

**Appendix D:
Traffic Analysis**

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TRAFFIC IMPACT STUDY

FOR

**SOLANO COMMUNITY COLLEGE DISTRICT
NEW SCIENCE BUILDING**

Fairfield, CA

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**TRAFFIC IMPACT ANALYSIS FOR
SOLANO COMMUNITY COLLEGE DISTRICT
NEW SCIENCE BUILDING**

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**TRAFFIC IMPACT ANALYSIS
SOLANO COMMUNITY COLLEGE DISTRICT
NEW SCIENCE BUILDING**

INTRODUCTION

Study Purpose and Project Description

This traffic impact study presents an analysis of the traffic related impacts associated with development of a new science building on the Solano Community College Fairfield Campus. The campus is located on the east side of Suisun Valley Road to the north of Interstate 80. The new building will accommodate relocated classrooms, offices and facilities for the instruction of science classes from the existing science building. The new building will be one story containing approximately 30,400 SF. Once the project is completed, approximately 9,000 SF of space in the existing science building will potentially be repurposed as additional instructional space. Figure 1 displays the regional location of the project site.

Overall Analysis Approach

This traffic impact study presents an analysis of a.m. and p.m. peak hour traffic operations under the following scenarios:

- Existing Peak Hour Conditions,
- Existing plus Project Conditions,
- Existing Plus Approved/Pending Projects (EPAP) Conditions
- Existing Plus Approved/Pending Projects plus New Science Building
- Long Term Cumulative Traffic Conditions
- Long Term Cumulative with Science Building Project

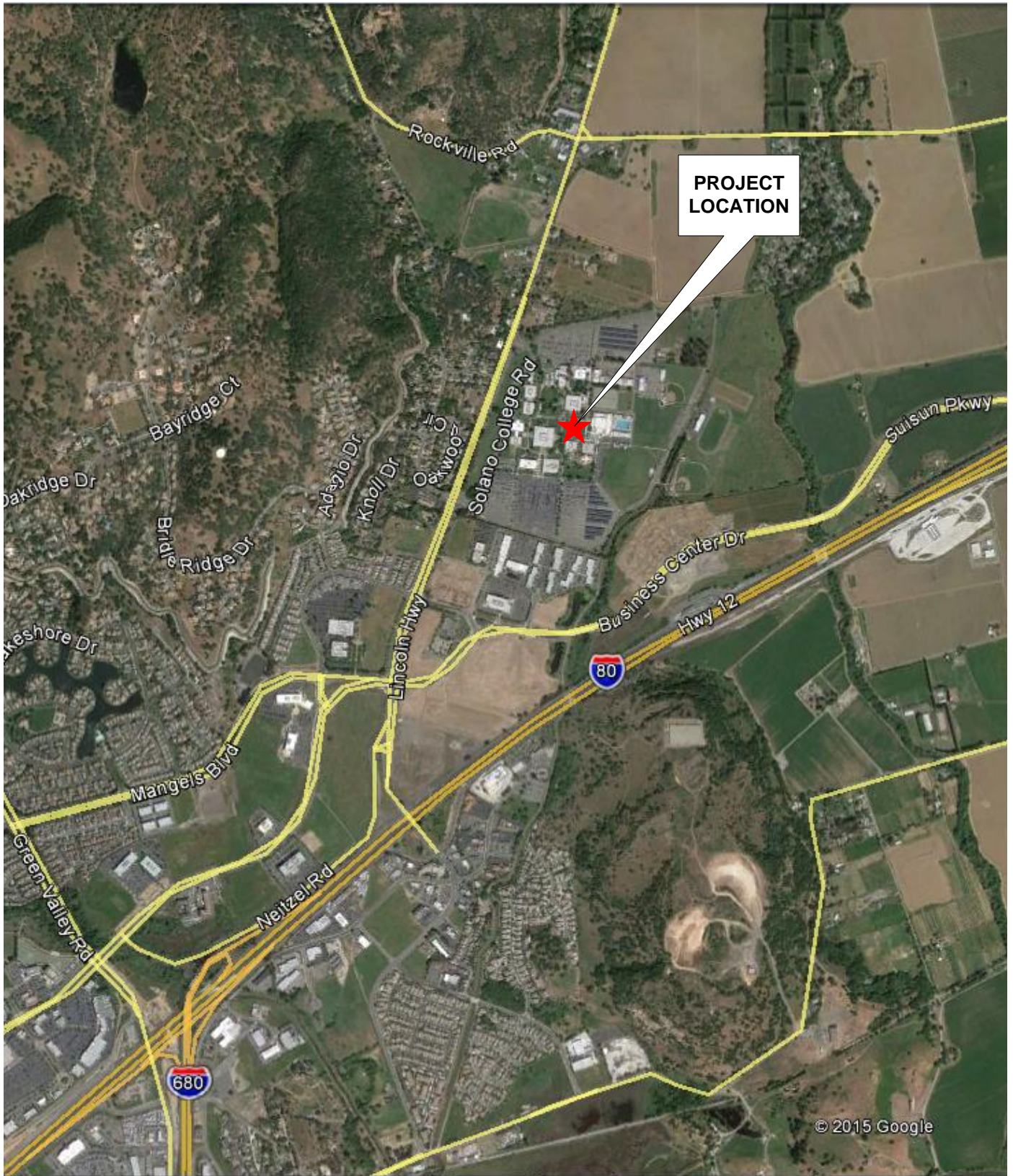
The Existing Plus Approved Projects (EPAP) condition is a near-term background condition which includes existing traffic volume levels plus any new traffic associated with approved and pending land use development projects in this area of Solano County and City of Fairfield.

Cumulative traffic conditions are a long-term background condition which includes future year forecasts associated with build out of the City of Fairfield General Plan considering a year 2035 planning horizon.

Study Area Intersections. The quality of traffic flow is typically governed by the operation of intersections along arterial and collector street systems. To quantitatively evaluate traffic

conditions and to provide a basis for comparison of operating conditions with and without traffic generated by the proposed project, traffic operations at the following six (6) study area intersections were evaluated:

- Suisun Valley Road / Rockville Road
- Suisun Valley Road / Monte Vista Court
- Suisun Valley Road / Oakwood Drive / Solano College Road
- Suisun Valley Road / Westamerica Drive / Kaiser Drive
- Suisun Valley Road / Business Center Drive
- Suisun Valley Road / Neitzel Road



VICINITY MAP

EXISTING SETTING

Study Area

The following is a description of area roadways that provide circulation to the project site. These roadways are shown in Figure 2.

- Suisun Valley Road is a north-south arterial which provides access to the Solano Community College Fairfield Campus and provides access to Interstate 80. The roadway provides a 2-lane over crossing of Interstate 80 and then widens to a four and six lane facility in the vicinity of Business Center Drive and Westamerica Drive. The roadway then narrows back to a 2-lane facility adjacent to the college and extends north past Rockville Road into agricultural lands. Two intersections provided access to the college, at Solano College Road and at Monte Vista Court. The Solano County General Plan Roadway Diagram identifies Suisun Valley Road as a "County Route of Regional Significance" from Interstate 80 to Rockville Road.
- Rockville Road is an east-west 2-lane facility north of the college and extends east into the greater Fairfield area and west to the community of Green Valley. The Solano County General Plan Roadway Diagram identifies Rockville Road as a "County Route of Regional Significance" from Suisun Valley Road east to Fairfield.
- Business Center Drive is a four to six lane facility which parallels the north side of Interstate 80.
- Solano College Road and Monte Vista Court form a loop roadway around the perimeter of the Solano College Campus and provide circulation to the campus parking lots.
- Westamerica Drive provides local circulation to adjacent office and residential land uses in the area.
- Neitzel Road parallels the north side of Interstate 80 and provides access from westbound Interstate 80 to Suisun Valley Road.

Bicycle and Pedestrian Facilities

Sidewalks currently exist along Suisun Valley Road from Business Center Drive north to the college campus. North of the campus and south of Business Center Drive there are no sidewalk facilities. Business Center Drive, Westamerica Drive and Oakwood Drive are improved with sidewalk facilities.

There are no delineated bike lane facilities along study area streets. The City of Fairfield General Plan Circulation Element identifies proposed Class II bike lanes along the length of Suisun Valley Road through the study area.

Transit Service

Fairfield and Suisun Transit (FAST) provides bus service to the college. Bus stops are located at the college campus. Route 7 provides service to the campus on 1/2 hour intervals throughout the day.

Evaluation Methodology

The following is a description of the methods used in this impact study to analyze intersection operations.

Level of Service Analysis Procedures. Level of Service (LOS) analysis provides a basis for describing existing traffic conditions and for evaluating the significance of project-related traffic impacts. Level of Service measures the quality of traffic flow and is represented by letter designations from A to F, with a grade of A referring to the best conditions, and F representing the worst conditions. The characteristics associated with the various LOS for intersections are presented in Table 1 and further discussed below.

**TABLE 1
LEVEL OF SERVICE DEFINITIONS**

Level of Service	Signalized Intersections	Unsignalized Intersection
“A”	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh
“B”	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh
“C”	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh
“D”	Congestion of critical approaches but intersection functional. Cars required too wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh
“E”	Congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh
“F”	Delay > 80.0 sec	Delay > 50 sec/veh

The signalized study intersections have been analyzed using methods presented in the *Highway Capacity Manual (HCM)*. The “Synchro” traffic simulation software has been used to calculate the Levels of Service at study intersections using the HCM procedures.

Un-signalized study intersections with side street stop sign control or All-way stop sign control have also been evaluated using *Highway Capacity Manual* procedures. At side street stop-sign-controlled intersections, the LOS is presented for turning movements which must yield the right of way to uncontrolled through traffic.

Standards of Significance / Level of Service Thresholds. In this traffic impact study, the significance of the proposed projects impact on traffic operating conditions is based on a determination of whether project generated traffic results in intersection operating conditions below acceptable standards as defined by the governing agency. A project’s impact on traffic conditions is considered significant if implementation of the project would result in LOS changing from levels considered acceptable to levels considered unacceptable, or if the project would significantly worsen an already unacceptable LOS without the project. Relevant policies for the study area consist of the following:

City of Fairfield

Objective C1 3 of the City of Fairfield General Plan Circulation Element requires intersections to maintain a peak hour LOS D or better for arterial intersections, C or better for collector street intersections and B or better for local intersections unless public health, safety or welfare factors determine otherwise.

Solano County

Section 1-4 of the Solano County Road Improvement Standards and Land Development Requirements establishes LOS C for all roads and intersections. This standard requires all projects to maintain a LOS C except where the existing LOS is below C, at which point the project should not decrease the LOS.

Existing Traffic Conditions and Levels of Service

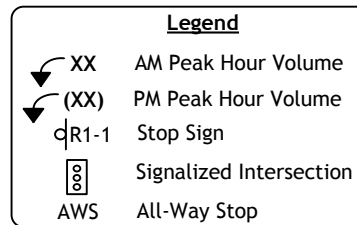
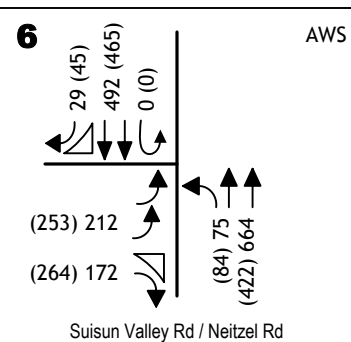
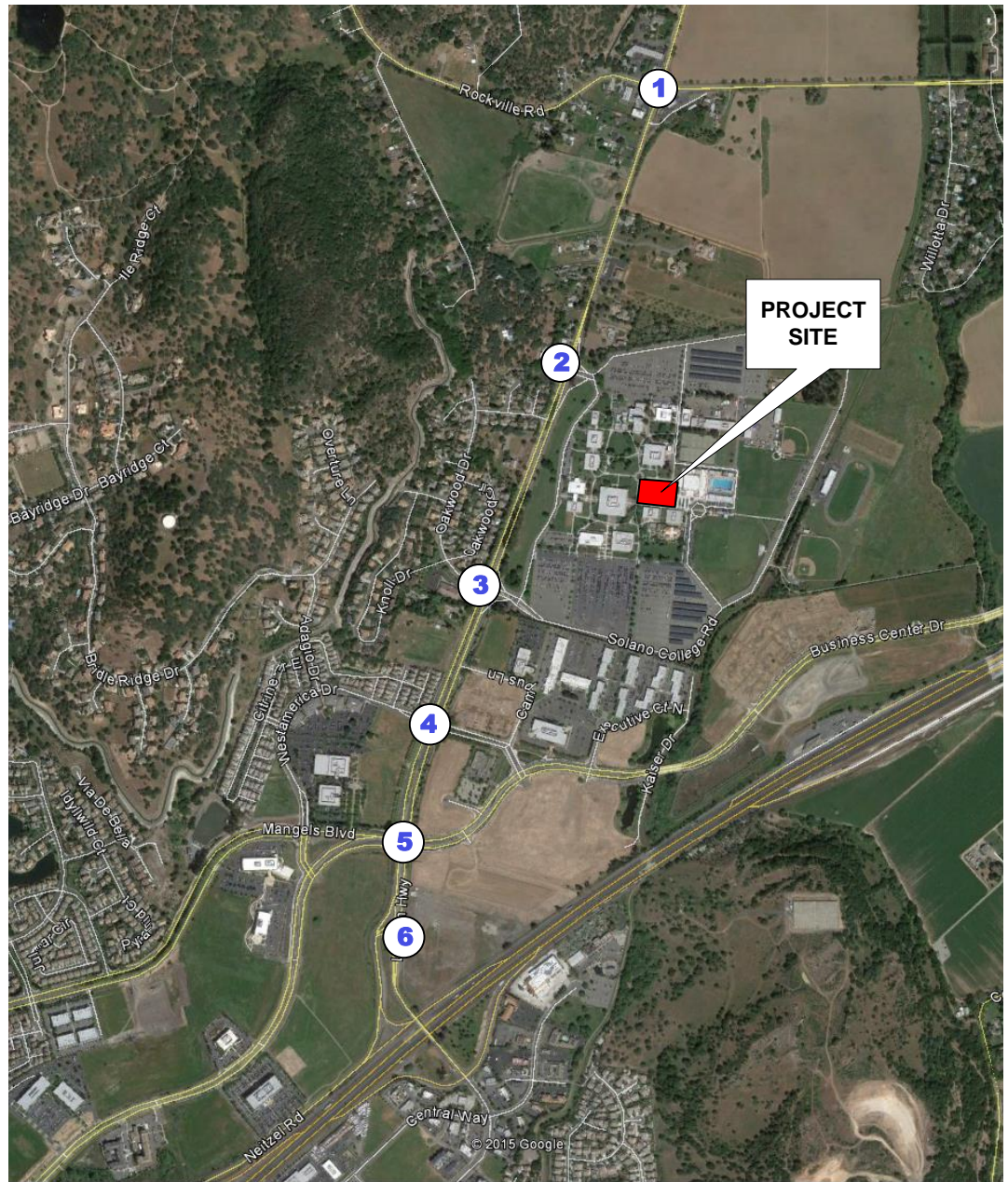
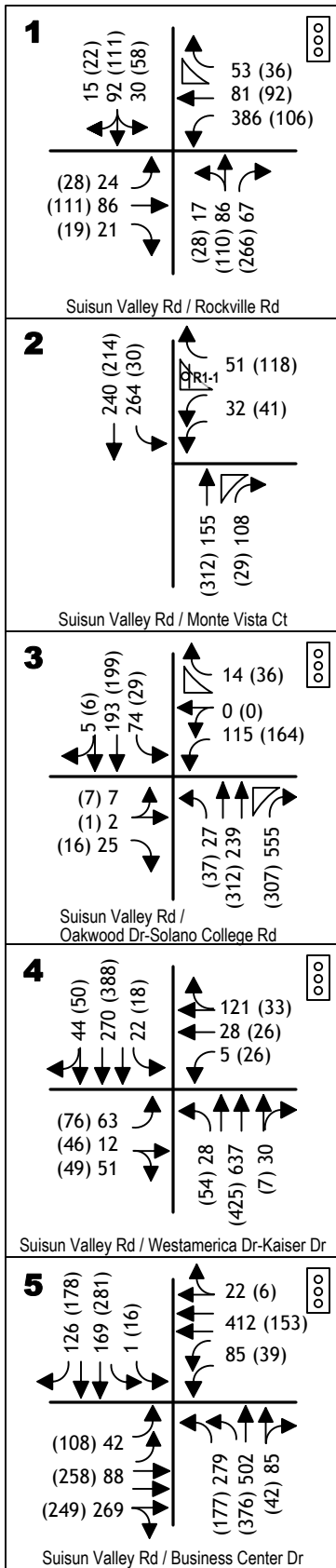
The following is a description of existing traffic operating conditions in the study area.

Existing Traffic Volumes. Traffic volume data was collected for this traffic impact study at the six study intersections during October 2015. Data was collected in 15-minute increments from 7:00 – 9:00 a.m. and 4:00 - 6:00 p.m. The contiguous one hour periods with the highest volumes within the two-hour data collection period were used in this traffic impact study as the a.m. and p.m. peak hour. Figure 2 presents the existing lane configurations, intersection control and existing peak hour traffic volumes at the six study intersections.

Existing Intersection Levels of Service. Table 2 presents a summary of existing peak hour LOS at the six (6) study intersections. Level of Service calculations are provided in the Appendix. Calculated peak hour factors based upon observed traffic conditions have been used in calculating peak hour LOS. As shown in Table 2, all study intersections currently operate satisfactorily within established operating LOS standards. Level of Service “C” or better delays are currently experienced at five of the six study intersections during the a.m. and p.m. peak hours, with LOS D operations at the Suisun Valley Road / Neitzel Road intersection during the a.m. peak traffic hour.

**TABLE 2
EXISTING CONDITIONS
INTERSECTION LEVELS OF SERVICE**

Intersection	LOS Standard	Control	Existing Conditions			
			AM Peak Hour		PM Peak Hour	
			LOS	Delay	LOS	Delay
1. Suisun Valley Rd / Rockville Rd	C	Signal	C	29.4	B	19.8
2. Suisun Valley Rd / Monte Vista Ct SB Left Turn WB Left Turn	C	WB Stop	A	8.6	A	8.0
			C	21.4	B	10.4
3. Suisun Valley Rd / Solano College Rd	D	Signal	A	9.4	B	13.3
4. Suisun Valley Rd / Westamerica Dr	D	Signal	B	14.5	C	21.8
5. Suisun Valley Rd / Business Center Dr	D	Signal	B	15.9	B	15.1
6. Suisun Valley Rd / Neitzel Rd	D	All-Way Stop	D	27.1	B	13.9



EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

PROJECT CHARACTERISTICS

Development of the proposed project will potentially attract additional traffic to the project site. This section of the traffic impact study describes the characteristics of project-related traffic.

Trip Generation

The number of vehicle trips that are expected to be generated by development of the proposed project has been estimated using published trip generation data. The Institute of Transportation Engineers (ITE) publication *Trip Generation Manual, 9th Edition*, has been used.

ITE Trip Generation Manual estimates for the land use category 540, "Community College", have been applied to the proposed project. The trip generation rates and the resulting trip generation estimates are presented in Tables 3 and 4, respectively. As shown, the proposed 30,400 SF building is projected to generate a total of 91 a.m. and 77 p.m. peak hour trips.

The new science building is intended to replace an existing building, a portion of which may be repurposed for additional instructional space. For this analysis, trips associated with the new building area have been added to background traffic to present a conservative estimate of the traffic impacts associated with the new building space.

**TABLE 3
TRIP GENERATION RATES**

Land Use	Daily	AM Peak Hour		PM Peak Hour	
		Rate	In / Out	Rate	In / Out
Community College (ITE 540)	27.49	2.99	74% / 26%	2.54	58% / 42%

Source: Trip Generation Manual, 9th Edition. Trip rates per 1,000gsf.

**TABLE 4
PROJECT TRIP GENERATION**

Land Use	Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Campus Science Bldg (30,400 sf)	835	67	24	91	45	32	77

Trip Distribution

The distribution of vehicle trips associated with the new science building has been estimated based on existing traffic patterns observed at the access intersections serving the campus. Table 5 presents the trip distribution percentages for the proposed project used for the traffic analysis.

**TABLE 5
PROJECT TRIP DISTRIBUTION**

Direction	Percent Distribution			
	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
North on Suisun Valley Road	33%	31%	15%	43%
South on Suisun Valley Road	67%	69%	85%	57%
Total	100%	100%	100%	100%

Trip Assignment

Trips that would be generated by the proposed project have been assigned to the study area street system based on the location of access driveways, the existence of any turn restrictions at area intersections and the distribution estimates discussed above. Figure 3 displays the project related traffic volumes at each study intersection during the a.m. and p.m. peak hours.

Existing Plus Project Traffic Conditions

The trips accompanying development of the new science building were superimposed onto existing background traffic. Resulting "Existing plus Project" volumes are presented in Figure 4. Table 6 displays the peak hour LOS at each study intersection under the Existing plus Project condition. As shown, the addition of project generated traffic is projected to result in relatively minor increases in delay at each of the study intersections, generally in the range of one (1) second or less at the signalized intersections and 2 - 3 seconds at the stop sign controlled intersections. No changes to existing Levels of Service are projected. These impacts are considered less than significant based upon identified operating standards.

**TABLE 6
EXISTING PLUS PROJECT
INTERSECTION LEVELS OF SERVICE**

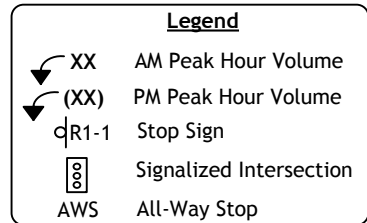
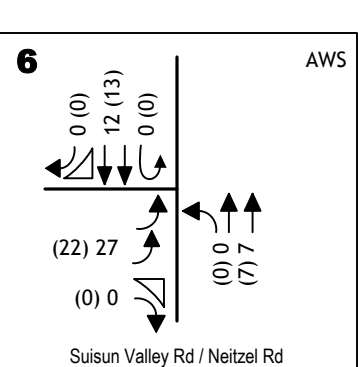
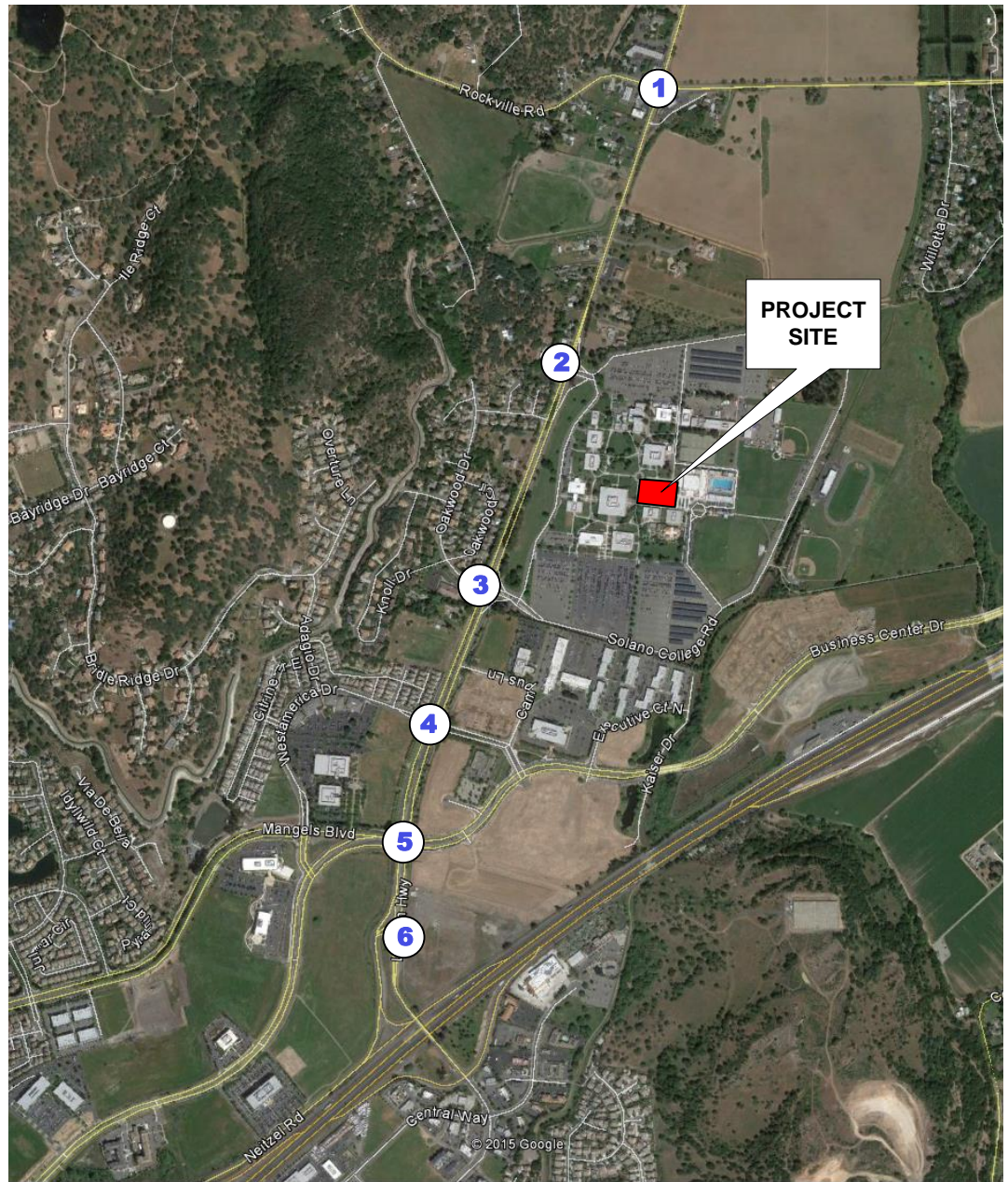
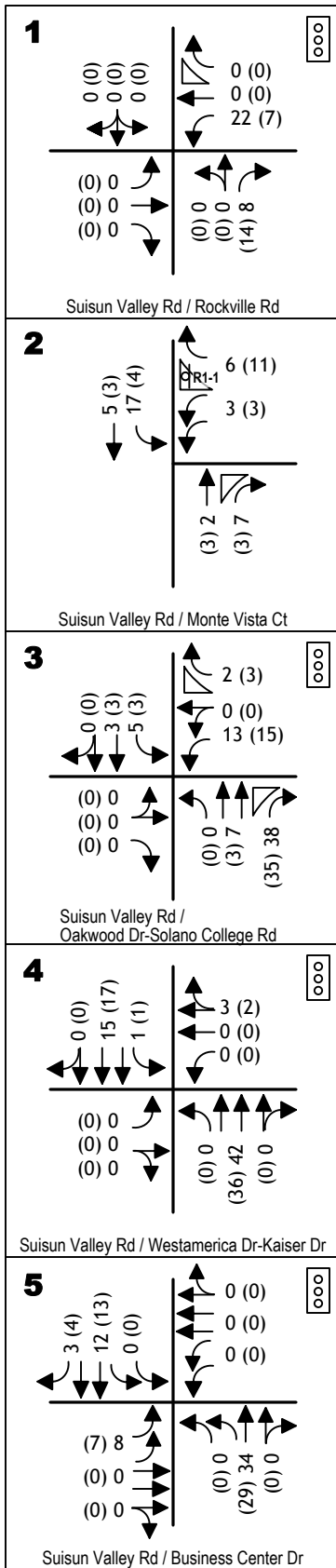
Intersection	LOS Standard	Control	Existing – No Project				Existing plus Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Suisun Valley Rd / Rockville Rd	C	Signal	C	29.4	B	19.8	C	30.7	B	19.9
Suisun Valley Rd / Monte Vista Ct - SB Left Turn - WB Left Turn	C	WB Stop	A C	8.6 21.4	A B	8.0 10.4	A C	8.7 23.3	A B	8.0 10.5
Suisun Valley Rd / Solano College Rd	D	Signal	A	9.4	B	13.3	A	9.6	B	13.5
Suisun Valley Rd / Westamerica Dr	D	Signal	B	14.5	C	21.8	B	14.5	C	21.2
Suisun Valley Rd / Business Cntr Dr	D	Signal	B	15.9	B	15.1	B	16.0	B	15.7
Suisun Valley Rd / Neitzel Rd	D	All-Way Stop	D	27.1	B	13.9	D	29.9	B	14.4

