MEMORANDUM

DATE: February 19, 2020

TO: Sarady Long, Senior Transportation Engineer, City of Federal Way

CC: David Ratliff, Vice President of Development, DevCo, Inc.

FROM: Michael Read, PE, Principal, TENW

SUBJECT: Traffic Impact Analysis for Landmark Apartments
TENW Project No. 3703

This memorandum summarizes transportation impacts associated with the proposed *Landmark Apartments* project, a proposed mixed use project located just south of S 330th Street along either side of the 13th Avenue S undeveloped right-of-way in Federal Way. Based on City of Federal Way Traffic Impact Analysis Guidelines the following tasks were undertaken to analyze traffic impacts associated with the existing proposed action:

- Assessment of existing transportation conditions and operations through data collection efforts and field reconnaissance.
- Estimation of daily, a.m., and p.m. peak vehicular project trip generation, and assignment of project trips onto the existing roadway network.
- Modeling of future "through" associated with 13th Avenue S between S 330th Street and S 332nd Street.
- Evaluation of level of service (LOS) impacts at the following off-site and site access intersections during the a.m. and p.m. peak hours:
    1. 13th Place S / S 336th Street
    2. Pacific Highway S (SR 99) / S 336th Street
    3. Celebration Park Road / S 332nd Street
    4. 13th Place S / S 332nd Street
    5. Pacific Highway S (SR 99) / S 332nd Street
    6. Pacific Highway S (SR 99) / S 330th Street
    7. Celebration Park Road / S 330th Street
- Evaluation of site access safety and circulation.

Identification of mitigation measures to maintain acceptable levels of mobility and safety based upon City of Federal Way standards and guidelines.

Project Description

The proposed development is located just south of S 330th Street, between Celebration Park Road and 15th Avenue S along either side of the 13th Avenue S undeveloped right-of-way in Federal Way. A site vicinity map is provided in Figure 1. As part of the site development, extension of 13th Avenue S between S 330th Street and S 332nd Street would be developed. At completion, the proposed project would include 235 residential apartment units, with 90 apartment units located west of 13th Avenue S and 145 apartment units located east of 13th Avenue S. In addition, 4,165 square feet of commercial retail space and 10,222 square-feet of on-site day care commercial use would be located along property frontages throughout the site. A preliminary site plan concept is provided in Figure 2. *It should be noted, that this study considers a higher buildout than the finalized site plan, and as such, is conservative.*

Vehicle access to/from the site west of 13th Avenue S would be provided via two vehicle access driveway onto 13th Avenue S. Vehicle access to/from the site east of 13th Avenue S would be provided via two primary vehicle accesses, with one each onto13th Avenue S and 15th Avenue S.

Existing Transportation Conditions

This section describes existing transportation system conditions in the study area. It includes an inventory of existing roadway conditions, traffic volumes, intersection levels of service, public transportation services, and planned roadway improvements.

Roadway Conditions

The following paragraphs describe existing roadways that would be used as major routes for site access. Roadway characteristics are described in terms of number of lanes, posted speed limits and shoulder types and widths.

Pacific Highway South (SR 99) is classified as a *Principal Arterial* in the City of Federal Way and WSDOT. The roadway typically consists of a seven lane section, with center median/turn lane, curb, gutter, and sidewalks in the project vicinity. The speed limit is posted at 40 mph.

S 330th Street is classified by the City of Federal Way as a two- to three-lane *Minor Collector* roadway. Near the intersection with 15th Avenue S there are two travel lanes (one lane in each direction) with curb, gutter, and sidewalks on both sides of the street. The speed limit is 25 mph.

S 332nd Street is classified by the City of Federal Way as a two to three-lane *Minor Collector* roadway. Near the intersection with 15th Avenue S there are two travel lanes (one lane in each direction) with curb, gutter, and sidewalks on both sides of the street. The speed limit is 25 mph.

S 336th Street is classified by the City of Federal Way as a four-lane *Minor Arterial* roadway. Near the intersection with 13th Place S there are four travel lanes (two lanes in each direction) with curb, gutter, and sidewalks on both sides of the street. The speed limit is 35 mph.

13th Avenue S is classified by the City of Federal Way as a three-lane *Principal Collector* roadway. At its intersection with Celebration Park Road there are three travel lanes (one lane in each direction and a center TWLTL) with curb, gutter and sidewalk on both sides of the street. The speed limit is 25 mph.

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Figure 1: Site Vicinity

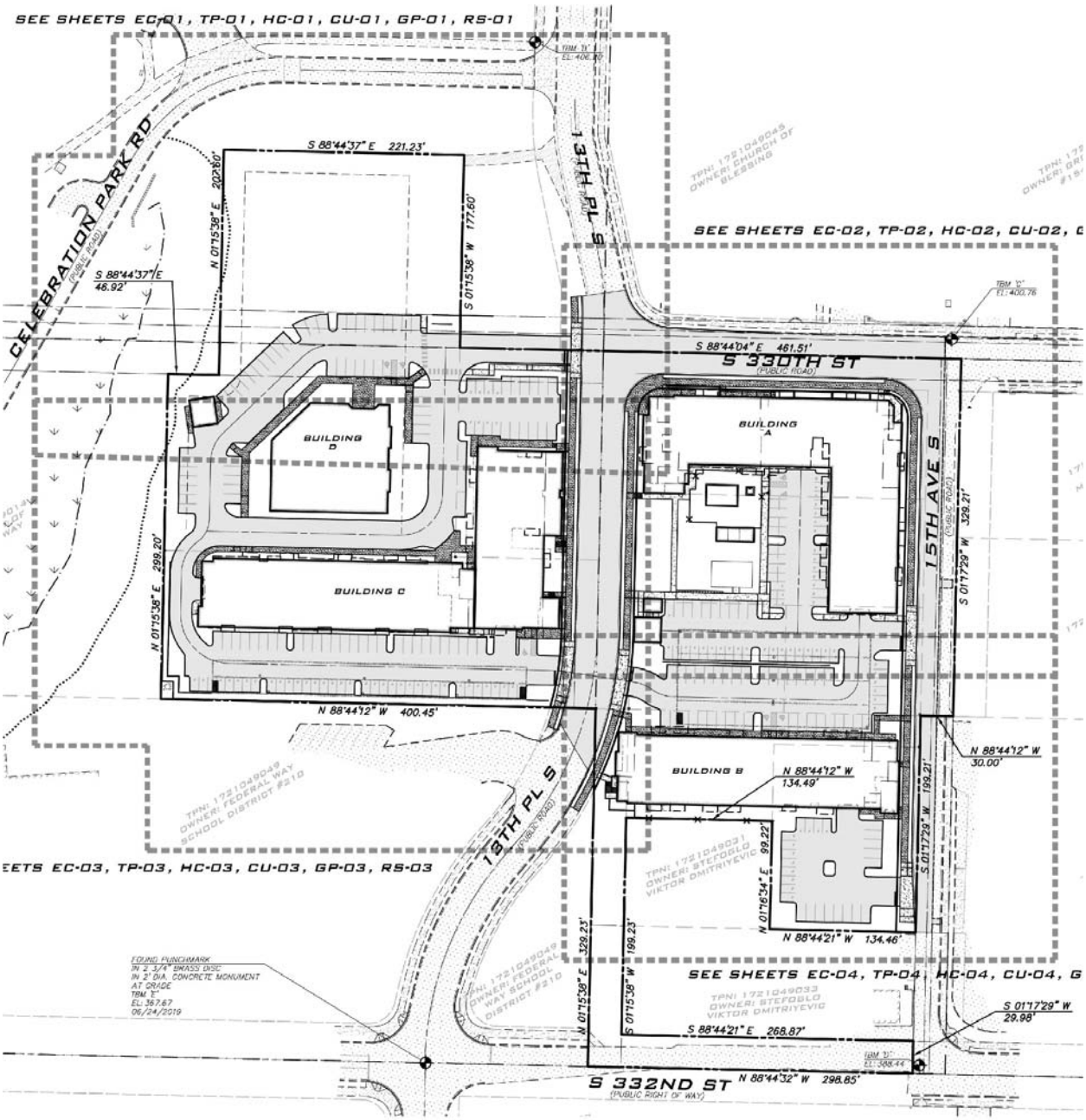


Figure 2: Preliminary Site Plan

15th Avenue S is classified by the City of Federal Way as a two-lane unchannelized *Local* roadway. At its intersection with S 332nd Street there are two travel lanes (one lane in each direction) with curb, gutter and sidewalk on the east side of the street. The speed limit is 25 mph.

Existing Traffic Volumes

Peak hour traffic volumes typically represent the highest hourly volume of vehicles of the average day passing through an intersection during a typical morning (7-9 a.m.) and evening (4-6 p.m.) peak commute periods. Therefore, the a.m. and p.m. peak hour volumes were used to evaluate traffic impacts that would occur as a result of the development.

Figure 3 and Figure 4 summarize existing a.m. and p.m. peak period turning movements at each study intersection. Idax Data Solutions conducted these counts in June 2019. Traffic counts are provided in Attachment 1.

Intersection Levels of Service

Intersection level of service (LOS) analyses were conducted at the study intersections during the weekday PM peak hour of existing conditions. LOS refers to the degree of congestion on a roadway or intersection. It is a measure of vehicle operating speed, travel time, travel delays, and driving comfort. A letter scale from A to F generally describes LOS. At signalized intersections, LOS A represents free-flow conditions-motorists experience little or no delays, and LOS F represents forced-flow conditions-motorists experience an average delay in excess of 80 seconds per vehicle. The LOS reported for signalized intersections represents the average control delay per vehicle entering the intersection. The LOS reported at stop-controlled intersections is also based on the average control delay (sec/veh) and is reported for each movement. Therefore, the reported LOS at unsignalized intersections does not represent a measure of the overall operations of the intersection.

LOS calculations for both signalized and stop-controlled intersections were calculated using the methodologies and procedures outlined in the 2010 *Highway Capacity Manual (HCM)*, Special Report 209, Transportation Research Board (TRB). Table 1 outlines the LOS criteria for signalized and unsignalized intersections based on these methodologies.

Intersection LOS were calculated using the methodology and procedures outlined in the 2010 *Highway Capacity Manual* (HCM), Special Report 209, Transportation Research Board (TRB), using the *Synchro 8* software program. Existing p.m. peak hour LOS analysis are summarized in Table 2. As shown, all intersections or critical movements would operate at LOS D or better in 2019.

Detailed LOS summary worksheets are included in Attachment 2.

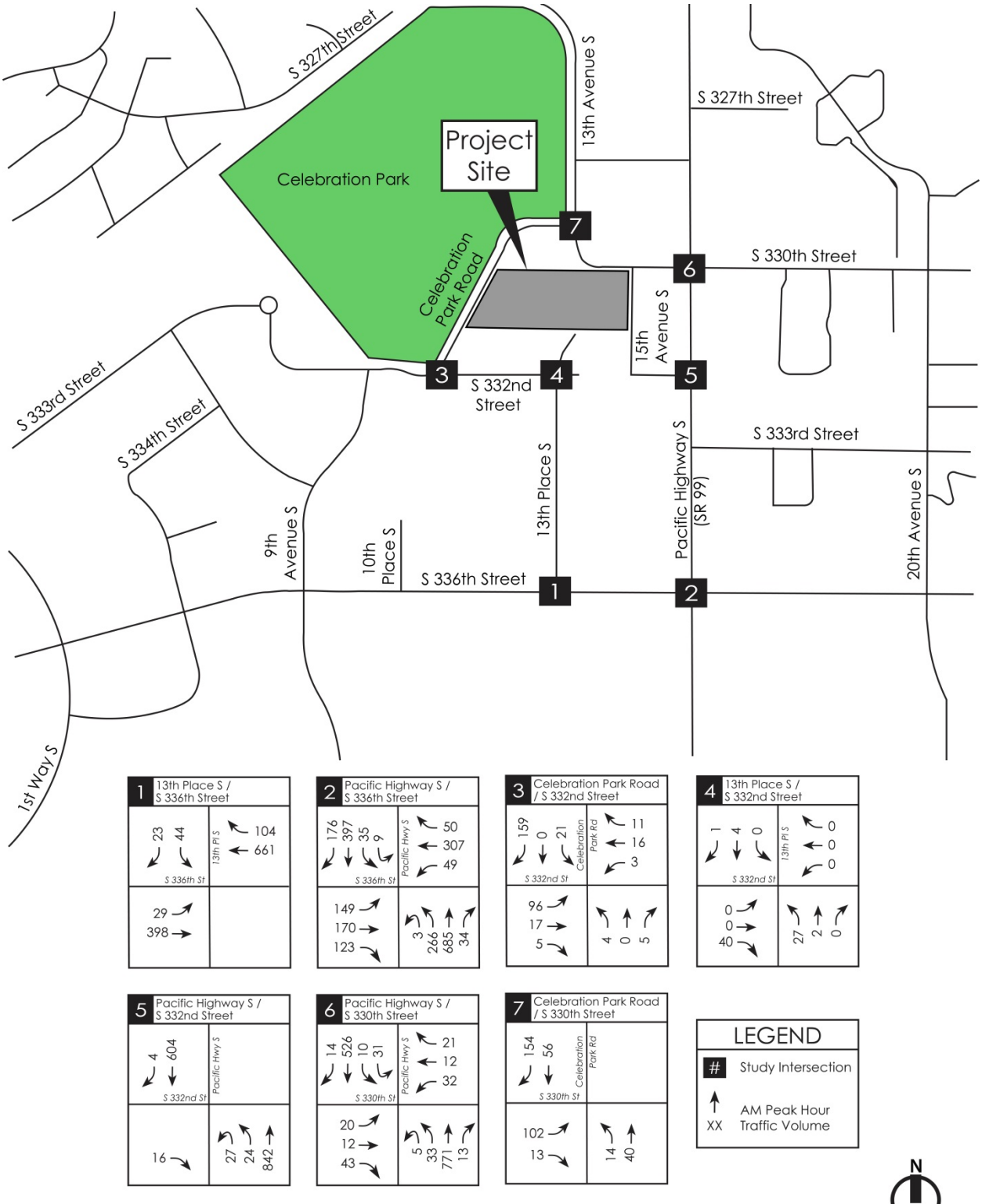


Figure 3: 2019 Existing AM Peak Hour Traffic Volumes

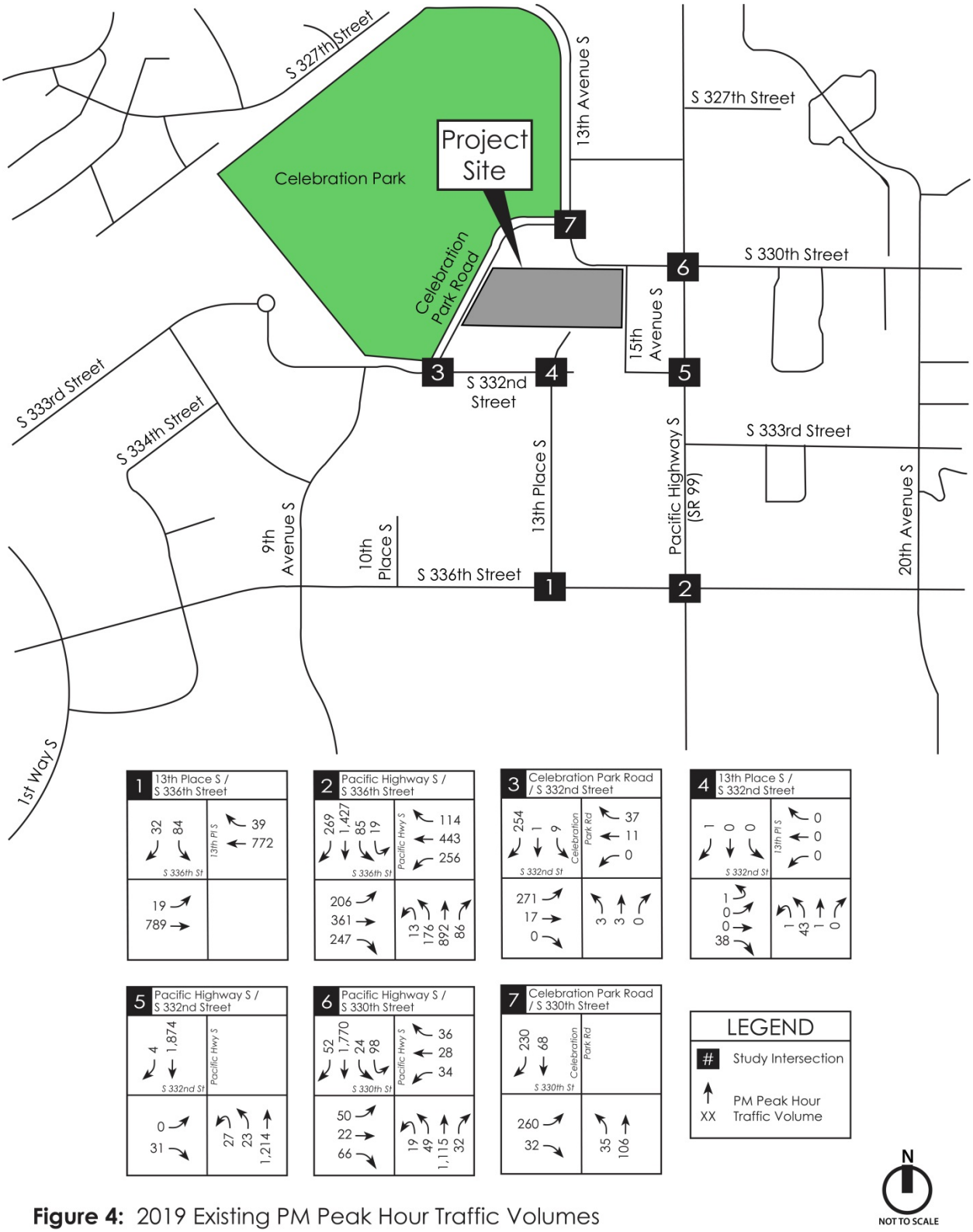


Figure 4: 2019 Existing PM Peak Hour Traffic Volumes

Table 1
Level of Service Criteria for Signalized and Unsignalized Intersections

Level of Service	Signalized Intersection Average Delay Range (sec)	Unsignalized Intersection Delay Range (sec)
A	≤ 10	≤ 10
B	> 10 to ≤ 20	> 10 to ≤ 15
C	> 20 to ≤ 35	> 15 to ≤ 25
D	> 35 to ≤ 55	> 25 to ≤ 35
E	> 55 to ≤ 80	> 35 to ≤ 50
F	> 80	> 50

Source: "Highway Capacity Manual", Special Report 209, Transportation Research Board, 2010.

