APPENDIX A

Scope of Work Meeting Form

PRE-SCOPE OF WORK MEETING FORM

Information on the Project
Traffic Impact Analysis Base Assumptions

The applicant is responsible for entering the relevant information and submitting the form to VDOT and the locality no less than three (3) business days prior to the meeting. If a form is not received by this deadline, the scope of work meeting may be postponed.

Contact Information				
Consultant Name: Tele: E-mail:	William F. Johnson - Wells + Associates, Inc. (703) 365-9262 WFJohnson@wellsandassociates.com			
Developer/Owner Name: Tele: E-mail:	Christopher P. Bell - Hekemian & Co. (410) 626-9607 cbell@hekemian.com			
Project Information				
Project Name:	Maple Avenue Apartments/Safeway	Locality/County:	Town of Vienna	
Project Location: (Attach regional and site specific location map)	The subject site is located in the northeast quadrant of the Nutley Street and Maple Avenue intersection (assuming Maple Avenue runs in a north/south direction) (See ATTACHMENT I).			
Submission Type	Comp Plan ☐	Rezoning ☒	Site Plan ☐	Subd Plat ☐
Project Description: (Including details on the land use, acreage, phasing, access location, etc. Attach additional sheet if necessary)	The approximately 2.76 acre site is zoned C-1 (Local Commercial) per the Town of Vienna's Zoning Ordinance and is comprised of Fairfax County 2016 Tax Map parcels 38-3 ((2)) 139, 140 & 141. The site is currently developed with a 119 room hotel and a 3,500 gross square foot (GSF) sit down restaurant. Access to/from the site is currently provided via a right-in/right-out entrance along Nutley Street and a right-in/right-out entrance and a full movement entrance along Maple Avenue. The applicant proposes to rezone the site to the Maple Avenue Commercial ("MAC") district and redevelop with a mixed-use building comprised of an approximately 51,190 GSF grocery store, 5,482 GSF additional retail uses, and approximately 152 multifamily dwelling units. The Applicant proposes to retain existing site access with the exception of closing the existing right-in/right-out along Maple Avenue. A conceptual layout is provided as ATTACHMENT II.			
Proposed Use(s): (Check all that apply; attach additional pages as necessary)	Residential ☐	Commercial ☐	Mixed Use ☒	Other ☐

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

	Residential Uses(s) Number of Units: 152 ITE LU Code(s): 220 (Apartment) **Commercial Use(s)** ITE LU Code(s): 850 (Supermarket) 826 (Specialty Retail) Square Ft or Other Variable:		. 51,190 (Grocery) 5,482 (Retail) **Other Use(s)** ITE LU Code(s): (A preliminary trip generation analysis is provided as ATTACHMENT III) Independent Variable(s):	
Total Peak Hour Trip Projection:	Less than 100 ☐	100 – 499 ☒	500 – 999 ☐	1,000 or more ☐

Traffic Impact Analysis Assumptions

Study Period	Existing Year: 2016	Build-out Year: 2022	Design Year: 2028
Study Area Boundaries (Attach map)	North: Courthouse Road/Lawyers Road	South: James Madison Drive	
	East: Roland Street	West: Windover Avenue	
External Factors That Could Affect Project (Planned road improvements, other nearby developments)	No planned/programmed roadway improvements have been identified in the vicinity of the subject site. A list of other approved but undeveloped projects (i.e., "pipeline" developments) will include build-out of the Marco Polo site and the Flagship Car Wash site.		
Consistency With Comprehensive Plan (Land use, transportation plan)	The subject site is zoned C-1 (Local Commercial) per the Town of Vienna's Zoning Ordinance. Due to the site's location, future development of the property is recommended in accordance with the Maple Avenue Commercial (MAC) Zone as outlined in the Town's Zoning Ordinance. The MAC Zone envisions compact, mixed use, and pedestrian oriented development.		
Available Traffic Data (Historical, forecasts)	2014 VDOT Traffic Count Data: Maple Avenue West (Route 123): 33,000 vehicles per day (vpd) Nutley Street (Route 243): 18,000 vpd		
Trip Distribution (Attach sketch)	Road Name: 25% to/from north on Maple Avenue	Road Name: 30% to/from south on Maple Avenue	
	Road Name: 15% to/from west on Nutley Street	Road Name: 30% to/from east on Nutley Street (See ATTACHMENT IV)	
Annual Vehicle Trip Growth Rate:	1%	Peak Period for Study (check all that apply)	☒ AM ☒ PM ☒ SAT
		Peak Hour of the Generator	See ATTACHMENT III

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

<table>
<tr><td rowspan="5">Study Intersections and/or Road Segments
(Attach additional sheets as necessary)</td><td>1.Maple Avenue West/Nutley Street</td><td>6.Nutley Street/Site Entrance (right-in/right-out)</td></tr>
<tr><td>2.Maple Avenue/Courthouse Road/Lawyers Road</td><td>7.Nutley Street/Windover Avenue *(from Flagship Study)</td></tr>
<tr><td>3.Nutley Street/Roland Street SW</td><td>8.Maple Avenue/James Madison Drive *(from Flagship Study)</td></tr>
<tr><td>4.Maple Avenue West/Site Entrance (right-in/right-out)</td><td>9.</td></tr>
<tr><td>5.Maple Avenue West/Site Entrance (full movement)</td><td>10.</td></tr>
<tr><td>Trip Adjustment Factors</td><td colspan="2">Internal allowance: ☒ Yes ☐ No
Reduction: 5% AM / 10% PM / 15% ADT % trips
Pass-by allowance: ☒ Yes ☐ No
Reduction: 35 (grocery/retail)% trips</td></tr>
<tr><td>Software Methodology</td><td colspan="2">☒ Synchro ☐ HCS (v.2000/+) ☐ aaSIDRA ☐ CORSIM ☐ Other _____</td></tr>
<tr><td>Traffic Signal Proposed or Affected
(Analysis software to be used, progression speed, cycle length)</td><td colspan="2">Maple Avenue/Nutley Street (Existing Signal)
Maple Avenue/Courthouse Road/Lawyers Road (Existing Signal)
Future conditions analysis will include HAWK signal at Maple Avenue/James Madison Drive including the restriction of left-out on to Maple Avenue.

Note: Existing and pending future signal timings will be provided by the Town and utilized as appropriate as well as included for reference as an appedix to the report.</td></tr>
<tr><td>Improvement(s) Assumed or to be Considered</td><td colspan="2">No planned/programmed roadway improvements have been identified in the vicinity of the subject site.
Any potential improvements necessary to mitigate the traffic impacts of the proposed development will be identified and evaluated in the report.</td></tr>
<tr><td>Background Traffic Studies Considered</td><td colspan="2">Any traffic studies previously conducted for pipeline projects in the vicinity will be utilized, as may be appropriate. Known area traffic studies to be utilized include:
-245 Maple Avenue West (Marco Polo)
-540 Maple Avenue West (Flagship Car Wash)</td></tr>
<tr><td>Plan Submission</td><td colspan="2">☐ Master Development Plan (MDP) ☒ Generalized Development Plan (GDP)
☐ Preliminary/Sketch Plan ☐ Other Plan type (Final Site, Subd. Plan)</td></tr>
<tr><td>Additional Issues to be Addressed</td><td colspan="2">☒ Queuing analysis ☐ Actuation/Coordination ☐ Weaving analysis
☐ Merge analysis ☒ Bike/Ped Accommodations ☒ Intersection(s)
☒ TDM Measures ☐ Other _____</td></tr>
</table>

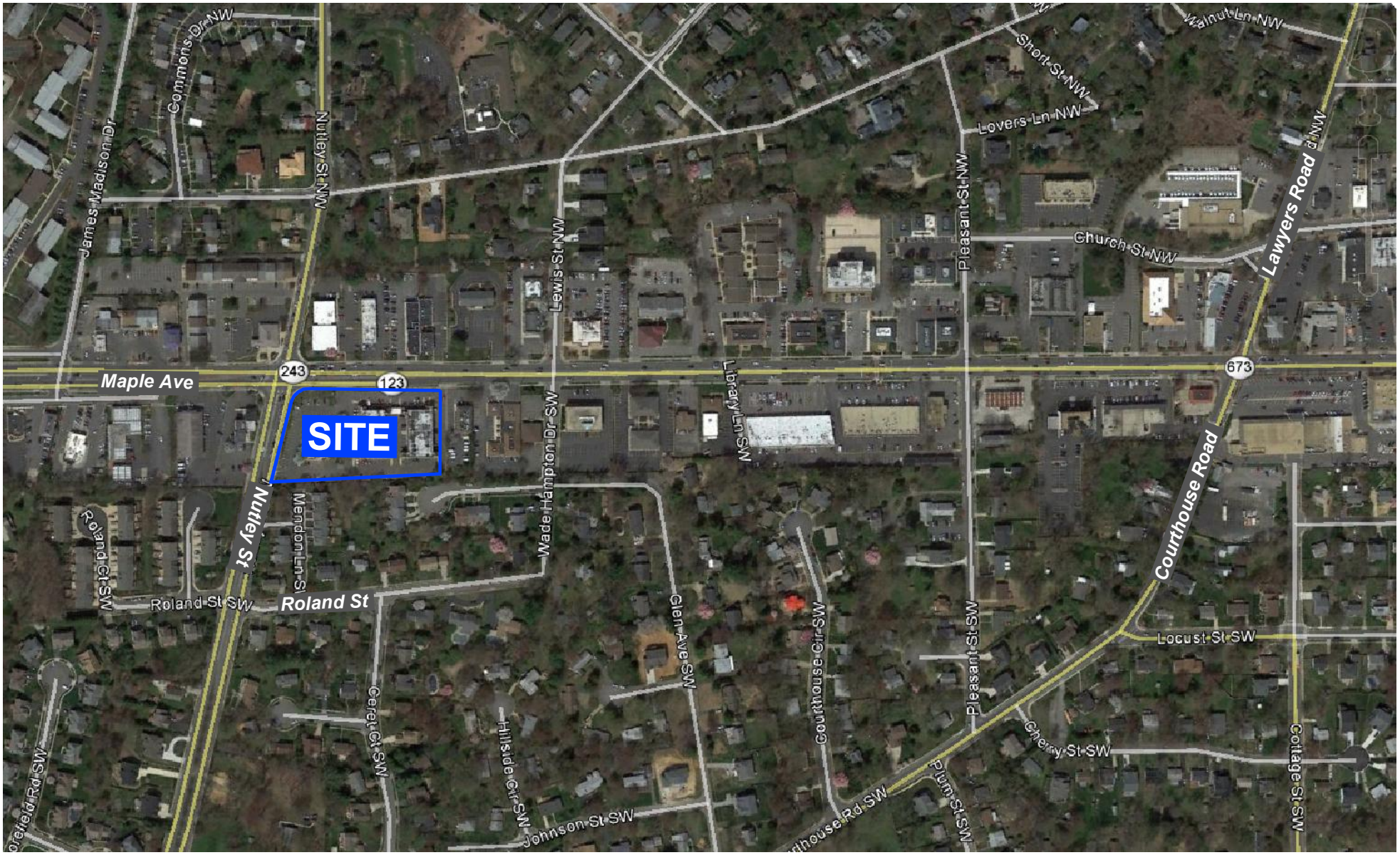
NOTES on ASSUMPTIONS:

1. Synchro 9.1 will be used to conduct capacity analysis with peak hour factors measured in the field. The field measured PHF s will be adjusted to 0.85 < PHF < 0.92 under existing conditions. A default PHF of 0.92 will be

applied for all future conditions. Existing Heavy Vehicle % (HV) data will be collected and the greater of collected HV and 2% will be used for all movements. Specific Synchro parameters will be applied to the model consistent with the VDOT Traffic Operations and Safety Analysis Manual (TOSAM), version 1.0.
2. Pass-by pecentage consistent with the ITE Trip Generation Handbook 2nd edition.
3. Potential Transportation Demand Management (TDM) strategies will be evaluated and documented in the study, as appropriate.
4. Intersection traffic counts will include vehicles, pedestrians and bicycles.
5. The trip generation analysis will document both the "peak hour of the generator" and "peak hour of adjacent street" trips.
6. Existing and future intersection analyses will include vehicle, pedestrian, and bicycle volumes.
7. Existing signal timings as provided by the Town will be utilized for existing and background scenarios. Future optimized signal timings, also provided by the Town will be utilized for future scenarios. Included in these timings will be consideration of gap acceptance for left turns in and out of Maple Avenue site entrance.
8. Site distributions may be adjusted based on data collected at subject intersections.
9. Turn lane warrant analyses will be performed at the site entrances.

SIGNED: _____ DATE: _____
Applicant or Consultant

PRINT NAME: _____
Applicant or Consultant

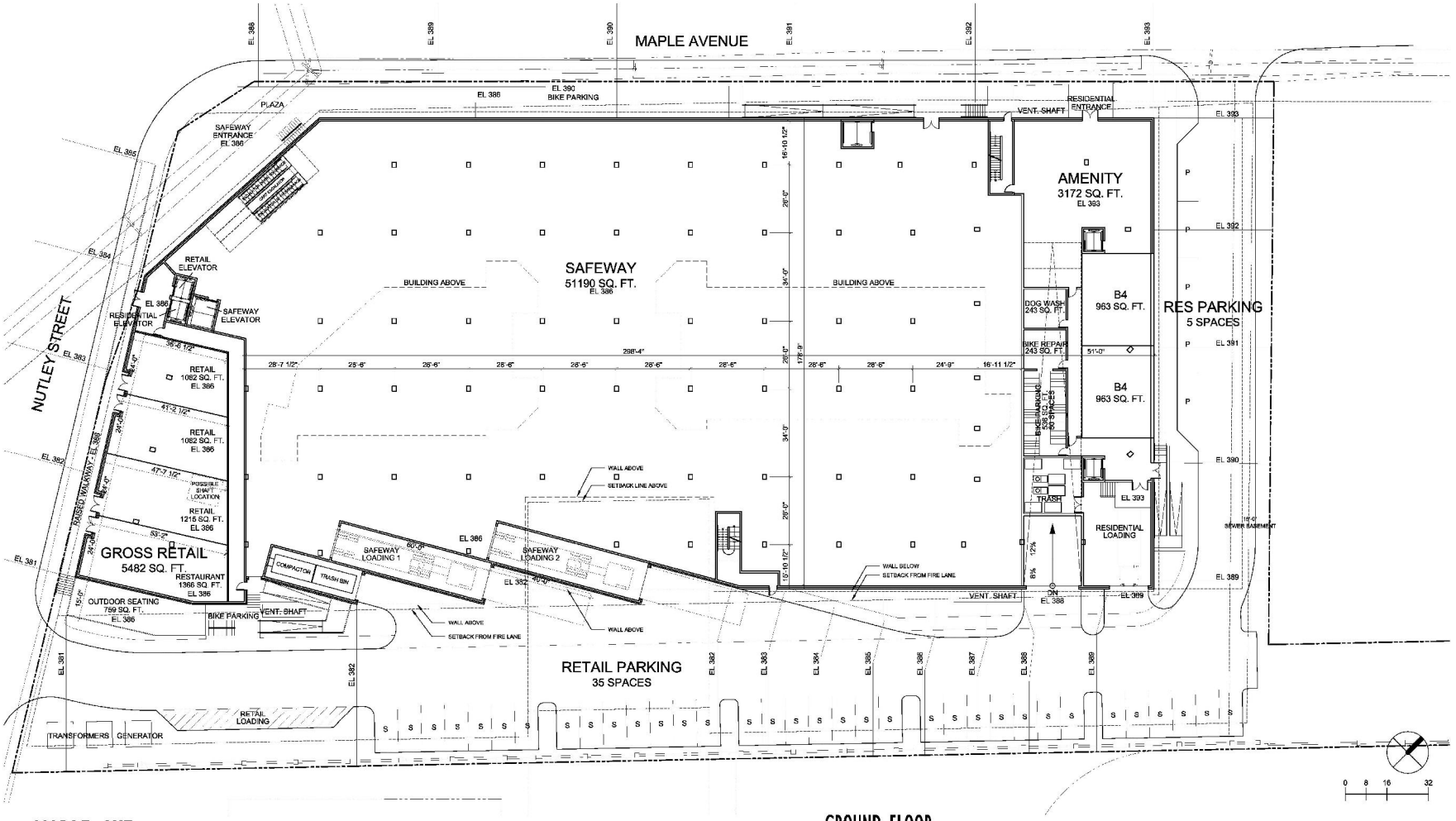


Attachment I
Site Location

North

Maple Avenue Grocery
Town of Vienna, Virginia

Wells + Associates, Inc.



