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QUICK QUACK CAR WASH
632 EAST LAKE AVENUE
WATSONVILLE CALIFORNIA
TRAFFIC ASSESSMENT REPORT
SEPTEMBER 5, 2024

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INTRODUCTION

This traffic assessment study is prepared for the proposed Quick Quack car wash located at 632 East Lake Avenue in Watsonville, California. The methodology and base assumptions used in the analysis were established based on discussions with the City of Watsonville Public Works & Utilities. This study evaluates the potential project-specific transportation effects of the proposed project. The analysis focuses on traditional mobility considerations as well as safety, sustainability, smart growth, and the reduction of greenhouse gas emissions.

PROJECT DESCRIPTION

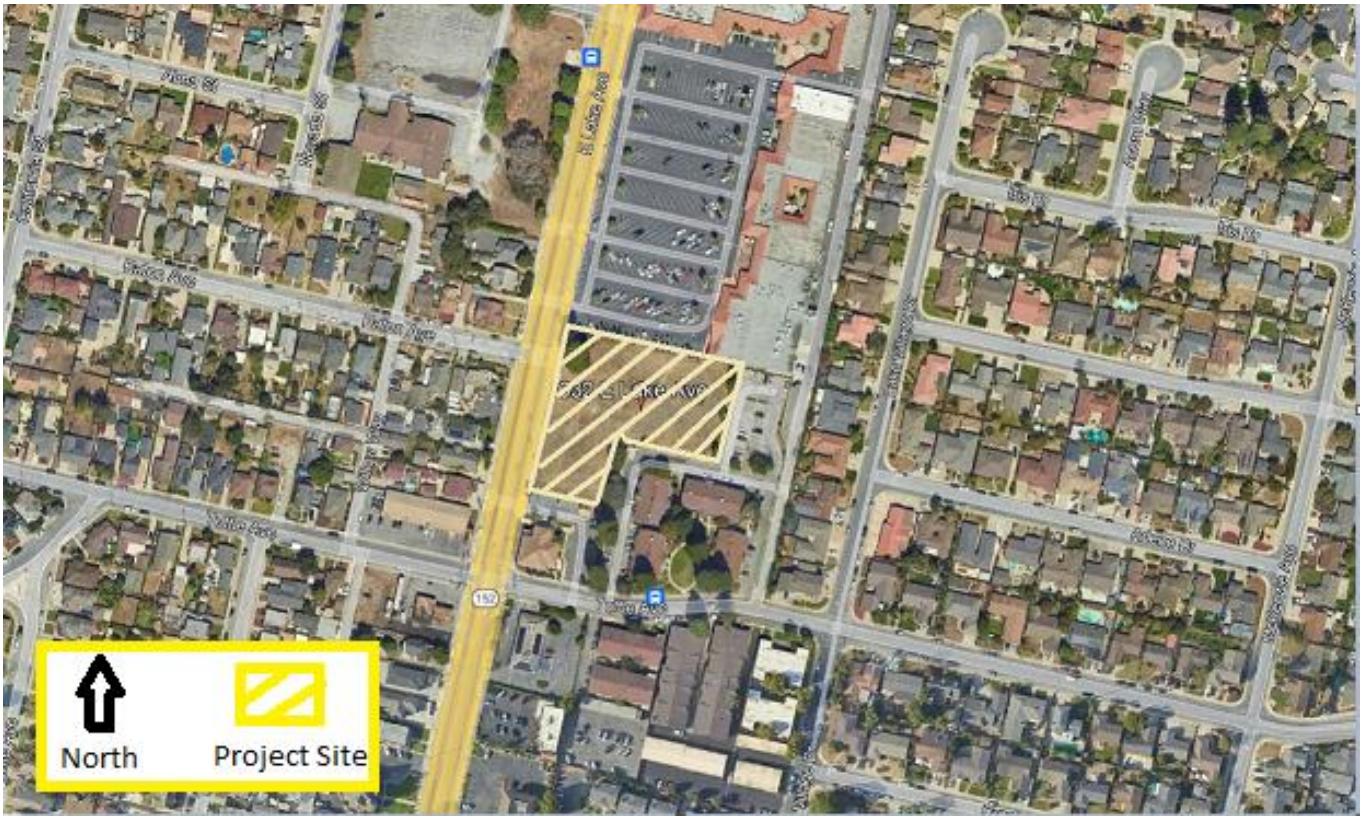
Project Characteristics

The project proposes to construct a Quick Quack automated one tunnel car wash, with a building size of 3,831 square feet on an approximate 51,531 square foot vacant lot.

Project Location

As illustrated in the project area map in Figure 1, the project is near the intersection of E lake Avenue and Eaton Avenue (APN Number 017-321-02). The immediate vicinity of the project location is mainly low rise commercial and residential developments.

Figure 1 – Project Area Map



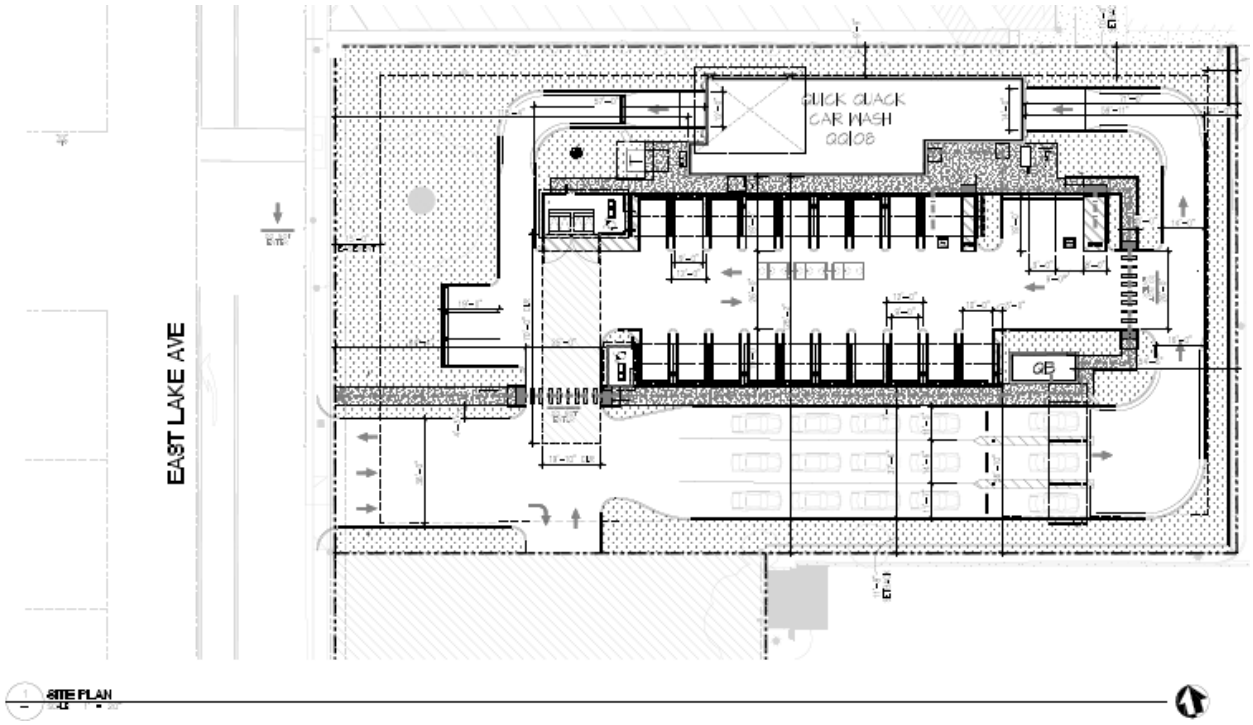
Project Site Plan

Figure 2 illustrates the project site plan showing the location of the proposed project driveway from the nearest intersection of E lake Avenue and Eaton Avenue.

Project Site Vehicle Access

As shown in Figure 2, the project proposes to use an existing driveway located south of the intersection of E lake Avenue and Eaton Avenue to provide ingress and egress access to the project site.

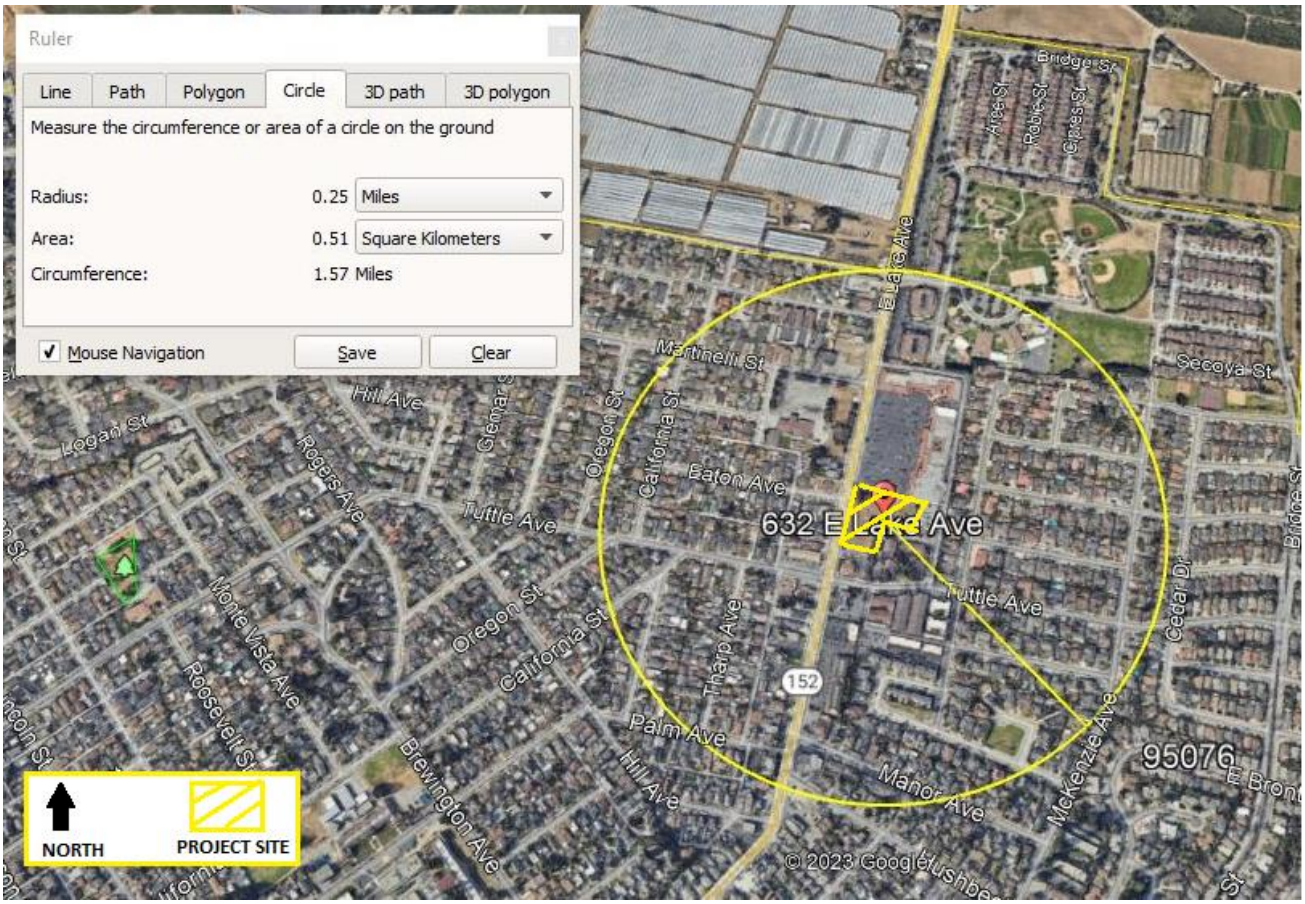
Figure 2 – Project Site Plan



PROJECT CONTEXT

A comprehensive analysis and an inventory of the existing transportation infrastructure and conditions within a ¼ mile radius of the project site, as shown in the aerial map in Figure 3, was collected. The collected data was analyzed to determine the roadway designations, classifications, and modal priorities.

Figure 3 – ¼ Mile Radius Area Map



The following describes the details of the transportation infrastructure in the vicinity of the project:

Non-Vehicular Transportation System

A review of the project area to evaluate the effects of the project on the non-vehicular transportation system for Pedestrian Facilities, Bicycle Facilities, and Transit Services was conducted.

Pedestrian Facilities

A review of the project area was conducted to evaluate the effects of the project on pedestrian activity within a ¼-mile radius of the project. As part of this analysis, we inventoried the existing sidewalks within 850 feet of the edge of the project site, as shown in Figure 3. Within the inventoried area discontinuous sidewalks are present on the east and west side of E Lake Avenue approximately 800 feet south of E lake Avenue fronting the existing project. There are crosswalks at the two signalized intersections of Tuttle Avenue and E Lake Avenue, and Martinelli St and E Lake Avenue.

Sidewalks

A sidewalk inventory within the ¼ mile vicinity of the project was taken. The collected data for existing pedestrian sidewalks is listed in Table 1 below:

Table 1 - Sidewalk Inventory

Street Name	Street Side	Sidewalk Width	Condition
E. Lake Ave.	ES/WS	~5 Feet	Good
Tuttle Ave.	NS/SS	~5.5 Feet	Good
Eaton Ave	NS/SS	~5.5 Feet	Good
Martinelli St	NS/SS	~6 Feet	Good

Crosswalks, Curb Ramps & Pedestrian Push Buttons

Within ¼ mile vicinity of the project site, pedestrian crosswalks, curb ramps and pedestrian push buttons are available at the following locations, shown in Table 2:

Table 2 -Crosswalk, Curb Ramp & Pedestrian Push Button Inventory

Intersection Name		Control	Ped Push Button	Crosswalk Type	Curb Ramp	Cond.
E. Lake Ave.	Tuttle Ave.	Signal	Yes	North Leg Regular	Yes	Good
				South Leg No Crosswalk	Yes	Good
				East Leg Regular	Yes	Good
				West Leg Regular	Yes	Good
Eaton Ave	E. Lake Ave.	Signal	No	North Leg Regular	Yes	Good
				South Leg No Crosswalk	Yes	Good
				East Leg No Crosswalk	Yes	Good
				West Leg No Crosswalk	Yes	Good
Martinelli St	E. Lake Ave.	Signal	Yes	North Leg No Crosswalk	Yes	Good
				South Leg Regular	Yes	Good

				East Leg No Crosswalk	Yes	Good
				West Leg Regular	Yes	Good
Project Driveway	E. Lake Ave.	Signal	No	North Leg No Crosswalk	Yes	Good
				South Leg No Crosswalk	Yes	Good
				East Leg No Crosswalk	Yes	Good
				West Leg No Crosswalk	Yes	Good

Bicycle Facilities

Within a ¼-mile radius of the project site there are no bicycle facilities.

Transit Services

Transit services in the area are provided by Santa Cruz Metro. The nearest transit stop is located at the intersection of E Lake Avenue and Tuttle Avenue approximately 350 feet from the project site. The stop provides access to Route 79 (East Lake/Crestview). Appendix 1 includes the Santa Cruz Metro route maps.

Vehicular Transportation System

An assessment of the roadway system within ¼ mile radius of the project site was conducted. The assessment included the number of traffic lanes, direction of flow, and the presence of peak period travel lanes affecting roadway travel capacity, the presence of bicycle lanes, and any other significant street information.

Regional Freeway System

The project area is served by State Route 152 (SR-152), SR-129, SR-1, and US 101 freeway. The project site is located on the west side of E. Lake Avenue (SR-152).

Area Roadway System

The project area is served by the following surrounding roadways:

- E. Lake Avenue
- Tuttle Avenue

E. Lake Avenue is an approximately 60-foot paved roadway with one travel lane in each direction, a two-way left turn lane with left turn pockets at intersections, and sidewalks on both sides. Parking is allowed on both sides with some restrictions. The speed limit is 25 mph.

Tuttle Avenue is an approximately 40-foot paved roadway with one travel lane in each direction, turn pockets at intersections, and sidewalks on both sides. Parking is allowed on both sides. The speed limit is 25 mph.

CEQA TRANSPORTATION IMPACT ANALYSIS

This analysis conforms to the requirements of Senate Bill 743 (SB 743) and is consistent with the California Environmental Quality Act (CEQA), requiring the use of Vehicle Miles Traveled (VMT) as the primary metric for evaluating a project's transportation impacts. City of Watsonville adopted standards for evaluating VMT based on the guidance provided by the California Governor's Office of Planning and Research (OPR) in the publication Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory, 2018. However, the Cities guidelines for evaluating VMT indicate that OPR Guidance does not specifically address land uses beyond residential, office and retail, and it provides latitude on some elements of implementation. In response to this, a specific series of analytical steps for SB 743 project evaluation were developed by the city to clarify requirements and reduce potential confusion. Exhibit 1 of the City's VMT analysis provides a graphical representation of this analytical process.

According to Exhibit 1 screening criteria, local serving retail or essential services can be screened out of further VMT analysis. This methodology is consistent with OPR guidance which indicates that local-serving retail may generally be presumed to have a less than significant VMT impact and can generally be screened from further VMT analysis. Based on substantial research OPR determined that adding local-serving retail uses typically improves destination accessibility to customers, often reducing trip distances resulting in reduced vehicle miles traveled. This is caused by customers traveling shorter distances than they previously did.

The proposed project is a local serving car wash operation providing service to the local community similar to a small retail operation which would be far below OPR's regional serving retail threshold of 50,000 square feet. Therefore, the project will have less than significant VMT impact.

NON-CEQA CIRCULATION TRANSPORTATION ANALYSIS

Operational Evaluation

An operational evaluation of the project area was conducted to determine any project impact on access, safety, and circulation on the roadway network in the vicinity of the project.

Study Intersections

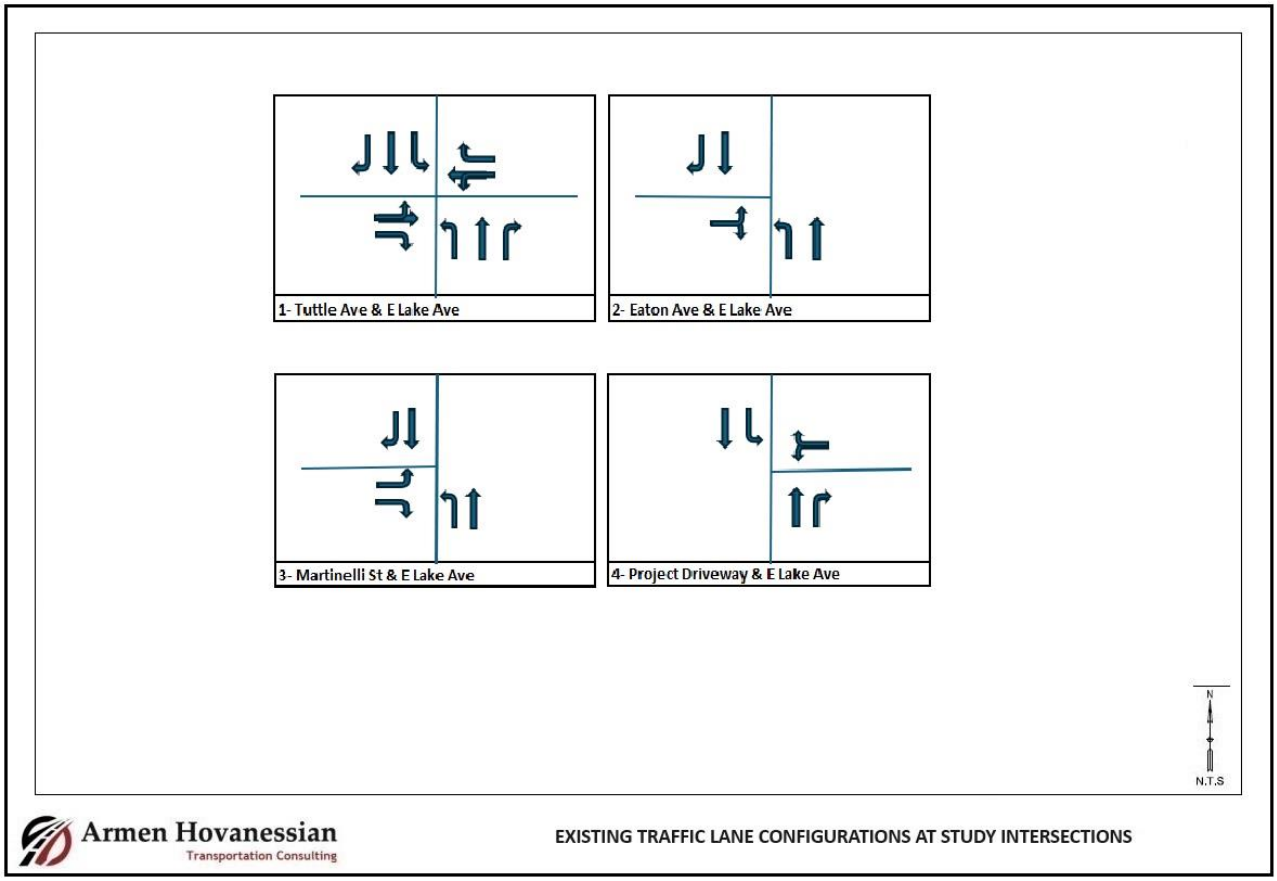
After consultation with the City of Watsonville Public Works & Utilities, it was determined that the following intersections would be analyzed and evaluated for operational assessment, as shown in Table 2 below:

Table 3 – Study Intersections

Intersection(s)	Configuration	Existing Control
Tuttle Ave. and E. Lake Ave.	4-legged	Traffic Signal Control
Eaton Ave. and E. Lake Ave.	T-intersection	Stop Sign Control
Martinelli St. and E. Lake Ave.	T-intersection	Traffic Signal Control
Project Driveway and E. Lake Ave.	T-intersection	Stop Sign Control

Refer to Figure 4 below for a depiction of the configurations of traffic lanes at the approaches to the study intersections.