Table 2 - 2019 Peak Hour Intersection Levels of Service

Study Intersection	AM Peak Hour LOS	AM Peak Hour Delay (sec)	AM Peak Hour V/C Ratio	PM Peak Hour LOS	PM Peak Hour Delay (sec)	PM Peak Hour V/C Ratio
Signalized Intersections						
#1. S 336th Street / 13th Place S	B	18.5	0.32	A	4.6	0.35
#2. S 336th Street / Pacific Highway S (SR 99)	C	20.2	0.54	C	31.1	0.79
#6. S 330th Street / Pacific Highway S (SR 99)	C	24.4	0.44	B	14.7	0.74
Stop Controlled Intersections						
#3. S 332nd Street / Celebration Park Road						
Northbound Approach (stop)	B	10.7	0.03	D	25.0	0.04
Southbound Approach (stop)	A	9.8	0.22	B	10.7	0.31
#4. S 332nd Street / 13th Place S						
Eastbound Approach (stop)	A	8.6	0.05	A	8.5	0.05
Westbound Approach (stop)	A	7.3	0.03	A	7.3	0.04
#5. S 332nd Street / Pacific Highway S (SR 99)						
Northbound Left (yield)	A	11.2	0.10	E	35.4	0.30
Eastbound Approach (stop)	B	12.3	0.04	D	27.9	0.19
#7. Celebration Park Road / 13th Avenue S						
Northbound Left (yield)	A	7.8	0.02	A	8.0	0.03
Eastbound Approach (stop)	B	11.2	0.20	C	19.8	0.62

Source: TENW using Synchro 8.0.

Planned Transportation Improvements

The City of Federal Way 2018-2023 Transportation Improvement Program was reviewed for planned transportation improvements within the immediate vicinity of the site. No capacity-related improvements are planned within the site vicinity.

Transportation Impact Analysis

The following section describes transportation impacts the proposed *Landmark Apartments* development would have on the surrounding roadway network in the site vicinity. The discussion includes non-project related traffic forecasts, new trips generated by the proposed development, distribution and assignment of new project trips, impacts on roadways, levels of service at nearby intersections, and site access evaluation of the main signalized intersection that would serve the site, and on-site parking demand.

Non-Project Traffic Forecasts

For the purpose of this traffic analysis, year 2023 was selected as the build-out year based upon anticipated completion of the *Landmark Apartments* development. A 3-percent per year growth rate was used to estimate a "worst-case" traffic scenario. Therefore, existing traffic volumes were factored by 3-percent per year to estimate year 2023 baseline conditions without the proposed development.

2023 traffic volume forecast estimates at study intersections and site access intersections are provided in Attachment 3.

Project Trip Generation

The weekday daily, a.m. peak hour, and p.m. peak hour trip generation estimates for the proposed *Landmark Apartments* development were based on trip rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition, 2017. Land Use Code (LUC) 221 for Multifamily Housing (Mid-Rise) was used for the 235 apartment units, LUC 820 for Shopping Center was used for the 4,165 square-feet of commercial retail space, and LUC 565 for Day Care Center was used for the 10,222 square-foot commercial space with a 50 percent reduction for on-site residents. Reductions to the trip generation were made to account for pass-by trips. Pass-by trips are trips that are already on the adjacent roadways and stop at the proposed use on the way to their primary destination (i.e. on the way from work to home). These trips are not new to the road network but are accounted for at the project site driveway. The pass-by trip reductions were based on studies in the *ITE Trip Generation Handbook,* 3rd Edition, 2017.

Based on the detailed trip generation methodology described in the previous section, Table 3 summarizes the weekday trip generation. As shown in Table 3, the project is estimated to generate a net increase of approximately 1,625 daily vehicular trips, with 143 trips occurring during the a.m. peak hour and 170 trips in the p.m. peak hour. Detailed trip generation calculations are provided in Attachment 4.

Table 3: Landmark Apartments Trip Generation Summary

Time Period	In	Out	Total
Weekday Daily	813	812	1,625
Weekday AM Peak Hour	58	85	143
Weekday PM Peak Hour	95	75	170

Source: Trip Generation Manual, 10th Edition, ITE, 2017, and TENW.
It should be noted, that this study considers a higher buildout than the finalized site plan, and as such, is conservative.

Trip Distribution and Assignment

Based on review of previous traffic studies, existing turning movements/traffic flows, and standard engineering practices and guidelines, the project trip distribution was assumed to follow these basic patterns for the proposed action:

- 50 percent north via Pacific Highway S (SR 99) and 13th Avenue S
- 35 percent south via Pacific Highway S (SR 99); and
- 15 percent west via S 332nd Street and S 336th Street

Intersection Level of Service Impacts

Figures 5, 6, 7, and 8 summarize traffic volume impacts with and without the project at full buildout during the a.m. peak hour and p.m. peak hour. These turning movement estimates have been adjusted to account for additional "through" traffic demand along the 13th Avenue S principal collector roadway assuming its extended.

Intersection levels of service analysis during the a.m. and p.m. peak hours were evaluated at study intersections assuming full completion of the *Landmark Apartments* project in 2023 and are summarized in Table 4. As shown, all study intersections would operate at LOS E or better during the a.m. and p.m. peak hour in 2023 with and without the proposed project, with the exception of the existing northbound left/U-turn movement at the S 332nd Street and Pacific Highway intersection, which would operate at LOS F with or without the project in 2023 given significant U-turning movement demand. No traffic impacts would occur as a result of the project given that any project trips would likely choose other routes to avoid this congestion if present. As this is a managed arterial roadway, yield U-turn movements must wait for adequate gaps in traffic between signal cycles and any queued vehicles before completing their maneuver. Detailed level of service summary worksheets are provided in Attachment 2.

Site Access and Circulation

Vehicle access to/from the site west of 13th Avenue S would be provided via one primary and one emergency vehicle access driveway onto 13th Avenue S. Vehicle access to/from the site east of 13th Avenue S would be provided via two primary vehicle accesses onto S 330th Street, 13th Avenue S, and 15th Avenue S.

The primary access driveway onto 13th Avenue S will be constructed to meet City of Federal Way sight distance standards. TENW estimated sight distance field measurements at the proposed site access driveways onto S 330th Street with a 25 mph posted speed and 15th Avenue S with a 25 mph posted speed in July 2019. Based upon City of Federal Way design requirements, a minimum of 280 feet entering sight distance is required.

Estimated field sight distance for the site access driveway onto S 330th Street is greater than 750 feet to the east and to 13th Avenue S & S 330th Street to the west. Estimated field sight distance for the site access driveway onto 15th Avenue S is to S 330th Street & 15th Avenue S to the north and S 332nd Street & 15th Avenue S to the south. Therefore, the site access driveways onto S 330th Street and 15th Avenue S meet minimum entering sight distance requirements by the City of Federal Way.

