APPENDIX F

TRAFFIC IMPACT STUDY

FOR

LOS RIOS COMMUNITY COLLEGE DISTRICT
FOLSOM LAKE COLLEGE PHASE 2.1
LIFE AND PHYSICAL SCIENCES BUILDING AND PARKING

Folsom, CA

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5245-02

TRAFFIC IMPACT ANALYSIS FOR
LOS RIOS COMMUNITY COLLEGE DISTRICT
FOLSOM LAKE COLLEGE PHASE 2.1
LIFE AND PHYSICAL SCIENCES BUILDING AND PARKING

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TRAFFIC IMPACT ANALYSIS
LOS RIOS COMMUNITY COLLEGE DISTRICT
FOLSOM LAKE COLLEGE PHASE 2.1
LIFE AND PHYSICAL SCIENCES BUILDING AND PARKING

INTRODUCTION

Study Purpose and Project Description

This traffic impact study presents an analysis of the traffic related impacts associated with development of Phase 2.1 of the Los Rios Community College District's Folsom Lake College Campus. The campus is located on the east side of East Bidwell Street and north of Scholar Way. Phase 2.1 will provide a new Life and Physical Sciences building that will accommodate new classrooms, offices and facilities for the instruction of science classes in a manner that is consistent with the Folsom Lake College Master Plan. The new building will be multi-story facility totaling 75,000 gross square feet and containing approximately 48,900 assignable square feet. A total of 875 additional parking spaces will be provided. Figure 1 displays the regional location of the project site, and Figure 2 is the project site plan.

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 Peak Hour Conditions

Cumulative traffic conditions were previously addressed for the Folsom Lake College Facilities Master Plan's original environmental review. Because the proposed project is consistent with the Facilities Master Plan, its cumulative traffic impacts have already been assessed and applicable mitigation measures identified. No new cumulative analysis has been undertaken.

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 three (3) study area intersections were evaluated:

- East Bidwell Street / College Parkway / Nesmith Court
- East Bidwell Street / Scholar Way / Clarksville Road
- Scholar Way / Cavitt Drive

VICINITY MAP

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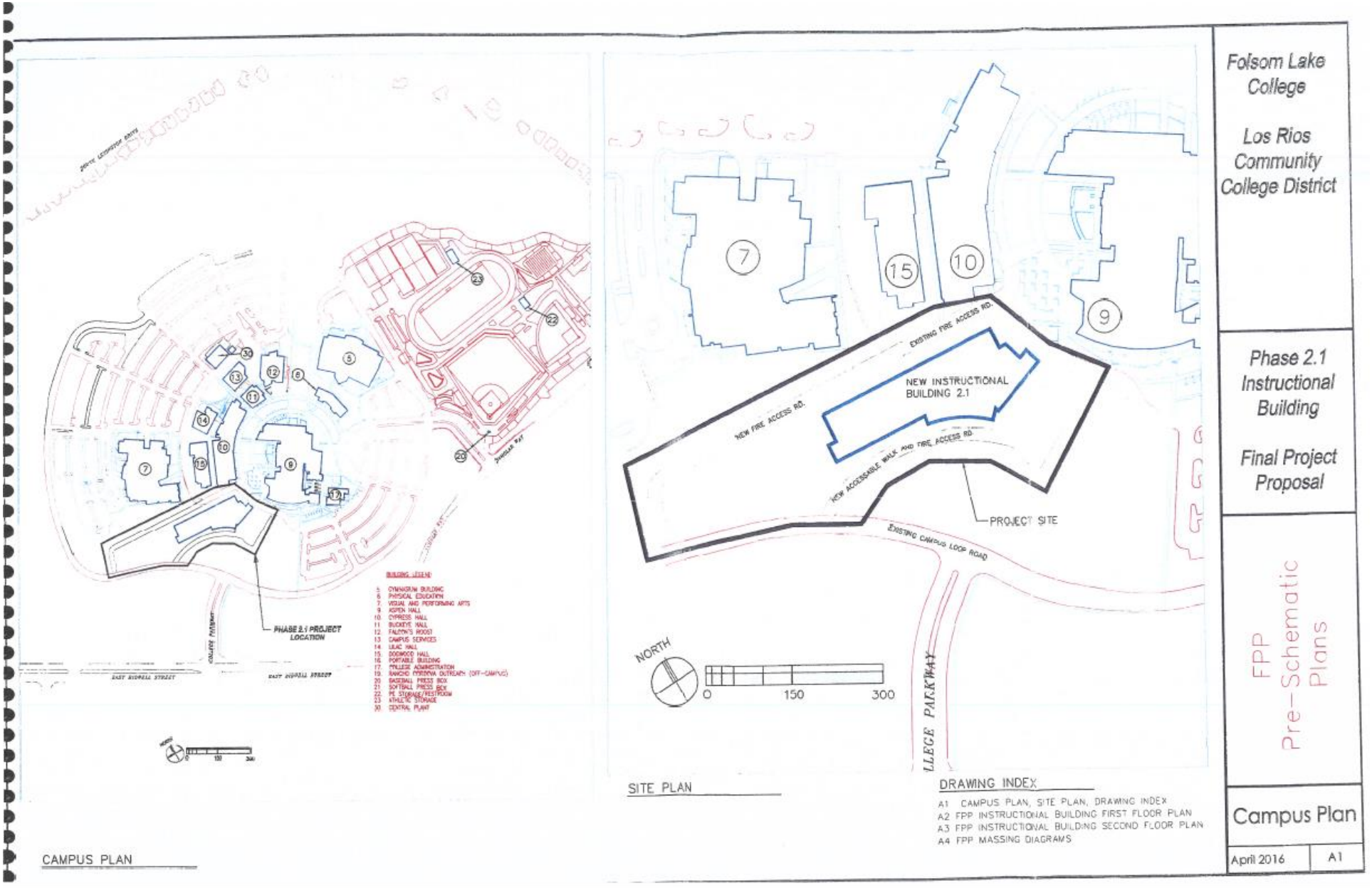
figure 1



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SITE PLAN

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figure 2

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 3.

- ***East Bidwell Street*** is an east-west Major Arterial which provides access for Folsom Lake College to US 50 to the south and old town Folsom to the north. East Bidwell Street varies from a four to six-lane facility. The posted speed limit is 45 mph. City of Folsom traffic counts indicate that East Bidwell Street carries roughly 28,800 vehicles per day (vpd) north of Scholar Way and 34,400 vpd south of Scholar Way.

- ***Scholar Way*** is a Minor Collector street that extends from an intersection on East Bidwell Street easterly to an intersection on Broadstone Parkway. In the area of the project Scholar Way is a two-lane facility. City of Folsom traffic counts indicate that Scholar Way carries 7,800 vpd west of East Bidwell Street and 7,000 vpd east of East Bidwell Street.

The geometric layout of study intersections is noted as follows:

The ***East Bidwell Street / College Parkway intersection*** is controlled by a traffic signal. East Bidwell Street has three through travel lanes in each direction. Dual southbound left turn lanes and a separate northbound right turn lane provide access to the campus. The Nesmith Court approach is a single lane. The three lane College Parkway approach is striped with a left turn lane, a combined through +left turn lane and a right turn lane. The Nesmith Court and College Parkway approaches operate with "split" phases. Crosswalks are striped on each leg of the intersection.

The ***East Bidwell Street / Scholar Way / Clarksville Road intersection*** is controlled by a traffic signal. The East Bidwell Street approach has three through travel lanes, dual left turn lanes and separated right turn lanes. The Clarksville Road approach has dual left turn lanes, a through lane and a separated right turn lane. The Scholar Way approach has a single left turn lane, two through lanes and a separated right turn lane. Crosswalks are striped across each leg of the intersection.

The ***Scholar Way / Cavitt Drive / Campus access intersection*** is controlled by an all-way stop. Scholar Way has two through lanes on each approach, as well as left turn lanes. The westbound approach has a separate right turn lane into the campus. The two lane Cavitt Drive approach is striped for a left turn lane and a combined through plus right turn lane. The southbound campus exit has two lanes marked as a combined left turn and through lane and a separate right turn lane. Crosswalks are marked across each leg of the intersection.

Bicycle and Pedestrian Facilities

The City of Folsom ***Pedestrian Master Plan*** (2014) identified current and planned facilities. Sidewalks currently exist along the west side of East Bidwell Street but not along the east side along the railroad track. Sidewalk exists on both sides of Scholar Way adjoining the Folsom Lake College campus and on the south side of College Parkway leading into the campus. A class I multi-use trail is planned on East Bidwell Street and on Scholar Way east of Cavitt Drive.

Class II bike lanes are striped along East Bidwell Street in the area of the college campus. Similarly, bike lanes are striped on Scholar Way between East Bidwell Street and Cavitt Drive.

Transit Service

SacRT operates ***Light Rail*** between Folsom and Sacramento. The Historic Folsom Station is located on Folsom Blvd about 3 miles from the college.

Folsom Stage offers fixed route bus service operated by SacRT. Route 10 connects Folsom Lake College with the Historic Folsom Light Rail Station. Route 20 services Empire Ranch Road, E. Natoma, Vista del Lago High School, Folsom Lake College and transfers to Folsom Stage Line Route 10. Bus stops are located at the college campus, and weekday service is provided on one-hour headways from 5:40 a.m. to 6:40 p.m. (Route 10).

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.

The signalized study intersections have been analyzed using methods presented in the *Highway Capacity Manual (HCM)*. The *Synchro 10.0* 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 HCM 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.

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 to 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
Source: Highway Capacity Manual, 6th Edition		

Traffic Signal Warrants. Current traffic volumes at stop-controlled intersections were compared to the criteria contained in the Manual of Uniform Traffic Control Devices (MUTCD). Warrant 3 (Peak Hour Volume), was employed.