Average delay in seconds

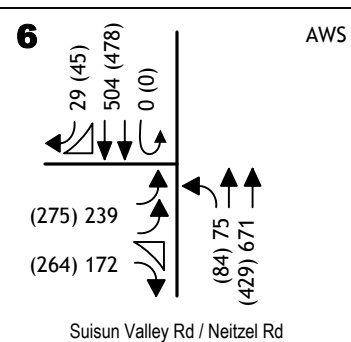
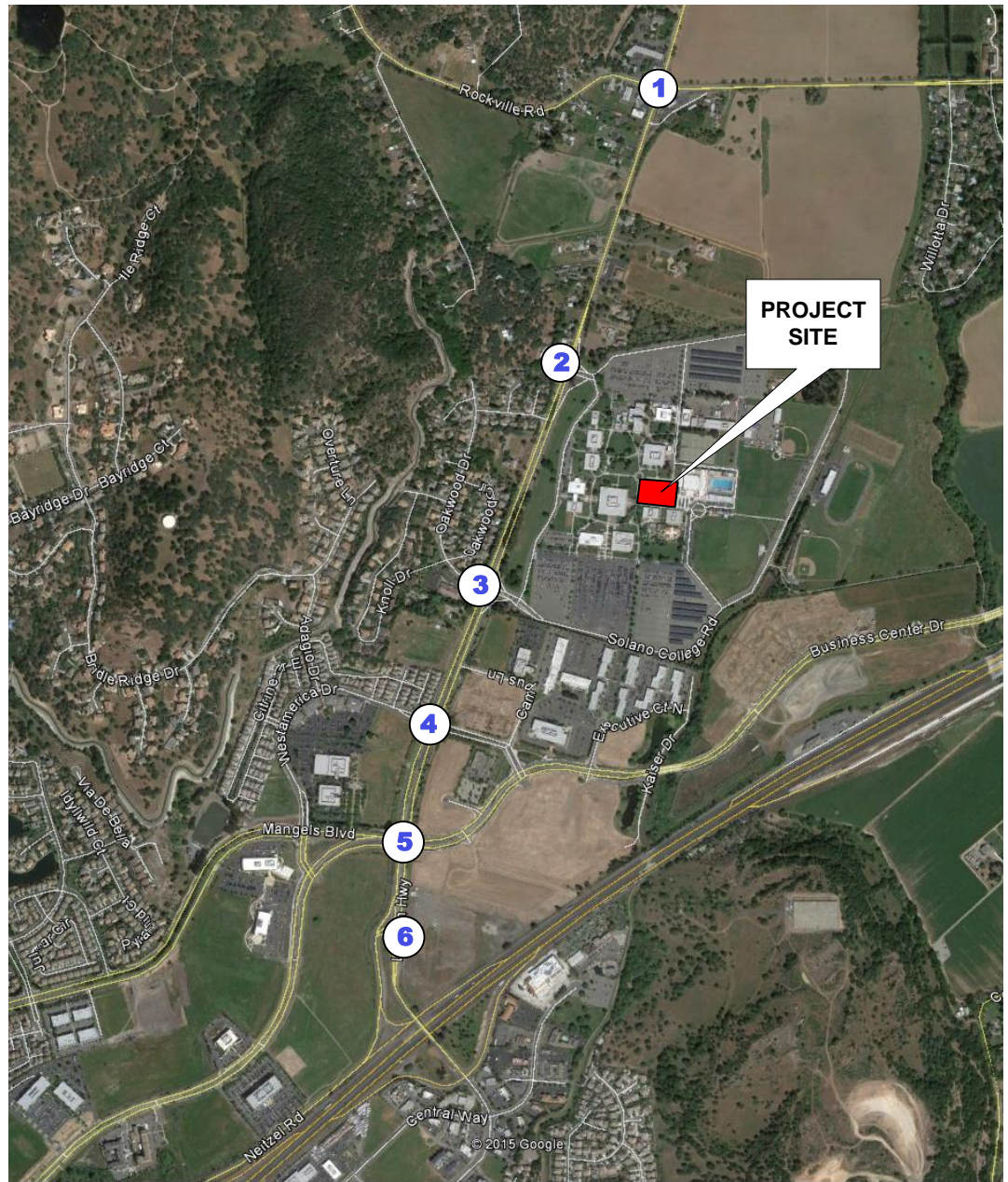
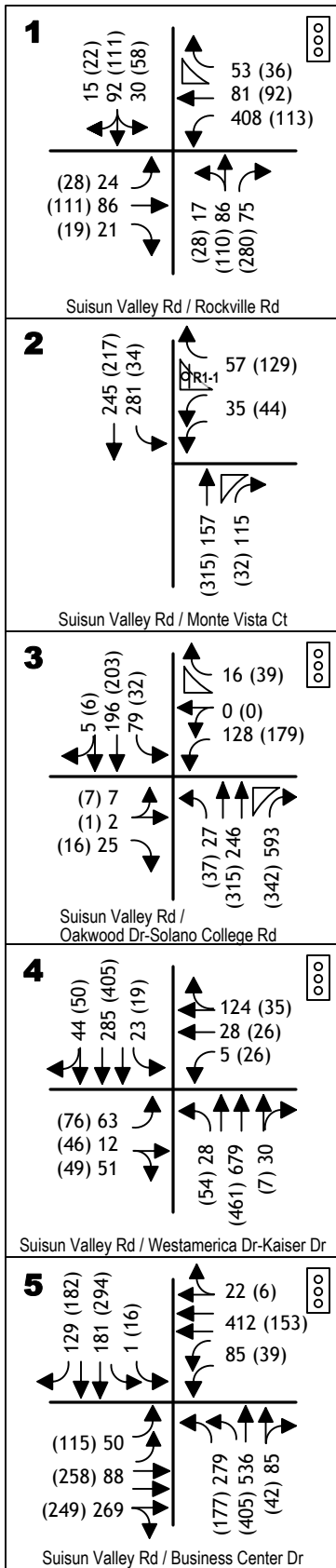
Impacts to Alternative Transportation Modes

Pedestrian Facilities. The project will not create any unsafe condition for pedestrians and does not conflict with planned pedestrian facilities identified in adopted plans. Thus, the project’s impact on pedestrian circulation is not considered significant.

Bicycle Facilities. Similarly, the project will not create any unsafe condition for bicyclists and does not conflict with planned bicycle facilities identified in adopted plans. Thus, the project’s impact on bicycle circulation is not considered significant.



**PROJECT ONLY TRAFFIC VOLUMES
AND LANE CONFIGURATIONS**



Legend

- XX AM Peak Hour Volume
- (XX) PM Peak Hour Volume
- ⊠ R1-1 Stop Sign
- ⊠ Signalized Intersection
- AWS All-Way Stop



EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

EXISTING PLUS APPROVED PROJECTS CONDITIONS

This section of this traffic study describes operating conditions under a near-term background scenario. The Existing Plus Approved Project (EPAP) background condition is composed of existing traffic volumes and projected changes in background traffic conditions associated with development of previously approved or pending projects in the vicinity of the study area. Trips generated by the new science building project were then added to the EPAP background condition to identify the incremental impacts of the proposed project.

Background Traffic Volume Forecasts. Development of approved and pending projects would generate new vehicle trips and potentially affect traffic operations at the study intersections. Traffic volumes for the base EPAP condition were calculated by adding trips associated with approved and pending projects to existing a.m. and p.m. peak hour traffic volumes. Applicable projects were identified based upon review of the City of Fairfield's Commercial and Residential Projects List.

Identified projects include the following:

- Campus Estates, Campus Lane site - 58 single family units at the northeast corner of Suisun Valley Road and Kaiser Drive.
- Bradbury - 146 single family units on Business Center Drive.
- Green Valley Apartments - 286 multi-family units on Business Center Drive.
- Rockville Terrace - 161,000 SF commercial on Mangels Blvd

The quantity of additional traffic on a particular section of the street network associated with the approved projects is dependent upon two factors:

- Trip Generation - the number of new trips generated by each project, and
- Trip Distribution and Assignment - the specific routes that the new traffic will likely take.

Trip Generation. The number of vehicle trips that are expected to be generated by development of approved projects has been estimated using typical trip generation rates that have been developed based on the nature and size of project land uses. Data compiled by the Institute of Transportation Engineers (ITE) and presented in the publication *Trip Generation, 9th Edition* is the source of trip generation rates used in this analysis.

Trip Distribution. The geographic distribution of vehicle trips associated with approved and pending projects is based on existing traffic patterns in the area, access to the individual sites and estimated origins and destinations of residents, employees or retail patrons.

Traffic Volumes. The traffic associated with approved and pending projects was added to existing background traffic volumes to create the EPAP base traffic volume condition.

Background Roadway Improvements. The analysis of EPAP conditions assumes no additional roadway network improvements within the study area will be provided by approved and pending projects.

EPAP No Project - Intersection Levels of Service. Table 7 displays the a.m. and p.m. peak hour LOS at each study intersection under EPAP No Project conditions. As shown, although traffic volumes under EPAP No Project conditions would incrementally increase over current conditions, all study intersections would continue to operate at acceptable LOS D or better under EPAP No Project conditions.

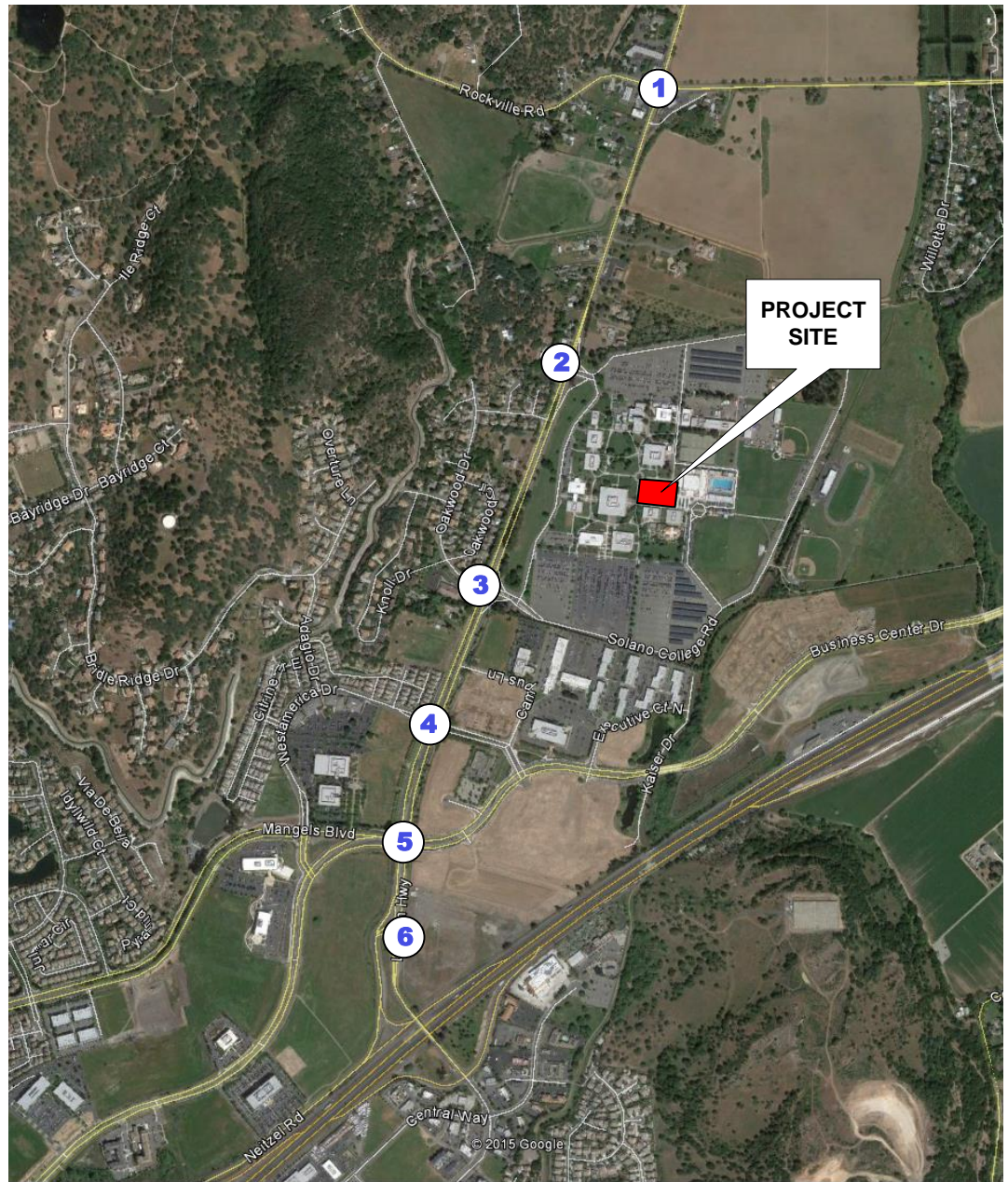
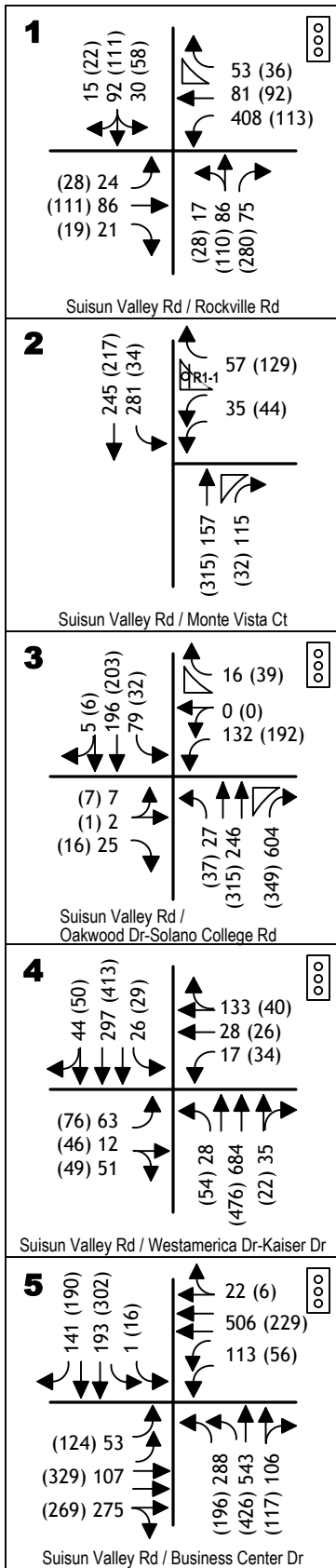
**TABLE 7
EPAP PLUS PROJECT
INTERSECTION LEVELS OF SERVICE**

Intersection	LOS Standard	Control	EPAP – No Project				EPAP plus Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Suisun Valley Rd / Rockville Rd	C	Signal	C	29.4	B	19.8	C	30.7	B	19.9
Suisun Valley Rd / Monte Vista Ct - SB Left Turn - WB Left Turn	C	WB Stop	A	8.6	A	8.0	A	8.7	A	8.0
			C	21.4	B	10.4	C	23.3	B	10.5
Suisun Valley Rd / Solano College	D	Signal	A	9.4	B	13.3	A	9.6	B	13.3
Suisun Valley Rd / Westamerica Dr	D	Signal	B	14.2	C	23.4	B	14.2	C	23.4
Suisun Valley Rd / Business Cntr Dr	D	Signal	B	16.8	B	17.4	B	17.0	B	17.4
Suisun Valley Rd / Neitzel Rd	D	All-Way Stop	D	31.2	C	16.1	D	34.6	C	16.9

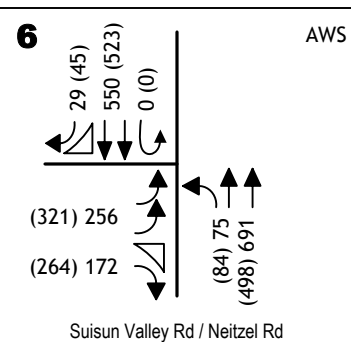
Average delay in seconds

EPAP Plus Project Traffic Conditions

The trips accompanying development of the proposed project were superimposed onto the background EPAP condition as previously identified. Resulting “EPAP plus Project” volumes are presented in Figure 5. Table 7 also displays the peak hour LOS at each study intersection under the EPAP plus Project condition. As shown, the addition of project generated traffic is projected to result in relatively minor increases in delay at each of the study intersections, similar to Existing plus Project conditions. No changes to base background Levels of Service are projected with the addition of project traffic. Level of Service “D” or better operations are projected to continue at all study intersections. These impacts are considered less than significant based upon identified operating standards.



PROJECT SITE



Legend

- XX AM Peak Hour Volume
- (XX) PM Peak Hour Volume
- ◻ R1-1 Stop Sign
- ◻ Signalized Intersection
- AWS All-Way Stop



EPAP PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

LONG TERM CUMULATIVE CONDITIONS

This section of this traffic study describes operating conditions under a long-term background scenario that is representative of Year 2035 conditions. The long term cumulative condition reflects future development of land uses and implementation of transportation improvement projects in the area as presented in the Fairfield General Plan and as forecast by the travel demand forecasting model developed for the General Plan Circulation Element. The Cumulative No Project scenario establishes a baseline condition for identifying any long-term project-related traffic impacts.

Year 2035 peak hour traffic model forecasts and base year model volume data was obtained from the City of Fairfield. Peak hour traffic model forecasts were compared to the base model year forecasts and local growth rates were calculated for individual roadway segments. These growth rates were then applied to the existing turning movement counts at each study intersection, and the results were balanced using the techniques contained in *Transportation Research Board's (TRB's) NCHRP report 255, Highway Data for Urbanized Area Project Planning and Design*. Figure 6 identifies resulting long term forecasts for the No Project condition.

As with previous scenarios, project generated traffic was then added to the long term cumulative base to develop Cumulative plus Project traffic projections. Figure 7 identifies the resulting long term traffic volume projections for the "Plus Project" condition.

Cumulative Levels of Service

Cumulative No Project Intersection Levels of Service. Table 8 displays a.m. and p.m. peak hour LOS at each study intersection under Cumulative No Project conditions. As shown, satisfactory operating Levels of Service are projected to continue at four of the six study intersections, with LOS C or better operations forecast. The Suisun Valley / Monte Vista Court intersection is projected to experience LOS D delays for left turns out of the college onto southbound Suisun Valley Road. However, as with current conditions, this left turn volume is projected to remain relatively low and volumes do not warrant signalization of the intersection. Therefore, delays associated with this turn movement are not judged to be significant.

The Suisun Valley Road / Neitzel Road intersection is projected to experience LOS E delays during the morning peak hour. This is beyond the identified LOS D operating standard for the intersection. This intersection is currently controlled by stop signs at each approach and forecast volumes warrant signalization of the intersection. Signalization of the existing intersection configuration would provide LOS A a.m. peak hour operations.

Information provided by the City of Fairfield regarding the Suisun Valley Road / Neitzel Road intersection indicates that: 1) signalization of the intersection would be required as a condition of approval for future development of the property on the east side of the intersection should the development request access via the east side of the intersection and 2) the Solano Transportation Authority in conjunction with Caltrans is considering alternatives which may change the location

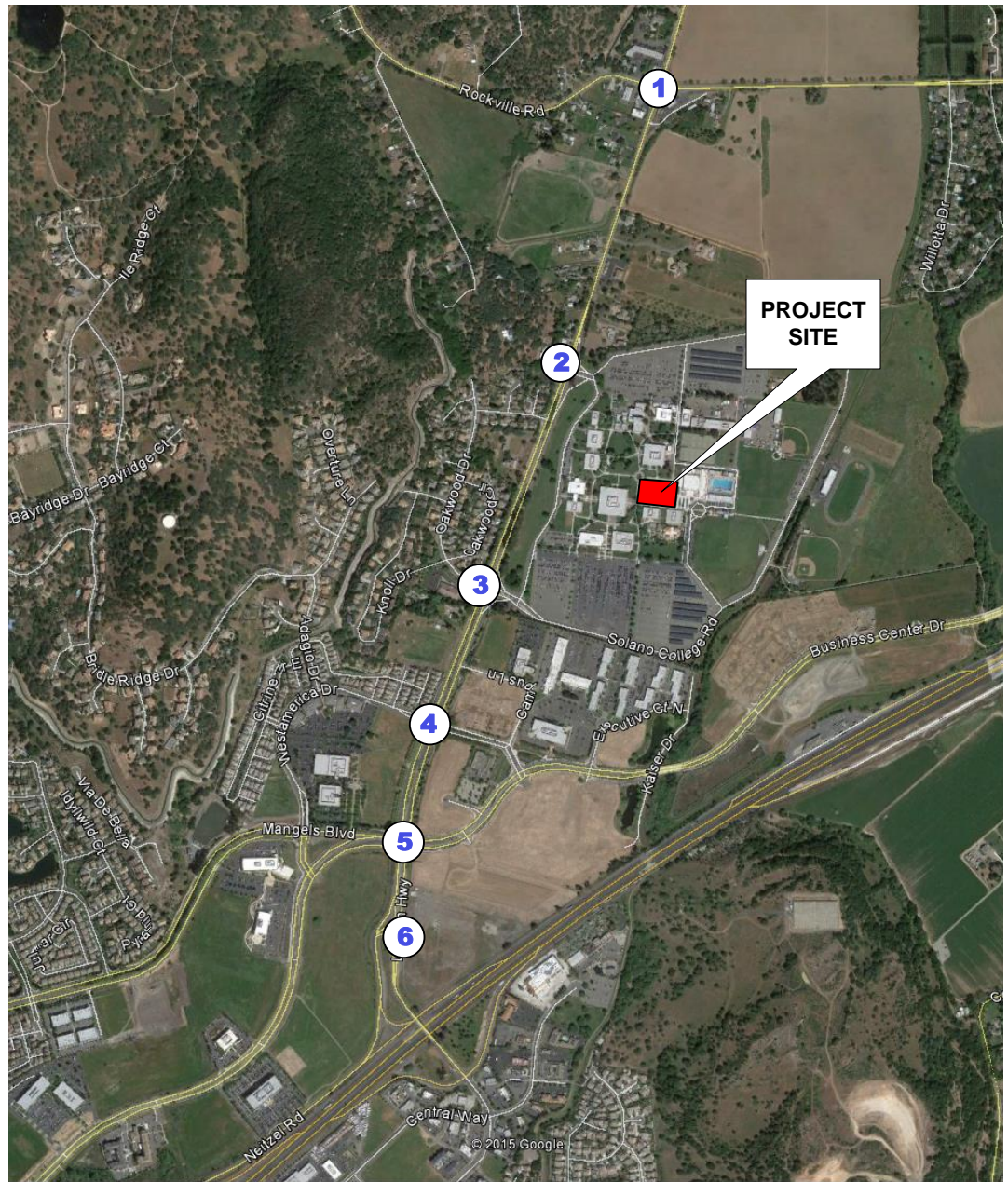
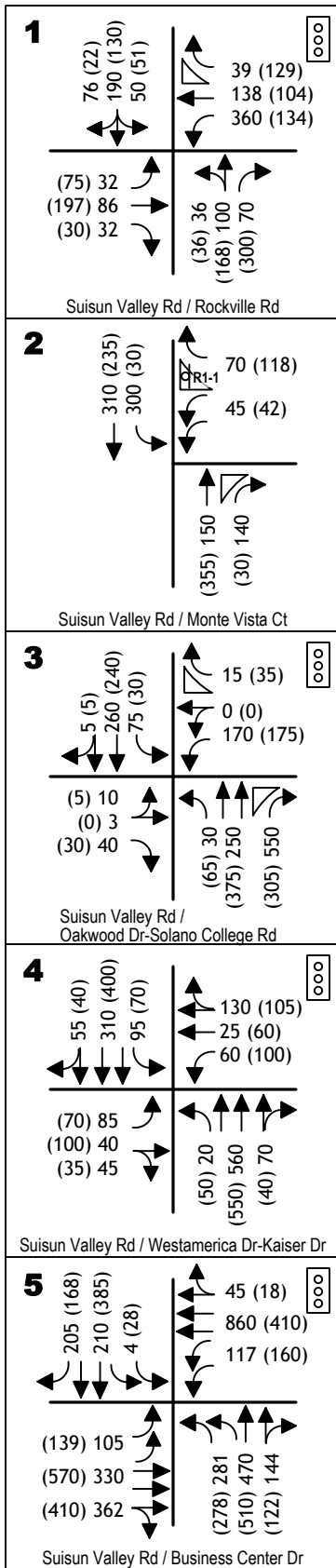
of the I-80 off-ramp to Neitzel Road. This would in turn potentially effect future traffic volume projections at the intersection as well as the need for signalization of the intersection.

