

# **APPENDIX H**

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Traffic Study



*Traffic Impact Study*

**Yamane  
Sacramento, California**

January 15, 2016

**Prepared for:**

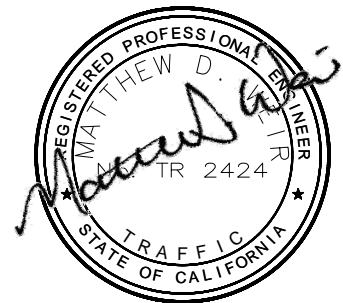
City of Sacramento

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## INTRODUCTION

### Purpose

This report documents the results of a traffic impact study completed for the proposed Yamane project to be located in the southeast corner of the 25<sup>th</sup> Street intersection with J Street in Sacramento, California (the “proposed project” or “project”). The purpose of this study is to prepare a focused traffic evaluation of the effect of the proposed project on the surrounding transportation system, limited to consideration of Existing (2015) and Existing (2015) plus Proposed Project Conditions. The cumulative impacts on roadway segments, transit, bicycle facilities, pedestrian circulation, and parking from all planned *General Plan* development projects (including the proposed project) were identified and analyzed in the *Master EIR*. Because the proposed project is consistent with the *General Plan*, this study only reviews such issues on a project-specific basis only (no cumulative conditions analyses). This study was performed in accordance with the City of Sacramento’s *Traffic Impact Guidelines*<sup>1</sup>.

The remaining sections of this report document the proposed project, analysis methodologies, impacts and mitigation, and general study conclusions.

### Project Description

The project applicant proposes to construct a multi-story, mixed-use condominium building. The project would replace several existing operational uses, which include 12,687-square feet of retail and office uses, with 14,495-square feet of retail uses and 134 for-sale residential condominium units. The project would include three parking levels (one below grade, two above grade), all of which would be accessed from Jazz Alley.

### Study Area

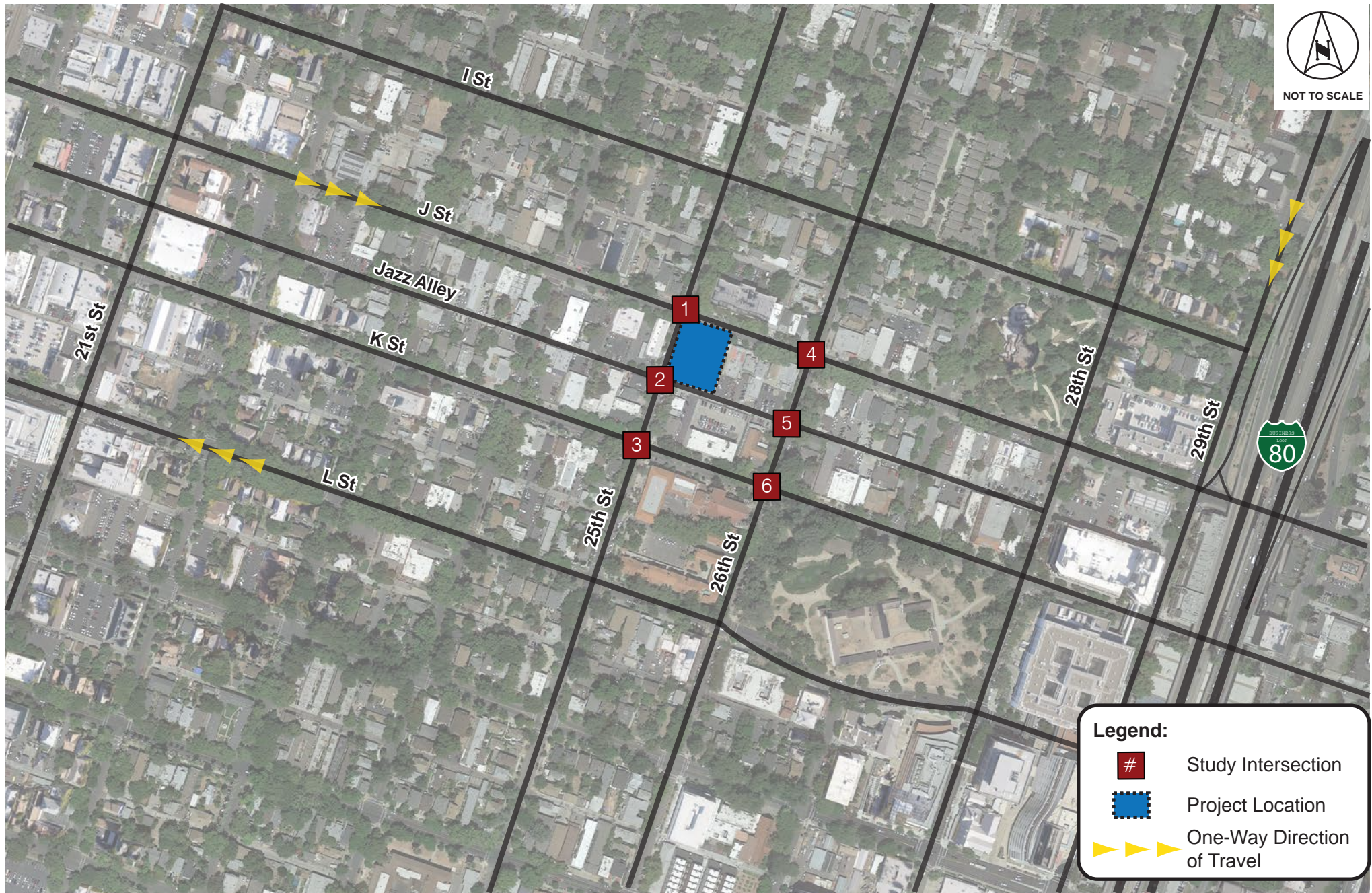
The project location is shown in **Figure 1**. The following intersections are included in this evaluation:

1. 25th Street @ J Street
2. 25th Street @ Jazz Alley
3. 25th Street @ K Street
4. 26th Street @ J Street
5. 26th Street @ Jazz Alley
6. 26th Street @ K Street

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<sup>1</sup> *Traffic Impact Guidelines*, City of Sacramento, February 1996 (updated with the adopted LOS policies of the *Sacramento 2035 General Plan*)





**Legend:**

- # Study Intersection
- Project Location
- ▶▶▶ One-Way Direction of Travel



## ENVIRONMENTAL SETTING

### Project Area Roadways

The following are descriptions of the primary roadways in the vicinity of the project.

**J Street** is an eastbound, one-way arterial roadway bordering the project on the north side. J Street is a three-lane roadway through the project area. This roadway provides west-east connectivity through the downtown core by connecting Interstate 5 (I-5) with Interstate 80 Business. On-street parking and sidewalks are provided on both sides of the street.

**K Street** is a two-way minor collector roadway located south of the project site. K Street is a two-lane roadway through the project area, providing one lane in each direction. In the project vicinity, this roadway terminates at Alhambra Boulevard to the east, just east of Interstate 80 Business. On-street parking, sidewalks, and Class II bike lanes are provided on both sides of the street.

**25<sup>th</sup> Street** is a two-way, two-lane local roadway that borders the west side of the project. Sidewalks and on-street parking are provided on both sides of the street. Likewise, **26<sup>th</sup> Street** is a two-lane, bidirectional local roadway east of the project site. Sidewalks and on-street parking are provided on both sides of the street.

The project proposes to achieve vehicular access from **Jazz Alley**, which borders the south side of the site. This two-way alley extends from 20<sup>th</sup> Street to 28<sup>th</sup> Street and, in the vicinity of the project site, links 25<sup>th</sup> Street with 26<sup>th</sup> Street.

### Public Transit System

Sacramento Regional Transit District (RT) provides transit service in the greater Sacramento metropolitan area. Three routes provide bus service to the project area. As depicted in the current Sacramento RT's system information<sup>2</sup> (see **Figure 2**), fixed route 30 (traversing J Street and L Street) is the closest route. Buses operate daily from 5 a.m. to 10 p.m. with 12-75 minute headways, depending on the route and time of day.

RT's Light Rail service also provides daily connectivity in relatively close proximity to the project site with nearby Gold Line stations along R Street at 23<sup>rd</sup> Street (approximately 0.65-miles from site) and 29<sup>th</sup> Street (approximately 0.7-miles from site). The Gold Line provides service from areas east and west of the project (extending from Folsom to the Sacramento Valley Station in Downtown). Light rail service is operational from 4 a.m. to 12:30 a.m., with 15-minute headways during the day and 30-minute headways in the evenings and on weekends.

### Existing/Planned Bicycle and Pedestrian Facilities

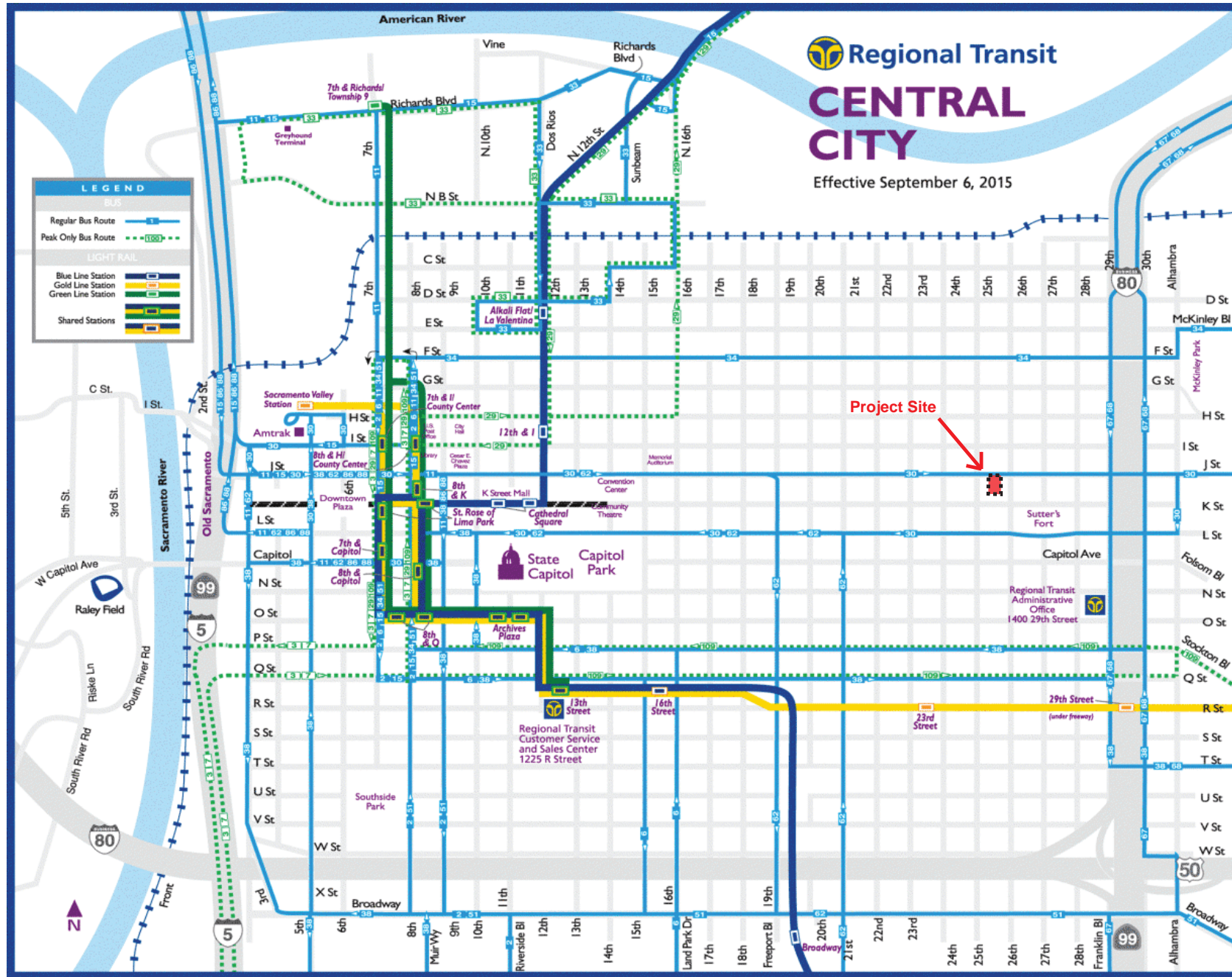
The majority of the area surrounding the project is developed. As a result, the bicycle and pedestrian infrastructure is fairly comprehensive. Sidewalks are provided on both sides of most streets and on-street Class II bike lanes are typically present throughout the project area. Class II bike lanes exist on both sides of K Street while all four streets adjacent to the project site (J Street, K Street, and 25<sup>th</sup> Street) have sidewalks on both sides of the streets. **Figure 3** and depicts the City's existing and proposed bicycle facilities<sup>3</sup>. Existing and proposed pedestrian facilities can be found in the City's *Pedestrian Master Plan*<sup>4</sup>.

<sup>2</sup> Sacramento Regional Transit District, <http://www.sacrt.com/systemmap/central.stm>.

<sup>3</sup> *Bikeway Master Plan*, City of Sacramento. March 2015.

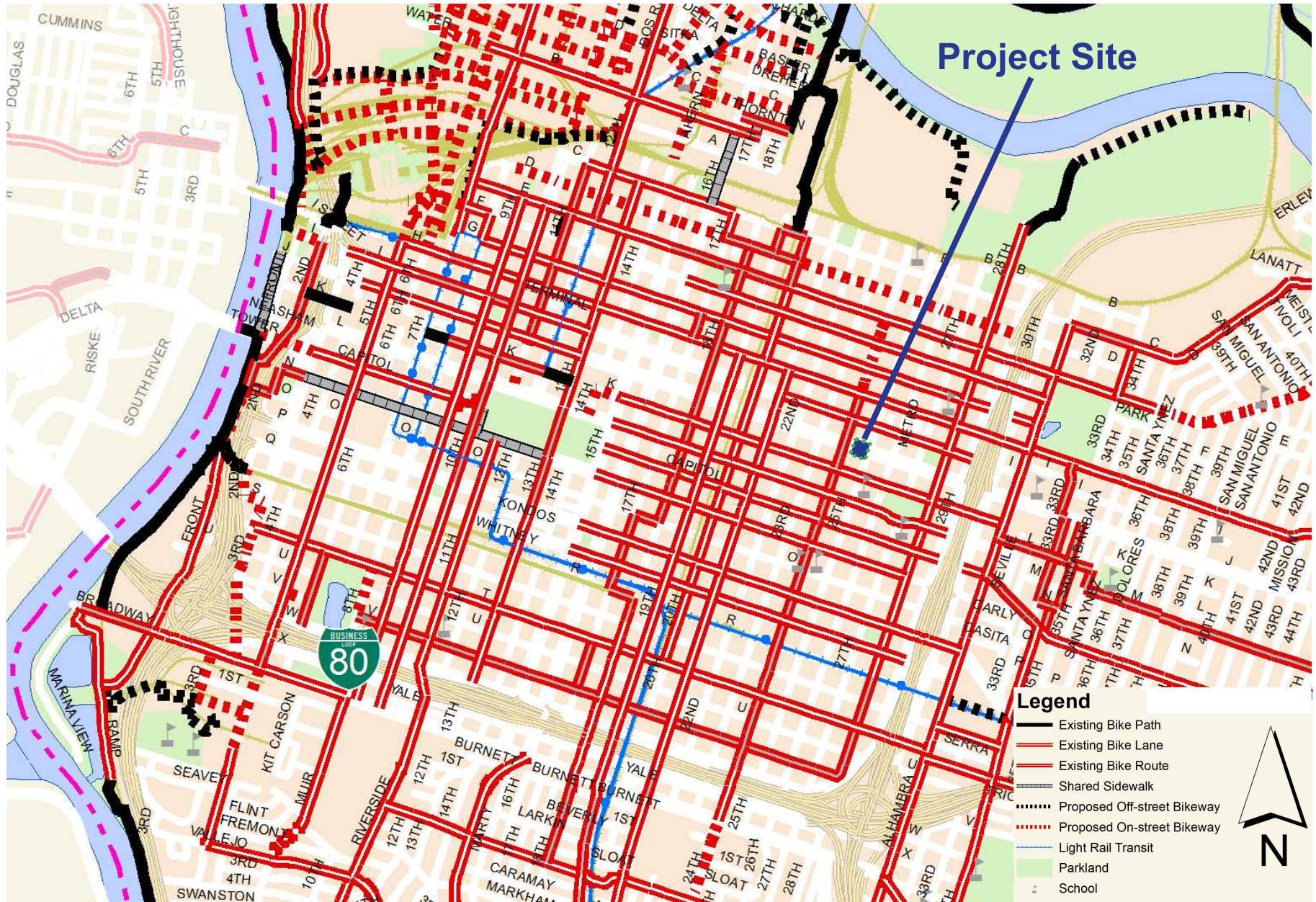
<sup>4</sup> *Pedestrian Master Plan*, City of Sacramento Department of Transportation, September 2006.





Source: Sacramento Regional Transit District





Source: Bikeway Master Plan, City of Sacramento Department of Transportation, March 2015



### Existing Intersection Geometry

**Figure 4** illustrates the study facilities, existing traffic control, and existing lane configurations.

### Existing Traffic Volumes

New weekday AM and PM peak-period turning movement traffic counts were conducted on November 3, 2015, at the study intersections. These counts were conducted between the hours of 7:00 a.m. and 9:00 a.m. and 4:00 p.m. and 6:00 p.m. Existing (2015) peak-hour turn movement volumes are presented in **Figure 5**, and the traffic count data sheets are provided in **Appendix A**.

## REGULATORY SETTING

### Methodology

A field review was completed of the immediate project vicinity and study facilities to observe existing operations and lane configurations, vehicle storage lengths, existing traffic control, speed limits, lane utilization, adjacent land uses, and other readily apparent features for the study facilities that were deemed to be relevant to the study. Weekday, peak-hour conditions are used as the time period during which to assess the transportation facilities' operations both existing, and with the addition of project traffic volumes.

Analysis of transportation facility significant environmental impacts is based on the concept of Level of Service (LOS). The LOS of a facility is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity.

### City of Sacramento

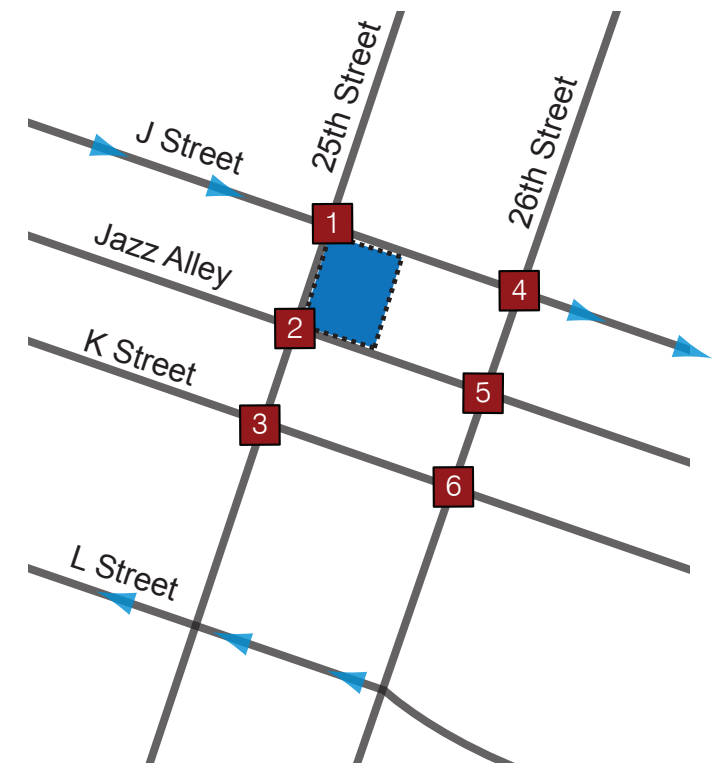
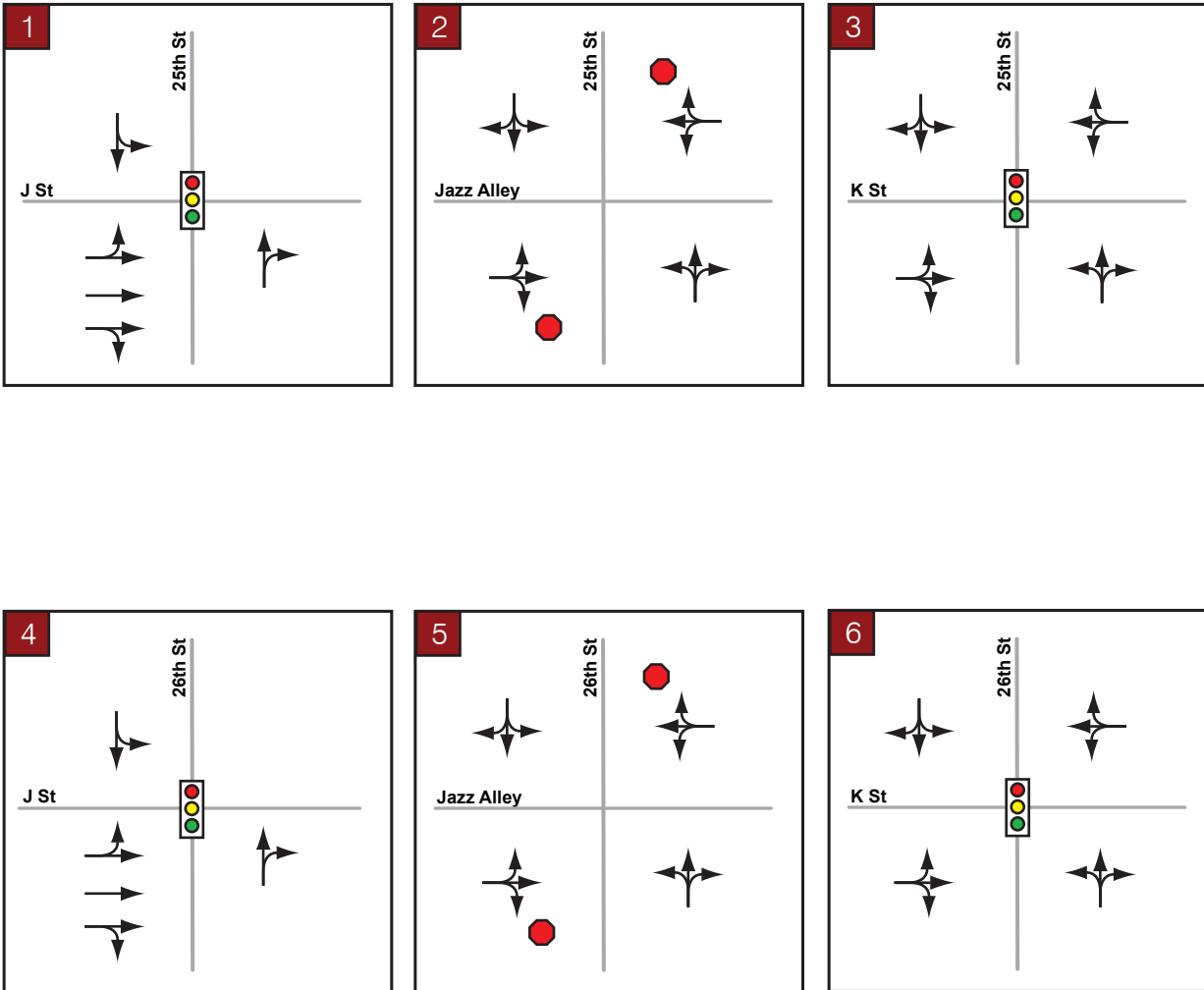
On March 3, 2015, the City of Sacramento City Council adopted the *2035 General Plan*. The Mobility Element of the City of Sacramento's *2035 General Plan* outlines goals and policies that coordinate the transportation and circulation system with planned land uses. The following LOS policy is relevant to this study:

**Policy M 1.2.2** *The City shall implement a flexible context-sensitive Level of Service (LOS) standard, and will measure traffic operations against the vehicle LOS thresholds established in this policy. The City will measure vehicle LOS based on the methodology contained in the latest version of the Highway Capacity Manual (HCM) published by the Transportation Research Board. The City's specific vehicle LOS thresholds have been defined based on community values with respect to modal priorities, land use context, economic development, and environmental resources and constraints. As such, the City has established variable LOS thresholds appropriate for the unique characteristics of the City's diverse neighborhoods and communities. The City will strive to operate the roadway network at LOS D or better for vehicles during typical weekday conditions including AM and PM peak hour with certain exceptions mapped on Figure M-1 (and listed in the General Plan document).*

- A. *Core Area (Central City Community Plan Area) – LOS F allowed*
- B. *Priority Investment Areas – LOS F allowed*
- C. *LOS E Roadways (11 distinct segments listed). LOS E is also allowed on all roadway segments and associated intersections located within ½ mile walking distance of a light rail stations.*
- D. *LOS F roadways (24 distinct segments listed)*
- E. *If maintaining the above LOS standards would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals, LOS E or F conditions may be accepted provided that provisions are made to improve the overall system, promote non-vehicular transportation and/or implement vehicle trip reduction measures as part of a development project or a city-initiated project. Additionally, the City shall not expand the physical capacity of the planned roadway network to accommodate a project beyond that identified in Figure M4 and M4a (2035 General Plan Roadway Classification and Lanes).*



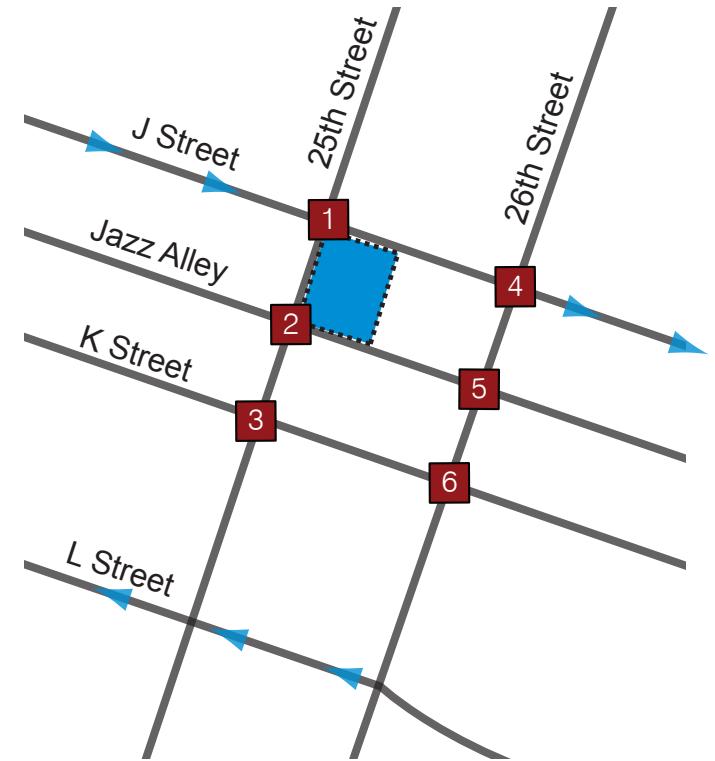
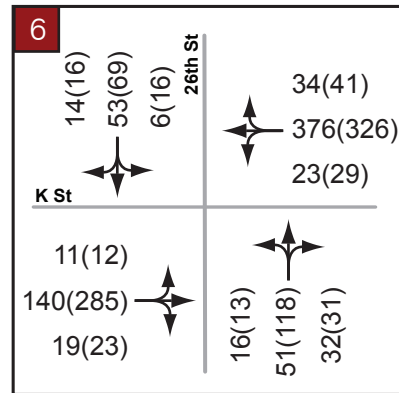
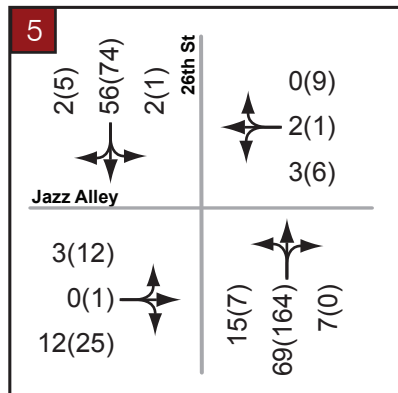
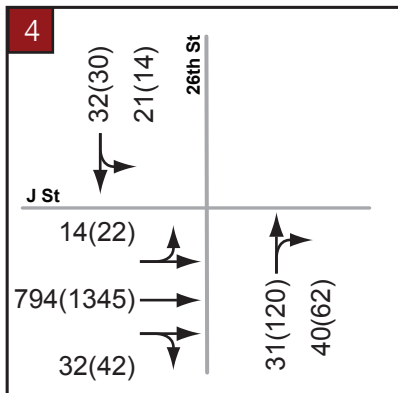
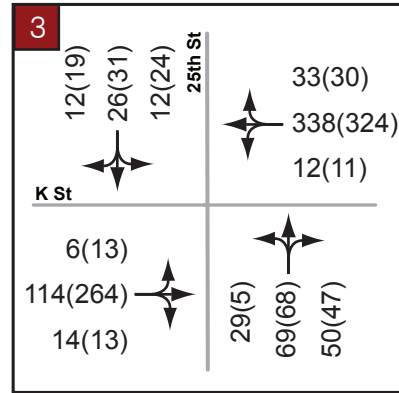
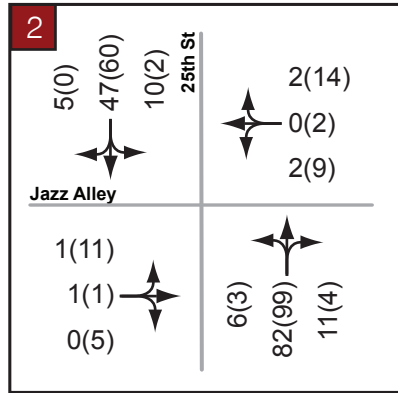
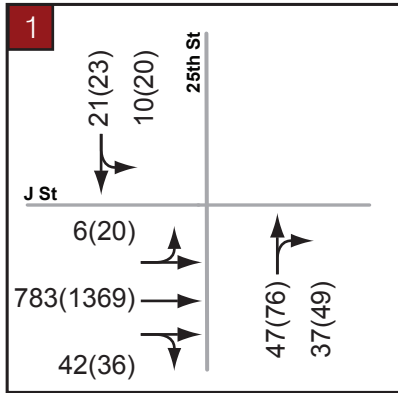
NOT TO SCALE



LEGEND	
#	Study Intersection
⬡	Stop Controlled Approach
⚡	Signalized Study Intersection
▶	One-Way Direction of Travel
▨	Project Location



NOT TO SCALE



**LEGEND**

- # Study Intersection
- ▶ One-Way Direction of Travel
- Project Location
- XX(YY) AM(PM) Peak-Hour Volumes



The proposed project and the study intersections, all located between J Street and K Street, are located within the “Core Area” as specified by *General Plan* Figure M-1. As such, In accordance with *General Plan* Policy M 1.2.2, **LOS F** is considered acceptable for this study.

Intersection Analysis

Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual, 2010* (HCM) and appropriate traffic analysis software. The HCM includes procedures for analyzing side-street stop controlled (SSSC), all-way stop controlled (AWSC), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the intersection as a whole. **Table 1** presents intersection LOS definitions as defined in the HCM.

**Table 1 – Intersection Level of Service Criteria**

Level of Service (LOS)	Un-Signalized	Signalized
	Average Control Delay (sec/veh)	Control Delay per Vehicle (sec/veh)
A	≤ 10	≤ 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80

*Source: Highway Capacity Manual, 2010*

As previously discussed, the purpose of this study is to prepare a focused traffic evaluation of the effect of the proposed project on the surrounding transportation system, limited to consideration of Existing (2015) and Existing (2015) plus Proposed Project Conditions. The cumulative impacts on roadway segments, transit, bicycle facilities, pedestrian circulation, and parking from planned 2035 *General Plan* development were identified and analyzed in the 2035 *General Plan Master EIR*. Because the proposed project is consistent with the 2035 *General Plan*, this study only reviews such issues on a project-specific basis only (no cumulative conditions analyses).

**Results of Existing Conditions Analysis**

**Table 2** presents the peak-hour intersection operating conditions for this analysis scenario. As indicated in **Table 2**, the study intersections operate from LOS A to LOS B during the AM and PM peak-hours. Analysis worksheets for this scenario are provided in **Appendix B**.

**Table 2 – Existing (2015) Intersection Levels of Service**

#	Intersection	Traffic Control	AM Peak-Hour		PM Peak-Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1	25 <sup>th</sup> Street @ J Street	Signal	8.8	A	10.4	B
2	25 <sup>th</sup> Street @ Jazz Alley	SSSC*	1.0 (9.8 EB)	A (A)	2.0 (9.5 EB)	A (A)
3	25 <sup>th</sup> Street @ K Street	Signal	11.8	B	11.6	B
4	26 <sup>th</sup> Street @ J Street	Signal	16.2	B	19.3	B
5	26 <sup>th</sup> Street @ Jazz Alley	SSSC*	1.8 (9.8 WB)	A (A)	1.9 (9.8 WB)	A (A)
6	26 <sup>th</sup> Street @ K Street	Signal	6.7	A	7.5	A

\* Side Street Stop Controlled (SSSC) intersections' results are reported as the overall intersection delay and LOS followed by the worst minor street approach movement's delay and LOS. [Overall Delay or LOS (Minor Street Approach Delay or LOS)]

## INTRODUCTION TO ANALYSIS

### Project Land Use and Circulation

#### Land Use

As previously discussed, the project proposes to construct a multi-story, mixed-use condominium building. The project would replace several existing operational uses, which include 12,687-square feet of retail and office uses, with 14,495-square feet of retail uses and 134 for-sale residential condominium units. The project would include three parking levels (one below grade, two above grade), all of which would be accessed from Jazz Alley.

#### Access

The project site access plan is shown in **Figure 6**. Vehicular access to the site will be provided via a full access driveway along Jazz Alley. Additional pedestrian access is provided along 25<sup>th</sup> Street and via a pedestrian passage on the east side of the project site.

#### Trip Generation

The primary basis for estimating automobile trips in preparing transportation impact analyses is the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*. The majority of the data included in the ITE *Trip Generation Manual* are from traffic counts conducted at single-use, suburban sites with limited pedestrian, bike, and transit opportunities. Although the application of this data is accepted as valid for sites similar to which this data was collected, it is problematic for urban areas sites with moderate to extensive availability of non-automobile modes of transportation. Urban and suburban places have significant differences in trip generation given contrasts in development density, street networks, parking, and availability of transportation options.

In 2013, the Transportation Research Board of the National Academies published *NCHRP Report 758*<sup>5</sup> to review methods being applied, as well as to propose and conduct research on applicable methods. It is anticipated that research from this report will soon be incorporated into best practice recommendations in the ITE *Trip Generation Manual*. *NCHRP Report 758* provides significant discussion on the application of a proxy method for estimating trip generation for urban sites, as well as the application of Household Travel Survey (HTS) data and Travel Demand Model (TDM) data for estimating trip generation.

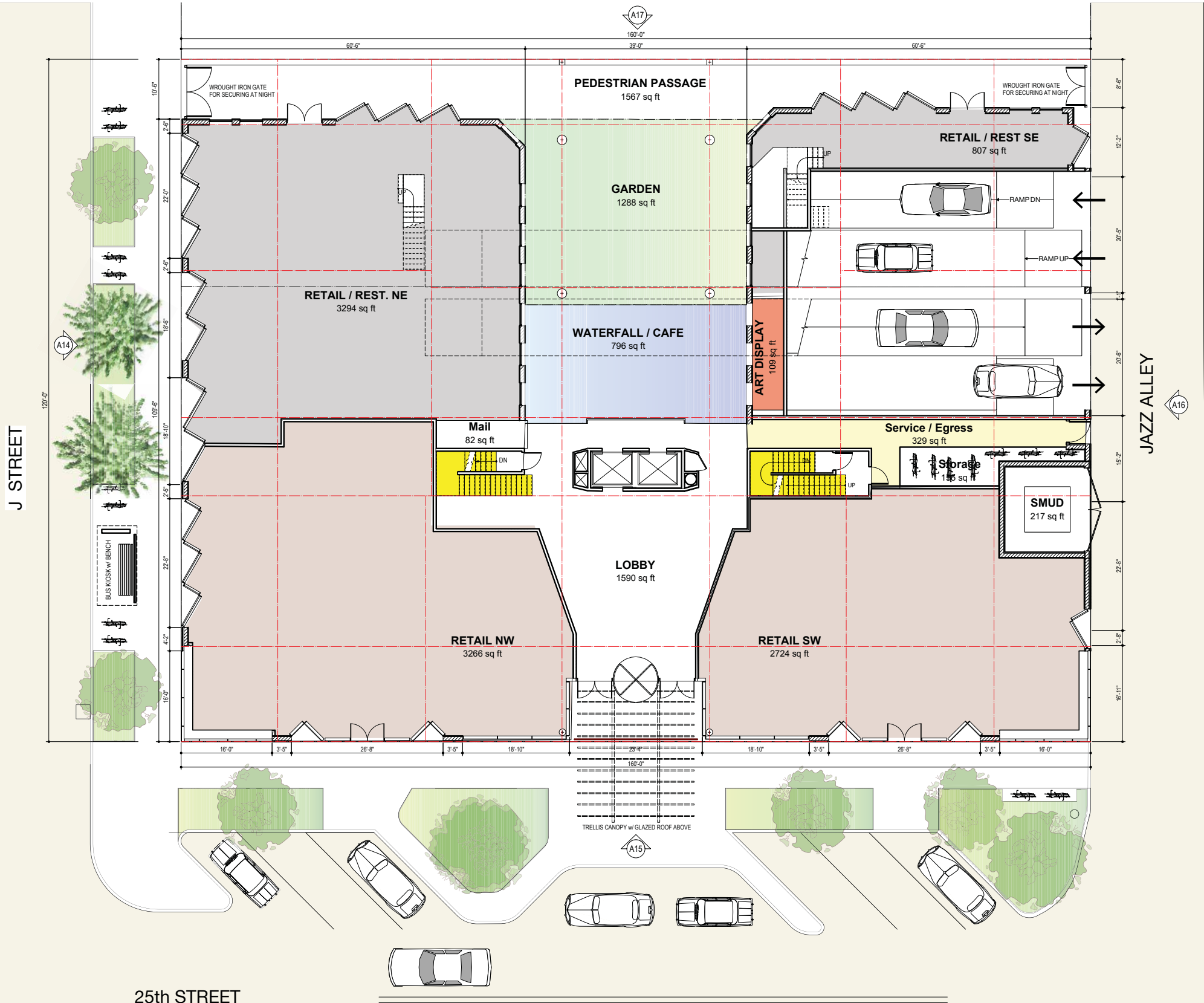
<sup>5</sup> NCHRP Report 758, *Trip Generation Rates for Transportation Impact Analyses of Infill Developments*, Transportation Research Board, 2012.

# YAMANE

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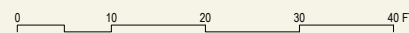
YAMANE		PARKING CALCULATIONS	
"URBAN DISTRICT"			
PARKING: RETAIL	1,200 sf		5 Spaces
PARKING: RESIDENTIAL	0.5 / DU		60 Spaces
<b>PARKING TOTAL REQUIRED</b>			<b>65 Spaces</b>
BIKE PARKING REQUIRED			86 Spaces
YAMANE		ZONING CALCULATIONS	
ZONING MAP L9	DIST. C-2MC		
TOTAL FLOOR AREA			177,032 SF
SITE AREA			19,200 SF
PROPOSED F.A.R.			9.2

YAMANE		PARKING & PUBLIC SPACE	
PARKING: CELLAR			40 Spaces
PARKING: level+1			40 Spaces
PARKING: level+2			44 Spaces
<b>PARKING TOTAL</b>			<b>124 Spaces</b>
BIKES: CELLAR			80 Bikes
BIKES: SIDEWALK			20 Bikes
BIKES: 1st FLOOR			11 Bikes
BIKES: MEZZANINE			10 Bikes
<b>BIKES TOTAL</b>			<b>101 Bikes</b>
YAMANE		RESIDENTIAL & RETAIL	
RETAIL NW	3,266 SF		
RETAIL / REST. NE	3,294 SF		
RETAIL SW	2,724 SF		
RETAIL / REST. SE	807 SF		
WATERFALL CAFE	796 SF		
RETAIL TOTAL			10,889 SF
LOBBY, ETC.			1,697 SF
SERVICE / EGRESS			382 SF
BIKE STORAGE			159 SF
<b>1st FLOOR TOTAL</b>			<b>13,127 SF</b>
2nd FLOOR APARTMENTS	14 Units		15,076 SF
3rd FLOOR APARTMENTS	14 Units		16,003 SF
4th FLOOR APARTMENTS	14 Units		16,003 SF
5th FLOOR APARTMENTS	14 Units		16,003 SF
6th FLOOR APARTMENTS	14 Units		16,003 SF
7th FLOOR APARTMENTS	14 Units		16,003 SF
8th FLOOR APARTMENTS	14 Units		16,003 SF
9th FLOOR APARTMENTS	14 Units		16,003 SF
10th FLOOR APARTMENTS	14 Units		15,823 SF
11th FLOOR APARTMENTS	8 Units		13,370 SF
<b>APARTMENTS TOTAL</b>	<b>134 Units</b>		<b>156,090 SF</b>
PH FLOOR EVENT SPACE / GYM			7,815 SF
<b>TOTAL FLOOR AREA</b>			<b>177,032 SF</b>

1st FLOOR PLAN  
Scale: 1/8" = 1'-0"

Sac-PLAN-2015-0821.vwx

**1st FLOOR PLAN**  
October 12, 2015 **A1**



Based on a review of available options to determine trip generation for this proposed development, and in consideration of guidance provided in *NCHRP Report 758*, it was determined that the use of data from the Sacramento Area Council of Governments' (SACOG) SACSIM TDM would yield reasonable mode split information for use in estimating trip generation. SACSIM's platform is based on the application of an activity-based model which includes significant modal detail for each of its resulting hourly tours. Specifically, it was decided to use mode split estimates resulting from SACSIM as estimated for the planned Ice Blocks project<sup>6</sup> which is also located within the downtown core and includes the land uses proposed for this project. The resultant trip generation characteristics for the proposed project are depicted in **Table 3**.