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 Folsom. The General Plan Mobility Element includes policies relating to Level of Service.

M 4.1.3 Level of Service strive to achieve at least a traffic Level of Service "D" (or better) for local streets and roadways throughout the City. In designing transportation improvements, the City will prioritize use of smart technologies and innovative solutions that maximize efficiencies and safety while minimizing the physical footprint. During the course of Plan buildout it may occur that temporarily higher Levels of Service result where roadway improvements have not

been adequately phased as development proceeds. However, this situation will be minimized based on annual traffic studies and monitoring programs. Staff will report to the City Council at regular intervals via the Capital Improvement Program process for the Council to prioritize projects integral to achieving Level of Service D or better.

The City has further specified that an increase of five or more seconds of control delay at an intersection operating at an unacceptable level requires mitigation to achieve "no project" conditions.

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 three study intersections during December 2019 when Folsom Lake College was in normal session. 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 3 presents the existing lane configurations, intersection control and existing peak hour traffic volumes at the study intersections.

Existing Intersection Levels of Service. Table 2 presents a summary of existing peak hour LOS at the study intersections. Level of Service calculations are provided in the Appendix. 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 the established minimum operating LOS standard (i.e., LOS D or better).

TABLE 2
EXISTING CONDITIONS
INTERSECTION LEVELS OF SERVICE

Intersection	Minimum LOS Standard	Control	Existing Conditions			
			AM Peak Hour		PM Peak Hour	
			LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
East Bidwell Street / College Pkwy	D	Signal	14.4	B	18.9	B
East Bidwell Street / Scholar Way / Clarksville Road	D	Signal	17.8	B	22.4	C
Scholar Way / Cavitt Drive	D	All-Way Stop	12.7	B	9.8	A

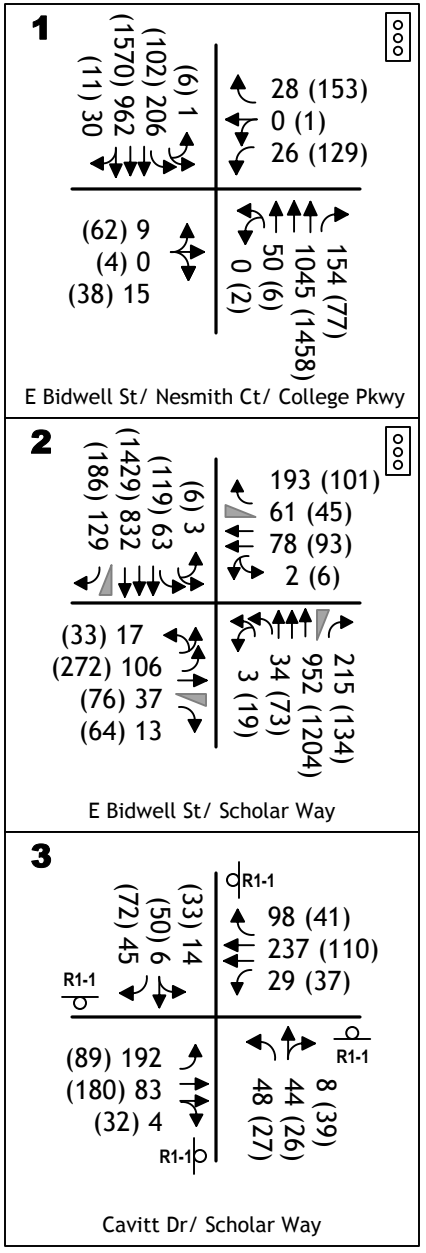
It is important to note that schools in general, including community colleges, experience short terms of peak traffic volumes that result in traffic conditions in excess of those occurring over the breadth of the peak hour. This delay and congestion can be worse than identified herein during the periods immediately before and after the time when classes start each period.

Peak Period Queues. The extent to which peak period queues can be accommodated within available turn lane storage is a factor in traffic safety. For the assessment the 95th percentile queue occurring during each time period has been estimated as a byproduct of HCM LOS analysis and compared to available storage length, as shown in Table 3. Currently all 95th percentile queue fit within the available storage.

TABLE 3
EXISTING CONDITIONS
INTERSECTION QUEUE LENGTHS

Intersection	Lane	Storage (feet)	Existing Conditions			
			AM Peak Hour		PM Peak Hour	
			Volume (vph)	95th % Queue	Volume (vph)	95th % Queue (feet)
East Bidwell Street / College Parkway / Nesmith Court	NB left	130	50	105	8	25
	SB left	500	207	160	108	85
	WB left	360	26	35	129	95
East Bidwell Street / Scholar Way / Clarksville Road	NB left	245	37	<25	92	55
	SB left	230	66	35	125	70
	EB left	220	123	55	305	140
	WB left	180	80	80	99	120
Scholar Way / Cavitt Drive	NB left	125	48	<25	27	<25
	SB left+thru	300	6	<25	83	<25
	EB left	110	192	60	89	<25
	WB left	150	29	<25	37	<25

Traffic Signal Warrants. The current peak hour traffic volume occurring at the Scholar Way / Cavitt Drive intersection were compared to peak hour warrant requirements. Current a.m. and p.m. peak hour volumes do not reach the levels that satisfy peak hour traffic signal warrants.



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EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

5245-02 RA 1/9/2020

figure 3

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, 10th Edition*, has been used.

ITE Trip Generation Manual trip generation rates 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 4 and 5, respectively. As shown, the proposed 75,000 square foot building is projected to generate a total of 155 a.m. and 140 p.m. peak hour trips.

The proposed parking supply in and of itself does not generate new traffic at the site. The parking supply will serve the new building as well as existing students and other growth anticipated under the Facilities Master Plan.

As a comparison, the Folsom Lake College campus currently generates 813 a.m. and 777 p.m. peak hour trips. The project's new trips represent an 19% increase in a.m. peak hour traffic at the campus and a 18% increase in p.m. peak hour traffic.

TABLE 4
TRIP GENERATION RATES

Land Use	Daily	AM Peak Hour		PM Peak Hour	
		Rate	In / Out	Rate	In / Out
Community College (ITE 540)	20.25	2.07	77% / 36%	1.86	50% / 50%

Source: Trip Generation Manual, 10th Edition. Trip rates per 1,000 gsf.

TABLE 5
PROJECT TRIP GENERATION

Land Use	Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Life and Physical Sciences Building (75,000 sf)	1,519	120	35	155	70	70	140

Trip Distribution

The distribution of vehicle trips associated with the new Life and Physical Sciences building will likely be similar to the patterns exhibited today. The distribution has been estimated based on existing traffic patterns observed at the access intersections serving the campus. Table 6 presents the trip distribution percentages for the proposed project used for the traffic analysis.

TABLE 6
PROJECT TRIP DISTRIBUTION

Direction	Route	Percent Trip Distribution			
		AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
North	East Bidwell Street	36%	45%	40%	42%
East	Scholar Way	17%	13%	14%	9%
South	East Bidwell Street	36%	26%	28%	31%
	Cavitt Drive	6%	6%	8%	12%
West	Clarksville Road	5%	10%	10%	6%
Total		100.00%	100.00%	100.00%	100.00%

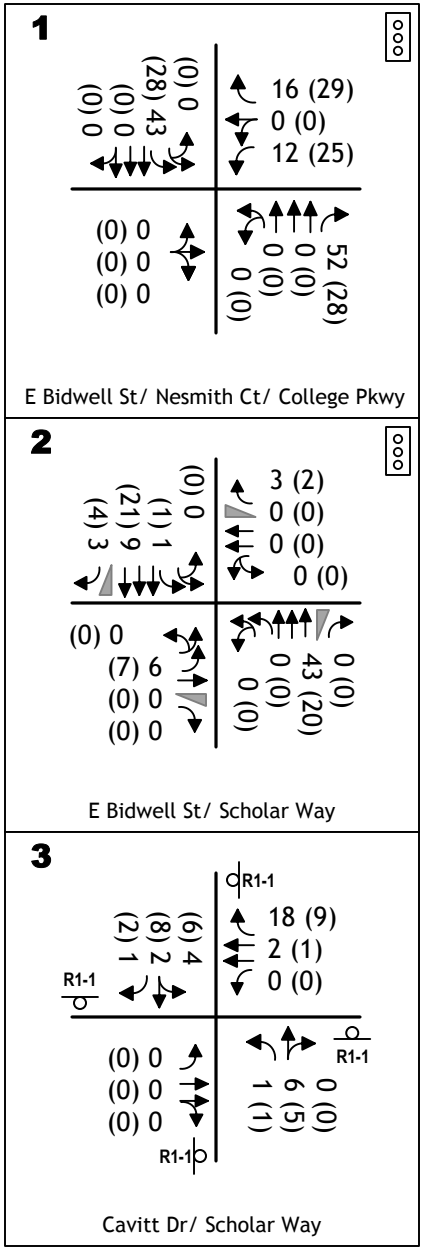
Trip Assignment

Trips that would be generated by the proposed project have been assigned to the study area street system based on the location of campus access driveways, the location of existing and new on-site parking, the existence of any turn restrictions at area intersections and the distribution estimates discussed above. Figure 4 displays the project related traffic volumes at each study intersection during the a.m. and p.m. peak hours.

PROJECT IMPACTS

Existing Plus Project Traffic Conditions

Level of Service. The trips accompanying development of the new Life and Physical Sciences building were superimposed onto existing background traffic. Resulting "Existing plus Project" volumes are presented in Figure 5. Table 7 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. Projected Levels of Service remain within the City of Folsom's minimum LOS D standard. These impacts are considered less than significant, and mitigation is not required.