Cumulative Plus Project Intersection Levels of Service. Table 8 also presents forecast operating conditions with project generated traffic. As shown, the addition of projected generated traffic to the study intersections is not projected to result in any changes in projected operating LOS when compared to the year 2035 base condition. Project traffic will incrementally contribute to LOS E delays projected for the Suisun Valley Road / Neitzel Road intersection during the a.m. peak hour. As with cumulative base conditions, signalization of this intersection would similarly result in satisfactory LOS A operations with project traffic should signalization ultimately be determined to be warranted.

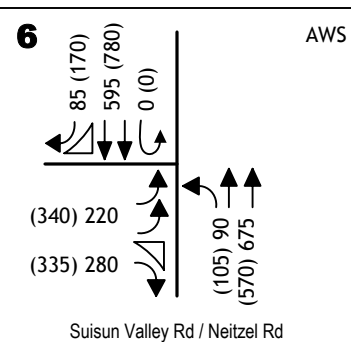
**TABLE 8
CUMULATIVE YEAR 2035 PLUS PROJECT
INTERSECTION LEVELS OF SERVICE**

Intersection	LOS Standard	Control	Year 2035 – No Project				Year 2035 plus Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Suisun Valley Rd / Rockville Rd	C	Signal	C	32.4	C	23.5	C	35.0	C	23.8
Suisun Valley Rd / Monte Vista Ct - SB Left Turn - WB Left Turn	C	WB Stop	A D	8.8 28.5	A B	8.1 10.7	A D	8.9 31.4	A B	8.2 10.8
Suisun Valley Rd / Solano College	D	Signal	B	12.5	B	14.1	B	12.9	B	13.7
Suisun Valley Rd / Westamerica Dr	D	Signal	B	17.9	C	20.4	B	18.0	C	20.4
Suisun Valley Rd / Business Cntr Dr	D	Signal	C	21.6	C	21.3	C	22.1	C	21.4
Suisun Valley Rd / Neitzel Rd	D	All-Way Stop	E	35.6	D	31.6	E	40.2	D	34.5

Average delay in seconds



PROJECT SITE

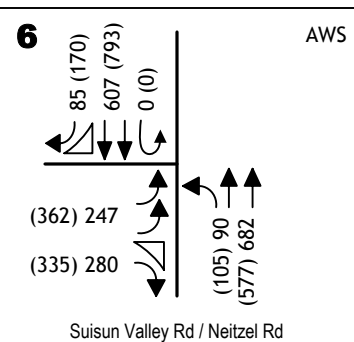
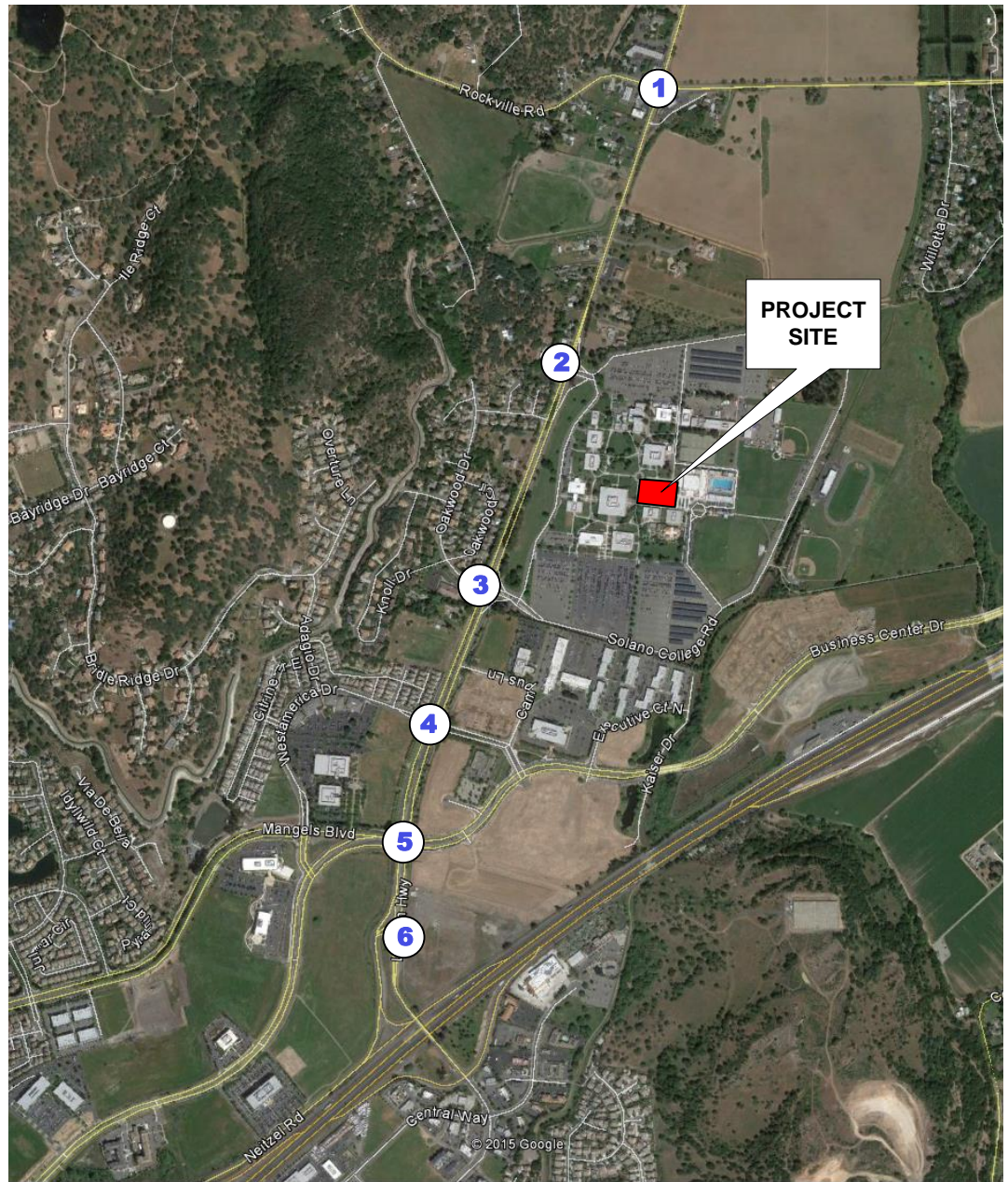
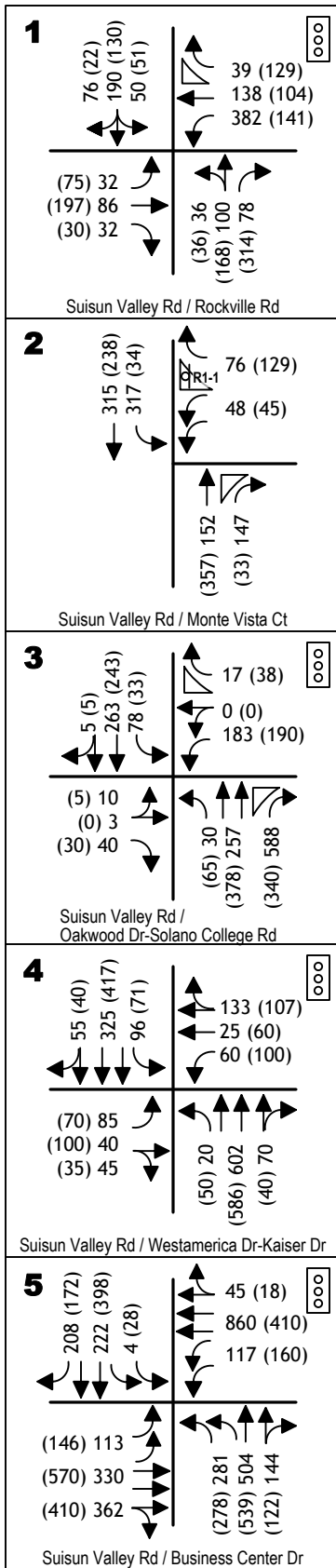


Legend

- XX AM Peak Hour Volume
- (XX) PM Peak Hour Volume
- ◻ R1-1 Stop Sign
- ◻ Signalized Intersection
- AWS All-Way Stop



**YEAR 2035 NO PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS**



Legend

- XX AM Peak Hour Volume
- (XX) PM Peak Hour Volume
- ◻ R1-1 Stop Sign
- ◻ Signalized Intersection
- AWS All-Way Stop



YEAR 2035 PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

SUMMARY AND CONCLUSIONS

This traffic impact study presents an analysis of the traffic related impacts associated with development of a new science building on the Solano Community College Fairfield Campus. The campus is located on the east side of Suisun Valley Road to the north of Interstate 80. The new building will accommodate relocated classrooms, offices and facilities for the instruction of science classes from the existing science building. The new building will be one story containing approximately 30,400 SF. Once the project is completed, approximately 9,000 SF of space in the existing science building will potentially be repurposed as additional instructional space.

This traffic impact study presents an analysis of a.m. and p.m. peak hour traffic operations under the following scenarios:

- Existing Peak Hour Conditions,
- Existing plus Project Conditions,
- Existing Plus Approved/Pending Projects (EPAP) Conditions
- Existing Plus Approved/Pending Projects plus New Science Building
- Long Term Cumulative Traffic Conditions
- Long Term Cumulative with Science Building Project

Study Area Intersections. Traffic operations at the following six (6) study area intersections were evaluated:

- Suisun Valley Road / Rockville Road
- Suisun Valley Road / Monte Vista Court
- Suisun Valley Road / Oakwood Drive / Solano College Road
- Suisun Valley Road / Westamerica Drive / Kaiser Drive
- Suisun Valley Road / Business Center Drive
- Suisun Valley Road / Neitzel Road

Existing Traffic Conditions and Levels of Service

Existing Traffic Volumes. Traffic volume data was collected for this traffic impact study at the six study intersections during October 2015. Data was collected in 15-minute increments from 7:00 – 9:00 a.m. and 4:00 – 6:00 p.m. The contiguous one hour periods with the highest volumes within the two-hour data collection period were used in this traffic impact study as the a.m. and p.m. peak hour.

Existing Intersection Levels of Service. All study intersections currently operate satisfactorily within established operating LOS standards. Level of Service “C” or better delays are currently experienced at five of the six study intersections during the a.m. and p.m. peak hours, with LOS D operations at the Suisun Valley Road / Neitzel Road intersection during the a.m. peak traffic hour.

Project Trip Generation

The number of vehicle trips that are expected to be generated by development of the proposed project has been estimated using published trip generation data. The Institute of Transportation Engineers (ITE) publication *Trip Generation Manual, 9th Edition*, has been used.

ITE Trip Generation Manual estimates for the land use category 540, "Community College", have been applied to the proposed project. The proposed 30,400 SF building is projected to generate a total of 91 a.m. and 77 p.m. peak hour trips.

The new science building is intended to replace an existing building, a portion of which may be repurposed for additional instructional space. For this analysis, trips associated with the new building area have been added to background traffic to present a conservative estimate of the traffic impacts associated with the new building space.

Existing Plus Project Traffic Conditions

The trips accompanying development of the new science building were superimposed onto existing background traffic. The addition of project generated traffic is projected to result in relatively minor increases in delay at each of the study intersections, generally in the range of one (1) second or less at the signalized intersections and 2 - 3 seconds at the stop sign controlled intersections. No changes to existing Levels of Service are projected. These impacts are considered less than significant based upon identified operating standards.

EPAP Traffic Conditions and Levels of Service

EPAP No Project - Intersection Levels of Service. Although traffic volumes under EPAP No Project conditions would incrementally increase over current conditions, all study intersections would continue to operate at acceptable LOS D or better under EPAP No Project conditions.

EPAP plus Project - Intersection Levels of Service. The trips accompanying development of the proposed project were superimposed onto the background EPAP condition as previously identified. The addition of project generated traffic is projected to result in relatively minor increases in delay at each of the study intersections, similar to Existing plus Project conditions. No changes to base background Levels of Service are projected with the addition of project traffic. Level of Service "D" or better operations are projected to continue at all study intersections. These impacts are considered less than significant based upon identified operating standards.

Long Term Cumulative Traffic Conditions

Year 2035 peak hour traffic model forecasts and base year model volume data was obtained from the City of Fairfield. Peak hour traffic model forecasts were compared to the base model year

forecasts and local growth rates were calculated for individual roadway segments. These growth rates were then applied to the existing turning movement counts at each study intersection, and the results were balanced using the techniques contained in *Transportation Research Board's (TRB's) NCHRP report 255, Highway Data for Urbanized Area Project Planning and Design*.

Cumulative No Project Intersection Levels of Service. Satisfactory operating Levels of Service are projected to continue at four of the six study intersections, with LOS C or better operations forecast. The Suisun Valley / Monte Vista Court intersection is projected to experience LOS D delays for left turns out of the college onto southbound Suisun Valley Road. However, as with current conditions, this left turn volume is projected to remain relatively low and volumes do not warrant signalization of the intersection. Therefore, delays associated with this turn movement are not judged to be significant.

The Suisun Valley Road / Neitzel Road intersection is projected to experience LOS E delays during the morning peak hour. This is beyond the identified LOS D operating standard for the intersection. This intersection is currently controlled by stop signs at each approach and forecast volumes warrant signalization of the intersection. Signalization of the existing intersection configuration would provide LOS A a.m. peak hour operations.

Information provided by the City of Fairfield regarding the Suisun Valley Road / Neitzel Road intersection indicates that: 1) signalization of the intersection would be required as a condition of approval for future development of the property on the east side of the intersection should the development request access via the east side of the intersection and 2) the Solano Transportation Authority in conjunction with Caltrans is considering alternatives which may change the location of the I-80 off-ramp to Neitzel Road. This would in turn potentially effect future traffic volume projections at the intersection as well as the need for signalization of the intersection.

Cumulative Plus Project Intersection Levels of Service. The addition of projected generated traffic to the study intersections is not projected to result in any changes in projected operating LOS when compared to the year 2035 base condition. Project traffic will incrementally contribute to LOS E delays projected for the Suisun Valley Road / Neitzel Road intersection during the a.m. peak hour. As with cumulative base conditions, signalization of this intersection would similarly result in satisfactory LOS A operations with project traffic should signalization ultimately be determined to be warranted.

APPENDICES

Level of Service Calculations

Traffic Counts

ALL TRAFFIC DATA

3260-03

City of Fairfield
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 15-7797-001 Lincoln Highway-Rockville Road.ppd

Date : 10/14/2015

Unshifted Count = All Vehicles

START TIME	Lincoln Highway Southbound					Rockville Road Westbound					Lincoln Highway Northbound					Rockville Road Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	1	13	2	0	16	22	15	4	0	41	2	8	10	0	20	5	17	4	0	26	103	0
07:15	0	14	4	0	18	49	21	6	0	76	2	13	13	0	28	5	20	3	0	28	150	0
07:30	7	16	3	0	26	97	22	10	0	129	2	22	19	0	43	5	23	3	0	31	229	0
07:45	3	25	4	0	32	131	22	9	0	162	5	24	21	0	50	7	19	4	0	30	274	0
Total	11	68	13	0	92	299	80	29	0	408	11	67	63	0	141	22	79	14	0	115	756	0
08:00	9	23	3	0	35	69	19	17	0	105	5	28	18	0	51	7	22	7	0	36	227	0
08:15	11	28	5	0	44	89	18	17	0	124	5	12	9	0	26	5	22	7	0	34	228	0
08:30	9	12	4	0	25	89	13	6	0	108	7	22	19	0	48	6	12	6	0	24	205	0
08:45	8	18	5	0	31	136	16	10	0	162	6	30	33	0	69	3	25	7	0	35	297	0
Total	37	81	17	0	135	383	66	50	0	499	23	92	79	0	194	21	81	27	0	129	957	0
16:00	11	36	0	0	47	28	25	11	0	64	9	26	59	0	94	7	18	4	0	29	234	0
16:15	11	31	7	0	49	21	24	11	0	56	6	30	69	0	105	8	29	7	0	44	254	0
16:30	13	29	2	0	44	22	26	11	0	59	5	30	65	0	100	6	24	2	0	32	235	0
16:45	20	26	3	0	49	39	22	8	0	69	12	23	58	0	93	5	25	3	0	33	244	0
Total	55	122	12	0	189	110	97	41	0	248	32	109	251	0	392	26	96	16	0	138	967	0
17:00	14	25	10	0	49	24	20	6	0	50	5	27	74	0	106	9	33	7	0	49	254	0
17:15	8	29	5	0	42	40	16	9	0	65	11	32	48	0	91	7	23	8	0	38	236	0
17:30	11	28	4	0	43	35	32	5	0	72	5	20	49	0	74	7	13	3	0	23	212	0
17:45	11	24	5	0	40	48	20	8	0	76	11	22	48	0	81	7	13	15	0	35	232	0
Total	44	106	24	0	174	147	88	28	0	263	32	101	219	0	352	30	82	33	0	145	934	0
Grand Total	147	377	66	0	590	939	331	148	0	1418	98	369	612	0	1079	99	338	90	0	527	3614	0
Apprch %	24.9%	63.9%	11.2%	0.0%		66.2%	23.3%	10.4%	0.0%		9.1%	34.2%	56.7%	0.0%		18.8%	64.1%	17.1%	0.0%			
Total %	4.1%	10.4%	1.8%	0.0%	16.3%	26.0%	9.2%	4.1%	0.0%	39.2%	2.7%	10.2%	16.9%	0.0%	29.9%	2.7%	9.4%	2.5%	0.0%	14.6%	100.0%	

AM PEAK HOUR	Lincoln Highway Southbound					Rockville Road Westbound					Lincoln Highway Northbound					Rockville Road Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 07:30 to 08:30																						
Peak Hour For Entire Intersection Begins at 07:30																						
07:30	7	16	3	0	26	97	22	10	0	129	2	22	19	0	43	5	23	3	0	31	229	
07:45	3	25	4	0	32	131	22	9	0	162	5	24	21	0	50	7	19	4	0	30	274	
08:00	9	23	3	0	35	69	19	17	0	105	5	28	18	0	51	7	22	7	0	36	227	
08:15	11	28	5	0	44	89	18	17	0	124	5	12	9	0	26	5	22	7	0	34	228	
Total Volume	30	92	15	0	137	386	81	53	0	520	17	86	67	0	170	24	86	21	0	131	958	
% App Total	21.9%	67.2%	10.9%	0.0%		74.2%	15.6%	10.2%	0.0%		10.0%	50.6%	39.4%	0.0%		18.3%	65.6%	16.0%	0.0%			
PHF	.682	.821	.750	.000	.778	.737	.920	.779	.000	.802	.850	.768	.798	.000	.833	.857	.935	.750	.000	.910	.874	

PM PEAK HOUR	Lincoln Highway Southbound					Rockville Road Westbound					Lincoln Highway Northbound					Rockville Road Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 16:15 to 17:15																						
Peak Hour For Entire Intersection Begins at 16:15																						
16:15	11	31	7	0	49	21	24	11	0	56	6	30	69	0	105	8	29	7	0	44	254	
16:30	13	29	2	0	44	22	26	11	0	59	5	30	65	0	100	6	24	2	0	32	235	
16:45	20	26	3	0	49	39	22	8	0	69	12	23	58	0	93	5	25	3	0	33	244	
17:00	14	25	10	0	49	24	20	6	0	50	5	27	74	0	106	9	33	7	0	49	254	
Total Volume	58	111	22	0	191	106	92	36	0	234	28	110	266	0	404	28	111	19	0	158	987	
% App Total	30.4%	58.1%	11.5%	0.0%		45.3%	39.3%	15.4%	0.0%		6.9%	27.2%	65.8%	0.0%		17.7%	70.3%	12.0%	0.0%			
PHF	.725	.895	.550	.000	.974	.679	.885	.818	.000	.848	.583	.917	.899	.000	.953	.778	.841	.679	.000	.806	.971	

ALL TRAFFIC DATA

3260-03

City of Fairfield
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 15-7797-002 Lincoln Highway-Monte Vista Court.ppd

Date : 10/14/2015

Unshifted Count = All Vehicles

START TIME	Lincoln Highway Southbound					Monte Vista Court Westbound					Lincoln Highway Northbound					Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	7	36	0	0	43	1	0	2	0	3	0	14	2	0	16	0	0	0	0	0	62	0
07:15	25	48	0	0	73	4	0	3	0	7	0	24	12	0	36	0	0	0	0	0	116	0
07:30	45	65	0	0	110	6	0	8	0	14	0	42	16	0	58	0	0	0	0	0	182	0
07:45	75	89	0	0	164	5	0	9	0	14	0	42	27	0	69	0	0	0	0	0	247	0
Total	152	238	0	0	390	16	0	22	0	38	0	122	57	0	179	0	0	0	0	0	607	0
08:00	38	68	0	0	106	2	0	10	0	12	0	40	10	0	50	0	0	0	0	0	168	0
08:15	60	69	0	0	129	5	0	5	0	10	0	26	15	0	41	0	0	0	0	0	180	0
08:30	66	44	0	0	110	12	0	9	0	21	0	41	32	0	73	0	0	0	0	0	204	0
08:45	100	59	0	0	159	13	0	27	0	40	0	48	51	0	99	0	0	0	0	0	298	0
Total	264	240	0	0	504	32	0	51	0	83	0	155	108	0	263	0	0	0	0	0	850	0
16:00	7	56	0	0	63	14	0	28	0	42	0	66	9	1	76	0	0	0	0	0	181	1
16:15	5	55	0	0	60	16	0	35	0	51	0	71	1	0	72	0	0	0	0	0	183	0
16:30	6	43	0	0	49	10	0	36	0	46	0	69	5	0	74	0	0	0	0	0	169	0
16:45	10	62	0	0	72	10	0	27	0	37	0	74	14	0	88	0	0	0	0	0	197	0
Total	28	216	0	0	244	50	0	126	0	176	0	280	29	1	310	0	0	0	0	0	730	1
17:00	9	54	0	0	63	5	0	20	0	25	0	98	9	0	107	0	0	0	0	0	195	0
17:15	9	62	0	0	71	6	0	15	0	21	0	69	14	1	84	0	0	0	0	0	176	1
17:30	18	46	0	0	64	10	0	21	0	31	0	56	17	0	73	0	0	0	0	0	168	0
17:45	31	50	0	0	81	9	0	19	0	28	0	66	29	0	95	0	0	0	0	0	204	0
Total	67	212	0	0	279	30	0	75	0	105	0	289	69	1	359	0	0	0	0	0	743	1
Grand Total	511	906	0	0	1417	128	0	274	0	402	0	846	263	2	1111	0	0	0	0	0	2930	2
Apprch %	36.1%	63.9%	0.0%	0.0%		31.8%	0.0%	68.2%	0.0%		0.0%	76.1%	23.7%	0.2%		0.0%	0.0%	0.0%	0.0%			
Total %	17.4%	30.9%	0.0%	0.0%	48.4%	4.4%	0.0%	9.4%	0.0%	13.7%	0.0%	28.9%	9.0%	0.1%	37.9%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

AM PEAK HOUR	Lincoln Highway Southbound					Monte Vista Court Westbound					Lincoln Highway Northbound					Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	38	68	0	0	106	2	0	10	0	12	0	40	10	0	50	0	0	0	0	0	168
08:15	60	69	0	0	129	5	0	5	0	10	0	26	15	0	41	0	0	0	0	0	180
08:30	66	44	0	0	110	12	0	9	0	21	0	41	32	0	73	0	0	0	0	0	204
08:45	100	59	0	0	159	13	0	27	0	40	0	48	51	0	99	0	0	0	0	0	298
Total Volume	264	240	0	0	504	32	0	51	0	83	0	155	108	0	263	0	0	0	0	0	850
% App Total	52.4%	47.6%	0.0%	0.0%		38.6%	0.0%	61.4%	0.0%		0.0%	58.9%	41.1%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.660	.870	.000	.000	.792	.615	.000	.472	.000	.519	.000	.807	.529	.000	.664	.000	.000	.000	.000	.000	.713

PM PEAK HOUR	Lincoln Highway Southbound					Monte Vista Court Westbound					Lincoln Highway Northbound					Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	5	55	0	0	60	16	0	35	0	51	0	71	1	0	72	0	0	0	0	0	183
16:30	6	43	0	0	49	10	0	36	0	46	0	69	5	0	74	0	0	0	0	0	169
16:45	10	62	0	0	72	10	0	27	0	37	0	74	14	0	88	0	0	0	0	0	197
17:00	9	54	0	0	63	5	0	20	0	25	0	98	9	0	107	0	0	0	0	0	195
Total Volume	30	214	0	0	244	41	0	118	0	159	0	312	29	0	341	0	0	0	0	0	744
% App Total	12.3%	87.7%	0.0%	0.0%		25.8%	0.0%	74.2%	0.0%		0.0%	91.5%	8.5%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.750	.863	.000	.000	.847	.641	.000	.819	.000	.779	.000	.796	.518	.000	.797	.000	.000	.000	.000	.000	.944

ALL TRAFFIC DATA

3260-03

City of Fairfield
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 15-7797-003 Lincoln Highway-Oakwood Drive-Solano Colle