MAPLE AVE

HEKEMIAN

GROUND FLOOR

VIENNA, VA

KTGY # 2014-6939 03.29.2016

KTGY Group, Inc.
Architecture+Planning
8605 Westwood Ctr. Dr., Suite 300
Tysons Corner, VA 22182
703.992.6116
ktgy.com

Attachment II
Ground Floor Layout

North

Attachment III
Maple Avenue & Nutley Street
Trip Generation Comparison Summary -Peak Hour of Generator [1]

Land Use	Land Use Code	Size	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Average Daily Trips
Original Land Use										
High-Turnover Restaurant	932	3,500	SF	25	22	47	36	29	65	**446**
Hotel	310	119	Rooms	36	30	66	43	30	73	**692**
		Original Trips		**61**	**52**	**113**	**79**	**59**	**138**	**1,138**
Proposed Program										
Supermarket	850	51,190	SF	188	174	362	223	206	429	4,819
Apartment	220	152	DU	25	60	85	65	41	106	1,045
Specialty Retail	826	5,482	SF	69	74	143	16	12	28	272
		Proposed New Trips		**282**	**308**	**590**	**304**	**259**	**563**	**6,136**
Total Different Between Proposed and Approved New Trips (Proposed - Approved)				**221**	**256**	**477**	**225**	**200**	**425**	**4,998**

Notes:

(1) Trip generation based on the Institute of Transportation Engineer's Trip Generation Manual, 9th Edition.

Wells + Associates, Inc.
Manassas, Virginia

Attachment IV
Intersection Locations and Site Distributions

(XX) Study Intersection

XX% Site Trip Distributions

North

Maple Avenue Grocery
Town of Vienna, Virginia

Wells + Associates, Inc.

Maple Avenue Grocery, Scoping Meeting Date: 4/19/16

SCOPE OF WORK MEETING CONCLUSIONS

ADDITIONS TO THE VDOT REQUIRED ELEMENTS, CHANGES TO THE METHODOLOGY OR STANDARD ASSUMPTIONS, AND SIGNATURE PAGE

Any additions to the VDOT Required Elements or changes to the Methodology or Standard Assumptions due to special circumstances that are approved by VDOT:

The applicant will contact VDOT and the locality prior to the preparation of the traffic impact analysis study in the event there are any substantial changes in the existing conditions that will affect the scope of the study.

AGREED: _____ DATE: 5/2/2016
Applicant or Consultant

PRINT NAME: Brian J. Horan
Applicant or Consultant

SIGNED: _____ DATE: 05/09/2016
VDOT Representative

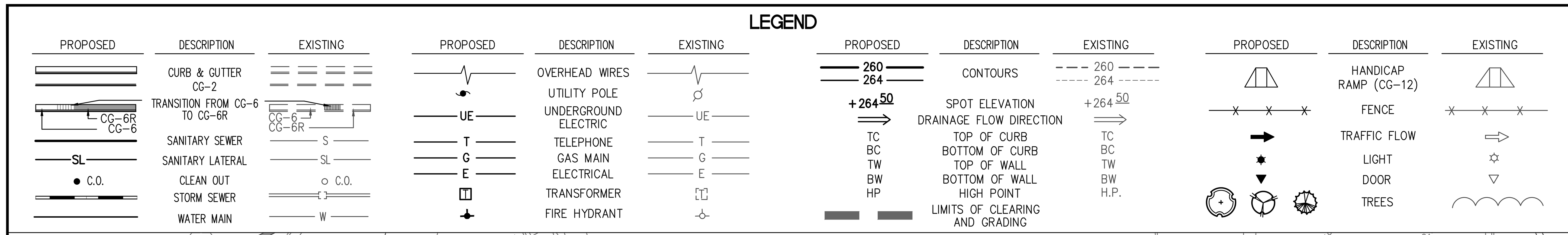
PRINT NAME: Alex Faghri
VDOT Representative

SIGNED: _____ DATE: 5/5/16
Local Government Representative

PRINT NAME: Michael Galbraith
Local Government Representative

APPENDIX B

Full-size CDP Layout



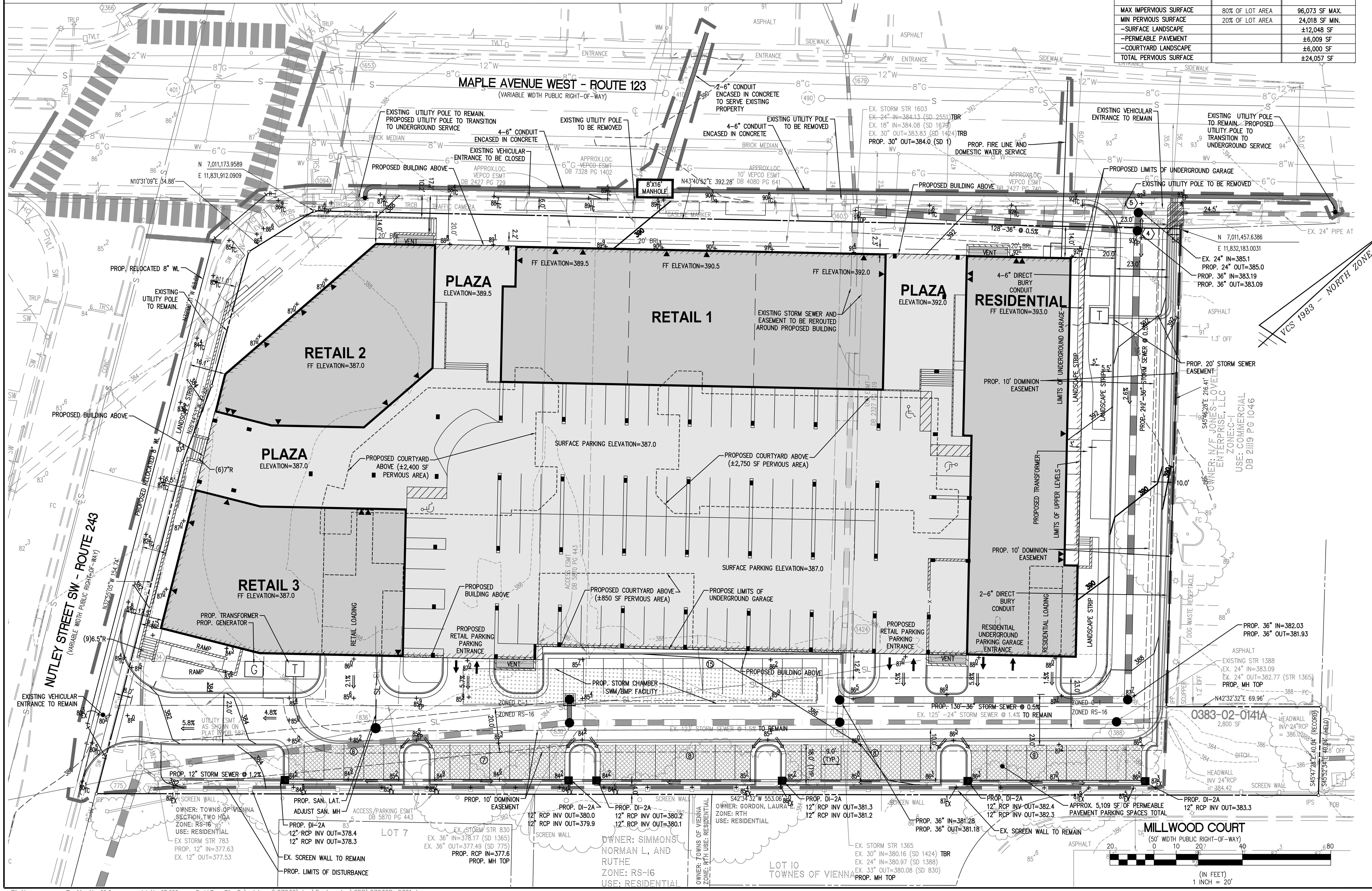
NOTES

1. THE PROPERTY IS DESIGNATED BY FAIRFAX COUNTY, VIRGINIA, AS HAVING TAX ASSESSMENT MAP NUMBERS 0383-02-0139, ZONED C-1, 0383-02-0140, 0383-02-0141, ZONED C-1 AND RS-16, AND 0383-02-141A, ZONED RS-16.
2. TOTAL COMPUTED AREA OF THE PROPERTY IS 120,091 SQUARE FEET OR 2.7569 ACRES. TOTAL RECORD AREA OF THE PROPERTY IS 120,470 SQUARE FEET OR 2.7656 ACRES.
3. THE FINISHED LOT GRADE IS 387.05

ZONING TABULATION

PROPOSED ZONE: MAPLE AVENUE COMMERCIAL (MAC)

	MAC Z.O. REQUIREMENT	PROVIDED
LOT AREA:	NONE	120,091 SF (2.76 AC)
YARD REQUIREMENTS:		
FRONT YARDS ON MAPLE	20' TO FACE OF CURB	67 FT
FRONT YARDS ON SIDE STREETS	11' TO FACE OF CURB	15 FT
SIDE: (RES.)	8 FT	40 FT
MAX IMPERVIOUS SURFACE	80% OF LOT AREA	96,073 SF MAX.
MIN PERVIOUS SURFACE	20% OF LOT AREA	24,018 SF MIN.
-SURFACE LANDSCAPE		±12,048 SF
-PERMEABLE PAVEMENT		±6,009 SF
-COURTYARD LANDSCAPE		±6,000 SF
TOTAL PERVIOUS SURFACE		±24,057 SF



CONCEPT PLAN

444 MAPLE AVENUE

CONCEPTUAL DEVELOPMENT PLAN

TOWN OF VIENNA, VIRGINIA

WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945
Engineers • Surveyors • Planners
Landscape Architects • Arborists
207 PARK AVENUE
FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301
www.WLPINC.com

ADVANCE COPY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

SCALE: DATE: DRAWN: CHECKED:

SHEET: P-0301

File No. __-__ Tax Map No. 00-0 Job No. 07-036 Cadd Dwg. File: Q:\sdskproj\07036\dwg\Engineering\CDP\07036P-0301.dwg

APPENDIX C

Levels of Service Descriptions

Level of Service for Signalized Intersections

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average stopped delay per vehicle for a 15-min analysis period. The criteria are given in Exhibit 16-2. Delay may be measured in the field or estimated using procedures presented later in this chapter. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the *v/c* ratio for the lane group in question.

LOS A describes operations with very low delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.

Exhibit 16-2. Level-of-Service Criteria for Signalized Intersections

LEVEL OF SERVICE	STOPPED DELAY PER VEHICLE (SEC)
A	$\leq$10.0
B	> 10.0 and $\leq$20.0
C	> 20.0 and $\leq$ 35.0
D	> 35.0 and $\leq$ 55.0
E	> 55.0 and $\leq$ 80.0
F	>80.0

LOS C describes operations with delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: Highway Capacity Manual, 2000. Transportation Research Board, National Research Council

Level of Service Criteria for Stop Sign Controlled Intersections

The level of service criteria are given in Table 17-2. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in queue.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. . . .

Table 17-2. Level of Service Criteria for TWSC Intersections

LEVEL OF SERVICE	AVERAGE CONTROL DELAY (sec/veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Average total delay less than 10 sec/veh is defined as Level of Service (LOS) A. Follow-up times of less than 5 sec have been measured when there is no conflicting traffic for a minor street movement, so control delays of less than 10 sec/veh are appropriate for low flow conditions. To remain consistent with the AWSC intersection analysis procedure described later in this chapter, a total delay of 50 sec/veh is assumed as the break point between LOS E and F.

The proposed level of service criteria for TWSC intersections are somewhat different from the criteria used in Chapter 16 for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, several driver behavior considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, where drivers on the minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized than signalized intersections. For these reasons, it is considered that the total delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. . . .

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches. The method, however, is based on a constant critical gap size - that is, the critical gap remains constant, no matter how long the side street motorist waits. LOS F may also appear in the form of side street vehicles' selecting smaller-than-usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior. The latter is more difficult to observe on the field than queueing, which is more obvious.

Source: Highway Capacity Manual, 2000. Transportation Research Board, National Research Council

APPENDIX D

Bus Schedule Information

Vienna Metro Station (North side)	Chain Bridge Rd & James Madison Dr	White Granite Dr & Flagpole Ln	Vienna Metro Station (North side)
Weekday – AM Counterclockwise Service			
5:05	5:12	5:19	5:28
5:35	5:42	5:49	5:58
6:05	6:12	6:19	6:28
6:35	6:44	6:53	7:02
7:00	7:09	7:18	7:27
7:25	7:34	7:43	7:52
7:45	7:57	8:06	8:15
8:15	8:23	8:32	8:41
8:30	8:39	8:48	8:57
9:00	9:07	9:16	9:25
9:25	9:32	9:41	9:50
9:55	10:02	10:11	10:20
10:25	10:32	10:41	10:50
11:00	11:07	11:16	11:25
11:30	11:37	11:46	11:55

Vienna Metro Station (North side)	White Granite Dr & Flagpole Ln	Chain Bridge Rd & James Madison Dr	Vienna Metro Station (North side)
Weekday – PM Clockwise Service			
1:30	1:44	1:50	1:54
2:05	2:19	2:25	2:29
2:40	2:54	3:00	3:04
3:25	3:36	3:46	3:51
3:55	4:06	4:16	4:21
4:20	4:31	4:41	4:46
4:45	4:56	5:06	5:11
5:10	5:21	5:31	5:36
5:35	5:46	5:56	6:01
6:00	6:11	6:21	6:26
6:25	6:36	6:46	6:51
6:50	7:00	7:08	7:13
7:15	7:25	7:33	7:38
7:45	7:54	8:02	8:07
8:20	8:28	8:35	8:41

- **Use exact fare; drivers do not carry change.**
- **Smoking, eating, drinking, and littering are strictly prohibited.**
- **Strollers must be folded.**
- **Use earphones with audio and video devices.**
- **Service animals are permitted on the bus. Other small animals are permitted only if transported in a closed pet carrier.**

All Fairfax Connector buses are wheelchair accessible.