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PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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figure 4

1

	(6) 1	44 (182)
	(130) 249	0 (1)
	(1570) 962	38 (154)
	(11) 30	
(62) 9		206 (105)
(4) 0		1045 (1458)
(38) 15		50 (6)
		0 (2)

E Bidwell St/ Nesmith Ct/ College Pkwy

2

	(6) 3	196 (103)
	(120) 64	61 (45)
	(1450) 841	78 (94)
	(190) 132	2 (6)
(33) 17		215 (134)
(279) 112		995 (1224)
(76) 37		34 (73)
(64) 13		3 (19)

E Bidwell St/ Scholar Way

3

	(39) 18	R1-1
	(58) 8	116 (50)
	(74) 46	239 (111)
R1-1		29 (37)
(89) 192		R1-1
(181) 83		8 (39)
(32) 4		50 (31)
R1-1		49 (28)

Cavitt Dr/ Scholar Way

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EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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figure 5

TABLE 7
EXISTING PLUS PROJECT
INTERSECTION LEVELS OF SERVICE

Intersection	Minimum LOS Standard	Control	Existing Conditions							
			AM Peak Hour				PM Peak Hour			
			Existing		Existing Plus Project		Existing		Existing Plus Project	
			LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
East Bidwell Street / College Parkway / Nesmith Court	D	Signal	B	14.4	B	15.4	B	18.9	C	20.4
East Bidwell Street / Scholar Way/ Clarksville Road	D	Signal	B	17.8	B	17.9	C	22.4	C	22.6
Scholar Way / Cavitt Drive	D	All-Way Stop	B	12.7	B	13.2	A	9.8	A	10.0

Peak Period Queues. The 95th percentile queues occurring during each time period was again estimated as a byproduct of HCM LOS analysis and compared to available storage length, as shown in Table 8. With the project all 95th percentile queues fit within the available storage. Thus, the project's impact is not significant and mitigation is not required.

Traffic Signal Warrants. The Existing Plus Project peak hour traffic volumes occurring at the Scholar Way / Cavitt Drive intersection were compared to peak hour warrant requirements. Forecast peak hour volumes do not reach the level that satisfy peak hour traffic signal warrants.

TABLE 8
EXISTING PLUS PROJECT CONDITIONS
INTERSECTION QUEUE LENGTHS

Intersection	Lane	Storage (feet)	Existing Plus Project Conditions									
			AM Peak Hour					PM Peak Hour				
			Existing		Existing Plus Project			Existing		Existing Plus Project		
			Volume (vph)	95th % Queue (feet)	Volume (vph) Project Only	Volume (vph) Total	95th % Queue	Volume (vph)	95th % Queue (feet)	Volume (vph) Project Only	Volume (vph) Total	95th % Queue (feet)
East Bidwell Street / College Parkway / Nesmith Court	NB left	130	50	105	0	50	105	8	25	0	8	25
	SB left	500	207	160	43	250	195	108	85	28	136	105
	WB left	360	26	35	12	38	40	129	95	25	154	115
East Bidwell Street / Scholar Way / Clarksville Road	NB left	245	37	<25	0	37	<25	92	55	0	92	55
	SB left	230	66	35	1	67	35	125	70	1	126	70
	EB left	220	123	55	6	129	60	305	140	7	312	145
	WB left	180	80	80	0	80	85	99	120	1	100	125
Scholar Way / Cavitt Drive	NB left	125	48	<25	1	49	<25	27	<25	1	28	<25
	SB left+thru	300	20	<25	6	26	<25	83	<25	14	97	<25
	EB left	110	192	60	0	192	60	89	<25	00	89	<25
	WB left	150	29	<25	0	29	<25	37	<25	0	37	<25

Impacts to Alternative Transportation Modes

Pedestrian Facilities. Development of the project will likely increase the number of pedestrians walking to and from the site. Because sidewalks already exist and all study intersections have crosswalks with applicable controls, 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.

Transit Facilities. The project will likely result in increased demand for transit service. However as Folsom Stage already serves the campus on a regular basis, the project's impact is not significant and mitigation is not required.

Construction Impacts

Project Effects. Construction may disrupt the transportation network near the project site. Because the project does not include improvements to public streets, typical effects like temporary lane closures, street closures, sidewalk closures, and bikeway closures are unlikely. Pedestrian and bicycle circulation on the campus may be disrupted temporarily. Heavy vehicles, equipment and trucks would access the site and may need to be staged for construction. Truck activities could result in degraded roadway operating conditions. Therefore, these temporary impacts are considered significant.

Mitigation. Prior to the beginning of construction, a construction traffic management plan shall be prepared to the satisfaction of the City's Traffic Engineer and subject to review by all affected agencies. The plan shall ensure that acceptable operating conditions on roadways are maintained. At a minimum, the plan shall include:

- Description of trucks including: number and size of trucks per day, expected arrival / departure times, truck circulation patterns.
- Description of staging area including: location, maximum number of trucks simultaneously permitted in staging area, use of traffic control personnel, specific signage.
- Description of street closures and/or bicycle and pedestrian facility closures including: duration, advance warning and posted signage, safe and efficient access routes for emergency vehicles, and use of manual traffic control.
- Description of access plan including: provisions for safe vehicular, pedestrian, and bicycle travel, minimum distance from any open trench, special signage, and private vehicle accesses.

SUMMARY AND CONCLUSIONS

This traffic impact study presents an analysis of the traffic related impacts associated with development of a new Life and Physical Sciences building on the Los Rios Community College District's Folsom Lake Campus. The new building will accommodate classrooms, offices and facilities for the instruction of science classes. The new building will be a two story containing approximately 75,000 gross square feet.

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

Because the project is consistent with the Folsom Lake College Facilities Master Plan, is cumulative impacts were addressed as part of the campus' original CEQA review, and no further cumulative analysis is required.

Study Area Intersections. Traffic operations at the following three (3) study area intersections were evaluated:

- East Bidwell Street / College Parkway / Nesmith Court
- East Bidwell Street / Scholar Way / Clarksville Road
- Scholar Way / Cavitt Drive

Existing Traffic Conditions and Levels of Service

Existing Traffic Volumes. Traffic volume data was collected for this traffic impact study at the study intersections during December 2019. Data was collected in 15-minute increments from 7:00 – 9:00 a.m. and 4:00 – 6:00 p.m. when area schools were in session.

Existing Intersection Levels of Service (LOS). All study intersections currently operate satisfactorily within the minimum LOS standards of the City of Folsom. Level of Service "C" or better conditions delays are currently experienced at the study intersections during the a.m. and p.m. peak hours. Peak period queue remain within available storage, and traffic signal warrants are not met.

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, 10th 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 75,000 sf building is projected to generate a total of 155 a.m. and 140 p.m. peak hour trips. This represents an 18% to 19%

increase over current campus traffic the proposed parking supply does not by itself generate new trips to and from the campus.

Existing Plus Project Traffic Conditions

The trips accompanying the project 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. Level of Service will remain within adopted minimum standards. Peak period queue remain within available storage, and traffic signal warrants are not satisfied. These impacts are considered less than significant, and mitigation is not required.

Impacts to Alternative Transportation Modes

Because the project is located adjoining existing facilities for pedestrians, bicyclists and transit riders, the project's impacts are not significant.

Construction Impacts

Pedestrian and bicycle circulation on the campus may be disrupted temporarily. Heavy vehicles, equipment and trucks would access the site and may need to be staged for construction. Truck activities could result in degraded roadway operating conditions. Therefore, these temporary impacts are considered significant.

Mitigation. Prior to the beginning of construction, a construction traffic management plan shall be prepared to the satisfaction of the City's Traffic Engineer and subject to review by all affected agencies. The plan shall ensure that acceptable operating conditions on roadways are maintained.

APPENDICES

Level of Service Calculations

Traffic Counts

Prepared by National Data & Surveying Services

E Bidwell St & Nesmith Ct/College Pkwy

Peak Hour Turning Movement Count

ID: 19-07474-001
City: Folsom

Day: Wednesday
Date: 12/11/2019

PEAK HOURS	
AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND (E Bidwell St)

AM	30	962	206	1	1083
NOON	0	0	0	0	0
PM	11	1570	102	6	1679

EASTBOUND (Nesmith Ct/College Pkwy)

AM	NOON	PM
80	0	18
0	0	0
9	0	62
0	0	4
15	0	38

WESTBOUND (Nesmith Ct/College Pkwy)

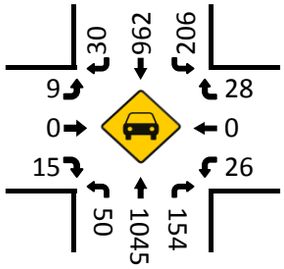
PM	NOON	AM
153	0	28
1	0	0
129	0	26
0	0	0
183	0	360

NORTHBOUND (E Bidwell St)

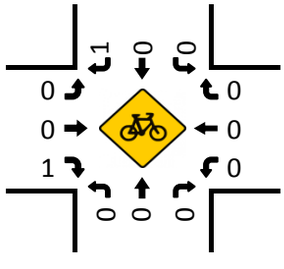
PM	1739	2	6	1458	77
NOON	0	0	0	0	0
AM	1003	0	50	1045	154

CONTROL			
Signalized			
TEV	2526	0	3619
	AM	NOON	PM
PHF	0.88		0.98

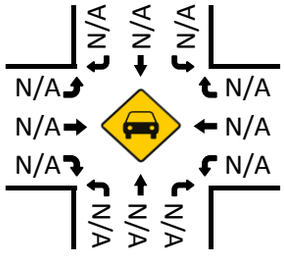
Total Vehicles (AM)



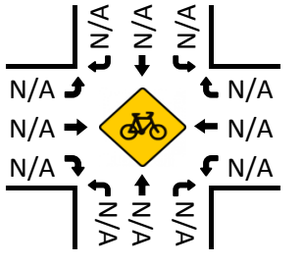
Bikes (AM)