Date : 10/14/2015

Unshifted Count = All Vehicles

START TIME	Lincoln Highway Southbound					Solano College Road Westbound					Lincoln Highway Northbound					Oakwood Drive Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	1	37	0	0	38	2	0	0	0	2	1	19	12	1	33	0	0	13	0	13	86	1
07:15	10	41	1	1	53	4	0	0	0	4	3	32	40	2	77	2	0	12	0	14	148	3
07:30	29	41	0	0	70	14	0	1	0	15	5	61	74	0	140	1	0	10	0	11	236	0
07:45	33	63	0	0	96	41	0	2	0	43	5	64	178	0	247	1	0	6	0	7	393	0
Total	73	182	1	1	257	61	0	3	0	64	14	176	304	3	497	4	0	41	0	45	863	4
08:00	14	59	2	0	75	20	0	2	0	22	7	44	96	1	148	2	0	10	0	12	257	1
08:15	13	51	2	0	66	17	0	1	0	18	5	46	109	1	161	0	0	5	0	5	250	1
08:30	20	35	1	1	57	19	0	3	0	22	10	63	122	1	196	2	1	7	0	10	285	2
08:45	27	48	0	0	75	59	0	8	0	67	5	86	228	1	320	3	1	3	0	7	469	1
Total	74	193	5	1	273	115	0	14	0	129	27	239	555	4	825	7	2	25	0	34	1261	5
16:00	3	57	1	0	61	61	0	9	0	70	11	67	45	1	124	2	0	5	0	7	262	1
16:15	3	59	1	0	63	54	0	13	0	67	6	60	47	0	113	0	0	8	0	8	251	0
16:30	2	53	1	0	56	66	0	7	0	73	12	60	56	0	128	1	0	2	0	3	260	0
16:45	5	67	0	0	72	70	0	14	0	84	9	80	42	4	135	1	0	3	0	4	295	4
Total	13	236	3	0	252	251	0	43	0	294	38	267	190	5	500	4	0	18	0	22	1068	5
17:00	3	54	0	0	57	43	0	11	0	54	6	90	49	0	145	4	0	2	0	6	262	0
17:15	8	59	1	3	71	37	0	7	0	44	14	73	62	1	150	0	0	2	0	2	267	4
17:30	9	44	0	1	54	36	0	7	0	43	5	73	83	1	162	1	0	5	0	6	265	2
17:45	9	42	5	0	56	48	0	11	0	59	12	76	113	1	202	2	1	7	0	10	327	1
Total	29	199	6	4	238	164	0	36	0	200	37	312	307	3	659	7	1	16	0	24	1121	7
Grand Total	189	810	15	6	1020	591	0	96	0	687	116	994	1356	15	2481	22	3	100	0	125	4313	21
Apprch %	18.5%	79.4%	1.5%	0.6%		86.0%	0.0%	14.0%	0.0%		4.7%	40.1%	54.7%	0.6%		17.6%	2.4%	80.0%	0.0%			
Total %	4.4%	18.8%	0.3%	0.1%	23.6%	13.7%	0.0%	2.2%	0.0%	15.9%	2.7%	23.0%	31.4%	0.3%	57.5%	0.5%	0.1%	2.3%	0.0%	2.9%	100.0%	

AM PEAK HOUR	Lincoln Highway Southbound					Solano College Road Westbound					Lincoln Highway Northbound					Oakwood Drive Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 08:00 to 09:00																						
Peak Hour For Entire Intersection Begins at 08:00																						
08:00	14	59	2	0	75	20	0	2	0	22	7	44	96	1	148	2	0	10	0	12	257	
08:15	13	51	2	0	66	17	0	1	0	18	5	46	109	1	161	0	0	5	0	5	250	
08:30	20	35	1	1	57	19	0	3	0	22	10	63	122	1	196	2	1	7	0	10	285	
08:45	27	48	0	0	75	59	0	8	0	67	5	86	228	1	320	3	1	3	0	7	469	
Total Volume	74	193	5	1	273	115	0	14	0	129	27	239	555	4	825	7	2	25	0	34	1261	
% App Total	27.1%	70.7%	1.8%	0.4%		89.1%	0.0%	10.9%	0.0%		3.3%	29.0%	67.3%	0.5%		20.6%	5.9%	73.5%	0.0%			
PHF	.685	.818	.625	.250	.910	.487	.000	.438	.000	.481	.675	.695	.609	1.000	.645	.583	.500	.625	.000	.708	.672	

PM PEAK HOUR	Lincoln Highway Southbound					Solano College Road Westbound					Lincoln Highway Northbound					Oakwood Drive Eastbound					Total	
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
Peak Hour Analysis From 17:00 to 18:00																						
Peak Hour For Entire Intersection Begins at 17:00																						
17:00	3	54	0	0	57	43	0	11	0	54	6	90	49	0	145	4	0	2	0	6	262	
17:15	8	59	1	3	71	37	0	7	0	44	14	73	62	1	150	0	0	2	0	2	267	
17:30	9	44	0	1	54	36	0	7	0	43	5	73	83	1	162	1	0	5	0	6	265	
17:45	9	42	5	0	56	48	0	11	0	59	12	76	113	1	202	2	1	7	0	10	327	
Total Volume	29	199	6	4	238	164	0	36	0	200	37	312	307	3	659	7	1	16	0	24	1121	
% App Total	12.2%	83.6%	2.5%	1.7%		82.0%	0.0%	18.0%	0.0%		5.6%	47.3%	46.6%	0.5%		29.2%	4.2%	66.7%	0.0%			
PHF	.806	.843	.300	.333	.838	.854	.000	.818	.000	.847	.661	.867	.679	.750	.816	.438	.250	.571	.000	.600	.857	

ALL TRAFFIC DATA

3260-03

City of Fairfield
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 15-7797-004 Lincoln Highway-Westamerica Drive-Kaiser Dr

Date : 10/14/2015

Unshifted Count = All Vehicles

START TIME	Lincoln Highway Southbound					Kaiser Drive Westbound					Lincoln Highway Northbound					Westamerica Drive Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	0	47	3	0	50	3	10	6	0	19	4	30	10	0	44	4	4	11	0	19	132	0
07:15	5	48	11	0	64	1	6	11	0	18	11	65	8	0	84	10	5	12	0	27	193	0
07:30	4	46	13	1	64	0	3	32	0	35	2	90	8	1	101	22	7	8	0	37	237	2
07:45	5	74	26	2	107	1	13	52	0	66	6	184	8	0	198	22	10	13	0	45	416	2
Total	14	215	53	3	285	5	32	101	0	138	23	369	34	1	427	58	26	44	0	128	978	4
08:00	7	63	18	1	89	0	12	24	0	36	6	122	10	0	138	15	4	9	0	28	291	1
08:15	4	65	7	0	76	0	8	19	0	27	4	126	4	1	135	18	3	16	0	37	275	1
08:30	6	50	9	0	65	2	5	30	0	37	9	153	9	0	171	12	3	15	0	30	303	0
08:45	5	92	10	0	107	3	3	48	0	54	9	236	7	0	252	18	2	11	0	31	444	0
Total	22	270	44	1	337	5	28	121	0	154	28	637	30	1	696	63	12	51	0	126	1313	2
16:00	6	103	14	1	124	5	2	6	0	13	12	97	2	0	111	23	12	10	0	45	293	1
16:15	5	106	10	0	121	7	3	10	0	20	9	85	2	0	96	13	3	11	0	27	264	0
16:30	8	98	12	1	119	9	8	12	0	29	11	95	2	0	108	12	13	8	0	33	289	1
16:45	4	125	11	2	142	4	2	5	0	11	13	109	1	0	123	18	9	10	0	37	313	2
Total	23	432	47	4	506	25	15	33	0	73	45	386	7	0	438	66	37	39	0	142	1159	4
17:00	5	77	17	0	99	7	10	6	0	23	13	97	2	0	112	29	17	17	0	63	297	0
17:15	1	88	10	1	100	6	6	10	0	22	17	124	2	0	143	17	7	14	0	38	303	1
17:30	4	74	6	1	85	5	7	11	0	23	10	134	1	0	145	14	9	10	0	33	286	1
17:45	2	69	14	1	86	2	3	11	0	16	11	161	1	0	173	23	1	7	0	31	306	1
Total	12	308	47	3	370	20	26	38	0	84	51	516	6	0	573	83	34	48	0	165	1192	3
Grand Total	71	1225	191	11	1498	55	101	293	0	449	147	1908	77	2	2134	270	109	182	0	561	4642	13
Apprch %	4.7%	81.8%	12.8%	0.7%		12.2%	22.5%	65.3%	0.0%		6.9%	89.4%	3.6%	0.1%		48.1%	19.4%	32.4%	0.0%			
Total %	1.5%	26.4%	4.1%	0.2%	32.3%	1.2%	2.2%	6.3%	0.0%	9.7%	3.2%	41.1%	1.7%	0.0%	46.0%	5.8%	2.3%	3.9%	0.0%	12.1%	100.0%	

AM PEAK HOUR	Lincoln Highway Southbound					Kaiser Drive Westbound					Lincoln Highway Northbound					Westamerica Drive Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	7	63	18	1	89	0	12	24	0	36	6	122	10	0	138	15	4	9	0	28	291
08:15	4	65	7	0	76	0	8	19	0	27	4	126	4	1	135	18	3	16	0	37	275
08:30	6	50	9	0	65	2	5	30	0	37	9	153	9	0	171	12	3	15	0	30	303
08:45	5	92	10	0	107	3	3	48	0	54	9	236	7	0	252	18	2	11	0	31	444
Total Volume	22	270	44	1	337	5	28	121	0	154	28	637	30	1	696	63	12	51	0	126	1313
% App Total	6.5%	80.1%	13.1%	0.3%		3.2%	18.2%	78.6%	0.0%		4.0%	91.5%	4.3%	0.1%		50.0%	9.5%	40.5%	0.0%		
PHF	.786	.734	.611	.250	.787	.417	.583	.630	.000	.713	.778	.675	.750	.250	.690	.875	.750	.797	.000	.851	.739

PM PEAK HOUR	Lincoln Highway Southbound					Kaiser Drive Westbound					Lincoln Highway Northbound					Westamerica Drive Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	8	98	12	1	119	9	8	12	0	29	11	95	2	0	108	12	13	8	0	33	289
16:45	4	125	11	2	142	4	2	5	0	11	13	109	1	0	123	18	9	10	0	37	313
17:00	5	77	17	0	99	7	10	6	0	23	13	97	2	0	112	29	17	17	0	63	297
17:15	1	88	10	1	100	6	6	10	0	22	17	124	2	0	143	17	7	14	0	38	303
Total Volume	18	388	50	4	460	26	26	33	0	85	54	425	7	0	486	76	46	49	0	171	1202
% App Total	3.9%	84.3%	10.9%	0.9%		30.6%	30.6%	38.8%	0.0%		11.1%	87.4%	1.4%	0.0%		44.4%	26.9%	28.7%	0.0%		
PHF	.563	.776	.735	.500	.810	.722	.650	.688	.000	.733	.794	.857	.875	.000	.850	.655	.676	.721	.000	.679	.960

ALL TRAFFIC DATA

3260-03

City of Fairfield
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

(916) 771-8700

orders@atdtraffic.com

File Name : 15-7797-005 Lincoln Highway-Business Center Drive.ppd

Date : 10/14/2015

Unshifted Count = All Vehicles

START TIME	Lincoln Highway Southbound					Business Center Drive Westbound					Lincoln Highway Northbound					Business Center Drive Eastbound					Total	Utum Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	1	36	24	0	61	23	57	1	0	81	33	32	12	0	77	11	7	38	0	56	275	0
07:15	2	31	26	0	59	25	90	5	0	120	43	72	11	0	126	6	13	57	1	77	382	1
07:30	1	45	13	1	60	40	100	5	0	145	57	95	20	0	172	6	16	83	0	105	482	1
07:45	0	45	40	0	85	27	142	4	0	173	106	181	25	1	313	9	26	71	0	106	677	1
Total	4	157	103	1	265	115	389	15	0	519	239	380	68	1	688	32	62	249	1	344	1816	3
08:00	0	40	31	1	72	11	93	6	0	110	51	118	25	1	195	14	21	53	0	88	465	2
08:15	0	39	42	0	81	7	77	7	1	92	65	108	15	0	188	13	25	62	0	100	461	1
08:30	2	41	26	0	69	10	38	5	0	53	39	154	12	0	205	16	15	25	0	56	383	0
08:45	6	56	40	0	102	9	37	2	0	48	42	243	9	1	295	12	12	28	0	52	497	1
Total	8	176	139	1	324	37	245	20	1	303	197	623	61	2	883	55	73	168	0	296	1806	4
16:00	3	60	56	0	119	3	22	1	0	26	34	91	16	1	142	25	41	44	0	110	397	1
16:15	4	74	41	0	119	6	29	0	0	35	37	68	8	0	113	24	45	43	0	112	379	0
16:30	6	69	52	0	127	13	26	1	0	40	44	92	9	0	145	22	72	57	0	151	463	0
16:45	4	78	41	0	123	5	25	2	0	32	30	88	17	0	135	27	47	46	0	120	410	0
Total	17	281	190	0	488	27	102	4	0	133	145	339	50	1	535	98	205	190	0	493	1649	1
17:00	1	67	43	0	111	14	65	1	1	81	57	77	7	0	141	32	83	90	1	206	539	2
17:15	5	67	42	0	114	7	37	2	0	46	46	119	9	1	175	27	56	56	0	139	474	1
17:30	3	43	34	0	80	5	28	5	0	38	44	106	10	2	162	27	64	47	0	138	418	2
17:45	3	52	35	0	90	7	21	3	0	31	55	144	7	0	206	26	48	48	0	122	449	0
Total	12	229	154	0	395	33	151	11	1	196	202	446	33	3	684	112	251	241	1	605	1880	5
Grand Total	41	843	586	2	1472	212	887	50	2	1151	783	1788	212	7	2790	297	591	848	2	1738	7151	13
Apprch %	2.8%	57.3%	39.8%	0.1%		18.4%	77.1%	4.3%	0.2%		28.1%	64.1%	7.6%	0.3%		17.1%	34.0%	48.8%	0.1%			
Total %	0.6%	11.8%	8.2%	0.0%	20.6%	3.0%	12.4%	0.7%	0.0%	16.1%	10.9%	25.0%	3.0%	0.1%	39.0%	4.2%	8.3%	11.9%	0.0%	24.3%	100.0%	

AM PEAK HOUR	Lincoln Highway Southbound					Business Center Drive Westbound					Lincoln Highway Northbound					Business Center Drive Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
07:30	1	45	13	1	60	40	100	5	0	145	57	95	20	0	172	6	16	83	0	105	482
07:45	0	45	40	0	85	27	142	4	0	173	106	181	25	1	313	9	26	71	0	106	677
08:00	0	40	31	1	72	11	93	6	0	110	51	118	25	1	195	14	21	53	0	88	465
08:15	0	39	42	0	81	7	77	7	1	92	65	108	15	0	188	13	25	62	0	100	461
Total Volume	1	169	126	2	298	85	412	22	1	520	279	502	85	2	868	42	88	269	0	399	2085
% App Total	0.3%	56.7%	42.3%	0.7%		16.3%	79.2%	4.2%	0.2%		32.1%	57.8%	9.8%	0.2%		10.5%	22.1%	67.4%	0.0%		
PHF	.250	.939	.750	.500	.876	.531	.725	.786	.250	.751	.658	.693	.850	.500	.693	.750	.846	.810	.000	.941	.770

PM PEAK HOUR	Lincoln Highway Southbound					Business Center Drive Westbound					Lincoln Highway Northbound					Business Center Drive Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	6	69	52	0	127	13	26	1	0	40	44	92	9	0	145	22	72	57	0	151	463
16:45	4	78	41	0	123	5	25	2	0	32	30	88	17	0	135	27	47	46	0	120	410
17:00	1	67	43	0	111	14	65	1	1	81	57	77	7	0	141	32	83	90	1	206	539
17:15	5	67	42	0	114	7	37	2	0	46	46	119	9	1	175	27	56	56	0	139	474
Total Volume	16	281	178	0	475	39	153	6	1	199	177	376	42	1	596	108	258	249	1	616	1886
% App Total	3.4%	59.2%	37.5%	0.0%		19.6%	76.9%	3.0%	0.5%		29.7%	63.1%	7.0%	0.2%		17.5%	41.9%	40.4%	0.2%		
PHF	.667	.901	.856	.000	.935	.696	.588	.750	.250	.614	.776	.790	.618	.250	.851	.844	.777	.692	.250	.748	.875

ALL TRAFFIC DATA

3260-03

City of Fairfield
 All Vehicles on Unshifted
 Peds & Bikes on Bank 1
 Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7797-006 Lincoln Highway-Neitzel Road.ppd
 Date : 10/14/2015






















Unshifted Count = All Vehicles

START TIME	Lincoln Highway Southbound					Westbound					Lincoln Highway Northbound					Neitzel Road Eastbound					Total	Uturn Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
07:00	0	92	4	0	96	0	0	0	0	0	19	55	0	1	75	21	0	35	0	56	227	1
07:15	0	103	9	0	112	0	0	0	0	0	14	100	0	0	114	25	0	45	0	70	296	0
07:30	0	156	8	0	164	0	0	0	0	0	18	147	0	0	165	36	0	39	0	75	404	0
07:45	0	135	8	1	144	0	0	0	0	0	22	238	0	1	261	71	0	43	0	114	519	2
Total	0	486	29	1	516	0	0	0	0	0	73	540	0	2	615	153	0	162	0	315	1446	3
08:00	0	99	6	1	106	0	0	0	0	0	20	143	0	0	163	46	0	55	0	101	370	1
08:15	0	102	7	0	109	0	0	0	0	0	15	136	0	0	151	59	0	35	0	94	354	0
08:30	0	65	7	0	72	0	0	0	0	0	15	133	0	0	148	71	0	61	0	132	352	0
08:45	0	90	7	0	97	0	0	0	0	0	16	189	0	0	205	106	0	53	0	159	461	0
Total	0	356	27	1	384	0	0	0	0	0	66	601	0	0	667	282	0	204	0	486	1537	1
16:00	0	89	9	0	98	0	0	0	0	0	26	92	0	2	120	38	0	50	0	88	306	2
16:15	0	115	15	0	130	0	0	0	0	0	16	70	0	0	86	47	0	57	0	104	320	0
16:30	0	129	13	0	142	0	0	0	0	0	19	96	0	1	116	45	0	46	0	91	349	1
16:45	0	110	17	0	127	0	0	0	0	0	19	89	0	0	108	49	0	50	0	99	334	0
Total	0	443	54	0	497	0	0	0	0	0	80	347	0	3	430	179	0	203	0	382	1309	3
17:00	0	158	16	0	174	0	0	0	0	0	22	99	0	0	121	46	0	63	0	109	404	0
17:15	0	119	10	0	129	0	0	0	0	0	18	99	0	0	117	66	0	62	0	128	374	0
17:30	0	94	7	0	101	0	0	0	0	0	26	102	0	0	128	62	0	73	0	135	364	0
17:45	0	94	12	0	106	0	0	0	0	0	18	122	0	1	141	79	0	66	0	145	392	1
Total	0	465	45	0	510	0	0	0	0	0	84	422	0	1	507	253	0	264	0	517	1534	1
Grand Total	0	1750	155	2	1907	0	0	0	0	0	303	1910	0	6	2219	867	0	833	0	1700	5826	8
Apprch %	0.0%	91.8%	8.1%	0.1%		0.0%	0.0%	0.0%	0.0%		13.7%	86.1%	0.0%	0.3%		51.0%	0.0%	49.0%	0.0%			
Total %	0.0%	30.0%	2.7%	0.0%	32.7%	0.0%	0.0%	0.0%	0.0%	0.0%	5.2%	32.8%	0.0%	0.1%	38.1%	14.9%	0.0%	14.3%	0.0%	29.2%	100.0%	














AM PEAK HOUR	Lincoln Highway Southbound					Westbound					Lincoln Highway Northbound					Neitzel Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
07:30	0	156	8	0	164	0	0	0	0	0	18	147	0	0	165	36	0	39	0	75	404
07:45	0	135	8	1	144	0	0	0	0	0	22	238	0	1	261	71	0	43	0	114	519
08:00	0	99	6	1	106	0	0	0	0	0	20	143	0	0	163	46	0	55	0	101	370
08:15	0	102	7	0	109	0	0	0	0	0	15	136	0	0	151	59	0	35	0	94	354
Total Volume	0	492	29	2	523	0	0	0	0	0	75	664	0	1	740	212	0	172	0	384	1647
% App Total	0.0%	94.1%	5.5%	0.4%		0.0%	0.0%	0.0%	0.0%		10.1%	89.7%	0.0%	0.1%		55.2%	0.0%	44.8%	0.0%		
PHF	.000	.788	.906	.500	.797	.000	.000	.000	.000	.000	.852	.697	.000	.250	.709	.746	.000	.782	.000	.842	.793

PM PEAK HOUR	Lincoln Highway Southbound					Westbound					Lincoln Highway Northbound					Neitzel Road Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	158	16	0	174	0	0	0	0	0	22	99	0	0	121	46	0	63	0	109	404
17:15	0	119	10	0	129	0	0	0	0	0	18	99	0	0	117	66	0	62	0	128	374
17:30	0	94	7	0	101	0	0	0	0	0	26	102	0	0	128	62	0	73	0	135	364
17:45	0	94	12	0	106	0	0	0	0	0	18	122	0	1	141	79	0	66	0	145	392
Total Volume	0	465	45	0	510	0	0	0	0	0	84	422	0	1	507	253	0	264	0	517	1534
% App Total	0.0%	91.2%	8.8%	0.0%		0.0%	0.0%	0.0%	0.0%		16.6%	83.2%	0.0%	0.2%		48.9%	0.0%	51.1%	0.0%		
PHF	.000	.736	.703	.000	.733	.000	.000	.000	.000	.000	.808	.865	.000	.250	.899	.801	.000	.904	.000	.891	.949
























3: Rockville Rd & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583		1848	1583		1816	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583		1848	1583		1816	
Volume (vph)	24	86	21	386	81	53	17	86	67	30	92	15
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	27	98	24	439	92	60	19	98	76	34	105	17
RTOR Reduction (vph)	0	0	21	0	0	0	0	0	40	0	5	0
Lane Group Flow (vph)	27	98	3	439	92	60	0	117	36	0	151	0
Turn Type	Prot		Prot	Prot		Free	Split		pt+ov	Split		
Protected Phases	7	4	4	3	8		2	2	2 3	6	6	
Permitted Phases						Free						
Actuated Green, G (s)	1.9	8.9	8.9	23.5	30.5	79.9		12.9	36.4		16.6	
Effective Green, g (s)	2.4	9.4	9.4	24.0	31.0	79.9		13.4	37.4		17.1	
Actuated g/C Ratio	0.03	0.12	0.12	0.30	0.39	1.00		0.17	0.47		0.21	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	53	219	186	532	723	1583		310	741		389	
v/s Ratio Prot	0.02	c0.05	0.00	c0.25	0.05			c0.06	0.02		c0.08	
v/s Ratio Perm						0.04						
v/c Ratio	0.51	0.45	0.02	0.83	0.13	0.04		0.38	0.05		0.39	
Uniform Delay, d1	38.2	32.8	31.2	26.0	15.7	0.0		29.5	11.6		26.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	7.5	1.5	0.0	10.1	0.1	0.0		3.5	0.0		2.9	
Delay (s)	45.7	34.3	31.2	36.1	15.8	0.0		33.0	11.6		29.8	
Level of Service	D	C	C	D	B	A		C	B		C	
Approach Delay (s)		35.9			29.3			24.6			29.8	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM Average Control Delay			29.4			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			79.9			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			48.8%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

6: Monte Vista Ct & Suisun Valley Rd

							
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	 						
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Volume (veh/h)	32	51	155	108	264	240	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	
Hourly flow rate (vph)	44	71	215	150	367	333	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL						
Median storage (veh)	5						
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	1282	215			215		
vC1, stage 1 conf vol	215						
vC2, stage 2 conf vol	1067						
vCu, unblocked vol	1282	215			215		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	5.4						
tF (s)	3.5	3.3			2.2		
p0 queue free %	82	91			73		
cM capacity (veh/h)	241	825			1355		
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	22	22	71	215	150	367	333
Volume Left	22	22	0	0	0	367	0
Volume Right	0	0	71	0	150	0	0
cSH	241	241	825	1700	1700	1355	1700
Volume to Capacity	0.09	0.09	0.09	0.13	0.09	0.27	0.20
Queue Length 95th (ft)	8	8	7	0	0	28	0
Control Delay (s)	21.4	21.4	9.8	0.0	0.0	8.6	0.0
Lane LOS	C	C	A			A	
Approach Delay (s)	14.3			0.0		4.5	
Approach LOS	B						
Intersection Summary							
Average Delay			4.1				
Intersection Capacity Utilization			36.1%		ICU Level of Service		A
Analysis Period (min)			15				

8: Oakwood Dr & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1794	1583	1681	1681	1583	1770	3539	1583	1770	3526	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1794	1583	1681	1681	1583	1770	3539	1583	1770	3526	
Volume (vph)	7	2	25	115	0	14	27	239	555	74	193	5
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	10	3	35	160	0	19	38	332	771	103	268	7
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	13	2	80	80	19	38	332	771	103	273	0
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases						Free			Free			
Actuated Green, G (s)		2.8	2.8	6.5	6.5	64.8	3.2	30.6	64.8	6.9	34.3	
Effective Green, g (s)		3.3	3.3	7.0	7.0	64.8	3.7	31.1	64.8	7.4	34.8	
Actuated g/C Ratio		0.05	0.05	0.11	0.11	1.00	0.06	0.48	1.00	0.11	0.54	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		91	81	182	182	1583	101	1699	1583	202	1894	
v/s Ratio Prot		0.01	0.00	0.05	0.05		0.02	0.09		0.06	0.08	
v/s Ratio Perm						0.01			c0.49			
v/c Ratio		0.14	0.02	0.44	0.44	0.01	0.38	0.20	0.49	0.51	0.14	
Uniform Delay, d1		29.4	29.2	27.1	27.1	0.0	29.4	9.7	0.0	27.0	7.5	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7	0.1	1.7	1.7	0.0	2.3	0.1	1.1	2.0	0.0	
Delay (s)		30.1	29.3	28.8	28.8	0.0	31.8	9.7	1.1	29.0	7.6	
Level of Service		C	C	C	C	A	C	A	A	C	A	
Approach Delay (s)		29.5			25.7			4.6			13.4	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM Average Control Delay		9.4		HCM Level of Service					A			
HCM Volume to Capacity ratio		0.49										
Actuated Cycle Length (s)		64.8		Sum of lost time (s)					0.0			
Intersection Capacity Utilization		30.6%		ICU Level of Service					A			
Analysis Period (min)		15										
c Critical Lane Group												