Figure 4 – Study Intersections Lane Configurations



Traffic Volume Counts

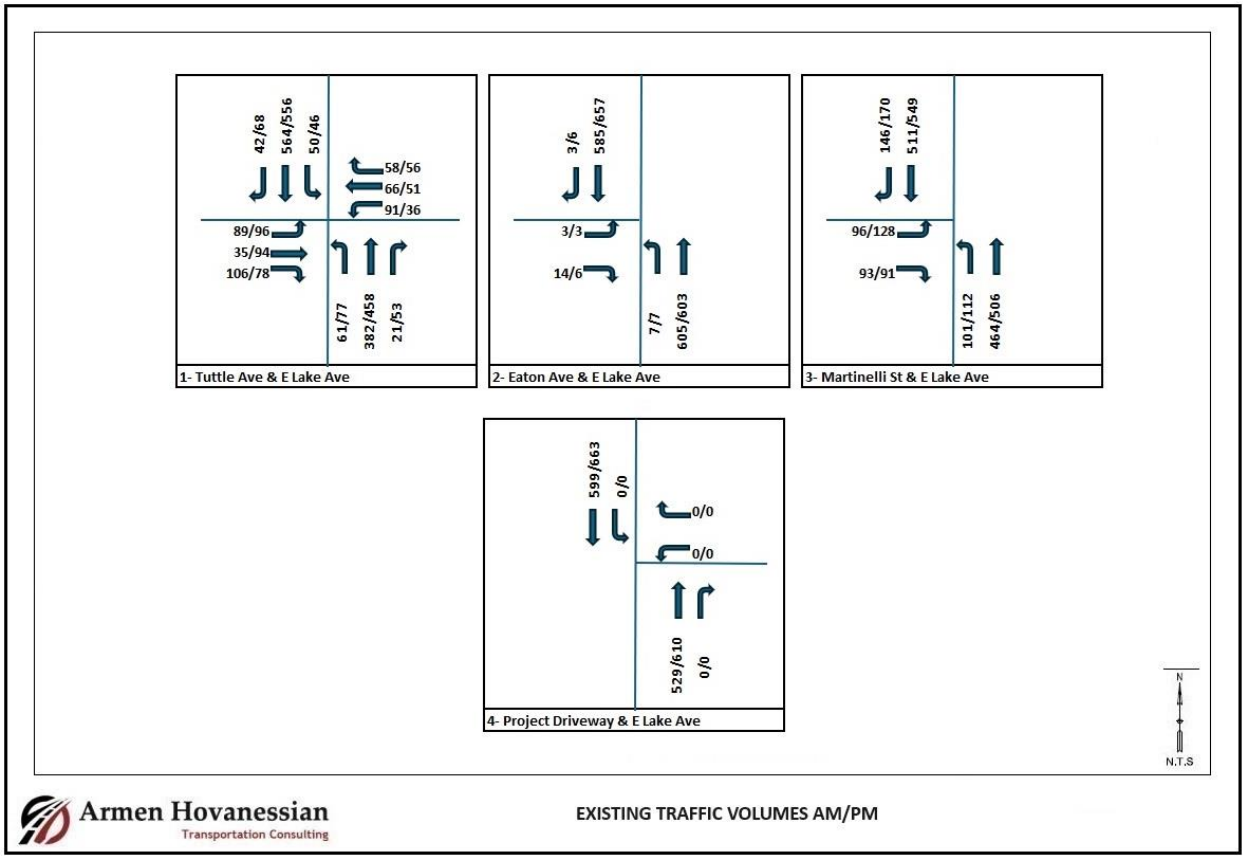
Traffic volume counts were obtained for vehicular turning movements at the following three (3) study intersections:

- Tuttle Ave. and E. Lake Ave.
- Eaton Ave. and E. Lake Ave.
- Martinelli St and E. Lake Ave.

Vehicular turning movement counts were conducted on Wednesday, August 14, 2024, during the typical commuter hours of 7:00 AM to 10:00 AM and 3:00 PM to 6:00 PM, to obtain existing traffic volumes for the AM and PM peak hours.

Please refer to Appendix 2 for the manual traffic counts, and Figure 5 below for Existing (AM/PM Peak) Traffic Volumes for an illustration of the AM and PM peak-hour turning movement counts used for the study intersections.

Figure 5 – Existing Traffic Volumes at Study Intersections



Project Trip Generation

As previously stated in the project description, the proposed project is a 3,589-square-foot automatic car wash tunnel, a 673-square-foot canopy over the pay station area, a 2,960-square-foot canopy over the self-service vacuum area on an approximately 51,531 square foot vacant lot.

Trip rates from the *Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition* were used in this analysis for an Automated Car Wash, ITE code 948 (please see Appendix 3). Automated Car Wash, ITE code 948 trip generation does not provide AM trip generation estimates. Therefore, trip rates for Car Wash and Detail Center, ITE code 949 AM and PM trip generation rate ratio was used to estimate the AM trip rate for the project.

As shown in the project trip generation Table 3 below, the project is forecasted to result in 30 net new AM peak hour trips and 34 net new PM peak hour trips after pass-by trips discounts. The Gasoline Station, ITE code 944, pass-by discount rate was used as a similar type of use.

Table 4 - Project Trip Generation

	Land Use (ITE Code)	Size	Unit	AM Peak Hour Trips				PM Peak Hour Trips				Daily Trips	
				Rate*	Total	In	Out	Rate	Total	In	Out	Rate	Total
Proposed	Automated Car Wash (948)	1	Tunnel	77.50	*Split*	*50%*	*50%*	77.50	*Split*	*50%*	*50%*		0
					78	39	39		78	39	39		
	Pass-by Trip Discounts												
	Automated Car Wash (948)	1	Tunnel	63%	-48	-24	-24	57%	-44	-22	-22		0
	Total				**-48**	**-24**	**-24**		**-44**	**-22**	**-22**		**0**
NET INCREASE/DECREASE TRIPS					**30**	**15**	**15**		**34**	**17**	**17**		**0**

Source: ITE Trip Generation Manual, 11th Edition

* Code 947 rate used for comparison

** ITE trip Generation Manual, 11th Edition, Pass-by Discount for Gasoline station (Code 944) was used

Project Trip Distribution and Assignment

Trip distribution assumptions are used to determine the origin and destination of new vehicle trips associated with the project. The geographic distribution of project trips is based on the functional classification of streets in the vicinity, the magnitude of traffic volumes, as well as local knowledge of the roadway network. Based on the project trip generation, shown in Table 3, and the regional trip distribution assumptions, a proposed study area for the traffic analysis was derived. The location and the number of the intersections to be analyzed were reviewed and approved by the city staff. Refer to Figures 6, 7, and 8 below for illustrations showing the Project's Trip Distributions and Assignments at the study intersections.

Figure 6 – Project Trip Distribution Percentages

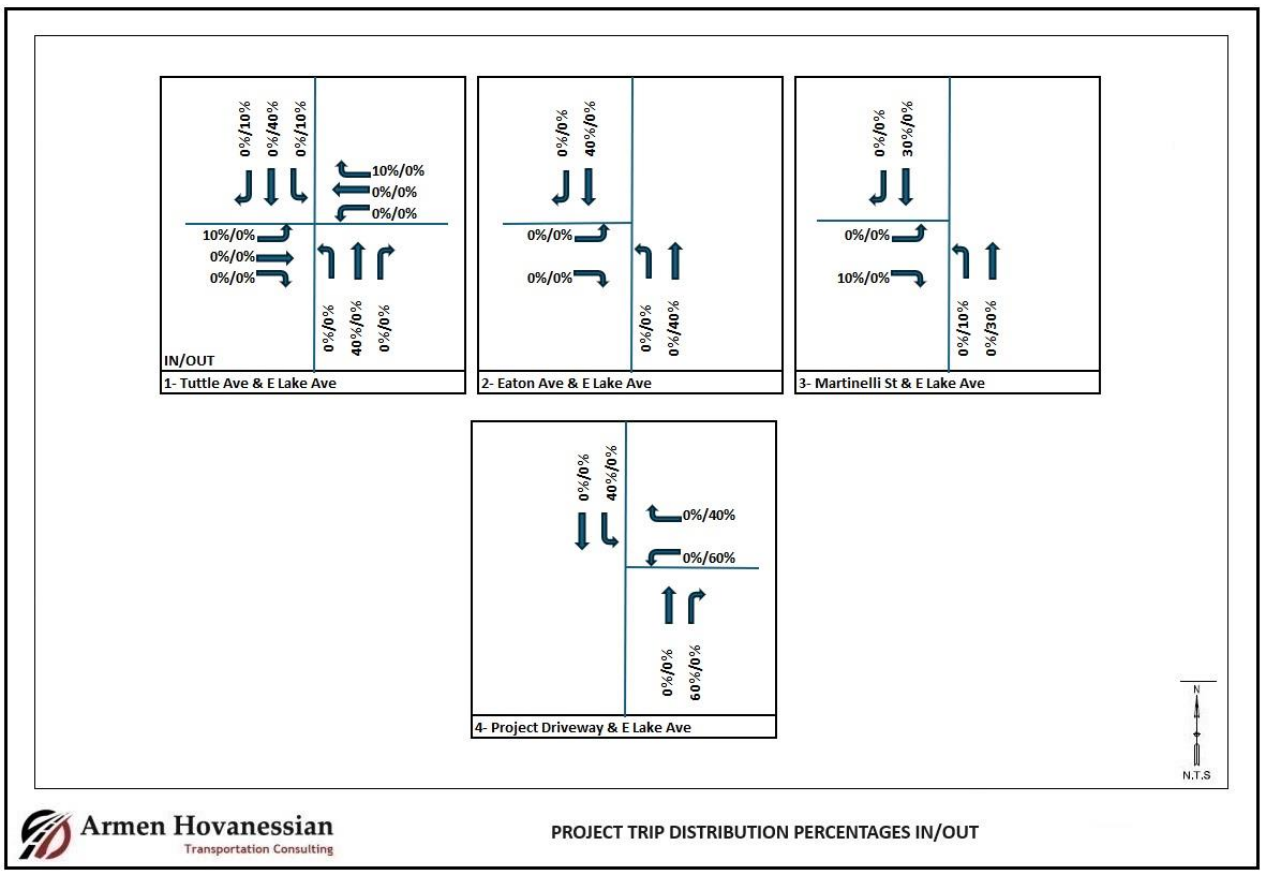


Figure 7 - Project Trip Assignments for AM/PM Peak Hours

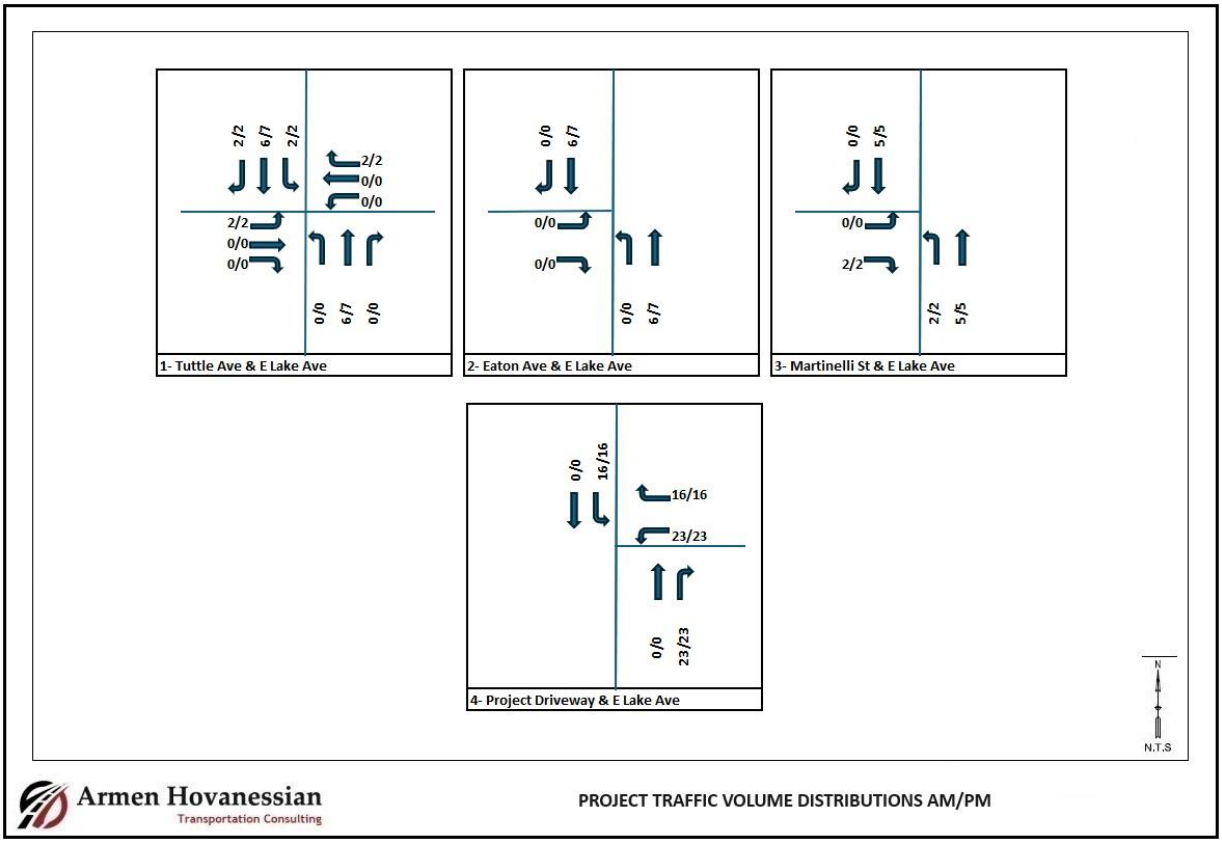
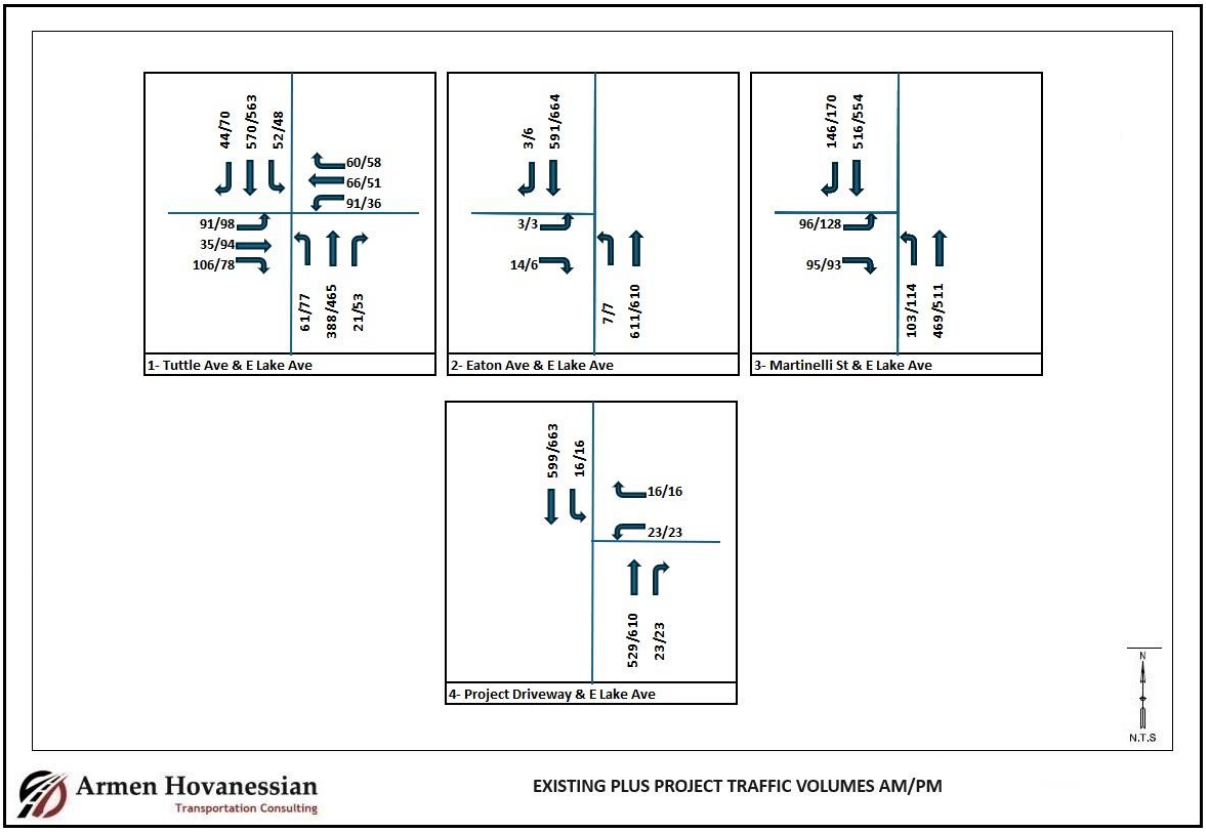


Figure 8 – Existing Plus Project Traffic Volumes



Traffic Forecasts

In general, future peak hour traffic projections for the study intersections are estimated to include future growth due to (1) related projects within ¼ to ½ mile of the project site and (2) ambient traffic growth. In this analysis the related projects within one (1) mile of the project site were included.

Related Projects

To understand the relative traffic impacts for the projected year of completion, this traffic study analyzed potential traffic trips due to the development of related projects in the area. One such related project was identified by the City of Watsonville Public Works & Utilities located at 753 E. Lake Avenue, which is south of the intersection of Tuttle Avenue and E Lake Avenue. A map of the Watsonville location, with respect to the project site is shown in Figure 9.

Figure 9 – Related Projects Map

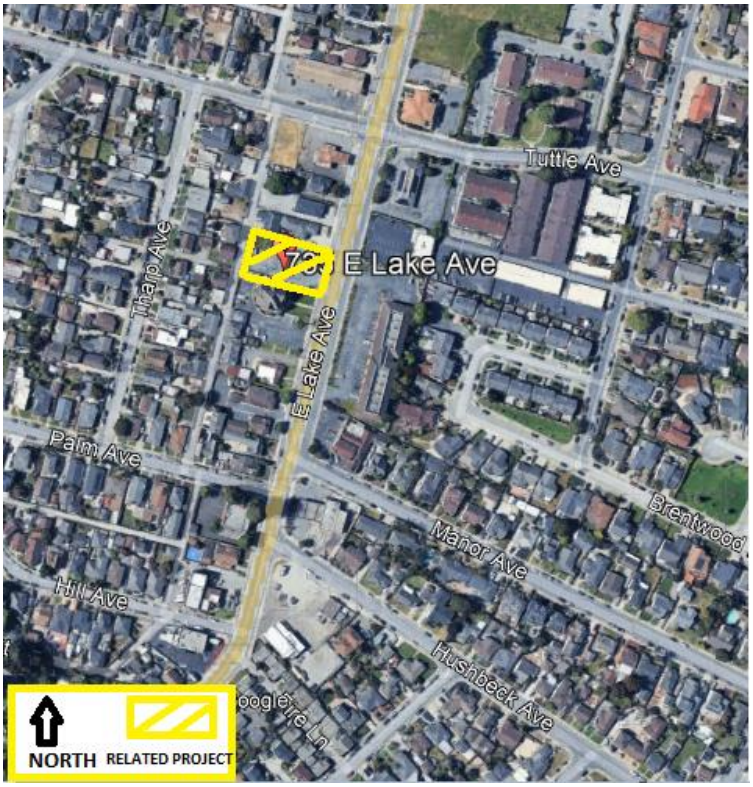


Table 4 provides information related to related project with the corresponding traffic volumes at the study intersections:

Table 5 - Related Projects List & Trip Generation

RELATED PROJECTS TRIP GENERATION

Project Number	Project Name	Location	Land Use	Size	Unit	AM Peak Hour Trips				PM Peak Hour Trips				Daily Trips	
						Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total
1	Proposed Use	753 E. Lake Avenue	Convenience Store (851)	1.191	KSF	63.83	*Split*	*50%*	*50%*	53.51	*Split*	*51%*	*49%*	762.28	908
							78	39	39		65	33	32		
2	Existing Use	753 E. Lake Avenue	Convenience Store (851) Pass-by trip credit	1.191	KSF	50%	*Split*			50%	*Split*			50%	-454
							-39	-19.5	-19.5		-33	-16.5	-16.0		
3	Existing Use	753 E. Lake Avenue	Tire Store (848)	1.191	KSF	-3.56	*Split*	*51%*	*49%*	-3.72	*Split*	*46%*	*54%*	-27.69	-33
							-6	-3	-3		-6	-3	-3		
Total New Trips							33	17	17		27	14	13		421
Source: ITE Trip Generation Manual, 11th Edition															

Ambient Traffic Growth

To account for the future ambient traffic growth from intensification of existing developments, and other projects that are located further than a half mile from the project site, the existing traffic volumes were increased by an ambient growth rate of 1% per year to the anticipated year of completion 2028. These values were used in addition to the related project trip generation to forecast future traffic volumes without project traffic volumes as shown in Figure 10.

Figure 10 – Future Traffic Volumes Without Project

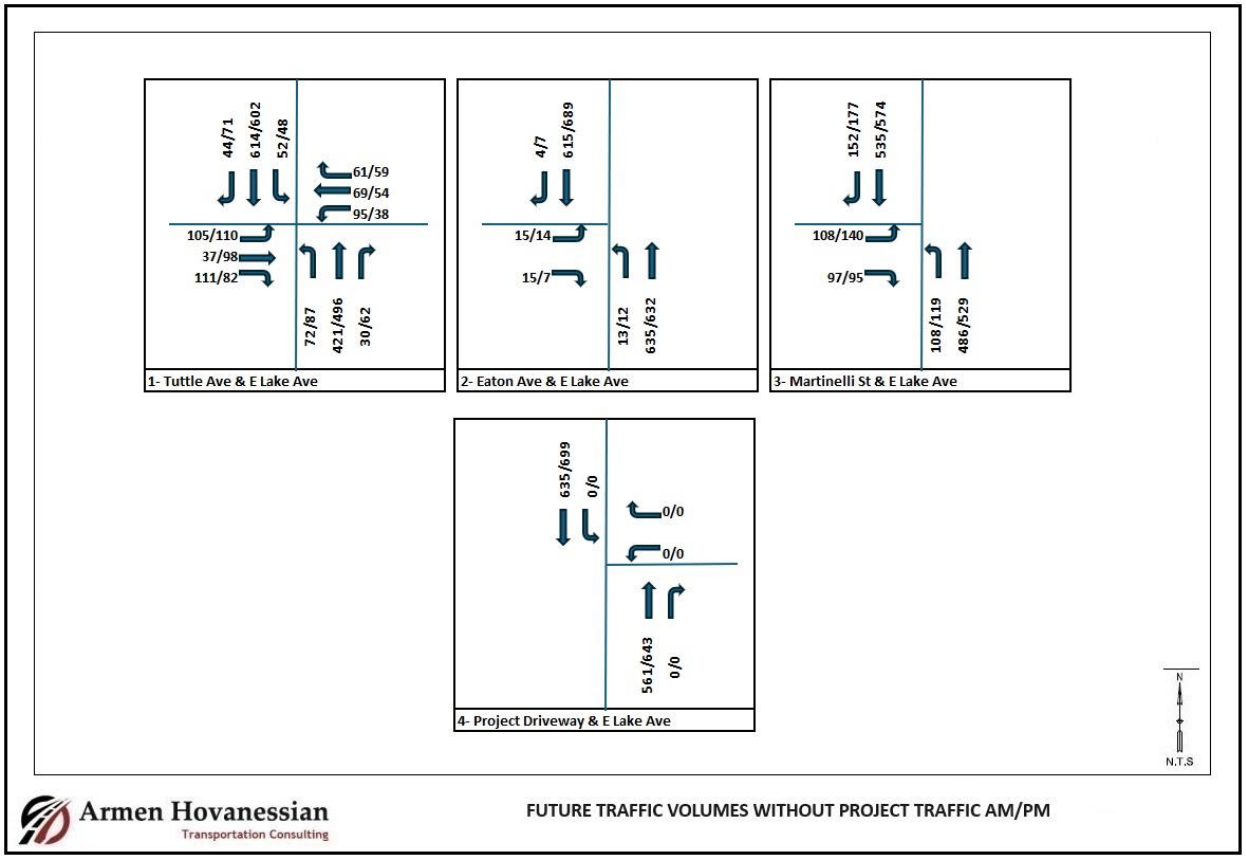
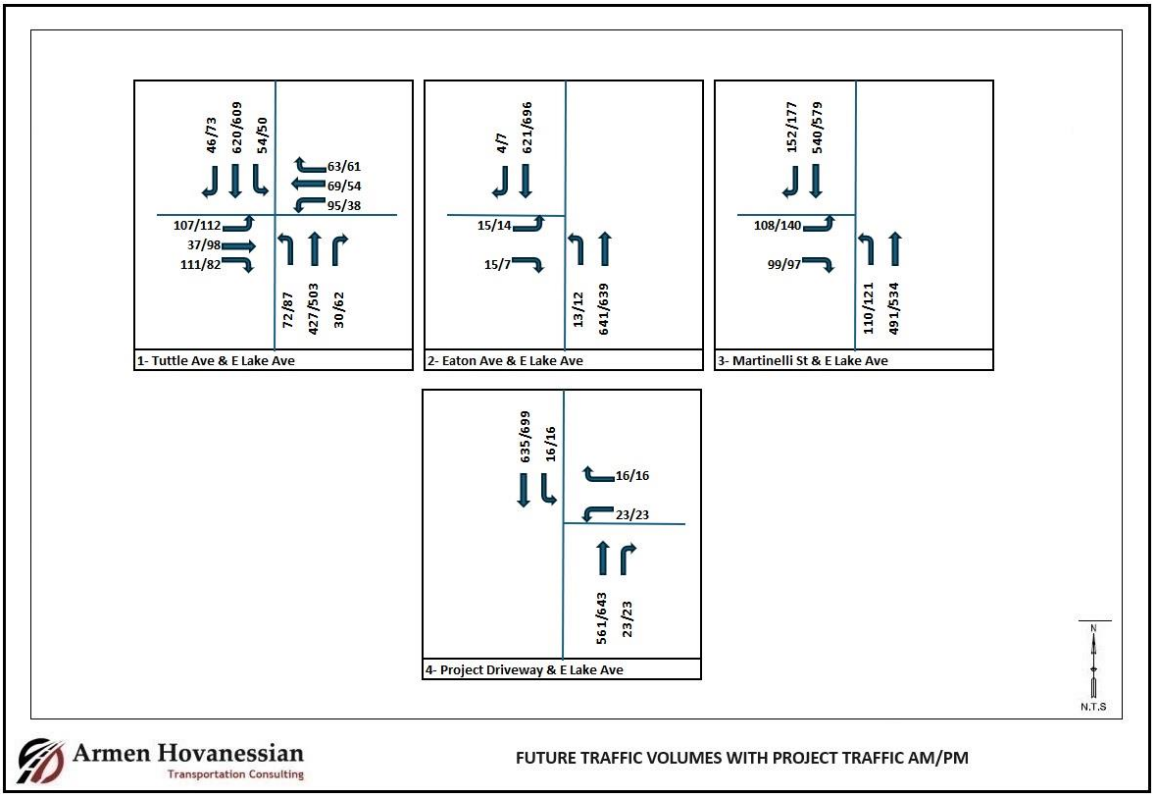


Figure 11 – Future Traffic Volumes with Project



Operational Analysis

Operational analyses of vehicle delays, levels of service, and queueing were conducted at the study intersections for the following conditions:

1) Existing Traffic Conditions
2) Existing Plus Project Traffic Conditions
3) Future Without Project Traffic Conditions
4) Future Plus Project Traffic Conditions

Delay and Queueing Methodology

Signalized Intersections

The intersections of Martinelli Steet and E. Lake Avenue, and Tuttle Avenue and E. Lake Avenue are signalized intersections. For signalized intersections, the Highway Capacity Manual (HCM) operations methodology for performing signalized intersection capacity analysis is used. This method relies on the determination of a delay or Level of Service (LOS) at each of the study intersections by first determining their corresponding average control delay per vehicle. Control delay includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. It is a measure of driver discomfort, frustration, fuel consumption and lost travel time.