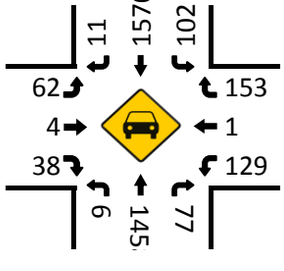
Total Vehicles (Noon)



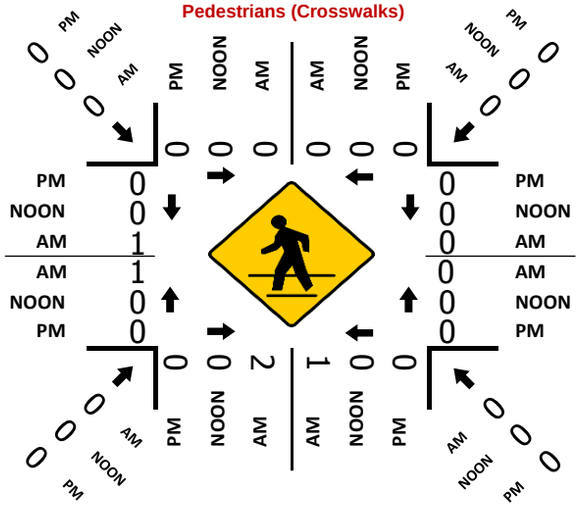
Bikes (NOON)



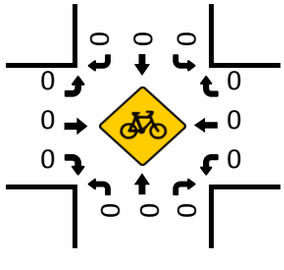
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: E Bidwell St & Nesmith Ct/College Pkwy
City: Folsom
Control: Signalized

Project ID: 19-07474-001
Date: 12/11/2019

Total

NS/EW Streets:	E Bidwell St				E Bidwell St				Nesmith Ct/College Pkwy				Nesmith Ct/College Pkwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	103	5	0	12	149	4	0	5	0	2	0	0	0	0	0	284
7:15 AM	1	151	20	0	19	189	7	1	3	0	2	0	1	0	3	0	397
7:30 AM	11	222	11	1	22	245	7	0	3	0	1	0	1	0	0	0	524
7:45 AM	7	267	12	0	17	247	6	0	3	0	0	0	2	0	4	0	565
8:00 AM	15	290	20	0	26	208	5	0	0	0	2	0	11	0	12	0	589
8:15 AM	12	264	15	0	35	241	8	0	3	0	3	0	1	0	3	0	585
8:30 AM	10	253	44	0	44	264	7	0	4	0	5	0	2	0	4	0	637
8:45 AM	13	238	75	0	101	249	10	1	2	0	5	0	12	0	9	0	715
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	73	1788	202	1	276	1792	54	2	23	0	20	0	30	0	35	0	4296
APPROACH %'s :	3.54%	86.63%	9.79%	0.05%	12.99%	84.37%	2.54%	0.09%	53.49%	0.00%	46.51%	0.00%	46.15%	0.00%	53.85%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	50	1045	154	0	206	962	30	1	9	0	15	0	26	0	28	0	2526
PEAK HR FACTOR :	0.833	0.901	0.513	0.000	0.510	0.911	0.750	0.250	0.563	0.000	0.750	0.000	0.542	0.000	0.583	0.000	0.883
		0.958				0.830				0.667				0.587			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	7	323	7	4	16	381	5	1	15	0	9	0	36	0	32	0	836
4:15 PM	11	332	11	4	14	338	4	1	19	0	9	0	22	0	11	0	776
4:30 PM	2	350	14	0	10	386	4	0	10	0	7	0	65	1	76	0	925
4:45 PM	1	370	16	2	21	381	3	2	22	0	13	0	40	0	51	0	922
5:00 PM	2	366	18	0	29	391	2	3	18	2	11	0	14	0	8	0	864
5:15 PM	1	372	29	0	42	412	2	1	12	2	7	0	10	0	18	0	908
5:30 PM	1	351	38	3	37	392	2	0	9	0	6	0	10	0	18	0	867
5:45 PM	1	330	41	1	31	398	1	0	9	0	9	0	5	0	12	0	838
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	26	2794	174	14	200	3079	23	8	114	4	71	0	202	1	226	0	6936
APPROACH %'s :	0.86%	92.89%	5.78%	0.47%	6.04%	93.02%	0.69%	0.24%	60.32%	2.12%	37.57%	0.00%	47.09%	0.23%	52.68%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	6	1458	77	2	102	1570	11	6	62	4	38	0	129	1	153	0	3619
PEAK HR FACTOR :	0.750	0.980	0.664	0.250	0.607	0.953	0.688	0.500	0.705	0.500	0.731	0.000	0.496	0.250	0.503	0.000	0.978
		0.960				0.924				0.743				0.498			

National Data & Surveying Services

Intersection Turning Movement Count

Location: E Bidwell St & Nesmith Ct/College Pkwy
City: Folsom
Control: Signalized

Project ID: 19-07474-001
Date: 12/11/2019

Bikes

NS/EW Streets:	E Bidwell St				E Bidwell St				Nesmith Ct/College Pkwy				Nesmith Ct/College Pkwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	**08:00 AM - 09:00 AM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
						0.250				0.250							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
APPROACH %'s :					50.00%	50.00%	0.00%	0.00%									
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: E Bidwell St & Nesmith Ct/College Pkwy
City: Folsom

Project ID: 19-07474-001
Date: 12/11/2019

Pedestrians (Crosswalks)

NS/EW Streets:	E Bidwell St		E Bidwell St		Nesmith Ct/College Pkwy		Nesmith Ct/College Pkwy		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	0	1	0	1	1	0	4
8:00 AM	0	0	1	0	0	0	1	0	2
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	1	0	0	0	0	1	2
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	0	2	2	0	1	2	3	11
APPROACH %'s :	100.00%	0.00%	50.00%	50.00%	0.00%	100.00%	40.00%	60.00%	
PEAK HR :	**08:00 AM - 09:00 AM**								TOTAL
PEAK HR VOL :	0	0	2	1	0	0	1	1	5
PEAK HR FACTOR :			0.500	0.250			0.250	0.250	0.625
			0.750				0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	0	1	2
5:45 PM	0	0	0	1	0	0	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	1	1	0	0	0	1	3
APPROACH %'s :			50.00%	50.00%			0.00%	100.00%	
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

E Bidwell St & Scholar Way/Clarksville Rd

Peak Hour Turning Movement Count

ID: 19-07474-002
City: Folsom

Day: Wednesday
Date: 12/11/2019

PEAK HOURS	
AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

E Bidwell St — SOUTHBOUND

AM	129	832	63	3	1254	AM
NOON	0	0	0	0	0	NOON
PM	186	1429	119	6	1583	PM

Scholar Way/Clarksville Rd — EASTBOUND

AM	NOON	PM	
241	0	337	⇦
17	0	33	↶
106	0	272	↱
37	0	76	→
13	0	64	↳

Scholar Way/Clarksville Rd — WESTBOUND

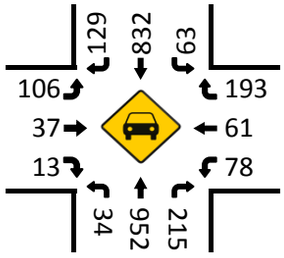
PM	NOON	AM	
101	0	193	↰
45	0	61	←
93	0	78	↲
6	0	2	↰
335	0	317	⇨

E Bidwell St — NORTHBOUND

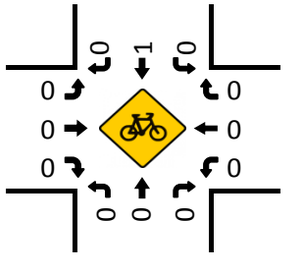
PM	1605	19	73	1204	134	PM
NOON	0	0	0	0	0	NOON
AM	926	3	34	952	215	AM

CONTROL			
Signalized			
TEV	2738 AM	0 NOON	3860 PM
PHF	0.95		0.95

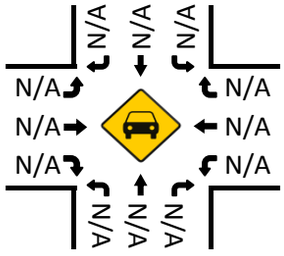
Total Vehicles (AM)



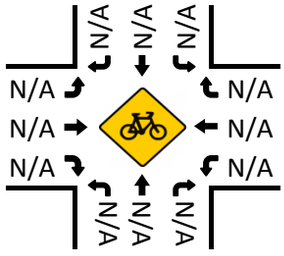
Bikes (AM)



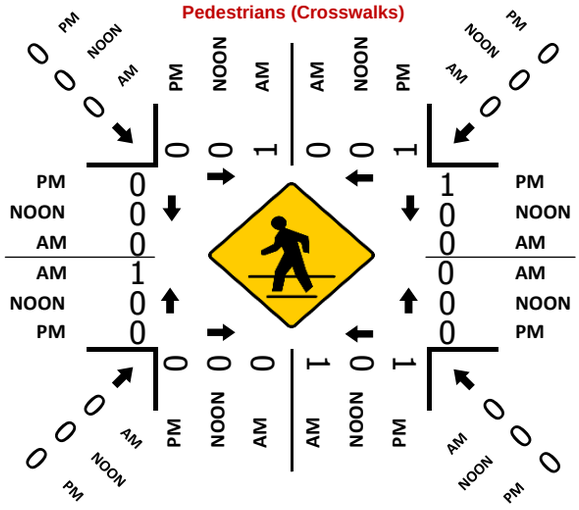
Total Vehicles (Noon)