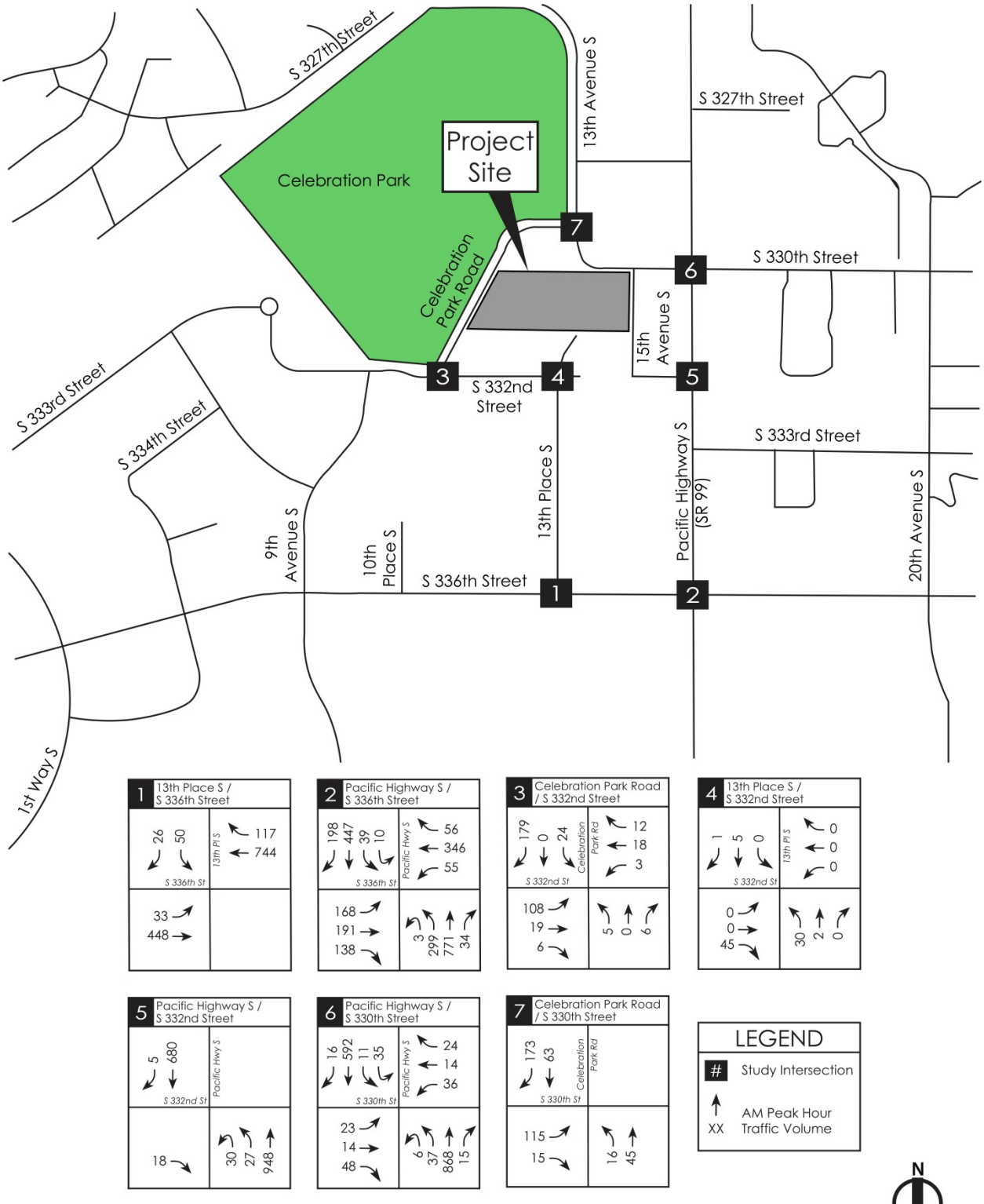


Figure 5: 2023 Baseline AM Peak Hour Traffic Volumes

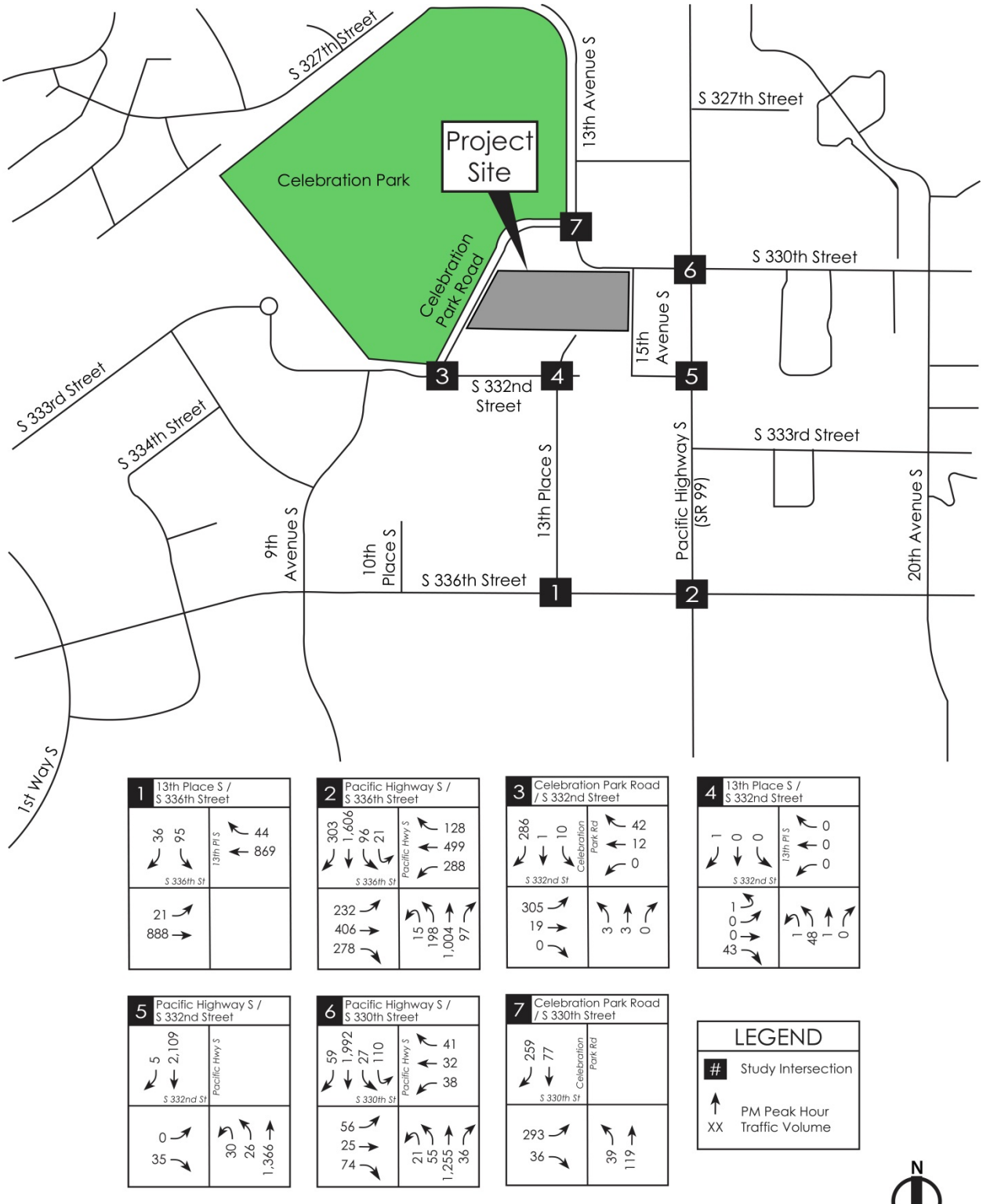


Figure 6: 2023 Baseline PM Peak Hour Traffic Volumes

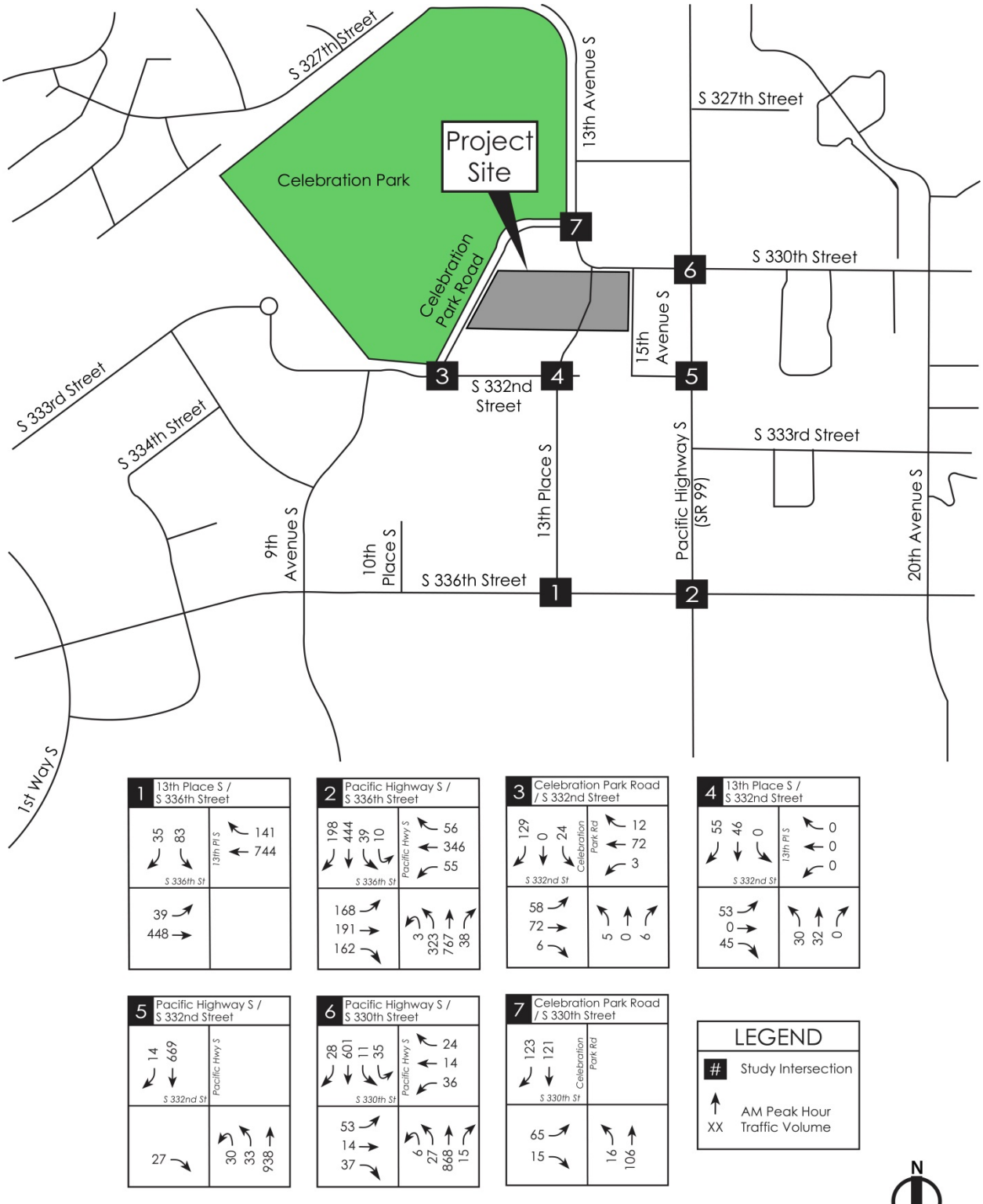


Figure 7: 2023 Project AM Peak Hour Traffic Volumes

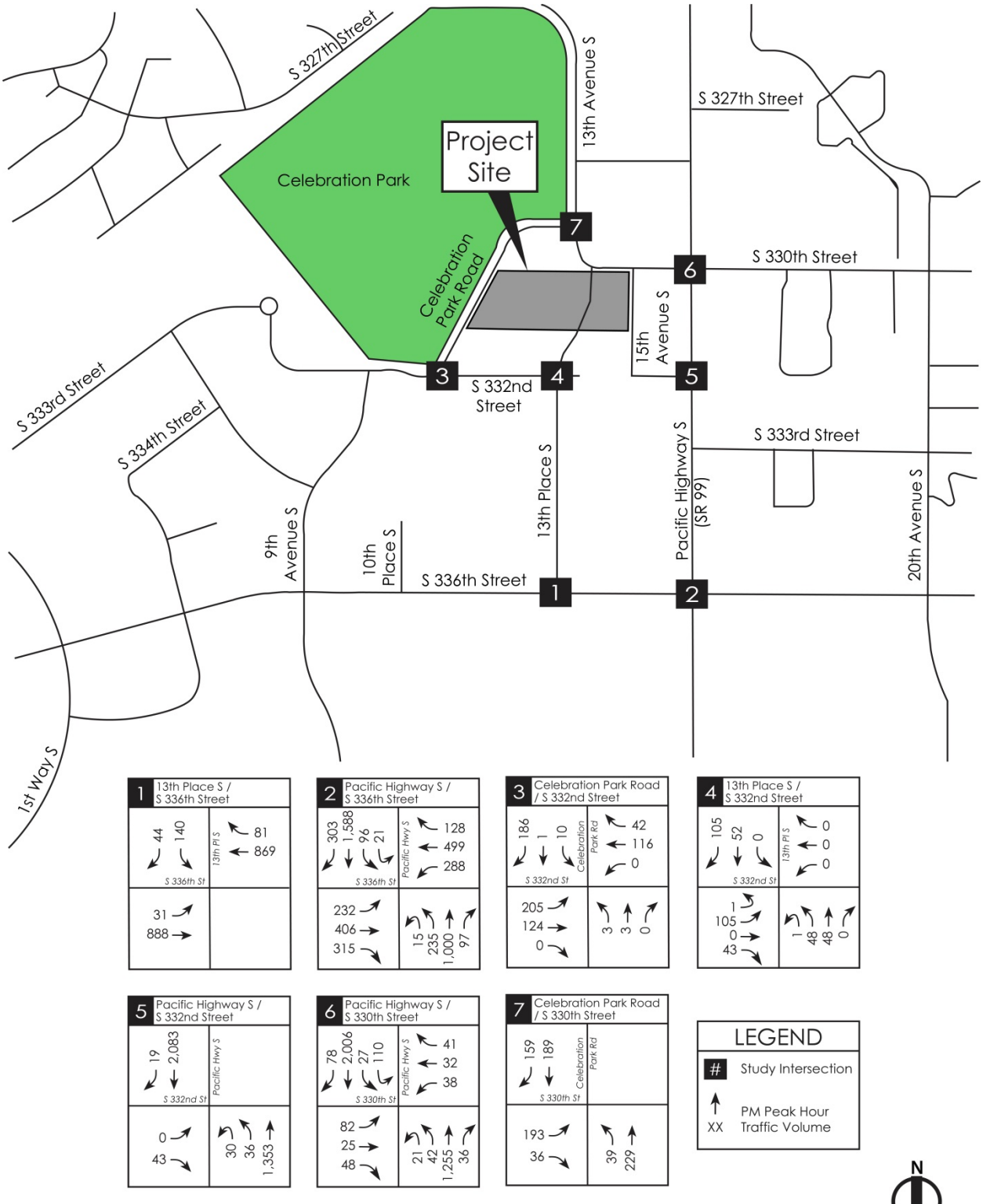


Figure 8: 2023 Project PM Peak Hour Traffic Volumes

Table 4 - 2023 AM/PM Peak Hour Intersection Levels of Service

Study Intersection	AM Peak Hour Without Project LOS	Delay (sec)	V/C Ratio	AM Peak Hour With Project LOS	Delay (sec)	V/C Ratio
Signalized Intersections						
#1. S 336th Street / 13th Place S	C	20.5	0.47	B	10.9	0.19
#2. S 336th Street / Pacific Highway S (SR 99)	C	21.3	0.59	C	27.2	0.58
#6. S 330th Street / Pacific Highway S (SR 99)	A	6.5	0.47	B	19.6	0.49
Stop Controlled Intersections						
#3. S 332nd Street / Celebration Park Road						
Northbound Approach (stop)	B	11.3	0.03	B	11.0	0.03
Southbound Approach (stop)	B	10.1	0.25	B	10.4	0.21
#4. S 332nd Street / 13th Place S						
Eastbound Approach (stop)	A	8.6	0.05	B	10.2	0.10
#5. S 332nd Street / Pacific Highway S (SR 99)						
Northbound Left (yield)	A	12.0	0.12	A	12.3	0.13
Eastbound Approach (stop)	B	12.9	0.05	B	13.1	0.07
#7. Celebration Park Road / 13th Avenue S						
Northbound Left (yield)	A	7.8	0.02	A	7.6	0.02
Eastbound Approach (stop)	B	11.8	0.24	B	10.8	0.14

Study Intersection	PM Peak Hour Without Project LOS	Delay (sec)	V/C Ratio	PM Peak Hour With Project LOS	Delay (sec)	V/C Ratio
Signalized Intersections						
#1. S 336th Street / 13th Place S	B	17.9	0.45	B	16.4	0.49
#2. S 336th Street / Pacific Highway S (SR 99)	D	46.7	0.88	E	55.3	0.88
#6. S 330th Street / Pacific Highway S (SR 99)	B	18.8	0.81	D	46.4	0.82
Stop Controlled Intersections						
#3. S 332nd Street / Celebration Park Road						
Northbound Approach (stop)	D	30.3	0.05	D	28.1	0.05
Southbound Approach (stop)	B	11.3	0.36	B	12.3	0.30
#4. S 332nd Street / 13th Place S						
Eastbound Approach (stop)	A	8.6	0.06	C	19.3	0.35
#5. S 332nd Street / Pacific Highway S (SR 99)						
Northbound Left (yield)	F	55.1	0.46	F	68.3	0.57
Eastbound Approach (stop)	D	34.8	0.25	E	36.6	0.31
#7. Celebration Park Road / 13th Avenue S						
Northbound Left (yield)	A	8.1	0.04	A	8.1	0.04
Eastbound Approach (stop)	D	27.1	0.75	D	25.5	0.64

Source: TENW using Synchro 8.0.

On-Site Parking Supply

Using the latest edition of *Parking Generation*, 5th Edition, 2019, as published by the Institute of Transportation Engineers (ITE), observed peak parking generation rates for Multifamily Housing (Land Use Code: 221), Shopping Center (Land Use Code: 820), and Day Care Center (Land Use Code: 565) were reviewed to estimate peak parking demand at the proposed *Landmark Apartments* project. Parking demand rates documented by ITE represent the latest information on parking generation and are applied as standard practice in evaluating demand for many different types of land uses.

Table 5 contains a summary of peak demand estimated using ITE rates and compares total proposed supply. As shown, the proposed parking supply of 479 stalls is forecast to exceed peak demand (340 stalls) by 139 stalls. The peak demand assumes peak utilization of the individual on-site land uses occur simultaneously and no shared parking occurs between on-site retail and residential uses. Based on this conservative parking demand analysis (assuming no shared use), peak parking demand utilization of no parking deficit or impact would occur with the proposed on-site parking supply.

Table 5: Landmark Apartments – ITE Parking Demand Estimates

Land Use	Size	ITE Parking Rate[1]	Parking Demand
		Proposed Supply	*479 stalls*
Multifamily Housing (ITE Land Use Code 221)	235 DU	(1.34 X DU) -8.73	306 stalls
Day Care Center (ITE Land Use Code 565)	10,222 SF	2.45 X 1,000 SF	25 stalls
Shopping Center (ITE Land Use Code 820)	4,165 SF	1.95 X 1,000 SF	9 stalls
		Subtotal Demand	340 stalls
		+ Surplus/(- Deficit)	***+ 139 stalls***

Source: Parking Generation, 5th Edition, ITE, 2019.

Project Mitigation Measures

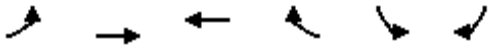
A review of impacts to roadways, intersection levels of service, site access, safety, and circulation issues, public transportation services, and nonmotorized transportation facilities was conducted in association with the proposed development alternatives. The following mitigation measures are recommended to reduce or eliminate project impacts as a result of the proposed *Landmark Apartments* development:

- Construct all proposed site driveways and frontage improvements as required by City Code as well as constructing full arterial section of 13th Avenue SE through the site.
- To mitigate system wide impacts to planned transportation improvements within the City of Federal Way, a traffic impact fee is assessed by the City. The City assesses a fee currently of $2,514 per dwelling unit, $6.43 per square foot of shopping uses, and $20.00 per square foot of daycare uses (with a 50% reduction). This resultant traffic impact fee would approximately be $822,010.95 under current rates and floor area/unit assumptions noted above. Final traffic impact fees would be calculated at the time of building permit submittal and are subject to change.

If you have any questions regarding the information presented in this memo, please call me at (206) 361-7333 x 101 or mikeread@tenw.com.

ATTACHMENTS

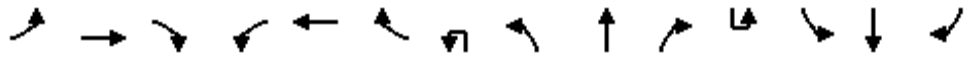
Attachment 1
Level of Service Summary Sheets



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	29	398	661	104	44	23
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1863	1900	1696	1696
Adj Flow Rate, veh/h	36	491	711	112	58	30
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.81	0.81	0.93	0.93	0.76	0.76
Percent Heavy Veh, %	3	3	2	2	12	12
Cap, veh/h	227	1341	1172	184	782	698
Arrive On Green	0.38	0.38	0.13	0.13	0.48	0.48
Sat Flow, veh/h	656	3597	3157	482	1616	1442
Grp Volume(v), veh/h	36	491	411	412	58	30
Grp Sat Flow(s),veh/h/ln	656	1752	1770	1776	1616	1442
Q Serve(g_s), s	2.9	6.0	13.2	13.2	1.2	0.7
Cycle Q Clear(g_c), s	16.1	6.0	13.2	13.2	1.2	0.7
Prop In Lane	1.00			0.27	1.00	1.00
Lane Grp Cap(c), veh/h	227	1341	677	679	782	698
V/C Ratio(X)	0.16	0.37	0.61	0.61	0.07	0.04
Avail Cap(c_a), veh/h	293	1694	855	858	782	698
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.61	0.61	1.00	1.00
Uniform Delay (d), s/veh	22.3	13.3	21.9	21.9	8.3	8.2
Incr Delay (d2), s/veh	0.3	0.2	0.5	0.5	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.9	6.6	6.6	0.6	0.3
LnGrp Delay(d),s/veh	22.6	13.5	22.5	22.5	8.5	8.3
LnGrp LOS	C	B	C	C	A	A
Approach Vol, veh/h		527	823		88	
Approach Delay, s/veh		14.1	22.5		8.4	
Approach LOS		B	C		A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				27.0		33.0		27.0
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				29.0		23.0		29.0
Max Q Clear Time (g_c+I1), s				18.1		3.2		15.2
Green Ext Time (p_c), s				4.8		0.3		5.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.5
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Volume (veh/h)	149	170	123	49	307	50	3	266	685	34	9	35	397	176
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		0.99		1.00		0.99
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	1827	1827	1827	1863	1863	1900		1845	1845	1845		1827	1827	1827
Adj Flow Rate, veh/h	189	215	156	58	361	59		286	737	37		44	496	220
Adj No. of Lanes	1	1	1	1	2	0		2	2	1		1	3	1
Peak Hour Factor	0.79	0.79	0.79	0.85	0.85	0.85		0.93	0.93	0.93		0.80	0.80	0.80
Percent Heavy Veh, %	4	4	4	2	2	2		3	3	3		4	4	4
Cap, veh/h	303	379	321	306	555	90		395	1168	516		263	1840	569
Arrive On Green	0.11	0.35	0.35	0.04	0.18	0.18		0.12	0.33	0.33		0.15	0.37	0.37
Sat Flow, veh/h	1740	1827	1548	1774	3049	494		3408	3505	1549		1740	4988	1543
Grp Volume(v), veh/h	189	215	156	58	208	212		286	737	37		44	496	220
Grp Sat Flow(s),veh/h/ln	1740	1827	1548	1774	1770	1774		1704	1752	1549		1740	1663	1543
Q Serve(g_s), s	4.0	5.7	4.8	1.6	6.5	6.7		4.9	10.7	0.7		1.3	4.2	6.3
Cycle Q Clear(g_c), s	4.0	5.7	4.8	1.6	6.5	6.7		4.9	10.7	0.7		1.3	4.2	6.3
Prop In Lane	1.00		1.00	1.00		0.28		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	303	379	321	306	322	323		395	1168	516		263	1840	569
V/C Ratio(X)	0.62	0.57	0.49	0.19	0.65	0.66		0.72	0.63	0.07		0.17	0.27	0.39
Avail Cap(c_a), veh/h	303	487	413	351	472	473		454	1168	516		263	1840	569
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	17.4	17.1	18.9	22.7	22.8		25.6	16.9	7.4		22.2	13.3	13.9
Incr Delay (d2), s/veh	3.7	1.2	1.1	0.3	2.2	2.3		4.8	2.6	0.3		0.3	0.4	2.0
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	1.5	3.0	2.1	0.8	3.4	3.4		2.5	5.5	0.3		0.7	1.9	3.0
LnGrp Delay(d),s/veh	24.2	18.7	18.2	19.2	24.9	25.1		30.4	19.5	7.7		22.5	13.6	15.9
LnGrp LOS	C	B	B	B	C	C		C	B	A		C	B	B
Approach Vol, veh/h		560			478				1060				760	
Approach Delay, s/veh		20.4			24.3				22.0				14.8	
Approach LOS		C			C				C				B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	24.0	6.5	16.4	10.9	26.1	8.0	14.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	20.0	4.0	16.0	8.0	16.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	13.3	12.7	3.6	7.7	6.9	8.3	6.0	8.7
Green Ext Time (p_c), s	0.3	2.2	0.0	2.2	0.1	2.2	0.0	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.2
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	96	17	5	3	16	11	4	0	5	21	0	159
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	68	68	68	56	56	56	87	87	87
Heavy Vehicles, %	5	5	5	3	3	3	0	0	0	3	3	3
Mvmt Flow	120	21	6	4	24	16	7	0	9	24	0	183

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	40	0	0	28	0	0	396	313	27	309	308	35
Stage 1	-	-	-	-	-	-	264	264	-	40	40	-
Stage 2	-	-	-	-	-	-	132	49	-	269	268	-
Critical Hdwy	4.15	-	-	4.13	-	-	7.1	6.5	6.2	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.13	5.53	-
Follow-up Hdwy	2.245	-	-	2.227	-	-	3.5	4	3.3	3.527	4.027	3.327
Pot Cap-1 Maneuver	1550	-	-	1579	-	-	568	606	1054	641	604	1035
Stage 1	-	-	-	-	-	-	746	694	-	972	860	-
Stage 2	-	-	-	-	-	-	876	858	-	734	685	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1546	-	-	1575	-	-	437	556	1051	594	555	1032
Mov Cap-2 Maneuver	-	-	-	-	-	-	437	556	-	594	555	-
Stage 1	-	-	-	-	-	-	687	639	-	895	857	-
Stage 2	-	-	-	-	-	-	717	855	-	669	631	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.1	0.7	10.7	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	647	1546	-	-	1575	-	-	950
HCM Lane V/C Ratio	0.025	0.078	-	-	0.003	-	-	0.218
HCM Control Delay (s)	10.7	7.5	0	-	7.3	0	-	9.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	40	0	0	0	27	2	0	0	4	1
Conflicting Peds, #/hr	1	0	1	1	0	1	2	0	1	1	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	92	92	92	66	66	66	63	63	63
Heavy Vehicles, %	8	8	8	2	2	2	7	7	7	80	80	80
Mvmt Flow	0	0	48	0	0	0	41	3	0	0	6	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	94	94	10	118	95	6	9	0	0	4	0	0
Stage 1	8	8	-	86	86	-	-	-	-	-	-	-
Stage 2	86	86	-	32	9	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.12	6.52	6.22	4.17	-	-	4.9	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.518	4.018	3.318	2.263	-	-	2.92	-	-
Pot Cap-1 Maneuver	875	785	1054	858	795	1077	1579	-	-	1228	-	-
Stage 1	998	877	-	922	824	-	-	-	-	-	-	-
Stage 2	907	812	-	984	888	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	855	763	1051	800	773	1074	1576	-	-	1226	-	-
Mov Cap-2 Maneuver	855	763	-	800	773	-	-	-	-	-	-	-
Stage 1	971	876	-	897	802	-	-	-	-	-	-	-
Stage 2	882	790	-	937	887	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	0	6.8	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1576	-	-	-	1051	-	1226	-	-
HCM Lane V/C Ratio	0.026	-	-	-	0.046	-	-	-	-
HCM Control Delay (s)	7.3	0	-	0	8.6	0	0	-	-
HCM Lane LOS	A	A	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Vol, veh/h	0	16	27	24	842	604	4
Conflicting Peds, #/hr	1	2	2	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	80	80	84	84	84	88	88
Heavy Vehicles, %	19	19	4	4	4	4	4
Mvmt Flow	0	20	32	29	1002	686	5