LOS varies from at best LOS A (free flow/excellent) to at worst LOS of F (stop-and-go/failure). Shown below, in Table 6, are the LOS categories and their corresponding HCM average control delay ranges for signalized intersections.

Table 6 - LOS at Signalized Intersection

Level of Service	Average Control Delay per Vehicle (Sec/Veh)	Definition
A	0 to 10.00	LOS A describes operations with a control delay of 10 s/veh or less. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable, or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	10.01 to 20.00	LOS B describes operations with control delay between 10 and 20 s/veh. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable, or the cycle length is short. More vehicles stop than with LOS A.
C	20.01 to 35.00	LOS C describes operations with control delay between 20 and 35 s/veh. This level is typically assigned when progression is favorable, or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	35.01 to 55.00	LOS D describes operations with control delay between 35 and 55 s/veh. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective, or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	55.01 to 80.00	LOS E describes operations with control delay between 55 and 80 s/veh. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F	Over 80.00	LOS F describes operations with control delay exceeding 80 s/veh. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Unsignalized Intersections

This analysis utilizes the Highway Capacity Manual (HCM) methodologies for performing stop-controlled intersection capacity analyses. For stop-controlled intersection analysis, LOS is calculated for each movement of the intersection and the most critical LOS (i.e., the movement with highest delay) is the one that represents the effectiveness of that intersection. The LOS thresholds for stop-controlled intersections differ from those for signalized intersections to reflect different driver expectations. Table 7 below shows the LOS categories and their most common corresponding HCM average control delay ranges for stop-controlled intersections.

Table 7 - LOS at Unsignalized Intersections

Level of Service	Average Control Delay per Vehicle (Sec/Veh)
A	0 to 10.00
B	Over 10 to 15
C	Over 15 to 25
D	Over 25 to 35
E	Over 35 to 50
F	Over 50

Level of Service and Queueing Analysis

The results of the operational analyses for each study intersection are provided in tables in Appendix 4 to summarize LOS, Delays and Queue Lengths for each traffic movement for the following traffic conditions:

- Existing
- Existing plus project
- Future without project
- Future with project

Please refer to Appendix 5 for the (HCM) analysis worksheets for the analyzed intersections.

Table 8 below provides a comparison of the intersectional LOS and Delay analysis for the traffic conditions.

Table 8 - Comparison of Intersectional LOS & Delay for Various Conditions

Summary of Delay and Level of Service										
#	Intersection	Peak Hour	Existing		Existing + Project		Future		Future + Project	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Tuttle Ave & E Lake Ave	AM	25	C	25.4	C	29.2	C	30	C
		PM	25.1	C	25.6	C	28.8	C	29.6	C
2	Eaton Ave & E Lake Ave	AM	0.3	A	0.3	A	0.6	A	0.1	A
		PM	0.2	A	0.2	A	0.5	A	0.5	A
3	Martinelli St & E Lake Ave	AM	11.4	B	11.6	B	12.2	B	12.4	B
		PM	13.2	B	13.3	B	14.7	B	14.8	B
4	Project Driveway & E Lake Ave	AM	8	A	0.8	A	0	A	0.8	A
		PM	0	A	0.9	A	0	A	0.9	A

Project Driveway Analysis

The project driveway was analyzed utilizing the HCM methodologies for performing stop-controlled intersection capacity analyses (Appendix 4). The driveway on East Lake Avenue will operate with stop sign control for vehicles exiting the property.

Recommended Actions

The project does not have major adverse effects on access, safety, and circulation on the roadway system within the study area or at the analyzed intersections. It is recommended to install a stop sign for the proposed driveway on E. Lake Avenue and No Parking restrictions along project frontage to be added to eliminate opportunity for street access for site parking. The project will provide 5 regular and 1 ADA parking spaces in addition to 19 vacuum stalls.

Project Queuing Analysis

In order to determine queuing analysis of the car wash, extensive surveys by observation were conducted at a Quick Quack car wash operation with three approximately 130-foot-long queue lanes located in Fontana California. The data was collected on typical weekdays as well as Saturday and Sunday between 7 AM to 9 PM. The specific location was selected based on having similarity to the characteristics of the proposed project site design with 3 queue lines.

The following observations were made:

- The vehicles in the entry queue rarely extended beyond the drive-through entrance point.
- On average customers spend 2 minutes to pay for the wash and move through the gate.
- Mean observed waiting/service time per vehicle was 4 minutes and 10 seconds (250 Sec).
- The minimum observed waiting/service time per vehicle was 2 minutes and 10 seconds.
- The maximum observed waiting/service time per vehicle was 6 minutes and 10 seconds.

However, the Fontana car wash is surrounded by a more densely developed area compared to the proposed project location. Therefore, the anticipated number of washed vehicles at the proposed location would be far below the Fontana location. Nevertheless, the data from the Fontana location would provide a good example of the queueing efficiency of the automated car wash system utilized by Quick Quack Car Wash at a much busier location.

Table 9 provides the collected data for seven days of field observations at the Fontana Quick Quack Car Wash:

Table 9 - Survey Data at a Similar Quick Quack Car Wash

Hours Observed	Number of Vehicles Washed						
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
7:00 AM	31	42	51	37	35	49	41
8:00 AM	59	52	73	58	56	65	70
9:00 AM	72	51	52	45	52	62	79
10:00 AM	69	62	59	54	48	58	81
11:00 AM	80	75	56	57	72	64	82
12:00 PM	86	85	66	65	55	73	87
1:00 PM	81	80	57	74	67	66	91
2:00 PM	80	80	57	77	60	83	89
3:00 PM	73	71	55	89	69	71	83
4:00 PM	70	66	61	64	67	87	85
5:00 PM	58	65	64	70	73	72	73
6:00 PM	62	65	56	70	69	83	59
7:00 PM	59	52	54	61	54	55	98
8:00 PM	38	40	43	36	42	40	26
Highest Hour	86	85	73	89	73	87	98
Highest Vehicles/Minute	1.43	1.42	1.22	1.48	1.22	1.45	1.63
Mean for Highest Vehicles/Minute	1.41						

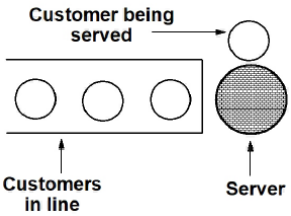
According to extensive field observations of the Fontana Quick Quack car wash operation, it was determined the car wash did not create a queue beyond the provided queue storage capacity. Table 10 below provides sample data for the observed queue lengths per queue line:

Table 10 - Observed Queue Length Data

Monday													
Time	Number of vehicles in the Queue behind the first vehicle			Car Counts By Hour	Time	Number of vehicles in the Queue behind the first vehicle			Car Counts By Hour	Time	Number of vehicles in the Queue behind the first vehicle			Car Counts By Hour
	Q1	Q2	Q3			Q1	Q2	Q3			Q1	Q2	Q3	
12:00	1	0	0		13:00	0	0	0		14:00	1	2	0	
12:05	1	0	1		13:05	0	1	0		14:05	0	0	0	
12:10	1	2	3		13:10	1	0	0		14:10	1	1	1	
12:15	2	0	2		13:15	2	1	2		14:15	0	0	0	
12:20	0	1	2		13:20	0	0	0		14:20	1	1	2	
12:25	1	0	2		13:25	3	1	1		14:25	0	2	0	
12:30	1	2	0	85	13:30	2	2	1	80	14:30	2	2	0	80
12:35	0	1	1		13:35	0	1	0		14:35	1	0	0	
12:40	1	1	1		13:40	0	1	2		14:40	2	1	0	
12:45	1	2	1		13:45	0	1	1		14:45	1	0	1	
12:50	1	1	1		13:50	1	1	0		14:50	1	1	1	
12:55	1	2	0		13:55	1	1	0		14:55	2	2	0	

The following describes the formulas used to estimate queuing lengths for a single chamber automated car wash and Figure 12 below is a depiction of a single tunnel car wash serving/washing vehicles with a queue of vehicles:

Figure 12 – Single Tunnel Car Wash



The following notations describe the variables used in the formulas to estimate queue lengths for an automated car wash:

λ = mean highest arrival rate per minute

W(q) = mean waiting time in the system

L(q) = mean number of cars in the queue

There are other factors that must be taken into consideration to estimate the queue lengths such:

- Temporal distribution of traffic
- Time before the payment gate
- Time at the payment gate

- Number of wash chambers

The formulas are based on two inputs:

- Arrival rate (vehicles/hour)
- Service rate (vehicles/hour)

The following is true for queueing analysis:

- Arrival Rate > Service Rate, queue will start to form.
- Arrival Rate < Service Rate, queue will not form.

According to basic queuing formulas, Little's rule provides the following to determine the number of cars in the queue (Ross, 2014):

$$L(q) = \lambda \times W(q)$$

Applying the mathematical method of queue calculation using the above formulas to the proposed project produced the following results:

According to the field observations the mean waiting time in the system was $W(q)$ = 4 minutes and 10 seconds.

Therefore, the number of cars in the queue for this project based on the collected data as depicted in Table 9 is:

$$\lambda_{mean} = 1.41 \text{ Vehicles/Minute}$$

$$W(q) = 4 \text{ minutes } 10 \text{ seconds} = 4.1667 \text{ minutes}$$

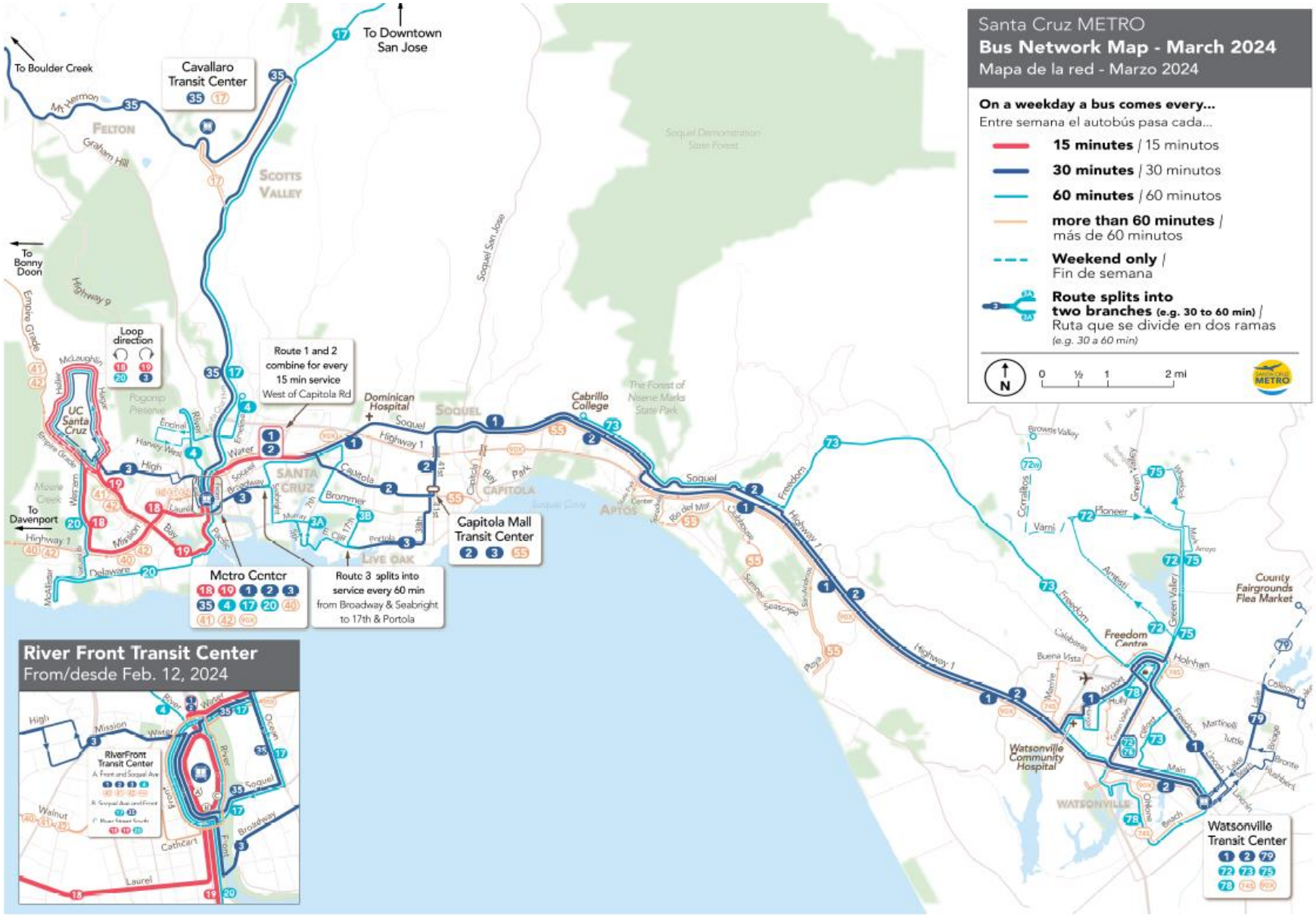
$$L(q) = \lambda_{mean} \times W(q) = 1.41 \times 4.1667 = 5.875 = 6 \text{ cars}$$

Assuming an average vehicle length of 20 feet, the queue length would be:

$$\text{Length of Queue} = 6 \times 20 = 120 \text{ feet}$$

As shown in the project site plan in Figure 2, the project is designed to provide three queue lanes of approximately 90 feet/lane or total vehicle lanes of 270 feet. The queuing lanes provide capacity for 13 cars. Based on the field observation of a similar operation and the mathematical calculations, the proposed project queueing demand would not exceed the queuing capacity provided by the proposed project.

Appendix 1 – Transit Related Information


Santa Cruz METRO
Bus Network Map - March 2024
Mapa de la red - Marzo 2024
On a weekday a bus comes every...
Entre semana el autobús pasa cada...
15 minutes / 15 minutos
30 minutes / 30 minutos
60 minutes / 60 minutos
more than 60 minutes / más de 60 minutos
Weekend only / Fin de semana
Route splits into two branches (e.g. 30 to 60 min) / Ruta que se divide en dos ramas
(e.g. 30 a 60 min)
To Downtown San Jose
To Boulder Creek
To Bonny Doon
To Davenport
Cavallaro Transit Center
Loop direction
Route 1 and 2 combine for every 15 min service West of Capitola Rd
Capitola Mall Transit Center
Metro Center
Route 3 splits into service every 60 min from Broadway & Seabright to 17th & Portola
River Front Transit Center
From/desde Feb. 12, 2024
Watsonville Transit Center
Watsonville Community Hospital
Freedom Centre
County Fairgrounds Flea Market
UC Santa Cruz
Dominican Hospital
Cabrillo College
Soquel
Capitola
Aptos
Live Oak
Scotts Valley
Felton
Watsonville

Route 79
Bus route
Weekend only
Public School
Point of Interest
Timepoint
Transit Center
0
¼
½ mi
N
WATSONVILLE TRANSIT CENTER
A
B
C
D
E
Rodriguez
Main
Lincoln
Maple
Lake
Beach
Hushbeck
Riverside
Bridge
Tuttle
College
Lakeview
Holohan
Mattinelli
Lake
Drew Lake
Kelly Lake
Lake Tynan
Franich Park
Ramsay Park
County Fairgrounds & Flea Market
St. Francis Highschool
Lakeview Middle
MacQuiddy Elementary
East Lake Shopping Center
E.A. Hall Middle
Mintie White Elementary
Henry J. Mello Center
Watsonville HS
Linscott Charter School
Cabrillo College Watsonville
Cesar Chavez Elem.
Starlight Elem.

Monday - Friday

Transfers to MST may be available on this route - visit our Transfer Policy Page

Trip Info	Departs Time Point A Watsonville TC Lane 2	Departs Time Point B Watsonville High School	Departs Time Point C East Lake Shopping Center	Departs Time Point D College & East Lake	Departs Time Point E Hwy 152 & SC County Fairgrounds	Arrives Time Point A Watsonville Transit Center
	6:15am	6:17am	6:21am	6:27am	–	6:35am
	6:45am	6:47am	6:51am	6:57am	–	7:05am
	7:15am	7:17am	7:21am	7:27am	–	7:35am
	7:45am	7:47am	7:51am	7:57am	–	8:05am
	8:15am	8:17am	8:22am	8:29am	–	8:39am
	8:45am	8:47am	8:52am	8:59am	–	9:09am
	9:15am	9:17am	9:21am	9:27am	–	9:35am
	9:45am	9:47am	9:51am	9:57am	–	10:05am
	10:15am	10:17am	10:21am	10:27am	–	10:35am
	10:45am	10:47am	10:51am	10:57am	–	11:05am
	11:15am	11:17am	11:21am	11:27am	–	11:35am
	11:45am	11:47am	11:51am	11:57am	–	**12:05pm**
	12:15pm	**12:17pm**	**12:22pm**	**12:29pm**	–	**12:39pm**
	12:45pm	**12:47pm**	**12:52pm**	**12:59pm**	–	**1:09pm**
	1:15pm	**1:17pm**	**1:22pm**	**1:29pm**	–	**1:39pm**
	1:45pm	**1:47pm**	**1:52pm**	**1:59pm**	–	**2:09pm**
	2:15pm	**2:17pm**	**2:22pm**	**2:29pm**	–	**2:39pm**
	2:45pm	**2:47pm**	**2:52pm**	**2:59pm**	–	**3:09pm**
	3:15pm	**3:17pm**	**3:22pm**	**3:30pm**	–	**3:41pm**
	3:45pm	**3:47pm**	**3:52pm**	**4:00pm**	–	**4:11pm**
	4:15pm	**4:17pm**	**4:22pm**	**4:30pm**	–	**4:41pm**
	4:50pm	**4:52pm**	**4:57pm**	**5:05pm**	–	**5:16pm**
	5:15pm	**5:17pm**	**5:22pm**	**5:30pm**	–	**5:41pm**
	5:45pm	**5:47pm**	**5:52pm**	**6:00pm**	–	**6:11pm**
	6:15pm	**6:17pm**	**6:22pm**	**6:30pm**	–	**6:41pm**

Transfers to MST may be available on this route - visit our Transfer Policy Page

Saturday - Sunday

Trip Info	Departs Time Point A Watsonville TC Lane 2	Departs Time Point B Watsonville High School	Departs Time Point C East Lake Shopping Center	Departs Time Point D College & East Lake	Departs Time Point E Hwy 152 & SC County Fairgrounds	Arrives Time Point A Watsonville Transit Center
	7:10am	7:12am	7:15am	7:21am	7:23am	7:35am
	8:10am	8:12am	8:15am	8:21am	8:23am	8:35am
	9:10am	9:12am	9:15am	9:21am	9:23am	9:35am
	10:10am	10:12am	10:15am	10:21am	10:23am	10:35am
	11:10am	11:12am	11:15am	11:21am	11:23am	11:35am
	12:10pm	**12:12pm**	**12:16pm**	**12:23pm**	**12:25pm**	**12:39pm**
	1:10pm	**1:12pm**	**1:16pm**	**1:23pm**	**1:25pm**	**1:39pm**
	2:10pm	**2:12pm**	**2:16pm**	**2:23pm**	**2:25pm**	**2:39pm**
	3:10pm	**3:12pm**	**3:16pm**	**3:23pm**	**3:25pm**	**3:39pm**
	4:10pm	**4:12pm**	**4:16pm**	**4:23pm**	**4:25pm**	**4:39pm**
	5:10pm	**5:12pm**	**5:16pm**	**5:23pm**	**5:25pm**	**5:37pm**
	6:10pm	**6:12pm**	**6:15pm**	**6:21pm**	**6:23pm**	**6:35pm**

Transfers to MST may be available on this route - visit our Transfer Policy Page

Appendix 2 - Manual Traffic Volume Counts

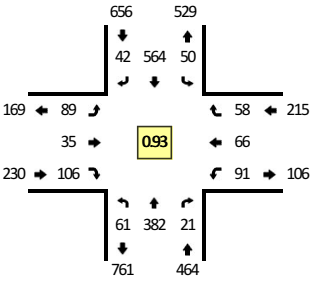
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

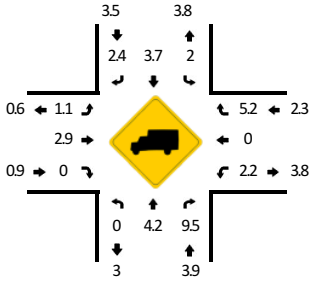
LOCATION: E Lake Ave -- Tuttle Ave
CITY/STATE: Watsonville, CA

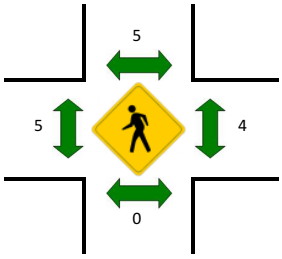
QC JOB #: 16711701
DATE: Wed, Aug 14 2024