11: Westamerica Dr & Suisun Valley Rd






















Existing AM
11/17/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.88		1.00	0.88		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1636		1770	3108		1770	5051		1770	4979	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1636		1770	3108		1770	5051		1770	4979	
Volume (vph)	63	12	51	5	28	121	28	637	30	22	270	44
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	85	16	69	7	38	164	38	861	41	30	365	59
RTOR Reduction (vph)	0	54	0	0	135	0	0	9	0	0	35	0
Lane Group Flow (vph)	85	31	0	7	67	0	38	893	0	30	389	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.9	10.6		0.7	8.4		1.4	20.6		0.7	19.9	
Effective Green, g (s)	3.4	11.1		1.2	8.9		1.9	21.1		1.2	20.4	
Actuated g/C Ratio	0.07	0.22		0.02	0.18		0.04	0.42		0.02	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	119	359		42	547		66	2106		42	2007	
v/s Ratio Prot	c0.05	0.02		0.00	c0.02		c0.02	c0.18		0.02	0.08	
v/s Ratio Perm												
v/c Ratio	0.71	0.09		0.17	0.12		0.58	0.42		0.71	0.19	
Uniform Delay, d1	23.1	15.7		24.2	17.6		24.0	10.4		24.5	9.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	18.3	0.1		1.9	0.1		11.6	0.1		44.2	0.0	
Delay (s)	41.5	15.8		26.1	17.7		35.5	10.6		68.7	9.8	
Level of Service	D	B		C	B		D	B		E	A	
Approach Delay (s)		28.6			17.9			11.6			13.7	
Approach LOS		C			B			B			B	

Intersection Summary

HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	50.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

14: Business Center Dr & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Flt	1.00	0.89		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4510		3433	5046		3433	3463		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4510		3433	5046		3433	3463		3433	3539	1583
Volume (vph)	42	88	269	85	412	22	279	502	85	1	169	126
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	55	114	349	110	535	29	362	652	110	1	219	164
RTOR Reduction (vph)	0	284	0	0	13	0	0	26	0	0	0	125
Lane Group Flow (vph)	55	179	0	110	551	0	362	736	0	1	219	39
Turn Type	Prot			Prot			Prot			Prot		Prot
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	1.3	8.2		1.9	8.8		8.1	18.3		0.6	10.8	10.8
Effective Green, g (s)	1.8	8.7		2.4	9.3		8.6	18.8		1.1	11.3	11.3
Actuated g/C Ratio	0.04	0.19		0.05	0.20		0.18	0.40		0.02	0.24	0.24
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	131	835		175	998		628	1385		80	851	381
v/s Ratio Prot	0.02	0.04		c0.03	c0.11		c0.11	c0.21		0.00	0.06	0.02
v/s Ratio Perm												
v/c Ratio	0.42	0.21		0.63	0.55		0.58	0.53		0.01	0.26	0.10
Uniform Delay, d1	22.1	16.2		21.9	17.0		17.5	10.7		22.4	14.5	13.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.2	0.1		6.9	0.7		1.3	0.4		0.1	0.2	0.1
Delay (s)	24.3	16.4		28.8	17.6		18.8	11.1		22.5	14.6	14.0
Level of Service	C	B		C	B		B	B		C	B	B
Approach Delay (s)		17.2			19.5			13.6			14.4	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	47.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #1 Suisun Valley & Neitzel [Ex Am]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.831
 Loss Time (sec): 0 Average Delay (sec/veh): 27.1
 Optimal Cycle: 0 Level Of Service: D

Street Name:	Suisun Valley						Neitzel											
Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign								
Rights:	Include			Ignore			Ignore			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Lanes:	1	0	2	0	0	2	0	1	2	0	0	0	1	0	0	0	0	0

Volume Module:

Base Vol:	75	664	0	0	492	29	212	0	172	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	664	0	0	492	29	212	0	172	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.00	0.80	0.80	0.00	0.80	0.80	0.80
PHF Volume:	94	830	0	0	615	0	265	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	830	0	0	615	0	265	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	94	830	0	0	615	0	265	0	0	0	0	0

Saturation Flow Module:






















Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	458	999	0	0	927	497	823	0	467	0	0	0

Capacity Analysis Module:















Vol/Sat:	0.20	0.83	xxxx	xxxx	0.66	0.00	0.32	xxxx	0.00	xxxx	xxxx	xxxx
Crit Moves:	****			****			****			****		
Delay/Veh:	12.3	35.3	0.0	0.0	23.6	0.0	14.7	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.3	35.3	0.0	0.0	23.6	0.0	14.7	0.0	0.0	0.0	0.0	0.0
LOS by Move:	B	E	*	*	C	*	B	*	*	*	*	*
ApproachDel:	33.0			23.6			14.7			xxxxxx		
Delay Adj:	1.00			1.00			1.00			xxxxxx		
ApprAdjDel:	33.0			23.6			14.7			xxxxxx		
LOS by Appr:	D			C			B			*		
AllWayAvgQ:	0.2	3.5	0.0	0.0	1.7	0.0	0.4	0.0	0.0	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.























3: Rockville Rd & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.98	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583		1844	1583		1806	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.98	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583		1844	1583		1806	
Volume (vph)	28	111	19	106	92	36	28	110	266	58	111	22
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	114	20	109	95	37	29	113	274	60	114	23
RTOR Reduction (vph)	0	0	17	0	0	0	0	0	197	0	8	0
Lane Group Flow (vph)	29	114	3	109	95	37	0	142	77	0	189	0
Turn Type	Prot		Prot	Prot		Free	Split		pt+ov	Split		
Protected Phases	7	4	4	3	8		2	2	2 3	6	6	
Permitted Phases						Free						
Actuated Green, G (s)	1.3	7.4	7.4	6.3	12.4	56.5		8.6	14.9		16.2	
Effective Green, g (s)	1.8	7.9	7.9	6.8	12.9	56.5		9.1	15.9		16.7	
Actuated g/C Ratio	0.03	0.14	0.14	0.12	0.23	1.00		0.16	0.28		0.30	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	56	260	221	213	425	1583		297	445		534	
v/s Ratio Prot	0.02	c0.06	0.00	c0.06	0.05			c0.08	0.05		c0.10	
v/s Ratio Perm						0.02						
v/c Ratio	0.52	0.44	0.01	0.51	0.22	0.02		0.48	0.17		0.35	
Uniform Delay, d1	26.9	22.3	20.9	23.3	17.7	0.0		21.5	15.3		15.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	7.9	1.2	0.0	2.1	0.3	0.0		5.4	0.2		1.8	
Delay (s)	34.8	23.5	21.0	25.4	18.0	0.0		27.0	15.5		17.5	
Level of Service	C	C	C	C	B	A		C	B		B	
Approach Delay (s)		25.2			18.6			19.4			17.5	
Approach LOS		C			B			B			B	
Intersection Summary												
HCM Average Control Delay			19.8									B
HCM Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			56.5									
Intersection Capacity Utilization			42.7%									A
Analysis Period (min)			15									
c Critical Lane Group												

6: Monte Vista Ct & Suisun Valley Rd

							
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	 						
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Volume (veh/h)	41	118	312	29	30	214	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly flow rate (vph)	44	126	332	31	32	228	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL						
Median storage veh	5						
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	623	332			332		
vC1, stage 1 conf vol	332						
vC2, stage 2 conf vol	291						
vCu, unblocked vol	623	332			332		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	5.4						
tF (s)	3.5	3.3			2.2		
p0 queue free %	94	82			97		
cM capacity (veh/h)	683	710			1227		
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	22	22	126	332	31	32	228
Volume Left	22	22	0	0	0	32	0
Volume Right	0	0	126	0	31	0	0
cSH	683	683	710	1700	1700	1227	1700
Volume to Capacity	0.03	0.03	0.18	0.20	0.02	0.03	0.13
Queue Length 95th (ft)	2	2	16	0	0	2	0
Control Delay (s)	10.4	10.4	11.2	0.0	0.0	8.0	0.0
Lane LOS	B	B	B			A	
Approach Delay (s)	11.0			0.0		1.0	
Approach LOS	B						
Intersection Summary							
Average Delay			2.7				
Intersection Capacity Utilization			33.1%		ICU Level of Service		A
Analysis Period (min)			15				

8: Oakwood Dr & Suisun Valley Rd

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95		
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)		1783	1583	1681	1681	1583	1770	3539	1583	1770	3524		
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (perm)		1783	1583	1681	1681	1583	1770	3539	1583	1770	3524		
Volume (vph)	7	1	16	164	0	36	37	312	307	29	199	6	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	
Adj. Flow (vph)	8	1	19	191	0	42	43	363	357	34	231	7	
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	0	0	3	0	
Lane Group Flow (vph)	0	9	1	96	95	42	43	363	357	34	235	0	
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot			
Protected Phases	4	4	4	8	8		5	2		1	6		
Permitted Phases						Free			Free				
Actuated Green, G (s)		1.5	1.5	9.2	9.2	53.3	1.0	23.8	53.3	0.8	23.6		
Effective Green, g (s)		2.0	2.0	9.7	9.7	53.3	1.5	24.3	53.3	1.3	24.1		
Actuated g/C Ratio		0.04	0.04	0.18	0.18	1.00	0.03	0.46	1.00	0.02	0.45		
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5		
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		67	59	306	306	1583	50	1613	1583	43	1593		
v/s Ratio Prot		0.01	0.00	0.06	0.06		c0.02	0.10		0.02	0.07		
v/s Ratio Perm						0.03			c0.23				
v/c Ratio		0.13	0.01	0.31	0.31	0.03	0.86	0.23	0.23	0.79	0.15		
Uniform Delay, d1		24.8	24.7	18.9	18.9	0.0	25.8	8.8	0.0	25.9	8.6		
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2		0.9	0.1	0.6	0.6	0.0	76.1	0.1	0.3	63.1	0.0		
Delay (s)		25.7	24.8	19.5	19.5	0.0	101.9	8.9	0.3	88.9	8.6		
Level of Service		C	C	B	B	A	F	A	A	F	A		
Approach Delay (s)		25.1			16.0			10.1			18.7		
Approach LOS		C			B			B			B		
Intersection Summary													
HCM Average Control Delay			13.3									HCM Level of Service	B
HCM Volume to Capacity ratio			0.25										
Actuated Cycle Length (s)			53.3									Sum of lost time (s)	4.0
Intersection Capacity Utilization			33.2%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													






















11: Westamerica Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.92		1.00	0.92		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1719		1770	3243		1770	5073		1770	4998	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1719		1770	3243		1770	5073		1770	4998	
Volume (vph)	76	46	49	26	26	33	54	425	7	18	388	50
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	79	48	51	27	27	34	56	443	7	19	404	52
RTOR Reduction (vph)	0	46	0	0	31	0	0	2	0	0	24	0
Lane Group Flow (vph)	79	53	0	27	30	0	56	448	0	19	432	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.7	5.2		0.8	4.3		1.7	28.6		0.8	27.7	
Effective Green, g (s)	2.2	5.7		1.3	4.8		2.2	29.1		1.3	28.2	
Actuated g/C Ratio	0.04	0.11		0.02	0.09		0.04	0.54		0.02	0.53	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	73	183		43	292		73	2765		43	2639	
v/s Ratio Prot	c0.04	c0.03		0.02	0.01		c0.03	c0.09		0.01	0.09	
v/s Ratio Perm												
v/c Ratio	1.08	0.29		0.63	0.10		0.77	0.16		0.44	0.16	
Uniform Delay, d1	25.6	22.0		25.8	22.3		25.3	6.1		25.7	6.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	129.6	0.9		25.3	0.2		37.4	0.0		7.1	0.0	
Delay (s)	155.2	22.9		51.1	22.5		62.7	6.1		32.8	6.5	
Level of Service	F	C		D	C		E	A		C	A	
Approach Delay (s)		81.6			31.3			12.4			7.6	
Approach LOS		F			C			B			A	

Intersection Summary

HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	53.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	32.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

14: Business Center Dr & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Flt	1.00	0.93		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4711		3433	5056		3433	3486		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4711		3433	5056		3433	3486		3433	3539	1583
Volume (vph)	108	258	249	39	153	6	177	376	42	16	281	178
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	123	293	283	44	174	7	201	427	48	18	319	202
RTOR Reduction (vph)	0	221	0	0	6	0	0	19	0	0	0	149
Lane Group Flow (vph)	123	355	0	44	175	0	201	456	0	18	319	54
Turn Type	Prot			Prot			Prot			Prot		Prot
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	1.8	8.4		1.2	7.8		2.6	12.2		0.6	10.2	10.2
Effective Green, g (s)	2.3	8.9		1.7	8.3		3.1	12.7		1.1	10.7	10.7
Actuated g/C Ratio	0.06	0.22		0.04	0.21		0.08	0.31		0.03	0.26	0.26
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	195	1038		144	1039		263	1096		93	937	419
v/s Ratio Prot	c0.04	c0.08		0.01	0.03		c0.06	c0.13		0.01	0.09	0.03
v/s Ratio Perm												
v/c Ratio	0.63	0.34		0.31	0.17		0.76	0.42		0.19	0.34	0.13
Uniform Delay, d1	18.6	13.3		18.8	13.2		18.3	10.9		19.2	12.0	11.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.5	0.2		1.2	0.1		12.4	0.3		1.0	0.2	0.1
Delay (s)	25.1	13.5		20.0	13.3		30.7	11.2		20.2	12.2	11.4
Level of Service	C	B		B	B		C	B		C	B	B
Approach Delay (s)		15.5			14.6			17.0			12.2	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	40.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			






















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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
*****
Intersection #1 Suisun Valley & Neitzel [Ex PM]
*****
Cycle (sec):          100          Critical Vol./Cap.(X):          0.468
Loss Time (sec):      0            Average Delay (sec/veh):          13.9
Optimal Cycle:        0            Level Of Service:                  B
*****
Street Name:          Suisun Valley          Neitzel
Approach:             North Bound          South Bound          East Bound          West Bound
Movement:             L - T - R          L - T - R          L - T - R          L - T - R
-----|-----|-----|-----|-----|
Control:              Stop Sign          Stop Sign          Stop Sign          Stop Sign
Rights:               Include           Ignore            Ignore            Include
Min. Green:           0  0  0  0          0  0  0  0          0  0  0  0          0  0  0  0
Lanes:                1  0  2  0  0        0  0  2  0  1        2  0  0  0  1        0  0  0  0  0
-----|-----|-----|-----|-----|
Volume Module:
Base Vol:             84  422  0  0  465  45  253  0  264  0  0  0
Growth Adj:           1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:          84  422  0  0  465  45  253  0  264  0  0  0
User Adj:             1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:              0.95 0.95  0.95  0.95 0.95  0.00  0.95 0.95  0.00  0.95 0.95  0.95
PHF Volume:           88  444  0  0  489  0  266  0  0  0  0  0
Reduct Vol:           0  0  0  0  0  0  0  0  0  0  0  0
Reduced Vol:          88  444  0  0  489  0  266  0  0  0  0  0
PCE Adj:              1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00
MLF Adj:              1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00
FinalVolume:          88  444  0  0  489  0  266  0  0  0  0  0
-----|-----|-----|-----|-----|
Saturation Flow Module:
Adjustment:           1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:                1.00 2.00  0.00  0.00 2.00  1.00  2.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:           488 1054  0  0 1046  572  936  0  547  0  0  0
-----|-----|-----|-----|-----|
Capacity Analysis Module:
Vol/Sat:              0.18 0.42  xxxx  xxxx 0.47  0.00  0.28 xxxx  0.00  xxxx xxxx  xxxx
Crit Moves:           ****          ****          ****
Delay/Veh:            11.4 13.9  0.0  0.0 15.0  0.0  12.8  0.0  0.0  0.0  0.0  0.0
Delay Adj:            1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:          11.4 13.9  0.0  0.0 15.0  0.0  12.8  0.0  0.0  0.0  0.0  0.0
LOS by Move:          B  B  *  *  B  *  B  *  *  *  *  *
ApproachDel:          13.5          15.0          12.8          xxxxxx
Delay Adj:            1.00          1.00          1.00          xxxxxx
ApprAdjDel:           13.5          15.0          12.8          xxxxxx
LOS by Appr:          B          B          B          *
AllWayAvgQ:           0.2 0.7  0.0  0.0 0.8  0.0  0.4  0.0  0.0  0.0  0.0  0.0
*****
Note: Queue reported is the number of cars per lane.
*****

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KDA

3: Rockville Rd & Suisun Valley Rd















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583		1848	1583		1816	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583		1848	1583		1816	
Volume (vph)	24	86	21	408	81	53	17	86	75	30	92	15
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	27	98	24	464	92	60	19	98	85	34	105	17
RTOR Reduction (vph)	0	0	21	0	0	0	0	0	44	0	5	0
Lane Group Flow (vph)	27	98	3	464	92	60	0	117	41	0	151	0
Turn Type	Prot		Prot	Prot		Free	Split		pt+ov	Split		
Protected Phases	7	4	4	3	8		2	2	2 3	6	6	
Permitted Phases						Free						
Actuated Green, G (s)	1.6	8.6	8.6	25.1	32.1	82.2		14.0	39.1		16.5	
Effective Green, g (s)	2.1	9.1	9.1	25.6	32.6	82.2		14.5	40.1		17.0	
Actuated g/C Ratio	0.03	0.11	0.11	0.31	0.40	1.00		0.18	0.49		0.21	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	45	206	175	551	739	1583		326	772		376	
v/s Ratio Prot	0.02	c0.05	0.00	c0.26	0.05			c0.06	0.03		c0.08	
v/s Ratio Perm						0.04						
v/c Ratio	0.60	0.48	0.02	0.84	0.12	0.04		0.36	0.05		0.40	
Uniform Delay, d1	39.6	34.3	32.6	26.4	15.7	0.0		29.8	11.1		28.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	19.7	1.7	0.0	11.2	0.1	0.0		3.1	0.0		3.2	
Delay (s)	59.3	36.0	32.6	37.6	15.8	0.0		32.8	11.1		31.4	
Level of Service	E	D	C	D	B	A		C	B		C	
Approach Delay (s)		39.7			30.7			23.7			31.4	
Approach LOS		D			C			C			C	

Intersection Summary
























HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group






















6: Monte Vista Ct & Suisun Valley Rd

							
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	 						
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Volume (veh/h)	35	57	157	115	281	245	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	
Hourly flow rate (vph)	49	79	218	160	390	340	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL						
Median storage (veh)	5						
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	1339	218			218		
vC1, stage 1 conf vol	218						
vC2, stage 2 conf vol	1121						
vCu, unblocked vol	1339	218			218		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	5.4						
tF (s)	3.5	3.3			2.2		
p0 queue free %	78	90			71		
cM capacity (veh/h)	221	822			1351		
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	24	24	79	218	160	390	340
Volume Left	24	24	0	0	0	390	0
Volume Right	0	0	79	0	160	0	0
cSH	221	221	822	1700	1700	1351	1700
Volume to Capacity	0.11	0.11	0.10	0.13	0.09	0.29	0.20
Queue Length 95th (ft)	9	9	8	0	0	30	0
Control Delay (s)	23.3	23.3	9.8	0.0	0.0	8.7	0.0
Lane LOS	C	C	A			A	
Approach Delay (s)	14.9			0.0		4.7	
Approach LOS	B						
Intersection Summary							
Average Delay			4.3				
Intersection Capacity Utilization			37.2%		ICU Level of Service		A
Analysis Period (min)			15				

8: Oakwood Dr & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1794	1583	1681	1681	1583	1770	3539	1583	1770	3526	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1794	1583	1681	1681	1583	1770	3539	1583	1770	3526	
Volume (vph)	7	2	25	128	0	16	27	246	593	79	196	5
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	10	3	35	178	0	22	38	342	824	110	272	7
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	13	2	89	89	22	38	342	824	110	277	0
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases						Free			Free			
Actuated Green, G (s)		2.8	2.8	6.6	6.6	64.9	3.2	30.6	64.9	6.9	34.3	
Effective Green, g (s)		3.3	3.3	7.1	7.1	64.9	3.7	31.1	64.9	7.4	34.8	
Actuated g/C Ratio		0.05	0.05	0.11	0.11	1.00	0.06	0.48	1.00	0.11	0.54	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		91	80	184	184	1583	101	1696	1583	202	1891	
v/s Ratio Prot		0.01	0.00	0.05	0.05		0.02	0.10		0.06	0.08	
v/s Ratio Perm						0.01			c0.52			
v/c Ratio		0.14	0.02	0.48	0.48	0.01	0.38	0.20	0.52	0.54	0.15	
Uniform Delay, d1		29.4	29.3	27.2	27.2	0.0	29.5	9.7	0.0	27.2	7.6	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7	0.1	2.0	2.0	0.0	2.3	0.1	1.2	3.0	0.0	
Delay (s)		30.2	29.4	29.2	29.2	0.0	31.8	9.8	1.2	30.1	7.6	
Level of Service		C	C	C	C	A	C	A	A	C	A	
Approach Delay (s)		29.6			26.0			4.6			14.0	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM Average Control Delay			9.6									
HCM Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			64.9									
Intersection Capacity Utilization			31.4%									
Analysis Period (min)			15									
c Critical Lane Group												

11: Westamerica Dr & Suisun Valley Rd






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	0.91		1.00	0.91	
Fr't	1.00	0.88		1.00	0.88		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1636		1770	3106		1770	5053		1770	4984	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1636		1770	3106		1770	5053		1770	4984	
Volume (vph)	63	12	51	5	28	124	28	679	30	23	285	44
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	85	16	69	7	38	168	38	918	41	31	385	59
RTOR Reduction (vph)	0	54	0	0	139	0	0	8	0	0	35	0
Lane Group Flow (vph)	85	31	0	7	67	0	38	951	0	31	409	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.9	10.5		0.7	8.3		1.4	20.4		0.7	19.7	
Effective Green, g (s)	3.4	11.0		1.2	8.8		1.9	20.9		1.2	20.2	
Actuated g/C Ratio	0.07	0.22		0.02	0.17		0.04	0.42		0.02	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	120	358		42	543		67	2100		42	2002	
v/s Ratio Prot	c0.05	0.02		0.00	c0.02		c0.02	c0.19		0.02	0.08	
v/s Ratio Perm												
v/c Ratio	0.71	0.09		0.17	0.12		0.57	0.45		0.74	0.20	
Uniform Delay, d1	23.0	15.6		24.1	17.5		23.8	10.6		24.4	9.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	17.4	0.1		1.9	0.1		10.6	0.2		49.5	0.1	
Delay (s)	40.3	15.8		25.9	17.6		34.3	10.7		73.9	9.9	
Level of Service	D	B		C	B		C	B		E	A	
Approach Delay (s)		28.0			17.9			11.6			14.0	
Approach LOS		C			B			B			B	

Intersection Summary

HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	50.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

14: Business Center Dr & Suisun Valley Rd

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00	
Fr _t	1.00	0.89		1.00	0.99		1.00	0.98		1.00	1.00	0.85	
Fl _t Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	3433	4510		3433	5046		3433	3467		3433	3539	1583	
Fl _t Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	3433	4510		3433	5046		3433	3467		3433	3539	1583	
Volume (vph)	50	88	269	85	412	22	279	536	85	1	181	129	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	
Adj. Flow (vph)	65	114	349	110	535	29	362	696	110	1	235	168	
RTOR Reduction (vph)	0	289	0	0	13	0	0	23	0	0	0	127	
Lane Group Flow (vph)	65	174	0	110	551	0	362	783	0	1	235	41	
Turn Type	Prot			Prot			Prot			Prot		Prot	
Protected Phases	7	4		3	8		5	2		1	6	6	
Permitted Phases													
Actuated Green, G (s)	1.9	7.5		1.9	7.5		8.1	18.3		0.6	10.8	10.8	
Effective Green, g (s)	2.4	8.0		2.4	8.0		8.6	18.8		1.1	11.3	11.3	
Actuated g/C Ratio	0.05	0.17		0.05	0.17		0.19	0.41		0.02	0.24	0.24	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	178	779		178	872		638	1408		82	864	386	
v/s Ratio Prot	0.02	0.04		c0.03	c0.11		c0.11	c0.23		0.00	0.07	0.03	
v/s Ratio Perm													
v/c Ratio	0.37	0.22		0.62	0.63		0.57	0.56		0.01	0.27	0.11	
Uniform Delay, d ₁	21.2	16.5		21.5	17.8		17.2	10.5		22.1	14.2	13.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d ₂	1.3	0.1		6.3	1.5		1.2	0.5		0.1	0.2	0.1	
Delay (s)	22.5	16.6		27.8	19.3		18.3	11.0		22.1	14.3	13.7	
Level of Service	C	B		C	B		B	B		C	B	B	
Approach Delay (s)		17.3			20.7			13.3			14.1		
Approach LOS		B			C			B			B		
Intersection Summary													
HCM Average Control Delay			16.0									HCM Level of Service	B
HCM Volume to Capacity ratio			0.56										
Actuated Cycle Length (s)			46.3									Sum of lost time (s)	12.0
Intersection Capacity Utilization			46.0%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #1 Suisun Valley & Neitzel [Ex Am plus Project]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.860
 Loss Time (sec): 0 Average Delay (sec/veh): 29.9
 Optimal Cycle: 0 Level Of Service: D

Street Name: Suisun Valley Neitzel
 Approach: North Bound South Bound East Bound West Bound
 Movement: L - T - R L - T - R L - T - R L - T - R
 Control: Stop Sign Stop Sign Stop Sign Stop Sign
 Rights: Include Ignore Ignore Include
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
 Lanes: 1 0 2 0 0 0 0 2 0 0 1 0 0 0 0 0






















Volume Module:
 Base Vol: 75 671 0 0 504 29 239 0 172 0 0 0
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Initial Bse: 75 671 0 0 504 29 239 0 172 0 0 0
 User Adj: 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00 1.00 1.00 1.00
 PHF Adj: 0.80 0.80 0.80 0.80 0.80 0.00 0.80 0.80 0.00 0.80 0.80 0.80
 PHF Volume: 94 839 0 0 630 0 299 0 0 0 0 0
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 94 839 0 0 630 0 299 0 0 0 0 0
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00 1.00 1.00 1.00
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00 1.00 1.00 1.00
 FinalVolume: 94 839 0 0 630 0 299 0 0 0 0 0

Saturation Flow Module:
 Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lanes: 1.00 2.00 0.00 0.00 2.00 1.00 2.00 0.00 1.00 0.00 0.00 0.00
 Final Sat.: 447 976 0 0 905 483 816 0 464 0 0 0

Capacity Analysis Module:
 Vol/Sat: 0.21 0.86 xxxx xxxx 0.70 0.00 0.37 xxxx 0.00 xxxx xxxx xxxx
 Crit Moves: **** **** ****
 Delay/Veh: 12.6 39.9 0.0 0.0 25.9 0.0 15.6 0.0 0.0 0.0 0.0 0.0
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 AdjDel/Veh: 12.6 39.9 0.0 0.0 25.9 0.0 15.6 0.0 0.0 0.0 0.0 0.0
 LOS by Move: B E * * D * C * * * * *
 ApproachDel: 37.2 25.9 15.6
 Delay Adj: 1.00 1.00 1.00
 ApprAdjDel: 37.2 25.9 15.6
 LOS by Appr: E D C *
 AllWayAvgQ: 0.2 4.0 0.0 0.0 1.9 0.0 0.5 0.0 0.0 0.0 0.0 0.0

Note: Queue reported is the number of cars per lane.