Major/Minor	Minor2		Major1			Major2	
Conflicting Flow All	1213	351	524	693	0	-	0
Stage 1	691	-	-	-	-	-	-
Stage 2	522	-	-	-	-	-	-
Critical Hdwy	6.08	7.48	5.68	5.38	-	-	-
Critical Hdwy Stg 1	6.98	-	-	-	-	-	-
Critical Hdwy Stg 2	6.38	-	-	-	-	-	-
Follow-up Hdwy	3.99	4.09	2.34	3.14	-	-	-
Pot Cap-1 Maneuver	212	515	794	542	-	-	-
Stage 1	338	-	-	-	-	-	-
Stage 2	471	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	211	512	641	641	-	-	-
Mov Cap-2 Maneuver	211	-	-	-	-	-	-
Stage 1	337	-	-	-	-	-	-
Stage 2	470	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	641	-	512	-	-
HCM Lane V/C Ratio	0.095	-	0.039	-	-
HCM Control Delay (s)	11.2	-	12.3	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Volume (veh/h)	20	12	43	32	12	21	5	33	771	13	31	10
Number	7	4	14	3	8	18		5	2	12		1
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98		0.99		0.97		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
Adj Sat Flow, veh/h/ln	1881	1881	1900	1792	1792	1900		1827	1827	1827		1827
Adj Flow Rate, veh/h	29	17	62	45	17	30		38	886	15		12
Adj No. of Lanes	1	1	0	1	1	0		1	2	1		1
Peak Hour Factor	0.69	0.69	0.69	0.71	0.71	0.71		0.87	0.87	0.87		0.85
Percent Heavy Veh, %	1	1	1	6	6	6		4	4	4		4
Cap, veh/h	279	36	130	250	64	113		786	996	434		667
Arrive On Green	0.03	0.10	0.10	0.04	0.11	0.11		0.72	0.57	0.57		0.31
Sat Flow, veh/h	1792	349	1272	1707	574	1013		1740	3471	1512		1740
Grp Volume(v), veh/h	29	0	79	45	0	47		38	886	15		12
Grp Sat Flow(s),veh/h/ln	1792	0	1621	1707	0	1587		1740	1736	1512		1740
Q Serve(g_s), s	0.9	0.0	2.8	1.4	0.0	1.6		0.0	13.3	0.2		0.0
Cycle Q Clear(g_c), s	0.9	0.0	2.8	1.4	0.0	1.6		0.0	13.3	0.2		0.0
Prop In Lane	1.00		0.78	1.00		0.64		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	279	0	166	250	0	178		786	996	434		667
V/C Ratio(X)	0.10	0.00	0.48	0.18	0.00	0.26		0.05	0.89	0.03		0.02
Avail Cap(c_a), veh/h	353	0	432	304	0	423		786	1157	504		667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	23.2	0.0	25.4	23.0	0.0	24.4		4.6	11.9	5.3		13.9
Incr Delay (d2), s/veh	0.2	0.0	2.1	0.3	0.0	0.8		0.0	11.7	0.1		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
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.3	0.7	0.0	0.7		0.2	7.8	0.1		0.1
LnGrp Delay(d),s/veh	23.4	0.0	27.5	23.3	0.0	25.2		4.7	23.7	5.5		14.0
LnGrp LOS	C		C	C		C		A	C	A		B
Approach Vol, veh/h		108			92				939			
Approach Delay, s/veh		26.4			24.3				22.6			
Approach LOS		C			C				C			

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.5	21.2	6.1	10.1	25.5	18.3	5.5	10.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	20.0	4.0	16.0	4.0	20.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	2.0	15.3	3.4	4.8	2.0	11.9	2.9	3.6
Green Ext Time (p_c), s	0.0	1.9	0.0	0.3	0.0	1.9	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	24.4
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Volume (veh/h)	526	14
Number	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.97
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827
Adj Flow Rate, veh/h	619	16
Adj No. of Lanes	2	1
Peak Hour Factor	0.85	0.85
Percent Heavy Veh, %	4	4
Cap, veh/h	827	358
Arrive On Green	0.24	0.24
Sat Flow, veh/h	3471	1504
Grp Volume(v), veh/h	619	16
Grp Sat Flow(s),veh/h/ln	1736	1504
Q Serve(g_s), s	9.9	0.4
Cycle Q Clear(g_c), s	9.9	0.4
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	827	358
V/C Ratio(X)	0.75	0.04
Avail Cap(c_a), veh/h	1157	501
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	21.2	11.0
Incr Delay (d2), s/veh	6.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.2
LnGrp Delay(d),s/veh	27.3	11.3
LnGrp LOS	C	B
Approach Vol, veh/h	647	
Approach Delay, s/veh	26.7	
Approach LOS	C	
Timer		

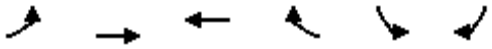
Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	102	13	14	40	56	154
Conflicting Peds, #/hr	0	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	68	68	83	83
Heavy Vehicles, %	4	4	0	0	4	4
Mvmt Flow	131	17	21	59	67	186

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	261	162	254	0	-	0
Stage 1	161	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.1	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.2	-	-	-
Pot Cap-1 Maneuver	724	878	1323	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	919	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	711	877	1322	-	-	-
Mov Cap-2 Maneuver	711	-	-	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1322	-	727	-	-
HCM Lane V/C Ratio	0.016	-	0.203	-	-
HCM Control Delay (s)	7.8	0	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	19	789	772	39	84	32
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1881	1900	1900	1900
Adj Flow Rate, veh/h	22	928	839	42	89	34
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.85	0.85	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	0	0
Cap, veh/h	517	1814	1758	88	297	265
Arrive On Green	0.51	0.51	0.51	0.51	0.16	0.16
Sat Flow, veh/h	633	3668	3558	173	1810	1615
Grp Volume(v), veh/h	22	928	433	448	89	34
Grp Sat Flow(s),veh/h/ln	633	1787	1787	1850	1810	1615
Q Serve(g_s), s	0.6	4.2	3.8	3.8	1.1	0.4
Cycle Q Clear(g_c), s	4.4	4.2	3.8	3.8	1.1	0.4
Prop In Lane	1.00			0.09	1.00	1.00
Lane Grp Cap(c), veh/h	517	1814	907	939	297	265
V/C Ratio(X)	0.04	0.51	0.48	0.48	0.30	0.13
Avail Cap(c_a), veh/h	612	2347	1174	1215	1188	1060
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.3	4.0	3.9	3.9	9.0	8.7
Incr Delay (d2), s/veh	0.0	0.2	0.4	0.4	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.0	1.9	2.0	0.6	0.2
LnGrp Delay(d),s/veh	5.4	4.2	4.3	4.3	9.5	8.9
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h		950	881		123	
Approach Delay, s/veh		4.2	4.3		9.3	
Approach LOS		A	A		A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				16.4		8.0		16.4
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				16.0		16.0		16.0
Max Q Clear Time (g_c+I1), s				6.4		3.1		5.8
Green Ext Time (p_c), s				5.9		0.3		6.2

Intersection Summary	
HCM 2010 Ctrl Delay	4.6
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Volume (veh/h)	206	361	247	256	443	114	13	176	892	86	19	85	1427	269
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		0.99	1.00		0.99		1.00		0.99		1.00		0.99
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	1881	1881	1881	1881	1881	1900		1881	1881	1881		1881	1881	1881
Adj Flow Rate, veh/h	254	446	305	269	466	120		189	959	92		91	1534	289
Adj No. of Lanes	1	1	1	1	2	0		2	2	1		1	3	1
Peak Hour Factor	0.81	0.81	0.81	0.95	0.95	0.95		0.93	0.93	0.93		0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1		1	1	1		1	1	1
Cap, veh/h	343	463	390	285	736	188		267	1252	553		117	1738	537
Arrive On Green	0.08	0.25	0.25	0.09	0.26	0.26		0.08	0.35	0.35		0.07	0.34	0.34
Sat Flow, veh/h	1792	1881	1585	1792	2815	720		3476	3574	1578		1792	5136	1586
Grp Volume(v), veh/h	254	446	305	269	295	291		189	959	92		91	1534	289
Grp Sat Flow(s),veh/h/ln	1792	1881	1585	1792	1787	1747		1738	1787	1578		1792	1712	1586
Q Serve(g_s), s	5.0	15.2	11.7	6.0	9.5	9.6		3.5	15.5	2.6		3.3	18.3	9.6
Cycle Q Clear(g_c), s	5.0	15.2	11.7	6.0	9.5	9.6		3.5	15.5	2.6		3.3	18.3	9.6
Prop In Lane	1.00		1.00	1.00		0.41		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	343	463	390	285	467	457		267	1252	553		117	1738	537
V/C Ratio(X)	0.74	0.96	0.78	0.95	0.63	0.64		0.71	0.77	0.17		0.78	0.88	0.54
Avail Cap(c_a), veh/h	343	463	390	285	467	457		267	1252	553		138	1738	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	24.2	22.9	20.8	21.2	21.3		29.3	18.8	14.6		29.9	20.3	17.4
Incr Delay (d2), s/veh	8.3	32.4	9.9	38.7	2.7	2.9		8.3	4.5	0.6		21.0	6.9	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	12.0	6.2	4.9	5.0	5.0		2.0	8.4	1.2		2.3	9.6	4.7
LnGrp Delay(d),s/veh	29.3	56.6	32.7	59.5	23.9	24.2		37.5	23.3	15.2		50.9	27.2	21.2
LnGrp LOS	C	E	C	E	C	C		D	C	B		D	C	C
Approach Vol, veh/h		1005			855				1240				1914	
Approach Delay, s/veh		42.5			35.2				24.8				27.4	
Approach LOS		D			D				C				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	26.8	10.0	20.0	9.0	26.0	9.0	21.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	22.0	6.0	16.0	5.0	22.0	5.0	17.0
Max Q Clear Time (g_c+I1), s	5.3	17.5	8.0	17.2	5.5	20.3	7.0	11.6
Green Ext Time (p_c), s	0.0	4.0	0.0	0.0	0.0	1.6	0.0	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	31.1
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	271	17	0	0	11	37	3	3	0	9	1	254
Conflicting Peds, #/hr	2	0	2	2	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	63	63	63	75	75	75	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	352	22	0	0	17	59	4	4	0	10	1	276

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	76	0	0	22	0	0	911	802	24	775	773	49
Stage 1	-	-	-	-	-	-	726	726	-	47	47	-
Stage 2	-	-	-	-	-	-	185	76	-	728	726	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1529	-	-	1607	-	-	257	320	1058	318	332	1025
Stage 1	-	-	-	-	-	-	419	433	-	972	860	-
Stage 2	-	-	-	-	-	-	821	836	-	418	433	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1526	-	-	1604	-	-	153	245	1056	257	254	1023
Mov Cap-2 Maneuver	-	-	-	-	-	-	153	245	-	257	254	-
Stage 1	-	-	-	-	-	-	321	332	-	745	860	-
Stage 2	-	-	-	-	-	-	598	836	-	316	332	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.6	0	25	10.7
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	188	1526	-	-	1604	-	-	919
HCM Lane V/C Ratio	0.043	0.231	-	-	-	-	-	0.312
HCM Control Delay (s)	25	8.1	0	-	0	-	-	10.7
HCM Lane LOS	D	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.9	-	-	0	-	-	1.3

Intersection	
Int Delay, s/veh	7.5

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	0	0	38	0	0	0	44	1	0	0	0	1
Conflicting Peds, #/hr	0	1	0	3	3	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	95	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	92	92	92	63	63	63	25	25	25
Heavy Vehicles, %	3	3	3	3	2	2	2	0	0	0	0	0	0
Mvmt Flow	1	0	0	54	0	0	0	70	2	0	0	0	4

Major/Minor	Minor2				Minor1			Major1			Major2		
Conflicting Flow All	0	149	149	5	176	151	5	7	0	0	5	0	0
Stage 1	0	5	5	-	144	144	-	-	-	-	-	-	-
Stage 2	0	144	144	-	32	7	-	-	-	-	-	-	-
Critical Hdwy	-	7.13	6.53	6.23	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.527	4.027	3.327	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	817	741	1075	786	741	1078	1627	-	-	1630	-	-
Stage 1	0	1015	890	-	859	778	-	-	-	-	-	-	-
Stage 2	0	856	776	-	984	890	-	-	-	-	-	-	-
Platoon blocked, %	-								-	-		-	-
Mov Cap-1 Maneuver	0	788	706	1072	720	706	1075	1627	-	-	1630	-	-
Mov Cap-2 Maneuver	0	788	706	-	720	706	-	-	-	-	-	-	-
Stage 1	0	969	888	-	820	743	-	-	-	-	-	-	-
Stage 2	0	819	741	-	934	888	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.5	0	7.1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1627	-	-	-	1072	-	1630	-	-
HCM Lane V/C Ratio	0.043	-	-	-	0.051	-	-	-	-
HCM Control Delay (s)	7.3	0	-	0	8.5	0	0	-	-
HCM Lane LOS	A	A	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	-	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Vol, veh/h	0	31	27	23	1214	1874	4
Conflicting Peds, #/hr	4	0	0	17	0	0	17
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	86	86	97	97	97	98	98
Heavy Vehicles, %	13	13	1	1	1	1	1
Mvmt Flow	0	36	28	24	1252	1912	4

Major/Minor	Minor2	Major1				Major2	
Conflicting Flow All	2522	979	1435	1920	0	-	0
Stage 1	1918	-	-	-	-	-	-
Stage 2	604	-	-	-	-	-	-
Critical Hdwy	5.96	7.36	5.62	5.32	-	-	-
Critical Hdwy Stg 1	6.86	-	-	-	-	-	-
Critical Hdwy Stg 2	6.26	-	-	-	-	-	-
Follow-up Hdwy	3.93	4.03	2.31	3.11	-	-	-
Pot Cap-1 Maneuver	41	199	254	139	-	-	-
Stage 1	57	-	-	-	-	-	-
Stage 2	438	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	41	196	170	170	-	-	-
Mov Cap-2 Maneuver	41	-	-	-	-	-	-
Stage 1	57	-	-	-	-	-	-
Stage 2	437	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.5	1.4	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	170	-	196	-	-
HCM Lane V/C Ratio	0.303	-	0.184	-	-
HCM Control Delay (s)	35.1	-	27.5	-	-
HCM Lane LOS	E	-	D	-	-
HCM 95th %tile Q(veh)	1.2	-	0.7	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Volume (veh/h)	50	22	66	34	28	36	19	49	1115	32	98	24
Number	7	4	14	3	8	18		5	2	12		1
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.97		0.95		1.00		0.98		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
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		1881	1881	1881		1881
Adj Flow Rate, veh/h	55	24	73	41	34	44		52	1174	34		25
Adj No. of Lanes	1	1	0	1	1	0		1	2	1		1
Peak Hour Factor	0.91	0.91	0.91	0.82	0.82	0.82		0.95	0.95	0.95		0.95
Percent Heavy Veh, %	0	0	0	0	0	0		1	1	1		1
Cap, veh/h	261	51	155	240	89	115		194	2193	966		329
Arrive On Green	0.04	0.13	0.13	0.03	0.12	0.12		0.03	0.61	0.61		0.02
Sat Flow, veh/h	1810	400	1218	1810	732	947		1792	3574	1574		1792
Grp Volume(v), veh/h	55	0	97	41	0	78		52	1174	34		25
Grp Sat Flow(s),veh/h/ln	1810	0	1618	1810	0	1678		1792	1787	1574		1792
Q Serve(g_s), s	2.0	0.0	4.3	1.5	0.0	3.3		0.8	14.6	0.7		0.4
Cycle Q Clear(g_c), s	2.0	0.0	4.3	1.5	0.0	3.3		0.8	14.6	0.7		0.4
Prop In Lane	1.00		0.75	1.00		0.56		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	261	0	207	240	0	204		194	2193	966		329
V/C Ratio(X)	0.21	0.00	0.47	0.17	0.00	0.38		0.27	0.54	0.04		0.08
Avail Cap(c_a), veh/h	289	0	335	279	0	347		225	2193	966		499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	28.3	0.0	31.3	28.5	0.0	31.3		14.7	8.6	5.9		6.9
Incr Delay (d2), s/veh	0.4	0.0	1.7	0.3	0.0	1.2		0.7	0.3	0.0		0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	2.0	0.8	0.0	1.6		0.7	7.3	0.3		0.2
LnGrp Delay(d),s/veh	28.7	0.0	32.9	28.9	0.0	32.4		15.4	8.9	5.9		7.0
LnGrp LOS	C		C	C		C		B	A	A		A
Approach Vol, veh/h		152			119				1260			
Approach Delay, s/veh		31.4			31.2				9.0			
Approach LOS		C			C				A			

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	51.4	6.3	13.9	6.7	50.4	6.8	13.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	9.0	45.0	4.0	16.0	4.0	50.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	2.4	16.6	3.5	6.3	2.8	35.6	4.0	5.3
Green Ext Time (p_c), s	0.0	21.4	0.0	0.5	0.0	10.8	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Volume (veh/h)	1770	52
Number	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.98
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881
Adj Flow Rate, veh/h	1863	55
Adj No. of Lanes	2	1
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	1	1
Cap, veh/h	2146	945
Arrive On Green	0.60	0.60
Sat Flow, veh/h	3574	1574
Grp Volume(v), veh/h	1863	55
Grp Sat Flow(s),veh/h/ln	1787	1574
Q Serve(g_s), s	33.6	1.1
Cycle Q Clear(g_c), s	33.6	1.1
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2146	945
V/C Ratio(X)	0.87	0.06
Avail Cap(c_a), veh/h	2311	1018
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	12.9	6.4
Incr Delay (d2), s/veh	3.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.4	0.5
LnGrp Delay(d),s/veh	16.5	6.4
LnGrp LOS	B	A
Approach Vol, veh/h	1943	
Approach Delay, s/veh	16.1	
Approach LOS	B	
Timer		

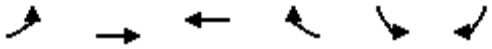
Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	260	32	35	106	68	230
Conflicting Peds, #/hr	2	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	93	93	96	96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	342	42	38	114	71	240