466

Effective March 18, 2017

Vienna – Oakton

Vienna Metro Station • Chain Bridge Rd • James Madison High School • Blake Ln • Nutley St • Oakton High School

Weekday Service Only

FAIRFAX CONNECTOR

For fares and important information about the bus system, see the brochure:

Fares, Policies & General Information

www.fairfaxconnector.com

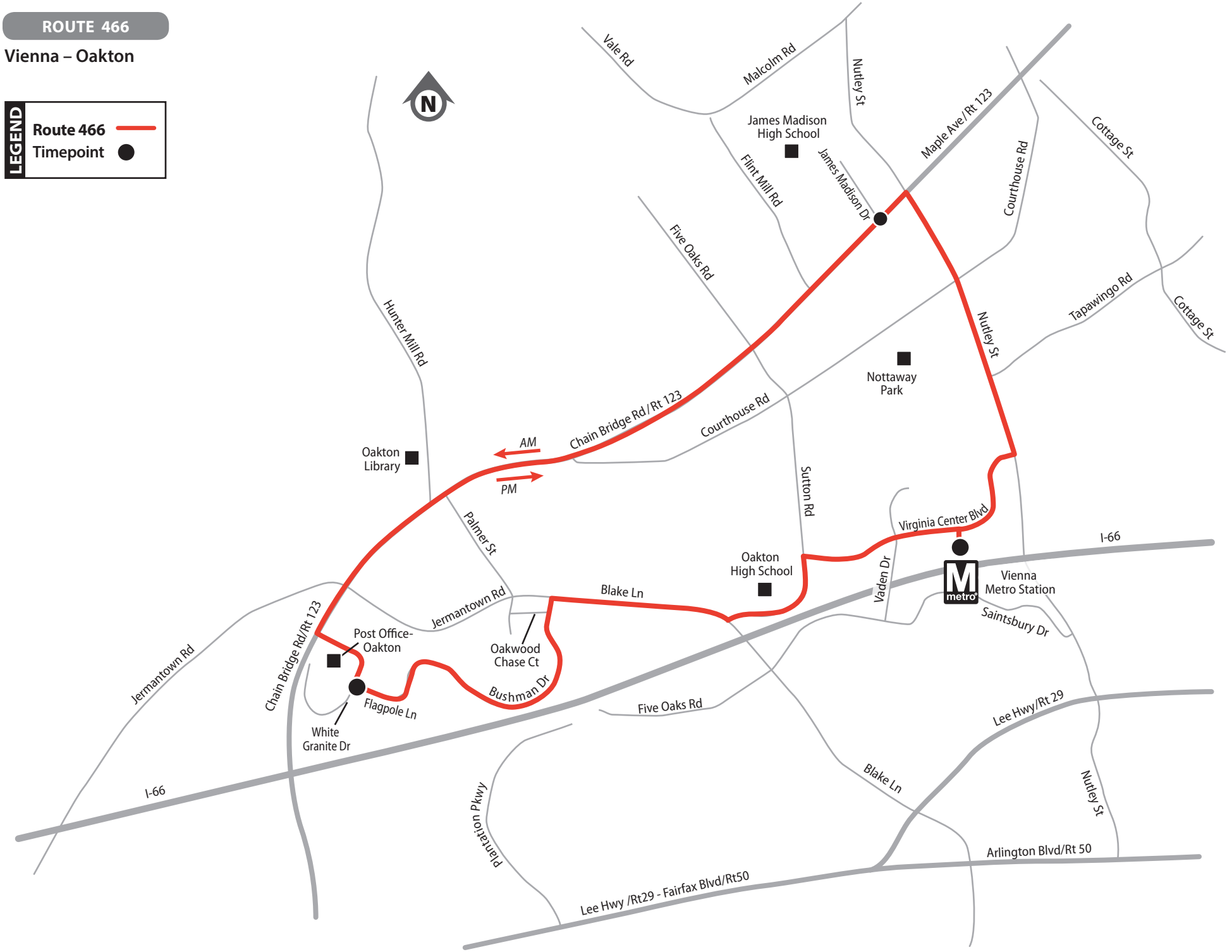
703-339-7200 • TTY 703-339-1608

/fairfaxconnector **@ffxconnector**

466_0217

ROUTE 466

Vienna – Oakton



Weekday – AM Rush Service

Vienna Metro Station (North side)	Chain Bridge Rd & James Madison Dr	Lawyers Rd & Lewis St	Park St & Elmar St	Vienna Metro Station (North side)
5:32	5:37	5:43	5:50	5:56
6:02	6:07	6:13	6:20	6:26
6:35	6:42	6:49	6:57	7:04
7:09	7:15	7:22	7:30	7:37
7:34	7:40	7:47	7:55	8:02
7:58	8:04	8:11	8:18	8:25
8:24	8:29	8:37	8:44	8:51
8:49	8:54	9:01	9:08	9:15

Weekday – PM Rush Service

Vienna Metro Station (North side)	Chain Bridge Rd & James Madison Dr	Lawyers Rd & Lewis St	Park St & Elmar St	Vienna Metro Station (North side)
4:00	4:10	4:16	4:22	4:31
4:30	4:40	4:46	4:52	5:01
4:55	5:04	5:12	5:18	5:26
5:20	5:29	5:37	5:43	5:51
5:45	5:54	6:02	6:08	6:16
6:10	6:19	6:27	6:33	6:41
6:35	6:43	6:50	6:57	7:05
7:00	7:08	7:14	7:21	7:29
7:31	7:39	7:45	7:52	8:00

- **Use exact fare; drivers do not carry change.**
- **Smoking, eating, drinking, and littering are strictly prohibited.**
- **Strollers must be folded.**
- **Use earphones with audio and video devices.**
- **Service animals are permitted on the bus. Other small animals are permitted only if transported in a closed pet carrier.**

All Fairfax Connector buses are wheelchair accessible.

461

Effective March 18, 2017

Flint Hill – Vienna

Vienna Metro Station • Nutley St • Flint Hill Rd • James Madison High School • Park St • Tapawingo Rd

Weekday Rush Hour Service Only

FAIRFAX CONNECTOR

For fares and important information about the bus system, see the brochure:

Fares, Policies & General Information

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/fairfaxconnector **@ffxconnector**

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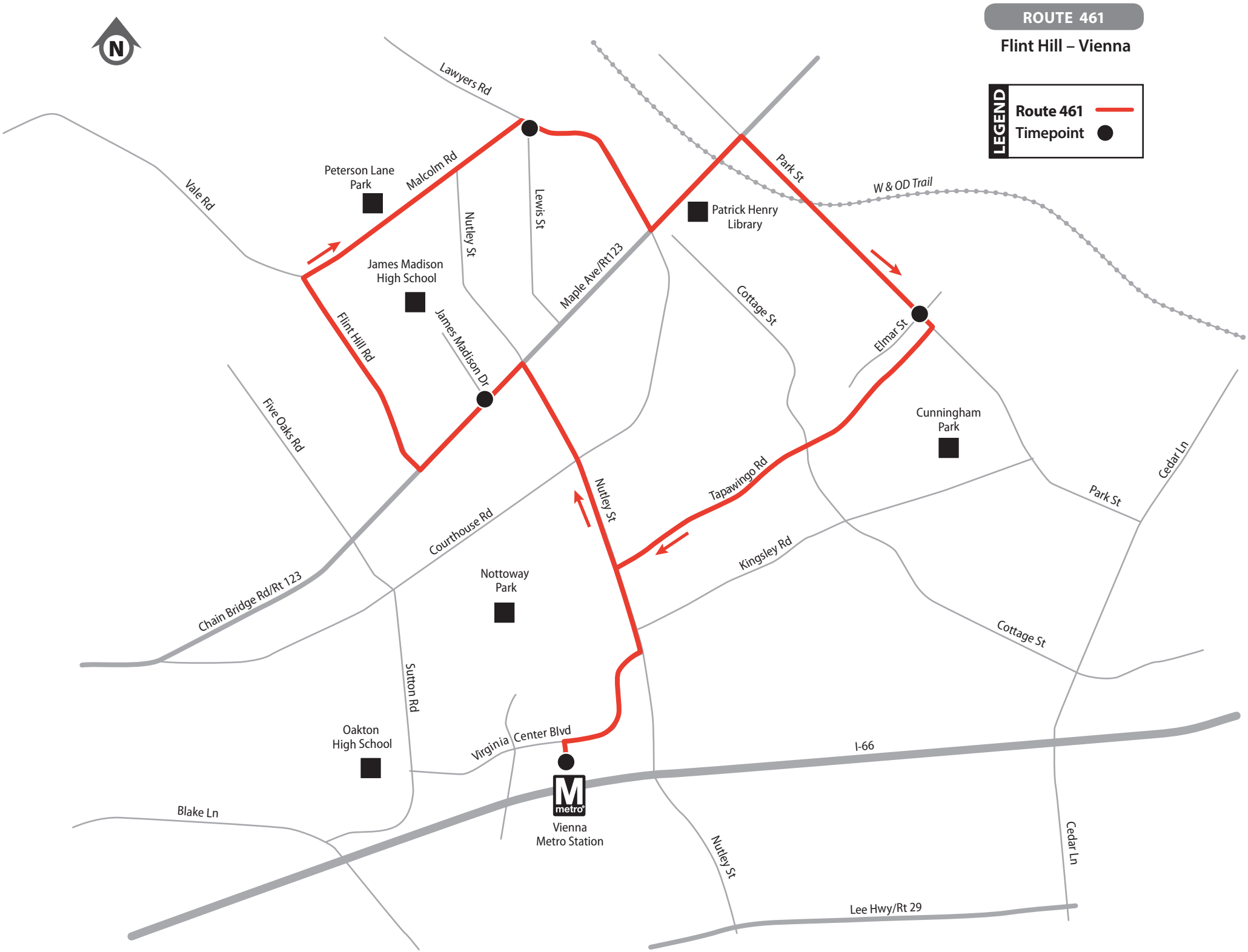
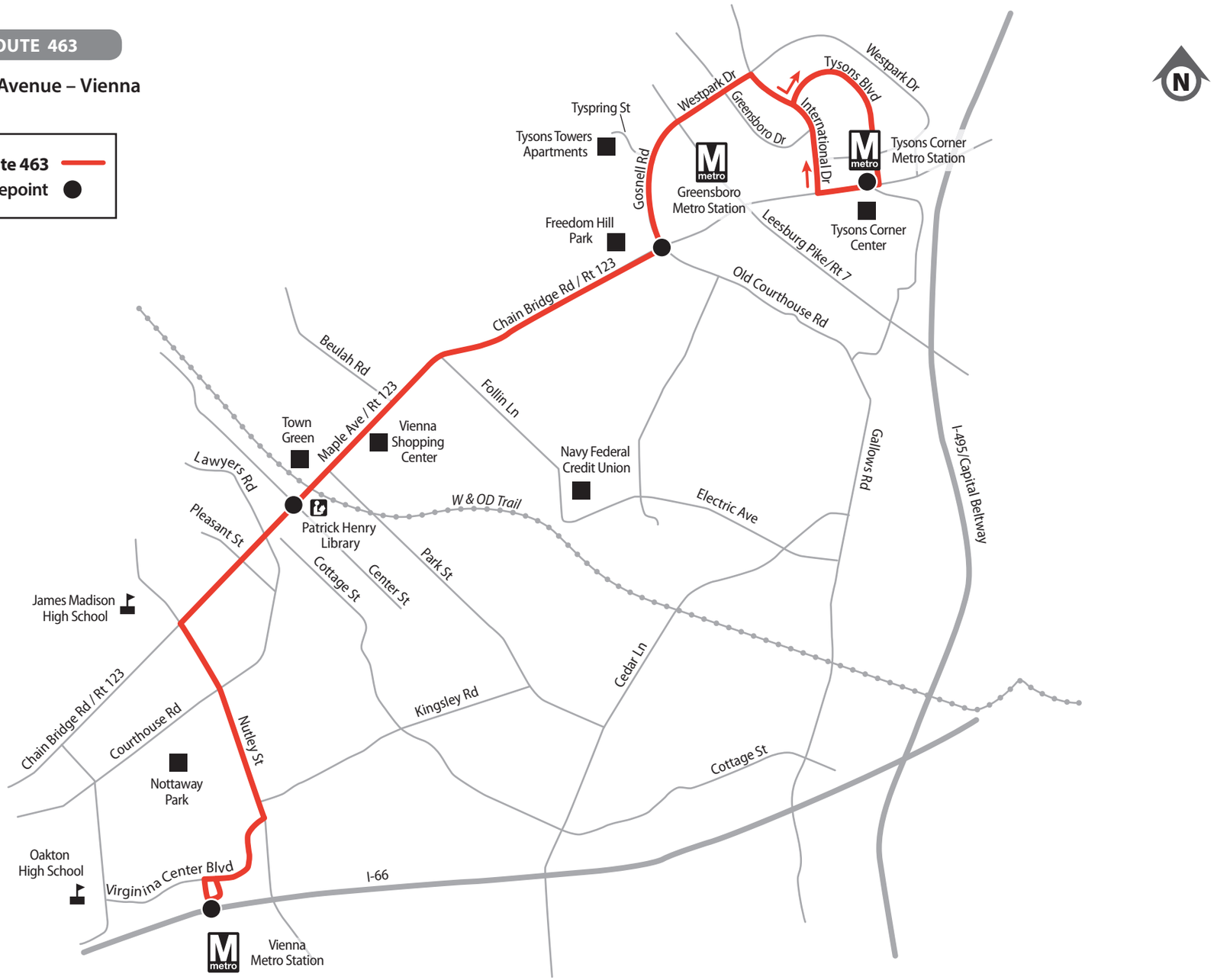

ROUTE 461
Flint Hill – Vienna
LEGEND
Route 461
Timepoint
N
Lawyers Rd
Vale Rd
Peterson Lane Park
Malcolm Rd
Nutley St
Lewis St
James Madison High School
Flint Hill Rd
James Madison Dr
Maple Ave/Rt123
Park St
W & OD Trail
Patrick Henry Library
Cottage St
Elmar St
Cunningham Park
Five Oaks Rd
Tapawingo Rd
Park St
Cedar Ln
Courthouse Rd
Nutley St
Kingsley Rd
Chain Bridge Rd/Rt 123
Nottoway Park
Cottage St
Sutton Rd
Oakton High School
Virginia Center Blvd
I-66
Blake Ln
Vienna Metro Station
Nutley St
Cedar Ln
Lee Hwy/Rt 29

ROUTE 463

Maple Avenue – Vienna

LEGEND
Route 463
Timepoint



463

Effective December 2, 2017

Maple Avenue – Vienna

Vienna Metro Station • Nutley St • Maple Ave • Chain Bridge Rd • Gosnell Rd • Tysons Corner Metro Station

Weekday, Saturday & Sunday Service

FAIRFAX CONNECTOR

For fares and important information about the bus system, see the brochure:

Fares, Policies & General Information

FAIRFAX CONNECTOR **BusTracker**
REAL-TIME SERVICE INFORMATION
fairfaxconnector.com

703-339-7200 TTY **703-339-1608**
@ffxconnector **/fairfaxconnector**

- **Use exact fare; drivers do not carry change.**
- **Smoking, eating, drinking, and littering are strictly prohibited.**
- **Strollers must be folded.**
- **Use earphones with audio and video devices.**
- **Service animals are permitted on the bus. Other small animals are permitted only if transported in a closed pet carrier.**

All Fairfax Connector buses are wheelchair accessible.

463_1217

463 MAPLE AVENUE – VIENNA

Weekday – AM Northbound Service

Vienna Metro Station (North side)	Maple Ave & Center St	Old Courthouse Rd & Chain Bridge Rd	Tysons Corner Metro Station (North side)
5:05	5:12	5:18	5:26
5:35	5:42	5:48	5:56
6:05	6:14	6:23	6:32
6:35	6:44	6:53	7:02
7:05	7:14	7:23	7:32
7:35	7:44	7:53	8:02
8:05	8:14	8:23	8:32
8:35	8:44	8:53	9:02
9:05	9:14	9:22	9:30
9:35	9:44	9:52	10:00
10:05	10:14	10:22	10:30
10:35	10:44	10:52	11:00
11:05	11:14	11:22	11:30
11:35	11:44	11:52	12:00 PM

Weekday – PM Northbound Service

Vienna Metro Station (North side)	Maple Ave & Center St	Old Courthouse Rd & Chain Bridge Rd	Tysons Corner Metro Station (North side)
12:05	12:14	12:22	12:30
12:35	12:44	12:52	1:00
1:05	1:14	1:22	1:30
1:35	1:44	1:52	2:00
2:05	2:14	2:22	2:30
2:35	2:44	2:52	3:00
3:05	3:15	3:24	3:33
3:35	3:45	3:54	4:03
4:00	4:10	4:19	4:28
4:25	4:35	4:44	4:53
4:50	5:00	5:09	5:18
5:15	5:25	5:34	5:48
5:40	5:50	5:59	6:13
6:05	6:15	6:23	6:29
6:30	6:40	6:48	6:54
7:00	7:10	7:18	7:24
7:30	7:40	7:48	7:54
8:00	8:10	8:18	8:24
8:30	8:40	8:48	8:54
9:05	9:12	9:18	9:25
9:30	9:37	9:43	9:50
10:00	10:07	10:13	10:20
10:30	10:37	10:43	10:50
11:00	11:07	11:13	11:20

Weekday – AM Southbound Service

Tysons Corner Metro Station (North side)	Chain Bridge Rd & Old Courthouse Rd	Maple Ave & Center St	Vienna Metro Station (North side)
5:45	5:51	5:55	6:00
6:15	6:24	6:30	6:38
6:45	6:54	7:00	7:08
7:15	7:24	7:30	7:38
7:45	7:54	8:00	8:08
8:15	8:24	8:30	8:38
8:45	8:54	9:00	9:08
9:15	9:23	9:30	9:38
9:45	9:53	10:00	10:08
10:15	10:23	10:30	10:38
10:35	10:43	10:50	10:58
11:05	11:13	11:20	11:28
11:35	11:43	11:50	11:58

