road would cause the minor approach to operate at LOS F. The delays are typically with left turns from the minor street. Operationally motorists will either take advantage of the traffic platoons finding a gap to enter the facility or re-route by entering the facility with a right turn. No additional improvements are recommended at this intersection. This impact is considered significant and unavoidable. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4–lanes.

Mitigation Measure: SR 16 / Grant Line Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes, and from Grant Line Road to Rancho Murieta (past Latrobe Road) to 4-lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 37.3 seconds of delay and LOS B with 15.4 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Sunrise Boulevard. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6-lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 38.8 seconds of delay and LOS B with 17.4 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Excelsior Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. This improvement is planned by Sacramento County. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS D with 35.2 seconds of delay and LOS B with 12.3 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Bradshaw Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

- Improvements identified for the Cumulative (No Project) Condition. The Sacramento County General Plan of 1993 identified the need to widen SR 16 from Bradshaw Road to Grant Line to 6–lanes.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS E with 55.6 seconds of delay and LOS C with 23.5 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 and Project Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection. Split out the southbound approach combined through lane/left-turn lane into an exclusive left-turn lane and an exclusive through lane. It is also recommended that the northern loop road driveway access be restricted to right-in/right out movements enforced by a raised median that would extend from the primary project driveway to just south of the northern loop road driveway. The southern loop road driveway will continue to allow all vehicular movements. This intersection modification would be included in the mitigation of this project driveway intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 18.2 seconds of delay and LOS B with 12.1 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 49 and Service Access Driveway. The owners, developers and/or successors-in-interest shall:

- Signalize the intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS A with 5.4 seconds of delay and LOS A with 5.3 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

SECTION 6
SUPPLEMENTAL ANALYSIS – BUENA VISTA

PROJECT TRIP GENERATION

Trip generation estimates for the Buena Vista Casino project are presented in Table A. The trip generation used is an average of trip generation rates obtained from three different sources. This methodology was used in order to be consistent with the approach used in the Buena Vista EIR (Traffic and Circulation Element).

The trip generation land use estimates are based on the data provided in the Notice of preparation (NOP) of Draft Tribal Environmental Impact Report (TEIR) for the Buena Vista Rancheria of Me-Wuk Indians of California. These estimates are based on the assumptions made in the Buena Vista Environmental Assessment (Traffic and Circulation Section).

The NOP describes the project as follows:

Total Project Size = 400,000 square feet

- 56,000 square feet of main gaming floor
- 2000 slot machines
- 80 gaming tables

The project will provide 3500 to 4000 parking spaces. Other facilities may include restaurants, coffee shop, food court, ballrooms etc. The trip generation estimates are presented below in **Table 6-1**.

Table 6-1
Trip Generation Estimates – Buena Vista Casino

Variable	Quantity	Source	Daily Rates	PM Peak Hour Rates			Daily Trips	PM Peak Hour Trips		
				In	Out	Total		In	Out	Total
Gaming Devices	2355	ITE		0.19	0.24	0.43		447	1013	1460
Casino ksf	56	SANDAG *Range from 97 to 130* ITE	97 130	8.5	8.8	17.3	5,432.00 7,280.00	476	969	1445
Parking Spaces	3750	R. Trout		0.32	0.18	0.5		1200	1875	3075
							Average	**708**	**1285**	**1993**

Notes:
Parking quantity assumes an average of 3500 and 4000 spaces.
Daily trip generation rates are derived from the San Diego Association of Governments unpublished data.
The number of gaming devices was adjusted to reflect an increase in floor space from the original project description in the Environmental Assessment.

PROJECT TRIP DISTRIBUTION

Trip distribution patterns used in this analysis are based on the trip distributions presented in the Buena Vista EIR (Traffic and Circulation Section). Based on those directional distributions, only four intersections and three roadway segments overlap between the Ione casino project and the Buena Vista casino project.

Roadway Segments

- SR 16 West of Old Sacramento Road
- SR 124 South of SR 16
- SR 88 West of SR 124

Intersections

- No. 8 SR 104 (Preston Avenue) / SR 124
- No. 9 SR 104 (Main Street) / SR 124
- No. 10 SR 88 / SR 124
- No 15 SR 16 / Ione Road

Also, twenty percent (20%) of the Buena Vista trip distributions would impact the Ione Casino roadway facilities described above. The Buena Vista project trips were assigned to the roadway segments and intersections by applying the respective trip distribution percentage to the trip generation. Those trips were then added to the Ione Casino Cumulative Plus Alternative A with Mitigation Measures condition traffic volumes.

ROADWAY SEGMENT LEVEL OF SERVICE

The results of the roadway segment analysis are presented below in **Table 6-2**.