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	382	193	312	0	-	0
Stage 1	193	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	622	851	1254	-	-	-
Stage 1	842	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	600	850	1254	-	-	-
Mov Cap-2 Maneuver	600	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	818	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.8	2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1254	-	620	-	-
HCM Lane V/C Ratio	0.03	-	0.62	-	-
HCM Control Delay (s)	8	0	19.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	4.3	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	33	448	744	117	50	26
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1863	1900	1696	1696
Adj Flow Rate, veh/h	41	553	800	126	66	34
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.81	0.81	0.93	0.93	0.76	0.76
Percent Heavy Veh, %	3	3	2	2	12	12
Cap, veh/h	209	1487	1300	205	745	665
Arrive On Green	0.42	0.42	0.14	0.14	0.46	0.46
Sat Flow, veh/h	596	3597	3157	482	1616	1442
Grp Volume(v), veh/h	41	553	462	464	66	34
Grp Sat Flow(s),veh/h/ln	596	1752	1770	1776	1616	1442
Q Serve(g_s), s	4.3	7.5	17.2	17.2	1.6	0.9
Cycle Q Clear(g_c), s	21.5	7.5	17.2	17.2	1.6	0.9
Prop In Lane	1.00			0.27	1.00	1.00
Lane Grp Cap(c), veh/h	209	1487	751	754	745	665
V/C Ratio(X)	0.20	0.37	0.62	0.62	0.09	0.05
Avail Cap(c_a), veh/h	271	1853	935	939	745	665
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.70	0.70	1.00	1.00
Uniform Delay (d), s/veh	25.4	13.8	24.7	24.7	10.6	10.4
Incr Delay (d2), s/veh	0.5	0.2	0.6	0.6	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.6	8.6	8.6	0.8	0.4
LnGrp Delay(d),s/veh	25.8	13.9	25.3	25.3	10.8	10.5
LnGrp LOS	C	B	C	C	B	B
Approach Vol, veh/h		594	926		100	
Approach Delay, s/veh		14.7	25.3		10.7	
Approach LOS		B	C		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				33.7		36.3		33.7
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				37.0		25.0		37.0
Max Q Clear Time (g_c+I1), s				23.5		3.6		19.2
Green Ext Time (p_c), s				6.2		0.3		7.2

Intersection Summary	
HCM 2010 Ctrl Delay	20.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Volume (veh/h)	168	191	138	55	346	56	3	299	771	38	10	39	447	198
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		0.99		1.00		0.99
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	1827	1827	1827	1863	1863	1900		1845	1845	1845		1827	1827	1827
Adj Flow Rate, veh/h	213	242	175	65	407	66		322	829	41		49	559	248
Adj No. of Lanes	1	1	1	1	2	0		2	2	1		1	3	1
Peak Hour Factor	0.79	0.79	0.79	0.85	0.85	0.85		0.93	0.93	0.93		0.80	0.80	0.80
Percent Heavy Veh, %	4	4	4	2	2	2		3	3	3		4	4	4
Cap, veh/h	253	364	308	259	560	90		1030	1737	771		61	1140	351
Arrive On Green	0.10	0.33	0.33	0.04	0.18	0.18		0.30	0.50	0.50		0.07	0.46	0.46
Sat Flow, veh/h	1740	1827	1548	1774	3052	491		3408	3505	1555		1740	4988	1537
Grp Volume(v), veh/h	213	242	175	65	235	238		322	829	41		49	559	248
Grp Sat Flow(s),veh/h/ln	1740	1827	1548	1774	1770	1774		1704	1752	1555		1740	1663	1537
Q Serve(g_s), s	4.0	7.9	3.1	2.1	8.7	8.9		5.1	10.9	1.0		1.9	5.5	7.0
Cycle Q Clear(g_c), s	4.0	7.9	3.1	2.1	8.7	8.9		5.1	10.9	1.0		1.9	5.5	7.0
Prop In Lane	1.00		1.00	1.00		0.28		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	253	364	308	259	325	326		1030	1737	771		61	1140	351
V/C Ratio(X)	0.84	0.67	0.57	0.25	0.72	0.73		0.31	0.48	0.05		0.80	0.49	0.71
Avail Cap(c_a), veh/h	253	418	354	287	404	406		1030	1737	771		224	1140	351
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00		1.00	1.00	1.00		2.00	2.00	2.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	21.4	4.8	22.2	26.9	26.9		18.8	11.7	9.1		32.3	16.1	10.4
Incr Delay (d2), s/veh	20.3	3.0	1.5	0.5	4.7	5.1		0.2	0.9	0.1		20.9	1.5	11.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	4.2	1.4	1.0	4.7	4.8		2.4	5.5	0.4		1.3	2.6	4.0
LnGrp Delay(d),s/veh	47.1	24.4	6.3	22.7	31.6	32.1		19.0	12.6	9.3		53.2	17.7	21.7
LnGrp LOS	D	C	A	C	C	C		B	B	A		D	B	C
Approach Vol, veh/h		630			538				1192				856	
Approach Delay, s/veh		27.0			30.7				14.2				20.9	
Approach LOS		C			C				B				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	38.7	6.9	17.9	25.1	20.0	8.0	16.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	9.0	25.0	4.0	16.0	18.0	16.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	13.9	12.9	4.1	9.9	7.1	9.0	6.0	10.9
Green Ext Time (p_c), s	0.0	4.5	0.0	2.1	4.3	2.2	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	21.3
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	108	19	6	3	18	12	5	0	6	24	0	179
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	68	68	68	56	56	56	87	87	87
Heavy Vehicles, %	5	5	5	3	3	3	0	0	0	3	3	3
Mvmt Flow	135	24	8	4	26	18	9	0	11	28	0	206

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	44	0	0	31	0	0	445	351	31	347	345	38
Stage 1	-	-	-	-	-	-	298	298	-	44	44	-
Stage 2	-	-	-	-	-	-	147	53	-	303	301	-
Critical Hdwy	4.15	-	-	4.13	-	-	7.1	6.5	6.2	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.13	5.53	-
Follow-up Hdwy	2.245	-	-	2.227	-	-	3.5	4	3.3	3.527	4.027	3.327
Pot Cap-1 Maneuver	1545	-	-	1575	-	-	527	577	1049	606	576	1031
Stage 1	-	-	-	-	-	-	715	671	-	968	856	-
Stage 2	-	-	-	-	-	-	860	855	-	704	663	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1541	-	-	1571	-	-	391	524	1046	556	523	1028
Mov Cap-2 Maneuver	-	-	-	-	-	-	391	524	-	556	523	-
Stage 1	-	-	-	-	-	-	651	611	-	882	853	-
Stage 2	-	-	-	-	-	-	684	852	-	633	604	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.1	0.7	11.3	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	594	1541	-	-	1571	-	-	934
HCM Lane V/C Ratio	0.033	0.088	-	-	0.003	-	-	0.25
HCM Control Delay (s)	11.3	7.6	0	-	7.3	0	-	10.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-	1

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	45	0	0	0	30	2	0	0	5	1
Conflicting Peds, #/hr	1	0	1	1	0	1	2	0	1	1	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	92	92	92	66	66	66	63	63	63
Heavy Vehicles, %	8	8	8	2	2	2	7	7	7	80	80	80
Mvmt Flow	0	0	54	0	0	0	45	3	0	0	8	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	105	105	12	132	106	6	11	0	0	4	0	0
Stage 1	10	10	-	95	95	-	-	-	-	-	-	-
Stage 2	95	95	-	37	11	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.12	6.52	6.22	4.17	-	-	4.9	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.518	4.018	3.318	2.263	-	-	2.92	-	-
Pot Cap-1 Maneuver	861	774	1051	840	784	1077	1576	-	-	1228	-	-
Stage 1	996	875	-	912	816	-	-	-	-	-	-	-
Stage 2	897	805	-	978	886	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	840	750	1048	777	760	1074	1573	-	-	1226	-	-
Mov Cap-2 Maneuver	840	750	-	777	760	-	-	-	-	-	-	-
Stage 1	966	874	-	885	792	-	-	-	-	-	-	-
Stage 2	870	781	-	926	885	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	0	6.9	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1573	-	-	-	1048	-	1226	-	-
HCM Lane V/C Ratio	0.029	-	-	-	0.052	-	-	-	-
HCM Control Delay (s)	7.4	0	-	0	8.6	0	0	-	-
HCM Lane LOS	A	A	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	-	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Vol, veh/h	0	18	30	27	948	680	5
Conflicting Peds, #/hr	1	2	2	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	80	80	84	84	84	88	88
Heavy Vehicles, %	19	19	4	4	4	4	4
Mvmt Flow	0	22	36	32	1129	773	6

Major/Minor	Minor2	Major1				Major2	
Conflicting Flow All	1365	395	591	780	0	-	0
Stage 1	778	-	-	-	-	-	-
Stage 2	587	-	-	-	-	-	-
Critical Hdwy	6.08	7.48	5.68	5.38	-	-	-
Critical Hdwy Stg 1	6.98	-	-	-	-	-	-
Critical Hdwy Stg 2	6.38	-	-	-	-	-	-
Follow-up Hdwy	3.99	4.09	2.34	3.14	-	-	-
Pot Cap-1 Maneuver	175	481	729	493	-	-	-
Stage 1	298	-	-	-	-	-	-
Stage 2	434	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	174	479	583	583	-	-	-
Mov Cap-2 Maneuver	174	-	-	-	-	-	-
Stage 1	298	-	-	-	-	-	-
Stage 2	433	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	583	-	479	-	-
HCM Lane V/C Ratio	0.116	-	0.047	-	-
HCM Control Delay (s)	12	-	12.9	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Volume (veh/h)	23	14	48	36	14	24	6	37	868	15	35	11
Number	7	4	14	3	8	18		5	2	12		1
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.98		0.98		1.00		0.99		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
Adj Sat Flow, veh/h/ln	1881	1881	1900	1792	1792	1900		1827	1827	1827		1827
Adj Flow Rate, veh/h	33	20	70	51	20	34		43	998	17		13
Adj No. of Lanes	1	1	0	1	1	0		1	2	1		1
Peak Hour Factor	0.69	0.69	0.69	0.71	0.71	0.71		0.87	0.87	0.87		0.85
Percent Heavy Veh, %	1	1	1	6	6	6		4	4	4		4
Cap, veh/h	261	38	132	229	67	114		516	2145	948		449
Arrive On Green	0.03	0.10	0.10	0.04	0.11	0.11		0.06	1.00	1.00		0.01
Sat Flow, veh/h	1792	361	1263	1707	589	1001		1740	3471	1534		1740
Grp Volume(v), veh/h	33	0	90	51	0	54		43	998	17		13
Grp Sat Flow(s),veh/h/ln	1792	0	1624	1707	0	1590		1740	1736	1534		1740
Q Serve(g_s), s	1.1	0.0	3.7	1.9	0.0	2.2		0.6	0.0	0.0		0.2
Cycle Q Clear(g_c), s	1.1	0.0	3.7	1.9	0.0	2.2		0.6	0.0	0.0		0.2
Prop In Lane	1.00		0.78	1.00		0.63		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	261	0	170	229	0	181		516	2145	948		449
V/C Ratio(X)	0.13	0.00	0.53	0.22	0.00	0.30		0.08	0.47	0.02		0.03
Avail Cap(c_a), veh/h	315	0	371	265	0	364		559	2145	948		551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	26.9	0.0	29.7	26.7	0.0	28.5		5.1	0.0	0.0		5.3
Incr Delay (d2), s/veh	0.2	0.0	2.5	0.5	0.0	0.9		0.1	0.7	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
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.8	0.9	0.0	1.0		0.3	0.2	0.0		0.1
LnGrp Delay(d),s/veh	27.1	0.0	32.2	27.2	0.0	29.4		5.2	0.7	0.0		5.4
LnGrp LOS	C		C	C		C		A	A	A		A
Approach Vol, veh/h		123			105				1058			
Approach Delay, s/veh		30.9			28.3				0.9			
Approach LOS		C			C				A			

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	47.3	6.5	11.3	6.3	45.9	5.9	12.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	29.0	4.0	16.0	4.0	30.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	2.2	2.0	3.9	5.7	2.6	9.1	3.1	4.2
Green Ext Time (p_c), s	0.0	9.8	0.0	0.4	0.0	8.8	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	6.5
HCM 2010 LOS	A

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Volume (veh/h)	592	16
Number	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.99
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827
Adj Flow Rate, veh/h	696	19
Adj No. of Lanes	2	1
Peak Hour Factor	0.85	0.85
Percent Heavy Veh, %	4	4
Cap, veh/h	2077	917
Arrive On Green	0.60	0.60
Sat Flow, veh/h	3471	1533
Grp Volume(v), veh/h	696	19
Grp Sat Flow(s),veh/h/ln	1736	1533
Q Serve(g_s), s	7.1	0.4
Cycle Q Clear(g_c), s	7.1	0.4
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2077	917
V/C Ratio(X)	0.34	0.02
Avail Cap(c_a), veh/h	2077	917
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	7.1	5.7
Incr Delay (d2), s/veh	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.2
LnGrp Delay(d),s/veh	7.5	5.8
LnGrp LOS	A	A
Approach Vol, veh/h	728	
Approach Delay, s/veh	7.4	
Approach LOS	A	
Timer		

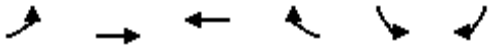
Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	115	15	16	45	63	173
Conflicting Peds, #/hr	0	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	68	68	83	83
Heavy Vehicles, %	4	4	0	0	4	4
Mvmt Flow	147	19	24	66	76	208

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	294	182	285	0	-	0
Stage 1	181	-	-	-	-	-
Stage 2	113	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.1	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.2	-	-	-
Pot Cap-1 Maneuver	693	855	1289	-	-	-
Stage 1	845	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	679	854	1288	-	-	-
Mov Cap-2 Maneuver	679	-	-	-	-	-
Stage 1	844	-	-	-	-	-
Stage 2	889	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	2.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1288	-	695	-	-
HCM Lane V/C Ratio	0.018	-	0.24	-	-
HCM Control Delay (s)	7.8	0	11.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	21	888	869	44	95	36
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1881	1900	1900	1900
Adj Flow Rate, veh/h	25	1045	945	48	101	38
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.85	0.85	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	0	0
Cap, veh/h	225	1627	1575	80	763	681
Arrive On Green	0.46	0.46	0.15	0.15	0.42	0.42
Sat Flow, veh/h	570	3668	3555	176	1810	1615
Grp Volume(v), veh/h	25	1045	488	505	101	38
Grp Sat Flow(s),veh/h/ln	570	1787	1787	1850	1810	1615
Q Serve(g_s), s	2.4	14.6	16.6	16.6	2.2	0.9
Cycle Q Clear(g_c), s	19.0	14.6	16.6	16.6	2.2	0.9
Prop In Lane	1.00			0.10	1.00	1.00
Lane Grp Cap(c), veh/h	225	1627	813	842	763	681
V/C Ratio(X)	0.11	0.64	0.60	0.60	0.13	0.06
Avail Cap(c_a), veh/h	272	1925	962	996	763	681
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.63	0.63	1.00	1.00
Uniform Delay (d), s/veh	21.8	13.6	22.1	22.1	11.5	11.1
Incr Delay (d2), s/veh	0.2	0.6	0.5	0.5	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.2	8.3	8.6	1.2	0.4
LnGrp Delay(d),s/veh	22.0	14.2	22.6	22.6	11.9	11.3
LnGrp LOS	C	B	C	C	B	B
Approach Vol, veh/h		1070	993		139	
Approach Delay, s/veh		14.4	22.6		11.7	
Approach LOS		B	C		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				33.6		31.4		33.6
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				35.0		22.0		35.0
Max Q Clear Time (g_c+I1), s				21.0		4.2		18.6
Green Ext Time (p_c), s				8.6		0.4		9.5

Intersection Summary	
HCM 2010 Ctrl Delay	17.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Volume (veh/h)	232	406	278	288	499	128	15	198	1004	97	21	96	1606	303
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		0.99	1.00		0.99		1.00		0.99		1.00		0.99
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	1881	1881	1881	1881	1881	1900		1881	1881	1881		1881	1881	1881
Adj Flow Rate, veh/h	286	501	343	303	525	135		213	1080	104		103	1727	326
Adj No. of Lanes	1	1	1	1	2	0		2	2	1		1	3	1
Peak Hour Factor	0.81	0.81	0.81	0.95	0.95	0.95		0.93	0.93	0.93		0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1		1	1	1		1	1	1
Cap, veh/h	276	463	390	276	693	177		267	1155	509		165	1738	537
Arrive On Green	0.06	0.16	0.16	0.09	0.25	0.25		0.08	0.32	0.32		0.09	0.34	0.34
Sat Flow, veh/h	1792	1881	1585	1792	2814	720		3476	3574	1577		1792	5136	1586
Grp Volume(v), veh/h	286	501	343	303	333	327		213	1080	104		103	1727	326
Grp Sat Flow(s),veh/h/ln	1792	1881	1585	1792	1787	1747		1738	1787	1577		1792	1712	1586
Q Serve(g_s), s	6.0	16.0	10.1	6.0	11.2	11.3		3.9	19.1	3.1		3.6	21.8	11.1
Cycle Q Clear(g_c), s	6.0	16.0	10.1	6.0	11.2	11.3		3.9	19.1	3.1		3.6	21.8	11.1
Prop In Lane	1.00		1.00	1.00		0.41		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	276	463	390	276	440	430		267	1155	509		165	1738	537
V/C Ratio(X)	1.04	1.08	0.88	1.10	0.76	0.76		0.80	0.94	0.20		0.62	0.99	0.61
Avail Cap(c_a), veh/h	276	463	390	276	440	430		267	1155	509		165	1738	537
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	27.1	14.1	28.3	22.7	22.7		29.5	21.3	15.9		28.4	21.4	17.9
Incr Delay (d2), s/veh	55.1	59.4	15.1	82.7	7.3	7.8		15.4	14.9	0.9		7.1	20.1	5.0
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	4.2	15.9	6.0	11.3	6.3	6.4		2.4	11.7	1.5		2.1	13.5	5.6
LnGrp Delay(d),s/veh	81.8	86.6	29.2	111.0	30.0	30.5		44.9	36.2	16.8		35.5	41.5	22.9
LnGrp LOS	F	F	C	F	C	C		D	D	B		D	D	C
Approach Vol, veh/h		1130			963				1397				2156	
Approach Delay, s/veh		68.0			55.7				36.1				38.4	
Approach LOS		E			E				D				D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	25.0	10.0	20.0	9.0	26.0	10.0	20.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	21.0	6.0	16.0	5.0	22.0	6.0	16.0
Max Q Clear Time (g_c+I1), s	5.6	21.1	8.0	18.0	5.9	23.8	8.0	13.3
Green Ext Time (p_c), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	46.7
HCM 2010 LOS	D