**Table 3 – Proposed Project Trip Generation**

Land Use (ITE <sup>+</sup> Land Use Code)	Size	Total Daily Trips <sup>**</sup>	AM Peak-Hour					PM Peak-Hour				
			Total Trips	IN		OUT		Total Trips	IN		OUT	
				%	Trips	%	Trips		%	Trips	%	Trips
<b>Existing</b>												
Health/Fitness Club (492)	2.7-ksf	90	4	50%	2	50%	2	10	57%	6	43%	4
General Office Building (710) <sup>+</sup>	2.7-ksf	30	4	88%	4	12%	0	4	17%	1	83%	3
Shopping Center (820) <sup>+</sup>	6.087-ksf	260	6	62%	4	38%	2	23	48%	11	52%	12
High-Turnover (Sit-Down) Restaurant (932)	1.2-ksf	154	13	55%	7	45%	6	12	60%	7	40%	5
<i>Existing Unadjusted Vehicular Trips:</i>		<b>534</b>	<b>27</b>		<b>17</b>		<b>10</b>	<b>49</b>		<b>25</b>		<b>24</b>
<b>SACSIM Mode Split Trip Adjustment<sup>**</sup></b>												
<i>Retail</i>		30%	-124	-6		-3		-2	-11		-5	-5
<b>Existing Adjusted Vehicular Trips:</b>		<b>410</b>	<b>21</b>		<b>14</b>		<b>8</b>	<b>39</b>		<b>20</b>		<b>19</b>
<b>Proposed (New)</b>												
Residential Condominium / Townhouse (230)	134-units	830	65	17%	11	83%	54	76	67%	51	33%	25
Shopping Center (820) <sup>+</sup>	4.792-ksf	206	5	62%	3	38%	2	18	48%	9	52%	9
Quality Restaurant (931)	9.702-ksf	874	8	82%	7	18%	1	73	67%	49	33%	24
<i>New Unadjusted Vehicular Trips:</i>		<b>1,910</b>	<b>78</b>		<b>21</b>		<b>57</b>	<b>167</b>		<b>109</b>		<b>58</b>
<b>SACSIM Mode Split Trip Adjustment<sup>**</sup></b>												
<i>Apartment</i>		55%	-457	-36		-6		-30	-42		-28	-14
<i>Retail</i>		30%	-324	-4		-3		-1	-27		-17	-10
<b>New Adjusted Vehicular Trips:</b>		<b>1,130</b>	<b>38</b>		<b>12</b>		<b>27</b>	<b>98</b>		<b>64</b>		<b>35</b>
<b>Net New Adjusted Vehicular Trips<sup>**</sup>:</b>		<b>720</b>	<b>19</b>		<b>0</b>		<b>19</b>	<b>60</b>		<b>44</b>		<b>16</b>

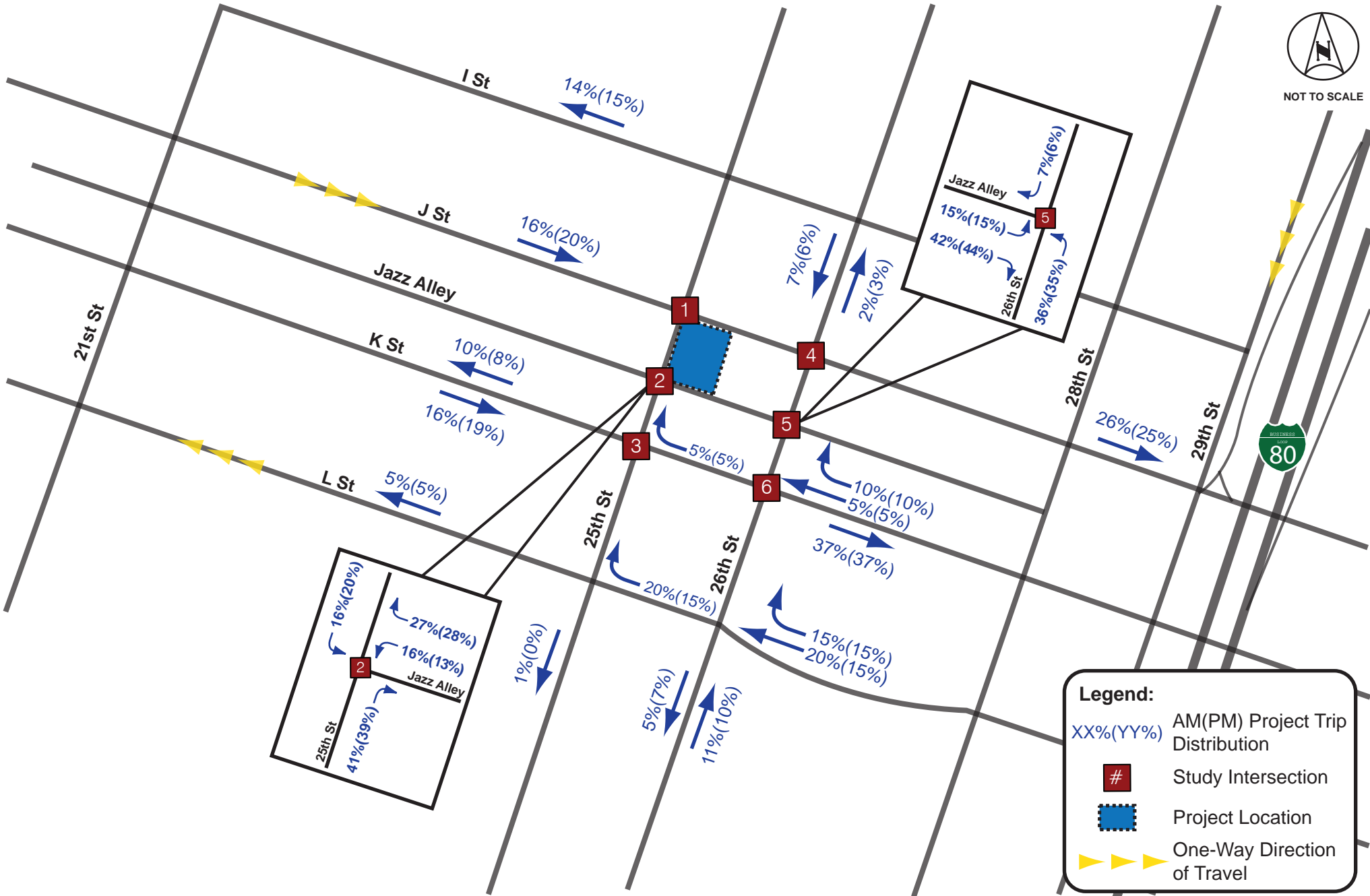
<sup>+</sup> Source: *Trip Generation Manual, 9<sup>th</sup> Edition*, ITE, 2012.  
<sup>\*</sup> Due to limited sample size, General Office Building (710) and Shopping Center (820) trip generation are based on average rates, rather than regression equations.  
<sup>\*\*</sup> AM peak-hour trips were manually adjusted due to methodology resulting in negative net new trips.  
<sup>\*\*</sup> Source: *The Ice Blocks Transportation Analysis Technical Report*, Table 3 and Table 5, DKS Associates, February 6, 2015.

As shown in **Table 3**, the proposed project is estimated to generate 720 new external daily trips, with 19 new external trips occurring during the AM peak-hour, and 60 occurring during the PM peak-hour.

Trip Distribution

Project traffic was distributed and assigned to the local roadway network based on a select link analysis performed using the iteration of the SACOG SACMET TDM provided by the City for use in this study. The project trip distribution percentages and trip assignment for the local streets are illustrated in **Figure 7** and **Figure 8**, respectively.

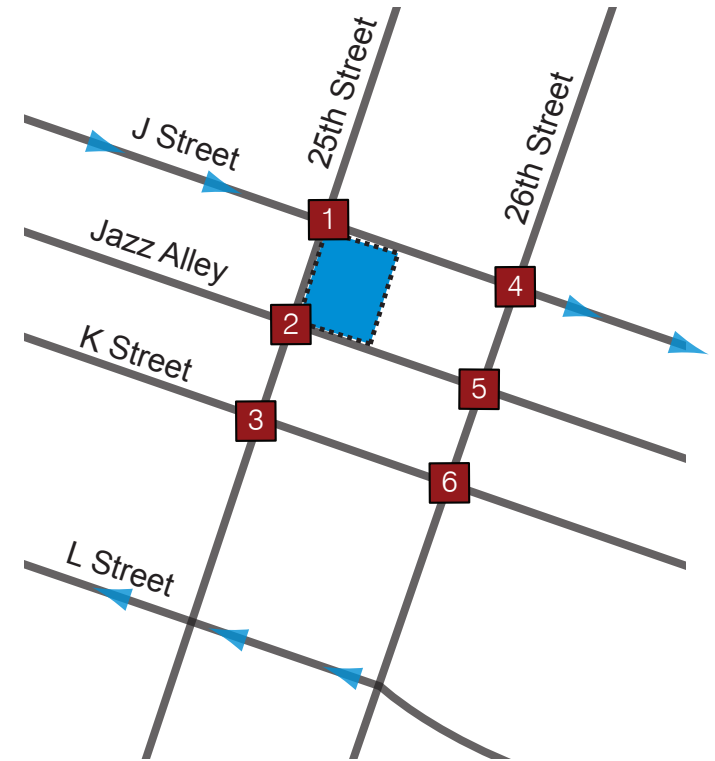
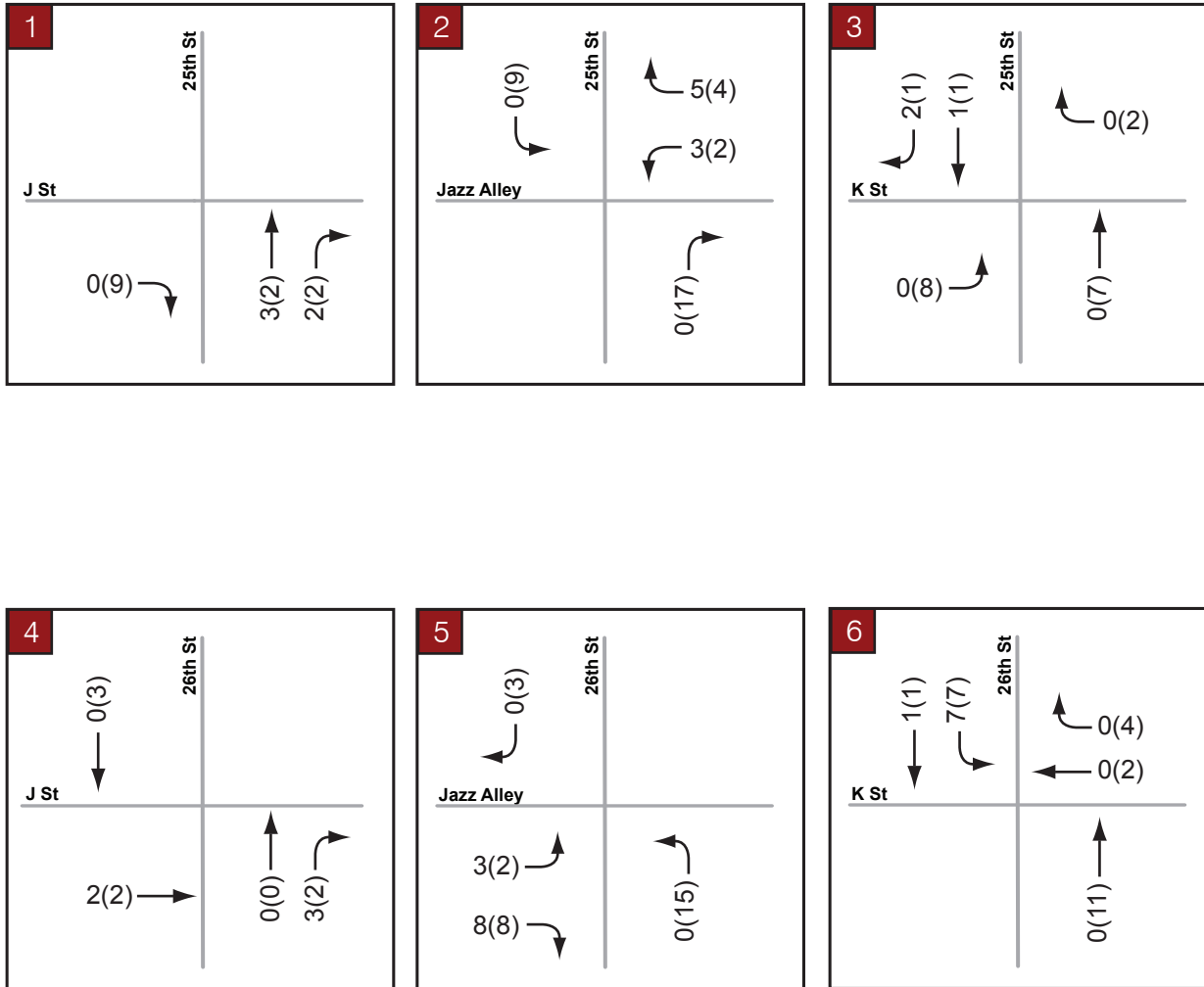
<sup>6</sup> *The Ice Blocks Transportation Analysis Technical Report*, DKS Associates, February 6, 2015.







NOT TO SCALE



LEGEND	
#	Study Intersection
▶	One-Way Direction of Travel
■ (dashed)	Project Location
XX(YY)	AM(PM) Peak-Hour Volumes

## IMPACTS AND MITIGATION

### Method of Analysis

Peak-hour traffic associated with the proposed project was added to the existing traffic volumes. As a result, the traffic and impacts associated with the proposed project can be directly compared to known and measured conditions. Impacts were determined by comparing traffic operating conditions associated with the project scenario to traffic operating conditions without the project.

### Thresholds of Significance

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in significant, adverse impacts on the environment. For purposes of this analysis, an impact is considered significant if implementation of the project would have the effects described below. The standards of significance in this analysis are based upon current practice of the City of Sacramento. Standards defined in the City's *Traffic Impact Analysis Guidelines*<sup>1</sup> have been applied.

### Intersections

Impacts to the roadway system are considered significant if:

- The traffic generated by the project degrades LOS from acceptable (without the project) to unacceptable (with the project);
- The LOS (without project) is already (or projected to be) unacceptable and project generated traffic increases the average vehicle delay by 5 seconds or more.

### Transit

Impacts to the transit system are considered significant if the proposed project would:

- Adversely affect public transit operations; or,
- Fail to adequately provide access to transit.

### Bicycle Facilities

Impacts to bicycle facilities are considered significant if the proposed project would:

- Adversely affect existing or planned bicycle facilities; or,
- Fail to adequately provide for access by bicycle.

### Pedestrian Circulation

Impacts to pedestrian circulation are considered significant if the proposed project would:

- Adversely affect existing or planned pedestrian facilities; or,
- Fail to adequately provide for access by pedestrians.

### Construction-Related Traffic Impacts

The project would have a temporarily significant impact during construction if it would:

- Degrade an intersection or roadway to an unacceptable level of service;
- Cause inconveniences to motorists due to prolonged road closures; or,
- Result in increased frequency of potential conflicts between vehicles, pedestrians, and bicyclists.

### Traffic Volumes

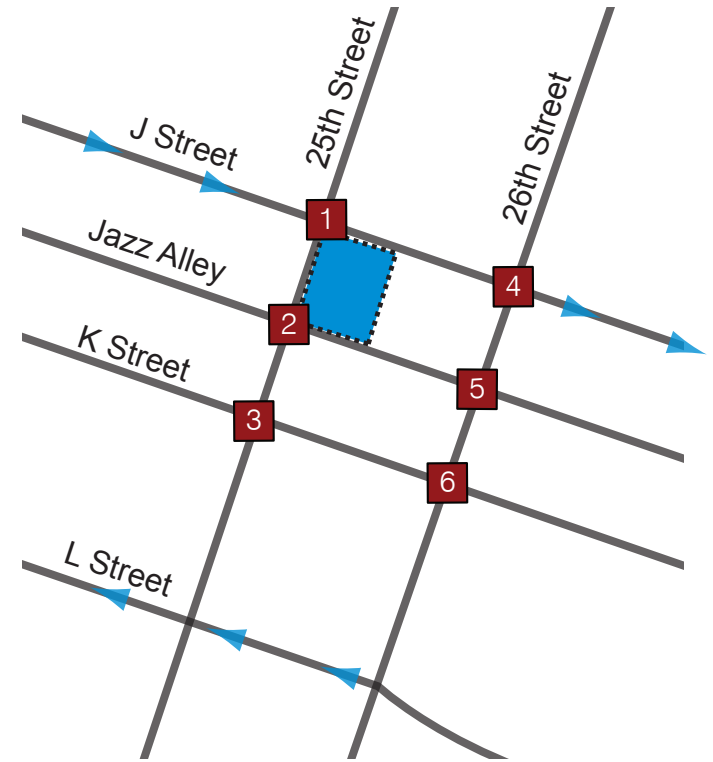
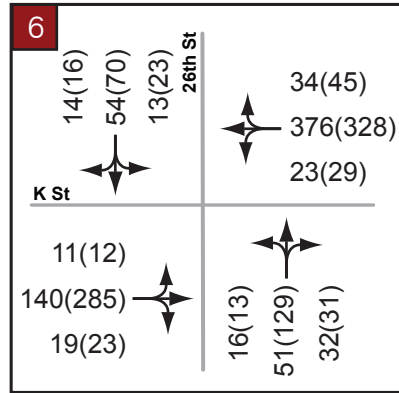
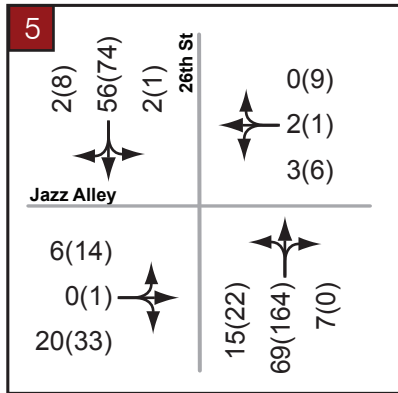
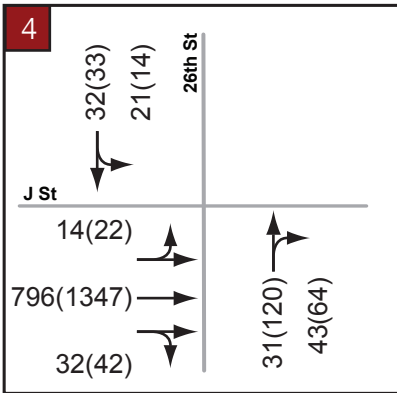
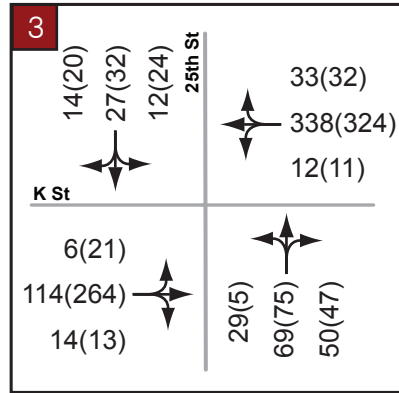
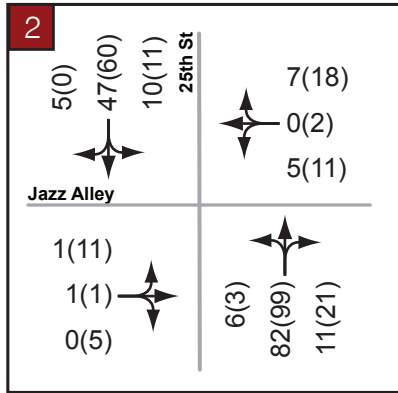
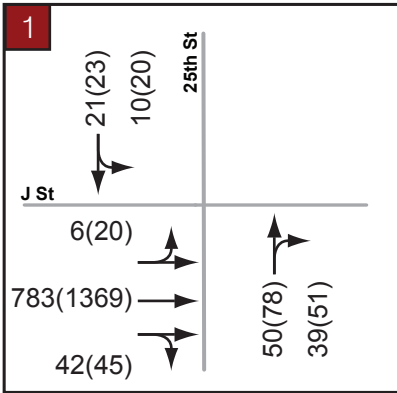
**Figure 9** provides the AM and PM peak-hour traffic volumes at the study intersections for the Existing (2015) plus Proposed Project conditions.

### Intersection Geometry

**Figure 9** illustrates Existing (2015) plus Proposed Project intersection geometry and the number of approach lanes. There are no changes to traffic control or lane configurations at any of the study intersections.



NOT TO SCALE



**LEGEND**

- # Study Intersection
- ▶ One-Way Direction of Travel
- Project Location
- XX(YY) AM(PM) Peak-Hour Volumes

### Intersection Operations

**Table 4** provides a summary of the intersection analysis. As indicated in **Table 4**, the study intersections operate from LOS A to LOS B with the addition of project traffic during the AM and PM peak-hours. Analysis worksheets for this scenario are provided in **Appendix C**.