Weekday – PM Southbound Service

Tysons Corner Metro Station (North side)	Chain Bridge Rd & Old Courthouse Rd	Maple Ave & Center St	Vienna Metro Station (North side)
12:05	12:13	12:20	12:28
12:35	12:43	12:50	12:58
1:05	1:13	1:20	1:28
1:35	1:43	1:50	1:58
2:05	2:13	2:20	2:28
2:35	2:43	2:50	2:58
3:05	3:17	3:29	3:38
3:40	3:52	4:04	4:13
4:10	4:22	4:34	4:48
4:35	4:47	4:59	5:20
5:00	5:12	5:24	5:45
5:25	5:37	5:49	6:10
5:55	6:07	6:19	6:40
6:20	6:29	6:37	6:46
6:45	6:54	7:02	7:11
7:10	7:19	7:27	7:36
7:35	7:44	7:52	8:01
8:00	8:09	8:17	8:26
8:30	8:39	8:47	8:56
9:00	9:07	9:12	9:18
9:30	9:37	9:42	9:48
10:00	10:07	10:12	10:18
10:30	10:37	10:42	10:48
11:00	11:07	11:12	11:18
11:30	11:37	11:42	11:48

Saturday – AM Northbound Service

Vienna Metro Station (North side)	Maple Ave & Center St	Old Courthouse Rd & Chain Bridge Rd	Tysons Corner Metro Station (North side)
6:00	6:07	6:15	6:26
7:00	7:07	7:15	7:26
8:00	8:07	8:15	8:26
9:00	9:07	9:15	9:26
10:00	10:07	10:15	10:26
11:00	11:07	11:15	11:26

Saturday – PM Northbound Service

Vienna Metro Station (North side)	Maple Ave & Center St	Old Courthouse Rd & Chain Bridge Rd	Tysons Corner Metro Station (North side)
12:00	12:07	12:15	12:26
1:00	1:07	1:15	1:26
2:00	2:07	2:15	2:26
3:00	3:07	3:15	3:26
4:00	4:07	4:15	4:26
5:00	5:07	5:15	5:26
6:00	6:07	6:15	6:26
7:00	7:07	7:15	7:26
8:00	8:07	8:15	8:26
9:00	9:07	9:15	9:26
10:00	10:07	10:15	10:26
11:00	11:07	11:15	11:26

Sunday – AM Northbound Service

Vienna Metro Station (North side)	Maple Ave & Center St	Old Courthouse Rd & Chain Bridge Rd	Tysons Corner Metro Station (North side)
8:00	8:07	8:15	8:26
9:00	9:07	9:15	9:26
10:00	10:07	10:15	10:26
11:00	11:07	11:15	11:26

Sunday – PM Northbound Service

Vienna Metro Station (North side)	Maple Ave & Center St	Old Courthouse Rd & Chain Bridge Rd	Tysons Corner Metro Station (North side)
12:00	12:07	12:15	12:26
1:00	1:07	1:15	1:26
2:00	2:07	2:15	2:26
3:00	3:07	3:15	3:26
4:00	4:07	4:15	4:26
5:00	5:07	5:15	5:26
6:00	6:07	6:15	6:26
7:00	7:07	7:15	7:26
8:00	8:07	8:15	8:26

Saturday – AM Southbound Service

Tysons Corner Metro Station (North side)	Chain Bridge Rd & Old Courthouse Rd	Maple Ave & Center St	Vienna Metro Station (North side)
6:30	6:40	6:46	6:54
7:30	7:40	7:46	7:54
8:30	8:40	8:46	8:54
9:30	9:40	9:46	9:54
10:30	10:40	10:46	10:54
11:30	11:40	11:46	11:54

Saturday – PM Southbound Service

Tysons Corner Metro Station (North side)	Chain Bridge Rd & Old Courthouse Rd	Maple Ave & Center St	Vienna Metro Station (North side)
12:30	12:40	12:46	12:54
1:30	1:40	1:46	1:54
2:30	2:40	2:46	2:54
3:30	3:40	3:46	3:54
4:30	4:40	4:46	4:54
5:30	5:40	5:46	5:54
6:30	6:40	6:46	6:54
7:30	7:40	7:46	7:54
8:30	8:40	8:46	8:54
9:30	9:40	9:46	9:54
10:30	10:40	10:46	10:54

Sunday – AM Southbound Service

Tysons Corner Metro Station (North side)	Chain Bridge Rd & Old Courthouse Rd	Maple Ave & Center St	Vienna Metro Station (North side)
8:30	8:40	8:46	8:54
9:30	9:40	9:46	9:54
10:30	10:40	10:46	10:54
11:30	11:40	11:46	11:54

Sunday – PM Southbound Service

Tysons Corner Metro Station (North side)	Chain Bridge Rd & Old Courthouse Rd	Maple Ave & Center St	Vienna Metro Station (North side)
12:30	12:40	12:46	12:54
1:30	1:40	1:46	1:54
2:30	2:40	2:46	2:54
3:30	3:40	3:46	3:54
4:30	4:40	4:46	4:54
5:30	5:40	5:46	5:54
6:30	6:40	6:46	6:54
7:30	7:40	7:46	7:54

APPENDIX E

2016 Existing Traffic Counts

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Nutley St.
LOCATION: Town of Vienna,VA

DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Jovana & Vanessa
INPUTED BY: agan

SOUTHBOUND ROAD: Maple Avenue - 123
NORTHBOUND ROAD: Maple Avenue - 123
WESTBOUND ROAD: Nutley Street
EASTBOUND ROAD: Nutley Street

Time Period	Southbound Maple Avenue - 123					Westbound Nutley Street					Northbound Maple Avenue - 123					Eastbound Nutley Street					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
6:00 AM - 6:15 AM	4	15	19	38		31	2	15	48		18	122	1	141		0	7	0	7		179	55	234
6:15 AM - 6:30 AM	0	35	27	62		39	5	13	57		18	163	0	181		2	18	3	23		243	80	323
6:30 AM - 6:45 AM	1	45	31	77		30	15	15	60		23	226	0	249		1	28	0	29		326	89	415
6:45 AM - 7:00 AM	1	54	28	83		50	12	27	89		26	213	0	239		1	36	6	43		322	132	454
7:00 AM - 7:15 AM	2	60	29	91		47	18	30	95		27	253	8	288		2	43	7	52		379	147	526
7:15 AM - 7:30 AM	1	118	38	157		64	27	48	139		30	282	1	313		4	47	7	58		470	197	667
7:30 AM - 7:45 AM	8	139	32	179		96	49	80	225		32	211	8	251		2	63	15	80		430	305	735
7:45 AM - 8:00 AM	17	167	31	215		89	41	70	200		9	234	7	250		6	89	18	113		465	313	778
8:00 AM - 8:15 AM	19	139	38	196		112	48	58	218		33	224	3	260		5	98	25	128		456	346	802
8:15 AM - 8:30 AM	9	100	36	145		76	51	48	175		20	240	8	268		4	64	9	77		413	252	665
8:30 AM - 8:45 AM	3	92	43	138		88	41	42	171		26	234	5	265		2	77	16	95		403	266	669
8:45 AM - 9:00 AM	6	110	22	138		82	34	37	153		31	274	0	305		2	59	17	78		443	231	674
Total	71	1074	374	1519		804	343	483	1630		293	2676	41	3010		31	629	123	783		4529	2413	6942
AM One Hour Volumes																							
6:00 AM - 7:00 AM	6	149	105	260	0.78	150	34	70	254	0.71	85	724	1	810	0.81	4	89	9	102	0.59	1070	356	1426
6:15 AM - 7:15 AM	4	194	115	313	0.86	166	50	85	301	0.79	94	855	8	957	0.83	6	125	16	147	0.71	1270	448	1718
6:30 AM - 7:30 AM	5	277	126	408	0.65	191	72	120	383	0.69	106	974	9	1089	0.87	8	154	20	182	0.78	1497	565	2062
6:45 AM - 7:45 AM	12	371	127	510	0.71	257	106	185	548	0.61	115	959	17	1091	0.87	9	189	35	233	0.73	1601	781	2382
7:00 AM - 8:00 AM	28	484	130	642	0.75	296	135	228	659	0.73	98	980	24	1102	0.88	14	242	47	303	0.67	1744	962	2706
7:15 AM - 8:15 AM	45	563	139	747	0.87	361	165	256	782	0.87	104	951	19	1074	0.86	17	297	65	379	0.74	1821	1161	2982
7:30 AM - 8:30 AM	53	545	137	735	0.85	373	189	256	818	0.91	94	909	26	1029	0.96	17	314	67	398	0.78	1764	1216	2980
7:45 AM - 8:45 AM	48	498	148	694	0.81	365	181	218	764	0.88	88	932	23	1043	0.97	17	328	68	413	0.81	1737	1177	2914
8:00 AM - 9:00 AM	37	441	139	617	0.79	358	174	185	717	0.82	110	972	16	1098	0.90	13	298	67	378	0.74	1715	1095	2810
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	2	275	51	328		61	35	58	154		39	140	11	190		10	58	21	89		518	243	761
4:15 PM - 4:30 PM	19	300	71	390		65	34	49	148		37	159	12	208		7	61	31	99		598	247	845
4:30 PM - 4:45 PM	9	294	60	363		78	41	67	186		44	125	15	184		9	49	15	73		547	259	806
4:45 PM - 5:00 PM	7	256	49	312		80	49	71	200		54	131	11	196		11	69	21	101		508	301	809
5:00 PM - 5:15 PM	10	275	69	354		67	39	62	168		46	155	14	215		7	75	27	109		569	277	846
5:15 PM - 5:30 PM	7	315	72	394		82	49	59	190		60	131	2	193		0	61	29	90		587	280	867
5:30 PM - 5:45 PM	6	263	55	324		95	66	77	238		50	121	9	180		5	85	17	107		504	345	849
5:45 PM - 6:00 PM	12	268	57	337		86	50	95	231		43	118	12	173		4	63	14	81		510	312	822
6:00 PM - 6:15 PM	8	269	68	345		84	48	67	199		54	126	10	190		3	66	17	86		535	285	820
6:15 PM - 6:30 PM	13	304	73	390		72	44	72	188		34	102	9	145		4	63	14	81		535	269	804
6:30 PM - 6:45 PM	3	247	66	316		83	57	72	212		37	133	10	180		4	53	16	73		496	285	781
6:45 PM - 7:00 PM	9	233	72	314		74	32	75	181		50	111	8	169		4	45	12	61		483	242	725
Total	105	3299	763	4167		927	544	824	2295		548	1552	123	2223		68	748	234	1050		6390	3345	9735
PM One Hour Volumes																							
4:00 PM - 5:00 PM	37	1125	231	1393	0.89	284	159	245	688	0.86	174	555	49	778	0.94	37	237	88	362	0.90	2171	1050	3221
4:15 PM - 5:15 PM	45	1125	249	1419	0.91	290	163	249	702	0.88	181	570	52	803	0.93	34	254	94	382	0.88	2222	1084	3306
4:30 PM - 5:30 PM	33	1140	250	1423	0.90	307	178	259	744	0.93	204	542	42	788	0.92	27	254	92	373	0.86	2211	1117	3328
4:45 PM - 5:45 PM	30	1109	245	1384	0.88	324	203	269	796	0.84	210	538	36	784	0.91	23	290	94	407	0.93	2168	1203	3371
5:00 PM - 6:00 PM	35	1121	253	1409	0.89	330	204	293	827	0.87	199	525	37	761	0.88	16	284	87	387	0.89	2170	1214	3384
5:15 PM - 6:15 PM	33	1115	252	1400	0.89	347	213	298	858	0.90	207	496	33	736	0.95	12	275	77	364	0.85	2136	1222	3358
5:30 PM - 6:30 PM	39	1104	253	1396	0.89	337	208	311	856	0.90	181	467	40	688	0.91	16	277	62	355	0.83	2084	1211	3295
5:45 PM - 6:45 PM	36	1088	264	1388	0.89	325	199	306	830	0.90	168	479	41	688	0.91	15	245	61	321	0.93	2076	1151	3227
6:00 PM - 7:00 PM	33	1053	279	1365	0.88	313	181	286	780	0.92	175	472	37	684	0.90	15	227	59	301	0.88	2049	1081	3130

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Nutley St.
LOCATION: Town of Vienna,VA

DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Jovana & Laura
INPUTED BY: agan

SOUTHBOUND ROAD: Maple Avenue - 123
NORTHBOUND ROAD: Maple Avenue - 123
WESTBOUND ROAD: Nutley Street
EASTBOUND ROAD: Nutley Street

Time	Southbound Maple Avenue - 123					Westbound Nutley Street					Northbound Maple Avenue - 123					Eastbound Nutley Street					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
10:00 AM - 10:15 AM	10	170	64	244		100	24	43	167		37	161	17	215		11	41	15	67		459	234	693
10:15 AM - 10:30 AM	5	169	70	244		76	29	31	136		37	169	17	223		5	39	17	61		467	197	664
10:30 AM - 10:45 AM	8	177	69	254		77	37	44	158		53	172	13	238		9	37	19	65		492	223	715
10:45 AM - 11:00 AM	16	176	76	268		102	41	52	195		35	187	11	233		5	37	11	53		501	248	749
11:00 AM - 11:15 AM	11	179	65	255		89	35	40	164		34	181	11	226		11	37	22	70		481	234	715
11:15 AM - 11:30 AM	14	168	72	254		109	25	49	183		22	175	10	207		6	40	20	66		461	249	710
11:30 AM - 11:45 AM	10	164	77	251		79	36	43	158		38	178	19	235		4	43	10	57		486	215	701
11:45 AM - 12:00 PM	19	190	67	276		91	36	57	184		38	181	17	236		6	38	33	77		512	261	773
12:00 PM - 12:15 PM	12	185	70	267		81	40	48	169		39	174	13	226		9	38	28	75		493	244	737
12:15 PM - 12:30 PM	13	165	73	251		84	40	48	172		45	190	15	250		5	34	11	50		501	222	723
12:30 PM - 12:45 PM	10	207	78	295		81	38	54	173		54	175	7	236		13	34	23	70		531	243	774
12:45 PM - 1:00 PM	10	192	83	285		102	42	66	210		49	176	12	237		6	46	24	76		522	286	808
1:00 PM - 1:15 PM	14	187	84	285		97	32	68	197		43	164	10	217		16	51	21	88		502	285	787
1:15 PM - 1:30 PM	19	212	70	301		82	41	55	178		41	174	14	229		11	39	22	72		530	250	780
1:30 PM - 1:45 PM	20	199	78	297		80	29	59	168		48	158	14	220		9	40	26	75		517	243	760
1:45 PM - 2:00 PM	8	181	79	268		81	29	64	174		32	169	13	214		6	38	12	56		482	230	712
2:00 PM - 2:15 PM	17	227	80	324		81	33	53	167		62	181	9	252		7	42	20	69		576	236	812
2:15 PM - 2:30 PM	7	187	76	270		85	40	55	180		51	170	13	234		9	46	15	70		504	250	754
2:30 PM - 2:45 PM	14	194	70	278		84	35	38	157		33	176	1	210		11	48	17	76		488	233	721
2:45 PM - 3:00 PM	10	198	76	284		66	27	30	123		32	187	12	231		10	37	18	65		515	188	703
Total	247	3727	1477	5451		1727	689	997	3413		823	3498	248	4569		169	805	384	1358		10020	4771	14791
One Hour Volumes																							
10:00 AM - 11:00 AM	39	692	279	1010	0.9422	355	131	170	656	0.841	162	689	58	909	0.9548	30	154	62	246	0.9179	1919	902	2821
10:15 AM - 11:15 AM	40	701	280	1021	0.9524	344	142	167	653	0.8372	159	709	52	920	0.9664	30	150	69	249	0.8893	1941	902	2843
10:30 AM - 11:30 AM	49	700	282	1031	0.9618	377	138	185	700	0.8974	144	715	45	904	0.9496	31	151	72	254	0.9071	1935	954	2889
10:45 AM - 11:45 AM	51	687	290	1028	0.959	379	137	184	700	0.8974	129	721	51	901	0.9585	26	157	63	246	0.8786	1929	946	2875
11:00 AM - 12:00 PM	54	701	281	1036	0.9384	368	132	189	689	0.9361	132	715	57	904	0.9576	27	158	85	270	0.8766	1940	959	2899
11:15 AM - 12:15 PM	55	707	286	1048	0.9493	360	137	197	694	0.9429	137	708	59	904	0.9576	25	159	91	275	0.8929	1952	969	2921
11:30 AM - 12:30 PM	54	704	287	1045	0.9466	335	152	196	683	0.928	160	723	64	947	0.947	24	153	82	259	0.8409	1992	942	2934
11:45 AM - 12:45 PM	54	747	288	1089	0.9229	337	154	207	698	0.9484	176	720	52	948	0.948	33	144	95	272	0.8831	2037	970	3007
12:00 PM - 1:00 PM	45	749	304	1098	0.9305	348	160	216	724	0.8619	187	715	47	949	0.949	33	152	86	271	0.8914	2047	995	3042
12:15 PM - 1:15 PM	47	751	318	1116	0.9458	364	152	236	752	0.8952	191	705	44	940	0.94	40	165	79	284	0.8068	2056	1036	3092
12:30 PM - 1:30 PM	53	798	315	1166	0.9684	362	153	243	758	0.9024	187	689	43	919	0.9694	46	170	90	306	0.8693	2085	1064	3149
12:45 PM - 1:45 PM	63	790	315	1168	0.9701	361	144	248	753	0.8964	181	672	50	903	0.9525	42	176	93	311	0.8835	2071	1064	3135
1:00 PM - 2:00 PM	61	779	311	1151	0.956	340	131	246	717	0.9099	164	665	51	880	0.9607	42	168	81	291	0.8267	2031	1008	3039
1:15 PM - 2:15 PM	64	819	307	1190	0.9182	324	132	231	687	0.9649	183	682	50	915	0.9077	33	159	80	272	0.9067	2105	959	3064
1:30 PM - 2:30 PM	52	794	313	1159	0.8943	327	131	231	689	0.9569	193	678	49	920	0.9127	31	166	73	270	0.9	2079	959	3038
1:45 PM - 2:45 PM	46	789	305	1140	0.8796	331	137	210	678	0.9417	178	696	36	910	0.9028	33	174	64	271	0.8914	2050	949	2999
2:00 PM - 3:00 PM	48	806	302	1156	0.892	316	135	176	627	0.8708	178	714	35	927	0.9196	37	173	70	280	0.9211	2083	907	2990