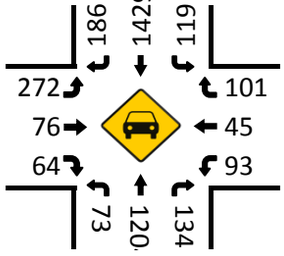
Bikes (NOON)



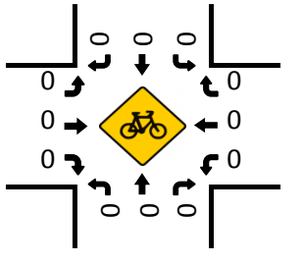
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: E Bidwell St & Scholar Way/Clarksville Rd
City: Folsom
Control: Signalized

Project ID: 19-07474-002
Date: 12/11/2019

Total

NS/EW Streets:	E Bidwell St				E Bidwell St				Scholar Way/Clarksville Rd				Scholar Way/Clarksville Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	87	26	0	5	122	19	0	8	0	2	1	17	5	14	0	311
7:15 AM	9	149	20	0	18	159	23	0	9	3	3	1	10	11	19	0	434
7:30 AM	3	181	22	2	14	220	19	2	20	1	5	1	18	7	37	0	552
7:45 AM	14	212	28	2	21	202	33	0	33	5	3	2	16	18	44	0	633
8:00 AM	8	243	41	0	10	181	38	1	32	9	6	4	14	15	49	1	652
8:15 AM	12	213	43	0	11	204	34	0	22	4	3	5	15	16	56	1	639
8:30 AM	7	235	67	1	23	220	34	0	29	6	3	5	23	17	53	0	723
8:45 AM	7	261	64	2	19	227	23	2	23	18	1	3	26	13	35	0	724
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	65	1581	311	7	121	1535	223	5	176	46	26	22	139	102	307	2	4668
APPROACH %'s :	3.31%	80.50%	15.84%	0.36%	6.42%	81.48%	11.84%	0.27%	65.19%	17.04%	9.63%	8.15%	25.27%	18.55%	55.82%	0.36%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	34	952	215	3	63	832	129	3	106	37	13	17	78	61	193	2	2738
PEAK HR FACTOR :	0.708	0.912	0.802	0.375	0.685	0.916	0.849	0.375	0.828	0.514	0.542	0.850	0.750	0.897	0.862	0.500	0.945
	0.901				0.927				0.848				0.898				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	23	254	19	3	30	388	36	3	60	13	6	5	44	8	16	0	908
4:15 PM	23	262	22	0	22	317	34	3	76	17	15	4	33	17	26	0	871
4:30 PM	9	260	26	1	18	341	48	0	62	19	10	9	31	11	33	0	878
4:45 PM	18	294	36	6	40	398	41	2	69	20	17	11	26	13	29	1	1021
5:00 PM	17	308	31	7	36	333	40	1	58	15	18	7	22	9	29	2	933
5:15 PM	23	311	39	1	18	349	53	1	73	20	7	7	25	13	21	2	963
5:30 PM	15	291	28	5	25	349	52	2	72	21	22	8	20	10	22	1	943
5:45 PM	15	270	24	5	21	335	48	1	61	20	20	8	29	7	34	0	898
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	143	2250	225	28	210	2810	352	13	531	145	115	59	230	88	210	6	7415
APPROACH %'s :	5.40%	85.03%	8.50%	1.06%	6.20%	83.01%	10.40%	0.38%	62.47%	17.06%	13.53%	6.94%	43.07%	16.48%	39.33%	1.12%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	73	1204	134	19	119	1429	186	6	272	76	64	33	93	45	101	6	3860
PEAK HR FACTOR :	0.793	0.968	0.859	0.679	0.744	0.898	0.877	0.750	0.932	0.905	0.727	0.750	0.894	0.865	0.871	0.750	0.945
	0.956				0.904				0.904				0.888				

National Data & Surveying Services

Intersection Turning Movement Count

Location: E Bidwell St & Scholar Way/Clarksville Rd
City: Folsom
Control: Signalized

Project ID: 19-07474-002
Date: 12/11/2019

Bikes

NS/EW Streets:	E Bidwell St				E Bidwell St				Scholar Way/Clarksville Rd				Scholar Way/Clarksville Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
APPROACH %'s :					0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%					
PEAK HR :	**08:00 AM - 09:00 AM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
						0.250											

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :					0.00%	100.00%	0.00%	0.00%									
PEAK HR :	**04:45 PM - 05:45 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: E Bidwell St & Scholar Way/Clarksville Rd
City: Folsom

Project ID: 19-07474-002
Date: 12/11/2019

Pedestrians (Crosswalks)

NS/EW Streets:	E Bidwell St		E Bidwell St		Scholar Way/Clarksville Rd		Scholar Way/Clarksville Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	1	0	0	0	1	2
7:30 AM	0	0	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	1	0	0	0	0	0	1	0	2
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	0	0	3	0	0	1	2	7
APPROACH %'s :	100.00%	0.00%	0.00%	100.00%			33.33%	66.67%	
PEAK HR :	**08:00 AM - 09:00 AM**								TOTAL
PEAK HR VOL :	1	0	0	1	0	0	1	0	3
PEAK HR FACTOR :	0.250			0.250			0.250		0.375
	0.250		0.250				0.250		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	1	2	3	0	0	6
4:15 PM	0	0	0	0	1	1	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	1	0	1	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	1	0	2	3	5	0	0	11
APPROACH %'s :	0.00%	100.00%	0.00%	100.00%	37.50%	62.50%			
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	0	1	0	1	0	1	0	0	3
PEAK HR FACTOR :		0.250		0.250		0.250			0.250
	0.250		0.250		0.250				

Lane Group	SEL	SET	NWL	NWT	NWR	NET	SWL	SWT	SWR
Lane Group Flow (vph)	235	1127	57	1188	175	27	15	15	32
v/c Ratio	0.40	0.35	0.26	0.59	0.24	0.07	0.05	0.05	0.07
Control Delay	40.4	20.8	48.7	25.7	5.5	0.3	37.8	37.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	20.8	48.7	25.7	5.5	0.3	37.8	37.8	0.3
Queue Length 50th (ft)	52	133	25	154	0	0	6	6	0
Queue Length 95th (ft)	161	437	104	#533	46	0	32	32	0
Internal Link Dist (ft)		2230		774		647		447	
Turn Bay Length (ft)	500		150				150		150
Base Capacity (vph)	1069	3397	367	3141	1050	561	517	517	627
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.33	0.16	0.38	0.17	0.05	0.03	0.03	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	207	962	30	50	1045	154	9	0	15	26	0	28
Future Volume (veh/h)	207	962	30	50	1045	154	9	0	15	26	0	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	235	1093	34	57	1188	175	10	0	17	30	0	32
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	472	2370	74	93	1947	604	19	0	32	312	0	139
Arrive On Green	0.14	0.47	0.47	0.05	0.38	0.38	0.03	0.00	0.03	0.09	0.00	0.09
Sat Flow, veh/h	3456	5088	158	1781	5106	1585	612	0	1040	3563	0	1585
Grp Volume(v), veh/h	235	731	396	57	1188	175	27	0	0	30	0	32
Grp Sat Flow(s),veh/h/ln	1728	1702	1842	1781	1702	1585	1652	0	0	1781	0	1585
Q Serve(g_s), s	3.6	8.4	8.4	1.8	10.7	4.4	0.9	0.0	0.0	0.4	0.0	1.1
Cycle Q Clear(g_c), s	3.6	8.4	8.4	1.8	10.7	4.4	0.9	0.0	0.0	0.4	0.0	1.1
Prop In Lane	1.00		0.09	1.00		1.00	0.37		0.63	1.00		1.00
Lane Grp Cap(c), veh/h	472	1585	858	93	1947	604	50	0	0	312	0	139
V/C Ratio(X)	0.50	0.46	0.46	0.61	0.61	0.29	0.54	0.00	0.00	0.10	0.00	0.23
Avail Cap(c_a), veh/h	1088	2383	1289	374	3217	999	347	0	0	997	0	444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	10.4	10.4	26.5	14.3	12.3	27.3	0.0	0.0	24.0	0.0	24.3
Incr Delay (d2), s/veh	0.8	0.2	0.4	6.4	0.3	0.3	8.6	0.0	0.0	0.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.3	2.6	0.8	3.3	1.3	0.5	0.0	0.0	0.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	10.6	10.8	33.0	14.6	12.6	35.9	0.0	0.0	24.1	0.0	25.1
LnGrp LOS	C	B	B	C	B	B	D	A	A	C	A	C
Approach Vol, veh/h		1362			1420			27			62	
Approach Delay, s/veh		12.9			15.1			35.9			24.6	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.6	27.6		6.3	8.8	32.4		9.6
Change Period (Y+Rc), s	5.8	5.8		4.6	5.8	5.8		4.6
Max Green Setting (Gmax), s	18.0	36.0		12.0	12.0	40.0		16.0
Max Q Clear Time (g_c+I1), s	5.6	12.7		2.9	3.8	10.4		3.1
Green Ext Time (p_c), s	0.6	9.1		0.0	0.1	7.9		0.1

Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	129	39	14	84	64	203	69	876	136	39	1002	226
v/c Ratio	0.23	0.11	0.01	0.22	0.09	0.13	0.14	0.34	0.09	0.08	0.43	0.14
Control Delay	30.2	30.7	0.0	29.9	29.6	0.2	30.9	15.9	0.1	31.4	18.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.2	30.7	0.0	29.9	29.6	0.2	30.9	15.9	0.1	31.4	18.7	0.2
Queue Length 50th (ft)	25	15	0	33	12	0	13	108	0	7	130	0
Queue Length 95th (ft)	55	46	0	81	33	0	35	153	0	23	183	0
Internal Link Dist (ft)		2951			591			774			3432	
Turn Bay Length (ft)	175		175	200		200	230		275	250		230
Base Capacity (vph)	1186	797	1583	469	1223	1583	1186	3686	1583	790	3396	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.05	0.01	0.18	0.05	0.13	0.06	0.24	0.09	0.05	0.30	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	123	37	13	80	61	193	66	832	129	37	952	215
Future Volume (veh/h)	123	37	13	80	61	193	66	832	129	37	952	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	39	0	84	64	0	69	876	0	39	1002	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	270		115	472		201	1795		117	1670	
Arrive On Green	0.08	0.14	0.00	0.06	0.13	0.00	0.06	0.35	0.00	0.03	0.33	0.00
Sat Flow, veh/h	3456	1870	1585	1781	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	129	39	0	84	64	0	69	876	0	39	1002	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	2.0	1.0	0.0	2.6	0.9	0.0	1.1	7.7	0.0	0.6	9.4	0.0
Cycle Q Clear(g_c), s	2.0	1.0	0.0	2.6	0.9	0.0	1.1	7.7	0.0	0.6	9.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	263	270		115	472		201	1795		117	1670	
V/C Ratio(X)	0.49	0.14		0.73	0.14		0.34	0.49		0.33	0.60	
Avail Cap(c_a), veh/h	907	393		312	932		907	3572		604	3661	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.3	21.4	0.0	26.3	21.9	0.0	25.9	14.5	0.0	27.0	16.1	0.0
Incr Delay (d2), s/veh	1.4	0.2	0.0	8.6	0.1	0.0	1.0	0.2	0.0	1.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.4	0.0	1.3	0.3	0.0	0.4	2.4	0.0	0.3	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	21.6	0.0	34.9	22.0	0.0	26.9	14.7	0.0	28.6	16.5	0.0
LnGrp LOS	C	C		C	C		C	B		C	B	
Approach Vol, veh/h		168	A		148	A		945	A		1041	A
Approach Delay, s/veh		25.6			29.3			15.6			16.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	24.5	9.5	14.1	7.7	25.9	10.2	13.4
Change Period (Y+Rc), s	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Max Green Setting (Gmax), s	15.0	41.0	10.0	12.0	10.0	40.0	15.0	15.0
Max Q Clear Time (g_c+I1), s	3.1	11.4	4.6	3.0	2.6	9.7	4.0	2.9
Green Ext Time (p_c), s	0.1	7.3	0.1	0.1	0.0	6.2	0.2	0.2

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NWR, EBR, WBR, SER] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	192	83	4	29	237	98	48	44	8	14	6	45
Future Vol, veh/h	192	83	4	29	237	98	48	44	8	14	6	45
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	253	109	5	38	312	129	63	58	11	18	8	59
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	14.3	12.3	11.3	10.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	70%	0%
Vol Thru, %	0%	85%	0%	100%	87%	0%	100%	45%	30%	0%
Vol Right, %	0%	15%	0%	0%	13%	0%	0%	55%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	48	52	192	55	32	29	158	177	20	45
LT Vol	48	0	192	0	0	29	0	0	14	0
Through Vol	0	44	0	55	28	0	158	79	6	0
RT Vol	0	8	0	0	4	0	0	98	0	45
Lane Flow Rate	63	68	253	73	42	38	208	233	26	59
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.135	0.135	0.489	0.131	0.074	0.072	0.365	0.384	0.056	0.11
Departure Headway (Hd)	7.704	7.093	6.966	6.46	6.371	6.835	6.329	5.938	7.716	6.66
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	464	503	515	553	560	522	565	603	462	535
Service Time	5.485	4.875	4.732	4.226	4.137	4.599	4.094	3.702	5.503	4.447
HCM Lane V/C Ratio	0.136	0.135	0.491	0.132	0.075	0.073	0.368	0.386	0.056	0.11
HCM Control Delay	11.7	11	16.3	10.2	9.7	10.1	12.7	12.4	11	10.3
HCM Lane LOS	B	B	C	B	A	B	B	B	B	B
HCM 95th-tile Q	0.5	0.5	2.7	0.4	0.2	0.2	1.7	1.8	0.2	0.4

Lane Group	SEL	SET	NWL	NWT	NWR	NET	SWL	SWT	SWR
Lane Group Flow (vph)	110	1613	8	1488	79	106	66	67	156
v/c Ratio	0.27	0.61	0.06	0.71	0.10	0.39	0.25	0.25	0.37
Control Delay	47.1	21.3	53.8	28.9	0.3	34.8	40.1	40.2	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.1	21.3	53.8	28.9	0.3	34.8	40.1	40.2	4.4
Queue Length 50th (ft)	27	163	4	219	0	41	33	34	0
Queue Length 95th (ft)	86	#774	27	#752	0	117	96	98	21
Internal Link Dist (ft)		2230		774		647		447	
Turn Bay Length (ft)	500		150				150		150
Base Capacity (vph)	828	3081	284	2455	862	358	414	415	542
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.52	0.03	0.61	0.09	0.30	0.16	0.16	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	108	1570	11	8	1458	77	62	4	38	129	1	153
Future Volume (veh/h)	108	1570	11	8	1458	77	62	4	38	129	1	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	1602	11	8	1488	79	63	4	39	133	0	156
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	342	2564	18	18	2050	636	82	5	51	464	0	206
Arrive On Green	0.10	0.49	0.49	0.01	0.40	0.40	0.08	0.08	0.08	0.13	0.00	0.13
Sat Flow, veh/h	3456	5232	36	1781	5106	1585	1014	64	628	3563	0	1585
Grp Volume(v), veh/h	110	1042	571	8	1488	79	106	0	0	133	0	156
Grp Sat Flow(s),veh/h/ln	1728	1702	1864	1781	1702	1585	1707	0	0	1781	0	1585
Q Serve(g_s), s	2.1	16.2	16.2	0.3	17.7	2.3	4.4	0.0	0.0	2.4	0.0	6.8
Cycle Q Clear(g_c), s	2.1	16.2	16.2	0.3	17.7	2.3	4.4	0.0	0.0	2.4	0.0	6.8
Prop In Lane	1.00		0.02	1.00		1.00	0.59		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	342	1668	913	18	2050	636	137	0	0	464	0	206
V/C Ratio(X)	0.32	0.62	0.62	0.44	0.73	0.12	0.77	0.00	0.00	0.29	0.00	0.76
Avail Cap(c_a), veh/h	864	1892	1036	297	2554	793	285	0	0	792	0	352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	13.5	13.5	35.4	18.2	13.6	32.4	0.0	0.0	28.3	0.0	30.2
Incr Delay (d2), s/veh	0.5	0.5	1.0	15.6	0.8	0.1	8.8	0.0	0.0	0.3	0.0	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.1	5.7	0.2	6.0	0.7	2.1	0.0	0.0	1.0	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	14.0	14.5	51.0	19.0	13.7	41.3	0.0	0.0	28.6	0.0	35.8
LnGrp LOS	C	B	B	D	B	B	D	A	A	C	A	D
Approach Vol, veh/h		1723			1575			106			289	
Approach Delay, s/veh		15.2			18.9			41.3			32.5	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.9	34.7		10.4	6.5	41.1		14.0
Change Period (Y+Rc), s	5.8	5.8		4.6	5.8	5.8		4.6
Max Green Setting (Gmax), s	18.0	36.0		12.0	12.0	40.0		16.0
Max Q Clear Time (g_c+I1), s	4.1	19.7		6.4	2.3	18.2		8.8
Green Ext Time (p_c), s	0.2	9.2		0.2	0.0	11.0		0.6

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	321	80	67	104	47	106	132	1504	196	97	1267	141
v/c Ratio	0.50	0.32	0.04	0.52	0.13	0.07	0.35	0.66	0.12	0.29	0.63	0.09
Control Delay	36.6	40.7	0.0	49.6	40.7	0.1	41.1	21.7	0.2	41.6	22.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	40.7	0.0	49.6	40.7	0.1	41.1	21.7	0.2	41.6	22.4	0.1
Queue Length 50th (ft)	89	42	0	57	13	0	37	256	0	27	206	0
Queue Length 95th (ft)	141	90	0	#119	32	0	68	327	0	54	270	0
Internal Link Dist (ft)		2951			591			774			3432	
Turn Bay Length (ft)	175		175	200		200	230		275	250		230
Base Capacity (vph)	731	478	1583	227	682	1583	661	3004	1583	440	2677	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.17	0.04	0.46	0.07	0.07	0.20	0.50	0.12	0.22	0.47	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	305	76	64	99	45	101	125	1429	186	92	1204	134
Future Volume (veh/h)	305	76	64	99	45	101	125	1429	186	92	1204	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	321	80	0	104	47	0	132	1504	0	97	1267	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	429	291		134	378		218	2090		169	2018	
Arrive On Green	0.12	0.16	0.00	0.08	0.11	0.00	0.06	0.41	0.00	0.05	0.40	0.00
Sat Flow, veh/h	3456	1870	1585	1781	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	321	80	0	104	47	0	132	1504	0	97	1267	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	6.7	2.8	0.0	4.3	0.9	0.0	2.8	18.4	0.0	2.0	14.9	0.0
Cycle Q Clear(g_c), s	6.7	2.8	0.0	4.3	0.9	0.0	2.8	18.4	0.0	2.0	14.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	429	291		134	378		218	2090		169	2018	
V/C Ratio(X)	0.75	0.28		0.78	0.12		0.61	0.72		0.58	0.63	
Avail Cap(c_a), veh/h	696	301		239	715		696	2740		464	2809	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.5	27.8	0.0	33.8	30.2	0.0	34.0	18.4	0.0	34.7	18.1	0.0
Incr Delay (d2), s/veh	2.6	0.5	0.0	9.2	0.1	0.0	2.7	0.6	0.0	3.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	1.2	0.0	2.1	0.4	0.0	1.2	6.3	0.0	0.9	5.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	28.3	0.0	43.1	30.3	0.0	36.7	19.1	0.0	37.8	18.5	0.0
LnGrp LOS	C	C		D	C		D	B		D	B	
Approach Vol, veh/h		401	A		151	A		1636	A		1364	A
Approach Delay, s/veh		33.0			39.1			20.5			19.8	
Approach LOS		C			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	35.2	11.4	17.4	9.4	36.3	15.1	13.7
Change Period (Y+Rc), s	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Max Green Setting (Gmax), s	15.0	41.0	10.0	12.0	10.0	40.0	15.0	15.0
Max Q Clear Time (g_c+I1), s	4.8	16.9	6.3	4.8	4.0	20.4	8.7	2.9
Green Ext Time (p_c), s	0.2	9.2	0.1	0.1	0.1	10.1	0.6	0.1