**Table 4 – Existing (2015) and Existing (2015) plus Proposed Project Intersection Levels of Service**

#	Intersection	Traffic Control	AM Peak-Hour				PM Peak-Hour			
			Existing		Existing + Project		Existing		Existing + Project	
			Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS
1	25 <sup>th</sup> Street @ J Street	Signal	8.8	A	8.9	A	10.4	B	10.9	B
2	25 <sup>th</sup> Street @ Jazz Alley	SSSC*	1.0 (9.8 EB)	A (A)	1.4 (9.9 EB)	A (A)	2.0 (9.5 EB)	A (A)	2.3 (9.7 EB)	A (A)
3	25 <sup>th</sup> Street @ K Street	Signal	11.8	B	11.8	B	11.6	B	11.7	B
4	26 <sup>th</sup> Street @ J Street	Signal	16.2	B	16.2	B	19.3	B	19.4	B
5	26 <sup>th</sup> Street @ Jazz Alley	SSSC*	1.8 (9.8 WB)	A (A)	2.2 (9.9 WB)	A (A)	1.9 (9.8 WB)	A (A)	2.4 (10.0 WB)	A (A)
6	26 <sup>th</sup> Street @ K Street	Signal	6.7	A	6.7	A	7.5	A	7.6	A

\* Side Street Stop Controlled (SSSC) intersections' results are reported as the overall intersection delay and LOS followed by the worst minor street approach movement's delay and LOS. [Overall Delay or LOS (Minor Street Approach Delay or LOS)]

### Project-Specific Impacts and Mitigation Measures

#### Impact 1: Intersections

The addition of the proposed project increases traffic volumes at the study intersections. As reflected in **Table 4**, all study intersections are anticipated to satisfy the City's LOS requirement for the study area by operating at LOS B or better during the weekday commute peak-hours. As a result, the project's impacts to the study intersections are considered to be **less than significant**.

Mitigation: No mitigation is required.

#### Impact 2: Transit System

The project would not adversely affect existing (**Figure 2**) or planned transit operations. As previously discussed, transit access, both bus and LRT, is provided within the project area. While the project would add transit demand, it is anticipated to be adequately accommodated by the existing/planned transit system. The impacts of the project are considered to be **less than significant**. Accordingly, no mitigation is required.

Mitigation: No mitigation is required.

#### Impact 3: Bicycle Facilities and Pedestrian Circulation

As previously discussed, because the general project area is primarily built-out, bicycle (**Figure 3**) and pedestrian infrastructure is fairly comprehensive.

While the project will not result in removal of any existing or planned pedestrian facility or bikeway/bike lane, the project will add pedestrian and bicycle demands within the project site and nearby vicinity. The project will include pedestrian and bicycle access to the project site via the 25<sup>th</sup> Street entrance to the project (no vehicular accessibility at this location), passage on the east side of the project site, as well as in the vicinity of the 25<sup>th</sup> Street intersection with J Street. The impacts of the project are considered to be **less than significant**. Accordingly, no mitigation is required.

Mitigation: No mitigation is required.

#### Impact 4: Construction-Related Traffic

Construction-related activity may potentially disrupt the existing transportation network in the surrounding project area. Possible temporary lane closures, street closures, sidewalk closures, and bikeway closures may impact pedestrian, bicycle, and transit accessibility. Heavy vehicles will access the site and may need to be staged for construction. As a result of these activities, existing roadway operation conditions may be degraded.

The City Code (City Code 12.20.030) requires that a construction traffic control plan is prepared and approved prior to the beginning of project construction, to the satisfaction of the City Traffic Engineer and subject to review by all affected agencies. All work performed during construction must conform to the conditions and requirements of the approved plan. The plan shall ensure that safe and efficient movement of traffic through the construction work zone(s) is maintained. At a minimum, the plan shall include the following:

- Time and day of street closures
- Proper advance warning and posted signage regarding street closures
- Provision of driveway access plan to ensure safe vehicular, pedestrian, and bicycle movements
- Safe and efficient access routes for emergency vehicles
- Provisions for pedestrian safety
- Use of manual traffic control when necessary
- Number of anticipated truck trips, and time of day of arrival and departure of trucks
- Provision of a truck circulation pattern and staging area with a limitation on the number of trucks that can be waiting and any limitations on the size and type of trucks appropriate for the surrounding transportation network

The plan must be available at the site for inspection by the City representative during all work. With the implementation of the traffic control plan, local roadways and freeway facilities will continue to operate at acceptable operating conditions and the impact of the project would be ***less than significant***.

Mitigation: No mitigation is required.

#### **FREEWAY VOLUMES**

The proposed project is located within the I-5 Subregional Corridor Mitigation Program which is intended to provide development projects with an opportunity to pay an impact fee based on the proposed number of development units in lieu of preparing a California Environmental Quality Act (CEQA) level analysis for Caltrans' facilities. Accordingly, this evaluation quantifies the number of trips the project contributes to the surrounding freeways (I-5, US-50, SR-99, and Business 80). The number of trips the project contributes to the surrounding freeways (I-5, US-50, SR-99, and Business 80) are reflected in **Figure 10** (distribution percentages) and **Figure 11** (trip assignment). This magnitude of trips (9 AM peak-hour and 28 PM peak-hour) does not require detailed freeway operational analyses.

#### **VEHICLE MILES TRAVELED (VMT) ANALYSIS**

The City's Climate Action Plan (CAP)<sup>7</sup> indicates that the City's goal is to reduce Vehicle Miles Traveled (VMT) per capita in new development by 35 percent, compared to statewide averages. While the project is understood to be consistent with the CAP, this discussion of VMT is provided for informational purposes.

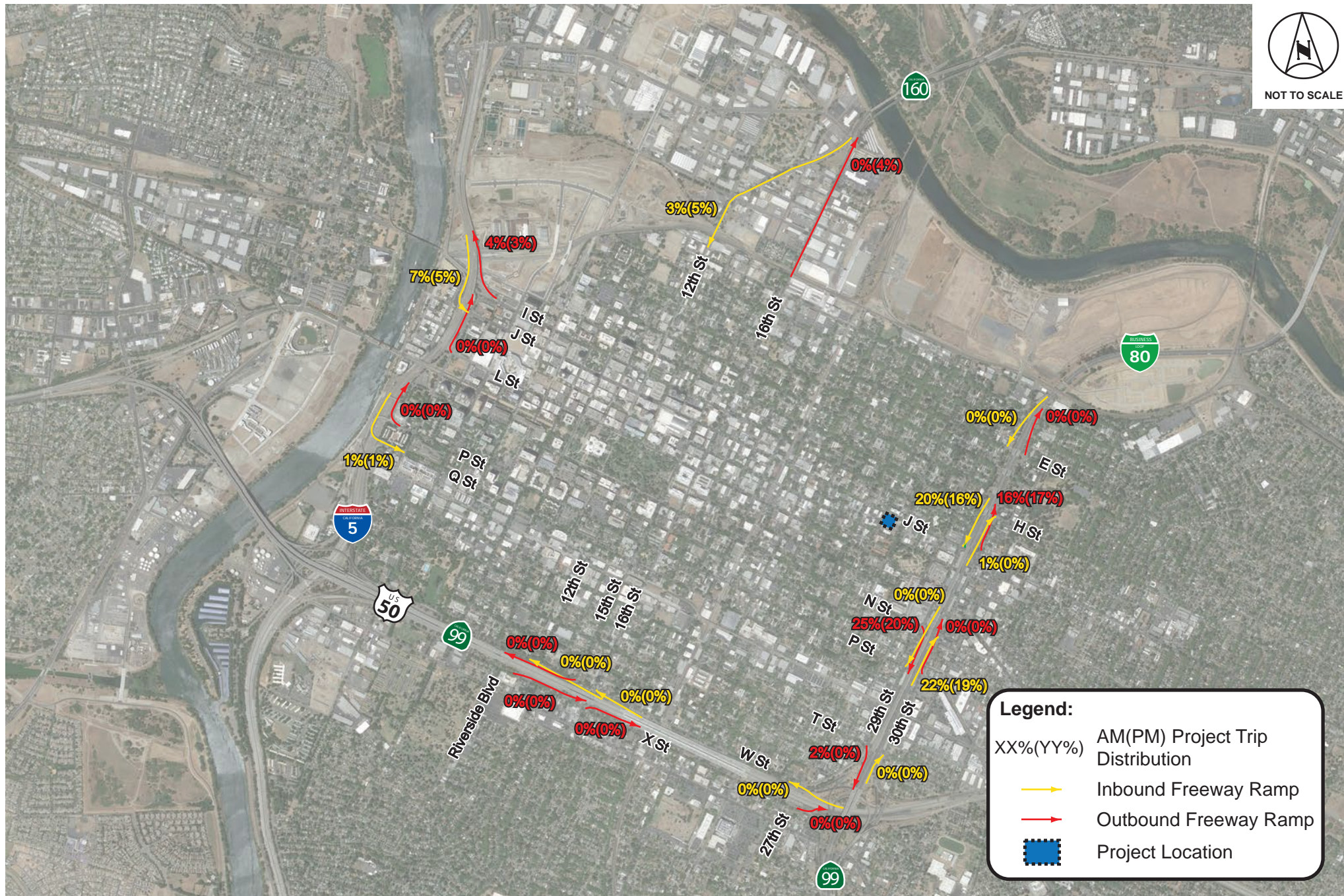
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<sup>7</sup> Sacramento Climate Action Plan, City of Sacramento, February 14, 2012.





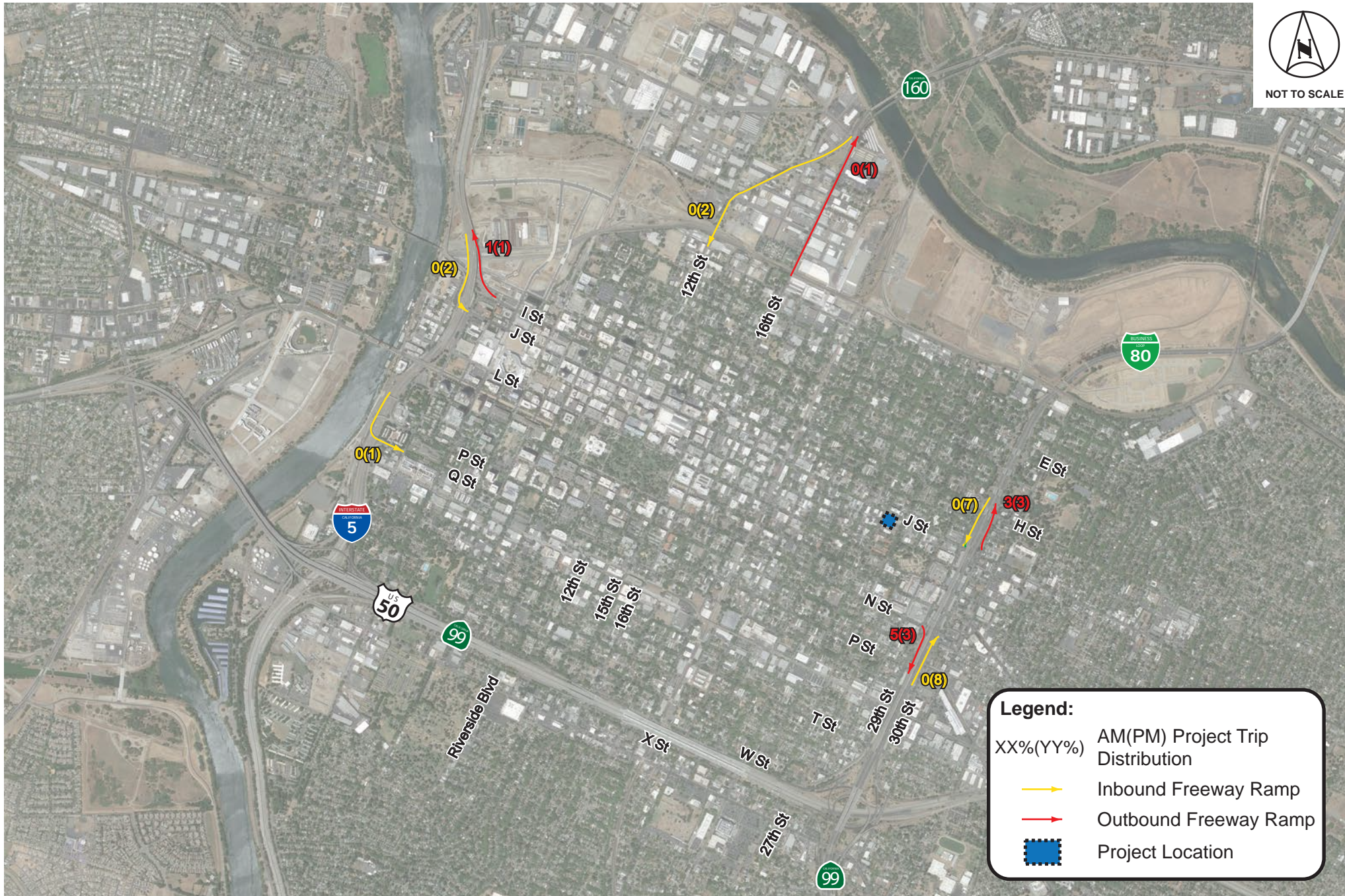
NOT TO SCALE







NOT TO SCALE





Using the iteration of the SACOG SACMET TDM provided by the City, this analysis determined that the project is anticipated to result in an average trip length of 5.94-miles, therefore equating to a total VMT per day of 6,712 (1,130 daily trips x 5.94 miles/trip). Because project-level VMT calculations are different from the methodology typically incorporated in region-wide analyses, comparison of these VMT results to regional averages must be completed cautiously. Nevertheless, due to its location and proximity to high quality alternate travel modes (lower percentage of trips by vehicle), it can be concluded that the project VMT is substantially lower than a typical project in the region.

## PROJECT ACCESS EVALUATION

Off-site vehicle queuing was considered for the critical movements at Intersection #2 (25<sup>th</sup> Street at Jazz Alley) and Intersection #5 (26<sup>th</sup> Street at Jazz Alley). The calculated vehicle queues were compared to actual vehicle storage/segment lengths. As presented in **Table 5**, the addition of the proposed project results in queuing approximately one vehicle (25-feet) in length along the subject intersection approaches. Ninety-five percent of the time during peak-hours the vehicle queuing will be less than or equal to the reported.

**Table 5 – Intersection Queuing Evaluation Results for Select Locations**

Intersection / Analysis Scenario	Approach	AM Peak-Hour		PM Peak-Hour	
		Available Storage (ft)	95 <sup>th</sup> % Queue (ft)	Available Storage (ft)	95 <sup>th</sup> % Queue (ft)
<b>#2, 25<sup>th</sup> Street at Jazz Alley</b>					
	<b>SB</b>				
	Existing (2015)	175*	0	175*	0
	Existing plus Proposed Project (2015)		0		0
	<b>NB</b>				
	Existing (2015)	175*	0	175*	0
	Existing plus Proposed Project (2015)		0		0
	<b>WB</b>				
	Existing (2015)	50**	0	50**	25
	Existing plus Proposed Project (2015)		0		25
<b>#5, 26<sup>th</sup> Street at Jazz Alley</b>					
	<b>SB</b>				
	Existing (2015)	175*	0	175*	0
	Existing plus Proposed Project (2015)		0		0
	<b>NB</b>				
	Existing (2015)	175*	0	175*	0
	Existing plus Proposed Project (2015)		0		0
	<b>EB</b>				
	Existing (2015)	225	0	225	25
	Existing plus Proposed Project (2015)		25		25

Source: *Highway Capacity Manual (HCM) 2010* methodology per Synchro<sup>®</sup> v9.  
 \* 175-feet is the approximate distance between the J and K Street intersections with Jazz Alley.  
 \*\* 50-feet is the distance between the project's Jazz Alley garage access and 25<sup>th</sup> Street.

The addition of the proposed project is not anticipated to create peak-hour conditions that result in queuing between the 25<sup>th</sup> Street intersections with J Street (Intersection #1) and K Street (Intersection #3). Neither the southbound left-turns entering Jazz Alley from 25<sup>th</sup> Street (Intersection #2) or the northbound approach at J Street (Intersection #1) are anticipated to queue such that they adversely affect the adjacent intersections during the peak-hours. Analysis sheets that include the anticipated vehicle queues are presented in **Appendix B** and **Appendix C**.

As reflected in **Figure 6**, the project's Jazz Alley garage will have two ingress lanes and two egress lanes, all of which are anticipated to be gate access controlled. During the higher peak-hour (PM), approximately 100 trips (64 entering, 35 exiting) are anticipated to use this gated access point. Assuming fairly uniform arrivals, this level of volume equates to approximately 2 vehicles total per minute at this location, with one vehicle entering and one vehicle exiting. Given these relatively low volumes, any inefficiencies created by the project's gated access are not anticipated to adversely affect Jazz Alley safety or operations.

Because the project's Jazz Alley garage will have two ingress lanes and two egress lanes, it is recommended that appropriate signing and striping be used to clearly delineate the directionality of the ramps to minimize the potential for wrong way movements and for additional queuing or delay along Jazz Alley. More specifically, the following signs should be considered for installation at the garage access location along Jazz Alley:

- Ingress Lanes
  - R6-1 (ONE WAY)
- Egress Lanes
  - R6-1 (ONE WAY)
  - R5-1 (DO NOT ENTER)

All signs should be installed in a manner consistent with City of Sacramento standards and the requirements of the *California Manual on Uniform Traffic Control Devices (CMUTCD), 2014 Edition (with December 2015 revisions)*.

## **Appendix A**

*Traffic Count Data Sheets*

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7869-001 25th Street & J Street

Date : 11/3/2015

City of Sacramento  
All Vehicles & Uturns On Unshifted  
Nothing On Bank 1  
Nothing On Bank 2

### Unshifted Count = All Vehicles & Uturns

START TIME	25th Street Southbound					J Street Westbound					25th Street Northbound					J Street Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	2	1	0	0	3	0	0	0	0	0	0	4	4	0	8	1	144	3	0	148	159	0
7:15	4	1	0	0	5	0	0	0	0	0	0	5	7	0	12	3	179	4	0	186	203	0
7:30	3	3	0	0	6	0	0	0	0	0	0	10	13	0	23	1	190	11	0	202	231	0
7:45	1	5	0	0	6	0	0	0	0	0	0	16	12	0	28	1	199	14	0	214	248	0
<b>Total</b>	<b>10</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35</b>	<b>36</b>	<b>0</b>	<b>71</b>	<b>6</b>	<b>712</b>	<b>32</b>	<b>0</b>	<b>750</b>	<b>841</b>	<b>0</b>
8:00	2	3	0	0	5	0	0	0	0	0	0	12	10	0	22	3	205	11	0	219	246	0
8:15	4	10	0	0	14	0	0	0	0	0	0	9	2	0	11	1	189	6	0	196	221	0
8:30	1	4	0	0	5	0	0	0	0	0	0	9	2	0	11	1	183	6	0	190	206	0
8:45	2	2	0	0	4	0	0	0	0	0	0	5	8	0	13	1	156	9	0	166	183	0
<b>Total</b>	<b>9</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35</b>	<b>22</b>	<b>0</b>	<b>57</b>	<b>6</b>	<b>733</b>	<b>32</b>	<b>0</b>	<b>771</b>	<b>856</b>	<b>0</b>
16:00	3	8	0	0	11	0	0	0	0	0	0	14	13	0	27	5	289	7	0	301	339	0
16:15	6	5	0	0	11	0	0	0	0	0	0	11	11	0	22	2	277	4	0	283	316	0
16:30	5	6	0	0	11	0	0	0	0	0	0	13	10	0	23	3	312	12	0	327	361	0
16:45	2	6	0	0	8	0	0	0	0	0	0	22	17	0	39	6	360	9	0	375	422	0
<b>Total</b>	<b>16</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>41</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>60</b>	<b>51</b>	<b>0</b>	<b>111</b>	<b>16</b>	<b>1238</b>	<b>32</b>	<b>0</b>	<b>1286</b>	<b>1438</b>	<b>0</b>
17:00	8	8	0	0	16	0	0	0	0	0	0	17	13	0	30	6	350	12	0	368	414	0
17:15	5	5	0	0	10	0	0	0	0	0	0	20	7	0	27	5	321	9	0	335	372	0
17:30	5	4	0	0	9	0	0	0	0	0	0	17	12	0	29	3	338	6	0	347	385	0
17:45	1	8	0	0	9	0	0	0	0	0	0	10	13	0	23	2	294	11	0	307	339	0
<b>Total</b>	<b>19</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>64</b>	<b>45</b>	<b>0</b>	<b>109</b>	<b>16</b>	<b>1303</b>	<b>38</b>	<b>0</b>	<b>1357</b>	<b>1510</b>	<b>0</b>
<b>Grand Total</b>	<b>54</b>	<b>79</b>	<b>0</b>	<b>0</b>	<b>133</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>194</b>	<b>154</b>	<b>0</b>	<b>348</b>	<b>44</b>	<b>3986</b>	<b>134</b>	<b>0</b>	<b>4164</b>	<b>4645</b>	<b>0</b>
Apprch %	40.6%	59.4%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	55.7%	44.3%	0.0%		1.1%	95.7%	3.2%	0.0%			
Total %	1.2%	1.7%	0.0%	0.0%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	3.3%	0.0%	7.5%	0.9%	85.8%	2.9%	0.0%	89.6%	100.0%	