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Courthouse Rd.
LOCATION: Town of Vienna,VA

DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Matt & Dzemo
INPUTED BY: agan

SOUTHBOUND ROAD: Maple Avenue - 123
NORTHBOUND ROAD: Maple Avenue - 123
WESTBOUND ROAD: Courthouse Road
EASTBOUND ROAD: Lawyers Road

Time Period	Southbound Maple Avenue - 123					Westbound Courthouse Road					Northbound Maple Avenue - 123					Eastbound Lawyers Road					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
6:00 AM - 6:15 AM	5	28	0	33		3	7	1	11		1	128	3	132		7	9	12	28		165	39	204
6:15 AM - 6:30 AM	8	59	3	70		7	7	1	15		1	202	3	206		13	17	18	48		276	63	339
6:30 AM - 6:45 AM	11	54	1	66		8	17	4	29		4	222	8	234		18	19	23	60		300	89	389
6:45 AM - 7:00 AM	7	71	2	80		5	34	3	42		4	277	8	289		10	33	22	65		369	107	476
7:00 AM - 7:15 AM	16	78	0	94		12	31	6	49		2	230	7	239		17	42	38	97		333	146	479
7:15 AM - 7:30 AM	18	133	5	156		12	47	3	62		4	287	9	300		7	42	43	92		456	154	610
7:30 AM - 7:45 AM	15	186	10	211		14	40	16	70		1	294	15	310		20	41	41	102		521	172	693
7:45 AM - 8:00 AM	19	191	5	215		13	55	28	96		2	303	21	326		11	61	41	113		541	209	750
8:00 AM - 8:15 AM	19	126	6	151		15	43	7	65		7	254	18	279		22	51	50	123		430	188	618
8:15 AM - 8:30 AM	30	119	12	161		15	51	6	72		5	276	13	294		11	37	39	87		455	159	614
8:30 AM - 8:45 AM	16	144	5	165		9	40	10	59		3	276	25	304		16	46	52	114		469	173	642
8:45 AM - 9:00 AM	21	155	6	182		18	48	17	83		5	294	22	321		11	62	32	105		503	188	691
Total	185	1344	55	1584		131	420	102	653		39	3043	152	3234		163	460	411	1034		4818	1687	6505
AM One Hour Volumes																							
6:00 AM - 7:00 AM	31	212	6	249	0.78	23	65	9	97	0.58	10	829	22	861	0.74	48	78	75	201	0.77	1110	298	1408
6:15 AM - 7:15 AM	42	262	6	310	0.82	32	89	14	135	0.69	11	931	26	968	0.84	58	111	101	270	0.70	1278	405	1683
6:30 AM - 7:30 AM	52	336	8	396	0.63	37	129	16	182	0.73	14	1016	32	1062	0.89	52	136	126	314	0.81	1458	496	1954
6:45 AM - 7:45 AM	56	468	17	541	0.64	43	152	28	223	0.80	11	1088	39	1138	0.92	54	158	144	356	0.87	1679	579	2258
7:00 AM - 8:00 AM	68	588	20	676	0.79	51	173	53	277	0.72	9	1114	52	1175	0.90	55	186	163	404	0.89	1851	681	2532
7:15 AM - 8:15 AM	71	636	26	733	0.85	54	185	54	293	0.76	14	1138	63	1215	0.93	60	195	175	430	0.87	1948	723	2671
7:30 AM - 8:30 AM	83	622	33	738	0.86	57	189	57	303	0.79	15	1127	67	1209	0.93	64	190	171	425	0.86	1947	728	2675
7:45 AM - 8:45 AM	84	580	28	692	0.80	52	189	51	292	0.76	17	1109	77	1203	0.92	60	195	182	437	0.89	1895	729	2624
8:00 AM - 9:00 AM	86	544	29	659	0.91	57	182	40	279	0.84	20	1100	78	1198	0.93	60	196	173	429	0.87	1857	708	2565
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	34	309	7	350		13	45	19	77		8	148	19	175		32	48	44	124		525	201	726
4:15 PM - 4:30 PM	32	290	10	332		13	67	14	94		2	205	20	227		27	41	32	100		559	194	753
4:30 PM - 4:45 PM	32	323	10	365		9	52	21	82		7	170	28	205		30	45	27	102		570	184	754
4:45 PM - 5:00 PM	32	335	11	378		12	58	12	82		7	165	34	206		27	69	41	137		584	219	803
5:00 PM - 5:15 PM	25	309	16	350		17	71	11	99		7	182	25	214		29	65	40	134		564	233	797
5:15 PM - 5:30 PM	24	298	11	333		12	71	18	101		9	201	23	233		14	75	36	125		566	226	792
5:30 PM - 5:45 PM	33	340	10	383		10	73	16	99		5	178	24	207		24	56	26	106		590	205	795
5:45 PM - 6:00 PM	31	332	11	374		12	67	16	95		0	131	18	149		15	63	28	106		523	201	724
6:00 PM - 6:15 PM	22	292	17	331		13	66	16	95		0	156	25	181		16	50	34	100		512	195	707
6:15 PM - 6:30 PM	21	309	18	348		15	63	12	90		1	155	14	170		17	65	26	108		518	198	716
6:30 PM - 6:45 PM	30	302	19	351		14	46	22	82		12	194	22	228		41	42	42	125		579	207	786
6:45 PM - 7:00 PM	31	292	12	335		18	53	16	87		2	138	29	169		23	48	28	99		504	186	690
Total	347	3731	152	4230		158	732	193	1083		60	2023	281	2364		295	667	404	1366		6594	2449	9043
PM One Hour Volumes																							
4:00 PM - 5:00 PM	130	1257	38	1425	0.94	47	222	66	335	0.89	24	688	101	813	0.90	116	203	144	463	0.84	2238	798	3036
4:15 PM - 5:15 PM	121	1257	47	1425	0.94	51	248	58	357	0.90	23	722	107	852	0.94	113	220	140	473	0.86	2277	830	3107
4:30 PM - 5:30 PM	113	1265	48	1426	0.94	50	252	62	364	0.90	30	718	110	858	0.92	100	254	144	498	0.91	2284	862	3146
4:45 PM - 5:45 PM	114	1282	48	1444	0.94	51	273	57	381	0.94	28	726	106	860	0.92	94	265	143	502	0.92	2304	883	3187
5:00 PM - 6:00 PM	113	1279	48	1440	0.94	51	282	61	394	0.98	21	692	90	803	0.86	82	259	130	471	0.88	2243	865	3108
5:15 PM - 6:15 PM	110	1262	49	1421	0.93	47	277	66	390	0.97	14	666	90	770	0.83	69	244	124	437	0.87	2191	827	3018
5:30 PM - 6:30 PM	107	1273	56	1436	0.94	50	269	60	379	0.96	6	620	81	707	0.85	72	234	114	420	0.97	2143	799	2942
5:45 PM - 6:45 PM	104	1235	65	1404	0.94	54	242	66	362	0.95	13	636	79	728	0.80	89	220	130	439	0.88	2132	801	2933
6:00 PM - 7:00 PM	104	1195	66	1365	0.97	60	228	66	354	0.93	15	643	90	748	0.82	97	205	130	432	0.86	2113	786	2899

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Courthouse Rd.
LOCATION: Town of Vienna,VA

DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Rob & Jose
INPUTED BY: agan

SOUTHBOUND ROAD: Maple Avenue - 123
NORTHBOUND ROAD: Maple Avenue - 123
WESTBOUND ROAD: Courthouse Road
EASTBOUND ROAD: Lawyers Road

Time	Southbound Maple Avenue - 123					Westbound Courthouse Road					Northbound Maple Avenue - 123					Eastbound Lawyers Road					North & South	East & West	Total
Period	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
10:00 AM - 10:15 AM	49	278	15	342		14	24	11	49		15	215	29	259		40	30	43	113		601	162	763
10:15 AM - 10:30 AM	43	209	21	273		15	31	14	60		16	195	24	235		28	32	49	109		508	169	677
10:30 AM - 10:45 AM	47	230	17	294		11	28	8	47		16	206	28	250		29	46	42	117		544	164	708
10:45 AM - 11:00 AM	7	378	27	412		32	7	26	65		18	267	4	289		24	25	21	70		701	135	836
11:00 AM - 11:15 AM		336	16	352		29		16	45		23	261	2	286		18	29	13	60		638	105	743
11:15 AM - 11:30 AM	2	338	15	355		33		17	50		21	256		277		14	21	10	45		632	95	727
11:30 AM - 11:45 AM	2	346	24	372		34		13	47		16	262		278		5	7	5	17		650	64	714
11:45 AM - 12:00 PM	2	319	19	340		33		14	47		23	231		254		7	1	4	12		594	59	653
12:00 PM - 12:15 PM		411	22	433		36		24	60		27	277	1	305		4	1	2	7		738	67	805
12:15 PM - 12:30 PM	2	392	16	410		51	7	27	85		46	229	4	279		3			3		689	88	777
12:30 PM - 12:45 PM	20	384	29	433		18	45	40	103		32	250	17	299		2			2		732	105	837
12:45 PM - 1:00 PM	16	304	29	349		24	15	17	56		20	233	46	299							648	56	704
1:00 PM - 1:15 PM	21	395	33	449		30	59	21	110		21	237	36	294							743	110	853
1:15 PM - 1:30 PM	9	368	30	407		26	43	19	88		14	231	40	285		1			1		692	89	781
1:30 PM - 1:45 PM	8	312	33	353		20	9	13	42		15	248	24	287		3			3		640	45	685
1:45 PM - 2:00 PM	11	336	21	368		12	17	22	51		15	222	20	257		2			2		625	53	678
2:00 PM - 2:15 PM	12	379	21	412		9	11	20	40		16	246	38	300		6	6	10	22		712	62	774
2:15 PM - 2:30 PM	25	333	19	377		24	32	30	86		14	209	37	260		31	51	43	125		637	211	848
2:30 PM - 2:45 PM	9	420	9	438		12	26	27	65		13	240	30	283		30	25	38	93		721	158	879
2:45 PM - 3:00 PM	31	295	11	337		9	36	30	75		20	256	24	300		23	51	54	128		637	203	840
Total	316	6763	427	7506		472	390	409	1271		401	4771	404	5576		270	325	334	929		13082	2200	15282
One Hour Volumes																							
10:00 AM - 11:00 AM	146	1095	80	1321	0.8016	72	90	59	221	0.85	65	883	85	1033	0.8936	121	133	155	409	0.8739	2354	630	2984
10:15 AM - 11:15 AM	97	1153	81	1331	0.8076	87	66	64	217	0.8346	73	929	58	1060	0.917	99	132	125	356	0.7607	2391	573	2964
10:30 AM - 11:30 AM	56	1282	75	1413	0.8574	105	35	67	207	0.7962	78	990	34	1102	0.9533	85	121	86	292	0.6239	2515	499	3014
10:45 AM - 11:45 AM	11	1398	82	1491	0.9047	128	7	72	207	0.7962	78	1046	6	1130	0.9775	61	82	49	192	0.6857	2621	399	3020
11:00 AM - 12:00 PM	6	1339	74	1419	0.9536	129		60	189	0.945	83	1010	2	1095	0.9572	44	58	32	134	0.5583	2514	323	2837
11:15 AM - 12:15 PM	6	1414	80	1500	0.8661	136		68	204	0.85	87	1026	1	1114	0.9131	30	30	21	81	0.45	2614	285	2899
11:30 AM - 12:30 PM	6	1468	81	1555	0.8978	154	7	78	239	0.7029	112	999	5	1116	0.9148	19	9	11	39	0.5735	2671	278	2949
11:45 AM - 12:45 PM	24	1506	86	1616	0.933	138	52	105	295	0.716	128	987	22	1137	0.932	16	2	6	24	0.5	2753	319	3072
12:00 PM - 1:00 PM	38	1491	96	1625	0.9382	129	67	108	304	0.7379	125	989	68	1182	0.9689	9	1	2	12	0.4286	2807	316	3123
12:15 PM - 1:15 PM	59	1475	107	1641	0.9137	123	126	105	354	0.8045	119	949	103	1171	0.9791	5			5	0.4167	2812	359	3171
12:30 PM - 1:30 PM	66	1451	121	1638	0.912	98	162	97	357	0.8114	87	951	139	1177	0.9841	3			3	0.375	2815	360	3175
12:45 PM - 1:45 PM	54	1379	125	1558	0.8675	100	126	70	296	0.6727	70	949	146	1165	0.9741	4			4	0.3333	2723	300	3023
1:00 PM - 2:00 PM	49	1411	117	1577	0.8781	88	128	75	291	0.6614	65	938	120	1123	0.9549	6			6	0.5	2700	297	2997
1:15 PM - 2:15 PM	40	1395	105	1540	0.9345	67	80	74	221	0.6278	60	947	122	1129	0.9408	12	6	10	28	0.3182	2669	249	2918
1:30 PM - 2:30 PM	56	1360	94	1510	0.9163	65	69	85	219	0.6366	60	925	119	1104	0.92	42	57	53	152	0.304	2614	371	2985
1:45 PM - 2:45 PM	57	1468	70	1595	0.9104	57	86	99	242	0.7035	58	917	125	1100	0.9167	69	82	91	242	0.484	2695	484	3179
2:00 PM - 3:00 PM	77	1427	60	1564	0.8927	54	105	107	266	0.7733	63	951	129	1143	0.9525	90	133	145	368	0.7188	2707	634	3341

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Nutley St. & Roland St.
LOCATION: Town of Vienna,VA

DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Jose & Laura
INPUTED BY: agan

SOUTHBOUND ROAD: Roland Street
NORTHBOUND ROAD: Roland Street
WESTBOUND ROAD: Nutley Street
EASTBOUND ROAD: Nutley Street