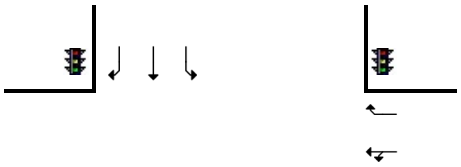
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:35 AM -- 7:50 AM

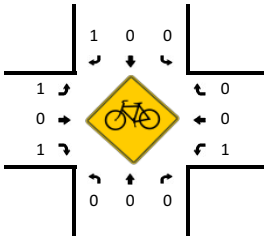


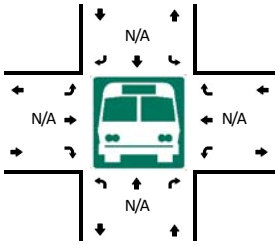
TRUE DATA TO IMPROVE MOBILITY

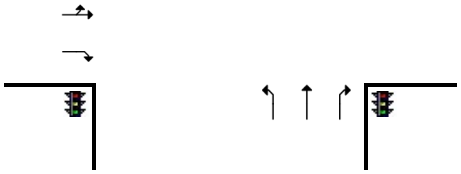


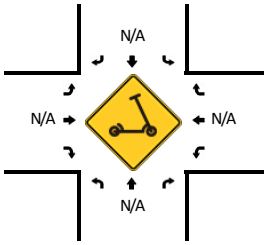












5-Min Count Period Beginning At	E Lake Ave (Northbound)				E Lake Ave (Southbound)				Tuttle Ave (Eastbound)				Tuttle Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	24	1	0	2	16	1	0	5	1	4	0	4	1	5	0	64	
7:05 AM	7	30	1	0	0	17	1	0	4	1	1	0	10	9	7	0	88	
7:10 AM	1	48	1	0	0	17	3	0	7	2	4	0	1	4	9	0	97	
7:15 AM	1	49	1	0	3	31	2	0	5	1	3	0	2	0	16	0	114	
7:20 AM	4	48	1	0	3	27	5	0	6	0	4	0	3	4	14	0	119	
7:25 AM	10	38	1	0	2	30	4	0	5	2	3	0	6	9	10	0	120	
7:30 AM	12	41	0	0	2	31	1	0	3	0	4	0	4	4	3	0	105	
7:35 AM	12	36	0	0	4	44	5	0	15	2	9	0	7	6	8	0	148	
7:40 AM	3	30	1	0	8	50	5	0	7	3	6	0	8	7	4	0	132	
7:45 AM	6	35	2	0	8	48	2	0	7	5	4	0	13	4	7	0	141	
7:50 AM	2	33	0	0	5	53	0	0	9	0	11	0	8	12	5	0	138	
7:55 AM	5	27	0	0	6	52	4	0	5	5	14	0	5	6	9	0	138	1404
8:00 AM	1	27	2	0	1	51	2	0	6	1	12	0	16	8	4	0	131	1471
8:05 AM	6	40	0	0	0	52	6	0	6	2	11	0	2	1	6	0	132	1515
8:10 AM	7	33	1	0	4	50	3	0	10	1	10	0	4	4	2	0	129	1547
8:15 AM	3	31	2	0	3	41	2	0	5	5	5	0	11	2	1	0	111	1544
8:20 AM	3	19	3	0	6	48	4	0	8	2	14	0	8	7	1	0	123	1548
8:25 AM	9	37	4	0	4	39	4	0	7	2	6	0	2	4	5	0	123	1551
8:30 AM	4	34	6	0	1	36	5	0	4	7	4	0	7	5	6	0	119	1565
8:35 AM	3	30	2	0	2	45	1	0	6	5	2	0	1	4	2	0	103	1520
8:40 AM	4	26	5	0	0	28	0	0	6	7	5	0	3	5	5	0	94	1482
8:45 AM	4	31	0	0	3	36	1	0	3	2	3	0	5	3	1	0	92	1433
8:50 AM	2	26	6	0	2	35	2	0	5	6	3	0	4	5	2	0	98	1393
8:55 AM	2	26	1	0	4	23	2	0	1	4	3	0	3	7	4	0	80	1335
9:00 AM	3	27	1	0	0	32	2	0	5	2	8	0	6	7	2	0	95	1299
9:05 AM	4	18	3	0	1	22	3	0	2	3	1	0	3	5	6	0	71	1238
9:10 AM	6	17	1	0	1	27	2	0	2	2	3	0	2	8	1	0	72	1181
9:15 AM	6	14	2	0	0	21	4	0	3	2	7	0	7	8	5	0	79	1149
9:20 AM	0	19	1	0	2	17	3	0	3	2	1	0	3	6	4	0	61	1087
9:25 AM	2	10	0	0	1	21	0	0	5	3	5	0	4	3	5	0	59	1023
9:30 AM	4	23	4	0	0	33	2	0	2	1	5	0	6	0	3	0	83	987
9:35 AM	4	22	2	0	3	29	3	0	3	4	3	0	2	1	3	0	79	963
9:40 AM	1	20	0	0	1	26	3	0	2	0	2	0	7	3	3	0	68	937
9:45 AM	3	20	1	0	2	20	2	0	2	1	2	0	7	3	2	0	65	910
9:50 AM	1	22	0	0	0	24	6	0	2	3	2	0	5	5	5	0	75	887
9:55 AM	3	21	3	0	4	23	1	0	7	3	4	0	4	3	2	0	78	885

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	84	404	12	0	80	568	48	0	116	40	76	0	112	68	76	0	1684
Heavy Trucks	0	20	0		0	24	4		0	4	0		0	0	0		52
Buses																	
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	4		4	0	4		0	0	0		12
Scooters																	

Comments:

Report generated on 8/16/2024 4:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

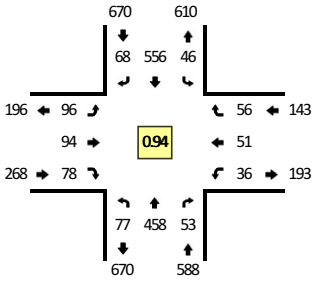
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

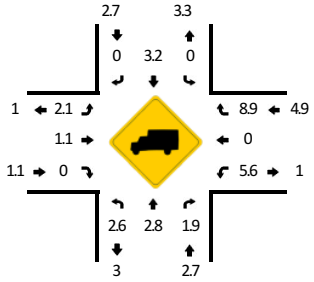
LOCATION: E Lake Ave -- Tuttle Ave
CITY/STATE: Watsonville, CA

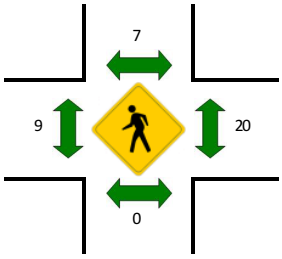
QC JOB #: 16711702
DATE: Wed, Aug 14 2024

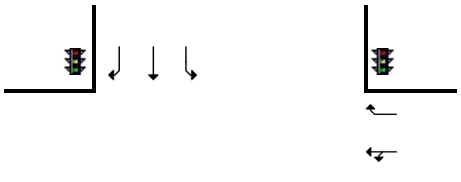
Peak-Hour: 3:35 PM -- 4:35 PM
Peak 15-Min: 4:15 PM -- 4:30 PM

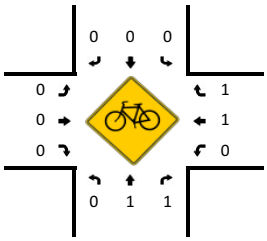


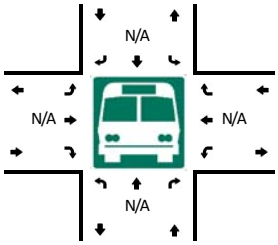
TRUE DATA TO IMPROVE MOBILITY

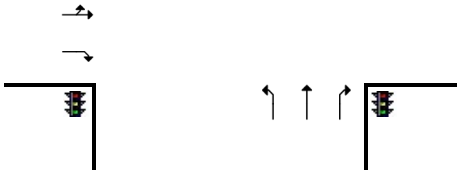


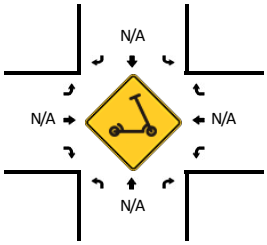












5-Min Count Period Beginning At	E Lake Ave (Northbound)				E Lake Ave (Southbound)				Tuttle Ave (Eastbound)				Tuttle Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	4	34	3	0	6	35	4	0	8	6	8	0	4	4	4	0	120	
3:05 PM	5	47	3	0	4	33	3	0	6	9	6	0	5	1	6	0	128	
3:10 PM	5	38	2	0	2	47	5	0	3	3	4	0	4	6	2	0	121	
3:15 PM	4	37	5	0	7	52	4	0	7	7	3	0	4	5	3	0	138	
3:20 PM	2	37	1	0	2	52	4	0	6	10	4	0	2	2	5	0	127	
3:25 PM	6	33	4	0	9	31	0	0	8	2	4	0	4	2	3	0	106	
3:30 PM	6	38	2	0	4	34	3	0	10	6	5	0	5	3	7	0	123	
3:35 PM	4	34	3	0	5	45	2	0	13	6	6	0	6	4	4	0	132	
3:40 PM	5	31	4	0	8	45	8	0	4	4	8	0	2	7	6	0	132	
3:45 PM	5	26	4	0	2	46	8	0	7	11	10	0	4	6	2	0	131	
3:50 PM	8	30	5	0	4	44	3	0	5	5	4	0	4	5	5	0	122	
3:55 PM	5	42	4	0	1	53	9	0	3	7	8	0	4	3	4	0	143	1523
4:00 PM	12	53	7	0	4	51	4	0	6	7	3	0	2	2	5	0	156	1559
4:05 PM	10	33	4	0	4	38	5	0	11	11	6	0	3	6	6	0	137	1568
4:10 PM	10	38	2	0	4	39	6	0	11	10	5	0	0	0	3	0	128	1575
4:15 PM	4	44	9	0	2	44	7	0	8	6	9	0	3	3	6	0	145	1582
4:20 PM	4	46	7	0	6	39	10	0	10	9	7	0	1	7	5	0	151	1606
4:25 PM	5	44	2	0	3	53	3	0	7	7	7	0	4	6	6	0	147	1647
4:30 PM	5	37	2	0	3	59	3	0	11	11	5	0	3	2	4	0	145	1669
4:35 PM	13	36	2	0	4	29	2	0	10	9	3	0	5	6	5	0	124	1661
4:40 PM	7	25	4	0	9	38	4	0	13	16	5	0	3	3	8	0	135	1664
4:45 PM	4	34	2	0	4	47	3	0	7	8	4	0	2	5	1	0	121	1654
4:50 PM	6	33	3	0	2	45	3	0	8	10	5	0	3	5	8	0	131	1663
4:55 PM	6	37	4	0	8	42	4	0	8	4	6	0	4	4	4	0	131	1651
5:00 PM	8	45	1	0	7	36	3	0	10	8	2	0	3	4	2	0	129	1624
5:05 PM	6	47	5	0	0	49	3	0	11	8	11	0	4	4	2	0	150	1637
5:10 PM	5	36	4	0	11	37	4	0	8	6	5	0	1	3	6	0	126	1635
5:15 PM	10	42	6	0	5	46	5	0	11	8	5	0	4	5	5	0	152	1642
5:20 PM	3	32	3	0	5	45	8	0	8	14	9	0	3	4	3	0	137	1628
5:25 PM	7	38	4	0	4	32	3	0	6	14	4	0	4	4	5	0	125	1606
5:30 PM	1	37	3	0	4	38	8	0	6	6	3	0	1	7	3	0	117	1578
5:35 PM	3	28	3	0	2	44	5	0	5	10	1	0	5	5	8	0	119	1573
5:40 PM	1	40	0	0	8	33	4	0	7	4	5	0	1	1	2	0	106	1544
5:45 PM	3	42	6	0	4	32	5	0	12	3	2	0	8	4	7	0	128	1551
5:50 PM	1	45	3	0	4	30	8	0	5	8	6	0	5	5	4	0	124	1544
5:55 PM	7	32	2	0	6	48	4	0	8	4	7	0	4	5	4	0	131	1544

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	52	536	72	0	44	544	80	0	100	88	92	0	32	64	68	0	1772
Heavy Trucks	0	20	4		0	20	0		4	0	0		4	0	8		60
Buses																	
Pedestrians		0				8				12				20			40
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	
Comments:																	

Report generated on 8/16/2024 4:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

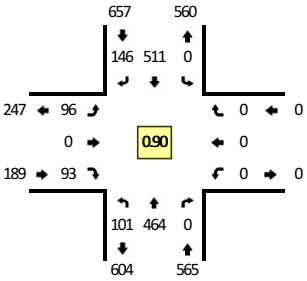
Type of peak hour being reported: Intersection Peak

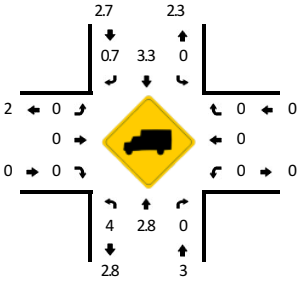
Method for determining peak hour: Total Entering Volume

LOCATION: E Lake Ave -- Martinelli St
CITY/STATE: Watsonville, CA

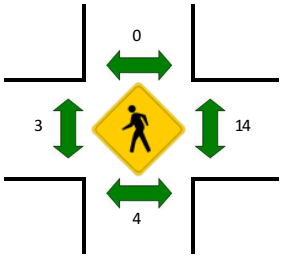
QC JOB #: 16711703
DATE: Wed, Aug 14 2024

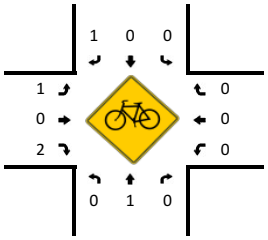
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:35 AM -- 7:50 AM

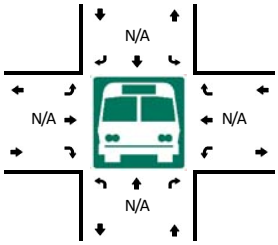


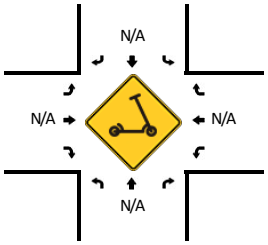


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	E Lake Ave (Northbound)				E Lake Ave (Southbound)				Martinelli St (Eastbound)				Martinelli St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	30	0	0	0	16	9	0	8	0	3	0	0	0	0	0	71	
7:05 AM	9	35	0	0	0	13	7	0	10	0	0	0	0	0	0	0	74	
7:10 AM	8	51	0	0	0	27	4	0	8	0	3	0	0	0	0	0	101	
7:15 AM	8	51	0	0	0	24	7	0	14	0	3	0	0	0	0	0	107	
7:20 AM	17	55	0	0	0	25	8	0	9	0	5	0	0	0	0	0	119	
7:25 AM	7	48	0	0	0	32	7	0	4	0	4	0	0	0	0	0	102	
7:30 AM	14	37	0	0	0	23	12	0	9	0	6	0	0	0	0	0	101	
7:35 AM	7	47	0	0	0	53	12	0	11	0	7	0	0	0	0	0	137	
7:40 AM	13	30	0	0	0	54	13	0	9	0	6	0	0	0	0	0	125	
7:45 AM	12	37	0	0	0	50	12	0	12	0	8	0	0	0	0	0	131	
7:50 AM	5	35	0	0	0	49	23	0	5	0	7	0	0	0	0	0	124	
7:55 AM	8	33	0	0	0	53	12	0	10	0	12	0	0	0	0	0	128	1320
8:00 AM	6	33	0	0	0	48	10	0	3	0	5	0	0	0	0	0	105	1354
8:05 AM	3	37	0	0	0	42	12	0	11	0	16	0	0	0	0	0	121	1401
8:10 AM	3	34	0	0	0	45	11	0	6	0	11	0	0	0	0	0	110	1410
8:15 AM	6	38	0	0	0	37	14	0	7	0	6	0	0	0	0	0	108	1411
8:20 AM	4	24	0	0	0	52	11	0	7	0	6	0	0	0	0	0	104	1396
8:25 AM	5	38	0	0	0	38	10	0	5	0	4	0	0	0	0	0	100	1394
8:30 AM	5	36	0	0	0	41	8	0	8	0	2	0	0	0	0	0	100	1393
8:35 AM	3	32	0	0	0	41	10	0	12	0	2	0	0	0	0	0	100	1356
8:40 AM	3	29	0	0	0	31	7	0	7	0	3	0	0	0	0	0	80	1311
8:45 AM	3	33	0	0	0	33	11	0	3	0	5	0	0	0	0	0	88	1268
8:50 AM	4	26	0	0	0	38	7	0	7	0	1	0	0	0	0	0	83	1227
8:55 AM	3	28	0	0	0	30	11	0	2	0	5	0	0	0	0	0	79	1178
9:00 AM	2	28	0	0	0	27	7	0	7	0	2	0	0	0	0	0	73	1146
9:05 AM	2	23	0	0	0	20	7	0	9	0	5	0	0	0	0	0	66	1091
9:10 AM	3	19	0	0	0	25	6	0	6	0	2	0	0	0	0	0	61	1042
9:15 AM	1	20	0	0	0	24	7	0	2	0	2	0	0	0	0	0	56	990
9:20 AM	2	26	0	0	0	18	6	0	1	0	4	0	0	0	0	0	57	943
9:25 AM	3	17	0	0	0	19	1	0	5	0	4	0	0	0	0	0	49	892
9:30 AM	7	19	0	0	0	27	6	0	7	0	6	0	0	0	0	0	72	864
9:35 AM	8	20	0	0	0	32	4	0	4	0	3	0	0	0	0	0	71	835
9:40 AM	1	25	0	0	0	24	7	0	7	0	2	0	0	0	0	0	66	821
9:45 AM	2	22	0	0	0	24	6	0	7	0	2	0	0	0	0	0	63	796
9:50 AM	2	24	0	0	0	28	6	0	7	0	5	0	0	0	0	0	72	785
9:55 AM	5	30	0	0	0	24	3	0	7	0	3	0	0	0	0	0	72	778

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	128	456	0	0	0	628	148	0	128	0	84	0	0	0	0	0	1572
Heavy Trucks	8	12	0		0	20	4		0	0	0		0	0	0		44
Buses																	
Pedestrians		4				0				0				16			20
Bicycles	0	0	0		0	0	4		0	0	8		0	0	0		12
Scooters																	

Comments:

Report generated on 8/16/2024 4:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

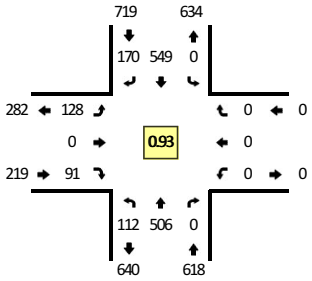
Type of peak hour being reported: Intersection Peak

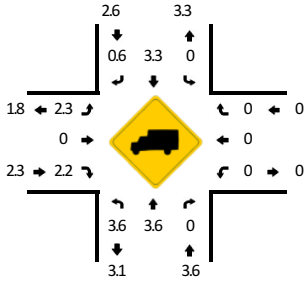
Method for determining peak hour: Total Entering Volume

LOCATION: E Lake Ave -- Martinelli St
CITY/STATE: Watsonville, CA

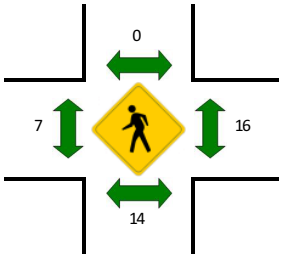
QC JOB #: 16711704
DATE: Wed, Aug 14 2024

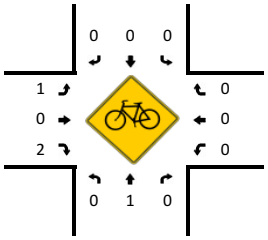
Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:15 PM -- 4:30 PM

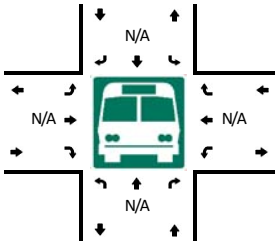


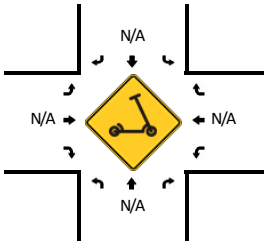


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	E Lake Ave (Northbound)				E Lake Ave (Southbound)				Martinelli St (Eastbound)				Martinelli St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	6	30	0	0	0	36	9	0	17	0	6	0	0	0	0	0	104	
3:05 PM	7	54	0	0	0	46	11	0	13	0	2	0	0	0	0	0	133	
3:10 PM	6	41	0	0	0	54	13	0	8	0	10	0	0	0	0	0	132	
3:15 PM	7	46	0	0	0	41	12	0	10	0	7	0	0	0	0	0	123	
3:20 PM	7	33	0	0	0	45	21	0	6	0	9	0	0	0	0	0	121	
3:25 PM	4	53	0	0	0	41	17	0	13	0	3	0	0	0	0	0	131	
3:30 PM	7	35	0	0	0	30	16	0	9	0	3	0	0	0	0	0	100	
3:35 PM	11	43	0	0	0	51	10	0	8	0	3	0	0	0	0	0	126	
3:40 PM	3	37	0	0	0	54	14	0	10	0	12	0	0	0	0	0	130	
3:45 PM	1	26	0	0	0	47	10	0	9	0	8	0	0	0	0	0	101	
3:50 PM	7	33	0	0	0	45	18	0	6	0	7	0	0	0	0	0	116	
3:55 PM	3	40	0	0	0	47	13	0	13	0	5	0	0	0	0	0	121	1438
4:00 PM	8	56	0	0	0	46	10	0	8	0	6	0	0	0	0	0	134	1468
4:05 PM	13	36	0	0	0	39	12	0	15	0	7	0	0	0	0	0	122	1457
4:10 PM	13	38	0	0	0	40	26	0	14	0	11	0	0	0	0	0	142	1467
4:15 PM	7	45	0	0	0	55	14	0	9	0	5	0	0	0	0	0	135	1479
4:20 PM	8	48	0	0	0	45	14	0	9	0	9	0	0	0	0	0	133	1491
4:25 PM	18	50	0	0	0	46	20	0	12	0	5	0	0	0	0	0	151	1511
4:30 PM	9	32	0	0	0	59	20	0	9	0	4	0	0	0	0	0	133	1544
4:35 PM	10	43	0	0	0	43	14	0	13	0	4	0	0	0	0	0	127	1545
4:40 PM	8	34	0	0	0	33	15	0	17	0	10	0	0	0	0	0	117	1532
4:45 PM	8	31	0	0	0	44	8	0	12	0	3	0	0	0	0	0	106	1537
4:50 PM	5	43	0	0	0	45	8	0	5	0	10	0	0	0	0	0	116	1537
4:55 PM	6	42	0	0	0	42	15	0	9	0	12	0	0	0	0	0	126	1542
5:00 PM	12	46	0	0	0	51	7	0	8	0	11	0	0	0	0	0	135	1543
5:05 PM	8	54	0	0	0	46	9	0	11	0	7	0	0	0	0	0	135	1556
5:10 PM	11	36	0	0	0	36	18	0	9	0	8	0	0	0	0	0	118	1532
5:15 PM	6	43	0	0	0	51	16	0	15	0	4	0	0	0	0	0	135	1532
5:20 PM	7	37	0	0	0	48	9	0	6	0	4	0	0	0	0	0	111	1510
5:25 PM	7	37	0	0	0	39	11	0	12	0	10	0	0	0	0	0	116	1475
5:30 PM	9	39	0	0	0	41	10	0	6	0	8	0	0	0	0	0	113	1455
5:35 PM	8	35	0	0	0	41	7	0	10	0	8	0	0	0	0	0	109	1437
5:40 PM	8	33	0	0	0	36	8	0	6	0	5	0	0	0	0	0	96	1416
5:45 PM	4	48	0	0	0	44	15	0	12	0	8	0	0	0	0	0	131	1441
5:50 PM	5	45	0	0	0	38	11	0	19	0	6	0	0	0	0	0	124	1449
5:55 PM	12	40	0	0	0	47	11	0	5	0	7	0	0	0	0	0	122	1445