Notes

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	305	19	0	0	12	42	3	3	0	10	1	286
Conflicting Peds, #/hr	2	0	2	2	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	63	63	63	75	75	75	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	396	25	0	0	19	67	4	4	0	11	1	311

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	86	0	0	25	0	0	1025	903	27	871	869	54
Stage 1	-	-	-	-	-	-	817	817	-	52	52	-
Stage 2	-	-	-	-	-	-	208	86	-	819	817	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1517	-	-	1603	-	-	215	279	1054	274	292	1019
Stage 1	-	-	-	-	-	-	373	393	-	966	856	-
Stage 2	-	-	-	-	-	-	799	827	-	372	393	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1514	-	-	1600	-	-	118	205	1052	214	215	1017
Mov Cap-2 Maneuver	-	-	-	-	-	-	118	205	-	214	215	-
Stage 1	-	-	-	-	-	-	274	289	-	710	856	-
Stage 2	-	-	-	-	-	-	553	827	-	269	289	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.7	0	30.3	11.3
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	150	1514	-	-	1600	-	-	893
HCM Lane V/C Ratio	0.053	0.262	-	-	-	-	-	0.362
HCM Control Delay (s)	30.3	8.2	0	-	0	-	-	11.3
HCM Lane LOS	D	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	1.1	-	-	0	-	-	1.7

Intersection	
Int Delay, s/veh	7.6

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	0	0	43	0	0	0	49	1	0	0	0	1
Conflicting Peds, #/hr	0	1	0	3	3	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	95	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	92	92	92	63	63	63	25	25	25
Heavy Vehicles, %	3	3	3	3	2	2	2	0	0	0	0	0	0
Mvmt Flow	1	0	0	61	0	0	0	78	2	0	0	0	4

Major/Minor	Minor2				Minor1			Major1			Major2		
Conflicting Flow All	0	165	165	5	196	167	5	7	0	0	5	0	0
Stage 1	0	5	5	-	160	160	-	-	-	-	-	-	-
Stage 2	0	160	160	-	36	7	-	-	-	-	-	-	-
Critical Hdwy	-	7.13	6.53	6.23	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.527	4.027	3.327	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	797	726	1075	763	726	1078	1627	-	-	1630	-	-
Stage 1	0	1015	890	-	842	766	-	-	-	-	-	-	-
Stage 2	0	840	764	-	980	890	-	-	-	-	-	-	-
Platoon blocked, %	-								-	-		-	-
Mov Cap-1 Maneuver	0	766	688	1072	691	688	1075	1627	-	-	1630	-	-
Mov Cap-2 Maneuver	0	766	688	-	691	688	-	-	-	-	-	-	-
Stage 1	0	964	888	-	800	727	-	-	-	-	-	-	-
Stage 2	0	800	726	-	924	888	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.6	0	7.2	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1627	-	-	-	1072	-	1630	-	-
HCM Lane V/C Ratio	0.048	-	-	-	0.057	-	-	-	-
HCM Control Delay (s)	7.3	0	-	0	8.6	0	0	-	-
HCM Lane LOS	A	A	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	-	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Vol, veh/h	0	35	30	26	1366	2109	5
Conflicting Peds, #/hr	4	0	0	17	0	0	17
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	86	86	97	97	97	98	98
Heavy Vehicles, %	13	13	1	1	1	1	1
Mvmt Flow	0	41	31	27	1408	2152	5

Major/Minor	Minor2	Major1				Major2	
Conflicting Flow All	2838	1100	1615	2161	0	-	0
Stage 1	2159	-	-	-	-	-	-
Stage 2	679	-	-	-	-	-	-
Critical Hdwy	5.96	7.36	5.62	5.32	-	-	-
Critical Hdwy Stg 1	6.86	-	-	-	-	-	-
Critical Hdwy Stg 2	6.26	-	-	-	-	-	-
Follow-up Hdwy	3.93	4.03	2.31	3.11	-	-	-
Pot Cap-1 Maneuver	27	164	201	105	-	-	-
Stage 1	39	-	-	-	-	-	-
Stage 2	398	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	27	161	127	127	-	-	-
Mov Cap-2 Maneuver	27	-	-	-	-	-	-
Stage 1	39	-	-	-	-	-	-
Stage 2	397	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	34.8	2.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	127	-	161	-	-
HCM Lane V/C Ratio	0.455	-	0.253	-	-
HCM Control Delay (s)	55.1	-	34.8	-	-
HCM Lane LOS	F	-	D	-	-
HCM 95th %tile Q(veh)	2	-	1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Volume (veh/h)	56	25	74	38	32	41	21	55	1255	36	110	27
Number	7	4	14	3	8	18		5	2	12		1
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.97		0.95		1.00		0.99		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
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		1881	1881	1881		1881
Adj Flow Rate, veh/h	62	27	81	46	39	50		58	1321	38		28
Adj No. of Lanes	1	1	0	1	1	0		1	2	1		1
Peak Hour Factor	0.91	0.91	0.91	0.82	0.82	0.82		0.95	0.95	0.95		0.95
Percent Heavy Veh, %	0	0	0	0	0	0		1	1	1		1
Cap, veh/h	232	49	148	199	83	107		163	2314	1020		298
Arrive On Green	0.04	0.12	0.12	0.03	0.11	0.11		0.03	0.65	0.65		0.02
Sat Flow, veh/h	1810	404	1212	1810	734	941		1792	3574	1576		1792
Grp Volume(v), veh/h	62	0	108	46	0	89		58	1321	38		28
Grp Sat Flow(s),veh/h/ln	1810	0	1616	1810	0	1675		1792	1787	1576		1792
Q Serve(g_s), s	0.0	0.0	5.7	0.0	0.0	4.5		1.0	18.6	0.5		0.5
Cycle Q Clear(g_c), s	0.0	0.0	5.7	0.0	0.0	4.5		1.0	18.6	0.5		0.5
Prop In Lane	1.00		0.75	1.00		0.56		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	232	0	197	199	0	190		163	2314	1020		298
V/C Ratio(X)	0.27	0.00	0.55	0.23	0.00	0.47		0.36	0.57	0.04		0.09
Avail Cap(c_a), veh/h	242	0	287	225	0	298		182	2314	1020		437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	38.1	0.0	37.2	39.4	0.0	37.3		21.2	8.9	2.5		7.2
Incr Delay (d2), s/veh	0.6	0.0	2.4	0.6	0.0	1.8		1.3	1.0	0.1		0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	2.6	1.1	0.0	2.2		1.0	9.3	0.2		0.2
LnGrp Delay(d),s/veh	38.7	0.0	39.5	40.0	0.0	39.1		22.5	9.9	2.6		7.3
LnGrp LOS	D		D	D		D		C	A	A		A
Approach Vol, veh/h		170			135				1417			
Approach Delay, s/veh		39.2			39.4				10.2			
Approach LOS		D			D				B			

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	62.3	6.7	15.0	7.1	61.2	7.5	14.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	9.0	45.0	4.0	16.0	4.0	50.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	2.5	20.6	2.0	7.7	3.0	48.5	2.0	6.5
Green Ext Time (p_c), s	0.0	20.9	0.1	0.2	0.0	1.4	0.1	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	18.8
HCM 2010 LOS	B

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Volume (veh/h)	1992	59
Number	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.99
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881
Adj Flow Rate, veh/h	2097	62
Adj No. of Lanes	2	1
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	1	1
Cap, veh/h	2272	1001
Arrive On Green	0.64	0.64
Sat Flow, veh/h	3574	1575
Grp Volume(v), veh/h	2097	62
Grp Sat Flow(s),veh/h/ln	1787	1575
Q Serve(g_s), s	46.5	0.9
Cycle Q Clear(g_c), s	46.5	0.9
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2272	1001
V/C Ratio(X)	0.92	0.06
Avail Cap(c_a), veh/h	2272	1001
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	14.4	2.6
Incr Delay (d2), s/veh	7.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.9	0.4
LnGrp Delay(d),s/veh	22.2	2.7
LnGrp LOS	C	A
Approach Vol, veh/h	2187	
Approach Delay, s/veh	21.4	
Approach LOS	C	
Timer		

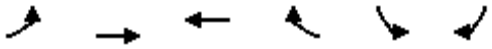
Intersection	
Int Delay, s/veh	12.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	293	36	39	119	77	259
Conflicting Peds, #/hr	2	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	93	93	96	96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	386	47	42	128	80	270

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	429	217	352	0	-	0
Stage 1	217	-	-	-	-	-
Stage 2	212	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	585	825	1212	-	-	-
Stage 1	822	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	561	824	1212	-	-	-
Mov Cap-2 Maneuver	561	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	794	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.1	2	0
HCM LOS	D		

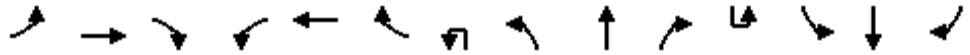
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1212	-	581	-	-
HCM Lane V/C Ratio	0.035	-	0.745	-	-
HCM Control Delay (s)	8.1	0	27.1	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	6.5	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	39	448	744	141	83	35
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1863	1900	1696	1696
Adj Flow Rate, veh/h	48	553	800	152	109	46
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.81	0.81	0.93	0.93	0.76	0.76
Percent Heavy Veh, %	3	3	2	2	12	12
Cap, veh/h	273	1355	1147	218	668	596
Arrive On Green	0.39	0.39	0.39	0.39	0.41	0.41
Sat Flow, veh/h	581	3597	3060	564	1616	1442
Grp Volume(v), veh/h	48	553	477	475	109	46
Grp Sat Flow(s),veh/h/ln	581	1752	1770	1762	1616	1442
Q Serve(g_s), s	3.0	4.6	9.1	9.1	1.7	0.8
Cycle Q Clear(g_c), s	12.1	4.6	9.1	9.1	1.7	0.8
Prop In Lane	1.00			0.32	1.00	1.00
Lane Grp Cap(c), veh/h	273	1355	684	681	668	596
V/C Ratio(X)	0.18	0.41	0.70	0.70	0.16	0.08
Avail Cap(c_a), veh/h	281	1402	708	705	668	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.64	0.64	1.00	1.00
Uniform Delay (d), s/veh	15.4	8.9	10.3	10.3	7.4	7.1
Incr Delay (d2), s/veh	0.3	0.2	1.9	1.9	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.3	4.7	4.7	0.9	0.3
LnGrp Delay(d),s/veh	15.7	9.1	12.2	12.2	7.9	7.4
LnGrp LOS	B	A	B	B	A	A
Approach Vol, veh/h		601	952		155	
Approach Delay, s/veh		9.7	12.2		7.7	
Approach LOS		A	B		A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				19.5		20.5		19.5
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				16.0		16.0		16.0
Max Q Clear Time (g_c+I1), s				14.1		3.7		11.1
Green Ext Time (p_c), s				1.4		0.4		3.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Volume (veh/h)	168	191	162	55	346	56	3	323	767	38	10	39	444	198
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		0.99		1.00		0.99
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	1827	1827	1827	1863	1863	1900		1845	1845	1845		1827	1827	1827
Adj Flow Rate, veh/h	213	242	205	65	407	66		347	825	41		49	555	248
Adj No. of Lanes	1	1	1	1	2	0		2	2	1		1	3	1
Peak Hour Factor	0.79	0.79	0.79	0.85	0.85	0.85		0.93	0.93	0.93		0.80	0.80	0.80
Percent Heavy Veh, %	4	4	4	2	2	2		3	3	3		4	4	4
Cap, veh/h	326	446	378	299	529	85		1028	1314	582		242	1060	326
Arrive On Green	0.19	0.41	0.41	0.04	0.17	0.17		0.30	0.38	0.38		0.05	0.07	0.07
Sat Flow, veh/h	1740	1827	1549	1774	3052	491		3408	3505	1551		1740	4988	1535
Grp Volume(v), veh/h	213	242	205	65	235	238		347	825	41		49	555	248
Grp Sat Flow(s),veh/h/ln	1740	1827	1549	1774	1770	1774		1704	1752	1551		1740	1663	1535
Q Serve(g_s), s	7.8	8.1	3.8	2.4	10.1	10.3		6.3	15.4	1.0		2.2	8.6	9.3
Cycle Q Clear(g_c), s	7.8	8.1	3.8	2.4	10.1	10.3		6.3	15.4	1.0		2.2	8.6	9.3
Prop In Lane	1.00		1.00	1.00		0.28		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	326	446	378	299	307	308		1028	1314	582		242	1060	326
V/C Ratio(X)	0.65	0.54	0.54	0.22	0.76	0.77		0.34	0.63	0.07		0.20	0.52	0.76
Avail Cap(c_a), veh/h	326	480	407	313	354	355		1028	1314	582		242	1060	326
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00		1.00	1.00	1.00		0.33	0.33	0.33
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	20.3	4.5	25.6	31.5	31.6		21.7	20.4	9.6		33.9	33.3	18.8
Incr Delay (d2), s/veh	4.3	1.0	1.2	0.4	8.4	9.0		0.2	2.3	0.2		0.4	1.9	15.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	4.2	1.7	1.2	5.7	5.8		3.0	7.9	0.5		1.1	4.1	5.3
LnGrp Delay(d),s/veh	25.3	21.3	5.6	26.0	39.9	40.5		21.9	22.7	9.8		34.3	35.1	34.1
LnGrp LOS	C	C	A	C	D	D		C	C	A		C	D	C
Approach Vol, veh/h		660			538				1213				852	
Approach Delay, s/veh		17.7			38.5				22.0				34.8	
Approach LOS		B			D				C				C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	34.0	7.4	23.5	28.1	21.0	13.0	17.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	9.0	30.0	4.0	21.0	22.0	17.0	9.0	16.0
Max Q Clear Time (g_c+I1), s	11.3	17.4	4.4	10.1	8.3	11.3	9.8	12.3
Green Ext Time (p_c), s	0.8	3.4	0.0	3.1	1.4	1.9	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	27.2
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	58	72	6	3	71	12	5	0	6	24	0	129
Conflicting Peds, #/hr	0	0	3	3	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	68	68	68	56	56	56	87	87	87
Heavy Vehicles, %	5	5	5	3	3	3	0	0	0	3	3	3
Mvmt Flow	72	90	8	4	104	18	9	0	11	28	0	148

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	122	0	0	98	0	0	435	370	97	366	365	116
Stage 1	-	-	-	-	-	-	239	239	-	122	122	-
Stage 2	-	-	-	-	-	-	196	131	-	244	243	-
Critical Hdwy	4.15	-	-	4.13	-	-	7.1	6.5	6.2	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.13	5.53	-
Follow-up Hdwy	2.245	-	-	2.227	-	-	3.5	4	3.3	3.527	4.027	3.327
Pot Cap-1 Maneuver	1447	-	-	1489	-	-	535	563	965	588	562	934
Stage 1	-	-	-	-	-	-	769	711	-	880	793	-
Stage 2	-	-	-	-	-	-	810	792	-	757	703	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1443	-	-	1485	-	-	429	531	963	555	530	932
Mov Cap-2 Maneuver	-	-	-	-	-	-	429	531	-	555	530	-
Stage 1	-	-	-	-	-	-	727	673	-	832	791	-
Stage 2	-	-	-	-	-	-	677	790	-	706	665	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0.3	11	10.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	615	1443	-	-	1485	-	-	842
HCM Lane V/C Ratio	0.032	0.05	-	-	0.003	-	-	0.209
HCM Control Delay (s)	11	7.6	0	-	7.4	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	53	0	45	0	0	0	30	32	0	0	46	55
Conflicting Peds, #/hr	1	0	1	1	0	1	2	0	1	1	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	95	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	92	92	92	66	66	66	63	63	63
Heavy Vehicles, %	8	8	8	2	2	2	7	7	7	80	80	80
Mvmt Flow	64	0	54	0	0	0	45	48	0	0	73	87

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	258	258	120	285	301	51	161	0	0	49	0	0
Stage 1	118	118	-	140	140	-	-	-	-	-	-	-
Stage 2	140	140	-	145	161	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.12	6.52	6.22	4.17	-	-	4.9	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.518	4.018	3.318	2.263	-	-	2.92	-	-
Pot Cap-1 Maneuver	683	636	916	667	612	1017	1388	-	-	1176	-	-
Stage 1	872	787	-	863	781	-	-	-	-	-	-	-
Stage 2	849	769	-	858	765	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	664	614	914	610	591	1014	1386	-	-	1174	-	-
Mov Cap-2 Maneuver	664	614	-	610	591	-	-	-	-	-	-	-
Stage 1	843	786	-	834	755	-	-	-	-	-	-	-
Stage 2	820	743	-	806	764	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	0	3.7	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1386	-	-	664	914	-	1174	-	-
HCM Lane V/C Ratio	0.033	-	-	0.096	0.059	-	-	-	-
HCM Control Delay (s)	7.7	0	-	11	9.2	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.2	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Vol, veh/h	0	27	30	33	938	669	14
Conflicting Peds, #/hr	1	2	2	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	80	80	84	84	84	88	88
Heavy Vehicles, %	19	19	4	4	4	4	4
Mvmt Flow	0	34	36	39	1117	760	16