Time Period	Southbound Roland Street					Westbound Nutley Street					Northbound Roland Street					Eastbound Nutley Street					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
6:00 AM - 6:15 AM	0	0	0	0		0	46	0	46		0	0	0	0		0	48	0	48		0	94	94
6:15 AM - 6:30 AM	0	0	2	2		0	60	0	60		0	0	0	0		0	56	0	56		2	116	118
6:30 AM - 6:45 AM	0	0	0	0		0	62	0	62		2	0	0	2		1	82	0	83		2	145	147
6:45 AM - 7:00 AM	0	0	0	0		0	99	0	99		1	0	0	1		0	88	1	89		1	188	189
7:00 AM - 7:15 AM	0	0	7	7		0	112	1	113		3	0	2	5		0	101	0	101		12	214	226
7:15 AM - 7:30 AM	1	0	4	5		3	138	0	141		0	0	0	0		0	106	0	106		5	247	252
7:30 AM - 7:45 AM	1	0	6	7		4	224	2	230		2	0	1	3		0	115	1	116		10	346	356
7:45 AM - 8:00 AM	6	1	3	10		2	202	1	205		3	0	1	4		0	115	0	115		14	320	334
8:00 AM - 8:15 AM	2	0	5	7		3	225	1	229		0	0	2	2		2	153	2	157		9	386	395
8:15 AM - 8:30 AM	1	0	3	4		3	179	1	183		2	0	1	3		0	107	0	107		7	290	297
8:30 AM - 8:45 AM	2	0	4	6		3	144	1	148		2	0	1	3		0	130	0	130		9	278	287
8:45 AM - 9:00 AM	1	0	4	5		8	165	3	176		2	0	4	6		2	107	0	109		11	285	296
Total	14	1	38	53		26	1656	10	1692		17	0	12	29		5	1208	4	1217		82	2909	2991
AM One Hour Volumes																							
6:00 AM - 7:00 AM	0	0	2	2	0.25	0	267	0	267	0.67	3	0	0	3	0.38	1	274	1	276	0.78	5	543	548
6:15 AM - 7:15 AM	0	0	9	9	0.32	0	333	1	334	0.74	6	0	2	8	0.40	1	327	1	329	0.81	17	663	680
6:30 AM - 7:30 AM	1	0	11	12	0.43	3	411	1	415	0.74	6	0	2	8	0.40	1	377	1	379	0.89	20	794	814
6:45 AM - 7:45 AM	2	0	17	19	0.68	7	573	3	583	0.63	6	0	3	9	0.45	0	410	2	412	0.89	28	995	1023
7:00 AM - 8:00 AM	8	1	20	29	0.73	9	676	4	689	0.75	8	0	4	12	0.60	0	437	1	438	0.94	41	1127	1168
7:15 AM - 8:15 AM	10	1	18	29	0.73	12	789	4	805	0.88	5	0	4	9	0.56	2	489	3	494	0.79	38	1299	1337
7:30 AM - 8:30 AM	10	1	17	28	0.70	12	830	5	847	0.92	7	0	5	12	0.75	2	490	3	495	0.79	40	1342	1382
7:45 AM - 8:45 AM	11	1	15	27	0.68	11	750	4	765	0.84	7	0	5	12	0.75	2	505	2	509	0.81	39	1274	1313
8:00 AM - 9:00 AM	6	0	16	22	0.79	17	713	6	736	0.80	6	0	8	14	0.58	4	497	2	503	0.80	36	1239	1275
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	5	0	1	6		5	160	1	166		1	0	1	2		3	139	1	143		8	309	317
4:15 PM - 4:30 PM	0	0	4	4		1	157	4	162		2	0	0	2		1	143	6	150		6	312	318
4:30 PM - 4:45 PM	5	0	3	8		3	158	1	162		1	0	4	5		0	148	0	148		13	310	323
4:45 PM - 5:00 PM	0	0	2	2		2	193	1	196		1	0	0	1		1	162	7	170		3	366	369
5:00 PM - 5:15 PM	4	0	4	8		4	167	2	173		1	0	1	2		2	195	3	200		10	373	383
5:15 PM - 5:30 PM	0	0	2	2		5	222	3	230		0	0	1	1		1	196	1	198		3	428	431
5:30 PM - 5:45 PM	0	0	9	9		1	233	1	235		3	0	1	4		0	197	1	198		13	433	446
5:45 PM - 6:00 PM	2	0	4	6		3	222	3	228		3	0	1	4		3	156	4	163		10	391	401
6:00 PM - 6:15 PM	5	0	5	10		3	207	7	217		0	0	0	0		2	197	1	200		10	417	427
6:15 PM - 6:30 PM	1	0	5	6		5	190	4	199		3	0	0	3		4	152	0	156		9	355	364
6:30 PM - 6:45 PM	1	0	4	5		3	188	3	194		2	0	1	3		1	162	1	164		8	358	366
6:45 PM - 7:00 PM	2	0	2	4		2	177	4	183		1	0	0	1		2	153	1	156		5	339	344
Total	25	0	45	70		37	2274	34	2345		18	0	10	28		20	2000	26	2046		98	4391	4489
PM One Hour Volumes																							
4:00 PM - 5:00 PM	10	0	10	20	0.63	11	668	7	686	0.88	5	0	5	10	0.50	5	592	14	611	0.90	30	1297	1327
4:15 PM - 5:15 PM	9	0	13	22	0.69	10	675	8	693	0.88	5	0	5	10	0.50	4	648	16	668	0.84	32	1361	1393
4:30 PM - 5:30 PM	9	0	11	20	0.63	14	740	7	761	0.83	3	0	6	9	0.45	4	701	11	716	0.90	29	1477	1506
4:45 PM - 5:45 PM	4	0	17	21	0.58	12	815	7	834	0.89	5	0	3	8	0.50	4	750	12	766	0.96	29	1600	1629
5:00 PM - 6:00 PM	6	0	19	25	0.69	13	844	9	866	0.92	7	0	4	11	0.69	6	744	9	759	0.95	36	1625	1661
5:15 PM - 6:15 PM	7	0	20	27	0.68	12	884	14	910	0.97	6	0	3	9	0.56	6	746	7	759	0.95	36	1669	1705
5:30 PM - 6:30 PM	8	0	23	31	0.78	12	852	15	879	0.94	9	0	2	11	0.69	9	702	6	717	0.90	42	1596	1638
5:45 PM - 6:45 PM	9	0	18	27	0.68	14	807	17	838	0.92	8	0	2	10	0.63	10	667	6	683	0.85	37	1521	1558
6:00 PM - 7:00 PM	9	0	16	25	0.63	13	762	18	793	0.91	6	0	1	7	0.58	9	664	3	676	0.85	32	1469	1501

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Nutley St. & Roland St.
LOCATION: Town of Vienna,VA

DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Admir & Di
INPUTED BY: agan

SOUTHBOUND ROAD: Roland Street
NORTHBOUND ROAD: Roland Street
WESTBOUND ROAD: Nutley Street
EASTBOUND ROAD: Nutley Street

Time Period	Southbound Roland Street					Westbound Nutley Street					Northbound Roland Street					Eastbound Nutley Street					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
10:00 AM - 10:15 AM			1	1		2	189	2	193		1		1	2			140	1	141		3	334	337
10:15 AM - 10:30 AM			1	1			141	3	144		3		3	6			126	1	127		7	271	278
10:30 AM - 10:45 AM	2			2		5	152	1	158			1		1		1	169		170		3	328	331
10:45 AM - 11:00 AM						1	226	2	229		2			2		1	142	2	145		2	374	376
11:00 AM - 11:15 AM			1	1		3	176		179		2		1	3			145	2	147		4	326	330
11:15 AM - 11:30 AM	2		2	4		3	194	1	198		3			3		3	149	3	155		7	353	360
11:30 AM - 11:45 AM	2		2	4		7	173		180		2		1	3		1	159	1	161		7	341	348
11:45 AM - 12:00 PM	1		2	3		1	184		185				2	2			148	2	150		5	335	340
12:00 PM - 12:15 PM	7		6	13			194	1	195		2		2	4		1	168	4	173		17	368	385
12:15 PM - 12:30 PM			3	3		2	208	2	212		4		1	5		1	153		154		8	366	374
12:30 PM - 12:45 PM			3	3		2	189	3	194								205		205		3	399	402
12:45 PM - 1:00 PM	8		7	15		2	267	3	272		3		3	6			191	2	193		21	465	486
1:00 PM - 1:15 PM	1		5	6			218		218				1	1		2	179	1	182		7	400	407
1:15 PM - 1:30 PM			3	3		3	200		203							2	169		171		3	374	377
1:30 PM - 1:45 PM						3	163	1	167				1	1			162	1	163		1	330	331
1:45 PM - 2:00 PM			3	3		5	208	1	214				1	1			147	2	149		4	363	367
2:00 PM - 2:15 PM			3	3		4	174	1	179							1	174		175		3	354	357
2:15 PM - 2:30 PM	2	1	2	5		3	177	2	182		3			3			170	3	173		8	355	363
2:30 PM - 2:45 PM	2		4	6		5	138		143		5		2	7			150	2	152		13	295	308
2:45 PM - 3:00 PM			3	3		1	161	1	163		3		2	5		1	152		153		8	316	324
Total	27	1	51	79		52	3732	24	3808		33	1	21	55		14	3198	27	3239		134	7047	7181
One Hour Volumes																							
10:00 AM - 11:00 AM	2		2	4	0.5	8	708	8	724	0.7904	6	1	4	11	0.4583	2	577	4	583	0.8574	15	1307	1322
10:15 AM - 11:15 AM	2		2	4	0.5	9	695	6	710	0.7751	7	1	4	12	0.5	2	582	5	589	0.8662	16	1299	1315
10:30 AM - 11:30 AM	4		3	7	0.4375	12	748	4	764	0.8341	7	1	1	9	0.75	5	605	7	617	0.9074	16	1381	1397
10:45 AM - 11:45 AM	4		5	9	0.5625	14	769	3	786	0.8581	9		2	11	0.9167	5	595	8	608	0.9441	20	1394	1414
11:00 AM - 12:00 PM	5		7	12	0.75	14	727	1	742	0.9369	7		4	11	0.9167	4	601	8	613	0.9519	23	1355	1378
11:15 AM - 12:15 PM	12		12	24	0.4615	11	745	2	758	0.9571	7		5	12	0.75	5	624	10	639	0.9234	36	1397	1433
11:30 AM - 12:30 PM	10		13	23	0.4423	10	759	3	772	0.9104	8		6	14	0.7	3	628	7	638	0.922	37	1410	1447
11:45 AM - 12:45 PM	8		14	22	0.4231	5	775	6	786	0.9269	6		5	11	0.55	2	674	6	682	0.8317	33	1468	1501
12:00 PM - 1:00 PM	15		19	34	0.5667	6	858	9	873	0.8024	9		6	15	0.625	2	717	6	725	0.8841	49	1598	1647
12:15 PM - 1:15 PM	9		18	27	0.45	6	882	8	896	0.8235	7		5	12	0.5	3	728	3	734	0.8951	39	1630	1669
12:30 PM - 1:30 PM	9		18	27	0.45	7	874	6	887	0.8153	3		4	7	0.2917	4	744	3	751	0.9159	34	1638	1672
12:45 PM - 1:45 PM	9		15	24	0.4	8	848	4	860	0.7904	3		5	8	0.3333	4	701	4	709	0.9184	32	1569	1601
1:00 PM - 2:00 PM	1		11	12	0.5	11	789	2	802	0.9197			3	3	0.75	4	657	4	665	0.9135	15	1467	1482
1:15 PM - 2:15 PM			9	9	0.75	15	745	3	763	0.8914			2	2	0.5	3	652	3	658	0.94	11	1421	1432
1:30 PM - 2:30 PM	2	1	8	11	0.55	15	722	5	742	0.8668	3		2	5	0.4167	1	653	6	660	0.9429	16	1402	1418
1:45 PM - 2:45 PM	4	1	12	17	0.7083	17	697	4	718	0.8388	8		3	11	0.3929	1	641	7	649	0.9271	28	1367	1395
2:00 PM - 3:00 PM	4	1	12	17	0.7083	13	650	4	667	0.9162	11		4	15	0.5357	2	646	5	653	0.9329	32	1320	1352

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Driveway - South
LOCATION: Town of Vienna,VA

DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Salih
INPUTED BY: agan

SOUTHBOUND ROAD: Maple Avenue - 123
NORTHBOUND ROAD: Maple Avenue - 123
WESTBOUND ROAD: Site Driveway - South
EASTBOUND ROAD: Driveway

Time Period	Southbound Maple Avenue - 123					Westbound Site Driveway - South					Northbound Maple Avenue - 123					Eastbound Driveway					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
6:00 AM - 6:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:15 AM - 6:30 AM	0	0	0	0		1	0	0	1		2	0	0	2		0	0	0	0		2	1	3
6:30 AM - 6:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
6:45 AM - 7:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
7:00 AM - 7:15 AM	1	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0		1	0	1
7:15 AM - 7:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		1	0	0	1		0	1	1
7:30 AM - 7:45 AM	1	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0		1	0	1
7:45 AM - 8:00 AM	0	0	0	0		0	0	0	0		1	0	0	1		0	0	0	0		1	0	1
8:00 AM - 8:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
8:15 AM - 8:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0
8:30 AM - 8:45 AM	0	0	0	0		1	0	0	1		0	0	0	0		0	0	0	0		0	1	1
8:45 AM - 9:00 AM	0	0	0	0		0	0	0	0		1	0	0	1		0	0	0	0		1	0	1
Total	2	0	0	2		2	0	0	2		4	0	0	4		1	0	0	1		6	3	9
AM One Hour Volumes																							
6:00 AM - 7:00 AM	0	0	0	0	0.00	1	0	0	1	0.25	2	0	0	2	0.25	0	0	0	0	0.00	2	1	3
6:15 AM - 7:15 AM	1	0	0	1	0.25	1	0	0	1	0.25	2	0	0	2	0.25	0	0	0	0	0.00	3	1	4
6:30 AM - 7:30 AM	1	0	0	1	0.25	0	0	0	0	0.00	0	0	0	0	0.00	1	0	0	1	0.25	1	1	2
6:45 AM - 7:45 AM	2	0	0	2	0.50	0	0	0	0	0.00	0	0	0	0	0.00	1	0	0	1	0.25	2	1	3
7:00 AM - 8:00 AM	2	0	0	2	0.50	0	0	0	0	0.00	1	0	0	1	0.25	1	0	0	1	0.25	3	1	4
7:15 AM - 8:15 AM	1	0	0	1	0.25	0	0	0	0	0.00	1	0	0	1	0.25	1	0	0	1	0.25	2	1	3
7:30 AM - 8:30 AM	1	0	0	1	0.25	0	0	0	0	0.00	1	0	0	1	0.25	0	0	0	0	0.00	2	0	2
7:45 AM - 8:45 AM	0	0	0	0	0.00	1	0	0	1	0.25	1	0	0	1	0.25	0	0	0	0	0.00	1	1	2
8:00 AM - 9:00 AM	0	0	0	0	0.00	1	0	0	1	0.25	1	0	0	1	0.25	0	0	0	0	0.00	1	1	2
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	0	0	0	0		1	0	0	1		1	0	0	1		1	0	0	1		1	2	3
4:15 PM - 4:30 PM	0	0	0	0		1	0	0	1		1	0	0	1		0	0	0	0		1	1	2
4:30 PM - 4:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		1	0	0	1		0	1	1
4:45 PM - 5:00 PM	1	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0		1	0	1
5:00 PM - 5:15 PM	1	0	0	1		1	0	0	1		3	0	0	3		0	0	0	0		4	1	5
5:15 PM - 5:30 PM	0	0	0	0		0	0	0	0		4	0	0	4		0	0	0	0		4	0	4
5:30 PM - 5:45 PM	0	0	0	0		2	0	0	2		3	0	0	3		0	0	0	0		3	2	5
5:45 PM - 6:00 PM	0	0	0	0		3	0	0	3		3	0	0	3		0	0	0	0		3	3	6
6:00 PM - 6:15 PM	0	0	0	0		3	0	0	3		2	0	0	2		1	0	0	1		2	4	6
6:15 PM - 6:30 PM	2	0	0	2		0	0	0	0		5	0	0	5		1	0	0	1		7	1	8
6:30 PM - 6:45 PM	1	0	0	1		3	0	0	3		5	0	0	5		0	0	0	0		6	3	9
6:45 PM - 7:00 PM	1	0	0	1		4	0	0	4		0	0	0	0		1	0	0	1		1	5	6
Total	6	0	0	6		18	0	0	18		27	0	0	27		5	0	0	5		33	23	56
PM One Hour Volumes																							
4:00 PM - 5:00 PM	1	0	0	1	0.25	2	0	0	2	0.50	2	0	0	2	0.50	2	0	0	2	0.50	3	4	7
4:15 PM - 5:15 PM	2	0	0	2	0.50	2	0	0	2	0.50	4	0	0	4	0.33	1	0	0	1	0.25	6	3	9
4:30 PM - 5:30 PM	2	0	0	2	0.50	1	0	0	1	0.25	7	0	0	7	0.44	1	0	0	1	0.25	9	2	11
4:45 PM - 5:45 PM	2	0	0	2	0.50	3	0	0	3	0.38	10	0	0	10	0.63	0	0	0	0	0.00	12	3	15
5:00 PM - 6:00 PM	1	0	0	1	0.25	6	0	0	6	0.50	13	0	0	13	0.81	0	0	0	0	0.00	14	6	20
5:15 PM - 6:15 PM	0	0	0	0	0.00	8	0	0	8	0.67	12	0	0	12	0.75	1	0	0	1	0.25	12	9	21
5:30 PM - 6:30 PM	2	0	0	2	0.25	8	0	0	8	0.67	13	0	0	13	0.65	2	0	0	2	0.50	15	10	25
5:45 PM - 6:45 PM	3	0	0	3	0.38	9	0	0	9	0.75	15	0	0	15	0.75	2	0	0	2	0.50	18	11	29
6:00 PM - 7:00 PM	4	0	0	4	0.50	10	0	0	10	0.63	12	0	0	12	0.60	3	0	0	3	0.75	16	13	29