AM PEAK HOUR	25th Street Southbound					J Street Westbound					25th Street Northbound					J Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	3	3	0	0	6	0	0	0	0	0	0	10	13	0	23	1	190	11	0	202	231
7:45	1	5	0	0	6	0	0	0	0	0	0	16	12	0	28	1	199	14	0	214	248
8:00	2	3	0	0	5	0	0	0	0	0	0	12	10	0	22	3	205	11	0	219	246
8:15	4	10	0	0	14	0	0	0	0	0	0	9	2	0	11	1	189	6	0	196	221
Total Volume	10	21	0	0	31	0	0	0	0	0	0	47	37	0	84	6	783	42	0	831	946
% App Total	32.3%	67.7%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	56.0%	44.0%	0.0%		0.7%	94.2%	5.1%	0.0%		
PHF	.625	.525	.000	.000	.554	.000	.000	.000	.000	.000	.000	.734	.712	.000	.750	.500	.955	.750	.000	.949	.954

PM PEAK HOUR	25th Street Southbound					J Street Westbound					25th Street Northbound					J Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	2	6	0	0	8	0	0	0	0	0	0	22	17	0	39	6	360	9	0	375	422
17:00	8	8	0	0	16	0	0	0	0	0	0	17	13	0	30	6	350	12	0	368	414
17:15	5	5	0	0	10	0	0	0	0	0	0	20	7	0	27	5	321	9	0	335	372
17:30	5	4	0	0	9	0	0	0	0	0	0	17	12	0	29	3	338	6	0	347	385
Total Volume	20	23	0	0	43	0	0	0	0	0	0	76	49	0	125	20	1369	36	0	1425	1593
% App Total	46.5%	53.5%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	60.8%	39.2%	0.0%		1.4%	96.1%	2.5%	0.0%		
PHF	.625	.719	.000	.000	.672	.000	.000	.000	.000	.000	.000	.864	.721	.000	.801	.833	.951	.750	.000	.950	.944



# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7869-002 25th Street & Jazz Alley

Date : 11/3/2015

City of Sacramento  
All Vehicles & Uturns On Unshifted  
Nothing On Bank 1  
Nothing On Bank 2

## Unshifted Count = All Vehicles & Uturns

START TIME	25th Street Southbound					Jazz Alley Westbound					25th Street Northbound					Jazz Alley Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	4	0	0	4	1	0	0	0	1	2	8	0	0	10	0	0	0	0	0	15	0
7:15	0	5	0	0	5	0	0	0	0	0	1	11	2	0	14	0	0	0	0	0	19	0
7:30	3	10	0	0	13	0	0	0	0	0	1	25	1	0	27	1	1	0	0	2	42	0
7:45	3	12	2	0	17	1	0	0	0	1	2	25	4	0	31	0	0	0	0	0	49	0
<b>Total</b>	<b>6</b>	<b>31</b>	<b>2</b>	<b>0</b>	<b>39</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>6</b>	<b>69</b>	<b>7</b>	<b>0</b>	<b>82</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>125</b>	<b>0</b>
8:00	2	12	0	0	14	0	0	2	0	2	2	23	5	0	30	0	0	0	0	0	46	0
8:15	2	13	3	0	18	1	0	0	0	1	1	9	1	0	11	0	0	0	0	0	30	0
8:30	1	8	0	0	9	0	0	3	0	3	4	9	1	0	14	0	0	0	0	0	26	0
8:45	2	8	1	0	11	5	0	1	0	6	2	12	0	0	14	1	0	1	0	2	33	0
<b>Total</b>	<b>7</b>	<b>41</b>	<b>4</b>	<b>0</b>	<b>52</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>12</b>	<b>9</b>	<b>53</b>	<b>7</b>	<b>0</b>	<b>69</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>135</b>	<b>0</b>
16:00	2	13	0	0	15	0	0	4	0	4	1	23	1	0	25	3	0	2	0	5	49	0
16:15	1	10	0	0	11	1	1	2	0	4	3	18	1	0	22	1	0	1	0	2	39	0
16:30	0	16	0	0	16	6	1	3	0	10	2	20	3	0	25	1	1	1	0	3	54	0
16:45	1	11	0	0	12	1	1	8	0	9	0	29	1	0	30	2	0	2	0	4	55	0
<b>Total</b>	<b>4</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>54</b>	<b>8</b>	<b>2</b>	<b>17</b>	<b>0</b>	<b>27</b>	<b>6</b>	<b>90</b>	<b>6</b>	<b>0</b>	<b>102</b>	<b>7</b>	<b>1</b>	<b>6</b>	<b>0</b>	<b>14</b>	<b>197</b>	<b>0</b>
17:00	0	19	0	0	19	0	0	1	0	1	1	25	0	0	26	6	0	1	0	7	53	0
17:15	1	14	0	0	15	2	1	2	0	5	0	25	0	0	25	2	0	1	0	3	48	0
17:30	0	9	0	0	9	2	1	5	0	8	1	21	0	0	22	1	0	4	0	5	44	0
17:45	0	18	1	0	19	2	0	0	0	2	1	19	0	0	20	1	0	1	0	2	43	0
<b>Total</b>	<b>1</b>	<b>60</b>	<b>1</b>	<b>0</b>	<b>62</b>	<b>6</b>	<b>2</b>	<b>8</b>	<b>0</b>	<b>16</b>	<b>3</b>	<b>90</b>	<b>0</b>	<b>0</b>	<b>93</b>	<b>10</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>17</b>	<b>188</b>	<b>0</b>
<b>Grand Total</b>	<b>18</b>	<b>182</b>	<b>7</b>	<b>0</b>	<b>207</b>	<b>22</b>	<b>4</b>	<b>31</b>	<b>0</b>	<b>57</b>	<b>24</b>	<b>302</b>	<b>20</b>	<b>0</b>	<b>346</b>	<b>19</b>	<b>2</b>	<b>14</b>	<b>0</b>	<b>35</b>	<b>645</b>	<b>0</b>
Apprch %	8.7%	87.9%	3.4%	0.0%		38.6%	7.0%	54.4%	0.0%		6.9%	87.3%	5.8%	0.0%		54.3%	5.7%	40.0%	0.0%			
Total %	2.8%	28.2%	1.1%	0.0%	32.1%	3.4%	0.6%	4.8%	0.0%	8.8%	3.7%	46.8%	3.1%	0.0%	53.6%	2.9%	0.3%	2.2%	0.0%	5.4%	100.0%	

AM PEAK HOUR	25th Street Southbound					Jazz Alley Westbound					25th Street Northbound					Jazz Alley Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	3	10	0	0	13	0	0	0	0	0	1	25	1	0	27	1	1	0	0	2	42
7:45	3	12	2	0	17	1	0	0	0	1	2	25	4	0	31	0	0	0	0	0	49
8:00	2	12	0	0	14	0	0	2	0	2	2	23	5	0	30	0	0	0	0	0	46
8:15	2	13	3	0	18	1	0	0	0	1	1	9	1	0	11	0	0	0	0	0	30
Total Volume	10	47	5	0	62	2	0	2	0	4	6	82	11	0	99	1	1	0	0	2	167
% App Total	16.1%	75.8%	8.1%	0.0%		50.0%	0.0%	50.0%	0.0%		6.1%	82.8%	11.1%	0.0%		50.0%	50.0%	0.0%	0.0%		
PHF	.833	.904	.417	.000	.861	.500	.000	.250	.000	.500	.750	.820	.550	.000	.798	.250	.250	.000	.000	.250	.852

PM PEAK HOUR	25th Street Southbound					Jazz Alley Westbound					25th Street Northbound					Jazz Alley Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	16	0	0	16	6	1	3	0	10	2	20	3	0	25	1	1	1	0	3	54
16:45	1	11	0	0	12	1	0	8	0	9	0	29	1	0	30	2	0	2	0	4	55
17:00	0	19	0	0	19	0	0	1	0	1	1	25	0	0	26	6	0	1	0	7	53
17:15	1	14	0	0	15	2	1	2	0	5	0	25	0	0	25	2	0	1	0	3	48
Total Volume	2	60	0	0	62	9	2	14	0	25	3	99	4	0	106	11	1	5	0	17	210
% App Total	3.2%	96.8%	0.0%	0.0%		36.0%	8.0%	56.0%	0.0%		2.8%	93.4%	3.8%	0.0%		64.7%	5.9%	29.4%	0.0%		
PHF	.500	.789	.000	.000	.816	.375	.500	.438	.000	.625	.375	.853	.333	.000	.883	.458	.250	.625	.000	.607	.955

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7869-003 25th Street & K Street

Date : 11/3/2015

City of Sacramento  
All Vehicles & Uturns On Unshifted  
Nothing On Bank 1  
Nothing On Bank 2

## Unshifted Count = All Vehicles & Uturns

START TIME	25th Street Southbound					K Street Westbound					25th Street Northbound					K Street Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	1	3	2	0	6	1	45	3	0	49	1	6	4	0	11	1	8	0	0	9	75	0
7:15	2	3	0	0	5	5	68	9	0	82	0	4	11	0	15	4	24	1	0	29	131	0
7:30	3	5	1	0	9	5	79	12	0	96	9	17	17	0	43	1	24	3	0	28	176	0
7:45	4	5	3	0	12	1	78	8	0	87	8	24	17	0	49	3	30	4	0	37	185	0
<b>Total</b>	<b>10</b>	<b>16</b>	<b>6</b>	<b>0</b>	<b>32</b>	<b>12</b>	<b>270</b>	<b>32</b>	<b>0</b>	<b>314</b>	<b>18</b>	<b>51</b>	<b>49</b>	<b>0</b>	<b>118</b>	<b>9</b>	<b>86</b>	<b>8</b>	<b>0</b>	<b>103</b>	<b>567</b>	<b>0</b>
8:00	1	8	2	0	11	3	94	8	0	105	8	22	11	0	41	1	36	5	0	42	199	0
8:15	4	8	6	0	18	3	87	5	0	95	4	6	5	0	15	1	24	2	0	27	155	0
8:30	0	7	2	0	9	1	89	4	0	94	1	9	5	0	15	2	19	1	0	22	140	0
8:45	4	7	5	0	16	4	93	6	0	103	0	7	6	0	13	1	26	5	0	32	164	0
<b>Total</b>	<b>9</b>	<b>30</b>	<b>15</b>	<b>0</b>	<b>54</b>	<b>11</b>	<b>363</b>	<b>23</b>	<b>0</b>	<b>397</b>	<b>13</b>	<b>44</b>	<b>27</b>	<b>0</b>	<b>84</b>	<b>5</b>	<b>105</b>	<b>13</b>	<b>0</b>	<b>123</b>	<b>658</b>	<b>0</b>
16:00	2	8	6	0	16	4	70	8	0	82	4	15	13	0	32	3	55	8	0	66	196	0
16:15	2	7	4	0	13	3	69	7	0	79	2	13	8	0	23	2	52	1	0	55	170	0
16:30	9	9	5	0	23	2	76	11	0	89	1	13	13	0	27	2	67	3	0	72	211	0
16:45	5	8	2	0	15	2	82	6	0	90	1	24	14	0	39	1	53	3	0	57	201	0
<b>Total</b>	<b>18</b>	<b>32</b>	<b>17</b>	<b>0</b>	<b>67</b>	<b>11</b>	<b>297</b>	<b>32</b>	<b>0</b>	<b>340</b>	<b>8</b>	<b>65</b>	<b>48</b>	<b>0</b>	<b>121</b>	<b>8</b>	<b>227</b>	<b>15</b>	<b>0</b>	<b>250</b>	<b>778</b>	<b>0</b>
17:00	7	8	4	0	19	3	79	9	0	91	2	13	8	0	23	5	95	3	0	103	236	0
17:15	3	6	8	0	17	4	87	4	0	95	1	18	12	0	31	5	49	4	0	58	201	0
17:30	1	8	4	0	13	2	69	5	0	76	4	13	14	0	31	4	56	5	0	65	185	0
17:45	2	16	8	0	26	1	67	7	0	75	0	10	11	0	21	3	58	5	0	66	188	0
<b>Total</b>	<b>13</b>	<b>38</b>	<b>24</b>	<b>0</b>	<b>75</b>	<b>10</b>	<b>302</b>	<b>25</b>	<b>0</b>	<b>337</b>	<b>7</b>	<b>54</b>	<b>45</b>	<b>0</b>	<b>106</b>	<b>17</b>	<b>258</b>	<b>17</b>	<b>0</b>	<b>292</b>	<b>810</b>	<b>0</b>
<b>Grand Total</b>	<b>50</b>	<b>116</b>	<b>62</b>	<b>0</b>	<b>228</b>	<b>44</b>	<b>1232</b>	<b>112</b>	<b>0</b>	<b>1388</b>	<b>46</b>	<b>214</b>	<b>169</b>	<b>0</b>	<b>429</b>	<b>39</b>	<b>676</b>	<b>53</b>	<b>0</b>	<b>768</b>	<b>2813</b>	<b>0</b>
Apprch %	21.9%	50.9%	27.2%	0.0%	8.1%	3.2%	88.8%	8.1%	0.0%	49.3%	10.7%	49.9%	39.4%	0.0%	15.3%	5.1%	88.0%	6.9%	0.0%	27.3%	100.0%	
Total %	1.8%	4.1%	2.2%	0.0%	8.1%	1.6%	43.8%	4.0%	0.0%	49.3%	1.6%	7.6%	6.0%	0.0%	15.3%	1.4%	24.0%	1.9%	0.0%	27.3%	100.0%	

AM PEAK HOUR	25th Street Southbound					K Street Westbound					25th Street Northbound					K Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	3	5	1	0	9	5	79	12	0	96	9	17	17	0	43	1	24	3	0	28	176
7:45	4	5	3	0	12	1	78	8	0	87	8	24	17	0	49	3	30	4	0	37	185
8:00	1	8	2	0	11	3	94	8	0	105	8	22	11	0	41	1	36	5	0	42	199
8:15	4	8	6	0	18	3	87	5	0	95	4	6	5	0	15	1	24	2	0	27	155
Total Volume	12	26	12	0	50	12	338	33	0	383	29	69	50	0	148	6	114	14	0	134	715
% App Total	24.0%	52.0%	24.0%	0.0%		3.1%	88.3%	8.6%	0.0%		19.6%	46.6%	33.8%	0.0%		4.5%	85.1%	10.4%	0.0%		
PHF	.750	.813	.500	.000	.694	.600	.899	.688	.000	.912	.806	.719	.735	.000	.755	.500	.792	.700	.000	.798	.898

PM PEAK HOUR	25th Street Southbound					K Street Westbound					25th Street Northbound					K Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	9	9	5	0	23	2	76	11	0	89	1	13	13	0	27	2	67	3	0	72	211
16:45	5	8	2	0	15	2	82	6	0	90	1	24	14	0	39	1	53	3	0	57	201
17:00	7	8	4	0	19	3	79	9	0	91	2	13	8	0	23	5	95	3	0	103	236
17:15	3	6	8	0	17	4	87	4	0	95	1	18	12	0	31	5	49	4	0	58	201
Total Volume	24	31	19	0	74	11	324	30	0	365	5	68	47	0	120	13	264	13	0	290	849
% App Total	32.4%	41.9%	25.7%	0.0%		3.0%	88.8%	8.2%	0.0%		4.2%	56.7%	39.2%	0.0%		4.5%	91.0%	4.5%	0.0%		
PHF	.667	.861	.594	.000	.804	.688	.931	.682	.000	.961	.625	.708	.839	.000	.769	.650	.695	.813	.000	.704	.899

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7869-004 26th Street & J Street

Date : 11/3/2015

City of Sacramento  
All Vehicles & Utturns On Unshifted  
Nothing On Bank 1  
Nothing On Bank 2

### Unshifted Count = All Vehicles & Utturns

START TIME	26th Street Southbound					J Street Westbound					26th Street Northbound					J Street Eastbound					Total	Utturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	2	4	0	0	6	0	0	0	0	0	0	2	8	0	10	0	145	5	0	150	166	0
7:15	7	5	0	0	12	0	0	0	0	0	0	6	6	0	12	2	170	7	0	179	203	0
7:30	6	12	0	0	18	0	0	0	0	0	0	6	11	0	17	0	190	2	0	192	227	0
7:45	9	7	0	0	16	0	0	0	0	0	0	8	15	0	23	3	208	9	0	220	259	0
<b>Total</b>	<b>24</b>	<b>28</b>	<b>0</b>	<b>0</b>	<b>52</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>40</b>	<b>0</b>	<b>62</b>	<b>5</b>	<b>713</b>	<b>23</b>	<b>0</b>	<b>741</b>	<b>855</b>	<b>0</b>
8:00	2	10	0	0	12	0	0	0	0	0	0	8	8	0	16	7	207	16	0	230	258	0
8:15	4	3	0	0	7	0	0	0	0	0	0	9	6	0	15	4	189	5	0	198	220	0
8:30	3	6	0	0	9	0	0	0	0	0	0	8	9	0	17	2	176	4	0	182	208	0
8:45	3	7	0	0	10	0	0	0	0	0	0	11	5	0	16	2	157	9	0	168	194	0
<b>Total</b>	<b>12</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>28</b>	<b>0</b>	<b>64</b>	<b>15</b>	<b>729</b>	<b>34</b>	<b>0</b>	<b>778</b>	<b>880</b>	<b>0</b>
16:00	4	7	0	0	11	0	0	0	0	0	0	16	16	0	32	5	296	8	0	309	352	0
16:15	3	7	0	0	10	0	0	0	0	0	0	34	12	0	46	2	272	13	0	287	343	0
16:30	3	10	0	0	13	0	0	0	0	0	0	22	20	0	42	4	309	10	0	323	378	0
16:45	3	8	0	0	11	0	0	0	0	0	0	22	16	0	38	6	362	10	0	378	427	0
<b>Total</b>	<b>13</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>94</b>	<b>64</b>	<b>0</b>	<b>158</b>	<b>17</b>	<b>1239</b>	<b>41</b>	<b>0</b>	<b>1297</b>	<b>1500</b>	<b>0</b>
17:00	5	8	0	0	13	0	0	0	0	0	0	30	22	0	52	6	350	7	0	363	428	0
17:15	3	7	0	0	10	0	0	0	0	0	0	27	9	0	36	7	306	12	0	325	371	0
17:30	3	7	0	0	10	0	0	0	0	0	0	41	15	0	56	3	327	13	0	343	409	0
17:45	3	6	0	0	9	0	0	0	0	0	0	31	11	0	42	10	282	5	0	297	348	0
<b>Total</b>	<b>14</b>	<b>28</b>	<b>0</b>	<b>0</b>	<b>42</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>129</b>	<b>57</b>	<b>0</b>	<b>186</b>	<b>26</b>	<b>1265</b>	<b>37</b>	<b>0</b>	<b>1328</b>	<b>1556</b>	<b>0</b>
<b>Grand Total</b>	<b>63</b>	<b>114</b>	<b>0</b>	<b>0</b>	<b>177</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>281</b>	<b>189</b>	<b>0</b>	<b>470</b>	<b>63</b>	<b>3946</b>	<b>135</b>	<b>0</b>	<b>4144</b>	<b>4791</b>	<b>0</b>
Apprch %	35.6%	64.4%	0.0%	0.0%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	59.8%	40.2%	0.0%	9.8%	1.5%	95.2%	3.3%	0.0%	86.5%	100.0%	
Total %	1.3%	2.4%	0.0%	0.0%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	3.9%	0.0%	9.8%	1.3%	82.4%	2.8%	0.0%	86.5%	100.0%	

AM PEAK HOUR	26th Street Southbound					J Street Westbound					26th Street Northbound					J Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	6	12	0	0	18	0	0	0	0	0	0	6	11	0	17	0	190	2	0	192	227
7:45	9	7	0	0	16	0	0	0	0	0	0	8	15	0	23	3	208	9	0	220	259
8:00	2	10	0	0	12	0	0	0	0	0	0	8	8	0	16	7	207	16	0	230	258
8:15	4	3	0	0	7	0	0	0	0	0	0	9	6	0	15	4	189	5	0	198	220
Total Volume	21	32	0	0	53	0	0	0	0	0	0	31	40	0	71	14	794	32	0	840	964
% App Total	39.6%	60.4%	0.0%	0.0%	30.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	43.7%	56.3%	0.0%	37.5%	1.7%	94.5%	3.8%	0.0%	86.5%	100.0%
PHF	.583	.667	.000	.000	.736	.000	.000	.000	.000	.000	.000	.861	.667	.000	.772	.500	.954	.500	.000	.913	.931

PM PEAK HOUR	26th Street Southbound					J Street Westbound					26th Street Northbound					J Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	3	8	0	0	11	0	0	0	0	0	0	22	16	0	38	6	362	10	0	378	427
17:00	5	8	0	0	13	0	0	0	0	0	0	30	22	0	52	6	350	7	0	363	428
17:15	3	7	0	0	10	0	0	0	0	0	0	27	9	0	36	7	306	12	0	325	371
17:30	3	7	0	0	10	0	0	0	0	0	0	41	15	0	56	3	327	13	0	343	409
Total Volume	14	30	0	0	44	0	0	0	0	0	0	120	62	0	182	22	1345	42	0	1409	1635
% App Total	31.8%	68.2%	0.0%	0.0%	24.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	65.9%	34.1%	0.0%	39.8%	1.6%	95.5%	3.0%	0.0%	86.5%	100.0%
PHF	.700	.938	.000	.000	.846	.000	.000	.000	.000	.000	.000	.732	.705	.000	.813	.786	.929	.808	.000	.932	.955

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7869-005 26th Street & Jazz Alley

Date : 11/3/2015

City of Sacramento  
All Vehicles & Uturns On Unshifted  
Nothing On Bank 1  
Nothing On Bank 2