3: Rockville Rd & Suisun Valley Rd














Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.98	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583		1844	1583		1806	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.98	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583		1844	1583		1806	
Volume (vph)	28	111	19	113	92	36	28	110	280	58	111	22
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	114	20	116	95	37	29	113	289	60	114	23
RTOR Reduction (vph)	0	0	17	0	0	0	0	0	208	0	8	0
Lane Group Flow (vph)	29	114	3	116	95	37	0	142	81	0	189	0
Turn Type	Prot		Prot	Prot		Free	Split		pt+ov	Split		
Protected Phases	7	4	4	3	8		2	2	2 3	6	6	
Permitted Phases						Free						
Actuated Green, G (s)	1.3	7.4	7.4	6.3	12.4	56.5		8.6	14.9		16.2	
Effective Green, g (s)	1.8	7.9	7.9	6.8	12.9	56.5		9.1	15.9		16.7	
Actuated g/C Ratio	0.03	0.14	0.14	0.12	0.23	1.00		0.16	0.28		0.30	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	56	260	221	213	425	1583		297	445		534	
v/s Ratio Prot	0.02	c0.06	0.00	c0.07	0.05			c0.08	0.05		c0.10	
v/s Ratio Perm						0.02						
v/c Ratio	0.52	0.44	0.01	0.54	0.22	0.02		0.48	0.18		0.35	
Uniform Delay, d1	26.9	22.3	20.9	23.4	17.7	0.0		21.5	15.4		15.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	7.9	1.2	0.0	2.8	0.3	0.0		5.4	0.2		1.8	
Delay (s)	34.8	23.5	21.0	26.2	18.0	0.0		27.0	15.6		17.5	
Level of Service	C	C	C	C	B	A		C	B		B	
Approach Delay (s)		25.2			19.2			19.3			17.5	
Approach LOS		C			B			B			B	

Intersection Summary

HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	56.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

6: Monte Vista Ct & Suisun Valley Rd

							
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	 						
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Volume (veh/h)	44	129	315	32	34	217	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly flow rate (vph)	47	137	335	34	36	231	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL						
Median storage (veh)	5						
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	638	335			335		
vC1, stage 1 conf vol	335						
vC2, stage 2 conf vol	303						
vCu, unblocked vol	638	335			335		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	5.4						
tF (s)	3.5	3.3			2.2		
p0 queue free %	93	81			97		
cM capacity (veh/h)	676	707			1224		
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	23	23	137	335	34	36	231
Volume Left	23	23	0	0	0	36	0
Volume Right	0	0	137	0	34	0	0
cSH	676	676	707	1700	1700	1224	1700
Volume to Capacity	0.03	0.03	0.19	0.20	0.02	0.03	0.14
Queue Length 95th (ft)	3	3	18	0	0	2	0
Control Delay (s)	10.5	10.5	11.3	0.0	0.0	8.0	0.0
Lane LOS	B	B	B			A	
Approach Delay (s)	11.1			0.0		1.1	
Approach LOS	B						
Intersection Summary							
Average Delay			2.8				
Intersection Capacity Utilization			33.2%		ICU Level of Service		A
Analysis Period (min)			15				





















8: Oakwood Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1783	1583	1681	1681	1583	1770	3539	1583	1770	3524	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1783	1583	1681	1681	1583	1770	3539	1583	1770	3524	
Volume (vph)	7	1	16	179	0	39	37	315	342	32	202	6
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	8	1	19	208	0	45	43	366	398	37	235	7
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	9	1	104	104	45	43	366	398	37	239	0
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases						Free			Free			
Actuated Green, G (s)		1.5	1.5	9.3	9.3	52.8	1.0	23.2	52.8	0.8	23.0	
Effective Green, g (s)		2.0	2.0	9.8	9.8	52.8	1.5	23.7	52.8	1.3	23.5	
Actuated g/C Ratio		0.04	0.04	0.19	0.19	1.00	0.03	0.45	1.00	0.02	0.45	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		68	60	312	312	1583	50	1589	1583	44	1568	
v/s Ratio Prot		0.01	0.00	0.06	0.06		0.02	0.10		0.02	0.07	
v/s Ratio Perm						0.03			c0.25			
v/c Ratio		0.13	0.01	0.33	0.33	0.03	0.86	0.23	0.25	0.84	0.15	
Uniform Delay, d1		24.6	24.4	18.7	18.7	0.0	25.5	8.9	0.0	25.6	8.7	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.9	0.1	0.6	0.6	0.0	76.1	0.1	0.4	77.3	0.0	
Delay (s)		25.4	24.5	19.3	19.3	0.0	101.7	9.0	0.4	103.0	8.8	
Level of Service		C	C	B	B	A	F	A	A	F	A	
Approach Delay (s)		24.8			15.9			9.7			21.3	
Approach LOS		C			B			A			C	

Intersection Summary

HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	52.8	Sum of lost time (s)	0.0
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			






















11: Westamerica Dr & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.92		1.00	0.91		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1719		1770	3236		1770	5074		1770	5002	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1719		1770	3236		1770	5074		1770	5002	
Volume (vph)	76	46	49	26	26	35	54	461	7	19	405	50
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	79	48	51	27	27	36	56	480	7	20	422	52
RTOR Reduction (vph)	0	46	0	0	33	0	0	2	0	0	23	0
Lane Group Flow (vph)	79	53	0	27	30	0	56	485	0	20	451	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.7	5.2		0.8	4.3		1.7	28.6		0.8	27.7	
Effective Green, g (s)	2.2	5.7		1.3	4.8		2.2	29.1		1.3	28.2	
Actuated g/C Ratio	0.04	0.11		0.02	0.09		0.04	0.54		0.02	0.53	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	73	183		43	291		73	2765		43	2642	
v/s Ratio Prot	c0.04	c0.03		0.02	0.01		c0.03	c0.10		0.01	0.09	
v/s Ratio Perm												
v/c Ratio	1.08	0.29		0.63	0.10		0.77	0.18		0.47	0.17	
Uniform Delay, d1	25.6	22.0		25.8	22.3		25.3	6.1		25.7	6.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	129.6	0.9		25.3	0.2		37.4	0.0		7.8	0.0	
Delay (s)	155.2	22.9		51.1	22.5		62.7	6.1		33.5	6.6	
Level of Service	F	C		D	C		E	A		C	A	
Approach Delay (s)		81.6			31.1			12.0			7.7	
Approach LOS		F			C			B			A	

Intersection Summary

HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	53.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

14: Business Center Dr & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.93		1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4711		3433	5056		3433	3489		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4711		3433	5056		3433	3489		3433	3539	1583
Volume (vph)	115	258	249	39	153	6	177	405	42	16	294	182
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	131	293	283	44	174	7	201	460	48	18	334	207
RTOR Reduction (vph)	0	213	0	0	5	0	0	17	0	0	0	154
Lane Group Flow (vph)	131	363	0	44	176	0	201	491	0	18	334	53
Turn Type	Prot			Prot			Prot			Prot		Prot
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	2.5	9.9		1.3	8.7		2.5	12.1		0.6	10.2	10.2
Effective Green, g (s)	3.0	10.4		1.8	9.2		3.0	12.6		1.1	10.7	10.7
Actuated g/C Ratio	0.07	0.25		0.04	0.22		0.07	0.30		0.03	0.26	0.26
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	246	1169		147	1110		246	1049		90	904	404
v/s Ratio Prot	c0.04	c0.08		0.01	0.03		c0.06	c0.14		0.01	0.09	0.03
v/s Ratio Perm												
v/c Ratio	0.53	0.31		0.30	0.16		0.82	0.47		0.20	0.37	0.13
Uniform Delay, d1	18.8	12.8		19.4	13.2		19.2	11.9		20.0	12.8	12.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.2	0.2		1.1	0.1		18.6	0.3		1.1	0.3	0.1
Delay (s)	21.0	13.0		20.6	13.3		37.7	12.3		21.1	13.1	12.2
Level of Service	C	B		C	B		D	B		C	B	B
Approach Delay (s)		14.5			14.7			19.5			13.0	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	41.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			
























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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
*****
Intersection #1 Suisun Valley & Neitzel [Ex PM plus Project]
*****
Cycle (sec):          100          Critical Vol./Cap.(X):          0.489
Loss Time (sec):      0          Average Delay (sec/veh):          14.4
Optimal Cycle:        0          Level Of Service:          B
*****
Street Name:          Suisun Valley          Neitzel
Approach:             North Bound          South Bound          East Bound          West Bound
Movement:             L - T - R          L - T - R          L - T - R          L - T - R
-----|-----|-----|-----|-----|
Control:              Stop Sign          Stop Sign          Stop Sign          Stop Sign
Rights:               Include          Ignore          Ignore          Include
Min. Green:           0  0  0          0  0  0          0  0  0          0  0  0
Lanes:                1  0  2  0  0          0  0  2  0  1          2  0  0  0  1          0  0  0  0  0
-----|-----|-----|-----|-----|
Volume Module:
Base Vol:             84  429  0          0  478  45  275  0  264          0  0  0
Growth Adj:           1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:          84  429  0          0  478  45  275  0  264          0  0  0
User Adj:             1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00
PHF Adj:              0.95 0.95  0.95  0.95 0.95  0.00  0.95 0.95  0.00  0.95 0.95  0.95
PHF Volume:           88  452  0          0  503  0  289  0  0          0  0  0
Reduct Vol:           0  0  0          0  0  0  0  0  0  0  0  0
Reduced Vol:          88  452  0          0  503  0  289  0  0          0  0  0
PCE Adj:              1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00
MLF Adj:              1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00  1.00 1.00  1.00
FinalVolume:          88  452  0          0  503  0  289  0  0          0  0  0
-----|-----|-----|-----|-----|
Saturation Flow Module:
Adjustment:           1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:                1.00 2.00  0.00  0.00 2.00  1.00  2.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:           480 1035  0          0  1029  561  930  0  542          0  0  0
-----|-----|-----|-----|-----|
Capacity Analysis Module:
Vol/Sat:              0.18 0.44  xxxx  xxxx 0.49  0.00  0.31 xxxx  0.00  xxxx xxxx  xxxx
Crit Moves:           ****          ****          ****
Delay/Veh:            11.6 14.4  0.0  0.0 15.7  0.0  13.3  0.0  0.0  0.0  0.0  0.0
Delay Adj:            1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:           11.6 14.4  0.0  0.0 15.7  0.0  13.3  0.0  0.0  0.0  0.0  0.0
LOS by Move:          B  B  *  *  C  *  B  *  *  *  *  *
ApproachDel:          13.9          15.7          13.3          xxxxxx
Delay Adj:             1.00          1.00          1.00          xxxxxx
ApprAdjDel:           13.9          15.7          13.3          xxxxxx
LOS by Appr:          B          C          B          *
AllWayAvgQ:           0.2  0.7  0.0  0.0  0.9  0.0  0.4  0.0  0.0  0.0  0.0  0.0
*****
Note: Queue reported is the number of cars per lane.
*****

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KDA






















8: Oakwood Dr & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1794	1583	1681	1681	1583	1770	3539	1583	1770	3526	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1794	1583	1681	1681	1583	1770	3539	1583	1770	3526	
Volume (vph)	7	2	25	119	0	14	27	239	566	74	193	5
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	10	3	35	165	0	19	38	332	786	103	268	7
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	13	2	83	82	19	38	332	786	103	273	0
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases						Free			Free			
Actuated Green, G (s)		2.8	2.8	6.5	6.5	64.8	3.2	30.6	64.8	6.9	34.3	
Effective Green, g (s)		3.3	3.3	7.0	7.0	64.8	3.7	31.1	64.8	7.4	34.8	
Actuated g/C Ratio		0.05	0.05	0.11	0.11	1.00	0.06	0.48	1.00	0.11	0.54	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		91	81	182	182	1583	101	1699	1583	202	1894	
v/s Ratio Prot		0.01	0.00	0.05	0.05		0.02	0.09		0.06	0.08	
v/s Ratio Perm						0.01			c0.50			
v/c Ratio		0.14	0.02	0.46	0.45	0.01	0.38	0.20	0.50	0.51	0.14	
Uniform Delay, d1		29.4	29.2	27.1	27.1	0.0	29.4	9.7	0.0	27.0	7.5	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7	0.1	1.8	1.8	0.0	2.3	0.1	1.1	2.0	0.0	
Delay (s)		30.1	29.3	28.9	28.9	0.0	31.8	9.7	1.1	29.0	7.6	
Level of Service		C	C	C	C	A	C	A	A	C	A	
Approach Delay (s)		29.5			25.9			4.6			13.4	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM Average Control Delay			9.4			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			64.8			Sum of lost time (s)				0.0		
Intersection Capacity Utilization			30.7%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

11: Westamerica Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.88		1.00	0.88		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1636		1770	3103		1770	5046		1770	4983	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1636		1770	3103		1770	5046		1770	4983	
Volume (vph)	63	12	51	17	28	130	28	642	35	25	282	44
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	85	16	69	23	38	176	38	868	47	34	381	59
RTOR Reduction (vph)	0	54	0	0	145	0	0	11	0	0	36	0
Lane Group Flow (vph)	85	31	0	23	69	0	38	904	0	34	404	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.8	10.2		0.7	8.1		1.3	18.5		1.3	18.5	
Effective Green, g (s)	3.3	10.7		1.2	8.6		1.8	19.0		1.8	19.0	
Actuated g/C Ratio	0.07	0.22		0.02	0.18		0.04	0.39		0.04	0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	120	359		44	548		65	1969		65	1944	
v/s Ratio Prot	c0.05	0.02		0.01	c0.02		c0.02	c0.18		0.02	0.08	
v/s Ratio Perm												
v/c Ratio	0.71	0.09		0.52	0.13		0.58	0.46		0.52	0.21	
Uniform Delay, d1	22.2	15.1		23.5	16.9		23.1	11.0		23.0	9.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	17.4	0.1		10.8	0.1		12.7	0.2		7.4	0.1	
Delay (s)	39.6	15.2		34.2	17.0		35.8	11.2		30.4	9.9	
Level of Service	D	B		C	B		D	B		C	A	
Approach Delay (s)		27.4			18.7			12.2			11.4	
Approach LOS		C			B			B			B	
Intersection Summary												
HCM Average Control Delay			14.2			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			48.7			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			38.3%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

14: Business Center Dr & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Flt Protected	1.00	0.89		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4536		3433	5053		3433	3448		3433	3539	1583
Satd. Flow (perm)	3433	4536		3433	5053		3433	3448		3433	3539	1583
Volume (vph)	42	107	275	113	506	22	288	509	106	1	181	138
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	55	139	357	147	657	29	374	661	138	1	235	179
RTOR Reduction (vph)	0	289	0	0	10	0	0	34	0	0	0	137
Lane Group Flow (vph)	55	207	0	147	676	0	374	765	0	1	235	42
Turn Type	Prot			Prot			Prot			Prot		Prot
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	1.3	8.8		2.7	10.2		8.2	18.4		0.7	10.9	10.9
Effective Green, g (s)	1.8	9.3		3.2	10.7		8.7	18.9		1.2	11.4	11.4
Actuated g/C Ratio	0.04	0.19		0.07	0.22		0.18	0.39		0.02	0.23	0.23
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	127	868		226	1112		615	1341		85	830	371
v/s Ratio Prot	0.02	0.05		c0.04	c0.13		c0.11	c0.22		0.00	0.07	0.03
v/s Ratio Perm												
v/c Ratio	0.43	0.24		0.65	0.61		0.61	0.57		0.01	0.28	0.11
Uniform Delay, d1	22.9	16.7		22.2	17.1		18.4	11.7		23.1	15.2	14.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.4	0.1		6.5	0.9		1.7	0.6		0.1	0.2	0.1
Delay (s)	25.3	16.8		28.7	18.0		20.1	12.3		23.2	15.4	14.8
Level of Service	C	B		C	B		C	B		C	B	B
Approach Delay (s)		17.6			19.9			14.8			15.2	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	48.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #1 Suisun Valley & Neitzel [EPAP Am base]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.867
 Loss Time (sec): 0 Average Delay (sec/veh): 31.2
 Optimal Cycle: 0 Level Of Service: D

Street Name:	Suisun Valley						Neitzel					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Ignore			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	2	0	2	0	0	0	0	0

Volume Module:

Base Vol:	75	684	0	0	538	29	229	0	172	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	684	0	0	538	29	229	0	172	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.81	0.81	0.81	0.81	0.81	0.00	0.81	0.81	0.00	0.81	0.81	0.81
PHF Volume:	93	844	0	0	664	0	283	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	93	844	0	0	664	0	283	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	93	844	0	0	664	0	283	0	0	0	0	0

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	447	974	0	0	912	486	808	0	459	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.21	0.87	xxxx	xxxx	0.73	0.00	0.35	xxxx	0.00	xxxx	xxxx	xxxx
Crit Moves:	****			****			****					
Delay/Veh:	12.5	41.0	0.0	0.0	28.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.5	41.0	0.0	0.0	28.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0
LOS by Move:	B	E	*	*	D	*	C	*	*	*	*	*
ApproachDel:	38.2			28.0			15.4			xxxxxx		
Delay Adj:	1.00			1.00			1.00			xxxxxx		
ApprAdjDel:	38.2			28.0			15.4			xxxxxx		
LOS by Appr:	E			D			C			*		
AllWayAvgQ:	0.2	4.2	0.0	0.0	2.2	0.0	0.5	0.0	0.0	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.






















8: Oakwood Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Flt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1783	1583	1681	1681	1583	1770	3539	1583	1770	3524	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1783	1583	1681	1681	1583	1770	3539	1583	1770	3524	
Volume (vph)	7	1	16	177	0	36	37	312	314	29	199	6
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	8	1	19	206	0	42	43	363	365	34	231	7
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	9	1	103	103	42	43	363	365	34	235	0
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases						Free			Free			
Actuated Green, G (s)		1.5	1.5	9.3	9.3	52.9	1.0	23.3	52.9	0.8	23.1	
Effective Green, g (s)		2.0	2.0	9.8	9.8	52.9	1.5	23.8	52.9	1.3	23.6	
Actuated g/C Ratio		0.04	0.04	0.19	0.19	1.00	0.03	0.45	1.00	0.02	0.45	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		67	60	311	311	1583	50	1592	1583	43	1572	
v/s Ratio Prot		0.01	0.00	c0.06	0.06		c0.02	0.10		0.02	0.07	
v/s Ratio Perm						0.03			c0.23			
v/c Ratio		0.13	0.01	0.33	0.33	0.03	0.86	0.23	0.23	0.79	0.15	
Uniform Delay, d1		24.6	24.5	18.7	18.7	0.0	25.6	8.9	0.0	25.7	8.7	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.9	0.1	0.6	0.6	0.0	76.1	0.1	0.3	63.1	0.0	
Delay (s)		25.5	24.6	19.3	19.3	0.0	101.7	9.0	0.3	88.7	8.7	
Level of Service		C	C	B	B	A	F	A	A	F	A	
Approach Delay (s)		24.9			16.1			10.1			18.7	
Approach LOS		C			B			B			B	

Intersection Summary

HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

11: Westamerica Dr & Suisun Valley Rd






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	0.91		1.00	0.91	
Flt	1.00	0.92		1.00	0.91		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1719		1770	3222		1770	5049		1770	5000	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1719		1770	3222		1770	5049		1770	5000	
Volume (vph)	76	46	49	34	26	38	54	440	22	28	396	50
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	79	48	51	35	27	40	56	458	23	29	412	52
RTOR Reduction (vph)	0	46	0	0	36	0	0	8	0	0	24	0
Lane Group Flow (vph)	79	53	0	35	31	0	56	473	0	29	440	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.7	5.2		0.8	4.3		1.7	28.2		0.8	27.3	
Effective Green, g (s)	2.2	5.7		1.3	4.8		2.2	28.7		1.3	27.8	
Actuated g/C Ratio	0.04	0.11		0.02	0.09		0.04	0.54		0.02	0.52	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	73	185		43	292		73	2734		43	2623	
v/s Ratio Prot	c0.04	c0.03		0.02	0.01		c0.03	c0.09		0.02	0.09	
v/s Ratio Perm												
v/c Ratio	1.08	0.29		0.81	0.10		0.77	0.17		0.67	0.17	
Uniform Delay, d1	25.4	21.8		25.7	22.1		25.1	6.1		25.6	6.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	129.6	0.9		69.6	0.2		37.4	0.0		34.5	0.0	
Delay (s)	155.0	22.7		95.3	22.3		62.5	6.2		60.2	6.6	
Level of Service	F	C		F	C		E	A		E	A	
Approach Delay (s)		81.4			47.4			12.1			9.8	
Approach LOS		F			D			B			A	

Intersection Summary

HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	53.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	33.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

14: Business Center Dr & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.93		1.00	1.00		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4742		3433	5065		3433	3418		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4742		3433	5065		3433	3418		3433	3539	1583
Volume (vph)	117	329	269	56	229	6	196	397	117	16	289	186
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	133	374	306	64	260	7	223	451	133	18	328	211
RTOR Reduction (vph)	0	229	0	0	5	0	0	60	0	0	0	157
Lane Group Flow (vph)	133	451	0	64	262	0	223	524	0	18	328	54
Turn Type	Prot			Prot			Prot			Prot		Prot
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	2.5	10.1		1.3	8.9		2.5	12.2		0.6	10.3	10.3
Effective Green, g (s)	3.0	10.6		1.8	9.4		3.0	12.7		1.1	10.8	10.8
Actuated g/C Ratio	0.07	0.25		0.04	0.22		0.07	0.30		0.03	0.26	0.26
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	244	1191		146	1128		244	1029		89	906	405
v/s Ratio Prot	c0.04	c0.10		0.02	0.05		c0.06	c0.15		0.01	0.09	0.03
v/s Ratio Perm												
v/c Ratio	0.55	0.38		0.44	0.23		0.91	0.51		0.20	0.36	0.13
Uniform Delay, d1	18.9	13.1		19.7	13.4		19.5	12.2		20.1	12.9	12.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.5	0.2		2.1	0.1		35.2	0.4		1.1	0.2	0.2
Delay (s)	21.4	13.3		21.8	13.5		54.6	12.6		21.2	13.1	12.2
Level of Service	C	B		C	B		D	B		C	B	B
Approach Delay (s)		14.6			15.1			24.2			13.1	
Approach LOS		B			B			C			B	

Intersection Summary

HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	42.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Suisun Valley & Neitzel [EPAP PM base]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.541
Loss Time (sec): 0 Average Delay (sec/veh): 16.1
Optimal Cycle: 0 Level Of Service: C

Street Name: Suisun Valley Neitzel
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Ignore Ignore Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 2 0 0 0 0 2 0 0 1 2 0 0 0 0 0

Volume Module:
Base Vol: 84 491 0 0 510 45 299 0 264 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 84 491 0 0 510 45 299 0 264 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.00 0.95 0.95 0.00 0.95 0.95 0.95
PHF Volume: 88 517 0 0 537 0 315 0 0 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 88 517 0 0 537 0 315 0 0 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 0.00 1.00 1.00 1.00
FinalVolume: 88 517 0 0 537 0 315 0 0 0 0 0

Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 1.00 2.00 0.00 0.00 2.00 1.00 2.00 0.00 1.00 0.00 0.00 0.00
Final Sat.: 466 1009 0 0 991 537 906 0 524 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.19 0.51 xxxx xxxx 0.54 0.00 0.35 xxxx 0.00 xxxx xxxx xxxx
Crit Moves: **** **** ****
Delay/Veh: 11.9 16.6 0.0 0.0 17.6 0.0 14.2 0.0 0.0 0.0 0.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 11.9 16.6 0.0 0.0 17.6 0.0 14.2 0.0 0.0 0.0 0.0 0.0
LOS by Move: B C * * C * B * * *
ApproachDel: 15.9 17.6 14.2 xxxxxx
Delay Adj: 1.00 1.00 1.00 xxxxxx
ApprAdjDel: 15.9 17.6 14.2 xxxxxx
LOS by Appr: C C B *
AllWayAvgQ: 0.2 1.0 0.0 0.0 1.1 0.0 0.5 0.0 0.0 0.0 0.0 0.0






















Note: Queue reported is the number of cars per lane.