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Driveway - South
LOCATION: Town of Vienna,VA

DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Salih
INPUTED BY: agan

SOUTHBOUND ROAD: Maple Avenue - 123
NORTHBOUND ROAD: Maple Avenue - 123
WESTBOUND ROAD: Site Driveway - South
EASTBOUND ROAD: Driveway

Time Period	Southbound Maple Avenue - 123					Westbound Site Driveway - South					Northbound Maple Avenue - 123					Eastbound Driveway					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
10:00 AM - 10:15 AM						1			1													1	1
10:15 AM - 10:30 AM						3			3													3	3
10:30 AM - 10:45 AM																							
10:45 AM - 11:00 AM																							
11:00 AM - 11:15 AM						1			1		1			1							1	1	2
11:15 AM - 11:30 AM											1			1							1		1
11:30 AM - 11:45 AM	1			1							1			1							2		2
11:45 AM - 12:00 PM						1			1		1			1							1	1	2
12:00 PM - 12:15 PM	1			1							1			1							2		2
12:15 PM - 12:30 PM	1			1		1			1		1			1		1			1		2	2	4
12:30 PM - 12:45 PM						1			1													1	1
12:45 PM - 1:00 PM											2			2							2		2
1:00 PM - 1:15 PM						2			2		2			2							2	2	4
1:15 PM - 1:30 PM						2			2													2	2
1:30 PM - 1:45 PM						2			2		2			2							2	2	4
1:45 PM - 2:00 PM						3			3		1			1							1	3	4
2:00 PM - 2:15 PM											1			1							1		1
2:15 PM - 2:30 PM						2			2		2			2							2	2	4
2:30 PM - 2:45 PM	1			1		3			3												1	3	4
2:45 PM - 3:00 PM											1			1							1		1
Total	4	0	0	4		22	0	0	22		17	0	0	17		1	0	0	1		21	23	44
One Hour Volumes																							
10:00 AM - 11:00 AM						4			4	0.3333												4	4
10:15 AM - 11:15 AM						4			4	0.3333	1			1	0.25						1	4	5
10:30 AM - 11:30 AM						1			1	0.25	2			2	0.5						2	1	3
10:45 AM - 11:45 AM	1			1	0.25	1			1	0.25	3			3	0.75						4	1	5
11:00 AM - 12:00 PM	1			1	0.25	2			2	0.5	4			4	1						5	2	7
11:15 AM - 12:15 PM	2			2	0.5	1			1	0.25	4			4	1						6	1	7
11:30 AM - 12:30 PM	3			3	0.75	2			2	0.5	4			4	1	1			1	0.25	7	3	10
11:45 AM - 12:45 PM	2			2	0.5	3			3	0.75	3			3	0.75	1			1	0.25	5	4	9
12:00 PM - 1:00 PM	2			2	0.5	2			2	0.5	4			4	0.5	1			1	0.25	6	3	9
12:15 PM - 1:15 PM	1			1	0.25	4			4	0.5	5			5	0.625	1			1	0.25	6	5	11
12:30 PM - 1:30 PM						5			5	0.625	4			4	0.5						4	5	9
12:45 PM - 1:45 PM						6			6	0.75	6			6	0.75						6	6	12
1:00 PM - 2:00 PM						9			9	0.75	5			5	0.625						5	9	14
1:15 PM - 2:15 PM						7			7	0.5833	4			4	0.5						4	7	11
1:30 PM - 2:30 PM						7			7	0.5833	6			6	0.75						6	7	13
1:45 PM - 2:45 PM	1			1	0.25	8			8	0.6667	4			4	0.5						5	8	13
2:00 PM - 3:00 PM	1			1	0.25	5			5	0.4167	4			4	0.5						5	5	10

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Driveway - North
LOCATION: Town of Vienna,VA

DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Damir & Luz
INPUTED BY: agan

SOUTHBOUND ROAD: Maple Avenue - 123
NORTHBOUND ROAD: Maple Avenue - 123
WESTBOUND ROAD: Site Driveway - North
EASTBOUND ROAD: Driveway

Time Period	Southbound Maple Avenue - 123					Westbound Site Driveway - North					Northbound Maple Avenue - 123					Eastbound Driveway					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
6:00 AM - 6:15 AM	0	41	0	41		1	0	1	2		0	154	0	154		0	0	0	0		195	2	197
6:15 AM - 6:30 AM	1	64	0	65		2	0	2	4		2	204	0	206		0	0	0	0		271	4	275
6:30 AM - 6:45 AM	0	76	0	76		0	0	1	1		0	245	1	246		0	0	0	0		322	1	323
6:45 AM - 7:00 AM	1	80	1	82		4	0	2	6		0	270	0	270		0	0	0	0		352	6	358
7:00 AM - 7:15 AM	1	106	1	108		2	0	0	2		0	307	2	309		0	0	0	0		417	2	419
7:15 AM - 7:30 AM	4	149	0	153		1	0	0	1		0	351	2	353		0	0	0	0		506	1	507
7:30 AM - 7:45 AM	4	170	2	176		0	0	1	1		0	316	3	319		0	0	0	0		495	1	496
7:45 AM - 8:00 AM	1	248	1	250		2	0	0	2		0	346	1	347		5	0	0	5		597	7	604
8:00 AM - 8:15 AM	2	180	1	183		3	0	1	4		0	355	3	358		4	0	0	4		541	8	549
8:15 AM - 8:30 AM	2	126	0	128		0	0	0	0		1	331	2	334		1	0	2	3		462	3	465
8:30 AM - 8:45 AM	1	137	0	138		2	0	0	2		1	321	1	323		2	0	1	3		461	5	466
8:45 AM - 9:00 AM	2	153	2	157		2	0	0	2		1	365	4	370		1	0	3	4		527	6	533
Total	19	1530	8	1557		19	0	8	27		5	3565	19	3589		13	0	6	19		5146	46	5192
AM One Hour Volumes																							
6:00 AM - 7:00 AM	2	261	1	264	0.80	7	0	6	13	0.54	2	873	1	876	0.81	0	0	0	0	0.00	1140	13	1153
6:15 AM - 7:15 AM	3	326	2	331	0.77	8	0	5	13	0.54	2	1026	3	1031	0.83	0	0	0	0	0.00	1362	13	1375
6:30 AM - 7:30 AM	6	411	2	419	0.68	7	0	3	10	0.42	0	1173	5	1178	0.83	0	0	0	0	0.00	1597	10	1607
6:45 AM - 7:45 AM	10	505	4	519	0.74	7	0	3	10	0.42	0	1244	7	1251	0.89	0	0	0	0	0.00	1770	10	1780
7:00 AM - 8:00 AM	10	673	4	687	0.69	5	0	1	6	0.75	0	1320	8	1328	0.94	5	0	0	5	0.25	2015	11	2026
7:15 AM - 8:15 AM	11	747	4	762	0.76	6	0	2	8	0.50	0	1368	9	1377	0.96	9	0	0	9	0.45	2139	17	2156
7:30 AM - 8:30 AM	9	724	4	737	0.74	5	0	2	7	0.44	1	1348	9	1358	0.95	10	0	2	12	0.60	2095	19	2114
7:45 AM - 8:45 AM	6	691	2	699	0.70	7	0	1	8	0.50	2	1353	7	1362	0.95	12	0	3	15	0.75	2061	23	2084
8:00 AM - 9:00 AM	7	596	3	606	0.83	7	0	1	8	0.50	3	1372	10	1385	0.94	8	0	6	14	0.88	1991	22	2013
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	0	333	0	333		1	0	0	1		0	225	0	225		1	0	0	1		558	2	560
4:15 PM - 4:30 PM	0	369	3	372		3	0	1	4		0	246	0	246		0	0	1	1		618	5	623
4:30 PM - 4:45 PM	1	354	1	356		0	0	1	1		1	212	1	214		1	0	0	1		570	2	572
4:45 PM - 5:00 PM	0	339	1	340		2	0	0	2		0	237	2	239		1	0	0	1		579	3	582
5:00 PM - 5:15 PM	0	382	3	385		1	0	2	3		0	246	0	246		1	0	2	3		631	6	637
5:15 PM - 5:30 PM	0	378	1	379		2	0	1	3		0	231	0	231		0	0	0	0		610	3	613
5:30 PM - 5:45 PM	1	334	3	338		0	0	0	0		0	223	0	223		1	0	0	1		561	1	562
5:45 PM - 6:00 PM	0	372	1	373		0	0	0	0		0	212	4	216		4	0	0	4		589	4	593
6:00 PM - 6:15 PM	0	347	0	347		0	0	1	1		1	224	0	225		0	0	1	1		572	2	574
6:15 PM - 6:30 PM	0	373	1	374		4	0	1	5		0	178	1	179		1	0	0	1		553	6	559
6:30 PM - 6:45 PM	0	313	2	315		1	0	1	2		0	221	2	223		1	0	0	1		538	3	541
6:45 PM - 7:00 PM	0	332	3	335		1	0	1	2		0	218	0	218		1	0	0	1		553	3	556
Total	2	4226	19	4247		15	0	9	24		2	2673	10	2685		12	0	4	16		6932	40	6972
PM One Hour Volumes																							
4:00 PM - 5:00 PM	1	1395	5	1401	0.94	6	0	2	8	0.50	1	920	3	924	0.94	3	0	1	4	1.00	2325	12	2337
4:15 PM - 5:15 PM	1	1444	8	1453	0.94	6	0	4	10	0.63	1	941	3	945	0.96	3	0	3	6	0.50	2398	16	2414
4:30 PM - 5:30 PM	1	1453	6	1460	0.95	5	0	4	9	0.75	1	926	3	930	0.95	3	0	2	5	0.42	2390	14	2404
4:45 PM - 5:45 PM	1	1433	8	1442	0.94	5	0	3	8	0.67	0	937	2	939	0.95	3	0	2	5	0.42	2381	13	2394
5:00 PM - 6:00 PM	1	1466	8	1475	0.96	3	0	3	6	0.50	0	912	4	916	0.93	6	0	2	8	0.50	2391	14	2405
5:15 PM - 6:15 PM	1	1431	5	1437	0.95	2	0	2	4	0.33	1	890	4	895	0.97	5	0	1	6	0.38	2332	10	2342
5:30 PM - 6:30 PM	1	1426	5	1432	0.96	4	0	2	6	0.30	1	837	5	843	0.94	6	0	1	7	0.44	2275	13	2288
5:45 PM - 6:45 PM	0	1405	4	1409	0.94	5	0	3	8	0.40	1	835	7	843	0.94	6	0	1	7	0.44	2252	15	2267
6:00 PM - 7:00 PM	0	1365	6	1371	0.92	6	0	4	10	0.50	1	841	3	845	0.94	3	0	1	4	1.00	2216	14	2230

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Driveway - North
LOCATION: Town of Vienna,VA

DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Damir & Geri
INPUTED BY: agan

SOUTHBOUND ROAD: Maple Avenue - 123
NORTHBOUND ROAD: Maple Avenue - 123
WESTBOUND ROAD: Site Driveway - North
EASTBOUND ROAD: Driveway

Time Period	Southbound Maple Avenue - 123					Westbound Site Driveway - North					Northbound Maple Avenue - 123					Eastbound Driveway					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
10:00 AM - 10:15 AM		232	1	233		1		2	3			266	5	271		2		1	3		504	6	510
10:15 AM - 10:30 AM		250		250							2	263	3	268		1			1		518	1	519
10:30 AM - 10:45 AM	1	252	1	254								262	4	266		3			3		520	3	523
10:45 AM - 11:00 AM	1	264		265		2		1	3			304	1	305		1			1		570	4	574
11:00 AM - 11:15 AM		254	1	255		1			1		1	285	6	292		3			3		547	4	551
11:15 AM - 11:30 AM		260	2	262		1		1	2			304		304		2			2		566	4	570
11:30 AM - 11:45 AM		252	1	253		1			1			271	1	272		2		3	5		525	6	531
11:45 AM - 12:00 PM		282	1	283		1			1			306	1	307		1			1		590	2	592
12:00 PM - 12:15 PM	1	282		283		2			2			287		287		3		1	4		570	6	576
12:15 PM - 12:30 PM		255	1	256		2		2	4			286	2	288				1	1		544	5	549
12:30 PM - 12:45 PM		303	2	305				2	2			285	1	286		3			3		591	5	596
12:45 PM - 1:00 PM	1	289		290		3			3			298	1	299		2		1	3		589	6	595
1:00 PM - 1:15 PM	1	291		292		1		1	2			292		292							584	2	586
1:15 PM - 1:30 PM	1	307		308				1	1			270		270		4			4		578	5	583
1:30 PM - 1:45 PM	1	280		281		1			1		1	264	2	267		1		3	4		548	5	553
1:45 PM - 2:00 PM		273	3	276		2		1	3			265		265		1		1	2		541	5	546
2:00 PM - 2:15 PM	1	314		315		1		1	2			272	3	275		2		1	3		590	5	595
2:15 PM - 2:30 PM	1	289		290		1		2	3		2	269	2	273							563	3	566
2:30 PM - 2:45 PM		276		276		1		1	2		1	278	1	280		1			1		556	3	559
2:45 PM - 3:00 PM		275	3	278		1			1			270	2	272		5			5		550	6	556
Total	9	5480	16	5505		22	0	15	37		7	5597	35	5639		37	0	12	49		11144	86	11230
One Hour Volumes																							
10:00 AM - 11:00 AM	2	998	2	1002	0.9453	3		3	6	0.5	2	1095	13	1110	0.9098	7		1	8	0.6667	2112	14	2126
10:15 AM - 11:15 AM	2	1020	2	1024	0.966	3		1	4	0.3333	3	1114	14	1131	0.927	8			8	0.6667	2155	12	2167
10:30 AM - 11:30 AM	2	1030	4	1036	0.9774	4		2	6	0.5	1	1155	11	1167	0.9566	9			9	0.75	2203	15	2218
10:45 AM - 11:45 AM	1	1030	4	1035	0.9764	5		2	7	0.5833	1	1164	8	1173	0.9615	8		3	11	0.55	2208	18	2226
11:00 AM - 12:00 PM		1048	5	1053	0.9302	4		1	5	0.625	1	1166	8	1175	0.9568	8		3	11	0.55	2228	16	2244
11:15 AM - 12:15 PM	1	1076	4	1081	0.9549	5		1	6	0.75		1168	2	1170	0.9528	8		4	12	0.6	2251	18	2269
11:30 AM - 12:30 PM	1	1071	3	1075	0.9496	6		2	8	0.5		1150	4	1154	0.9397	6		5	11	0.55	2229	19	2248
11:45 AM - 12:45 PM	1	1122	4	1127	0.9238	5		4	9	0.5625		1164	4	1168	0.9511	7		2	9	0.5625	2295	18	2313
12:00 PM - 1:00 PM	2	1129	3	1134	0.9295	7		4	11	0.6875		1156	4	1160	0.9699	8		3	11	0.6875	2294	22	2316
12:15 PM - 1:15 PM	2	1138	3	1143	0.9369	6		5	11	0.6875		1161	4	1165	0.9741	5		2	7	0.5833	2308	18	2326
12:30 PM - 1:30 PM	3	1190	2	1195	0.97	4		4	8	0.6667		1145	2	1147	0.959	9		1	10	0.625	2342	18	2360
12:45 PM - 1:45 PM	4	1167		1171	0.9505	5		2	7	0.5833	1	1124	3	1128	0.9431	7		4	11	0.6875	2299	18	2317
1:00 PM - 2:00 PM	3	1151	3	1157	0.9391	4		3	7	0.5833	1	1091	2	1094	0.9366	6		4	10	0.625	2251	17	2268
1:15 PM - 2:15 PM	3	1174	3	1180	0.9365	4		3	7	0.5833	1	1071	5	1077	0.9791	8		5	13	0.8125	2257	20	2277
1:30 PM - 2:30 PM	3	1156	3	1162	0.9222	5		4	9	0.75	3	1070	7	1080	0.9818	4		5	9	0.5625	2242	18	2260
1:45 PM - 2:45 PM	2	1152	3	1157	0.9183	5		5	10	0.8333	3	1084	6	1093	0.9759	4		2	6	0.5	2250	16	2266
2:00 PM - 3:00 PM	2	1154	3	1159	0.9198	4		4	8	0.6667	3	1089	8	1100	0.9821	8		1	9	0.45	2259	17	2276