Intersection Summary	
HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NWR, EBR, WBR, SER] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	89	180	32	37	110	41	27	26	39	33	50	72
Future Vol, veh/h	89	180	32	37	110	41	27	26	39	33	50	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	94	189	34	39	116	43	28	27	41	35	53	76
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	10	9.7	9.7	9.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	40%	0%
Vol Thru, %	0%	40%	0%	100%	65%	0%	100%	47%	60%	0%
Vol Right, %	0%	60%	0%	0%	35%	0%	0%	53%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	65	89	120	92	37	73	78	83	72
LT Vol	27	0	89	0	0	37	0	0	33	0
Through Vol	0	26	0	120	60	0	73	37	50	0
RT Vol	0	39	0	0	32	0	0	41	0	72
Lane Flow Rate	28	68	94	126	97	39	77	82	87	76
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.055	0.114	0.166	0.206	0.152	0.072	0.131	0.131	0.157	0.117
Departure Headway (Hd)	6.907	5.985	6.383	5.879	5.633	6.632	6.127	5.754	6.452	5.553
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	518	598	562	610	636	540	585	623	556	645
Service Time	4.649	3.727	4.119	3.614	3.369	4.37	3.864	3.491	4.191	3.291
HCM Lane V/C Ratio	0.054	0.114	0.167	0.207	0.153	0.072	0.132	0.132	0.156	0.118
HCM Control Delay	10.1	9.5	10.4	10.1	9.4	9.9	9.8	9.4	10.4	9
HCM Lane LOS	B	A	B	B	A	A	A	A	B	A
HCM 95th-tile Q	0.2	0.4	0.6	0.8	0.5	0.2	0.4	0.4	0.6	0.4

1: NESMITH CT/COLLEGE PKWY & E BIDWELL SST

Lane Group	SEL	SET	NWL	NWT	NWR	NET	SWL	SWT	SWR
Lane Group Flow (vph)	284	1127	57	1188	234	27	21	22	50
v/c Ratio	0.48	0.40	0.28	0.65	0.33	0.07	0.07	0.08	0.11
Control Delay	41.1	21.6	48.8	28.0	6.3	0.3	37.6	37.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	21.6	48.8	28.0	6.3	0.3	37.6	37.5	0.5
Queue Length 50th (ft)	61	132	24	158	0	0	9	9	0
Queue Length 95th (ft)	193	437	104	#533	64	0	41	43	0
Internal Link Dist (ft)		2230		774		647		447	
Turn Bay Length (ft)	500		150				150		150
Base Capacity (vph)	1000	3177	343	2880	998	541	487	487	602
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.35	0.17	0.41	0.23	0.05	0.04	0.05	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	250	962	30	50	1045	206	9	0	15	38	0	44
Future Volume (veh/h)	250	962	30	50	1045	206	9	0	15	38	0	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	284	1093	34	57	1188	234	10	0	17	43	0	50
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	463	2346	73	92	1933	600	19	0	32	377	0	168
Arrive On Green	0.13	0.46	0.46	0.05	0.38	0.38	0.03	0.00	0.03	0.11	0.00	0.11
Sat Flow, veh/h	3456	5088	158	1781	5106	1585	612	0	1040	3563	0	1585
Grp Volume(v), veh/h	284	731	396	57	1188	234	27	0	0	43	0	50
Grp Sat Flow(s),veh/h/ln	1728	1702	1842	1781	1702	1585	1652	0	0	1781	0	1585
Q Serve(g_s), s	4.6	8.7	8.7	1.9	11.2	6.4	1.0	0.0	0.0	0.6	0.0	1.7
Cycle Q Clear(g_c), s	4.6	8.7	8.7	1.9	11.2	6.4	1.0	0.0	0.0	0.6	0.0	1.7
Prop In Lane	1.00		0.09	1.00		1.00	0.37		0.63	1.00		1.00
Lane Grp Cap(c), veh/h	463	1569	849	92	1933	600	50	0	0	377	0	168
V/C Ratio(X)	0.61	0.47	0.47	0.62	0.61	0.39	0.54	0.00	0.00	0.11	0.00	0.30
Avail Cap(c_a), veh/h	1051	2300	1245	361	3106	964	335	0	0	963	0	428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.2	10.9	10.9	27.5	14.9	13.4	28.3	0.0	0.0	23.9	0.0	24.4
Incr Delay (d2), s/veh	1.3	0.2	0.4	6.7	0.3	0.4	8.7	0.0	0.0	0.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.5	2.8	0.9	3.5	1.9	0.5	0.0	0.0	0.3	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	11.2	11.3	34.3	15.2	13.8	37.0	0.0	0.0	24.1	0.0	25.4
LnGrp LOS	C	B	B	C	B	B	D	A	A	C	A	C
Approach Vol, veh/h		1411			1479			27			93	
Approach Delay, s/veh		14.1			15.7			37.0			24.8	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.7	28.2		6.4	8.8	33.1		10.9
Change Period (Y+Rc), s	5.8	5.8		4.6	5.8	5.8		4.6
Max Green Setting (Gmax), s	18.0	36.0		12.0	12.0	40.0		16.0
Max Q Clear Time (g_c+I1), s	6.6	13.2		3.0	3.9	10.7		3.7
Green Ext Time (p_c), s	0.7	9.3		0.0	0.0	7.8		0.2

Intersection Summary	
HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	136	39	14	84	64	206	71	885	139	39	1047	226
v/c Ratio	0.24	0.11	0.01	0.23	0.10	0.13	0.14	0.34	0.09	0.08	0.44	0.14
Control Delay	30.7	31.3	0.0	30.5	30.4	0.2	31.4	15.7	0.1	31.9	18.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	31.3	0.0	30.5	30.4	0.2	31.4	15.7	0.1	31.9	18.7	0.2
Queue Length 50th (ft)	27	15	0	33	13	0	14	109	0	7	137	0
Queue Length 95th (ft)	58	46	0	83	34	0	36	155	0	24	193	0
Internal Link Dist (ft)		2951			591			774			3432	
Turn Bay Length (ft)	175		175	200		200	230		275	250		230
Base Capacity (vph)	1168	790	1583	463	1205	1583	1168	3639	1583	779	3354	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.05	0.01	0.18	0.05	0.13	0.06	0.24	0.09	0.05	0.31	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	129	37	13	80	61	196	67	841	132	37	995	215
Future Volume (veh/h)	129	37	13	80	61	196	67	841	132	37	995	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	39	0	84	64	0	71	885	0	39	1047	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	267		114	464		202	1848		117	1721	
Arrive On Green	0.08	0.14	0.00	0.06	0.13	0.00	0.06	0.36	0.00	0.03	0.34	0.00
Sat Flow, veh/h	3456	1870	1585	1781	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	136	39	0	84	64	0	71	885	0	39	1047	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	2.2	1.1	0.0	2.7	0.9	0.0	1.2	7.8	0.0	0.6	10.0	0.0
Cycle Q Clear(g_c), s	2.2	1.1	0.0	2.7	0.9	0.0	1.2	7.8	0.0	0.6	10.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	263	267		114	464		202	1848		117	1721	
V/C Ratio(X)	0.52	0.15		0.74	0.14		0.35	0.48		0.33	0.61	
Avail Cap(c_a), veh/h	888	385		305	914		888	3501		592	3588	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.9	21.9	0.0	26.8	22.5	0.0	26.4	14.4	0.0	27.5	16.1	0.0
Incr Delay (d2), s/veh	1.6	0.2	0.0	9.0	0.1	0.0	1.0	0.2	0.0	1.7	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.4	0.0	1.3	0.4	0.0	0.5	2.5	0.0	0.3	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	22.1	0.0	35.9	22.6	0.0	27.4	14.6	0.0	29.2	16.5	0.0
LnGrp LOS	C	C		D	C		C	B		C	B	
Approach Vol, veh/h		175	A		148	A		956	A		1086	A
Approach Delay, s/veh		26.3			30.1			15.5			16.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	25.5	9.5	14.1	7.8	26.9	10.2	13.4
Change Period (Y+Rc), s	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Max Green Setting (Gmax), s	15.0	41.0	10.0	12.0	10.0	40.0	15.0	15.0
Max Q Clear Time (g_c+I1), s	3.2	12.0	4.7	3.1	2.6	9.8	4.2	2.9
Green Ext Time (p_c), s	0.1	7.7	0.1	0.1	0.0	6.3	0.3	0.2