KDA

8: Oakwood Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1794	1583	1681	1681	1583	1770	3539	1583	1770	3526	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1794	1583	1681	1681	1583	1770	3539	1583	1770	3526	
Volume (vph)	7	2	25	132	0	16	27	246	604	79	196	5
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	10	3	35	183	0	22	38	342	839	110	272	7
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	13	2	92	91	22	38	342	839	110	277	0
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases						Free			Free			
Actuated Green, G (s)		2.8	2.8	6.7	6.7	64.9	3.2	30.5	64.9	6.9	34.2	
Effective Green, g (s)		3.3	3.3	7.2	7.2	64.9	3.7	31.0	64.9	7.4	34.7	
Actuated g/C Ratio		0.05	0.05	0.11	0.11	1.00	0.06	0.48	1.00	0.11	0.53	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		91	80	186	186	1583	101	1690	1583	202	1885	
v/s Ratio Prot		0.01	0.00	0.05	0.05		0.02	0.10		0.06	0.08	
v/s Ratio Perm						0.01			c0.53			
v/c Ratio		0.14	0.02	0.49	0.49	0.01	0.38	0.20	0.53	0.54	0.15	
Uniform Delay, d1		29.4	29.3	27.1	27.1	0.0	29.5	9.8	0.0	27.2	7.6	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7	0.1	2.1	2.0	0.0	2.3	0.1	1.3	3.0	0.0	
Delay (s)		30.2	29.4	29.2	29.1	0.0	31.8	9.9	1.3	30.1	7.7	
Level of Service		C	C	C	C	A	C	A	A	C	A	
Approach Delay (s)		29.6			26.0			4.6			14.0	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM Average Control Delay			9.6			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			64.9			Sum of lost time (s)			0.0			
Intersection Capacity Utilization			31.5%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

11: Westamerica Dr & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.88		1.00	0.88		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1636		1770	3101		1770	5048		1770	4987	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1636		1770	3101		1770	5048		1770	4987	
Volume (vph)	63	12	51	17	28	133	28	684	35	26	297	44
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	85	16	69	23	38	180	38	924	47	35	401	59
RTOR Reduction (vph)	0	54	0	0	149	0	0	10	0	0	36	0
Lane Group Flow (vph)	85	31	0	23	69	0	38	961	0	35	424	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.8	10.0		0.7	7.9		1.3	18.2		1.3	18.2	
Effective Green, g (s)	3.3	10.5		1.2	8.4		1.8	18.7		1.8	18.7	
Actuated g/C Ratio	0.07	0.22		0.02	0.17		0.04	0.39		0.04	0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	121	356		44	540		66	1958		66	1935	
v/s Ratio Prot	c0.05	0.02		0.01	c0.02		c0.02	c0.19		0.02	0.08	
v/s Ratio Perm												
v/c Ratio	0.70	0.09		0.52	0.13		0.58	0.49		0.53	0.22	
Uniform Delay, d1	22.0	15.0		23.2	16.8		22.8	11.1		22.8	9.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.8	0.1		10.8	0.1		11.6	0.2		8.0	0.1	
Delay (s)	38.8	15.1		34.0	16.9		34.4	11.3		30.7	9.9	
Level of Service	D	B		C	B		C	B		C	A	
Approach Delay (s)		27.0			18.5			12.2			11.4	
Approach LOS		C			B			B			B	

Intersection Summary

HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

14: Business Center Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.89		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4536		3433	5053		3433	3452		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4536		3433	5053		3433	3452		3433	3539	1583
Volume (vph)	53	107	275	113	506	22	288	543	106	1	193	141
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	69	139	357	147	657	29	374	705	138	1	251	183
RTOR Reduction (vph)	0	293	0	0	10	0	0	31	0	0	0	139
Lane Group Flow (vph)	69	203	0	147	676	0	374	812	0	1	251	44
Turn Type	Prot			Prot			Prot			Prot		Prot
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	2.0	8.1		2.7	8.8		8.2	18.4		0.7	10.9	10.9
Effective Green, g (s)	2.5	8.6		3.2	9.3		8.7	18.9		1.2	11.4	11.4
Actuated g/C Ratio	0.05	0.18		0.07	0.19		0.18	0.39		0.03	0.24	0.24
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	179	814		229	981		624	1362		86	842	377
v/s Ratio Prot	0.02	0.04		c0.04	c0.13		c0.11	c0.24		0.00	0.07	0.03
v/s Ratio Perm												
v/c Ratio	0.39	0.25		0.64	0.69		0.60	0.60		0.01	0.30	0.12
Uniform Delay, d1	22.0	16.9		21.8	18.0		18.0	11.5		22.8	15.0	14.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	0.2		6.0	2.0		1.6	0.7		0.1	0.2	0.1
Delay (s)	23.3	17.0		27.8	20.0		19.6	12.2		22.8	15.2	14.4
Level of Service	C	B		C	B		B	B		C	B	B
Approach Delay (s)		17.8			21.4			14.5			14.9	
Approach LOS		B			C			B			B	

Intersection Summary

HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	47.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

 Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #1 Suisun Valley & Neitzel [EPAP AM plus project]

 Cycle (sec): 100 Critical Vol./Cap.(X): 0.897
 Loss Time (sec): 0 Average Delay (sec/veh): 34.6
 Optimal Cycle: 0 Level Of Service: D

Street Name:	Suisun Valley						Neitzel					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Ignore			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	0	2	2	0	0	0	0	0

Volume Module:

Base Vol:	75	691	0	0	550	29	256	0	172	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	691	0	0	550	29	256	0	172	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.81	0.81	0.81	0.81	0.81	0.00	0.81	0.81	0.00	0.81	0.81	0.81
PHF Volume:	93	853	0	0	679	0	316	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	93	853	0	0	679	0	316	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	93	853	0	0	679	0	316	0	0	0	0	0

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	436	951	0	0	891	476	804	0	456	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.21	0.90	xxxx	xxxx	0.76	0.00	0.39	xxxx	0.00	xxxx	xxxx	xxxx
Crit Moves:	****			****			****					
Delay/Veh:	12.8	46.5	0.0	0.0	31.2	0.0	16.4	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.8	46.5	0.0	0.0	31.2	0.0	16.4	0.0	0.0	0.0	0.0	0.0
LOS by Move:	B	E	*	*	D	*	C	*	*	*	*	*
ApproachDel:	43.2			31.2			16.4			xxxxxx		
Delay Adj:	1.00			1.00			1.00			xxxxxx		
ApprAdjDel:	43.2			31.2			16.4			xxxxxx		
LOS by Appr:	E			D			C			*		
AllWayAvgQ:	0.3	4.8	0.0	0.0	2.5	0.0	0.6	0.0	0.0	0.0	0.0	0.0

 Note: Queue reported is the number of cars per lane.

8: Oakwood Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1783	1583	1681	1681	1583	1770	3539	1583	1770	3524	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1783	1583	1681	1681	1583	1770	3539	1583	1770	3524	
Volume (vph)	7	1	16	192	0	39	37	315	349	32	202	6
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	8	1	19	223	0	45	43	366	406	37	235	7
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	9	1	112	111	45	43	366	406	37	239	0
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases						Free			Free			
Actuated Green, G (s)		1.5	1.5	9.4	9.4	52.4	1.0	22.7	52.4	0.8	22.5	
Effective Green, g (s)		2.0	2.0	9.9	9.9	52.4	1.5	23.2	52.4	1.3	23.0	
Actuated g/C Ratio		0.04	0.04	0.19	0.19	1.00	0.03	0.44	1.00	0.02	0.44	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		68	60	318	318	1583	51	1567	1583	44	1547	
v/s Ratio Prot		0.01	0.00	0.07	0.07		0.02	0.10		0.02	0.07	
v/s Ratio Perm						0.03			c0.26			
v/c Ratio		0.13	0.01	0.35	0.35	0.03	0.84	0.23	0.26	0.84	0.15	
Uniform Delay, d1		24.4	24.2	18.5	18.5	0.0	25.3	9.1	0.0	25.4	8.8	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.9	0.1	0.7	0.7	0.0	70.6	0.1	0.4	77.3	0.0	
Delay (s)		25.2	24.3	19.1	19.1	0.0	95.9	9.2	0.4	102.8	8.9	
Level of Service		C	C	B	B	A	F	A	A	F	A	
Approach Delay (s)		24.6			15.9			9.4			21.3	
Approach LOS		C			B			A			C	

Intersection Summary

HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	52.4	Sum of lost time (s)	0.0
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

11: Westamerica Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.92		1.00	0.91		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1719		1770	3216		1770	5051		1770	5003	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1719		1770	3216		1770	5051		1770	5003	
Volume (vph)	76	46	49	34	26	40	54	476	22	29	413	50
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	79	48	51	35	27	42	56	496	23	30	430	52
RTOR Reduction (vph)	0	46	0	0	38	0	0	7	0	0	22	0
Lane Group Flow (vph)	79	53	0	35	31	0	56	512	0	30	460	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.7	5.2		0.8	4.3		1.7	28.1		0.8	27.2	
Effective Green, g (s)	2.2	5.7		1.3	4.8		2.2	28.6		1.3	27.7	
Actuated g/C Ratio	0.04	0.11		0.02	0.09		0.04	0.54		0.02	0.52	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	185		43	292		74	2731		43	2620	
v/s Ratio Prot	c0.04	c0.03		0.02	0.01		c0.03	c0.10		0.02	0.09	
v/s Ratio Perm												
v/c Ratio	1.07	0.29		0.81	0.11		0.76	0.19		0.70	0.18	
Uniform Delay, d1	25.3	21.7		25.7	22.1		25.1	6.2		25.6	6.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	124.4	0.9		69.6	0.2		35.0	0.0		39.3	0.0	
Delay (s)	149.7	22.6		95.3	22.2		60.1	6.2		64.9	6.6	
Level of Service	F	C		F	C		E	A		E	A	
Approach Delay (s)		79.0			46.8			11.5			10.1	
Approach LOS		E			D			B			B	

Intersection Summary

HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

14: Business Center Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.93		1.00	1.00		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4742		3433	5065		3433	3425		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4742		3433	5065		3433	3425		3433	3539	1583
Volume (vph)	124	329	269	56	229	6	196	426	117	16	302	190
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	141	374	306	64	260	7	223	484	133	18	343	216
RTOR Reduction (vph)	0	229	0	0	5	0	0	54	0	0	0	161
Lane Group Flow (vph)	141	451	0	64	262	0	223	563	0	18	343	55
Turn Type	Prot			Prot			Prot			Prot		Prot
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	2.6	10.1		1.3	8.8		2.6	12.3		0.6	10.3	10.3
Effective Green, g (s)	3.1	10.6		1.8	9.3		3.1	12.8		1.1	10.8	10.8
Actuated g/C Ratio	0.07	0.25		0.04	0.22		0.07	0.30		0.03	0.26	0.26
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	252	1188		146	1114		252	1036		89	904	404
v/s Ratio Prot	c0.04	c0.10		0.02	0.05		c0.06	c0.16		0.01	0.10	0.03
v/s Ratio Perm												
v/c Ratio	0.56	0.38		0.44	0.23		0.88	0.54		0.20	0.38	0.14
Uniform Delay, d1	18.9	13.1		19.8	13.6		19.4	12.3		20.2	13.0	12.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.7	0.2		2.1	0.1		28.6	0.6		1.1	0.3	0.2
Delay (s)	21.6	13.3		21.9	13.7		48.0	12.9		21.3	13.3	12.3
Level of Service	C	B		C	B		D	B		C	B	B
Approach Delay (s)		14.8			15.3			22.2			13.2	
Approach LOS		B			B			C			B	

Intersection Summary

HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	42.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group






















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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
*****
Intersection #1 Suisun Valley & Neitzel [EPAP PM plus project]
*****
Cycle (sec):          100          Critical Vol./Cap.(X):          0.564
Loss Time (sec):      0            Average Delay (sec/veh):          16.9
Optimal Cycle:        0            Level Of Service:                  C
*****
Street Name:          Suisun Valley          Neitzel
Approach:             North Bound          South Bound          East Bound          West Bound
Movement:             L - T - R          L - T - R          L - T - R          L - T - R
-----|-----|-----|-----|
Control:              Stop Sign          Stop Sign          Stop Sign          Stop Sign
Rights:               Include            Ignore             Ignore             Include
Min. Green:           0 0 0            0 0 0            0 0 0            0 0 0
Lanes:                1 0 2 0 0        0 0 2 0 1        2 0 0 0 1        0 0 0 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol:             84 498 0          0 523 45          321 0 264          0 0 0
Growth Adj:           1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:          84 498 0          0 523 45          321 0 264          0 0 0
User Adj:             1.00 1.00 1.00  1.00 1.00 0.00  1.00 1.00 0.00  1.00 1.00 1.00
PHF Adj:              0.95 0.95 0.95  0.95 0.95 0.00  0.95 0.95 0.00  0.95 0.95 0.95
PHF Volume:           88 524 0          0 551 0           338 0 0            0 0 0
Reduct Vol:           0 0 0            0 0 0            0 0 0            0 0 0
Reduced Vol:          88 524 0          0 551 0           338 0 0            0 0 0
PCE Adj:              1.00 1.00 1.00  1.00 1.00 0.00  1.00 1.00 0.00  1.00 1.00 1.00
MLF Adj:              1.00 1.00 1.00  1.00 1.00 0.00  1.00 1.00 0.00  1.00 1.00 1.00
FinalVolume:          88 524 0          0 551 0           338 0 0            0 0 0
-----|-----|-----|-----|
Saturation Flow Module:
Adjustment:           1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:                1.00 2.00 0.00  0.00 2.00 1.00  2.00 0.00 1.00  0.00 0.00 0.00
Final Sat.:           459 989 0          0 976 527         900 0 519          0 0 0
-----|-----|-----|-----|
Capacity Analysis Module:
Vol/Sat:              0.19 0.53  xxxx  xxxx 0.56  0.00 0.38  xxxx  0.00  xxxx  xxxx  xxxx
Crit Moves:           ****              ****              ****
Delay/Veh:            12.1 17.3  0.0   0.0 18.5  0.0  14.7  0.0  0.0   0.0 0.0  0.0
Delay Adj:            1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:           12.1 17.3  0.0   0.0 18.5  0.0  14.7  0.0  0.0   0.0 0.0  0.0
LOS by Move:          B  C    *    *  C    *    B    *    *    *    *    *
ApproachDel:          16.5              18.5              14.7              xxxxxx
Delay Adj:             1.00              1.00              1.00              xxxxxx
ApprAdjDel:           16.5              18.5              14.7              xxxxxx
LOS by Appr:           C              C              B              *
AllWayAvgQ:           0.2 1.0  0.0   0.0 1.2  0.0  0.5  0.0  0.0   0.0 0.0  0.0
*****
Note: Queue reported is the number of cars per lane.
*****

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KDA















3: Rockville Rd & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.97	
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583		1839	1583		1788	
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583		1839	1583		1788	
Volume (vph)	32	86	32	360	138	39	36	100	70	50	190	76
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	36	97	36	404	155	44	40	112	79	56	213	85
RTOR Reduction (vph)	0	0	32	0	0	0	0	0	49	0	17	0
Lane Group Flow (vph)	36	97	4	404	155	44	0	152	30	0	337	0
Turn Type	Prot		Prot	Prot		Free	Split		pt+ov	Split		
Protected Phases	7	4	4	3	8		2	2	2 3	6	6	
Permitted Phases						Free						
Actuated Green, G (s)	1.7	7.3	7.3	16.2	21.8	65.4		7.6	23.8		16.3	
Effective Green, g (s)	2.2	7.8	7.8	16.7	22.3	65.4		8.1	24.8		16.8	
Actuated g/C Ratio	0.03	0.12	0.12	0.26	0.34	1.00		0.12	0.38		0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	60	222	189	452	635	1583		228	600		459	
v/s Ratio Prot	0.02	c0.05	0.00	c0.23	0.08			c0.08	0.02		c0.19	
v/s Ratio Perm						0.03						
v/c Ratio	0.60	0.44	0.02	0.89	0.24	0.03		0.67	0.05		0.73	
Uniform Delay, d1	31.2	26.8	25.4	23.5	15.5	0.0		27.4	12.8		22.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	15.1	1.4	0.0	19.6	0.2	0.0		14.4	0.0		10.0	
Delay (s)	46.3	28.1	25.5	43.1	15.7	0.0		41.8	12.9		32.2	
Level of Service	D	C	C	D	B	A		D	B		C	
Approach Delay (s)		31.4			32.9			31.9			32.2	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	65.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

6: Monte Vista Ct & Suisun Valley Rd

							
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	 						
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Volume (veh/h)	45	70	150	140	300	310	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	
Hourly flow rate (vph)	62	97	208	194	417	431	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL						
Median storage veh	5						
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	1472	208			208		
vC1, stage 1 conf vol	208						
vC2, stage 2 conf vol	1264						
vCu, unblocked vol	1472	208			208		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	5.4						
tF (s)	3.5	3.3			2.2		
p0 queue free %	66	88			69		
cM capacity (veh/h)	184	832			1363		
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	31	31	97	208	194	417	431
Volume Left	31	31	0	0	0	417	0
Volume Right	0	0	97	0	194	0	0
cSH	184	184	832	1700	1700	1363	1700
Volume to Capacity	0.17	0.17	0.12	0.12	0.11	0.31	0.25
Queue Length 95th (ft)	15	15	10	0	0	33	0
Control Delay (s)	28.5	28.5	9.9	0.0	0.0	8.8	0.0
Lane LOS	D	D	A			A	
Approach Delay (s)	17.2			0.0		4.3	
Approach LOS	C						
Intersection Summary							
Average Delay			4.5				
Intersection Capacity Utilization			37.8%		ICU Level of Service		A
Analysis Period (min)			15				

8: Oakwood Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1793	1583	1681	1681	1583	1770	3539	1583	1770	3529	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1793	1583	1681	1681	1583	1770	3539	1583	1770	3529	
Volume (vph)	10	3	40	170	0	15	30	250	550	75	260	5
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	14	4	56	236	0	21	42	347	764	104	361	7
RTOR Reduction (vph)	0	0	51	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	18	5	118	118	21	42	347	764	104	366	0
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases						Free			Free			
Actuated Green, G (s)		5.0	5.0	8.4	8.4	56.6	1.7	21.8	56.6	3.4	23.5	
Effective Green, g (s)		5.5	5.5	8.9	8.9	56.6	2.2	22.3	56.6	3.9	24.0	
Actuated g/C Ratio		0.10	0.10	0.16	0.16	1.00	0.04	0.39	1.00	0.07	0.42	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		174	154	264	264	1583	69	1394	1583	122	1496	
v/s Ratio Prot		0.01	0.00	0.07	0.07		0.02	0.10		c0.06	0.10	
v/s Ratio Perm						0.01			c0.48			
v/c Ratio		0.10	0.04	0.45	0.45	0.01	0.61	0.25	0.48	0.85	0.24	
Uniform Delay, d1		23.3	23.1	21.6	21.6	0.0	26.8	11.5	0.0	26.1	10.5	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.3	0.1	1.2	1.2	0.0	14.3	0.1	1.1	40.3	0.1	
Delay (s)		23.6	23.2	22.8	22.8	0.0	41.0	11.6	1.1	66.4	10.6	
Level of Service		C	C	C	C	A	D	B	A	E	B	
Approach Delay (s)		23.3			21.0			5.7			22.9	
Approach LOS		C			C			A			C	
Intersection Summary												
HCM Average Control Delay			12.5			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			56.6			Sum of lost time (s)				4.0		
Intersection Capacity Utilization			32.4%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

11: Westamerica Dr & Suisun Valley Rd






















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	0.91		1.00	0.91	
Fr _t	1.00	0.92		1.00	0.87		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1715		1770	3094		1770	5000		1770	4971	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1715		1770	3094		1770	5000		1770	4971	
Volume (vph)	85	40	45	60	25	130	20	560	70	95	310	55
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	115	54	61	81	34	176	27	757	95	128	419	74
RTOR Reduction (vph)	0	52	0	0	154	0	0	26	0	0	38	0
Lane Group Flow (vph)	115	63	0	81	56	0	27	826	0	128	455	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.5	7.6		3.3	6.4		0.7	22.0		5.3	26.6	
Effective Green, g (s)	5.0	8.1		3.8	6.9		1.2	22.5		5.8	27.1	
Actuated g/C Ratio	0.09	0.14		0.07	0.12		0.02	0.40		0.10	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	157	247		120	380		38	2002		183	2397	
v/s Ratio Prot	c0.06	c0.04		0.05	0.02		0.02	c0.17		c0.07	0.09	
v/s Ratio Perm												
v/c Ratio	0.73	0.25		0.68	0.15		0.71	0.41		0.70	0.19	
Uniform Delay, d1	24.9	21.4		25.6	22.0		27.3	12.1		24.4	8.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.1	0.5		14.0	0.2		47.3	0.1		11.1	0.0	
Delay (s)	41.1	21.9		39.6	22.2		74.6	12.2		35.4	8.3	
Level of Service	D	C		D	C		E	B		D	A	
Approach Delay (s)		31.5			27.0			14.2			13.9	
Approach LOS		C			C			B			B	

Intersection Summary

HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	56.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

14: Business Center Dr & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.92		1.00	0.99		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4687		3433	5048		3433	3415		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4687		3433	5048		3433	3415		3433	3539	1583
Volume (vph)	105	330	362	117	860	45	281	470	144	4	210	205
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	136	429	470	152	1117	58	365	610	187	5	273	266
RTOR Reduction (vph)	0	288	0	0	9	0	0	44	0	0	0	139
Lane Group Flow (vph)	136	611	0	152	1166	0	365	753	0	5	273	127
Turn Type	Prot			Prot			Prot			Prot		Prot
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	2.6	14.2		4.1	15.7		8.3	21.3		0.6	13.6	13.6
Effective Green, g (s)	3.1	14.7		4.6	16.2		8.8	21.8		1.1	14.1	14.1
Actuated g/C Ratio	0.05	0.25		0.08	0.28		0.15	0.37		0.02	0.24	0.24
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	183	1184		271	1405		519	1279		65	857	384
v/s Ratio Prot	0.04	0.13		c0.04	c0.23		c0.11	c0.22		0.00	0.08	0.08
v/s Ratio Perm												
v/c Ratio	0.74	0.52		0.56	0.83		0.70	0.59		0.08	0.32	0.33
Uniform Delay, d1	27.2	18.7		25.8	19.7		23.5	14.6		28.1	18.1	18.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.0	0.4		2.6	4.2		4.3	0.7		0.5	0.2	0.5
Delay (s)	42.2	19.1		28.5	23.9		27.8	15.3		28.6	18.3	18.7
Level of Service	D	B		C	C		C	B		C	B	B
Approach Delay (s)		22.1			24.4			19.2			18.6	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			21.6			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			58.2			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			55.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

 Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Suisun Valley & Neitzel [Cum AM base]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.885
 Loss Time (sec): 0 Average Delay (sec/veh): 35.6
 Optimal Cycle: 0 Level Of Service: E

Street Name:	Suisun Valley						Neitzel																		
Approach:	North Bound			South Bound			East Bound			West Bound															
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R					
Control:	Stop Sign						Stop Sign						Stop Sign												
Rights:	Include						Ignore						Ignore												
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	0	0	0	0	2	0	1	0	0	0	1	2	0	0	0	1	0	0	0	0	0

Volume Module:

Base Vol:	90	675	0	0	595	85	220	0	280	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	675	0	0	595	85	220	0	280	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.00	0.80	0.80	0.00	0.80	0.80	0.80
PHF Volume:	113	844	0	0	744	0	275	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	844	0	0	744	0	275	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	113	844	0	0	744	0	275	0	0	0	0	0

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	439	954	0	0	907	483	790	0	449	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.26	0.88	xxxx	xxxx	0.82	0.00	0.35	xxxx	0.00	xxxx	xxxx	xxxx
Crit Moves:	****			****			****					
Delay/Veh:	13.4	44.3	0.0	0.0	36.6	0.0	15.6	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.4	44.3	0.0	0.0	36.6	0.0	15.6	0.0	0.0	0.0	0.0	0.0
LOS by Move:	B	E	*	*	E	*	C	*	*	*	*	*
ApproachDel:	40.7				36.6		15.6			xxxxxx		
Delay Adj:	1.00				1.00		1.00			xxxxxx		
ApprAdjDel:	40.7				36.6		15.6			xxxxxx		
LOS by Appr:	E				E		C			*		
AllWayAvgQ:	0.3	4.5	0.0	0.0	3.3	0.0	0.5	0.0	0.0	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

3: Rockville Rd & Suisun Valley Rd













Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583		1846	1583		1812	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583		1846	1583		1812	
Volume (vph)	75	197	30	134	104	129	36	168	300	51	130	22
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	77	203	31	138	107	133	37	173	309	53	134	23
RTOR Reduction (vph)	0	0	25	0	0	0	0	0	216	0	7	0
Lane Group Flow (vph)	77	203	6	138	107	133	0	210	93	0	203	0
Turn Type	Prot		Prot	Prot		Free	Split		pt+ov	Split		
Protected Phases	7	4	4	3	8		2	2	2 3	6	6	
Permitted Phases						Free						
Actuated Green, G (s)	3.3	10.9	10.9	6.5	14.1	62.9		11.5	18.0		16.0	
Effective Green, g (s)	3.8	11.4	11.4	7.0	14.6	62.9		12.0	19.0		16.5	
Actuated g/C Ratio	0.06	0.18	0.18	0.11	0.23	1.00		0.19	0.30		0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	107	338	287	197	432	1583		352	478		475	
v/s Ratio Prot	0.04	c0.11	0.00	c0.08	0.06			c0.11	0.06		c0.11	
v/s Ratio Perm						c0.08						
v/c Ratio	0.72	0.60	0.02	0.70	0.25	0.08		0.60	0.20		0.43	
Uniform Delay, d1	29.0	23.7	21.2	26.9	19.7	0.0		23.2	16.3		19.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	20.6	3.0	0.0	10.7	0.3	0.1		7.3	0.2		2.8	
Delay (s)	49.6	26.7	21.2	37.6	20.0	0.1		30.5	16.5		22.1	
Level of Service	D	C	C	D	B	A		C	B		C	
Approach Delay (s)		31.8			19.4			22.2			22.1	
Approach LOS		C			B			C			C	

Intersection Summary

HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	62.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