Major/Minor	Minor2	Major1				Major2	
Conflicting Flow All	1367	394	600	778	0	-	0
Stage 1	770	-	-	-	-	-	-
Stage 2	597	-	-	-	-	-	-
Critical Hdwy	6.08	7.48	5.68	5.38	-	-	-
Critical Hdwy Stg 1	6.98	-	-	-	-	-	-
Critical Hdwy Stg 2	6.38	-	-	-	-	-	-
Follow-up Hdwy	3.99	4.09	2.34	3.14	-	-	-
Pot Cap-1 Maneuver	174	482	721	494	-	-	-
Stage 1	301	-	-	-	-	-	-
Stage 2	428	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	173	480	567	567	-	-	-
Mov Cap-2 Maneuver	173	-	-	-	-	-	-
Stage 1	300	-	-	-	-	-	-
Stage 2	427	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	567	-	480	-	-
HCM Lane V/C Ratio	0.132	-	0.07	-	-
HCM Control Delay (s)	12.3	-	13.1	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Volume (veh/h)	53	14	37	36	14	24	6	27	868	15	35	11
Number	7	4	14	3	8	18		5	2	12		1
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.98		0.97		0.99		0.98		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
Adj Sat Flow, veh/h/ln	1881	1881	1900	1792	1792	1900		1827	1827	1827		1827
Adj Flow Rate, veh/h	77	20	54	51	20	34		31	998	17		13
Adj No. of Lanes	1	1	0	1	1	0		1	2	1		1
Peak Hour Factor	0.69	0.69	0.69	0.71	0.71	0.71		0.87	0.87	0.87		0.85
Percent Heavy Veh, %	1	1	1	6	6	6		4	4	4		4
Cap, veh/h	233	40	109	195	48	81		241	1106	483		736
Arrive On Green	0.04	0.09	0.09	0.03	0.08	0.08		0.05	0.64	0.64		0.36
Sat Flow, veh/h	1792	441	1192	1707	586	996		1740	3471	1516		1740
Grp Volume(v), veh/h	77	0	74	51	0	54		31	998	17		13
Grp Sat Flow(s),veh/h/ln	1792	0	1633	1707	0	1581		1740	1736	1516		1740
Q Serve(g_s), s	0.0	0.0	3.5	0.0	0.0	2.6		1.0	19.6	0.3		0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.5	0.0	0.0	2.6		1.0	19.6	0.3		0.0
Prop In Lane	1.00		0.73	1.00		0.63		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	233	0	149	195	0	129		241	1106	483		736
V/C Ratio(X)	0.33	0.00	0.50	0.26	0.00	0.42		0.13	0.90	0.04		0.02
Avail Cap(c_a), veh/h	289	0	367	266	0	356		328	1432	625		736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		2.00	2.00	2.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	34.9	0.0	34.6	35.9	0.0	35.0		20.3	13.4	9.9		14.5
Incr Delay (d2), s/veh	0.8	0.0	2.6	0.7	0.0	2.2		0.2	11.8	0.1		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
%ile BackOfQ(50%),veh/ln	1.7	0.0	1.7	1.1	0.0	1.2		0.5	10.7	0.2		0.2
LnGrp Delay(d),s/veh	35.8	0.0	37.2	36.6	0.0	37.1		20.6	25.3	10.1		14.5
LnGrp LOS	D		D	D		D		C	C	B		B
Approach Vol, veh/h		151			105				1046			
Approach Delay, s/veh		36.4			36.9				24.9			
Approach LOS		D			D				C			

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.5	29.5	6.7	11.3	6.0	56.0	7.5	10.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	33.0	6.0	18.0	6.0	34.0	6.0	18.0
Max Q Clear Time (g_c+I1), s	2.0	21.6	2.0	5.5	3.0	9.2	2.0	4.6
Green Ext Time (p_c), s	1.6	3.9	0.1	0.2	0.0	3.5	0.1	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	19.6
HCM 2010 LOS	B

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Volume (veh/h)	601	28
Number	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.99
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827
Adj Flow Rate, veh/h	707	33
Adj No. of Lanes	2	1
Peak Hour Factor	0.85	0.85
Percent Heavy Veh, %	4	4
Cap, veh/h	2257	998
Arrive On Green	0.65	0.65
Sat Flow, veh/h	3471	1535
Grp Volume(v), veh/h	707	33
Grp Sat Flow(s),veh/h/ln	1736	1535
Q Serve(g_s), s	7.2	0.4
Cycle Q Clear(g_c), s	7.2	0.4
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	2257	998
V/C Ratio(X)	0.31	0.03
Avail Cap(c_a), veh/h	2257	998
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	6.1	1.7
Incr Delay (d2), s/veh	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.2
LnGrp Delay(d),s/veh	6.5	1.8
LnGrp LOS	A	A
Approach Vol, veh/h	753	
Approach Delay, s/veh	6.4	
Approach LOS	A	
Timer		

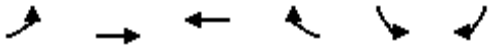
Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	65	15	16	106	12	123
Conflicting Peds, #/hr	0	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	68	68	83	83
Heavy Vehicles, %	4	4	0	0	4	4
Mvmt Flow	83	19	24	156	14	148

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	293	91	164	0	-	0
Stage 1	90	-	-	-	-	-
Stage 2	203	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.1	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.2	-	-	-
Pot Cap-1 Maneuver	694	961	1427	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	680	959	1426	-	-	-
Mov Cap-2 Maneuver	680	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	810	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1426	-	719	-	-
HCM Lane V/C Ratio	0.017	-	0.143	-	-
HCM Control Delay (s)	7.6	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	31	888	869	81	140	44
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881	1881	1900	1900	1900
Adj Flow Rate, veh/h	36	1045	945	88	149	47
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.85	0.85	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	1	1	1	1	0	0
Cap, veh/h	231	1674	1548	144	721	643
Arrive On Green	0.47	0.47	0.15	0.15	0.40	0.40
Sat Flow, veh/h	549	3668	3399	308	1810	1615
Grp Volume(v), veh/h	36	1045	511	522	149	47
Grp Sat Flow(s),veh/h/ln	549	1787	1787	1826	1810	1615
Q Serve(g_s), s	3.4	13.2	16.0	16.0	3.2	1.1
Cycle Q Clear(g_c), s	19.4	13.2	16.0	16.0	3.2	1.1
Prop In Lane	1.00			0.17	1.00	1.00
Lane Grp Cap(c), veh/h	231	1674	837	855	721	643
V/C Ratio(X)	0.16	0.62	0.61	0.61	0.21	0.07
Avail Cap(c_a), veh/h	257	1847	923	943	721	643
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.60	0.60	1.00	1.00
Uniform Delay (d), s/veh	20.5	12.0	20.3	20.3	11.8	11.2
Incr Delay (d2), s/veh	0.3	0.6	0.6	0.6	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.5	8.1	8.2	1.7	0.5
LnGrp Delay(d),s/veh	20.8	12.6	20.9	20.8	12.5	11.4
LnGrp LOS	C	B	C	C	B	B
Approach Vol, veh/h		1081	1033		196	
Approach Delay, s/veh		12.8	20.9		12.2	
Approach LOS		B	C		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				32.1		27.9		32.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				31.0		21.0		31.0
Max Q Clear Time (g_c+I1), s				21.4		5.2		18.0
Green Ext Time (p_c), s				6.7		0.7		8.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Volume (veh/h)	232	406	315	288	499	128	15	235	1000	97	21	96	1588	303
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		0.99	1.00		0.99		1.00		0.99		1.00		0.99
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	1881	1881	1881	1881	1881	1900		1881	1881	1881		1881	1881	1881
Adj Flow Rate, veh/h	286	501	389	303	525	135		253	1075	104		103	1708	326
Adj No. of Lanes	1	1	1	1	2	0		2	2	1		1	3	1
Peak Hour Factor	0.81	0.81	0.81	0.95	0.95	0.95		0.93	0.93	0.93		0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1		1	1	1		1	1	1
Cap, veh/h	315	502	423	240	750	192		348	1191	526		119	1541	475
Arrive On Green	0.09	0.35	0.35	0.07	0.27	0.27		0.10	0.33	0.33		0.07	0.30	0.30
Sat Flow, veh/h	1792	1881	1586	1792	2814	720		3476	3574	1577		1792	5136	1585
Grp Volume(v), veh/h	286	501	389	303	332	328		253	1075	104		103	1708	326
Grp Sat Flow(s),veh/h/ln	1792	1881	1586	1792	1787	1747		1738	1787	1577		1792	1712	1585
Q Serve(g_s), s	4.0	16.0	14.1	4.0	10.1	10.1		4.2	17.2	2.0		3.4	18.0	10.9
Cycle Q Clear(g_c), s	4.0	16.0	14.1	4.0	10.1	10.1		4.2	17.2	2.0		3.4	18.0	10.9
Prop In Lane	1.00		1.00	1.00		0.41		1.00		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	315	502	423	240	477	466		348	1191	526		119	1541	475
V/C Ratio(X)	0.91	1.00	0.92	1.26	0.70	0.70		0.73	0.90	0.20		0.86	1.11	0.69
Avail Cap(c_a), veh/h	315	502	423	240	477	466		348	1191	526		119	1541	475
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	19.3	18.7	21.0	19.8	19.9		26.2	19.1	7.0		27.7	21.0	18.5
Incr Delay (d2), s/veh	22.6	34.0	20.0	147.6	4.4	4.7		7.5	11.1	0.8		43.5	58.8	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	12.9	8.4	9.8	5.5	5.4		2.4	10.2	1.0		3.1	16.8	5.7
LnGrp Delay(d),s/veh	44.0	53.3	38.7	168.6	24.3	24.6		33.7	30.2	7.8		71.2	79.8	26.3
LnGrp LOS	D	D	D	F	C	C		C	C	A		E	F	C
Approach Vol, veh/h		1176			963				1432				2137	
Approach Delay, s/veh		46.2			69.8				29.2				71.2	
Approach LOS		D			E				C				E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	24.0	8.0	20.0	10.0	22.0	8.0	20.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	20.0	4.0	16.0	6.0	18.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	6.1	19.2	6.0	18.0	6.2	20.0	6.0	12.1
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.0	0.0	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	55.3
HCM 2010 LOS	E

Notes

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	205	124	0	0	116	42	3	3	0	10	1	186
Conflicting Peds, #/hr	2	0	2	2	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	63	63	63	75	75	75	92	92	92
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	266	161	0	0	184	67	4	4	0	11	1	202

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	251	0	0	161	0	0	1013	945	163	913	911	219
Stage 1	-	-	-	-	-	-	694	694	-	217	217	-
Stage 2	-	-	-	-	-	-	319	251	-	696	694	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1320	-	-	1430	-	-	219	264	887	256	276	826
Stage 1	-	-	-	-	-	-	436	447	-	790	727	-
Stage 2	-	-	-	-	-	-	697	703	-	435	447	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1318	-	-	1428	-	-	136	205	886	209	215	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	136	205	-	209	215	-
Stage 1	-	-	-	-	-	-	339	348	-	615	727	-
Stage 2	-	-	-	-	-	-	525	703	-	334	348	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.2	0	28.1	12.3
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	164	1318	-	-	1428	-	-	709
HCM Lane V/C Ratio	0.049	0.202	-	-	-	-	-	0.302
HCM Control Delay (s)	28.1	8.4	0	-	0	-	-	12.3
HCM Lane LOS	D	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.8	-	-	0	-	-	1.3

Intersection	
Int Delay, s/veh	4.8

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	105	0	43	0	0	0	49	48	0	0	52	105
Conflicting Peds, #/hr	0	1	0	3	3	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	95	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	92	92	92	63	63	63	25	25	25
Heavy Vehicles, %	3	3	3	3	2	2	2	0	0	0	0	0	0
Mvmt Flow	1	150	0	61	0	0	0	78	76	0	0	208	420

Major/Minor	Minor2				Minor1			Major1			Major2		
Conflicting Flow All	0	656	656	421	687	866	79	631	0	0	79	0	0
Stage 1	0	421	421	-	235	235	-	-	-	-	-	-	-
Stage 2	0	235	235	-	452	631	-	-	-	-	-	-	-
Critical Hdwy	-	7.13	6.53	6.23	7.12	6.52	6.22	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.527	4.027	3.327	3.518	4.018	3.318	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	377	384	630	361	291	981	961	-	-	1532	-	-
Stage 1	0	608	587	-	768	710	-	-	-	-	-	-	-
Stage 2	0	766	709	-	587	474	-	-	-	-	-	-	-
Platoon blocked, %	-								-	-		-	-
Mov Cap-1 Maneuver	0	352	350	628	304	265	979	961	-	-	1532	-	-
Mov Cap-2 Maneuver	0	352	350	-	304	265	-	-	-	-	-	-	-
Stage 1	0	555	586	-	701	648	-	-	-	-	-	-	-
Stage 2	0	701	647	-	530	473	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.3	0	4.6	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	961	-	-	352	628	-	1532	-	-
HCM Lane V/C Ratio	0.081	-	-	0.426	0.098	-	-	-	-
HCM Control Delay (s)	9.1	0	-	22.6	11.4	0	0	-	-
HCM Lane LOS	A	A	-	C	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.1	0.3	-	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Vol, veh/h	0	43	30	36	1353	2083	19
Conflicting Peds, #/hr	4	0	0	17	0	0	17
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	86	86	97	97	97	98	98
Heavy Vehicles, %	13	13	1	1	1	1	1
Mvmt Flow	0	50	31	37	1395	2126	19

Major/Minor	Minor2	Major1				Major2	
Conflicting Flow All	2833	1093	1616	2149	0	-	0
Stage 1	2139	-	-	-	-	-	-
Stage 2	694	-	-	-	-	-	-
Critical Hdwy	5.96	7.36	5.62	5.32	-	-	-
Critical Hdwy Stg 1	6.86	-	-	-	-	-	-
Critical Hdwy Stg 2	6.26	-	-	-	-	-	-
Follow-up Hdwy	3.93	4.03	2.31	3.11	-	-	-
Pot Cap-1 Maneuver	27	166	201	106	-	-	-
Stage 1	40	-	-	-	-	-	-
Stage 2	391	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	27	163	120	120	-	-	-
Mov Cap-2 Maneuver	27	-	-	-	-	-	-
Stage 1	40	-	-	-	-	-	-
Stage 2	390	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.6	3.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	120	-	163	-	-
HCM Lane V/C Ratio	0.567	-	0.307	-	-
HCM Control Delay (s)	68.3	-	36.6	-	-
HCM Lane LOS	F	-	E	-	-
HCM 95th %tile Q(veh)	2.8	-	1.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Volume (veh/h)	82	25	48	38	32	41	21	42	1255	36	110	27
Number	7	4	14	3	8	18		5	2	12		1
Initial Q (Qb), veh	0	0	0	0	0	0		0	0	0		0
Ped-Bike Adj(A_pbT)	0.96		0.95	0.96		0.95		1.00		0.98		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
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		1881	1881	1881		1881
Adj Flow Rate, veh/h	90	27	53	46	39	50		44	1321	38		28
Adj No. of Lanes	1	1	0	1	1	0		1	2	1		1
Peak Hour Factor	0.91	0.91	0.91	0.82	0.82	0.82		0.95	0.95	0.95		0.95
Percent Heavy Veh, %	0	0	0	0	0	0		1	1	1		1
Cap, veh/h	231	61	121	241	83	107		283	1512	661		546
Arrive On Green	0.04	0.11	0.11	0.04	0.11	0.11		0.11	0.42	0.42		0.25
Sat Flow, veh/h	1810	553	1086	1810	734	941		1792	3574	1563		1792
Grp Volume(v), veh/h	90	0	80	46	0	89		44	1321	38		28
Grp Sat Flow(s),veh/h/ln	1810	0	1639	1810	0	1675		1792	1787	1563		1792
Q Serve(g_s), s	0.0	0.0	4.1	0.0	0.0	4.5		0.0	30.4	1.3		0.0
Cycle Q Clear(g_c), s	0.0	0.0	4.1	0.0	0.0	4.5		0.0	30.4	1.3		0.0
Prop In Lane	1.00		0.66	1.00		0.56		1.00		1.00		1.00
Lane Grp Cap(c), veh/h	231	0	182	241	0	190		283	1512	661		546
V/C Ratio(X)	0.39	0.00	0.44	0.19	0.00	0.47		0.16	0.87	0.06		0.05
Avail Cap(c_a), veh/h	239	0	291	245	0	298		283	1787	782		546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00		1.00	1.00	1.00		1.00
Uniform Delay (d), s/veh	39.1	0.0	37.4	37.2	0.0	37.3		35.4	23.8	15.4		23.1
Incr Delay (d2), s/veh	1.1	0.0	1.7	0.4	0.0	1.8		0.3	7.3	0.2		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
%ile BackOfQ(50%),veh/ln	2.2	0.0	2.0	1.1	0.0	2.2		1.0	16.4	0.6		0.5
LnGrp Delay(d),s/veh	40.2	0.0	39.0	37.5	0.0	39.1		35.6	31.1	15.5		23.2
LnGrp LOS	D		D	D		D		D	C	B		C
Approach Vol, veh/h		170			135				1403			
Approach Delay, s/veh		39.6			38.6				30.8			
Approach LOS		D			D				C			

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.1	42.1	7.8	14.0	14.2	54.0	7.6	14.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	9.0	45.0	4.0	16.0	4.0	50.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	2.0	32.4	2.0	6.1	2.0	52.0	2.0	6.5
Green Ext Time (p_c), s	0.1	5.6	0.1	0.2	0.0	0.0	0.1	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	46.4
HCM 2010 LOS	D

Notes

User approved ignoring U-Turning movement.