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	132	572	0	0	0	584	192	0	120	0	76	0	0	0	0	0	1676
Heavy Trucks	12	20	0		0	20	0		4	0	0		0	0	0		56
Buses																	
Pedestrians		8				0				4				20			32
Bicycles	0	4	0		0	0	0		0	0	4		0	0	0		8
Scooters																	

Comments:

Report generated on 8/16/2024 4:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

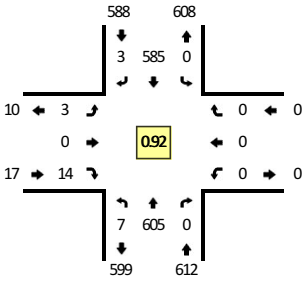
Type of peak hour being reported: Intersection Peak

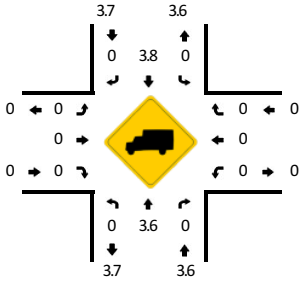
Method for determining peak hour: Total Entering Volume

LOCATION: E Lake Ave -- Eaton Ave
CITY/STATE: Watsonville, CA

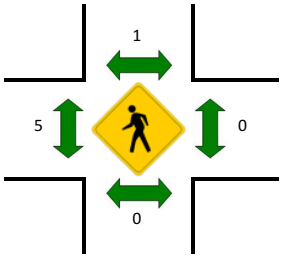
QC JOB #: 16711705
DATE: Wed, Aug 14 2024

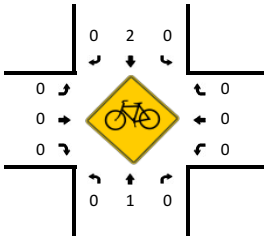
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:35 AM -- 7:50 AM

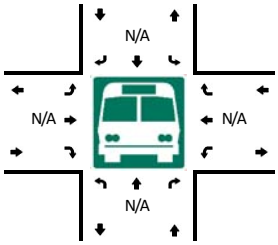


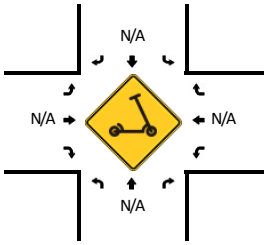


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	E Lake Ave (Northbound)				E Lake Ave (Southbound)				Eaton Ave (Eastbound)				Eaton Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	33	0	0	0	18	0	0	0	0	2	0	0	0	0	0	53	
7:05 AM	0	42	0	0	0	17	0	0	0	0	0	0	0	0	0	0	59	
7:10 AM	1	61	0	0	0	26	0	0	0	0	0	0	0	0	0	0	88	
7:15 AM	1	69	0	0	0	33	0	0	1	0	1	0	0	0	0	0	105	
7:20 AM	0	69	0	0	0	30	0	0	0	0	1	0	0	0	0	0	100	
7:25 AM	2	54	0	0	0	35	0	0	0	0	2	0	0	0	0	0	93	
7:30 AM	0	46	0	0	0	32	0	0	1	0	0	0	0	0	0	0	79	
7:35 AM	1	58	0	0	0	58	0	0	0	0	4	0	0	0	0	0	121	
7:40 AM	2	38	0	0	0	59	1	0	0	0	1	0	0	0	0	0	101	
7:45 AM	0	53	0	0	0	55	1	0	0	0	1	0	0	0	0	0	110	
7:50 AM	0	41	0	0	0	59	0	0	0	0	0	0	0	0	0	0	100	
7:55 AM	0	44	0	0	0	60	0	0	0	0	1	0	0	0	0	0	105	1114
8:00 AM	0	35	0	0	0	54	0	0	0	0	1	0	0	0	0	0	90	1151
8:05 AM	1	51	0	0	0	57	1	0	1	0	2	0	0	0	0	0	113	1205
8:10 AM	0	47	0	0	0	53	0	0	0	0	0	0	0	0	0	0	100	1217
8:15 AM	3	36	0	0	0	45	0	0	1	0	4	0	0	0	0	0	89	1201
8:20 AM	0	27	0	0	0	58	0	0	0	0	0	0	0	0	0	0	85	1186
8:25 AM	0	49	0	0	0	45	0	0	0	0	0	0	0	0	0	0	94	1187
8:30 AM	1	45	0	0	0	45	0	0	0	0	0	0	0	0	0	0	91	1199
8:35 AM	1	35	0	0	0	42	0	0	0	0	0	0	0	0	0	0	78	1156
8:40 AM	3	31	0	0	0	31	0	0	0	0	0	0	0	0	0	0	65	1120
8:45 AM	2	34	0	0	0	37	0	0	0	0	0	0	0	0	0	0	73	1083
8:50 AM	1	32	0	0	0	37	0	0	0	0	0	0	0	0	0	0	70	1053
8:55 AM	0	33	0	0	0	31	0	0	0	0	1	0	0	0	0	0	65	1013
9:00 AM	0	33	0	0	0	32	0	0	0	0	1	0	0	0	0	0	66	989
9:05 AM	0	26	0	0	0	28	0	0	1	0	0	0	0	0	0	0	55	931
9:10 AM	0	23	0	0	0	28	0	0	0	0	0	0	0	0	0	0	51	882
9:15 AM	0	20	0	0	0	26	1	0	0	0	1	0	0	0	0	0	48	841
9:20 AM	0	28	0	0	0	20	0	0	0	0	1	0	0	0	0	0	49	805
9:25 AM	0	19	0	0	0	23	0	0	0	0	0	0	0	0	0	0	42	753
9:30 AM	0	29	0	0	0	36	0	0	0	0	1	0	0	0	0	0	66	728
9:35 AM	1	25	0	0	0	31	0	0	0	0	0	0	0	0	0	0	57	707
9:40 AM	1	26	0	0	0	30	0	0	0	0	0	0	0	0	0	0	57	699
9:45 AM	0	23	0	0	0	24	1	0	2	0	0	0	0	0	0	0	50	676
9:50 AM	0	28	0	0	0	30	0	0	0	0	0	0	0	0	0	0	58	664
9:55 AM	0	29	0	0	0	27	0	0	0	0	0	0	0	0	0	0	56	655

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	596	0	0	0	688	8	0	0	0	24	0	0	0	0	0	1328
Heavy Trucks	0	20	0		0	32	0		0	0	0		0	0	0		52
Buses																	
Pedestrians		0				0				4				0			4
Bicycles	0	4	0		0	4	0		0	0	0		0	0	0		8
Scooters																	

Comments:

Report generated on 8/16/2024 4:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

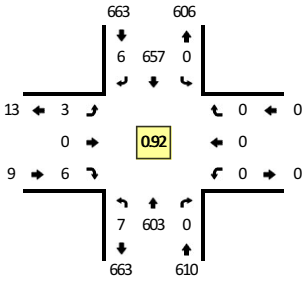
Type of peak hour being reported: Intersection Peak

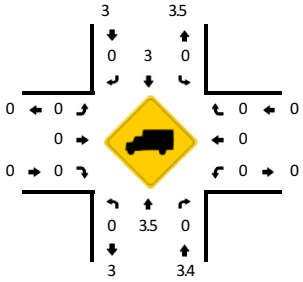
Method for determining peak hour: Total Entering Volume

LOCATION: E Lake Ave -- Eaton Ave
CITY/STATE: Watsonville, CA

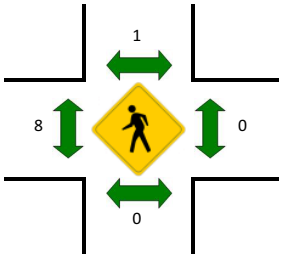
QC JOB #: 16711706
DATE: Wed, Aug 14 2024

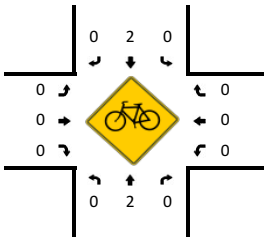
Peak-Hour: 3:35 PM -- 4:35 PM
Peak 15-Min: 4:15 PM -- 4:30 PM

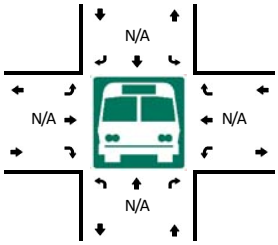


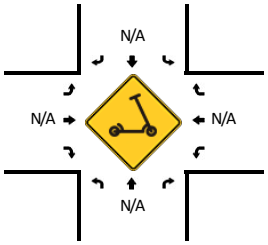


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	E Lake Ave (Northbound)				E Lake Ave (Southbound)				Eaton Ave (Eastbound)				Eaton Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	46	0	0	0	43	1	0	0	0	1	0	0	0	0	0	91	
3:05 PM	1	59	0	0	0	40	0	0	0	0	1	0	0	0	0	0	101	
3:10 PM	0	43	0	0	0	62	0	0	1	0	0	0	0	0	0	0	106	
3:15 PM	0	49	0	0	0	56	0	0	0	0	0	0	0	0	0	0	105	
3:20 PM	1	45	0	0	0	53	1	0	1	0	2	0	0	0	0	0	103	
3:25 PM	2	44	0	0	0	36	0	0	0	0	2	0	0	0	0	0	84	
3:30 PM	1	53	0	0	0	43	0	0	0	0	0	0	0	0	0	0	97	
3:35 PM	0	49	0	0	0	54	0	0	1	0	0	0	0	0	0	0	104	
3:40 PM	1	40	0	0	0	63	3	0	0	0	0	0	0	0	0	0	107	
3:45 PM	0	34	0	0	0	60	0	0	0	0	0	0	0	0	0	0	94	
3:50 PM	0	44	0	0	0	51	1	0	0	0	0	0	0	0	0	0	96	
3:55 PM	1	48	0	0	0	52	0	0	1	0	1	0	0	0	0	0	103	1191
4:00 PM	0	62	0	0	0	57	0	0	0	0	0	0	0	0	0	0	119	1219
4:05 PM	1	50	0	0	0	44	0	0	0	0	2	0	0	0	0	0	97	1215
4:10 PM	2	50	0	0	0	49	0	0	0	0	0	0	0	0	0	0	101	1210
4:15 PM	0	58	0	0	0	54	1	0	1	0	0	0	0	0	0	0	114	1219
4:20 PM	0	59	0	0	0	55	1	0	0	0	3	0	0	0	0	0	118	1234
4:25 PM	2	57	0	0	0	56	0	0	0	0	0	0	0	0	0	0	115	1265
4:30 PM	0	52	0	0	0	62	0	0	0	0	0	0	0	0	0	0	114	1282
4:35 PM	2	49	0	0	0	39	0	0	0	0	1	0	0	0	0	0	91	1269
4:40 PM	3	43	0	0	0	51	0	0	0	0	0	0	0	0	0	0	97	1259
4:45 PM	0	43	0	0	0	51	1	0	0	0	0	0	0	0	0	0	95	1260
4:50 PM	0	48	0	0	0	54	0	0	0	0	1	0	0	0	0	0	103	1267
4:55 PM	0	52	0	0	0	49	0	0	1	0	0	0	0	0	0	0	102	1266
5:00 PM	0	57	0	0	0	50	0	0	0	0	0	0	0	0	0	0	107	1254
5:05 PM	0	60	0	0	0	50	0	0	0	0	1	0	0	0	0	0	111	1268
5:10 PM	2	46	0	0	0	46	0	0	0	0	1	0	0	0	0	0	95	1262
5:15 PM	0	54	0	0	0	62	2	0	0	0	0	0	0	0	0	0	118	1266
5:20 PM	3	44	0	0	0	53	1	0	0	0	1	0	0	0	0	0	102	1250
5:25 PM	0	47	0	0	0	44	1	0	0	0	1	0	0	0	0	0	93	1228
5:30 PM	0	50	0	0	0	48	1	0	0	0	0	0	0	0	0	0	99	1213
5:35 PM	0	41	0	0	0	50	0	0	0	0	2	0	0	0	0	0	93	1215
5:40 PM	2	46	0	0	0	38	0	0	0	0	2	0	0	0	0	0	88	1206
5:45 PM	3	60	0	0	0	46	1	0	1	0	1	0	0	0	0	0	112	1223
5:50 PM	0	52	0	0	0	44	0	0	0	0	0	0	0	0	0	0	96	1216
5:55 PM	2	43	0	0	0	54	0	0	1	0	1	0	0	0	0	0	101	1215

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	696	0	0	0	660	8	0	4	0	12	0	0	0	0	0	1388
Heavy Trucks	0	36	0		0	24	0		0	0	0		0	0	0		60
Buses																	
Pedestrians		0				4				8				0			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 8/16/2024 4:19 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Appendix 3 - Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition

Land Use: 948
Automated Car Wash

Description

An automated car wash is a facility that allows for the mechanical cleaning of the exterior of vehicles. Manual cleaning service may also be available at the facility. Self-service car wash (Land Use 947) and car wash and detail center (Land Use 949) are related uses.

Additional Data

The sites were surveyed in the 1990s and the 2000s in New Jersey, New York, and Washington.

Source Numbers

552, 555, 585, 599, 954

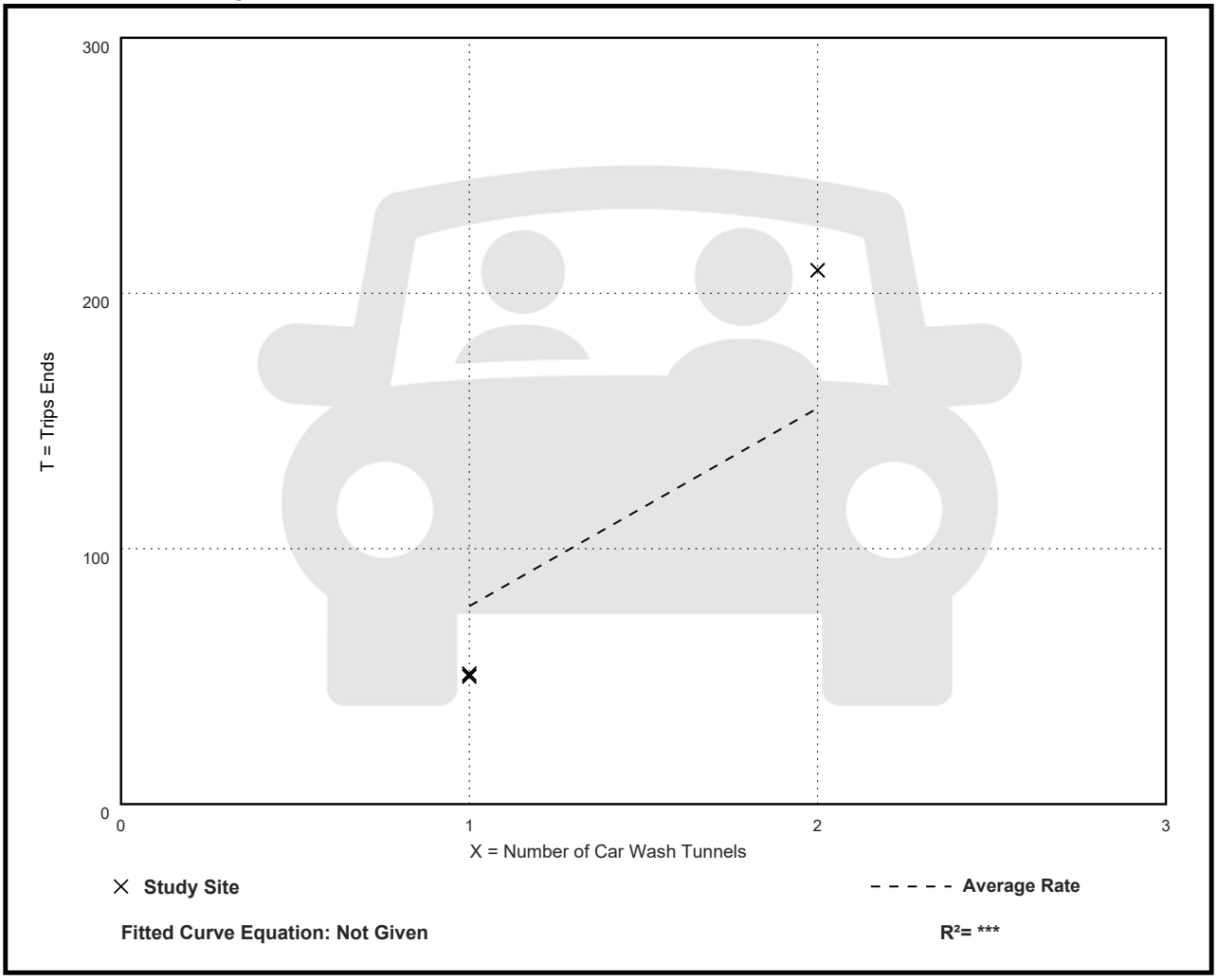
Automated Car Wash (948)

Vehicle Trip Ends vs: Car Wash Tunnels
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 3
Avg. Num. of Car Wash Tunnels: 1
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Car Wash Tunnel

Average Rate	Range of Rates	Standard Deviation
77.50	50.00 - 104.50	33.07

Data Plot and Equation



Automated Car Wash
(948)

Vehicle Trip Ends vs: Car Wash Tunnels
On a: Saturday, Peak Hour of Generator

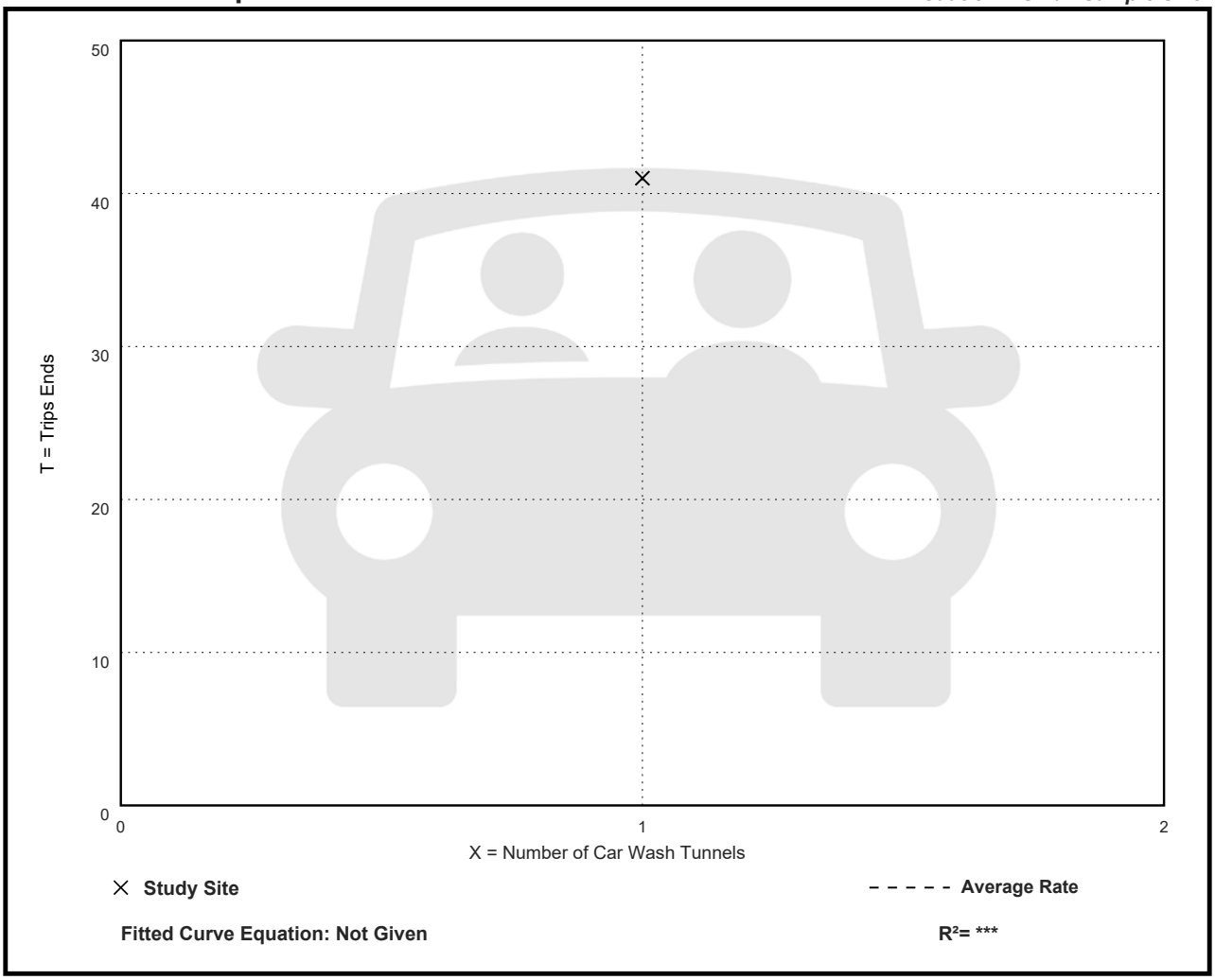
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. Num. of Car Wash Tunnels: 1
Directional Distribution: 46% entering, 54% exiting

Vehicle Trip Generation per Car Wash Tunnel

Average Rate	Range of Rates	Standard Deviation
41.00	41.00 - 41.00	***

Data Plot and Equation

Caution – Small Sample Size



Automated Car Wash
(948)