### Unshifted Count = All Vehicles & Uturns

START TIME	26th Street Southbound					Jazz Alley Westbound					26th Street Northbound					Jazz Alley Eastbound					Total	Uturns Total					
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL							
7:00	0	8	1	0	9	0	0	0	0	0	1	8	1	1	11	1	0	0	0	1	0	0	0	0	0	21	1
7:15	1	9	1	1	12	0	0	0	0	0	2	12	2	0	16	0	0	1	1	0	0	0	1	0	1	29	1
7:30	0	14	0	0	14	0	0	1	0	1	4	14	0	1	19	1	0	2	0	3	0	0	2	0	3	37	1
7:45	0	15	0	0	15	0	0	0	0	0	6	21	0	0	27	2	0	1	0	3	0	0	1	0	3	45	0
<b>Total</b>	<b>1</b>	<b>46</b>	<b>2</b>	<b>1</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>13</b>	<b>55</b>	<b>3</b>	<b>2</b>	<b>73</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>8</b>	<b>132</b>	<b>3</b>
8:00	0	26	0	0	26	2	0	0	0	2	6	16	0	0	22	0	0	3	0	3	0	0	3	0	3	53	0
8:15	0	10	0	0	10	0	0	0	0	0	3	18	1	0	22	1	0	2	0	3	0	0	2	0	3	35	0
8:30	1	7	1	0	9	0	1	0	0	1	3	17	2	1	23	2	0	3	0	5	0	0	3	0	5	38	1
8:45	1	13	1	0	15	1	1	0	0	2	3	18	4	0	25	0	0	4	0	4	0	0	4	0	4	46	0
<b>Total</b>	<b>2</b>	<b>56</b>	<b>2</b>	<b>0</b>	<b>60</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>15</b>	<b>69</b>	<b>7</b>	<b>1</b>	<b>92</b>	<b>3</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>15</b>	<b>172</b>	<b>1</b>
16:00	1	13	2	0	16	1	0	0	0	1	1	27	1	0	29	6	0	8	0	14	0	0	8	0	14	60	0
16:15	0	21	0	0	21	0	0	0	0	0	2	41	0	1	44	4	0	10	0	14	0	0	10	0	14	79	1
16:30	0	18	1	0	19	4	0	2	0	6	0	35	2	2	39	3	1	7	0	11	0	0	7	0	11	75	2
16:45	0	18	1	0	19	1	0	2	0	3	0	33	0	0	33	4	0	3	0	7	0	0	3	0	7	62	0
<b>Total</b>	<b>1</b>	<b>70</b>	<b>4</b>	<b>0</b>	<b>75</b>	<b>6</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>10</b>	<b>3</b>	<b>136</b>	<b>3</b>	<b>3</b>	<b>145</b>	<b>17</b>	<b>1</b>	<b>28</b>	<b>0</b>	<b>46</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>46</b>	<b>276</b>	<b>3</b>
17:00	1	15	0	0	16	3	0	4	0	7	1	41	0	0	42	6	0	9	0	15	0	0	9	0	15	80	0
17:15	0	23	1	0	24	1	0	1	0	2	3	39	0	0	42	0	0	8	0	8	0	0	8	0	8	76	0
17:30	0	18	3	0	21	1	1	2	0	4	3	51	0	0	54	2	1	5	0	8	0	0	5	0	8	87	0
17:45	0	11	0	0	11	1	0	2	0	3	1	38	1	0	40	0	0	2	0	2	0	0	2	0	2	56	0
<b>Total</b>	<b>1</b>	<b>67</b>	<b>4</b>	<b>0</b>	<b>72</b>	<b>6</b>	<b>1</b>	<b>9</b>	<b>0</b>	<b>16</b>	<b>8</b>	<b>169</b>	<b>1</b>	<b>0</b>	<b>178</b>	<b>8</b>	<b>1</b>	<b>24</b>	<b>0</b>	<b>33</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>33</b>	<b>299</b>	<b>0</b>
<b>Grand Total</b>	<b>5</b>	<b>239</b>	<b>12</b>	<b>1</b>	<b>257</b>	<b>15</b>	<b>3</b>	<b>14</b>	<b>0</b>	<b>32</b>	<b>39</b>	<b>429</b>	<b>14</b>	<b>6</b>	<b>488</b>	<b>32</b>	<b>2</b>	<b>68</b>	<b>0</b>	<b>102</b>	<b>0</b>	<b>0</b>	<b>68</b>	<b>0</b>	<b>102</b>	<b>879</b>	<b>7</b>
Apprch %	1.9%	93.0%	4.7%	0.4%	29.2%	46.9%	9.4%	43.8%	0.0%	3.6%	8.0%	87.9%	2.9%	1.2%	55.5%	31.4%	2.0%	66.7%	0.0%	11.6%	0.0%	0.0%	7.7%	0.0%	11.6%	100.0%	
Total %	0.6%	27.2%	1.4%	0.1%	29.2%	1.7%	0.3%	1.6%	0.0%	3.6%	4.4%	48.8%	1.6%	0.7%	55.5%	3.6%	0.2%	7.7%	0.0%	11.6%	0.0%	0.0%	7.7%	0.0%	11.6%	100.0%	

AM PEAK HOUR	26th Street Southbound					Jazz Alley Westbound					26th Street Northbound					Jazz Alley Eastbound					Total					
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL						
Peak Hour Analysis From 08:00 to 09:00																										
Peak Hour For Entire Intersection Begins at 08:00																										
8:00	0	26	0	0	26	2	0	0	0	2	6	16	0	0	22	0	0	3	0	3	0	0	3	0	3	53
8:15	0	10	0	0	10	0	0	0	0	0	3	18	1	0	22	1	0	2	0	3	0	0	2	0	3	35
8:30	1	7	1	0	9	0	1	0	0	1	3	17	2	1	23	2	0	3	0	5	0	0	3	0	5	38
8:45	1	13	1	0	15	1	1	0	0	2	3	18	4	0	25	0	0	4	0	4	0	0	4	0	4	46
Total Volume	2	56	2	0	60	3	2	0	0	5	15	69	7	1	92	3	0	12	0	15	0	0	12	0	15	172
% App Total	3.3%	93.3%	3.3%	0.0%	23.3%	60.0%	40.0%	0.0%	0.0%	15.6%	16.3%	75.0%	7.6%	1.1%	55.5%	20.0%	0.0%	80.0%	0.0%	11.6%	0.0%	0.0%	80.0%	0.0%	11.6%	100.0%
PHF	.500	.538	.500	.000	.577	.375	.500	.000	.000	.625	.625	.958	.438	.250	.920	.375	.000	.750	.000	.750	.000	.000	.750	.000	.750	.811

PM PEAK HOUR	26th Street Southbound					Jazz Alley Westbound					26th Street Northbound					Jazz Alley Eastbound					Total					
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL						
Peak Hour Analysis From 16:45 to 17:45																										
Peak Hour For Entire Intersection Begins at 16:45																										
16:45	0	18	1	0	19	1	0	2	0	3	0	33	0	0	33	4	0	3	0	7	0	0	3	0	7	62
17:00	1	15	0	0	16	3	0	4	0	7	1	41	0	0	42	6	0	9	0	15	0	0	9	0	15	80
17:15	0	23	1	0	24	1	0	1	0	2	3	39	0	0	42	0	0	8	0	8	0	0	8	0	8	76
17:30	0	18	3	0	21	1	1	2	0	4	3	51	0	0	54	2	1	5	0	8	0	0	5	0	8	87
Total Volume	1	74	5	0	80	6	1	9	0	16	7	164	0	0	171	12	1	25	0	38	0	0	25	0	38	305
% App Total	1.3%	92.5%	6.3%	0.0%	31.1%	37.5%	6.3%	56.3%	0.0%	15.6%	4.1%	95.9%	0.0%	0.0%	55.5%	31.6%	2.6%	65.8%	0.0%	11.6%	0.0%	0.0%	65.8%	0.0%	11.6%	100.0%
PHF	.250	.804	.417	.000	.833	.500	.250	.563	.000	.571	.583	.804	.000	.000	.792	.500	.250	.694	.000	.633	.000	.000	.694	.000	.633	.876

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 15-7869-006 26th Street & K Street

Date : 11/3/2015

City of Sacramento  
All Vehicles & Uturns On Unshifted  
Nothing On Bank 1  
Nothing On Bank 2

### Unshifted Count = All Vehicles & Uturns

START TIME	26th Street Southbound					K Street Westbound					26th Street Northbound					K Street Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	8	1	0	9	6	55	6	0	67	0	5	4	0	9	2	10	1	0	13	98	0
7:15	0	6	4	0	10	4	84	3	0	91	2	11	3	0	16	2	29	4	0	35	152	0
7:30	1	8	2	0	11	3	95	6	0	104	1	13	6	0	20	2	36	2	0	40	175	0
7:45	1	17	2	0	20	8	92	9	0	109	5	15	7	0	27	4	33	7	0	44	200	0
<b>Total</b>	<b>2</b>	<b>39</b>	<b>9</b>	<b>0</b>	<b>50</b>	<b>21</b>	<b>326</b>	<b>24</b>	<b>0</b>	<b>371</b>	<b>8</b>	<b>44</b>	<b>20</b>	<b>0</b>	<b>72</b>	<b>10</b>	<b>108</b>	<b>14</b>	<b>0</b>	<b>132</b>	<b>625</b>	<b>0</b>
8:00	3	21	6	0	30	8	99	8	0	115	7	12	13	0	32	2	46	5	0	53	230	0
8:15	1	7	4	0	12	4	90	11	0	105	3	11	6	0	20	3	25	5	0	33	170	0
8:30	3	6	1	0	10	2	95	8	0	105	1	13	10	0	24	3	21	0	0	24	163	0
8:45	2	9	5	0	16	8	102	9	0	119	4	15	0	0	19	1	24	3	0	28	182	0
<b>Total</b>	<b>9</b>	<b>43</b>	<b>16</b>	<b>0</b>	<b>68</b>	<b>22</b>	<b>386</b>	<b>36</b>	<b>0</b>	<b>444</b>	<b>15</b>	<b>51</b>	<b>29</b>	<b>0</b>	<b>95</b>	<b>9</b>	<b>116</b>	<b>13</b>	<b>0</b>	<b>138</b>	<b>745</b>	<b>0</b>
16:00	8	13	6	0	27	11	77	6	0	94	2	18	9	0	29	4	58	8	0	70	220	0
16:15	5	19	5	0	29	6	74	14	0	94	5	27	6	0	38	5	57	3	0	65	226	0
16:30	7	20	4	0	31	6	83	4	0	93	2	24	3	0	29	8	72	9	0	89	242	0
16:45	3	15	5	0	23	5	81	7	0	93	1	25	8	0	34	3	66	5	0	74	224	0
<b>Total</b>	<b>23</b>	<b>67</b>	<b>20</b>	<b>0</b>	<b>110</b>	<b>28</b>	<b>315</b>	<b>31</b>	<b>0</b>	<b>374</b>	<b>10</b>	<b>94</b>	<b>26</b>	<b>0</b>	<b>130</b>	<b>20</b>	<b>253</b>	<b>25</b>	<b>0</b>	<b>298</b>	<b>912</b>	<b>0</b>
17:00	7	15	3	0	25	11	85	7	0	103	6	30	12	0	48	4	97	6	0	107	283	0
17:15	3	22	7	0	32	8	80	13	0	101	3	27	2	0	32	2	59	3	0	64	229	0
17:30	3	17	1	0	21	5	80	14	0	99	3	36	9	0	48	3	63	9	0	75	243	0
17:45	2	12	2	0	16	8	65	5	0	78	1	35	7	0	43	3	63	4	0	70	207	0
<b>Total</b>	<b>15</b>	<b>66</b>	<b>13</b>	<b>0</b>	<b>94</b>	<b>32</b>	<b>310</b>	<b>39</b>	<b>0</b>	<b>381</b>	<b>13</b>	<b>128</b>	<b>30</b>	<b>0</b>	<b>171</b>	<b>12</b>	<b>282</b>	<b>22</b>	<b>0</b>	<b>316</b>	<b>962</b>	<b>0</b>
<b>Grand Total</b>	<b>49</b>	<b>215</b>	<b>58</b>	<b>0</b>	<b>322</b>	<b>103</b>	<b>1337</b>	<b>130</b>	<b>0</b>	<b>1570</b>	<b>46</b>	<b>317</b>	<b>105</b>	<b>0</b>	<b>468</b>	<b>51</b>	<b>759</b>	<b>74</b>	<b>0</b>	<b>884</b>	<b>3244</b>	<b>0</b>
Apprch %	15.2%	66.8%	18.0%	0.0%	9.9%	6.6%	85.2%	8.3%	0.0%	48.4%	9.8%	67.7%	22.4%	0.0%	14.4%	5.8%	85.9%	8.4%	0.0%	27.3%	100.0%	
Total %	1.5%	6.6%	1.8%	0.0%	9.9%	3.2%	41.2%	4.0%	0.0%	48.4%	1.4%	9.8%	3.2%	0.0%	14.4%	1.6%	23.4%	2.3%	0.0%	27.3%	100.0%	

AM PEAK HOUR	26th Street Southbound					K Street Westbound					26th Street Northbound					K Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	1	8	2	0	11	3	95	6	0	104	1	13	6	0	20	2	36	2	0	40	175
7:45	1	17	2	0	20	8	92	9	0	109	5	15	7	0	27	4	33	7	0	44	200
8:00	3	21	6	0	30	8	99	8	0	115	7	12	13	0	32	2	46	5	0	53	230
8:15	1	7	4	0	12	4	90	11	0	105	3	11	6	0	20	3	25	5	0	33	170
Total Volume	6	53	14	0	73	23	376	34	0	433	16	51	32	0	99	11	140	19	0	170	775
% App Total	8.2%	72.6%	19.2%	0.0%	9.9%	5.3%	86.8%	7.9%	0.0%	48.4%	16.2%	51.5%	32.3%	0.0%	14.4%	6.5%	82.4%	11.2%	0.0%	27.3%	100.0%
PHF	.500	.631	.583	.000	.608	.719	.949	.773	.000	.941	.571	.850	.615	.000	.773	.688	.761	.679	.000	.802	.842

PM PEAK HOUR	26th Street Southbound					K Street Westbound					26th Street Northbound					K Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	3	15	5	0	23	5	81	7	0	93	1	25	8	0	34	3	66	5	0	74	224
17:00	7	15	3	0	25	11	85	7	0	103	6	30	12	0	48	4	97	6	0	107	283
17:15	3	22	7	0	32	8	80	13	0	101	3	27	2	0	32	2	59	3	0	64	229
17:30	3	17	1	0	21	5	80	14	0	99	3	36	9	0	48	3	63	9	0	75	243
Total Volume	16	69	16	0	101	29	326	41	0	396	13	118	31	0	162	12	285	23	0	320	979
% App Total	15.8%	68.3%	15.8%	0.0%	9.9%	7.3%	82.3%	10.4%	0.0%	48.4%	8.0%	72.8%	19.1%	0.0%	14.4%	3.8%	89.1%	7.2%	0.0%	27.3%	100.0%
PHF	.571	.784	.571	.000	.789	.659	.959	.732	.000	.961	.542	.819	.646	.000	.844	.750	.735	.639	.000	.748	.865


















**Appendix B:**

*Analysis Worksheets for  
Existing (2015) Conditions*



Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	831	84	31
v/c Ratio	0.28	0.15	0.06
Control Delay	7.2	10.5	17.6
Queue Delay	0.0	0.0	0.0
Total Delay	7.2	10.5	17.6
Queue Length 50th (ft)	55	15	9
Queue Length 95th (ft)	75	45	27
Internal Link Dist (ft)	999	197	68
Turn Bay Length (ft)			
Base Capacity (vph)	2984	564	537
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.28	0.15	0.06
<b>Intersection Summary</b>			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	783	42	0	0	0	0	47	37	10	21	0
Future Volume (veh/h)	6	783	42	0	0	0	0	47	37	10	21	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	6	783	42				0	47	37	10	21	0
Adj No. of Lanes	0	3	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	22	2981	165				0	297	234	199	385	0
Arrive On Green	0.59	0.59	0.59				0.00	0.31	0.31	0.31	0.31	0.00
Sat Flow, veh/h	37	5053	280				0	967	761	427	1255	0
Grp Volume(v), veh/h	306	253	272				0	0	84	31	0	0
Grp Sat Flow(s),veh/h/ln	1861	1695	1813				0	0	1728	1682	0	0
Q Serve(g_s), s	5.6	5.0	5.1				0.0	0.0	2.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.6	5.0	5.1				0.0	0.0	2.5	0.8	0.0	0.0
Prop In Lane	0.02		0.15				0.00		0.44	0.32		0.00
Lane Grp Cap(c), veh/h	1098	1000	1070				0	0	531	585	0	0
V/C Ratio(X)	0.28	0.25	0.25				0.00	0.00	0.16	0.05	0.00	0.00
Avail Cap(c_a), veh/h	1098	1000	1070				0	0	531	585	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.0	6.9	6.9				0.0	0.0	17.7	17.1	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.6	0.6				0.0	0.0	0.6	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	2.5	2.7				0.0	0.0	1.3	0.4	0.0	0.0
LnGrp Delay(d),s/veh	7.7	7.5	7.5				0.0	0.0	18.3	17.3	0.0	0.0
LnGrp LOS	A	A	A						B	B		
Approach Vol, veh/h		831						84			31	
Approach Delay, s/veh		7.6						18.3			17.3	
Approach LOS		A						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		25.0		45.0		25.0						
Change Period (Y+Rc), s		3.5		3.7		3.5						
Max Green Setting (Gmax), s		21.5		41.3		21.5						
Max Q Clear Time (g_c+I1), s		4.5		7.6		2.8						
Green Ext Time (p_c), s		0.5		5.8		0.5						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									

**Intersection**

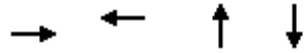
Int Delay, s/veh 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	1	0	2	0	2	6	82	11	10	47	5
Future Vol, veh/h	1	1	0	2	0	2	6	82	11	10	47	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	0	2	0	2	6	82	11	10	47	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	171	175	50	170	172	88	52	0	0	93	0	0
Stage 1	70	70	-	100	100	-	-	-	-	-	-	-
Stage 2	101	105	-	70	72	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	792	718	1018	794	721	970	1554	-	-	1501	-	-
Stage 1	940	837	-	906	812	-	-	-	-	-	-	-
Stage 2	905	808	-	940	835	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	784	710	1018	787	713	970	1554	-	-	1501	-	-
Mov Cap-2 Maneuver	784	710	-	787	713	-	-	-	-	-	-	-
Stage 1	936	831	-	902	809	-	-	-	-	-	-	-
Stage 2	900	805	-	932	829	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.2	0.4	1.2
HCM LOS	A	A		

















Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1554	-	-	745	869	1501	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.005	0.007	-	-
HCM Control Delay (s)	7.3	0	-	9.8	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	134	383	148	50
v/c Ratio	0.14	0.40	0.22	0.08
Control Delay	8.3	11.4	11.6	10.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.3	11.4	11.6	10.2
Queue Length 50th (ft)	25	90	29	9
Queue Length 95th (ft)	51	148	66	25
Internal Link Dist (ft)	873	346	147	185
Turn Bay Length (ft)				
Base Capacity (vph)	951	957	667	653
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.14	0.40	0.22	0.08


















Intersection Summary



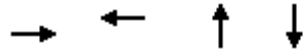
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	114	14	12	338	33	29	69	50	12	26	12
Future Volume (veh/h)	6	114	14	12	338	33	29	69	50	12	26	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	6	114	14	12	338	33	29	69	50	12	26	12
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	830	98	63	860	82	148	335	215	176	363	150
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	27	1591	189	20	1649	157	228	884	567	297	960	397
Grp Volume(v), veh/h	134	0	0	383	0	0	148	0	0	50	0	0
Grp Sat Flow(s),veh/h/ln	1807	0	0	1826	0	0	1679	0	0	1653	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.6	0.0	0.0	8.8	0.0	0.0	4.0	0.0	0.0	1.3	0.0	0.0
Prop In Lane	0.04		0.10	0.03		0.09	0.20		0.34	0.24		0.24
Lane Grp Cap(c), veh/h	996	0	0	1005	0	0	697	0	0	690	0	0
V/C Ratio(X)	0.13	0.00	0.00	0.38	0.00	0.00	0.21	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	996	0	0	1005	0	0	697	0	0	690	0	0
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	0.00	0.93	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.6	0.0	0.0	10.1	0.0	0.0	14.8	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.0	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	4.8	0.0	0.0	2.1	0.0	0.0	0.7	0.0	0.0
LnGrp Delay(d),s/veh	8.9	0.0	0.0	11.2	0.0	0.0	15.5	0.0	0.0	14.1	0.0	0.0
LnGrp LOS	A			B			B			B		
Approach Vol, veh/h		134			383			148				50
Approach Delay, s/veh		8.9			11.2			15.5				14.1
Approach LOS		A			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		30.0		40.0		30.0		40.0				
Change Period (Y+Rc), s		3.5		3.5		3.5		3.5				
Max Green Setting (Gmax), s		26.5		36.5		26.5		36.5				
Max Q Clear Time (g_c+I1), s		6.0		4.6		3.3		10.8				
Green Ext Time (p_c), s		1.1		3.5		1.1		3.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				11.8								
HCM 2010 LOS				B								



Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	840	71	53
v/c Ratio	0.28	0.13	0.10
Control Delay	1.4	10.4	18.1
Queue Delay	0.0	0.0	0.0
Total Delay	1.4	10.4	18.1
Queue Length 50th (ft)	7	9	16
Queue Length 95th (ft)	10	36	40
Internal Link Dist (ft)	327	201	80
Turn Bay Length (ft)			
Base Capacity (vph)	2985	556	521
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.28	0.13	0.10
<b>Intersection Summary</b>			

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  										
Traffic Volume (veh/h)	14	794	32	0	0	0	0	31	40	21	32	0
Future Volume (veh/h)	14	794	32	0	0	0	0	31	40	21	32	0
Number	5	2	12				7	4	14	3	8	18
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	14	794	32				0	31	40	21	32	0
Adj No. of Lanes	0	3	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	50	2999	125				0	227	293	239	336	0
Arrive On Green	0.19	0.19	0.19				0.00	0.31	0.31	0.31	0.31	0.00
Sat Flow, veh/h	84	5083	211				0	740	955	546	1095	0
Grp Volume(v), veh/h	308	256	276				0	0	71	53	0	0
Grp Sat Flow(s),veh/h/ln	1859	1695	1825				0	0	1694	1641	0	0
Q Serve(g_s), s	9.9	8.9	9.0				0.0	0.0	2.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.9	8.9	9.0				0.0	0.0	2.1	1.4	0.0	0.0
Prop In Lane	0.05		0.12				0.00		0.56	0.40		0.00
Lane Grp Cap(c), veh/h	1097	1000	1077				0	0	520	576	0	0
V/C Ratio(X)	0.28	0.26	0.26				0.00	0.00	0.14	0.09	0.00	0.00
Avail Cap(c_a), veh/h	1097	1000	1077				0	0	520	576	0	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.5	15.2	15.2				0.0	0.0	17.5	17.3	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.6	0.6				0.0	0.0	0.5	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	4.4	4.7				0.0	0.0	1.1	0.8	0.0	0.0
LnGrp Delay(d),s/veh	16.2	15.8	15.7				0.0	0.0	18.1	17.6	0.0	0.0
LnGrp LOS	B	B	B						B	B		
Approach Vol, veh/h		840						71			53	
Approach Delay, s/veh		15.9						18.1			17.6	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		45.0		25.0				25.0				
Change Period (Y+Rc), s		3.7		3.5				3.5				
Max Green Setting (Gmax), s		41.3		21.5				21.5				
Max Q Clear Time (g_c+I1), s		11.9		4.1				3.4				
Green Ext Time (p_c), s		5.7		0.5				0.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			16.2									
HCM 2010 LOS			B									

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	0	12	3	2	0	15	69	7	2	56	2
Future Vol, veh/h	3	0	12	3	2	0	15	69	7	2	56	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	12	3	2	0	15	69	7	2	56	2
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	165	167	57	170	165	73	58	0	0	76	0	0
Stage 1	61	61	-	103	103	-	-	-	-	-	-	-
Stage 2	104	106	-	67	62	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	800	726	1009	794	728	989	1546	-	-	1523	-	-
Stage 1	950	844	-	903	810	-	-	-	-	-	-	-
Stage 2	902	807	-	943	843	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	792	718	1009	778	720	989	1546	-	-	1523	-	-
Mov Cap-2 Maneuver	792	718	-	778	720	-	-	-	-	-	-	-
Stage 1	941	843	-	894	802	-	-	-	-	-	-	-
Stage 2	891	799	-	931	842	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	8.8			9.8			1.2			0.2		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1546	-	-	957	754	1523	-	-				
HCM Lane V/C Ratio	0.01	-	-	0.016	0.007	0.001	-	-				
HCM Control Delay (s)	7.4	0	-	8.8	9.8	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				


















Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	170	433	99	73
v/c Ratio	0.15	0.37	0.19	0.13
Control Delay	7.2	8.9	8.5	9.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.2	8.9	8.5	9.1
Queue Length 50th (ft)	16	54	8	7
Queue Length 95th (ft)	63	174	39	33
Internal Link Dist (ft)	346	429	146	182
Turn Bay Length (ft)				
Base Capacity (vph)	1705	1737	759	790
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.25	0.13	0.09
<b>Intersection Summary</b>				



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	140	19	23	376	34	16	51	32	6	53	14
Future Volume (veh/h)	11	140	19	23	376	34	16	51	32	6	53	14
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	11	140	19	23	376	34	16	51	32	6	53	14
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	671	86	153	705	62	179	170	95	153	234	59
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	37	1556	200	40	1634	143	167	983	549	76	1355	340
Grp Volume(v), veh/h	170	0	0	433	0	0	99	0	0	73	0	0
Grp Sat Flow(s),veh/h/ln	1793	0	0	1817	0	0	1699	0	0	1771	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	0.0	0.0	4.9	0.0	0.0	1.4	0.0	0.0	1.0	0.0	0.0
Prop In Lane	0.06		0.11	0.05		0.08	0.16		0.32	0.08		0.19
Lane Grp Cap(c), veh/h	912	0	0	920	0	0	444	0	0	446	0	0
V/C Ratio(X)	0.19	0.00	0.00	0.47	0.00	0.00	0.22	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	2929	0	0	3010	0	0	1023	0	0	1054	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.0	0.0	0.0	5.9	0.0	0.0	10.1	0.0	0.0	9.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	2.4	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	5.0	0.0	0.0	6.0	0.0	0.0	10.2	0.0	0.0	10.0	0.0	0.0
LnGrp LOS	A			A			B			A		
Approach Vol, veh/h		170			433			99			73	
Approach Delay, s/veh		5.0			6.0			10.2			10.0	
Approach LOS		A			A			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.5		10.3		17.5		10.3				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		44.5		14.5		44.5		14.5				
Max Q Clear Time (g_c+I1), s		3.6		3.4		6.9		3.0				
Green Ext Time (p_c), s		2.7		0.4		2.6		0.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			6.7									
HCM 2010 LOS			A									
<b>Notes</b>												



Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	1425	125	43
v/c Ratio	0.48	0.22	0.08
Control Delay	8.8	11.3	17.9
Queue Delay	0.0	0.0	0.0
Total Delay	8.8	11.3	17.9
Queue Length 50th (ft)	113	23	13
Queue Length 95th (ft)	144	58	34
Internal Link Dist (ft)	999	197	68
Turn Bay Length (ft)			
Base Capacity (vph)	2989	575	507
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.48	0.22	0.08
<b>Intersection Summary</b>			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1369	36	0	0	0	0	76	49	20	23	0
Future Volume (veh/h)	20	1369	36	0	0	0	0	76	49	20	23	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	20	1369	36				0	76	49	20	23	0
Adj No. of Lanes	0	3	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	0.70
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	42	3056	83				0	325	210	255	268	0
Arrive On Green	0.59	0.59	0.59				0.00	0.31	0.31	0.31	0.31	0.00
Sat Flow, veh/h	71	5180	141				0	1059	683	585	872	0
Grp Volume(v), veh/h	522	433	470				0	0	125	43	0	0
Grp Sat Flow(s),veh/h/ln	1859	1695	1838				0	0	1742	1457	0	0
Q Serve(g_s), s	11.2	9.9	9.9				0.0	0.0	3.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.2	9.9	9.9				0.0	0.0	3.7	3.8	0.0	0.0
Prop In Lane	0.04		0.08				0.00		0.39	0.47		0.00
Lane Grp Cap(c), veh/h	1097	1000	1084				0	0	535	523	0	0
V/C Ratio(X)	0.48	0.43	0.43				0.00	0.00	0.23	0.08	0.00	0.00
Avail Cap(c_a), veh/h	1097	1000	1084				0	0	535	523	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.2	7.9	7.9				0.0	0.0	18.1	17.2	0.0	0.0
Incr Delay (d2), s/veh	1.5	1.4	1.3				0.0	0.0	1.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	5.0	5.3				0.0	0.0	2.0	0.6	0.0	0.0
LnGrp Delay(d),s/veh	9.7	9.3	9.2				0.0	0.0	19.1	17.5	0.0	0.0
LnGrp LOS	A	A	A						B	B		
Approach Vol, veh/h		1425						125			43	
Approach Delay, s/veh		9.4						19.1			17.5	
Approach LOS		A						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		25.0		45.0		25.0						
Change Period (Y+Rc), s		3.5		3.7		3.5						
Max Green Setting (Gmax), s		21.5		41.3		21.5						
Max Q Clear Time (g_c+I1), s		5.7		13.2		5.8						
Green Ext Time (p_c), s		0.8		11.2		0.8						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.4									
HCM 2010 LOS			B									

**Intersection**

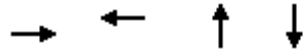
Int Delay, s/veh 2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	11	1	5	9	2	14	3	99	4	2	60	0
Future Vol, veh/h	11	1	5	9	2	14	3	99	4	2	60	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	5	9	2	14	3	99	4	2	60	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	179	173	60	174	171	101	60	0	0	103	0	0
Stage 1	64	64	-	107	107	-	-	-	-	-	-	-
Stage 2	115	109	-	67	64	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	783	720	1005	789	722	954	1544	-	-	1489	-	-
Stage 1	947	842	-	898	807	-	-	-	-	-	-	-
Stage 2	890	805	-	943	842	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	768	718	1005	782	720	954	1544	-	-	1489	-	-
Mov Cap-2 Maneuver	768	718	-	782	720	-	-	-	-	-	-	-
Stage 1	945	841	-	896	805	-	-	-	-	-	-	-
Stage 2	873	803	-	936	841	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.3	0.2	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1544	-	-	822	863	1489	-	-
HCM Lane V/C Ratio	0.002	-	-	0.021	0.029	0.001	-	-
HCM Control Delay (s)	7.3	0	-	9.5	9.3	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	290	365	120	74
v/c Ratio	0.30	0.38	0.17	0.12
Control Delay	10.5	11.2	10.1	10.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.5	11.2	10.1	10.9
Queue Length 50th (ft)	65	84	20	15
Queue Length 95th (ft)	110	140	51	m36
Internal Link Dist (ft)	873	346	147	185
Turn Bay Length (ft)				
Base Capacity (vph)	951	956	692	635
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.38	0.17	0.12

**Intersection Summary**
















m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	264	13	11	324	30	5	68	47	24	31	19
Future Volume (veh/h)	13	264	13	11	324	30	5	68	47	24	31	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	13	264	13	11	324	30	5	68	47	24	31	19
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	894	43	62	863	78	60	393	257	229	287	155
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	29	1714	82	18	1656	150	18	1038	680	426	758	409
Grp Volume(v), veh/h	290	0	0	365	0	0	120	0	0	74	0	0
Grp Sat Flow(s),veh/h/ln	1825	0	0	1824	0	0	1736	0	0	1593	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.2	0.0	0.0	8.3	0.0	0.0	3.2	0.0	0.0	1.9	0.0	0.0
Prop In Lane	0.04		0.04	0.03		0.08	0.04		0.39	0.32		0.26
Lane Grp Cap(c), veh/h	1005	0	0	1004	0	0	711	0	0	671	0	0
V/C Ratio(X)	0.29	0.00	0.00	0.36	0.00	0.00	0.17	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	1005	0	0	1004	0	0	711	0	0	671	0	0
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	0.00	0.90	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.5	0.0	0.0	10.0	0.0	0.0	14.5	0.0	0.0	14.1	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.9	0.0	0.0	0.5	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0	4.4	0.0	0.0	1.6	0.0	0.0	1.0	0.0	0.0
LnGrp Delay(d),s/veh	10.2	0.0	0.0	10.9	0.0	0.0	15.0	0.0	0.0	14.4	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		290			365			120				74
Approach Delay, s/veh		10.2			10.9			15.0				14.4
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		30.0		40.0		30.0		40.0				
Change Period (Y+Rc), s		3.5		3.5		3.5		3.5				
Max Green Setting (Gmax), s		26.5		36.5		26.5		36.5				
Max Q Clear Time (g_c+I1), s		5.2		8.2		3.9		10.3				
Green Ext Time (p_c), s		1.0		4.4		1.1		4.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				11.6								
HCM 2010 LOS				B								



Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	1409	182	44
v/c Ratio	0.47	0.32	0.08
Control Delay	1.5	16.4	17.9
Queue Delay	0.0	0.0	0.0
Total Delay	1.5	16.4	17.9
Queue Length 50th (ft)	10	46	13
Queue Length 95th (ft)	13	94	35
Internal Link Dist (ft)	327	201	80
Turn Bay Length (ft)			
Base Capacity (vph)	2989	572	523
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.47	0.32	0.08
<b>Intersection Summary</b>			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1345	42	0	0	0	0	120	62	14	30	0
Future Volume (veh/h)	22	1345	42	0	0	0	0	120	62	14	30	0
Number	5	2	12				7	4	14	3	8	18
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	22	1345	42				0	120	62	14	30	0
Adj No. of Lanes	0	3	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	47	3034	98				0	356	184	182	357	0
Arrive On Green	0.19	0.19	0.19				0.00	0.31	0.31	0.31	0.31	0.00
Sat Flow, veh/h	79	5142	166				0	1159	599	372	1163	0
Grp Volume(v), veh/h	517	429	464				0	0	182	44	0	0
Grp Sat Flow(s),veh/h/ln	1859	1695	1833				0	0	1757	1535	0	0
Q Serve(g_s), s	17.2	15.6	15.6				0.0	0.0	5.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	17.2	15.6	15.6				0.0	0.0	5.6	5.6	0.0	0.0
Prop In Lane	0.04		0.09				0.00		0.34	0.32		0.00
Lane Grp Cap(c), veh/h	1097	1000	1082				0	0	540	539	0	0
V/C Ratio(X)	0.47	0.43	0.43				0.00	0.00	0.34	0.08	0.00	0.00
Avail Cap(c_a), veh/h	1097	1000	1082				0	0	540	539	0	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.5	17.8	17.8				0.0	0.0	18.7	17.2	0.0	0.0
Incr Delay (d2), s/veh	1.3	1.2	1.1				0.0	0.0	1.7	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	7.6	8.2				0.0	0.0	2.9	0.6	0.0	0.0
LnGrp Delay(d),s/veh	19.8	19.0	18.9				0.0	0.0	20.4	17.5	0.0	0.0
LnGrp LOS	B	B	B						C	B		
Approach Vol, veh/h		1409						182			44	
Approach Delay, s/veh		19.3						20.4			17.5	
Approach LOS		B						C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		45.0		25.0				25.0				
Change Period (Y+Rc), s		3.7		3.5				3.5				
Max Green Setting (Gmax), s		41.3		21.5				21.5				
Max Q Clear Time (g_c+I1), s		19.2		7.6				7.6				
Green Ext Time (p_c), s		9.9		1.0				1.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			19.3									
HCM 2010 LOS			B									

**Intersection**

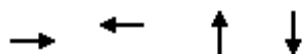
Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	12	1	25	6	1	9	7	164	0	1	74	5
Future Vol, veh/h	12	1	25	6	1	9	7	164	0	1	74	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	1	25	6	1	9	7	164	0	1	74	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	262	257	77	270	259	164	79	0	0	164	0	0
Stage 1	79	79	-	178	178	-	-	-	-	-	-	-
Stage 2	183	178	-	92	81	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	691	647	984	683	645	881	1519	-	-	1414	-	-
Stage 1	930	829	-	824	752	-	-	-	-	-	-	-
Stage 2	819	752	-	915	828	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	680	643	984	662	641	881	1519	-	-	1414	-	-
Mov Cap-2 Maneuver	680	643	-	662	641	-	-	-	-	-	-	-
Stage 1	925	828	-	820	748	-	-	-	-	-	-	-
Stage 2	806	748	-	890	827	-	-	-	-	-	-	-

















Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	9.8	0.3	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1519	-	-	852	768	1414	-	-
HCM Lane V/C Ratio	0.005	-	-	0.045	0.021	0.001	-	-
HCM Control Delay (s)	7.4	0	-	9.4	9.8	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	320	396	162	101
v/c Ratio	0.34	0.44	0.30	0.20
Control Delay	9.6	10.5	11.0	10.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.6	10.5	11.0	10.0
Queue Length 50th (ft)	36	47	19	11
Queue Length 95th (ft)	123	158	63	42
Internal Link Dist (ft)	346	429	146	182
Turn Bay Length (ft)				
Base Capacity (vph)	1745	1701	772	739
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.23	0.21	0.14
<b>Intersection Summary</b>				


















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	285	23	29	326	41	13	118	31	16	69	16
Future Volume (veh/h)	12	285	23	29	326	41	13	118	31	16	69	16
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	12	285	23	29	326	41	13	118	31	16	69	16
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	675	53	154	625	75	147	305	76	171	298	62
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	23	1666	131	59	1543	185	69	1365	339	137	1331	276
Grp Volume(v), veh/h	320	0	0	396	0	0	162	0	0	101	0	0
Grp Sat Flow(s),veh/h/ln	1820	0	0	1786	0	0	1774	0	0	1744	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.7	0.0	0.0	4.9	0.0	0.0	2.3	0.0	0.0	1.4	0.0	0.0
Prop In Lane	0.04		0.07	0.07		0.10	0.08		0.19	0.16		0.16
Lane Grp Cap(c), veh/h	863	0	0	854	0	0	528	0	0	531	0	0
V/C Ratio(X)	0.37	0.00	0.00	0.46	0.00	0.00	0.31	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	2820	0	0	2758	0	0	992	0	0	977	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.3	0.0	0.0	6.7	0.0	0.0	9.8	0.0	0.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	2.5	0.0	0.0	1.1	0.0	0.0	0.7	0.0	0.0
LnGrp Delay(d),s/veh	6.4	0.0	0.0	6.8	0.0	0.0	9.9	0.0	0.0	9.5	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		320			396			162			101	
Approach Delay, s/veh		6.4			6.8			9.9			9.5	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.5		12.1		17.5		12.1				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		44.5		14.5		44.5		14.5				
Max Q Clear Time (g_c+I1), s		5.7		4.3		6.9		3.4				
Green Ext Time (p_c), s		3.2		0.7		3.2		0.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								
<b>Notes</b>												

**Appendix C:**

*Analysis Worksheets for  
Existing (2015) plus Proposed Project Conditions*



Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	831	89	31
v/c Ratio	0.28	0.16	0.06
Control Delay	7.2	10.6	17.6
Queue Delay	0.0	0.0	0.0
Total Delay	7.2	10.6	17.6
Queue Length 50th (ft)	55	16	9
Queue Length 95th (ft)	75	47	27
Internal Link Dist (ft)	999	197	68
Turn Bay Length (ft)			
Base Capacity (vph)	2984	565	537
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.28	0.16	0.06
<b>Intersection Summary</b>			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	783	42	0	0	0	0	50	39	10	21	0
Future Volume (veh/h)	6	783	42	0	0	0	0	50	39	10	21	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	6	783	42				0	50	39	10	21	0
Adj No. of Lanes	0	3	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	22	2981	165				0	298	233	199	385	0
Arrive On Green	0.59	0.59	0.59				0.00	0.31	0.31	0.31	0.31	0.00
Sat Flow, veh/h	37	5053	280				0	971	758	426	1253	0
Grp Volume(v), veh/h	306	253	272				0	0	89	31	0	0
Grp Sat Flow(s),veh/h/ln	1861	1695	1813				0	0	1729	1679	0	0
Q Serve(g_s), s	5.6	5.0	5.1				0.0	0.0	2.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.6	5.0	5.1				0.0	0.0	2.6	0.8	0.0	0.0
Prop In Lane	0.02		0.15				0.00		0.44	0.32		0.00
Lane Grp Cap(c), veh/h	1098	1000	1070				0	0	531	584	0	0
V/C Ratio(X)	0.28	0.25	0.25				0.00	0.00	0.17	0.05	0.00	0.00
Avail Cap(c_a), veh/h	1098	1000	1070				0	0	531	584	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.0	6.9	6.9				0.0	0.0	17.7	17.1	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.6	0.6				0.0	0.0	0.7	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	2.5	2.7				0.0	0.0	1.4	0.4	0.0	0.0
LnGrp Delay(d),s/veh	7.7	7.5	7.5				0.0	0.0	18.4	17.3	0.0	0.0
LnGrp LOS	A	A	A						B	B		
Approach Vol, veh/h		831						89			31	
Approach Delay, s/veh		7.6						18.4			17.3	
Approach LOS		A						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		25.0		45.0		25.0						
Change Period (Y+Rc), s		3.5		3.7		3.5						
Max Green Setting (Gmax), s		21.5		41.3		21.5						
Max Q Clear Time (g_c+I1), s		4.6		7.6		2.8						
Green Ext Time (p_c), s		0.5		5.8		0.5						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									

**Intersection**

Int Delay, s/veh 1.4

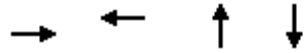
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	1	0	5	0	7	6	82	11	10	47	5
Future Vol, veh/h	1	1	0	5	0	7	6	82	11	10	47	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	0	5	0	7	6	82	11	10	47	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	173	175	50	170	172	88	52	0	0	93	0	0
Stage 1	70	70	-	100	100	-	-	-	-	-	-	-
Stage 2	103	105	-	70	72	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	790	718	1018	794	721	970	1554	-	-	1501	-	-
Stage 1	940	837	-	906	812	-	-	-	-	-	-	-
Stage 2	903	808	-	940	835	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	778	710	1018	787	713	970	1554	-	-	1501	-	-
Mov Cap-2 Maneuver	778	710	-	787	713	-	-	-	-	-	-	-
Stage 1	936	831	-	902	809	-	-	-	-	-	-	-
Stage 2	893	805	-	932	829	-	-	-	-	-	-	-

















Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	9.1	0.4	1.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1554	-	-	742	884	1501	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.014	0.007	-	-
HCM Control Delay (s)	7.3	0	-	9.9	9.1	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-




















Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	134	383	148	53
v/c Ratio	0.14	0.40	0.22	0.08
Control Delay	8.3	11.4	11.6	10.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.3	11.4	11.6	10.1
Queue Length 50th (ft)	25	90	29	9
Queue Length 95th (ft)	51	148	66	26
Internal Link Dist (ft)	873	346	147	185
Turn Bay Length (ft)				
Base Capacity (vph)	951	957	666	653
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.14	0.40	0.22	0.08
<b>Intersection Summary</b>				

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	114	14	12	338	33	29	69	50	12	27	14
Future Volume (veh/h)	6	114	14	12	338	33	29	69	50	12	27	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	6	114	14	12	338	33	29	69	50	12	27	14
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	830	98	63	860	82	148	334	215	167	358	166
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	27	1591	189	20	1649	157	228	883	567	275	944	438
Grp Volume(v), veh/h	134	0	0	383	0	0	148	0	0	53	0	0
Grp Sat Flow(s),veh/h/ln	1807	0	0	1826	0	0	1678	0	0	1657	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.6	0.0	0.0	8.8	0.0	0.0	4.0	0.0	0.0	1.3	0.0	0.0
Prop In Lane	0.04		0.10	0.03		0.09	0.20		0.34	0.23		0.26
Lane Grp Cap(c), veh/h	996	0	0	1005	0	0	697	0	0	690	0	0
V/C Ratio(X)	0.13	0.00	0.00	0.38	0.00	0.00	0.21	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	996	0	0	1005	0	0	697	0	0	690	0	0
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	0.00	0.93	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.6	0.0	0.0	10.1	0.0	0.0	14.8	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.0	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	4.8	0.0	0.0	2.1	0.0	0.0	0.7	0.0	0.0
LnGrp Delay(d),s/veh	8.9	0.0	0.0	11.2	0.0	0.0	15.5	0.0	0.0	14.1	0.0	0.0
LnGrp LOS	A			B			B			B		
Approach Vol, veh/h		134			383			148				53
Approach Delay, s/veh		8.9			11.2			15.5				14.1
Approach LOS		A			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		30.0		40.0		30.0		40.0				
Change Period (Y+Rc), s		3.5		3.5		3.5		3.5				
Max Green Setting (Gmax), s		26.5		36.5		26.5		36.5				
Max Q Clear Time (g_c+I1), s		6.0		4.6		3.3		10.8				
Green Ext Time (p_c), s		1.1		3.5		1.1		3.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				11.8								
HCM 2010 LOS				B								



Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	842	74	53
v/c Ratio	0.28	0.13	0.10
Control Delay	1.5	10.1	18.1
Queue Delay	0.0	0.0	0.0
Total Delay	1.5	10.1	18.1
Queue Length 50th (ft)	8	9	16
Queue Length 95th (ft)	11	36	40
Internal Link Dist (ft)	327	201	80
Turn Bay Length (ft)			
Base Capacity (vph)	2985	557	521
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.28	0.13	0.10
<b>Intersection Summary</b>			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	796	32	0	0	0	0	31	43	21	32	0
Future Volume (veh/h)	14	796	32	0	0	0	0	31	43	21	32	0
Number	5	2	12				7	4	14	3	8	18
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	14	796	32				0	31	43	21	32	0
Adj No. of Lanes	0	3	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	50	3000	124				0	217	302	239	336	0
Arrive On Green	0.19	0.19	0.19				0.00	0.31	0.31	0.31	0.31	0.00
Sat Flow, veh/h	84	5084	211				0	708	982	545	1094	0
Grp Volume(v), veh/h	309	256	277				0	0	74	53	0	0
Grp Sat Flow(s),veh/h/ln	1859	1695	1826				0	0	1689	1639	0	0
Q Serve(g_s), s	9.9	9.0	9.0				0.0	0.0	2.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.9	9.0	9.0				0.0	0.0	2.2	1.4	0.0	0.0
Prop In Lane	0.05		0.12				0.00		0.58	0.40		0.00
Lane Grp Cap(c), veh/h	1097	1000	1077				0	0	519	575	0	0
V/C Ratio(X)	0.28	0.26	0.26				0.00	0.00	0.14	0.09	0.00	0.00
Avail Cap(c_a), veh/h	1097	1000	1077				0	0	519	575	0	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.5	15.2	15.2				0.0	0.0	17.6	17.3	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.6	0.6				0.0	0.0	0.6	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	4.4	4.7				0.0	0.0	1.1	0.8	0.0	0.0
LnGrp Delay(d),s/veh	16.2	15.8	15.7				0.0	0.0	18.1	17.6	0.0	0.0
LnGrp LOS	B	B	B						B	B		
Approach Vol, veh/h		842						74			53	
Approach Delay, s/veh		15.9						18.1			17.6	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		45.0		25.0				25.0				
Change Period (Y+Rc), s		3.7		3.5				3.5				
Max Green Setting (Gmax), s		41.3		21.5				21.5				
Max Q Clear Time (g_c+I1), s		11.9		4.2				3.4				
Green Ext Time (p_c), s		5.7		0.6				0.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			16.2									
HCM 2010 LOS			B									

**Intersection**

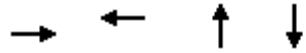
Int Delay, s/veh 2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	6	0	20	3	2	0	15	69	7	2	56	2
Future Vol, veh/h	6	0	20	3	2	0	15	69	7	2	56	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	0	20	3	2	0	15	69	7	2	56	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	165	167	57	174	165	73	58	0	0	76	0	0
Stage 1	61	61	-	103	103	-	-	-	-	-	-	-
Stage 2	104	106	-	71	62	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	800	726	1009	789	728	989	1546	-	-	1523	-	-
Stage 1	950	844	-	903	810	-	-	-	-	-	-	-
Stage 2	902	807	-	939	843	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	792	718	1009	767	720	989	1546	-	-	1523	-	-
Mov Cap-2 Maneuver	792	718	-	767	720	-	-	-	-	-	-	-
Stage 1	941	843	-	894	802	-	-	-	-	-	-	-
Stage 2	891	799	-	919	842	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	9.9	1.2	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1546	-	-	949	747	1523	-
HCM Lane V/C Ratio	0.01	-	-	0.027	0.007	0.001	-
HCM Control Delay (s)	7.4	0	-	8.9	9.9	7.4	0
HCM Lane LOS	A	A	-	A	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-


















Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	170	433	99	81
v/c Ratio	0.15	0.37	0.19	0.15
Control Delay	7.2	8.9	8.4	9.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.2	8.9	8.4	9.3
Queue Length 50th (ft)	16	54	8	8
Queue Length 95th (ft)	63	174	39	36
Internal Link Dist (ft)	346	429	146	182
Turn Bay Length (ft)				
Base Capacity (vph)	1705	1737	766	771
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.25	0.13	0.11
<b>Intersection Summary</b>				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	140	19	23	376	34	16	51	32	13	54	14
Future Volume (veh/h)	11	140	19	23	376	34	16	51	32	13	54	14
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	11	140	19	23	376	34	16	51	32	13	54	14
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	671	86	153	705	62	179	170	95	178	221	52
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	37	1556	200	40	1634	143	167	983	549	163	1277	301
Grp Volume(v), veh/h	170	0	0	433	0	0	99	0	0	81	0	0
Grp Sat Flow(s),veh/h/ln	1793	0	0	1817	0	0	1699	0	0	1741	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	0.0	0.0	4.9	0.0	0.0	1.4	0.0	0.0	1.1	0.0	0.0
Prop In Lane	0.06		0.11	0.05		0.08	0.16		0.32	0.16		0.17
Lane Grp Cap(c), veh/h	912	0	0	920	0	0	444	0	0	451	0	0
V/C Ratio(X)	0.19	0.00	0.00	0.47	0.00	0.00	0.22	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	2929	0	0	3010	0	0	1022	0	0	1042	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.0	0.0	0.0	5.9	0.0	0.0	10.1	0.0	0.0	10.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	2.4	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	5.0	0.0	0.0	6.0	0.0	0.0	10.2	0.0	0.0	10.0	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h		170			433			99			81	
Approach Delay, s/veh		5.0			6.0			10.2			10.0	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.5		10.3		17.5		10.3				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		44.5		14.5		44.5		14.5				
Max Q Clear Time (g_c+I1), s		3.6		3.4		6.9		3.1				
Green Ext Time (p_c), s		2.7		0.5		2.6		0.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			6.7									
HCM 2010 LOS			A									
<b>Notes</b>												



Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	1434	129	43
v/c Ratio	0.48	0.22	0.08
Control Delay	8.8	11.4	17.9
Queue Delay	0.0	0.0	0.0
Total Delay	8.8	11.4	17.9
Queue Length 50th (ft)	114	23	13
Queue Length 95th (ft)	145	60	34
Internal Link Dist (ft)	999	197	68
Turn Bay Length (ft)			
Base Capacity (vph)	2987	575	506
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.48	0.22	0.08
<b>Intersection Summary</b>			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1369	45	0	0	0	0	78	51	20	23	0
Future Volume (veh/h)	20	1369	45	0	0	0	0	78	51	20	23	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	20	1369	45				0	78	51	20	23	0
Adj No. of Lanes	0	3	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	42	3033	103				0	323	211	244	256	0
Arrive On Green	0.59	0.59	0.59				0.00	0.10	0.10	0.31	0.31	0.00
Sat Flow, veh/h	71	5141	175				0	1053	688	550	832	0
Grp Volume(v), veh/h	526	436	472				0	0	129	43	0	0
Grp Sat Flow(s),veh/h/ln	1859	1695	1832				0	0	1741	1382	0	0
Q Serve(g_s), s	11.3	10.0	10.0				0.0	0.0	4.8	0.1	0.0	0.0
Cycle Q Clear(g_c), s	11.3	10.0	10.0				0.0	0.0	4.8	4.8	0.0	0.0
Prop In Lane	0.04		0.10				0.00		0.40	0.47		0.00
Lane Grp Cap(c), veh/h	1097	1000	1081				0	0	535	500	0	0
V/C Ratio(X)	0.48	0.44	0.44				0.00	0.00	0.24	0.09	0.00	0.00
Avail Cap(c_a), veh/h	1097	1000	1081				0	0	535	500	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.2	7.9	7.9				0.0	0.0	23.9	17.2	0.0	0.0
Incr Delay (d2), s/veh	1.5	1.4	1.3				0.0	0.0	1.1	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	5.0	5.4				0.0	0.0	2.5	0.6	0.0	0.0
LnGrp Delay(d),s/veh	9.7	9.3	9.2				0.0	0.0	25.0	17.6	0.0	0.0
LnGrp LOS	A	A	A						C	B		
Approach Vol, veh/h		1434						129			43	
Approach Delay, s/veh		9.4						25.0			17.6	
Approach LOS		A						C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		25.0		45.0		25.0						
Change Period (Y+Rc), s		3.5		3.7		3.5						
Max Green Setting (Gmax), s		21.5		41.3		21.5						
Max Q Clear Time (g_c+I1), s		6.8		13.3		6.8						
Green Ext Time (p_c), s		0.8		11.3		0.8						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			10.9									
HCM 2010 LOS			B									

**Intersection**

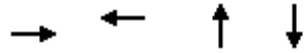
Int Delay, s/veh 2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	11	1	5	11	2	18	3	99	21	11	60	0
Future Vol, veh/h	11	1	5	11	2	18	3	99	21	11	60	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	5	11	2	18	3	99	21	11	60	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	208	208	60	201	198	110	60	0	0	120	0	0
Stage 1	82	82	-	116	116	-	-	-	-	-	-	-
Stage 2	126	126	-	85	82	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	749	689	1005	757	698	943	1544	-	-	1468	-	-
Stage 1	926	827	-	889	800	-	-	-	-	-	-	-
Stage 2	878	792	-	923	827	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	728	682	1005	747	691	943	1544	-	-	1468	-	-
Mov Cap-2 Maneuver	728	682	-	747	691	-	-	-	-	-	-	-
Stage 1	924	820	-	887	798	-	-	-	-	-	-	-
Stage 2	857	790	-	910	820	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	9.4	0.2	1.2
HCM LOS	A	A		

















Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1544	-	-	789	845	1468	-	-
HCM Lane V/C Ratio	0.002	-	-	0.022	0.037	0.007	-	-
HCM Control Delay (s)	7.3	0	-	9.7	9.4	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	298	367	127	76
v/c Ratio	0.32	0.38	0.18	0.12
Control Delay	10.6	11.2	10.4	10.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.6	11.2	10.4	10.4
Queue Length 50th (ft)	67	85	22	13
Queue Length 95th (ft)	114	141	55	m34
Internal Link Dist (ft)	873	346	147	185
Turn Bay Length (ft)				
Base Capacity (vph)	936	954	695	635
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.32	0.38	0.18	0.12

**Intersection Summary**
















m Volume for 95th percentile queue is metered by upstream signal.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	264	13	11	324	32	5	75	47	24	32	20
Future Volume (veh/h)	21	264	13	11	324	32	5	75	47	24	32	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	264	13	11	324	32	5	75	47	24	32	20
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	868	41	62	858	83	60	409	244	224	289	159
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	58	1665	79	18	1645	159	17	1080	645	412	762	419
Grp Volume(v), veh/h	298	0	0	367	0	0	127	0	0	76	0	0
Grp Sat Flow(s),veh/h/ln	1801	0	0	1822	0	0	1742	0	0	1594	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.4	0.0	0.0	8.4	0.0	0.0	3.4	0.0	0.0	1.9	0.0	0.0
Prop In Lane	0.07		0.04	0.03		0.09	0.04		0.37	0.32		0.26
Lane Grp Cap(c), veh/h	994	0	0	1003	0	0	713	0	0	671	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.37	0.00	0.00	0.18	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	994	0	0	1003	0	0	713	0	0	671	0	0
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	0.00	0.90	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.6	0.0	0.0	10.0	0.0	0.0	14.6	0.0	0.0	14.1	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.9	0.0	0.0	0.5	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	4.4	0.0	0.0	1.7	0.0	0.0	1.0	0.0	0.0
LnGrp Delay(d),s/veh	10.3	0.0	0.0	10.9	0.0	0.0	15.1	0.0	0.0	14.5	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		298			367			127				76
Approach Delay, s/veh		10.3			10.9			15.1				14.5
Approach LOS		B			B			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		30.0		40.0		30.0		40.0				
Change Period (Y+Rc), s		3.5		3.5		3.5		3.5				
Max Green Setting (Gmax), s		26.5		36.5		26.5		36.5				
Max Q Clear Time (g_c+I1), s		5.4		8.4		3.9		10.4				
Green Ext Time (p_c), s		1.1		4.5		1.1		4.5				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				11.7								
HCM 2010 LOS				B								





Lane Group	EBT	NBT	SBT
Lane Group Flow (vph)	1411	184	47
v/c Ratio	0.47	0.32	0.09
Control Delay	1.5	16.3	18.0
Queue Delay	0.0	0.0	0.0
Total Delay	1.5	16.3	18.0
Queue Length 50th (ft)	10	46	14
Queue Length 95th (ft)	14	95	36
Internal Link Dist (ft)	327	201	80
Turn Bay Length (ft)			
Base Capacity (vph)	2989	572	526
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.47	0.32	0.09
<b>Intersection Summary</b>			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1347	42	0	0	0	0	120	64	14	33	0
Future Volume (veh/h)	22	1347	42	0	0	0	0	120	64	14	33	0
Number	5	2	12				7	4	14	3	8	18
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	22	1347	42				0	120	64	14	33	0
Adj No. of Lanes	0	3	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	47	3034	98				0	352	187	174	376	0
Arrive On Green	0.19	0.19	0.19				0.00	0.31	0.31	0.31	0.31	0.00
Sat Flow, veh/h	79	5142	166				0	1145	610	350	1224	0
Grp Volume(v), veh/h	517	429	464				0	0	184	47	0	0
Grp Sat Flow(s),veh/h/ln	1859	1695	1833				0	0	1755	1574	0	0
Q Serve(g_s), s	17.3	15.6	15.6				0.0	0.0	5.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	17.3	15.6	15.6				0.0	0.0	5.7	5.7	0.0	0.0
Prop In Lane	0.04		0.09				0.00		0.35	0.30		0.00
Lane Grp Cap(c), veh/h	1097	1000	1082				0	0	539	550	0	0
V/C Ratio(X)	0.47	0.43	0.43				0.00	0.00	0.34	0.09	0.00	0.00
Avail Cap(c_a), veh/h	1097	1000	1082				0	0	539	550	0	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.5	17.8	17.8				0.0	0.0	18.8	17.2	0.0	0.0
Incr Delay (d2), s/veh	1.3	1.2	1.1				0.0	0.0	1.7	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	7.7	8.2				0.0	0.0	3.0	0.7	0.0	0.0
LnGrp Delay(d),s/veh	19.8	19.0	18.9				0.0	0.0	20.5	17.6	0.0	0.0
LnGrp LOS	B	B	B						C	B		
Approach Vol, veh/h		1411						184			47	
Approach Delay, s/veh		19.3						20.5			17.6	
Approach LOS		B						C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		45.0		25.0				25.0				
Change Period (Y+Rc), s		3.7		3.5				3.5				
Max Green Setting (Gmax), s		41.3		21.5				21.5				
Max Q Clear Time (g_c+I1), s		19.3		7.7				7.7				
Green Ext Time (p_c), s		9.9		1.1				1.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			19.4									
HCM 2010 LOS			B									

**Intersection**

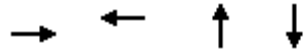
Int Delay, s/veh 2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	14	1	33	6	1	9	22	164	0	1	74	8
Future Vol, veh/h	14	1	33	6	1	9	22	164	0	1	74	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	1	33	6	1	9	22	164	0	1	74	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	293	288	78	305	292	164	82	0	0	164	0	0
Stage 1	80	80	-	208	208	-	-	-	-	-	-	-
Stage 2	213	208	-	97	84	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	659	622	983	647	619	881	1515	-	-	1414	-	-
Stage 1	929	828	-	794	730	-	-	-	-	-	-	-
Stage 2	789	730	-	910	825	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	643	611	983	616	608	881	1515	-	-	1414	-	-
Mov Cap-2 Maneuver	643	611	-	616	608	-	-	-	-	-	-	-
Stage 1	914	827	-	781	718	-	-	-	-	-	-	-
Stage 2	767	718	-	878	824	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	10	0.9	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1515	-	-	842	741	1414	-	-
HCM Lane V/C Ratio	0.015	-	-	0.057	0.022	0.001	-	-
HCM Control Delay (s)	7.4	0	-	9.5	10	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	320	402	173	109
v/c Ratio	0.34	0.44	0.32	0.22
Control Delay	9.6	10.5	11.3	10.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.6	10.5	11.3	10.4
Queue Length 50th (ft)	36	48	21	12
Queue Length 95th (ft)	123	160	68	46
Internal Link Dist (ft)	346	429	146	182
Turn Bay Length (ft)				
Base Capacity (vph)	1744	1700	772	712
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.24	0.22	0.15
<b>Intersection Summary</b>				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	285	23	29	328	45	13	129	31	23	70	16
Future Volume (veh/h)	12	285	23	29	328	45	13	129	31	23	70	16
Number	5	2	12	1	6	16	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	12	285	23	29	328	45	13	129	31	23	70	16
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	669	53	153	614	80	144	321	73	190	293	58
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	23	1666	131	58	1527	200	64	1397	319	191	1274	252
Grp Volume(v), veh/h	320	0	0	402	0	0	173	0	0	109	0	0
Grp Sat Flow(s),veh/h/ln	1820	0	0	1784	0	0	1779	0	0	1718	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.8	0.0	0.0	5.0	0.0	0.0	2.4	0.0	0.0	1.5	0.0	0.0
Prop In Lane	0.04		0.07	0.07		0.11	0.08		0.18	0.21		0.15
Lane Grp Cap(c), veh/h	856	0	0	846	0	0	538	0	0	540	0	0
V/C Ratio(X)	0.37	0.00	0.00	0.47	0.00	0.00	0.32	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	2797	0	0	2735	0	0	987	0	0	960	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.5	0.0	0.0	6.8	0.0	0.0	9.8	0.0	0.0	9.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	2.5	0.0	0.0	1.2	0.0	0.0	0.7	0.0	0.0
LnGrp Delay(d),s/veh	6.6	0.0	0.0	7.0	0.0	0.0	9.9	0.0	0.0	9.5	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h		320			402			173			109	
Approach Delay, s/veh		6.6			7.0			9.9			9.5	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.5		12.4		17.5		12.4				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		44.5		14.5		44.5		14.5				
Max Q Clear Time (g_c+I1), s		5.8		4.4		7.0		3.5				
Green Ext Time (p_c), s		3.2		0.8		3.2		0.8				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				7.6								
HCM 2010 LOS				A								
<b>Notes</b>												