Movement	SBT	SBR
Lane Configurations		
Volume (veh/h)	2006	78
Number	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		0.98
Parking Bus, Adj	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1881
Adj Flow Rate, veh/h	2112	82
Adj No. of Lanes	2	1
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	1	1
Cap, veh/h	1986	873
Arrive On Green	0.56	0.56
Sat Flow, veh/h	3574	1572
Grp Volume(v), veh/h	2112	82
Grp Sat Flow(s),veh/h/ln	1787	1572
Q Serve(g_s), s	50.0	2.2
Cycle Q Clear(g_c), s	50.0	2.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1986	873
V/C Ratio(X)	1.06	0.09
Avail Cap(c_a), veh/h	1986	873
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	20.0	9.4
Incr Delay (d2), s/veh	39.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	35.2	1.0
LnGrp Delay(d),s/veh	59.6	9.6
LnGrp LOS	F	A
Approach Vol, veh/h	2222	
Approach Delay, s/veh	57.3	
Approach LOS	E	
Timer		

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	193	36	39	229	189	159
Conflicting Peds, #/hr	2	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	76	76	93	93	96	96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	254	47	42	246	197	166

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	612	282	365	0	-	0
Stage 1	282	-	-	-	-	-
Stage 2	330	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	458	759	1199	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	438	758	1199	-	-	-
Mov Cap-2 Maneuver	438	-	-	-	-	-
Stage 1	767	-	-	-	-	-
Stage 2	700	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.5	1.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1199	-	469	-	-
HCM Lane V/C Ratio	0.035	-	0.642	-	-
HCM Control Delay (s)	8.1	0	25.5	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	4.4	-	-

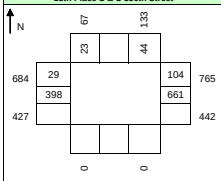
Attachment 2
2023 Traffic Volume Forecasts with and without Landmark Apartments

	Existing
Growth Rate =	3.0%
Existing Year =	2019
Future Year =	2023

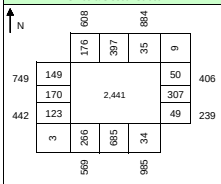
Enter	Exit	Total
58	85	143

2019 Existing

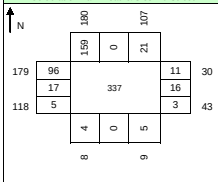
1 — 13th Place S & S 336th Street



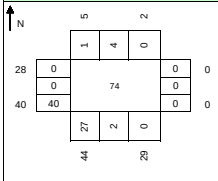
2 — SR 99 & S 336th Street



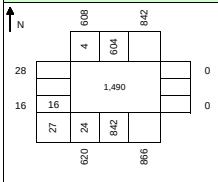
3 — Celebration Park Road & S 332nd Street



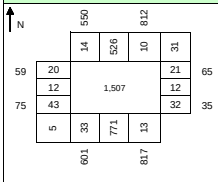
4 — 13th Place S & S 332nd Street



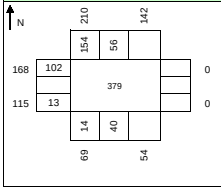
5 — SR 99 & S 332nd Street



6 — SR 99 & S 330th Street

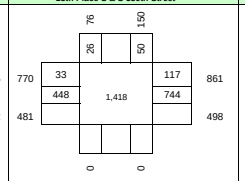


7 — Celebration Park Road & S 330th Street



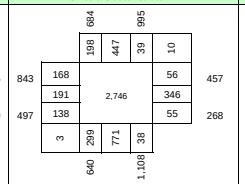
2023 Baseline

1 — 13th Place S & S 336th Street



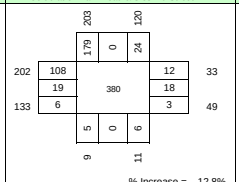
% Increase = #DIV/0!

2 — SR 99 & S 336th Street



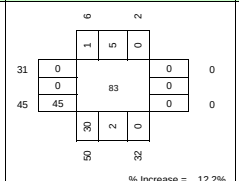
% Increase = 12.5%

3 — Celebration Park Road & S 332nd Street



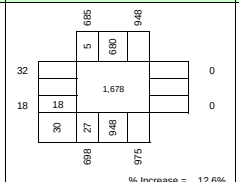
% Increase = 12.8%

4 — 13th Place S & S 332nd Street



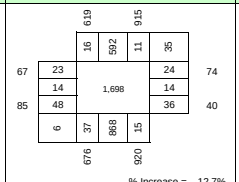
% Increase = 12.2%

5 — SR 99 & S 332nd Street



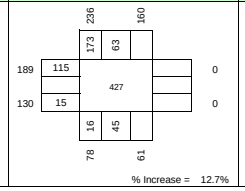
% Increase = 12.6%

6 — SR 99 & S 330th Street



% Increase = 12.7%

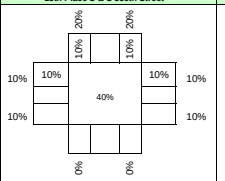
7 — Celebration Park Road & S 330th Street



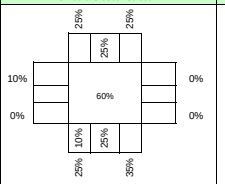
% Increase = 12.7%

Trip Distribution

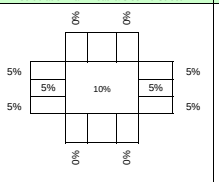
1 — 13th Place S & S 336th Street



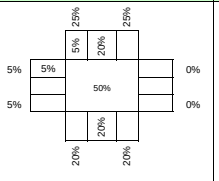
2 — SR 99 & S 336th Street



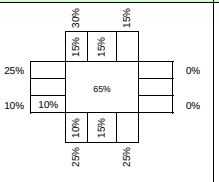
3 — Celebration Park Road & S 332nd Street



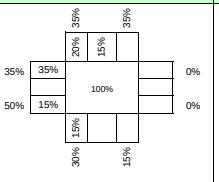
4 — 13th Place S & S 332nd Street



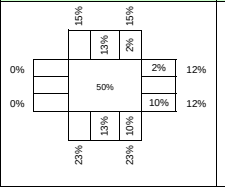
5 — SR 99 & S 332nd Street



6 — SR 99 & S 330th Street

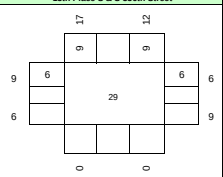


7 — Celebration Park Road & S 330th Street

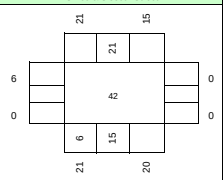


Project Trips

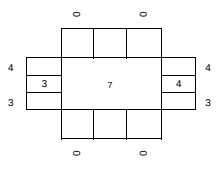
1 — 13th Place S & S 336th Street



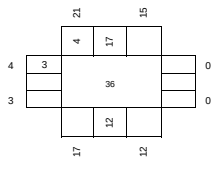
2 — SR 99 & S 336th Street



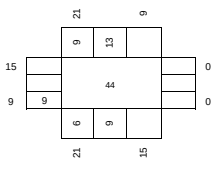
3 — Celebration Park Road & S 332nd Street



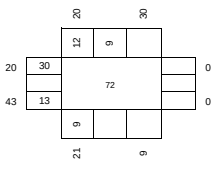
4 — 13th Place S & S 332nd Street



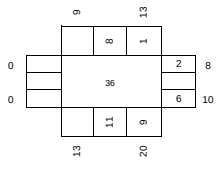
5 — SR 99 & S 332nd Street



6 — SR 99 & S 330th Street

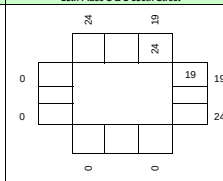


7 — Celebration Park Road & S 330th Street

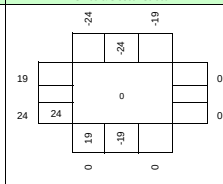


13th Place S Connection

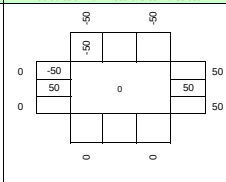
1 — 13th Place S & S 336th Street



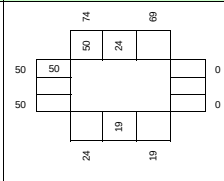
2 — SR 99 & S 336th Street



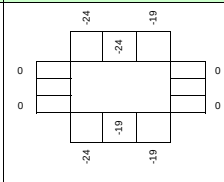
3 — Celebration Park Road & S 332nd Street



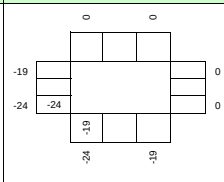
4 — 13th Place S & S 332nd Street



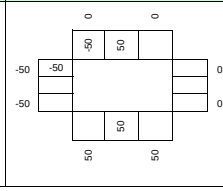
5 — SR 99 & S 332nd Street



6 — SR 99 & S 330th Street

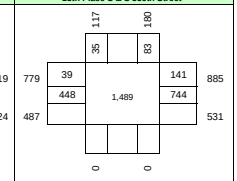


7 — Celebration Park Road & S 330th Street



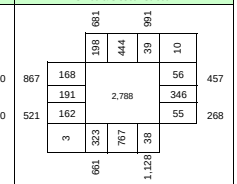
2021 With-Project

1 — 13th Place S & S 336th Street



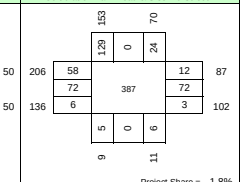
Project Share = 1.9%

2 — SR 99 & S 336th Street



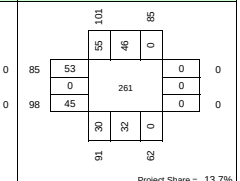
Project Share = 1.5%

3 — Celebration Park Road & S 332nd Street



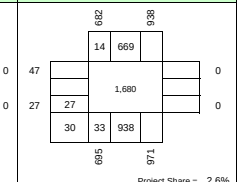
Project Share = 1.8%

4 — 13th Place S & S 332nd Street



Project Share = 13.7%

5 — SR 99 & S 332nd Street



Project Share = 2.6%

6 — SR 99 & S 330th Street

Project Share = 4.1%

7 — Celebration Park Road & S 330th Street

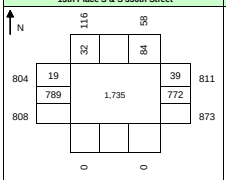
Project Share = 8.0%

	Existing
Growth Rate =	3.0%
Existing Year =	2019
Future Year =	2023

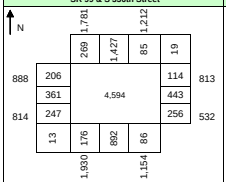
Enter	Exit	Total
95	75	170

2019 Existing

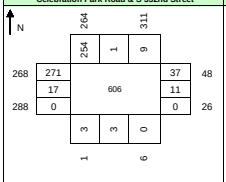
1 — 13th Place S & S 336th Street



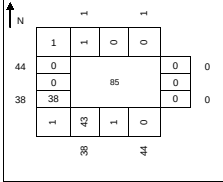
2 — SR 99 & S 336th Street



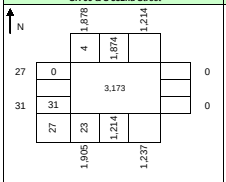
3 — Celebration Park Road & S 332nd Street



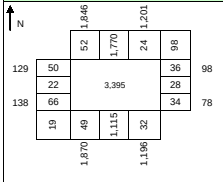
4 — 13th Place S & S 332nd Street



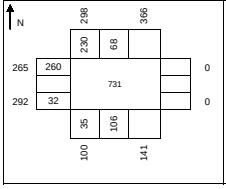
5 — SR 99 & S 332nd Street



6 — SR 99 & S 330th Street

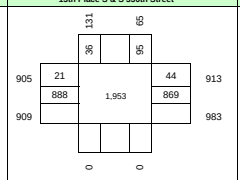


7 — Celebration Park Road & S 330th Street

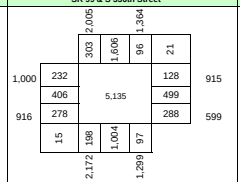


2023 Baseline

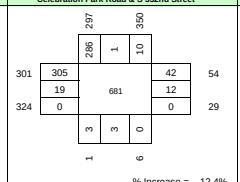
1 — 13th Place S & S 336th Street



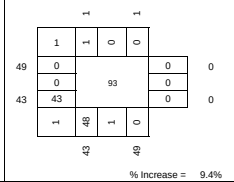
2 — SR 99 & S 336th Street



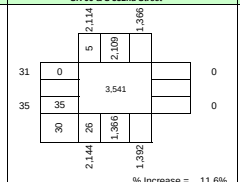
3 — Celebration Park Road & S 332nd Street



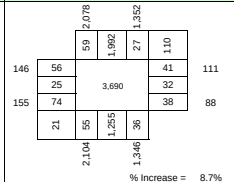
4 — 13th Place S & S 332nd Street



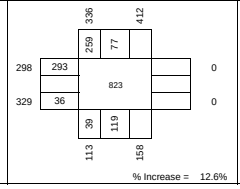
5 — SR 99 & S 332nd Street



6 — SR 99 & S 330th Street

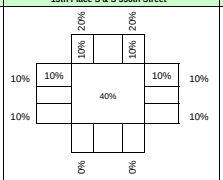


7 — Celebration Park Road & S 330th Street

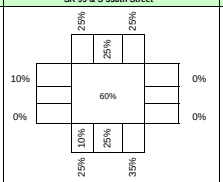


Trip Distribution

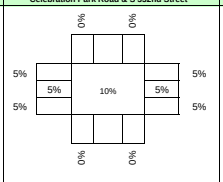
1 — 13th Place S & S 336th Street



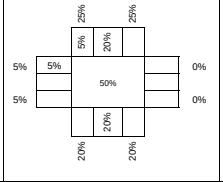
2 — SR 99 & S 336th Street



3 — Celebration Park Road & S 332nd Street



4 — 13th Place S & S 332nd Street



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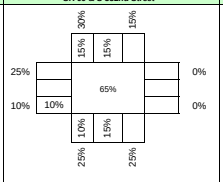
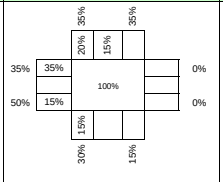
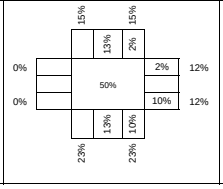


6 — SR 99 & S 330th Street

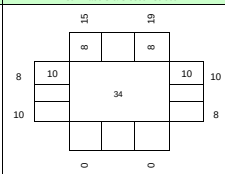


7 — Celebration Park Road & S 330th Street

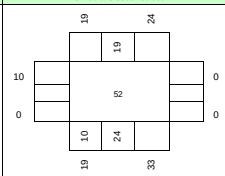


Project Trips

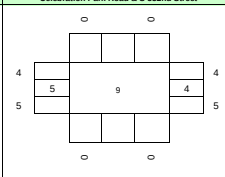
1 — 13th Place S & S 336th Street



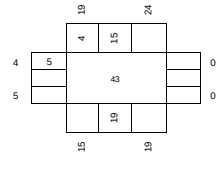
2 — SR 99 & S 336th Street



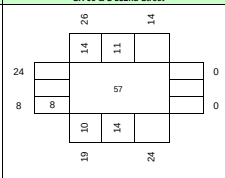
3 — Celebration Park Road & S 332nd Street



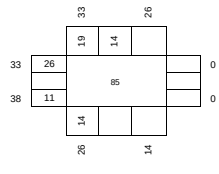
4 — 13th Place S & S 332nd Street



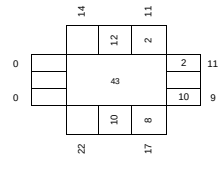
5 — SR 99 & S 332nd Street



6 — SR 99 & S 330th Street

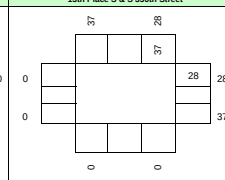


7 — Celebration Park Road & S 330th Street

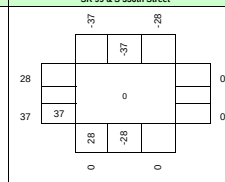


13th Place S Connection

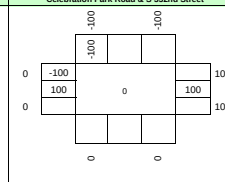
1 — 13th Place S & S 336th Street



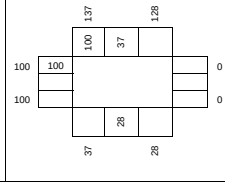
2 — SR 99 & S 336th Street



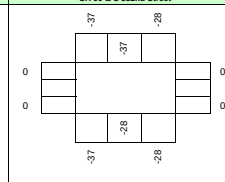
3 — Celebration Park Road & S 332nd Street



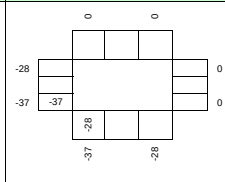
4 — 13th Place S & S 332nd Street



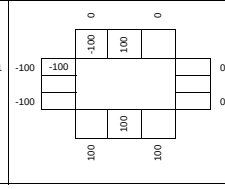
5 — SR 99 & S 332nd Street



6 — SR 99 & S 330th Street

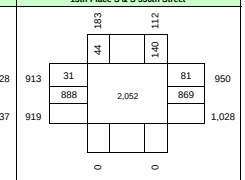


7 — Celebration Park Road & S 330th Street

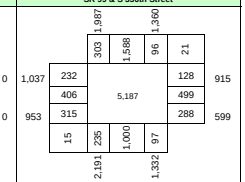


2021 With-Project

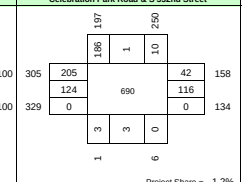
1 — 13th Place S & S 336th Street



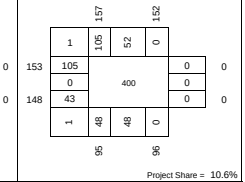
2 — SR 99 & S 336th Street



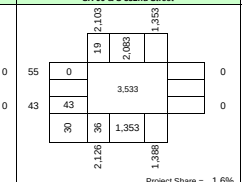
3 — Celebration Park Road & S 332nd Street



4 — 13th Place S & S 332nd Street



5 — SR 99 & S 332nd Street



6 — SR 99 & S 330th Street

7 — Celebration Park Road & S 330th Street

Attachment 3
Trip Generation Estimates

ITE Trip Generation, 10th Edition
Landmark Apartments, Federal Way, WA

		LU	AM Peak			PM Peak			Daily			
Proposed	**X**	**Code**	**Enter**	**Exit**	**Trips**	**Enter**	**Exit**	**Trips**	**Trips**	**Daily Rate**	**AM Rate**	**PM Rate**
Multifamily Housing (Mid-Rise)	235	221	22	63	85	63	40	103	1278	5.44	0.36	0.44
Daycare Center	10.2	565	70	42	112	55	59	114	487	47.62	11.00	11.12
On-Site Resident Reduction (50%)			*-35*	*-21*	*-56*	*-27*	*-30*	*-57*	*-244*			
Shopping Center (1,000 SF)	4.17	820	2	2	4	8	8	16	157	37.75	0.94	3.81
Retail Pass-By Reduction (34%)			*-1*	*-1*	*-2*	*-3*	*-3*	*-6*	*-53*			
Net Project Trip Generation			**58**	**85**	**143**	**95**	**75**	**170**	**1625**			