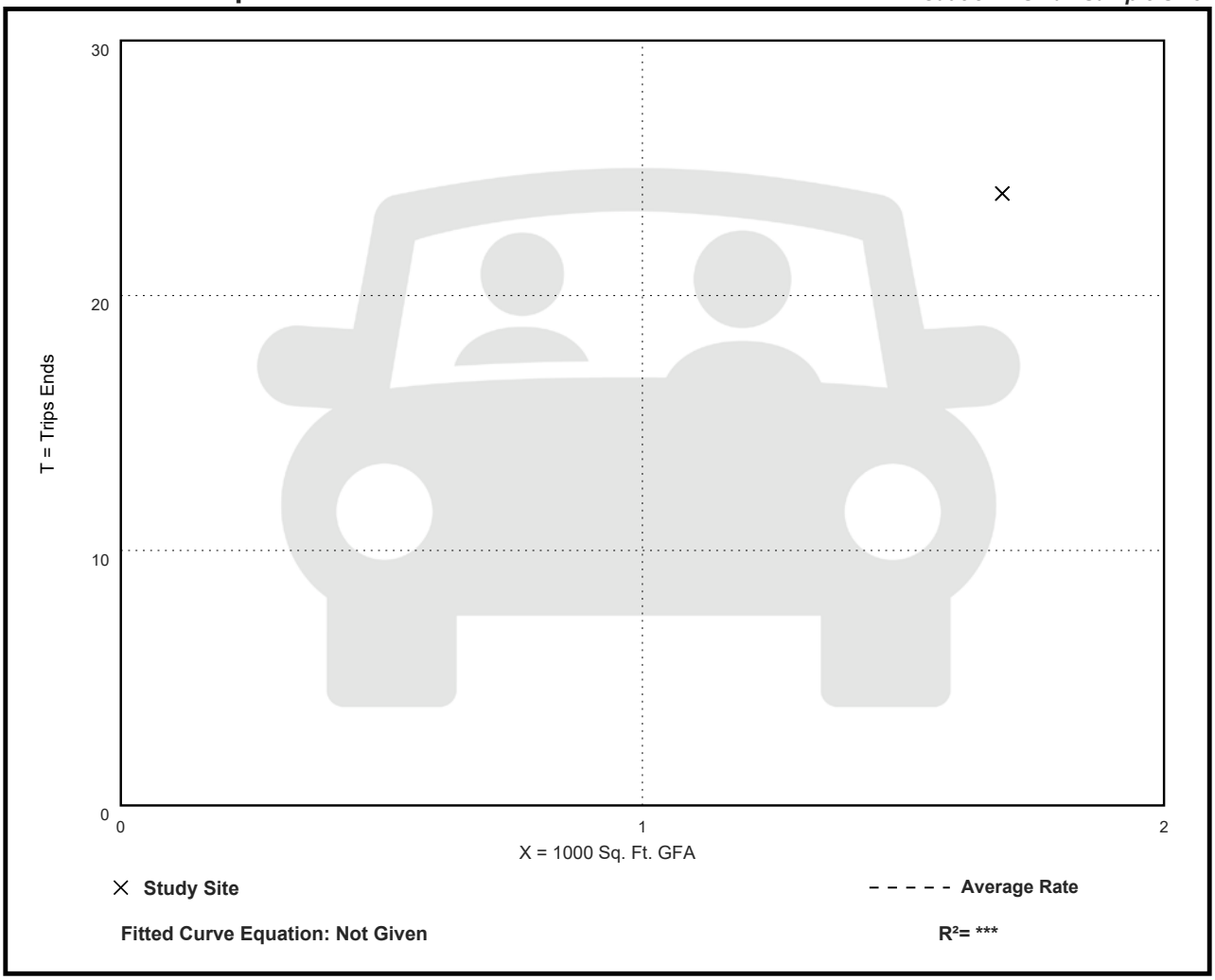
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
14.20	14.20 - 14.20	***

Data Plot and Equation

Caution – Small Sample Size



Automated Car Wash
(948)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

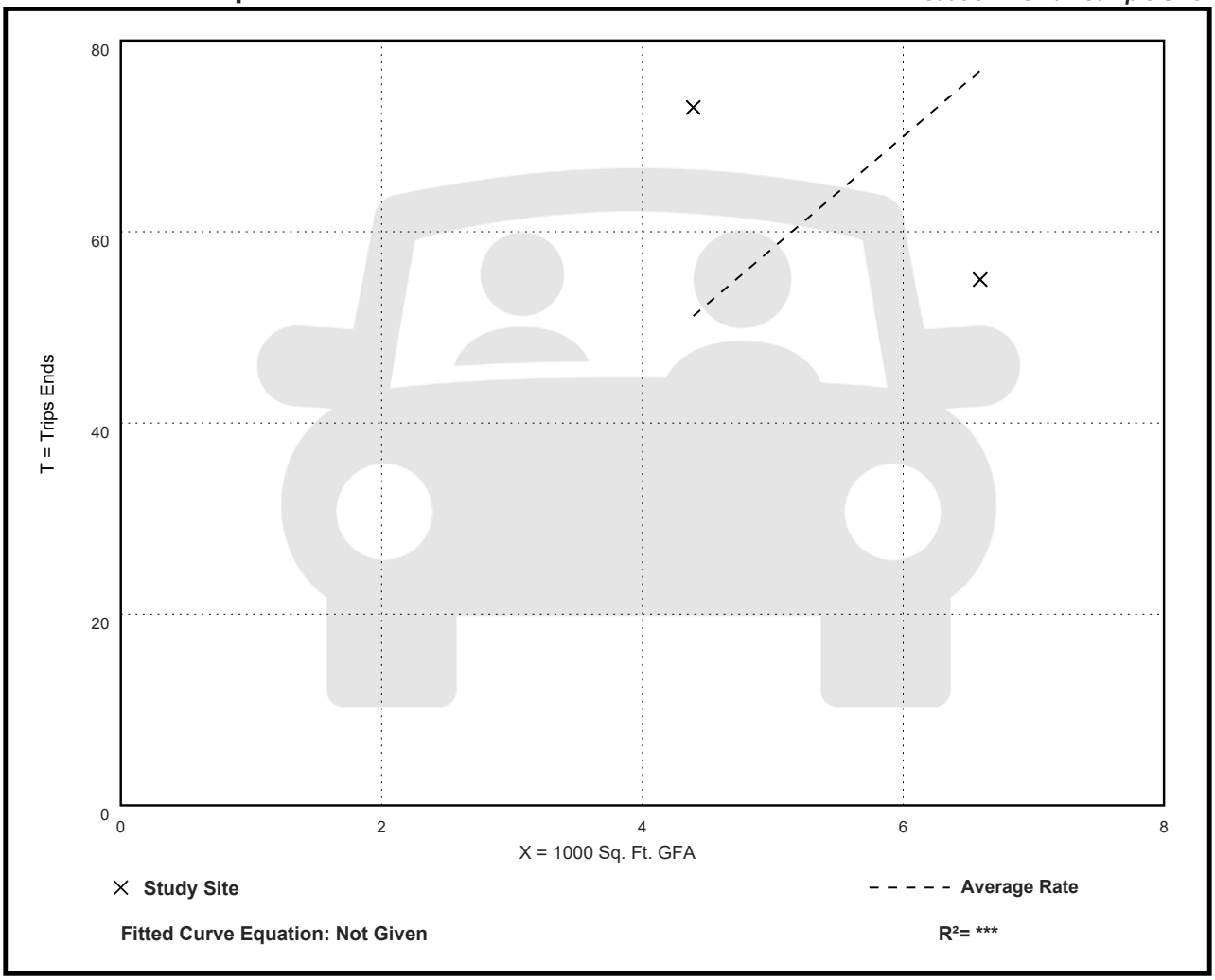
Setting/Location: General Urban/Suburban
Number of Studies: 2
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.66	8.35 - 16.63	***

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ***

Automated Car Wash
(948)

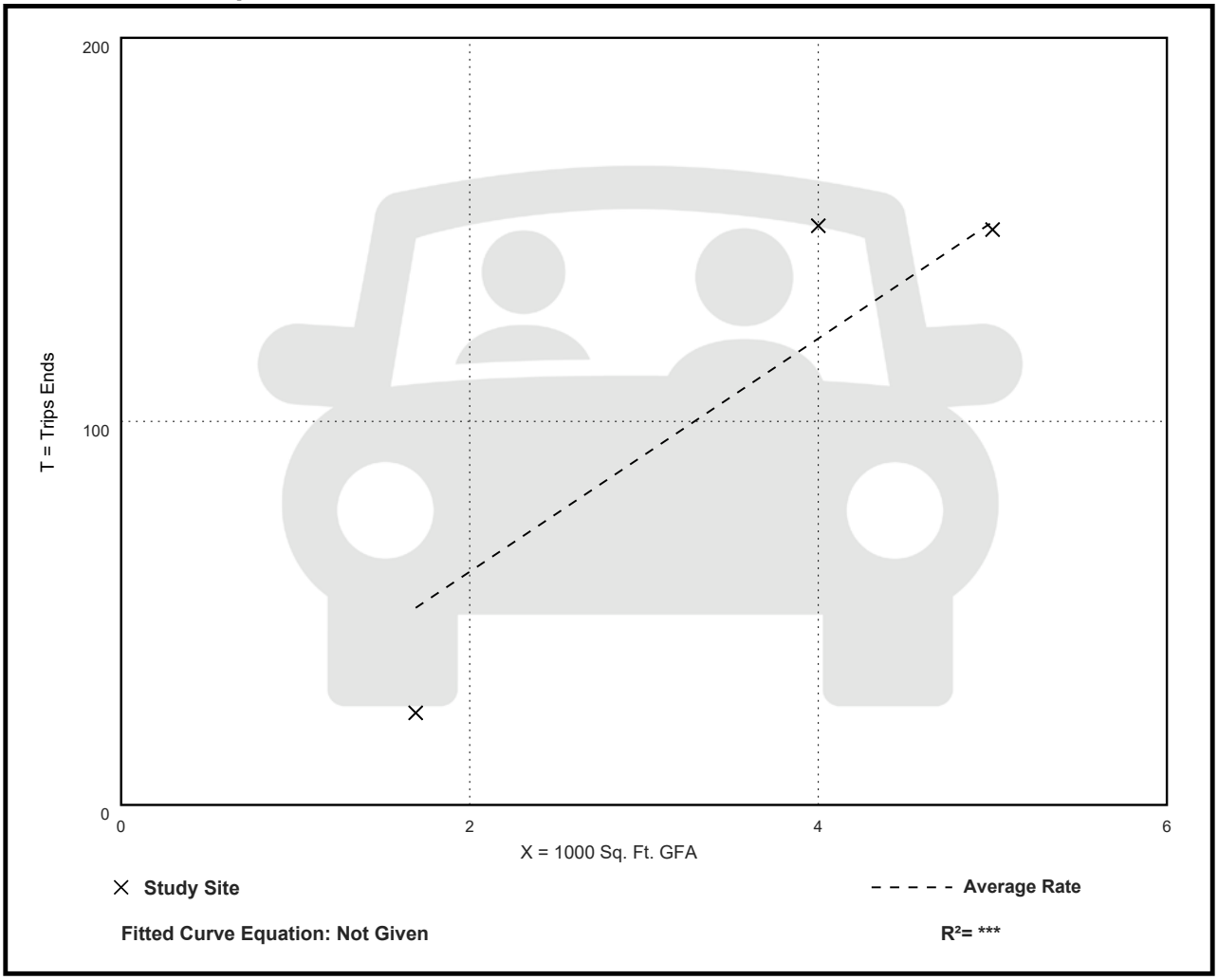
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 3
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
30.40	14.20 - 37.75	9.63

Data Plot and Equation



Appendix 4 - Tables for LOS, Delays and Queue Lengths

AM		Tuttle Ave Eastbound			Tuttle Ave Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing	Delay (Sec)	19.8	0.0	19.9	20.5	0.0	18.5	27.7	20.1	13.1	27.0	33.2	13.5
	LOS	B	A	B	C	A	B	C	C	B	C	C	B
	95th% Queue (ft)	92.0	92.0	34.0	112.0	112.0	13.0	59.0	221.0	0.0	51.0	420.0	7.0
Existing Plus Project	Delay (Sec)	19.8	0.0	19.9	20.5	0.0	18.6	27.7	20.4	13.1	27.1	34.3	13.5
	LOS	B	A	B	C	A	B	C	C	B	C	C	B
	95th% Queue (ft)	94.0	94.0	34.0	112.0	112.0	14.0	59.0	226.0	0.0	53.0	427.0	8.0
Comparison of Existing to Existing Plus Project	Delay (Sec)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.1	1.1	0.0
	LOS	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (ft)	2.0	2.0	0.0	0.0	0.0	1.0	0.0	5.0	0.0	2.0	7.0	1.0

AM		Tuttle Ave Eastbound			Tuttle Ave Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Future	Delay (Sec)	20.3	0.0	20.1	20.6	0.0	18.6	28.5	21.7	13.3	27.1	43.7	13.5
	LOS	C	A	C	C	A	B	C	C	B	C	D	B
	95th% Queue (ft)	107.0	107.0	35.0	117.0	117.0	15.0	67.0	249.0	2.0	53.0	474.0	8.0
Future Plus Project	Delay (Sec)	20.3	0.0	20.1	20.6	0.0	18.7	28.5	21.9	13.3	27.3	45.5	13.5
	LOS	C	A	C	C	A	B	C	C	B	C	D	B
	95th% Queue (ft)	107.0	107.0	35.0	117.0	117.0	16.0	67.0	253.0	2.0	54.0	481.0	9.0
Comparison of Future to Future Plus Project	Delay (Sec)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.2	1.8	0.0
	LOS	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (ft)	0.0	0.0	0.0	0.0	0.0	1.0	0.0	4.0	0.0	1.0	7.0	1.0

PM		Tuttle Ave Eastbound			Tuttle Ave Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing	Delay (Sec)	21.6	0.0	19.1	18.7	0.0	18.5	29.0	23.5	13.6	26.7	32.0	13.9
	LOS	C	A	B	B	A	B	C	C	B	C	C	B
	95th% Queue (ft)	134.0	134.0	24.0	65.0	65.0	12.0	71.0	278.0	13.0	48.0	411.0	20.0
Existing Plus Project	Delay (Sec)	21.7	0.0	19.1	18.7	0.0	18.5	29.0	23.8	13.6	26.8	33.1	13.9
	LOS	C	A	B	B	A	B	C	C	B	C	C	B
	95th% Queue (ft)	136.0	136.0	24.0	65.0	65.0	13.0	71.0	283.0	13.0	49.0	419.0	20.0
Comparison of Existing to Existing Plus Project	Delay (Sec)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1	1.1	0.0
	LOS	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (ft)	2.0	2.0	0.0	0.0	0.0	1.0	0.0	5.0	0.0	1.0	8.0	0.0

PM		Tuttle Ave Eastbound			Tuttle Ave Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Future	Delay (Sec)	22.3	0.0	19.2	18.9	0.0	18.6	29.9	25.9	13.8	26.8	40.5	13.9
	LOS	C	A	B	B	A	B	C	C	B	C	D	B
	95th% Queue (ft)	149.0	149.0	27.0	68.0	68.0	14.0	79.0	346.0	17.0	49.0	460.0	21.0
Future Plus Project	Delay (Sec)	22.4	0.0	19.2	18.9	0.0	18.6	29.9	26.5	13.8	27.0	42.4	14.0
	LOS	C	A	B	B	A	B	C	C	B	C	D	B
	95th% Queue (ft)	150.0	150.0	27.0	68.0	68.0	15.0	79.0	354.0	17.0	51.0	468.0	22.0
Comparison of Future to Future Plus Project	Delay (Sec)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.2	1.9	0.1
	LOS	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (ft)	1.0	1.0	0.0	0.0	0.0	1.0	0.0	8.0	0.0	2.0	8.0	1.0

AM		Eaton Ave Eastbound			Eaton Ave Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing	Delay (Sec)	15.4						8.8	0.0			0.0	0.0
	LOS	C						A	A			A	A
	95th% Queue (veh)	0.2						0.0	0.0			0.0	0.0
Existing Plus Project	Delay (Sec)	15.5						8.9	0.0			0.0	0.0
	LOS	C						A	A			A	A
	95th% Queue (veh)	0.2						0.0	0.0			0.0	0.0
Comparison of Existing to Existing Plus Project	Delay (Sec)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	LOS	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (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

AM		Eaton Ave Eastbound			Eaton Ave Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Future	Delay (Sec)	22.9						9.0	0.0			0.0	0.0
	LOS	C						A	A			A	A
	95th% Queue (veh)	0.5						0.0	0.0			0.0	0.0
Future Plus Project	Delay (Sec)	13.5						9.0	0.0			0.0	0.0
	LOS	B						A	A			A	A
	95th% Queue (veh)	0.2						0.0	0.0			0.0	0.0
Comparison of Future to Future Plus Project	Delay (Sec)	-9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	LOS	B	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (veh)	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PM		Eaton Ave Eastbound			Eaton Ave Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing	Delay (Sec)	18.7						9.1	0.0			0.0	0.0
	LOS	C						A	A			A	A
	95th% Queue (veh)	0.1						0.0	0.0			0.0	0.0
Existing Plus Project	Delay (Sec)	19.0						9.2	0.0			0.0	0.0
	LOS	C						A	A			A	A
	95th% Queue (veh)	0.1						0.0	0.0			0.0	0.0
Comparison of Existing to Existing Plus Project	Delay (Sec)	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	LOS	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (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

PM		Eaton Ave Eastbound			Eaton Ave Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Future	Delay (Sec)	27.9						9.3	0.0			0.0	0.0
	LOS	D						A	A			A	A
	95th% Queue (veh)	0.4						0.0	0.0			0.0	0.0
Future Plus Project	Delay (Sec)	28.5						9.3	0.0			0.0	0.0
	LOS	D						A	A			A	A
	95th% Queue (veh)	0.4						0.0	0.0			0.0	0.0
Comparison of Future to Future Plus Project	Delay (Sec)	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	LOS	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (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

AM		Martinelli St Eastbound			Martinelli St Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing	Delay (Sec)	26.3		30.2				23.0	3.8			11.1	7.2
	LOS	C		C				C	A			B	A
	95th% Queue (ft)	100.0		38.0				70.0	75.0			240.0	26.0
Existing Plus Project	Delay (Sec)	26.1		30.8				23.1	3.8			11.3	7.2
	LOS	C		C				C	A			B	A
	95th% Queue (ft)	101.0		38.0				71.0	76.0			245.0	26.0
Comparison of Existing to Existing Plus Project	Delay (Sec)	-0.2	0.0	0.6	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0
	LOS	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (ft)	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	5.0	0.0

AM		Martinelli St Eastbound			Martinelli St Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Future	Delay (Sec)	29.7		31.0				23.3	4.0			11.9	7.4
	LOS	C		C				C	A			B	A
	95th% Queue (ft)	116.0		39.0				73.0	80.0			259.0	27.0
Future Plus Project	Delay (Sec)	29.2		31.8				23.4	4.0			12.1	7.5
	LOS	C		C				C	A			B	A
	95th% Queue (ft)	116.0		39.0				75.0	81.0			265.0	27.0
Comparison of Future to Future Plus Project	Delay (Sec)	-0.5	0.0	0.8	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1
	LOS	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (ft)	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	0.0	0.0	6.0	0.0

PM		Martinelli St Eastbound			Martinelli St Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing	Delay (Sec)	39.9		28.2				23.5	4.1			12.4	7.7
	LOS	D		C				C	A			B	A
	95th% Queue (ft)	141.0		38.0				76.0	84.0			276.0	29.0
Existing Plus Project	Delay (Sec)	40.0		29.0				23.6	4.2			12.5	7.7
	LOS	D		C				C	A			B	A
	95th% Queue (ft)	140.0		38.0				77.0	85.0			285.0	29.0
Comparison of Existing to Existing Plus Project	Delay (Sec)	0.1	0.0	0.8	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0
	LOS	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (ft)	-1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	9.0	0.0

PM		Martinelli St Eastbound			Martinelli St Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Future	Delay (Sec)	51.0		29.9				23.7	4.3			13.1	7.8
	LOS	D		C				C	A			B	A
	95th% Queue (ft)	155.0		39.0				79.0	90.0			340.0	30.0
Future Plus Project	Delay (Sec)	51.2		30.8				23.0	4.3			13.3	7.8
	LOS	D		C				C	A			B	A
	95th% Queue (ft)	155.0		39.0				81.0	91.0			345.0	30.0
Comparison of Future to Future Plus Project	Delay (Sec)	0.2	0.0	0.9	0.0	0.0	0.0	-0.7	0.0	0.0	0.0	0.2	0.0
	LOS	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (ft)	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	0.0	0.0	5.0	0.0

AM		Project Driveway Eastbound			Project Driveway Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing	Delay (Sec)				0.0				0.0	0.0	15.1	0.0	
	LOS				A				A	A	C	A	
	95th% Queue (veh)				0.0				0.0	0.0	5.0	0.0	
Existing Plus Project	Delay (Sec)				22.2				0.0	0.0	8.8	0.0	
	LOS				C				A	A	A	A	
	95th% Queue (veh)				0.6				0.0	0.0	0.1	0.0	
Comparison of Existing to Existing Plus Project	Delay (Sec)	0.0	0.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	-6.3	0.0	0.0
	LOS	No Change	No Change	No Change	C	No Change	No Change	No Change	No Change	No Change	A	No Change	No Change
	95th% Queue (veh)	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	-4.9	0.0	0.0

AM		Project Driveway Eastbound			Project Driveway Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Future	Delay (Sec)				0.0				0.0	0.0	0.0	0.0	
	LOS				A				A	A	A	A	
	95th% Queue (veh)				0.0				0.0	0.0	0.0	0.0	
Future Plus Project	Delay (Sec)				23.3				0.0	0.0	8.9	0.0	
	LOS				C				A	A	A	A	
	95th% Queue (veh)				0.7				0.0	0.0	0.1	0.0	
Comparison of Future to Future Plus Project	Delay (Sec)	0.0	0.0	0.0	23.3	0.0	0.0	0.0	0.0	0.0	8.9	0.0	0.0
	LOS	No Change	No Change	No Change	C	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (veh)	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

PM		Project Driveway Eastbound			Project Driveway Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing	Delay (Sec)				0.0				0.0	0.0	0.0	0.0	
	LOS				A				A	A	A	A	
	95th% Queue (veh)				0.0				0.0	0.0	0.0	0.0	
Existing Plus Project	Delay (Sec)				27.1				0.0	0.0	9.1	0.0	
	LOS				D				A	A	A	A	
	95th% Queue (veh)				0.8				0.0	0.0	0.1	0.0	
Comparison of Existing to Existing Plus Project	Delay (Sec)	0.0	0.0	0.0	27.1	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0
	LOS	No Change	No Change	No Change	D	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (veh)	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

PM		Project Driveway Eastbound			Project Driveway Westbound			E Lake Ave Northbound			E Lake Ave Southbound		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Future	Delay (Sec)				0.0				0.0	0.0	0.0	0.0	
	LOS				A				A	A	A	A	
	95th% Queue (veh)				0.0				0.0	0.0	0.0	0.0	
Future Plus Project	Delay (Sec)				30.0				0.0	0.0	9.2	0.0	
	LOS				D				A	A	A	A	
	95th% Queue (veh)				0.8				0.0	0.0	0.1	0.0	
Comparison of Future to Future Plus Project	Delay (Sec)	0.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	9.2	0.0	0.0
	LOS	No Change	No Change	No Change	D	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
	95th% Queue (veh)	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

Appendix 5 - (HCM) analysis worksheets

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	135	115	171	63	66	415	23	54	613	46
v/c Ratio	0.38	0.22	0.43	0.12	0.26	0.59	0.04	0.22	0.87	0.07
Control Delay	23.0	5.6	23.5	2.5	28.1	20.6	0.1	27.3	35.2	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	5.6	23.5	2.5	28.1	20.6	0.1	27.3	35.2	1.4
Queue Length 50th (ft)	45	0	58	0	25	134	0	20	230	0
Queue Length 95th (ft)	92	34	112	13	59	221	0	51	#420	7
Internal Link Dist (ft)	616		749			402			174	
Turn Bay Length (ft)		155		155	145		145	145		145
Base Capacity (vph)	356	518	396	514	251	702	651	251	702	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.22	0.43	0.12	0.26	0.59	0.04	0.22	0.87	0.07

Intersection Summary

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	104	101	110	504	555	159
v/c Ratio	0.60	0.41	0.36	0.35	0.52	0.16
Control Delay	41.9	12.0	22.9	3.4	12.5	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	12.0	22.9	3.4	12.5	2.5
Queue Length 50th (ft)	33	0	32	44	123	0
Queue Length 95th (ft)	#100	38	70	75	240	26
Internal Link Dist (ft)	539			527	593	
Turn Bay Length (ft)		145	185			
Base Capacity (vph)	172	245	719	1770	1067	974
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.41	0.15	0.28	0.52	0.16

Intersection Summary

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

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	14	7	605	585	3
Future Vol, veh/h	3	14	7	605	585	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	15	8	658	636	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1310	636	639	0	-	0
Stage 1	636	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	175	478	945	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	174	478	945	-	-	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	506	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	945	-	365	-	-
HCM Lane V/C Ratio	0.008	-	0.051	-	-
HCM Control Delay (s)	8.8	-	15.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