6: Monte Vista Ct & Suisun Valley Rd

							
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Volume (veh/h)	42	118	354	30	30	235	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly flow rate (vph)	45	126	377	32	32	250	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL						
Median storage (veh)	5						
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	690	377			377		
vC1, stage 1 conf vol	377						
vC2, stage 2 conf vol	314						
vCu, unblocked vol	690	377			377		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	5.4						
tF (s)	3.5	3.3			2.2		
p0 queue free %	93	81			97		
cM capacity (veh/h)	655	670			1182		
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	22	22	126	377	32	32	250
Volume Left	22	22	0	0	0	32	0
Volume Right	0	0	126	0	32	0	0
cSH	655	655	670	1700	1700	1182	1700
Volume to Capacity	0.03	0.03	0.19	0.22	0.02	0.03	0.15
Queue Length 95th (ft)	3	3	17	0	0	2	0
Control Delay (s)	10.7	10.7	11.6	0.0	0.0	8.1	0.0
Lane LOS	B	B	B			A	
Approach Delay (s)	11.4			0.0		0.9	
Approach LOS	B						
Intersection Summary							
Average Delay			2.5				
Intersection Capacity Utilization			34.9%		ICU Level of Service		A
Analysis Period (min)			15				

8: Oakwood Dr & Suisun Valley Rd

Cum PM base
11/18/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↘	↖	↗	↘	↖↗	↗	↘	↖↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1770	1583	1681	1681	1583	1770	3539	1583	1770	3528	
Flt Permitted		0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1770	1583	1681	1681	1583	1770	3539	1583	1770	3528	
Volume (vph)	5	0	30	175	0	35	65	375	305	30	240	5
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	6	0	35	203	0	41	76	436	355	35	279	6
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	6	2	102	101	41	76	436	355	35	283	0
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases						Free			Free			
Actuated Green, G (s)		3.2	3.2	8.7	8.7	54.6	2.1	23.0	54.6	1.7	22.6	
Effective Green, g (s)		3.7	3.7	9.2	9.2	54.6	2.6	23.5	54.6	2.2	23.1	
Actuated g/C Ratio		0.07	0.07	0.17	0.17	1.00	0.05	0.43	1.00	0.04	0.42	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		120	107	283	283	1583	84	1523	1583	71	1493	
v/s Ratio Prot		0.00	0.00	c0.06	0.06		c0.04	c0.12		0.02	0.08	
v/s Ratio Perm						0.03			c0.22			
v/c Ratio		0.05	0.02	0.36	0.36	0.03	0.90	0.29	0.22	0.49	0.19	
Uniform Delay, d1		23.8	23.8	20.1	20.1	0.0	25.9	10.1	0.0	25.7	9.9	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.2	0.1	0.8	0.8	0.0	66.8	0.1	0.3	5.3	0.1	
Delay (s)		24.0	23.8	20.9	20.9	0.0	92.7	10.2	0.3	31.0	9.9	
Level of Service		C	C	C	C	A	F	B	A	C	A	
Approach Delay (s)		23.9			17.4			13.4			12.2	
Approach LOS		C			B			B			B	






















Intersection Summary

HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	54.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

14: Business Center Dr & Suisun Valley Rd

Cum PM base

11/18/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.94		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4766		3433	5054		3433	3437		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4766		3433	5054		3433	3437		3433	3539	1583
Volume (vph)	139	570	410	160	410	18	278	510	122	28	385	168
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	158	648	466	182	466	20	316	580	139	32	438	191
RTOR Reduction (vph)	0	212	0	0	9	0	0	37	0	0	0	140
Lane Group Flow (vph)	158	902	0	182	477	0	316	682	0	32	438	51
Turn Type	Prot			Prot			Prot			Prot		Prot
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	3.4	11.3		2.6	10.5		5.6	17.4		1.3	13.1	13.1
Effective Green, g (s)	3.9	11.8		3.1	11.0		6.1	17.9		1.8	13.6	13.6
Actuated g/C Ratio	0.08	0.23		0.06	0.22		0.12	0.35		0.04	0.27	0.27
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	265	1111		210	1099		414	1216		122	951	425
v/s Ratio Prot	0.05	c0.19		c0.05	0.09		c0.09	c0.20		0.01	0.12	0.03
v/s Ratio Perm												
v/c Ratio	0.60	0.81		0.87	0.43		0.76	0.56		0.26	0.46	0.12
Uniform Delay, d1	22.6	18.4		23.5	17.1		21.6	13.2		23.8	15.4	14.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.6	4.6		29.1	0.3		8.1	0.6		1.2	0.4	0.1
Delay (s)	26.2	23.0		52.7	17.4		29.7	13.8		24.9	15.8	14.1
Level of Service	C	C		D	B		C	B		C	B	B
Approach Delay (s)		23.4			27.0			18.6			15.7	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			21.3									C
HCM Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			50.6									
Intersection Capacity Utilization			59.4%							8.0		
Analysis Period (min)			15									
c Critical Lane Group												

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #1 Suisun Valley & Neitzel [Cum PM base]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.886
 Loss Time (sec): 0 Average Delay (sec/veh): 31.6
 Optimal Cycle: 0 Level Of Service: D

Street Name:	Suisun Valley						Neitzel														
Approach:	North Bound			South Bound			East Bound			West Bound											
Movement:	L	T	R	L	T	R	L	T	R	L	T	R									
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign											
Rights:	Include			Ignore			Ignore			Include											
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0									
Lanes:	1	0	2	0	0	0	0	0	2	0	1	2	0	0	0	1	0	0	0	0	0

Volume Module:

Base Vol:	105	570	0	0	780	170	340	0	335	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	570	0	0	780	170	340	0	335	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95
PHF Volume:	111	600	0	0	821	0	358	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	600	0	0	821	0	358	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	111	600	0	0	821	0	358	0	0	0	0	0

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	418	901	0	0	927	489	822	0	467	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.26	0.67	xxxx	xxxx	0.89	0.00	0.44	xxxx	0.00	xxxx	xxxx	xxxx
Crit Moves:	****			****			****					
Delay/Veh:	14.0	24.4	0.0	0.0	45.5	0.0	17.1	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	14.0	24.4	0.0	0.0	45.5	0.0	17.1	0.0	0.0	0.0	0.0	0.0
LOS by Move:	B	C	*	*	E	*	C	*	*	*	*	*
ApproachDel:	22.8			45.5			17.1			xxxxxx		
Delay Adj:	1.00			1.00			1.00			xxxxxx		
ApprAdjDel:	22.8			45.5			17.1			xxxxxx		
LOS by Appr:	C			E			C			*		
AllWayAvgQ:	0.3	1.7	0.0	0.0	4.5	0.0	0.7	0.0	0.0	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

KDA

3: Rockville Rd & Suisun Valley Rd














Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583		1839	1583		1788	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583		1839	1583		1788	
Volume (vph)	32	86	32	382	138	39	36	100	78	50	190	76
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	36	97	36	429	155	44	40	112	88	56	213	85
RTOR Reduction (vph)	0	0	32	0	0	0	0	0	54	0	17	0
Lane Group Flow (vph)	36	97	4	429	155	44	0	152	34	0	337	0
Turn Type	Prot		Prot	Prot		Free	Split		pt+ov	Split		
Protected Phases	7	4	4	3	8		2	2	2 3	6	6	
Permitted Phases						Free						
Actuated Green, G (s)	1.7	7.4	7.4	16.5	22.2	65.7		7.6	24.1		16.2	
Effective Green, g (s)	2.2	7.9	7.9	17.0	22.7	65.7		8.1	25.1		16.7	
Actuated g/C Ratio	0.03	0.12	0.12	0.26	0.35	1.00		0.12	0.38		0.25	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	59	224	190	458	644	1583		227	605		454	
v/s Ratio Prot	0.02	c0.05	0.00	c0.24	0.08			c0.08	0.02		c0.19	
v/s Ratio Perm						0.03						
v/c Ratio	0.61	0.43	0.02	0.94	0.24	0.03		0.67	0.06		0.74	
Uniform Delay, d1	31.3	26.8	25.5	23.8	15.3	0.0		27.5	12.8		22.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	17.2	1.3	0.0	26.7	0.2	0.0		14.6	0.0		10.5	
Delay (s)	48.5	28.2	25.5	50.5	15.5	0.0		42.2	12.9		33.0	
Level of Service	D	C	C	D	B	A		D	B		C	
Approach Delay (s)		31.9			38.3			31.4			33.0	
Approach LOS		C			D			C			C	

Intersection Summary























HCM Average Control Delay	35.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	65.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

6: Monte Vista Ct & Suisun Valley Rd

							
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	 						
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Volume (veh/h)	48	76	152	147	317	315	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	
Hourly flow rate (vph)	67	106	211	204	440	438	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL						
Median storage (veh)	5						
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	1529	211			211		
vC1, stage 1 conf vol	211						
vC2, stage 2 conf vol	1318						
vCu, unblocked vol	1529	211			211		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	5.4						
tF (s)	3.5	3.3			2.2		
p0 queue free %	61	87			68		
cM capacity (veh/h)	169	829			1359		
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	33	33	106	211	204	440	438
Volume Left	33	33	0	0	0	440	0
Volume Right	0	0	106	0	204	0	0
cSH	169	169	829	1700	1700	1359	1700
Volume to Capacity	0.20	0.20	0.13	0.12	0.12	0.32	0.26
Queue Length 95th (ft)	18	18	11	0	0	35	0
Control Delay (s)	31.4	31.4	10.0	0.0	0.0	8.9	0.0
Lane LOS	D	D	A			A	
Approach Delay (s)	18.3			0.0		4.5	
Approach LOS	C						
Intersection Summary							
Average Delay			4.8				
Intersection Capacity Utilization			38.9%		ICU Level of Service		A
Analysis Period (min)			15				

8: Oakwood Dr & Suisun Valley Rd

Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1793	1583	1681	1681	1583	1770	3539	1583	1770	3529	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1793	1583	1681	1681	1583	1770	3539	1583	1770	3529	
Volume (vph)	10	3	40	183	0	17	30	257	588	78	263	5
Peak-hour factor, PHF	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Adj. Flow (vph)	14	4	56	254	0	24	42	357	817	108	365	7
RTOR Reduction (vph)	0	0	51	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	18	5	127	127	24	42	357	817	108	370	0
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases						Free			Free			
Actuated Green, G (s)		5.0	5.0	8.5	8.5	56.4	1.7	21.5	56.4	3.4	23.2	
Effective Green, g (s)		5.5	5.5	9.0	9.0	56.4	2.2	22.0	56.4	3.9	23.7	
Actuated g/C Ratio		0.10	0.10	0.16	0.16	1.00	0.04	0.39	1.00	0.07	0.42	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		175	154	268	268	1583	69	1380	1583	122	1483	
v/s Ratio Prot		0.01	0.00	0.08	0.08		0.02	0.10		c0.06	0.10	
v/s Ratio Perm						0.02			c0.52			
v/c Ratio		0.10	0.04	0.47	0.47	0.02	0.61	0.26	0.52	0.89	0.25	
Uniform Delay, d1		23.2	23.0	21.5	21.5	0.0	26.7	11.7	0.0	26.0	10.6	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.3	0.1	1.3	1.3	0.0	14.3	0.1	1.2	47.8	0.1	
Delay (s)		23.5	23.1	22.9	22.9	0.0	40.9	11.8	1.2	73.8	10.7	
Level of Service		C	C	C	C	A	D	B	A	E	B	
Approach Delay (s)		23.2			20.9			5.7			24.9	
Approach LOS		C			C			A			C	

Intersection Summary

HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	56.4	Sum of lost time (s)	4.0
Intersection Capacity Utilization	33.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

11: Westamerica Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.92		1.00	0.87		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1715		1770	3093		1770	5006		1770	4975	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1715		1770	3093		1770	5006		1770	4975	
Volume (vph)	85	40	45	60	25	133	20	602	70	96	325	55
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	115	54	61	81	34	180	27	814	95	130	439	74
RTOR Reduction (vph)	0	52	0	0	157	0	0	23	0	0	36	0
Lane Group Flow (vph)	115	63	0	81	57	0	27	886	0	130	477	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.4	7.6		3.3	6.5		0.7	21.8		5.2	26.3	
Effective Green, g (s)	4.9	8.1		3.8	7.0		1.2	22.3		5.7	26.8	
Actuated g/C Ratio	0.09	0.14		0.07	0.13		0.02	0.40		0.10	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	155	249		120	387		38	1997		180	2385	
v/s Ratio Prot	c0.06	c0.04		0.05	0.02		0.02	c0.18		c0.07	0.10	
v/s Ratio Perm												
v/c Ratio	0.74	0.25		0.68	0.15		0.71	0.44		0.72	0.20	
Uniform Delay, d1	24.9	21.2		25.4	21.8		27.2	12.3		24.3	8.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	17.3	0.5		14.0	0.2		47.3	0.2		13.3	0.0	
Delay (s)	42.2	21.7		39.4	22.0		74.4	12.4		37.7	8.4	
Level of Service	D	C		D	C		E	B		D	A	
Approach Delay (s)		32.0			26.8			14.2			14.3	
Approach LOS		C			C			B			B	

Intersection Summary

HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	55.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

14: Business Center Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.92		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4687		3433	5048		3433	3421		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4687		3433	5048		3433	3421		3433	3539	1583
Volume (vph)	113	330	362	117	860	45	281	504	144	4	222	208
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	147	429	470	152	1117	58	365	655	187	5	288	270
RTOR Reduction (vph)	0	279	0	0	9	0	0	40	0	0	0	139
Lane Group Flow (vph)	147	620	0	152	1166	0	365	802	0	5	288	131
Turn Type	Prot			Prot			Prot			Prot		Prot
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	2.6	14.1		4.1	15.6		8.3	21.5		0.6	13.8	13.8
Effective Green, g (s)	3.1	14.6		4.6	16.1		8.8	22.0		1.1	14.3	14.3
Actuated g/C Ratio	0.05	0.25		0.08	0.28		0.15	0.38		0.02	0.25	0.25
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	183	1174		271	1394		518	1291		65	868	388
v/s Ratio Prot	0.04	0.13		c0.04	c0.23		c0.11	c0.23		0.00	0.08	0.08
v/s Ratio Perm												
v/c Ratio	0.80	0.53		0.56	0.84		0.70	0.62		0.08	0.33	0.34
Uniform Delay, d1	27.3	18.9		25.9	19.9		23.5	14.8		28.1	18.1	18.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	21.9	0.4		2.6	4.5		4.3	0.9		0.5	0.2	0.5
Delay (s)	49.2	19.3		28.5	24.4		27.9	15.7		28.6	18.3	18.6
Level of Service	D	B		C	C		C	B		C	B	B
Approach Delay (s)		23.5			24.9			19.4			18.5	
Approach LOS		C			C			B			B	

Intersection Summary

HCM Average Control Delay	22.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

 Intersection #1 Suisun Valley & Neitzel [Cum AM plus project]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.916
 Loss Time (sec): 0 Average Delay (sec/veh): 40.2
 Optimal Cycle: 0 Level Of Service: E

Street Name:	Suisun Valley						Neitzel					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Ignore			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	0	2	2	0	0	0	0	0

Volume Module:

Base Vol:	90	682	0	0	607	85	247	0	280	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	682	0	0	607	85	247	0	280	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.00	0.80	0.80	0.00	0.80	0.80	0.80
PHF Volume:	113	853	0	0	759	0	309	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	853	0	0	759	0	309	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	113	853	0	0	759	0	309	0	0	0	0	0

Saturation Flow Module:






















Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	429	931	0	0	886	474	787	0	449	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.26	0.92	xxxx	xxxx	0.86	0.00	0.39	xxxx	0.00	xxxx	xxxx	xxxx
Crit Moves:	****			****			****					
Delay/Veh:	13.7	50.5	0.0	0.0	42.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.7	50.5	0.0	0.0	42.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0
LOS by Move:	B	F	*	*	E	*	C	*	*	*	*	*
ApproachDel:	46.2			42.0			16.7			xxxxxx		
Delay Adj:	1.00			1.00			1.00			xxxxxx		
ApprAdjDel:	46.2			42.0			16.7			xxxxxx		
LOS by Appr:	E			E			C			*		
AllWayAvgQ:	0.3	5.2	0.0	0.0	3.8	0.0	0.6	0.0	0.0	0.0	0.0	0.0

 Note: Queue reported is the number of cars per lane.

3: Rockville Rd & Suisun Valley Rd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583		1846	1583		1812	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583		1846	1583		1812	
Volume (vph)	75	197	30	141	104	129	36	168	314	51	130	22
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	77	203	31	145	107	133	37	173	324	53	134	23
RTOR Reduction (vph)	0	0	25	0	0	0	0	0	226	0	7	0
Lane Group Flow (vph)	77	203	6	145	107	133	0	210	98	0	203	0
Turn Type	Prot		Prot	Prot		Free	Split		pt+ov	Split		
Protected Phases	7	4	4	3	8		2	2	2 3	6	6	
Permitted Phases						Free						
Actuated Green, G (s)	3.3	10.9	10.9	6.5	14.1	62.9		11.5	18.0		16.0	
Effective Green, g (s)	3.8	11.4	11.4	7.0	14.6	62.9		12.0	19.0		16.5	
Actuated g/C Ratio	0.06	0.18	0.18	0.11	0.23	1.00		0.19	0.30		0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	107	338	287	197	432	1583		352	478		475	
v/s Ratio Prot	0.04	c0.11	0.00	c0.08	0.06			c0.11	0.06		c0.11	
v/s Ratio Perm						c0.08						
v/c Ratio	0.72	0.60	0.02	0.74	0.25	0.08		0.60	0.20		0.43	
Uniform Delay, d1	29.0	23.7	21.2	27.1	19.7	0.0		23.2	16.3		19.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	20.6	3.0	0.0	13.3	0.3	0.1		7.3	0.2		2.8	
Delay (s)	49.6	26.7	21.2	40.4	20.0	0.1		30.5	16.5		22.1	
Level of Service	D	C	C	D	B	A		C	B		C	
Approach Delay (s)		31.8			20.8			22.0			22.1	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	62.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

6: Monte Vista Ct & Suisun Valley Rd

	↙	↖	↑	↗	↘	↓	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↙↙	↖	↑	↗	↘	↑	
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Volume (veh/h)	45	129	357	33	34	238	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	
Hourly flow rate (vph)	48	137	380	35	36	253	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL						
Median storage (veh)	5						
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	705	380			380		
vC1, stage 1 conf vol	380						
vC2, stage 2 conf vol	326						
vCu, unblocked vol	705	380			380		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	5.4						
tF (s)	3.5	3.3			2.2		
p0 queue free %	93	79			97		
cM capacity (veh/h)	648	667			1179		
Direction, Lane #	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	24	24	137	380	35	36	253
Volume Left	24	24	0	0	0	36	0
Volume Right	0	0	137	0	35	0	0
cSH	648	648	667	1700	1700	1179	1700
Volume to Capacity	0.04	0.04	0.21	0.22	0.02	0.03	0.15
Queue Length 95th (ft)	3	3	19	0	0	2	0
Control Delay (s)	10.8	10.8	11.8	0.0	0.0	8.2	0.0
Lane LOS	B	B	B			A	
Approach Delay (s)	11.5			0.0		1.0	
Approach LOS	B						
Intersection Summary							
Average Delay			2.7				
Intersection Capacity Utilization			35.5%		ICU Level of Service		A
Analysis Period (min)			15				

8: Oakwood Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1770	1583	1681	1681	1583	1770	3539	1583	1770	3528	
Flt Permitted		0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1770	1583	1681	1681	1583	1770	3539	1583	1770	3528	
Volume (vph)	5	0	30	190	0	38	65	378	340	33	243	5
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	6	0	35	221	0	44	76	440	395	38	283	6
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	6	2	111	110	44	76	440	395	38	287	0
Turn Type	Split		Prot	Split		Free	Prot		Free	Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases						Free			Free			
Actuated Green, G (s)		3.2	3.2	8.8	8.8	54.3	2.1	22.6	54.3	1.7	22.2	
Effective Green, g (s)		3.7	3.7	9.3	9.3	54.3	2.6	23.1	54.3	2.2	22.7	
Actuated g/C Ratio		0.07	0.07	0.17	0.17	1.00	0.05	0.43	1.00	0.04	0.42	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		121	108	288	288	1583	85	1506	1583	72	1475	
v/s Ratio Prot		0.00	0.00	c0.07	0.07		c0.04	c0.12		0.02	0.08	
v/s Ratio Perm						0.03			c0.25			
v/c Ratio		0.05	0.02	0.39	0.38	0.03	0.89	0.29	0.25	0.53	0.19	
Uniform Delay, d1		23.7	23.6	20.0	20.0	0.0	25.7	10.2	0.0	25.5	10.0	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.2	0.1	0.9	0.8	0.0	63.3	0.1	0.4	6.8	0.1	
Delay (s)		23.8	23.7	20.8	20.8	0.0	89.0	10.3	0.4	32.4	10.1	
Level of Service		C	C	C	C	A	F	B	A	C	B	
Approach Delay (s)		23.7			17.4			12.6			12.7	
Approach LOS		C			B			B			B	
Intersection Summary												
HCM Average Control Delay			13.7									B
HCM Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			54.3							8.0		
Intersection Capacity Utilization			35.7%							A		
Analysis Period (min)			15									
c Critical Lane Group												

11: Westamerica Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.96		1.00	0.90		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1791		1770	3199		1770	5036		1770	5018	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1791		1770	3199		1770	5036		1770	5018	
Volume (vph)	70	100	35	100	60	107	50	586	40	71	417	40
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	73	104	36	104	62	111	52	610	42	74	434	42
RTOR Reduction (vph)	0	32	0	0	98	0	0	13	0	0	19	0
Lane Group Flow (vph)	73	108	0	104	75	0	52	639	0	74	457	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.7	5.7		2.7	5.7		1.8	23.4		2.7	24.3	
Effective Green, g (s)	3.2	6.2		3.2	6.2		2.3	23.9		3.2	24.8	
Actuated g/C Ratio	0.06	0.12		0.06	0.12		0.04	0.46		0.06	0.47	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	108	212		108	378		78	2293		108	2370	
v/s Ratio Prot	0.04	c0.06		c0.06	0.02		0.03	c0.13		c0.04	0.09	
v/s Ratio Perm												
v/c Ratio	0.68	0.51		0.96	0.20		0.67	0.28		0.69	0.19	
Uniform Delay, d1	24.1	21.7		24.6	20.9		24.7	8.9		24.2	8.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.5	2.1		74.3	0.3		19.4	0.1		16.5	0.0	
Delay (s)	39.6	23.8		98.9	21.2		44.2	9.0		40.7	8.1	
Level of Service	D	C		F	C		D	A		D	A	
Approach Delay (s)		29.2			50.4			11.6			12.5	
Approach LOS		C			D			B			B	

Intersection Summary

HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	52.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

14: Business Center Dr & Suisun Valley Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.94		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	4766		3433	5054		3433	3441		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	4766		3433	5054		3433	3441		3433	3539	1583
Volume (vph)	146	570	410	160	410	18	278	539	122	28	398	172
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	166	648	466	182	466	20	316	612	139	32	452	195
RTOR Reduction (vph)	0	209	0	0	9	0	0	35	0	0	0	142
Lane Group Flow (vph)	166	905	0	182	477	0	316	716	0	32	452	53
Turn Type	Prot			Prot			Prot			Prot		Prot
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases												
Actuated Green, G (s)	3.4	11.3		2.6	10.5		5.6	17.5		1.3	13.2	13.2
Effective Green, g (s)	3.9	11.8		3.1	11.0		6.1	18.0		1.8	13.7	13.7
Actuated g/C Ratio	0.08	0.23		0.06	0.22		0.12	0.36		0.04	0.27	0.27
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	264	1109		210	1097		413	1222		122	956	428
v/s Ratio Prot	0.05	c0.19		c0.05	0.09		c0.09	c0.21		0.01	0.13	0.03
v/s Ratio Perm												
v/c Ratio	0.63	0.82		0.87	0.43		0.77	0.59		0.26	0.47	0.12
Uniform Delay, d1	22.7	18.4		23.6	17.2		21.6	13.3		23.8	15.5	14.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.6	4.7		29.1	0.3		8.2	0.7		1.2	0.4	0.1
Delay (s)	27.3	23.2		52.7	17.4		29.8	14.0		25.0	15.8	14.1
Level of Service	C	C		D	B		C	B		C	B	B
Approach Delay (s)		23.7			27.0			18.7			15.8	
Approach LOS		C			C			B			B	

Intersection Summary

HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	50.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Level Of Service Computation Report
 2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Suisun Valley & Neitzel [Cum PM plus project]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.915
 Loss Time (sec): 0 Average Delay (sec/veh): 34.5
 Optimal Cycle: 0 Level Of Service: D

Street Name:	Suisun Valley						Neitzel					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Ignore			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	0	0	0	0	2	0	0	1
	2	0	0	0	1	0	2	0	0	0	1	0
	0	0	0	0	0	0	0	0	0	0	0	0

Volume Module:

Base Vol:	105	577	0	0	793	170	362	0	335	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	577	0	0	793	170	362	0	335	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.00	0.95	0.95	0.00	0.95	0.95	0.95
PHF Volume:	111	607	0	0	835	0	381	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	607	0	0	835	0	381	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	111	607	0	0	835	0	381	0	0	0	0	0

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	412	887	0	0	912	478	820	0	466	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.27	0.68	xxxx	xxxx	0.92	0.00	0.46	xxxx	0.00	xxxx	xxxx	xxxx
Crit Moves:	****			****			****			****		
Delay/Veh:	14.2	25.9	0.0	0.0	51.1	0.0	18.1	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	14.2	25.9	0.0	0.0	51.1	0.0	18.1	0.0	0.0	0.0	0.0	0.0
LOS by Move:	B	D	*	*	F	*	C	*	*	*	*	*
ApproachDel:	24.1			51.1			18.1			xxxxxx		
Delay Adj:	1.00			1.00			1.00			xxxxxx		
ApprAdjDel:	24.1			51.1			18.1			xxxxxx		
LOS by Appr:	C			F			C			*		
AllWayAvgQ:	0.3	1.9	0.0	0.0	5.1	0.0	0.8	0.0	0.0	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.