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NWR, EBR, WBR, SER] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	192	83	4	29	239	116	49	50	8	18	8	46
Future Vol, veh/h	192	83	4	29	239	116	49	50	8	18	8	46
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	253	109	5	38	314	153	64	66	11	24	11	61
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	14.7	12.9	11.6	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	69%	0%
Vol Thru, %	0%	86%	0%	100%	87%	0%	100%	41%	31%	0%
Vol Right, %	0%	14%	0%	0%	13%	0%	0%	59%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	58	192	55	32	29	159	196	26	46
LT Vol	49	0	192	0	0	29	0	0	18	0
Through Vol	0	50	0	55	28	0	159	80	8	0
RT Vol	0	8	0	0	4	0	0	116	0	46
Lane Flow Rate	64	76	253	73	42	38	210	257	34	61
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.14	0.153	0.499	0.134	0.075	0.073	0.374	0.43	0.074	0.114
Departure Headway (Hd)	7.822	7.223	7.112	6.606	6.517	6.934	6.428	6.008	7.833	6.78
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	456	493	505	540	547	514	558	595	454	524
Service Time	5.616	5.016	4.888	4.381	4.292	4.706	4.2	3.78	5.632	4.578
HCM Lane V/C Ratio	0.14	0.154	0.501	0.135	0.077	0.074	0.376	0.432	0.075	0.116
HCM Control Delay	11.9	11.3	16.8	10.4	9.8	10.3	13	13.3	11.3	10.5
HCM Lane LOS	B	B	C	B	A	B	B	B	B	B
HCM 95th-tile Q	0.5	0.5	2.7	0.5	0.2	0.2	1.7	2.2	0.2	0.4

Lane Group	SEL	SET	NWL	NWT	NWR	NET	SWL	SWT	SWR
Lane Group Flow (vph)	139	1613	8	1488	107	106	78	80	186
v/c Ratio	0.36	0.58	0.06	0.77	0.15	0.40	0.31	0.32	0.46
Control Delay	47.3	20.9	55.1	31.3	0.4	35.9	41.7	41.9	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	20.9	55.1	31.3	0.4	35.9	41.7	41.9	8.3
Queue Length 50th (ft)	36	167	4	227	0	42	41	42	0
Queue Length 95th (ft)	104	#766	27	#765	0	118	112	115	49
Internal Link Dist (ft)		2230		774		647		447	
Turn Bay Length (ft)	500		150				150		150
Base Capacity (vph)	750	2841	257	2222	798	332	379	380	513
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.57	0.03	0.67	0.13	0.32	0.21	0.21	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	136	1570	11	8	1458	105	62	4	38	154	1	182
Future Volume (veh/h)	136	1570	11	8	1458	105	62	4	38	154	1	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	1602	11	8	1488	107	63	4	39	158	0	186
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	2536	17	18	2013	625	81	5	50	526	0	234
Arrive On Green	0.10	0.48	0.48	0.01	0.39	0.39	0.08	0.08	0.08	0.15	0.00	0.15
Sat Flow, veh/h	3456	5232	36	1781	5106	1585	1014	64	628	3563	0	1585
Grp Volume(v), veh/h	139	1042	571	8	1488	107	106	0	0	158	0	186
Grp Sat Flow(s),veh/h/ln	1728	1702	1864	1781	1702	1585	1707	0	0	1781	0	1585
Q Serve(g_s), s	2.8	17.1	17.1	0.3	18.7	3.3	4.6	0.0	0.0	3.0	0.0	8.5
Cycle Q Clear(g_c), s	2.8	17.1	17.1	0.3	18.7	3.3	4.6	0.0	0.0	3.0	0.0	8.5
Prop In Lane	1.00		0.02	1.00		1.00	0.59		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	348	1650	903	18	2013	625	137	0	0	526	0	234
V/C Ratio(X)	0.40	0.63	0.63	0.44	0.74	0.17	0.77	0.00	0.00	0.30	0.00	0.79
Avail Cap(c_a), veh/h	829	1814	993	285	2449	760	273	0	0	759	0	338
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.6	14.4	14.4	36.9	19.4	14.8	33.8	0.0	0.0	28.5	0.0	30.9
Incr Delay (d2), s/veh	0.7	0.6	1.1	15.7	1.0	0.1	8.9	0.0	0.0	0.3	0.0	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.5	6.2	0.2	6.5	1.1	2.2	0.0	0.0	1.3	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	15.0	15.5	52.6	20.4	14.9	42.8	0.0	0.0	28.8	0.0	39.0
LnGrp LOS	C	B	B	D	C	B	D	A	A	C	A	D
Approach Vol, veh/h		1752			1603			106			344	
Approach Delay, s/veh		16.5			20.2			42.8			34.3	
Approach LOS		B			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.4	35.4		10.6	6.6	42.2		15.7
Change Period (Y+Rc), s	5.8	5.8		4.6	5.8	5.8		4.6
Max Green Setting (Gmax), s	18.0	36.0		12.0	12.0	40.0		16.0
Max Q Clear Time (g_c+I1), s	4.8	20.7		6.6	2.3	19.1		10.5
Green Ext Time (p_c), s	0.3	8.9		0.2	0.0	10.7		0.6

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Group Flow (vph)	328	80	67	105	47	108	133	1526	200	97	1288	141
v/c Ratio	0.51	0.32	0.04	0.53	0.13	0.07	0.36	0.66	0.13	0.29	0.64	0.09
Control Delay	37.1	40.9	0.0	50.2	41.0	0.1	41.4	21.8	0.2	42.0	22.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.1	40.9	0.0	50.2	41.0	0.1	41.4	21.8	0.2	42.0	22.5	0.1
Queue Length 50th (ft)	92	42	0	58	13	0	37	262	0	27	212	0
Queue Length 95th (ft)	145	91	0	#125	32	0	68	333	0	54	275	0
Internal Link Dist (ft)		2951			591			774			3432	
Turn Bay Length (ft)	175		175	200		200	230		275	250		230
Base Capacity (vph)	724	474	1583	225	675	1583	655	2978	1583	437	2655	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.17	0.04	0.47	0.07	0.07	0.20	0.51	0.13	0.22	0.49	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	312	76	64	100	45	103	126	1450	190	92	1224	134
Future Volume (veh/h)	312	76	64	100	45	103	126	1450	190	92	1224	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	328	80	0	105	47	0	133	1526	0	97	1288	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	435	291		135	375		218	2103		167	2028	
Arrive On Green	0.13	0.16	0.00	0.08	0.11	0.00	0.06	0.41	0.00	0.05	0.40	0.00
Sat Flow, veh/h	3456	1870	1585	1781	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	328	80	0	105	47	0	133	1526	0	97	1288	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	6.9	2.8	0.0	4.4	0.9	0.0	2.8	18.9	0.0	2.1	15.3	0.0
Cycle Q Clear(g_c), s	6.9	2.8	0.0	4.4	0.9	0.0	2.8	18.9	0.0	2.1	15.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	291		135	375		218	2103		167	2028	
V/C Ratio(X)	0.75	0.28		0.78	0.13		0.61	0.73		0.58	0.64	
Avail Cap(c_a), veh/h	689	298		237	708		689	2714		459	2782	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.8	28.0	0.0	34.2	30.5	0.0	34.3	18.6	0.0	35.1	18.3	0.0
Incr Delay (d2), s/veh	2.7	0.5	0.0	9.2	0.1	0.0	2.7	0.7	0.0	3.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	1.2	0.0	2.1	0.4	0.0	1.2	6.5	0.0	0.9	5.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	28.5	0.0	43.4	30.7	0.0	37.1	19.3	0.0	38.2	18.6	0.0
LnGrp LOS	C	C		D	C		D	B		D	B	
Approach Vol, veh/h		408	A		152	A		1659	A		1385	A
Approach Delay, s/veh		33.3			39.4			20.7			20.0	
Approach LOS		C			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	35.7	11.5	17.5	9.4	36.8	15.3	13.7
Change Period (Y+Rc), s	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Max Green Setting (Gmax), s	15.0	41.0	10.0	12.0	10.0	40.0	15.0	15.0
Max Q Clear Time (g_c+I1), s	4.8	17.3	6.4	4.8	4.1	20.9	8.9	2.9
Green Ext Time (p_c), s	0.2	9.3	0.1	0.1	0.1	10.1	0.6	0.1

Intersection Summary	
HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NWR, EBR, WBR, SER] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	89	181	32	37	111	50	28	31	39	39	58	74
Future Vol, veh/h	89	181	32	37	111	50	28	31	39	39	58	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	94	191	34	39	117	53	29	33	41	41	61	78
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	10.1	9.8	9.8	10.1
HCM LOS	B	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	40%	0%
Vol Thru, %	0%	44%	0%	100%	65%	0%	100%	43%	60%	0%
Vol Right, %	0%	56%	0%	0%	35%	0%	0%	57%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	70	89	121	92	37	74	87	97	74
LT Vol	28	0	89	0	0	37	0	0	39	0
Through Vol	0	31	0	121	60	0	74	37	58	0
RT Vol	0	39	0	0	32	0	0	50	0	74
Lane Flow Rate	29	74	94	127	97	39	78	92	102	78
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.057	0.125	0.169	0.212	0.155	0.073	0.135	0.148	0.185	0.122
Departure Headway (Hd)	7.003	6.11	6.502	5.997	5.752	6.734	6.229	5.822	6.523	5.621
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	511	586	552	598	623	532	576	615	549	636
Service Time	4.752	3.859	4.239	3.733	3.488	4.475	3.97	3.563	4.266	3.364
HCM Lane V/C Ratio	0.057	0.126	0.17	0.212	0.156	0.073	0.135	0.15	0.186	0.123
HCM Control Delay	10.2	9.7	10.6	10.3	9.5	10	9.9	9.6	10.8	9.1
HCM Lane LOS	B	A	B	B	A	A	A	A	B	A
HCM 95th-tile Q	0.2	0.4	0.6	0.8	0.5	0.2	0.5	0.5	0.7	0.4