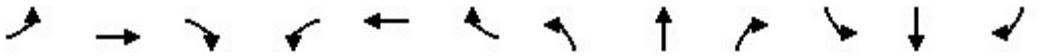
Intersection	
Int Delay, s/veh	8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	529	0	599	0
Future Vol, veh/h	0	0	529	0	599	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	575	0	651	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1877	575	0	0	575	0
Stage 1	575	-	-	-	-	-
Stage 2	1302	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	79	518	-	-	998	-
Stage 1	563	-	-	-	-	-
Stage 2	255	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	27	518	-	-	998	-
Mov Cap-2 Maneuver	27	-	-	-	-	-
Stage 1	563	-	-	-	-	-
Stage 2	89	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	15.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	998	-
HCM Lane V/C Ratio	-	-	-	0.652	-
HCM Control Delay (s)	-	-	0	15.1	-
HCM Lane LOS	-	-	A	C	-
HCM 95th %tile Q(veh)	-	-	-	5	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	35	106	91	66	58	61	382	21	50	564	42
Future Volume (veh/h)	89	35	106	91	66	58	61	382	21	50	564	42
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	97	38	115	99	72	63	66	415	23	54	613	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	384	136	441	321	212	441	252	702	595	252	702	595
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.14	0.38	0.38	0.14	0.38	0.38
Sat Flow, veh/h	1043	489	1585	844	763	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	135	0	115	171	0	63	66	415	23	54	613	46
Grp Sat Flow(s),veh/h/ln	1531	0	1585	1607	0	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	3.7	1.1	0.0	2.0	2.2	11.7	0.6	1.8	20.0	1.2
Cycle Q Clear(g_c), s	3.9	0.0	3.7	5.1	0.0	2.0	2.2	11.7	0.6	1.8	20.0	1.2
Prop In Lane	0.72		1.00	0.58		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	520	0	441	533	0	441	252	702	595	252	702	595
V/C Ratio(X)	0.26	0.00	0.26	0.32	0.00	0.14	0.26	0.59	0.04	0.21	0.87	0.08
Avail Cap(c_a), veh/h	520	0	441	533	0	441	252	702	595	252	702	595
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	18.5	18.9	0.0	17.9	25.2	16.5	13.0	25.0	19.1	13.2
Incr Delay (d2), s/veh	1.2	0.0	1.4	1.6	0.0	0.7	2.5	3.6	0.1	1.9	14.1	0.3
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	0.0	1.5	2.2	0.0	0.8	1.1	5.4	0.2	0.9	10.8	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	19.9	20.5	0.0	18.5	27.7	20.1	13.1	27.0	33.2	13.5
LnGrp LOS	B	A	B	C	A	B	C	C	B	C	C	B
Approach Vol, veh/h		250			234			504			713	
Approach Delay, s/veh		19.8			20.0			20.8			31.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	30.0		22.8	13.0	30.0		22.8				
Change Period (Y+Rc), s	3.7	5.3		4.5	3.7	5.3		* 4.5				
Max Green Setting (Gmax), s	9.3	24.7		18.0	9.3	24.7		* 18				
Max Q Clear Time (g_c+I1), s	3.8	13.7		5.9	4.2	22.0		7.1				
Green Ext Time (p_c), s	0.0	1.2		0.6	0.0	0.8		0.5				

Intersection Summary		
HCM 6th Ctrl Delay		25.0
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	96	93	101	464	511	146
Future Volume (veh/h)	96	93	101	464	511	146
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	101	110	504	555	159
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	171	152	198	1315	946	802
Arrive On Green	0.10	0.10	0.11	0.70	0.51	0.51
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	104	101	110	504	555	159
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	2.7	3.0	2.9	5.3	10.2	2.7
Cycle Q Clear(g_c), s	2.7	3.0	2.9	5.3	10.2	2.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	171	152	198	1315	946	802
V/C Ratio(X)	0.61	0.66	0.56	0.38	0.59	0.20
Avail Cap(c_a), veh/h	182	162	759	1315	946	802
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.2	21.3	20.6	2.9	8.5	6.6
Incr Delay (d2), s/veh	5.1	8.9	2.4	0.8	2.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.4	1.2	1.2	3.9	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.3	30.2	23.0	3.8	11.1	7.2
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	205			614	714	
Approach Delay, s/veh	28.3			7.2	10.2	
Approach LOS	C			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.6		9.2	9.6	30.0
Change Period (Y+Rc), s		5.3		4.5	* 4.2	5.3
Max Green Setting (Gmax), s		24.7		5.0	* 21	24.7
Max Q Clear Time (g_c+I1), s		7.3		5.0	4.9	12.2
Green Ext Time (p_c), s		1.8		0.0	0.2	2.3

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	137	115	171	65	66	422	23	57	620	48
v/c Ratio	0.39	0.22	0.43	0.13	0.26	0.60	0.04	0.23	0.88	0.07
Control Delay	23.3	5.6	23.5	2.7	28.1	20.8	0.1	27.5	36.3	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	5.6	23.5	2.7	28.1	20.8	0.1	27.5	36.3	1.6
Queue Length 50th (ft)	46	0	58	0	25	137	0	21	234	0
Queue Length 95th (ft)	94	34	112	14	59	226	0	53	#427	8
Internal Link Dist (ft)	616		749			402			174	
Turn Bay Length (ft)		155		155	145		145	145		145
Base Capacity (vph)	353	518	395	514	251	702	651	251	702	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.22	0.43	0.13	0.26	0.60	0.04	0.23	0.88	0.07

Intersection Summary

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	104	103	112	510	561	159
v/c Ratio	0.60	0.42	0.37	0.35	0.53	0.16
Control Delay	42.0	12.1	22.9	3.4	12.7	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	12.1	22.9	3.4	12.7	2.5
Queue Length 50th (ft)	33	0	33	45	125	0
Queue Length 95th (ft)	#101	38	71	76	245	26
Internal Link Dist (ft)	539			527	593	
Turn Bay Length (ft)		145	185			
Base Capacity (vph)	172	247	718	1768	1066	974
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.42	0.16	0.29	0.53	0.16

Intersection Summary

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

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	14	7	611	591	3
Future Vol, veh/h	3	14	7	611	591	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	15	8	664	642	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1322	642	645	0	-	0
Stage 1	642	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	173	474	940	-	-	-
Stage 1	524	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	171	474	940	-	-	-
Mov Cap-2 Maneuver	171	-	-	-	-	-
Stage 1	519	-	-	-	-	-
Stage 2	503	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.5	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	940	-	361	-	-
HCM Lane V/C Ratio	0.008	-	0.051	-	-
HCM Control Delay (s)	8.9	-	15.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

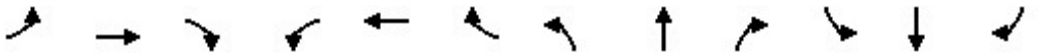
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	16	529	23	16	599
Future Vol, veh/h	23	16	529	23	16	599
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	17	575	25	17	651

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1260	575	0	0	600	0
Stage 1	575	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	188	518	-	-	977	-
Stage 1	563	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	185	518	-	-	977	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	563	-	-	-	-	-
Stage 2	492	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.2	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	251	977	-
HCM Lane V/C Ratio	-	-	0.169	0.018	-
HCM Control Delay (s)	-	-	22.2	8.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	35	106	91	66	60	61	388	21	52	570	44
Future Volume (veh/h)	91	35	106	91	66	60	61	388	21	52	570	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	99	38	115	99	72	65	66	422	23	57	620	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	386	134	441	321	212	441	252	702	595	252	702	595
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.14	0.38	0.38	0.14	0.38	0.38
Sat Flow, veh/h	1049	481	1585	845	763	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	137	0	115	171	0	65	66	422	23	57	620	48
Grp Sat Flow(s),veh/h/ln	1529	0	1585	1608	0	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	3.7	1.0	0.0	2.0	2.2	12.0	0.6	1.9	20.4	1.3
Cycle Q Clear(g_c), s	4.0	0.0	3.7	5.1	0.0	2.0	2.2	12.0	0.6	1.9	20.4	1.3
Prop In Lane	0.72		1.00	0.58		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	520	0	441	534	0	441	252	702	595	252	702	595
V/C Ratio(X)	0.26	0.00	0.26	0.32	0.00	0.15	0.26	0.60	0.04	0.23	0.88	0.08
Avail Cap(c_a), veh/h	520	0	441	534	0	441	252	702	595	252	702	595
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	18.5	18.9	0.0	17.9	25.2	16.6	13.0	25.1	19.2	13.2
Incr Delay (d2), s/veh	1.2	0.0	1.4	1.6	0.0	0.7	2.5	3.8	0.1	2.1	15.1	0.3
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	0.0	1.5	2.2	0.0	0.8	1.1	5.5	0.2	0.9	11.1	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	19.9	20.5	0.0	18.6	27.7	20.4	13.1	27.1	34.3	13.5
LnGrp LOS	B	A	B	C	A	B	C	C	B	C	C	B
Approach Vol, veh/h		252			236			511			725	
Approach Delay, s/veh		19.9			20.0			21.0			32.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	30.0		22.8	13.0	30.0		22.8				
Change Period (Y+Rc), s	3.7	5.3		4.5	3.7	5.3		* 4.5				
Max Green Setting (Gmax), s	9.3	24.7		18.0	9.3	24.7		* 18				
Max Q Clear Time (g_c+I1), s	3.9	14.0		6.0	4.2	22.4		7.1				
Green Ext Time (p_c), s	0.0	1.2		0.6	0.0	0.7		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		25.4	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	96	95	103	469	516	146
Future Volume (veh/h)	96	95	103	469	516	146
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	103	112	510	561	159
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	173	154	199	1314	944	800
Arrive On Green	0.10	0.10	0.11	0.70	0.50	0.50
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	104	103	112	510	561	159
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	2.7	3.1	2.9	5.5	10.4	2.7
Cycle Q Clear(g_c), s	2.7	3.1	2.9	5.5	10.4	2.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	173	154	199	1314	944	800
V/C Ratio(X)	0.60	0.67	0.56	0.39	0.59	0.20
Avail Cap(c_a), veh/h	182	162	757	1314	944	800
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.2	21.3	20.6	3.0	8.6	6.7
Incr Delay (d2), s/veh	5.0	9.4	2.5	0.9	2.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.4	1.3	1.3	4.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.1	30.8	23.1	3.8	11.3	7.2
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	207			622	720	
Approach Delay, s/veh	28.4			7.3	10.4	
Approach LOS	C			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.7		9.3	9.7	30.0
Change Period (Y+Rc), s		5.3		4.5	* 4.2	5.3
Max Green Setting (Gmax), s		24.7		5.0	* 21	24.7
Max Q Clear Time (g_c+I1), s		7.5		5.1	4.9	12.4
Green Ext Time (p_c), s		1.8		0.0	0.2	2.3

Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	154	121	178	66	78	458	33	57	667	48
v/c Ratio	0.47	0.23	0.46	0.13	0.31	0.65	0.05	0.23	0.95	0.07
Control Delay	25.4	5.5	24.1	2.7	29.0	22.2	0.2	27.5	46.4	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.4	5.5	24.1	2.7	29.0	22.2	0.2	27.5	46.4	1.6
Queue Length 50th (ft)	53	0	61	0	30	153	0	21	261	0
Queue Length 95th (ft)	107	35	117	15	67	249	2	53	#474	8
Internal Link Dist (ft)	616		749			402			174	
Turn Bay Length (ft)		155		155	145		145	145		145
Base Capacity (vph)	328	522	389	514	251	702	651	251	702	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.23	0.46	0.13	0.31	0.65	0.05	0.23	0.95	0.07

Intersection Summary

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	117	105	117	528	582	165
v/c Ratio	0.71	0.43	0.39	0.39	0.60	0.18
Control Delay	51.0	12.5	23.4	3.9	14.1	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	12.5	23.4	3.9	14.1	2.5
Queue Length 50th (ft)	37	0	34	47	133	0
Queue Length 95th (ft)	#116	39	73	80	259	27
Internal Link Dist (ft)	539			527	593	
Turn Bay Length (ft)		145	185			
Base Capacity (vph)	165	243	688	1732	963	898
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.43	0.17	0.30	0.60	0.18

Intersection Summary

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

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	15	13	635	615	4
Future Vol, veh/h	15	15	13	635	615	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	16	14	690	668	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1386	668	672	0	-	0
Stage 1	668	-	-	-	-	-
Stage 2	718	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	158	458	919	-	-	-
Stage 1	510	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	156	458	919	-	-	-
Mov Cap-2 Maneuver	156	-	-	-	-	-
Stage 1	502	-	-	-	-	-
Stage 2	483	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.9	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	919	-	233	-	-
HCM Lane V/C Ratio	0.015	-	0.14	-	-
HCM Control Delay (s)	9	-	22.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

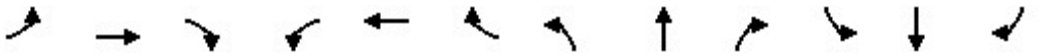
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	561	0	0	635
Future Vol, veh/h	0	0	561	0	0	635
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	610	0	0	690

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1300	610	0	0	610	0
Stage 1	610	-	-	-	-	-
Stage 2	690	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	178	494	-	-	969	-
Stage 1	542	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	178	494	-	-	969	-
Mov Cap-2 Maneuver	178	-	-	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	498	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	969	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	37	111	95	69	61	72	421	30	52	614	44
Future Volume (veh/h)	105	37	111	95	69	61	72	421	30	52	614	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	114	40	121	103	75	66	78	458	33	57	667	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	392	124	441	323	213	441	252	702	595	252	702	595
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.14	0.38	0.38	0.14	0.38	0.38
Sat Flow, veh/h	1068	446	1585	849	767	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	154	0	121	178	0	66	78	458	33	57	667	48
Grp Sat Flow(s),veh/h/ln	1514	0	1585	1617	0	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	3.9	0.5	0.0	2.1	2.6	13.3	0.9	1.9	22.8	1.3
Cycle Q Clear(g_c), s	4.7	0.0	3.9	5.2	0.0	2.1	2.6	13.3	0.9	1.9	22.8	1.3
Prop In Lane	0.74		1.00	0.58		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	516	0	441	536	0	441	252	702	595	252	702	595
V/C Ratio(X)	0.30	0.00	0.27	0.33	0.00	0.15	0.31	0.65	0.06	0.23	0.95	0.08
Avail Cap(c_a), veh/h	516	0	441	536	0	441	252	702	595	252	702	595
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	18.6	19.0	0.0	17.9	25.4	17.0	13.1	25.1	20.0	13.2
Incr Delay (d2), s/veh	1.5	0.0	1.5	1.7	0.0	0.7	3.2	4.7	0.2	2.1	23.7	0.3
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	2.0	0.0	1.6	2.3	0.0	0.8	1.3	6.2	0.3	0.9	13.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	0.0	20.1	20.6	0.0	18.6	28.5	21.7	13.3	27.1	43.7	13.5
LnGrp LOS	C	A	C	C	A	B	C	C	B	C	D	B
Approach Vol, veh/h		275			244			569			772	
Approach Delay, s/veh		20.2			20.1			22.1			40.6	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	30.0		22.8	13.0	30.0		22.8				
Change Period (Y+Rc), s	3.7	5.3		4.5	3.7	5.3		* 4.5				
Max Green Setting (Gmax), s	9.3	24.7		18.0	9.3	24.7		* 18				
Max Q Clear Time (g_c+I1), s	3.9	15.3		6.7	4.6	24.8		7.2				
Green Ext Time (p_c), s	0.0	1.3		0.7	0.0	0.0		0.6				

Intersection Summary	
HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	108	97	108	486	535	152
Future Volume (veh/h)	108	97	108	486	535	152
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	117	105	117	528	582	165
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	177	158	202	1312	939	796
Arrive On Green	0.10	0.10	0.11	0.70	0.50	0.50
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	117	105	117	528	582	165
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	3.1	3.1	3.1	5.8	11.1	2.8
Cycle Q Clear(g_c), s	3.1	3.1	3.1	5.8	11.1	2.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	177	158	202	1312	939	796
V/C Ratio(X)	0.66	0.67	0.58	0.40	0.62	0.21
Avail Cap(c_a), veh/h	181	161	753	1312	939	796
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.3	21.4	20.7	3.1	8.8	6.8
Incr Delay (d2), s/veh	8.3	9.7	2.6	0.9	3.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.1	1.3	1.4	4.3	3.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.7	31.0	23.3	4.0	11.9	7.4
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	222			645	747	
Approach Delay, s/veh	30.3			7.5	10.9	
Approach LOS	C			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.8		9.4	9.8	30.0
Change Period (Y+Rc), s		5.3		4.5	* 4.2	5.3
Max Green Setting (Gmax), s		24.7		5.0	* 21	24.7
Max Q Clear Time (g_c+I1), s		7.8		5.1	5.1	13.1
Green Ext Time (p_c), s		1.9		0.0	0.2	2.3

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	154	121	178	68	78	464	33	59	674	50
v/c Ratio	0.47	0.23	0.46	0.13	0.31	0.66	0.05	0.24	0.96	0.08
Control Delay	25.4	5.5	24.1	2.8	29.0	22.4	0.2	27.7	48.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.4	5.5	24.1	2.8	29.0	22.4	0.2	27.7	48.4	1.7
Queue Length 50th (ft)	53	0	61	0	30	155	0	22	266	0
Queue Length 95th (ft)	107	35	117	16	67	253	2	54	#481	9
Internal Link Dist (ft)	616		749			402			174	
Turn Bay Length (ft)		155		155	145		145	145		145
Base Capacity (vph)	328	522	389	514	251	702	651	251	702	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.23	0.46	0.13	0.31	0.66	0.05	0.24	0.96	0.08

Intersection Summary

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	117	108	120	534	587	165
v/c Ratio	0.71	0.44	0.40	0.40	0.61	0.18
Control Delay	51.1	12.5	23.5	3.9	14.4	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	12.5	23.5	3.9	14.4	2.5
Queue Length 50th (ft)	38	0	35	48	135	0
Queue Length 95th (ft)	#116	39	75	81	265	27
Internal Link Dist (ft)	539			527	593	
Turn Bay Length (ft)		145	185			
Base Capacity (vph)	165	245	687	1728	962	897
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.44	0.17	0.31	0.61	0.18

Intersection Summary

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	15	13	6141	621	4
Future Vol, veh/h	15	15	13	6141	621	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	16	14	6675	675	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7378	675	679	0	-	0
Stage 1	675	-	-	-	-	-
Stage 2	6703	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	454	913	-	-	-
Stage 1	506	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	454	913	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	498	-	-	-	-	-
Stage 2	0	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	913	-	454	-	-
HCM Lane V/C Ratio	0.015	-	0.072	-	-
HCM Control Delay (s)	9	-	13.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	16	561	23	16	635
Future Vol, veh/h	23	16	561	23	16	635
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	17	610	25	17	690

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1334	610	0	0	635	0
Stage 1	610	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	170	494	-	-	948	-
Stage 1	542	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	167	494	-	-	948	-
Mov Cap-2 Maneuver	167	-	-	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	471	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.3	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	229	948	-
HCM Lane V/C Ratio	-	-	0.185	0.018	-
HCM Control Delay (s)	-	-	24.3	8.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	37	111	95	69	63	72	427	30	54	620	46
Future Volume (veh/h)	105	37	111	95	69	63	72	427	30	54	620	46
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	114	40	121	103	75	68	78	464	33	59	674	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	392	124	441	323	213	441	252	702	595	252	702	595
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.14	0.38	0.38	0.14	0.38	0.38
Sat Flow, veh/h	1068	446	1585	849	767	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	154	0	121	178	0	68	78	464	33	59	674	50
Grp Sat Flow(s),veh/h/ln	1514	0	1585	1617	0	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	3.9	0.5	0.0	2.1	2.6	13.6	0.9	1.9	23.2	1.3
Cycle Q Clear(g_c), s	4.7	0.0	3.9	5.2	0.0	2.1	2.6	13.6	0.9	1.9	23.2	1.3
Prop In Lane	0.74		1.00	0.58		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	516	0	441	536	0	441	252	702	595	252	702	595
V/C Ratio(X)	0.30	0.00	0.27	0.33	0.00	0.15	0.31	0.66	0.06	0.23	0.96	0.08
Avail Cap(c_a), veh/h	516	0	441	536	0	441	252	702	595	252	702	595
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	18.6	19.0	0.0	17.9	25.4	17.1	13.1	25.1	20.1	13.3
Incr Delay (d2), s/veh	1.5	0.0	1.5	1.7	0.0	0.7	3.2	4.8	0.2	2.2	25.5	0.3
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	2.0	0.0	1.6	2.3	0.0	0.8	1.3	6.4	0.3	0.9	14.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	0.0	20.1	20.6	0.0	18.7	28.5	21.9	13.3	27.3	45.5	13.5
LnGrp LOS	C	A	C	C	A	B	C	C	B	C	D	B
Approach Vol, veh/h		275			246			575			783	
Approach Delay, s/veh		20.2			20.1			22.3			42.1	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	30.0		22.8	13.0	30.0		22.8				
Change Period (Y+Rc), s	3.7	5.3		4.5	3.7	5.3		* 4.5				
Max Green Setting (Gmax), s	9.3	24.7		18.0	9.3	24.7		* 18				
Max Q Clear Time (g_c+I1), s	3.9	15.6		6.7	4.6	25.2		7.2				
Green Ext Time (p_c), s	0.0	1.3		0.7	0.0	0.0		0.6				

Intersection Summary	
HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	108	99	110	491	540	152
Future Volume (veh/h)	108	99	110	491	540	152
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	117	108	120	534	587	165
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	180	161	204	1309	936	793
Arrive On Green	0.10	0.10	0.11	0.70	0.50	0.50
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	117	108	120	534	587	165
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	3.1	3.2	3.2	5.9	11.3	2.9
Cycle Q Clear(g_c), s	3.1	3.2	3.2	5.9	11.3	2.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	180	161	204	1309	936	793
V/C Ratio(X)	0.65	0.67	0.59	0.41	0.63	0.21
Avail Cap(c_a), veh/h	180	161	751	1309	936	793
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.3	21.4	20.7	3.1	9.0	6.9
Incr Delay (d2), s/veh	7.9	10.5	2.7	0.9	3.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.5	1.4	1.4	4.4	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.2	31.8	23.4	4.0	12.1	7.5
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	225			654	752	
Approach Delay, s/veh	30.5			7.6	11.1	
Approach LOS	C			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.8		9.5	9.8	30.0
Change Period (Y+Rc), s		5.3		4.5	* 4.2	5.3
Max Green Setting (Gmax), s		24.7		5.0	* 21	24.7
Max Q Clear Time (g_c+I1), s		7.9		5.2	5.2	13.3
Green Ext Time (p_c), s		1.9		0.0	0.2	2.3

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	206	85	94	61	84	498	58	50	604	74
v/c Ratio	0.50	0.17	0.22	0.12	0.33	0.71	0.09	0.20	0.86	0.11
Control Delay	25.2	4.7	19.8	2.4	29.5	24.1	2.2	27.1	33.9	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	4.7	19.8	2.4	29.5	24.1	2.2	27.1	33.9	3.5
Queue Length 50th (ft)	72	0	30	0	32	171	0	19	225	0
Queue Length 95th (ft)	134	24	65	12	71	278	13	48	#411	20
Internal Link Dist (ft)	616		749			402			174	
Turn Bay Length (ft)		155		155	145		145	145		145
Base Capacity (vph)	408	507	434	514	251	702	651	251	702	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.17	0.22	0.12	0.33	0.71	0.09	0.20	0.86	0.11