Table 6-2
Roadway Segment Level of Service
Cumulative Plus Alternative A with Mitigation Plus Buena Vista Casino

Roadway	Capacity	Class	Cumulative Plus Alternative A with Mitigation Measures			Cumulative Plus Alternative A with Mitigation Measures (Plus Buena Vista Casino)		
			ADT	V/C	LOS	ADT	V/C	LOS
SR 16 West of Old Sacramento Road	34,900	Arterial	11,010	0.32	B	11,738	0.34	B
SR 124 South of SR 16	18,900	Arterial II	5,740	0.30	C	6,322	0.33	C
SR 88 West of SR 124	20,200	Arterial I	14,320	0.71	D	19,052	0.94	E

Notes:
Capacity and Class are the standards for the Recommended Improvements
Bold denotes a significant impact.

Mitigation Measures

When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are described. Based on the above results of the analysis, addition of Buena Vista Casino project trips would allow the above-listed roadway segments to operate at an acceptable LOS and therefore, not require additional mitigation.

INTERSECTION LEVEL OF SERVICE

The results of the intersection LOS analysis are presented below in **Table 6-3**.

Table 6-3
Cumulative Plus Alternative A with Mitigation Plus Buena Vista Casino
Intersection Level of Service – Weekday PM Peak Hour

Intersection Location		Cumulative Plus Alternative A with Mitigation						Cumulative Plus Alternative A with Mitigation (Plus Buena Vista Casino)					
		Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
8	SR 104 (Preston Avenue) / SR 124	32.6	C					**69.5**	**E**	-	-	-	-
9	SR 104 (Main Street) / SR 124	22.8	B					17.7	B	-	-	-	-
10	SR 88 / SR 124	-	-	5.9	A	20.7	C	-	-	6.3	A	24.5	C
15	SR 16 / Ione Road	-	-	2.2	A	42.8	E	-	-	**26.7**	**D**	**220.4**	**F**

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes a significant impact.

Mitigation Measures

The following is a description of the intersections that would operate at unacceptable LOS under the Cumulative Plus Alternative A with Mitigation Plus Buena Vista Casino Condition. When significant impacts are identified, mitigation measures needed to reduce the impacts to a less-than-significant levels are also described.

The resulting improved LOS during the Weekday PM peak hour is presented in **Table 6-4**.

Table 6-4
Cumulative Plus Alternative A with Mitigation Plus Buena Vista Casino
Mitigation Measures - Intersection Level of Service – Weekday PM Peak Hour

Intersection Location		Cumulative Plus Alternative A with Mitigation (Plus Buena Vista Casino)						Cumulative Plus Alternative A with Mitigation (Plus Buena Vista Casino) With Additional Mitigation					
		Signalized Intersection		Unsignalized Intersection				Signalized Intersection		Unsignalized Intersection			
		Intersection Average		Intersection Average		Worst Movement		Intersection Average		Intersection Average		Worst Movement	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
8	SR 104 (Preston Avenue) / SR 124	**69.5**	**E**	-	-	-	-	28.3	C	-	-	-	-
15	SR 16 / Ione Road	-	-	**26.7**	**D**	**220.4**	**F**	12.2	B	-	-	-	-

Notes:
Average control delay is seconds per vehicle based on the *Highway Capacity Manual* (TRB, 2000).
Delay and LOS are for all vehicles at signalized, and for the worst movement at unsignalized intersections.
Bold denotes a significant impact.

Mitigation Measure: SR 104 (Main Street) / SR 124 (Church Street). The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

In the Weekday PM peak hour, addition of the Buena Vista casino project trips to the northbound right-turn movement would cause the intersection to degrade to LOS E with average delay of 69.5 seconds per vehicle. The shared thru/right lane would not be able to accommodate the total traffic at the northbound approach. It is recommended that:

- the northbound (NB) approach be widened and reconfigured to accommodate one left-turn lane, 1 thru lane and 1 exclusive right-turn lane.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS C with 28.3 seconds of delay during the Weekday PM peak hour. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Mitigation Measure: SR 16 / Ione Road. The owners, developers and/or successors-in-interest shall be responsible for their proportionate share of the following improvements:

In the Weekday PM peak hour, the Buena Vista casino project will add 129 trips to the northbound left-turn movement. This movement would degrade the northbound approach LOS to LOS F with approach delay of 220.4 seconds. The vehicles making a northbound left-turn onto Highway 16 would not find enough gaps in the traffic stream to make the turn, which will result in queues at the intersection. This intersection also meets and exceeds Caltrans Signal Warrant #11 for peak hour volume. It is recommended that:

- traffic signal equipment be installed at this intersection.

Implementation of this mitigation measure would result in the intersection operating at an acceptable LOS B with 16.6 seconds of delay and LOS B with 11.1 seconds of delay during the Weekday and Saturday PM peak hour, respectively. Implementation of the mitigation measure would also reduce the significance of the impact to a less-than-significant level.

Detailed intersection LOS analysis calculation sheets for all analysis scenarios and traffic signal warrant analysis sheets are included in **Appendix AC.**