Intersection Summary

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	139	99	122	550	597	185
v/c Ratio	0.84	0.42	0.40	0.41	0.62	0.20
Control Delay	68.8	12.4	23.6	3.9	14.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.8	12.4	23.6	3.9	14.9	2.5
Queue Length 50th (ft)	45	0	36	50	139	0
Queue Length 95th (ft)	#141	38	76	84	#276	29
Internal Link Dist (ft)	539			527	593	
Turn Bay Length (ft)		145	185			
Base Capacity (vph)	165	237	686	1726	960	906
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.42	0.18	0.32	0.62	0.20

Intersection Summary

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

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	6	7	603	657	6
Future Vol, veh/h	3	6	7	603	657	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	7	8	655	714	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1385	714	721	0	-	0
Stage 1	714	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	158	431	881	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	157	431	881	-	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	481	-	-	-	-	-
Stage 2	508	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	881	-	272	-	-
HCM Lane V/C Ratio	0.009	-	0.036	-	-
HCM Control Delay (s)	9.1	-	18.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	610	0	0	663
Future Vol, veh/h	0	0	610	0	0	663
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	663	0	0	721

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1384	663	0	0	663	0
Stage 1	663	-	-	-	-	-
Stage 2	721	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	158	461	-	-	926	-
Stage 1	512	-	-	-	-	-
Stage 2	482	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	158	461	-	-	926	-
Mov Cap-2 Maneuver	158	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	482	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	926	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th Signalized Intersection Summary
1: Tuttle & E. Lake

09-05-2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	94	78	36	51	56	77	458	53	46	556	68
Future Volume (veh/h)	96	94	78	36	51	56	77	458	53	46	556	68
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	104	102	85	39	55	61	84	498	58	50	604	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	249	441	238	306	441	252	702	595	252	702	595
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.14	0.38	0.38	0.14	0.38	0.38
Sat Flow, veh/h	709	896	1585	577	1099	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	206	0	85	94	0	61	84	498	58	50	604	74
Grp Sat Flow(s),veh/h/ln	1605	0	1585	1676	0	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.1	0.0	2.7	0.0	0.0	1.9	2.8	14.9	1.6	1.6	19.6	2.0
Cycle Q Clear(g_c), s	6.7	0.0	2.7	2.5	0.0	1.9	2.8	14.9	1.6	1.6	19.6	2.0
Prop In Lane	0.50		1.00	0.41		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	529	0	441	544	0	441	252	702	595	252	702	595
V/C Ratio(X)	0.39	0.00	0.19	0.17	0.00	0.14	0.33	0.71	0.10	0.20	0.86	0.12
Avail Cap(c_a), veh/h	529	0	441	544	0	441	252	702	595	252	702	595
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	0.0	18.1	18.1	0.0	17.8	25.5	17.5	13.3	25.0	19.0	13.5
Incr Delay (d2), s/veh	2.2	0.0	1.0	0.7	0.0	0.7	3.5	6.0	0.3	1.8	13.1	0.4
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	0.0	1.1	1.1	0.0	0.7	1.4	7.1	0.6	0.8	10.4	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	19.1	18.7	0.0	18.5	29.0	23.5	13.6	26.7	32.0	13.9
LnGrp LOS	C	A	B	B	A	B	C	C	B	C	C	B
Approach Vol, veh/h		291			155			640			728	
Approach Delay, s/veh		20.9			18.6			23.3			29.8	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	30.0		22.8	13.0	30.0		22.8				
Change Period (Y+Rc), s	3.7	5.3		4.5	3.7	5.3		* 4.5				
Max Green Setting (Gmax), s	9.3	24.7		18.0	9.3	24.7		* 18				
Max Q Clear Time (g_c+I1), s	3.6	16.9		8.7	4.8	21.6		4.5				
Green Ext Time (p_c), s	0.0	1.4		0.7	0.1	0.9		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	128	91	112	506	549	170
Future Volume (veh/h)	128	91	112	506	549	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	99	122	550	597	185
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	180	160	205	1310	935	793
Arrive On Green	0.10	0.10	0.12	0.70	0.50	0.50
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	139	99	122	550	597	185
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	3.8	3.0	3.2	6.2	11.6	3.3
Cycle Q Clear(g_c), s	3.8	3.0	3.2	6.2	11.6	3.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	180	160	205	1310	935	793
V/C Ratio(X)	0.77	0.62	0.59	0.42	0.64	0.23
Avail Cap(c_a), veh/h	180	160	750	1310	935	793
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.6	21.3	20.8	3.1	9.1	7.0
Incr Delay (d2), s/veh	18.3	6.9	2.7	1.0	3.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.9	1.4	1.5	4.5	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.9	28.2	23.5	4.1	12.4	7.7
LnGrp LOS	D	C	C	A	B	A
Approach Vol, veh/h	238			672	782	
Approach Delay, s/veh	35.0			7.6	11.3	
Approach LOS	D			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.9		9.5	9.9	30.0
Change Period (Y+Rc), s		5.3		4.5	* 4.2	5.3
Max Green Setting (Gmax), s		24.7		5.0	* 21	24.7
Max Q Clear Time (g_c+I1), s		8.2		5.8	5.2	13.6
Green Ext Time (p_c), s		2.0		0.0	0.2	2.4

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	209	85	94	63	84	505	58	52	612	76
v/c Ratio	0.51	0.17	0.22	0.12	0.33	0.72	0.09	0.21	0.87	0.12
Control Delay	25.4	4.7	19.8	2.5	29.5	24.6	2.2	27.2	35.0	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.4	4.7	19.8	2.5	29.5	24.6	2.2	27.2	35.0	3.6
Queue Length 50th (ft)	73	0	30	0	32	174	0	20	229	0
Queue Length 95th (ft)	136	24	65	13	71	283	13	49	#419	20
Internal Link Dist (ft)	616		749			402			174	
Turn Bay Length (ft)		155		155	145		145	145		145
Base Capacity (vph)	406	507	433	514	251	702	651	251	702	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.17	0.22	0.12	0.33	0.72	0.09	0.21	0.87	0.12

Intersection Summary

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	139	101	124	555	602	185
v/c Ratio	0.85	0.42	0.41	0.41	0.63	0.20
Control Delay	69.3	12.5	23.6	4.0	15.1	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.3	12.5	23.6	4.0	15.1	2.5
Queue Length 50th (ft)	45	0	36	50	141	0
Queue Length 95th (ft)	#140	38	77	85	#285	29
Internal Link Dist (ft)	539			527	593	
Turn Bay Length (ft)		145	185			
Base Capacity (vph)	164	239	686	1725	960	905
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.42	0.18	0.32	0.63	0.20

Intersection Summary

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

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	6	7	610	664	6
Future Vol, veh/h	3	6	7	610	664	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	7	8	663	722	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1401	722	729	0	-	0
Stage 1	722	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	154	427	875	-	-	-
Stage 1	481	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	153	427	875	-	-	-
Mov Cap-2 Maneuver	153	-	-	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	504	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	875	-	267	-	-
HCM Lane V/C Ratio	0.009	-	0.037	-	-
HCM Control Delay (s)	9.2	-	19	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

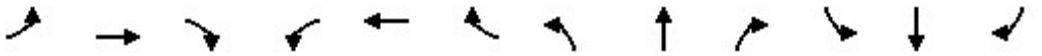
Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	16	610	23	16	663
Future Vol, veh/h	23	16	610	23	16	663
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	17	663	25	17	721

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1418	663	0	0	688	0
Stage 1	663	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	151	461	-	-	906	-
Stage 1	512	-	-	-	-	-
Stage 2	464	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	148	461	-	-	906	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	455	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.1	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	205	906	-
HCM Lane V/C Ratio	-	-	0.207	0.019	-
HCM Control Delay (s)	-	-	27.1	9.1	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	94	78	36	51	58	77	465	53	48	563	70
Future Volume (veh/h)	98	94	78	36	51	58	77	465	53	48	563	70
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	107	102	85	39	55	63	84	505	58	52	612	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	245	441	238	306	441	252	702	595	252	702	595
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.14	0.38	0.38	0.14	0.38	0.38
Sat Flow, veh/h	721	882	1585	576	1099	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	209	0	85	94	0	63	84	505	58	52	612	76
Grp Sat Flow(s),veh/h/ln	1602	0	1585	1675	0	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.3	0.0	2.7	0.0	0.0	2.0	2.8	15.2	1.6	1.7	20.0	2.1
Cycle Q Clear(g_c), s	6.8	0.0	2.7	2.5	0.0	2.0	2.8	15.2	1.6	1.7	20.0	2.1
Prop In Lane	0.51		1.00	0.41		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	528	0	441	543	0	441	252	702	595	252	702	595
V/C Ratio(X)	0.40	0.00	0.19	0.17	0.00	0.14	0.33	0.72	0.10	0.21	0.87	0.13
Avail Cap(c_a), veh/h	528	0	441	543	0	441	252	702	595	252	702	595
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	18.1	18.1	0.0	17.9	25.5	17.6	13.3	25.0	19.1	13.5
Incr Delay (d2), s/veh	2.2	0.0	1.0	0.7	0.0	0.7	3.5	6.3	0.3	1.9	14.0	0.4
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	0.0	1.1	1.1	0.0	0.8	1.4	7.3	0.6	0.8	10.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.7	0.0	19.1	18.7	0.0	18.5	29.0	23.8	13.6	26.8	33.1	13.9
LnGrp LOS	C	A	B	B	A	B	C	C	B	C	C	B
Approach Vol, veh/h		294			157			647			740	
Approach Delay, s/veh		20.9			18.7			23.6			30.7	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	30.0		22.8	13.0	30.0		22.8				
Change Period (Y+Rc), s	3.7	5.3		4.5	3.7	5.3		* 4.5				
Max Green Setting (Gmax), s	9.3	24.7		18.0	9.3	24.7		* 18				
Max Q Clear Time (g_c+I1), s	3.7	17.2		8.8	4.8	22.0		4.5				
Green Ext Time (p_c), s	0.0	1.4		0.7	0.1	0.8		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		25.6	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	128	93	114	511	554	170
Future Volume (veh/h)	128	93	114	511	554	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	101	124	555	602	185
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	180	160	206	1310	935	792
Arrive On Green	0.10	0.10	0.12	0.70	0.50	0.50
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	139	101	124	555	602	185
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	3.8	3.0	3.3	6.2	11.7	3.3
Cycle Q Clear(g_c), s	3.8	3.0	3.3	6.2	11.7	3.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	180	160	206	1310	935	792
V/C Ratio(X)	0.77	0.63	0.60	0.42	0.64	0.23
Avail Cap(c_a), veh/h	180	160	750	1310	935	792
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.7	21.3	20.8	3.2	9.1	7.0
Incr Delay (d2), s/veh	18.3	7.7	2.8	1.0	3.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.3	1.4	1.5	4.6	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.0	29.0	23.6	4.2	12.5	7.7
LnGrp LOS	D	C	C	A	B	A
Approach Vol, veh/h	240			679	787	
Approach Delay, s/veh	35.4			7.7	11.4	
Approach LOS	D			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.9		9.5	9.9	30.0
Change Period (Y+Rc), s		5.3		4.5	* 4.2	5.3
Max Green Setting (Gmax), s		24.7		5.0	* 21	24.7
Max Q Clear Time (g_c+I1), s		8.2		5.8	5.3	13.7
Green Ext Time (p_c), s		2.0		0.0	0.2	2.4

Intersection Summary	
HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	227	89	100	64	95	539	67	52	654	77
v/c Ratio	0.57	0.18	0.23	0.12	0.38	0.77	0.10	0.21	0.93	0.12
Control Delay	27.0	5.0	20.0	2.6	30.4	27.1	3.0	27.2	43.1	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	5.0	20.0	2.6	30.4	27.1	3.0	27.2	43.1	3.6
Queue Length 50th (ft)	81	0	32	0	36	191	0	20	253	0
Queue Length 95th (ft)	149	27	68	14	79	#346	17	49	#460	21
Internal Link Dist (ft)	616		749			402			174	
Turn Bay Length (ft)		155		155	145		145	145		145
Base Capacity (vph)	399	507	430	514	251	702	651	251	702	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.18	0.23	0.12	0.38	0.77	0.10	0.21	0.93	0.12

Intersection Summary

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	152	103	129	575	624	192
v/c Ratio	0.93	0.43	0.42	0.43	0.65	0.21
Control Delay	85.0	12.5	23.7	4.1	16.0	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.0	12.5	23.7	4.1	16.0	2.5
Queue Length 50th (ft)	50	0	38	53	150	0
Queue Length 95th (ft)	#155	39	79	90	#340	30
Internal Link Dist (ft)	539			527	593	
Turn Bay Length (ft)		145	185			
Base Capacity (vph)	164	240	684	1720	957	907
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.43	0.19	0.33	0.65	0.21

Intersection Summary

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	7	12	632	689	7
Future Vol, veh/h	14	7	12	632	689	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	8	13	687	749	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1462	749	757	0	-	0
Stage 1	749	-	-	-	-	-
Stage 2	713	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	142	412	854	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	140	412	854	-	-	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	460	-	-	-	-	-
Stage 2	486	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.9	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	854	-	180	-	-
HCM Lane V/C Ratio	0.015	-	0.127	-	-
HCM Control Delay (s)	9.3	-	27.9	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

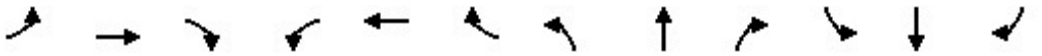
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	643	0	0	699
Future Vol, veh/h	0	0	643	0	0	699
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	699	0	0	760

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1459	699	0	0	699	0
Stage 1	699	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	142	440	-	-	898	-
Stage 1	493	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	142	440	-	-	898	-
Mov Cap-2 Maneuver	142	-	-	-	-	-
Stage 1	493	-	-	-	-	-
Stage 2	462	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	898	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	98	82	38	54	59	87	496	62	48	602	71
Future Volume (veh/h)	110	98	82	38	54	59	87	496	62	48	602	71
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	120	107	89	41	59	64	95	539	67	52	654	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	291	236	441	234	306	441	252	702	595	252	702	595
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.14	0.38	0.38	0.14	0.38	0.38
Sat Flow, veh/h	746	848	1585	563	1102	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	227	0	89	100	0	64	95	539	67	52	654	77
Grp Sat Flow(s),veh/h/ln	1594	0	1585	1665	0	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.9	0.0	2.8	0.0	0.0	2.0	3.2	16.6	1.8	1.7	22.1	2.1
Cycle Q Clear(g_c), s	7.5	0.0	2.8	2.7	0.0	2.0	3.2	16.6	1.8	1.7	22.1	2.1
Prop In Lane	0.53		1.00	0.41		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	527	0	441	540	0	441	252	702	595	252	702	595
V/C Ratio(X)	0.43	0.00	0.20	0.19	0.00	0.15	0.38	0.77	0.11	0.21	0.93	0.13
Avail Cap(c_a), veh/h	527	0	441	540	0	441	252	702	595	252	702	595
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	18.2	18.1	0.0	17.9	25.6	18.0	13.4	25.0	19.7	13.5
Incr Delay (d2), s/veh	2.6	0.0	1.0	0.8	0.0	0.7	4.3	7.9	0.4	1.9	20.8	0.4
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	3.1	0.0	1.1	1.2	0.0	0.8	1.6	8.2	0.7	0.8	12.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	0.0	19.2	18.9	0.0	18.6	29.9	25.9	13.8	26.8	40.5	13.9
LnGrp LOS	C	A	B	B	A	B	C	C	B	C	D	B
Approach Vol, veh/h		316			164			701			783	
Approach Delay, s/veh		21.4			18.7			25.3			37.0	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	30.0		22.8	13.0	30.0		22.8				
Change Period (Y+Rc), s	3.7	5.3		4.5	3.7	5.3		* 4.5				
Max Green Setting (Gmax), s	9.3	24.7		18.0	9.3	24.7		* 18				
Max Q Clear Time (g_c+I1), s	3.7	18.6		9.5	5.2	24.1		4.7				
Green Ext Time (p_c), s	0.0	1.3		0.7	0.1	0.2		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		28.8	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	140	95	119	529	574	177
Future Volume (veh/h)	140	95	119	529	574	177
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	103	129	575	624	192
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	180	160	209	1311	933	791
Arrive On Green	0.10	0.10	0.12	0.70	0.50	0.50
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	152	103	129	575	624	192
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	4.2	3.1	3.4	6.6	12.4	3.4
Cycle Q Clear(g_c), s	4.2	3.1	3.4	6.6	12.4	3.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	180	160	209	1311	933	791
V/C Ratio(X)	0.84	0.64	0.62	0.44	0.67	0.24
Avail Cap(c_a), veh/h	180	160	748	1311	933	791
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.9	21.4	20.8	3.2	9.3	7.1
Incr Delay (d2), s/veh	29.1	8.5	2.9	1.1	3.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.4	1.5	1.6	5.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.0	29.9	23.7	4.3	13.1	7.8
LnGrp LOS	D	C	C	A	B	A
Approach Vol, veh/h	255			704	816	
Approach Delay, s/veh	42.5			7.8	11.9	
Approach LOS	D			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		40.0		9.5	10.0	30.0
Change Period (Y+Rc), s		5.3		4.5	* 4.2	5.3
Max Green Setting (Gmax), s		24.7		5.0	* 21	24.7
Max Q Clear Time (g_c+I1), s		8.6		6.2	5.4	14.4
Green Ext Time (p_c), s		2.1		0.0	0.2	2.4

Intersection Summary	
HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	229	89	100	66	95	547	67	54	662	79
v/c Ratio	0.57	0.18	0.23	0.13	0.38	0.78	0.10	0.22	0.94	0.12
Control Delay	27.2	5.0	20.0	2.7	30.4	27.8	3.0	27.3	45.1	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	5.0	20.0	2.7	30.4	27.8	3.0	27.3	45.1	3.8
Queue Length 50th (ft)	81	0	32	0	36	195	0	20	258	0
Queue Length 95th (ft)	150	27	68	15	79	#354	17	51	#468	22
Internal Link Dist (ft)	616		749			402			174	
Turn Bay Length (ft)		155		155	145		145	145		145
Base Capacity (vph)	399	507	429	514	251	702	651	251	702	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.18	0.23	0.13	0.38	0.78	0.10	0.22	0.94	0.12

Intersection Summary

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

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	152	105	132	580	629	192
v/c Ratio	0.93	0.43	0.43	0.43	0.66	0.21
Control Delay	85.7	12.6	23.8	4.1	16.3	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.7	12.6	23.8	4.1	16.3	2.5
Queue Length 50th (ft)	50	0	39	53	152	0
Queue Length 95th (ft)	#155	39	81	91	#345	30
Internal Link Dist (ft)	539			527	593	
Turn Bay Length (ft)		145	185			
Base Capacity (vph)	164	242	683	1718	956	906
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.43	0.19	0.34	0.66	0.21

Intersection Summary

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	7	12	639	696	7
Future Vol, veh/h	14	7	12	639	696	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	8	13	695	757	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1478	757	765	0	-	0
Stage 1	757	-	-	-	-	-
Stage 2	721	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	139	408	848	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	482	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	137	408	848	-	-	-
Mov Cap-2 Maneuver	137	-	-	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	482	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.5	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	848	-	176	-	-
HCM Lane V/C Ratio	0.015	-	0.13	-	-
HCM Control Delay (s)	9.3	-	28.5	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

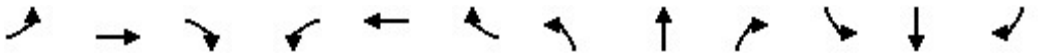
Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	16	643	23	16	699
Future Vol, veh/h	23	16	643	23	16	699
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	17	699	25	17	760

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1493	699	0	0	724	0
Stage 1	699	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	136	440	-	-	879	-
Stage 1	493	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	133	440	-	-	879	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	493	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	186	879	-
HCM Lane V/C Ratio	-	-	0.228	0.02	-
HCM Control Delay (s)	-	-	30	9.2	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	98	82	38	54	61	87	503	62	50	609	73
Future Volume (veh/h)	112	98	82	38	54	61	87	503	62	50	609	73
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	122	107	89	41	59	66	95	547	67	54	662	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	233	441	234	306	441	252	702	595	252	702	595
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.14	0.38	0.38	0.14	0.38	0.38
Sat Flow, veh/h	753	839	1585	562	1101	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	229	0	89	100	0	66	95	547	67	54	662	79
Grp Sat Flow(s),veh/h/ln	1592	0	1585	1664	0	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.9	0.0	2.8	0.0	0.0	2.1	3.2	17.0	1.8	1.8	22.5	2.2
Cycle Q Clear(g_c), s	7.6	0.0	2.8	2.7	0.0	2.1	3.2	17.0	1.8	1.8	22.5	2.2
Prop In Lane	0.53		1.00	0.41		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	527	0	441	540	0	441	252	702	595	252	702	595
V/C Ratio(X)	0.43	0.00	0.20	0.19	0.00	0.15	0.38	0.78	0.11	0.21	0.94	0.13
Avail Cap(c_a), veh/h	527	0	441	540	0	441	252	702	595	252	702	595
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	18.2	18.1	0.0	17.9	25.6	18.1	13.4	25.0	19.9	13.5
Incr Delay (d2), s/veh	2.6	0.0	1.0	0.8	0.0	0.7	4.3	8.3	0.4	1.9	22.5	0.5
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	3.2	0.0	1.1	1.2	0.0	0.8	1.6	8.4	0.7	0.9	13.4	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	0.0	19.2	18.9	0.0	18.6	29.9	26.5	13.8	27.0	42.4	14.0
LnGrp LOS	C	A	B	B	A	B	C	C	B	C	D	B
Approach Vol, veh/h		318			166			709			795	
Approach Delay, s/veh		21.5			18.8			25.7			38.5	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	30.0		22.8	13.0	30.0		22.8				
Change Period (Y+Rc), s	3.7	5.3		4.5	3.7	5.3		* 4.5				
Max Green Setting (Gmax), s	9.3	24.7		18.0	9.3	24.7		* 18				
Max Q Clear Time (g_c+I1), s	3.8	19.0		9.6	5.2	24.5		4.7				
Green Ext Time (p_c), s	0.0	1.3		0.7	0.1	0.1		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	140	97	121	534	579	177
Future Volume (veh/h)	140	97	121	534	579	177
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	105	132	580	629	192
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	180	160	211	1312	932	790
Arrive On Green	0.10	0.10	0.12	0.70	0.50	0.50
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	152	105	132	580	629	192
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	4.2	3.2	3.5	6.7	12.6	3.4
Cycle Q Clear(g_c), s	4.2	3.2	3.5	6.7	12.6	3.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	180	160	211	1312	932	790
V/C Ratio(X)	0.85	0.66	0.63	0.44	0.67	0.24
Avail Cap(c_a), veh/h	180	160	748	1312	932	790
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	21.9	21.5	20.8	3.2	9.4	7.1
Incr Delay (d2), s/veh	29.3	9.4	3.0	1.1	3.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.2	1.5	1.6	5.0	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.2	30.8	23.8	4.3	13.3	7.8
LnGrp LOS	D	C	C	A	B	A
Approach Vol, veh/h	257			712	821	
Approach Delay, s/veh	42.9			7.9	12.0	
Approach LOS	D			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		40.1		9.5	10.1	30.0
Change Period (Y+Rc), s		5.3		4.5	* 4.2	5.3
Max Green Setting (Gmax), s		24.7		5.0	* 21	24.7
Max Q Clear Time (g_c+I1), s		8.7		6.2	5.5	14.6
Green Ext Time (p_c), s		2.1		0.0	0.2	2.4

Intersection Summary		
HCM 6th Ctrl Delay	14.8	
HCM 6th LOS	B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.