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Nutley St. & Site Entr.
LOCATION: Town of Vienna,VA

DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Majda
INPUTED BY: agan

SOUTHBOUND ROAD: Site Entrance
NORTHBOUND ROAD: Driveway
WESTBOUND ROAD: Nutley Street
EASTBOUND ROAD: Nutley Street

Time Period	Southbound Site Entrance					Westbound Nutley Street					Northbound Driveway					Eastbound Nutley Street					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
6:00 AM - 6:15 AM	0	0	0	0		0	50	0	50		1	0	0	1		1	48	0	49		1	99	100
6:15 AM - 6:30 AM	1	0	0	1		0	57	0	57		1	0	0	1		3	67	0	70		2	127	129
6:30 AM - 6:45 AM	0	0	0	0		0	68	0	68		0	0	0	0		0	90	0	90		0	158	158
6:45 AM - 7:00 AM	0	0	0	0		3	103	0	106		1	0	0	1		2	90	0	92		1	198	199
7:00 AM - 7:15 AM	0	0	0	0		1	111	0	112		3	0	0	3		4	103	0	107		3	219	222
7:15 AM - 7:30 AM	0	0	0	0		0	146	0	146		0	0	0	0		2	115	0	117		0	263	263
7:30 AM - 7:45 AM	0	0	0	0		2	239	0	241		9	0	0	9		2	129	0	131		9	372	381
7:45 AM - 8:00 AM	0	0	0	0		0	217	0	217		4	0	0	4		5	134	0	139		4	356	360
8:00 AM - 8:15 AM	1	0	0	1		6	220	0	226		3	0	0	3		2	170	0	172		4	398	402
8:15 AM - 8:30 AM	0	0	0	0		1	184	0	185		7	0	0	7		2	118	0	120		7	305	312
8:30 AM - 8:45 AM	0	0	0	0		0	157	0	157		3	0	0	3		5	146	0	151		3	308	311
8:45 AM - 9:00 AM	0	0	0	0		1	166	0	167		3	0	0	3		3	122	0	125		3	292	295
Total	2	0	0	2		14	1718	0	1732		35	0	0	35		31	1332	0	1363		37	3095	3132
AM One Hour Volumes																							
6:00 AM - 7:00 AM	1	0	0	1	0.25	3	278	0	281	0.66	3	0	0	3	0.75	6	295	0	301	0.82	4	582	586
6:15 AM - 7:15 AM	1	0	0	1	0.25	4	339	0	343	0.77	5	0	0	5	0.42	9	350	0	359	0.84	6	702	708
6:30 AM - 7:30 AM	0	0	0	0	0.00	4	428	0	432	0.74	4	0	0	4	0.33	8	398	0	406	0.87	4	838	842
6:45 AM - 7:45 AM	0	0	0	0	0.00	6	599	0	605	0.63	13	0	0	13	0.36	10	437	0	447	0.85	13	1052	1065
7:00 AM - 8:00 AM	0	0	0	0	0.00	3	713	0	716	0.74	16	0	0	16	0.44	13	481	0	494	0.89	16	1210	1226
7:15 AM - 8:15 AM	1	0	0	1	0.25	8	822	0	830	0.86	16	0	0	16	0.44	11	548	0	559	0.81	17	1389	1406
7:30 AM - 8:30 AM	1	0	0	1	0.25	9	860	0	869	0.90	23	0	0	23	0.64	11	551	0	562	0.82	24	1431	1455
7:45 AM - 8:45 AM	1	0	0	1	0.25	7	778	0	785	0.87	17	0	0	17	0.61	14	568	0	582	0.85	18	1367	1385
8:00 AM - 9:00 AM	1	0	0	1	0.25	8	727	0	735	0.81	16	0	0	16	0.57	12	556	0	568	0.83	17	1303	1320
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	0	0	0	0		3	151	0	154		3	0	0	3		1	156	0	157		3	311	314
4:15 PM - 4:30 PM	1	0	0	1		3	165	0	168		7	0	0	7		2	185	0	187		8	355	363
4:30 PM - 4:45 PM	2	0	0	2		3	180	0	183		8	0	0	8		3	172	0	175		10	358	368
4:45 PM - 5:00 PM	1	0	0	1		2	206	0	208		8	0	0	8		5	168	0	173		9	381	390
5:00 PM - 5:15 PM	0	0	0	0		5	183	0	188		5	0	0	5		1	200	0	201		5	389	394
5:15 PM - 5:30 PM	0	0	0	0		2	220	0	222		8	0	0	8		2	192	0	194		8	416	424
5:30 PM - 5:45 PM	2	0	0	2		1	239	0	240		11	0	0	11		0	195	0	195		13	435	448
5:45 PM - 6:00 PM	2	0	0	2		4	256	0	260		5	0	0	5		2	159	0	161		7	421	428
6:00 PM - 6:15 PM	0	0	0	0		2	199	0	201		11	0	0	11		3	197	0	200		11	401	412
6:15 PM - 6:30 PM	4	0	0	4		3	199	0	202		6	0	0	6		2	175	0	177		10	379	389
6:30 PM - 6:45 PM	4	0	0	4		4	222	0	226		4	0	0	4		1	171	0	172		8	398	406
6:45 PM - 7:00 PM	0	0	0	0		2	183	0	185		9	0	0	9		0	166	0	166		9	351	360
Total	16	0	0	16		34	2403	0	2437		85	0	0	85		22	2136	0	2158		101	4595	4696
PM One Hour Volumes																							
4:00 PM - 5:00 PM	4	0	0	4	0.50	11	702	0	713	0.86	26	0	0	26	0.81	11	681	0	692	0.93	30	1405	1435
4:15 PM - 5:15 PM	4	0	0	4	0.50	13	734	0	747	0.90	28	0	0	28	0.88	11	725	0	736	0.92	32	1483	1515
4:30 PM - 5:30 PM	3	0	0	3	0.38	12	789	0	801	0.90	29	0	0	29	0.91	11	732	0	743	0.92	32	1544	1576
4:45 PM - 5:45 PM	3	0	0	3	0.38	10	848	0	858	0.89	32	0	0	32	0.73	8	755	0	763	0.95	35	1621	1656
5:00 PM - 6:00 PM	4	0	0	4	0.50	12	898	0	910	0.88	29	0	0	29	0.66	5	746	0	751	0.93	33	1661	1694
5:15 PM - 6:15 PM	4	0	0	4	0.50	9	914	0	923	0.89	35	0	0	35	0.80	7	743	0	750	0.94	39	1673	1712
5:30 PM - 6:30 PM	8	0	0	8	0.50	10	893	0	903	0.87	33	0	0	33	0.75	7	726	0	733	0.92	41	1636	1677
5:45 PM - 6:45 PM	10	0	0	10	0.63	13	876	0	889	0.85	26	0	0	26	0.59	8	702	0	710	0.89	36	1599	1635
6:00 PM - 7:00 PM	8	0	0	8	0.50	11	803	0	814	0.90	30	0	0	30	0.68	6	709	0	715	0.89	38	1529	1567

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Nutley St. & Site Driveway
LOCATION: Town of Vienna,VA

DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Luz
INPUTED BY: agan

SOUTHBOUND ROAD: Site Driveway
NORTHBOUND ROAD: Driveway
WESTBOUND ROAD: Nutley Street
EASTBOUND ROAD: Nutley Street

Time Period	Southbound Site Driveway					Westbound Nutley Street					Northbound Driveway					Eastbound Nutley Street					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
10:00 AM - 10:15 AM						3	155		158		3			3		2	151		153		3	311	314
10:15 AM - 10:30 AM	1			1			152		152		9			9		6	150		156		10	308	318
10:30 AM - 10:45 AM	1			1		3	160		163		7			7		2	161		163		8	326	334
10:45 AM - 11:00 AM							197		197		3			3		2	148		150		3	347	350
11:00 AM - 11:15 AM						1	173		174		6			6		2	142		144		6	318	324
11:15 AM - 11:30 AM	1			1		2	181		183		6			6		2	146		148		7	331	338
11:30 AM - 11:45 AM						1	203		204		10			10		4	186		190		10	394	404
11:45 AM - 12:00 PM	1			1		1	189		190		11			11		2	154		156		12	346	358
12:00 PM - 12:15 PM						1	175		176		8			8		1	151		152		8	328	336
12:15 PM - 12:30 PM	1			1		1	204		205		7			7		2	168		170		8	375	383
12:30 PM - 12:45 PM	1			1		1	180		181		5			5			184		184		6	365	371
12:45 PM - 1:00 PM						5	236		241		6			6		4	187		191		6	432	438
1:00 PM - 1:15 PM	1			1		5	210		215		2			2		3	205		208		3	423	426
1:15 PM - 1:30 PM	2			2		4	171		175		4			4			177		177		6	352	358
1:30 PM - 1:45 PM	3			3			196		196							6	178		184		3	380	383
1:45 PM - 2:00 PM	2			2		2	195		197		7			7		3	148		151		9	348	357
2:00 PM - 2:15 PM						3	154		157		7			7		3	177		180		7	337	344
2:15 PM - 2:30 PM	3			3		1	176		177		9			9		1	175		176		12	353	365
2:30 PM - 2:45 PM						1	180		181		4			4		5	159		164		4	345	349
2:45 PM - 3:00 PM	1			1		5	150		155		9			9			163		163		10	318	328
Total	18	0	0	18		40	3637	0	3677		123	0	0	123		50	3310	0	3360		141	7037	7178
One Hour Volumes																							
10:00 AM - 11:00 AM	2			2	0.5	6	664		670	0.8503	22			22	0.6111	12	610		622	0.954	24	1292	1316
10:15 AM - 11:15 AM	2			2	0.5	4	682		686	0.8706	25			25	0.6944	12	601		613	0.9402	27	1299	1326
10:30 AM - 11:30 AM	2			2	0.5	6	711		717	0.9099	22			22	0.7857	8	597		605	0.9279	24	1322	1346
10:45 AM - 11:45 AM	1			1	0.25	4	754		758	0.9289	25			25	0.625	10	622		632	0.8316	26	1390	1416
11:00 AM - 12:00 PM	2			2	0.5	5	746		751	0.9203	33			33	0.75	10	628		638	0.8395	35	1389	1424
11:15 AM - 12:15 PM	2			2	0.5	5	748		753	0.9228	35			35	0.7955	9	637		646	0.85	37	1399	1436
11:30 AM - 12:30 PM	2			2	0.5	4	771		775	0.9451	36			36	0.8182	9	659		668	0.8789	38	1443	1481
11:45 AM - 12:45 PM	3			3	0.75	4	748		752	0.9171	31			31	0.7045	5	657		662	0.8995	34	1414	1448
12:00 PM - 1:00 PM	2			2	0.5	8	795		803	0.833	26			26	0.8125	7	690		697	0.9123	28	1500	1528
12:15 PM - 1:15 PM	3			3	0.75	12	830		842	0.8734	20			20	0.7143	9	744		753	0.905	23	1595	1618
12:30 PM - 1:30 PM	4			4	0.5	15	797		812	0.8423	17			17	0.7083	7	753		760	0.9135	21	1572	1593
12:45 PM - 1:45 PM	6			6	0.5	14	813		827	0.8579	12			12	0.5	13	747		760	0.9135	18	1587	1605
1:00 PM - 2:00 PM	8			8	0.6667	11	772		783	0.9105	13			13	0.4643	12	708		720	0.8654	21	1503	1524
1:15 PM - 2:15 PM	7			7	0.5833	9	716		725	0.9201	18			18	0.6429	12	680		692	0.9402	25	1417	1442
1:30 PM - 2:30 PM	8			8	0.6667	6	721		727	0.9226	23			23	0.6389	13	678		691	0.9389	31	1418	1449
1:45 PM - 2:45 PM	5			5	0.4167	7	705		712	0.9036	27			27	0.75	12	659		671	0.9319	32	1383	1415
2:00 PM - 3:00 PM	4			4	0.3333	10	660		670	0.9254	29			29	0.8056	9	674		683	0.9486	33	1353	1386

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: CFA Flagship Carwash
W+A JOB NO: 6268
INTERSECTION: Nutley St. & Windower Ave.
LOCATION: Town of Vienna,VA

DATE: 3/31/2016
DAY: Thursday
WEATHER: clear
COUNTED BY: Damir
INPUTED BY: agan

SOUTHBOUND ROAD: Windower Avenue
NORTHBOUND ROAD: Windower Avenue
WESTBOUND ROAD: Nutley Street
EASTBOUND ROAD: Nutley Street

Time Period	Southbound Windower Avenue					Westbound Nutley Street					Northbound Windower Avenue					Eastbound Nutley Street					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
6:00 AM - 6:15 AM	0	0	0	0		0	2	0	2		3	2	3	8		1	7	0	8		8	10	18
6:15 AM - 6:30 AM	0	0	1	1		2	8	0	10		1	2	2	5		2	8	0	10		6	20	26
6:30 AM - 6:45 AM	0	0	1	1		0	9	3	12		2	5	4	11		1	24	1	26		12	38	50
6:45 AM - 7:00 AM	0	3	4	7		1	10	0	11		3	10	2	15		3	23	1	27		22	38	60
7:00 AM - 7:15 AM	0	0	1	1		0	12	2	14		8	11	6	25		6	45	1	52		26	66	92
7:15 AM - 7:30 AM	2	12	3	17		0	32	3	35		8	6	5	19		9	34	3	46		36	81	117
7:30 AM - 7:45 AM	5	25	11	41		5	32	8	45		30	14	10	54		12	50	7	69		95	114	209
7:45 AM - 8:00 AM	17	38	13	68		4	48	8	60		40	21	8	69		12	59	9	80		137	140	277
8:00 AM - 8:15 AM	23	22	16	61		7	56	4	67		37	28	23	88		4	66	18	88		149	155	304
8:15 AM - 8:30 AM	3	13	19	35		6	45	2	53		8	19	19	46		6	56	0	62		81	115	196
8:30 AM - 8:45 AM	4	8	6	18		5	39	1	45		12	7	6	25		2	59	2	63		43	108	151
8:45 AM - 9:00 AM	6	14	13	33		10	33	2	45		12	18	12	42		10	38	4	52		75	97	172
Total	60	135	88	283		40	326	33	399		164	143	100	407		68	469	46	583		690	982	1672
AM One Hour Volumes																							
6:00 AM - 7:00 AM	0	3	6	9	0.32	3	29	3	35	0.73	9	19	11	39	0.65	7	62	2	71	0.66	48	106	154
6:15 AM - 7:15 AM	0	3	7	10	0.36	3	39	5	47	0.84	14	28	14	56	0.56	12	100	3	115	0.55	66	162	228
6:30 AM - 7:30 AM	2	15	9	26	0.38	1	63	8	72	0.51	21	32	17	70	0.70	19	126	6	151	0.73	96	223	319
6:45 AM - 7:45 AM	7	40	19	66	0.40	6	86	13	105	0.58	49	41	23	113	0.52	30	152	12	194	0.70	179	299	478
7:00 AM - 8:00 AM	24	75	28	127	0.47	9	124	21	154	0.64	86	52	29	167	0.61	39	188	20	247	0.77	294	401	695
7:15 AM - 8:15 AM	47	97	43	187	0.69	16	168	23	207	0.77	115	69	46	230	0.65	37	209	37	283	0.80	417	490	907
7:30 AM - 8:30 AM	48	98	59	205	0.75	22	181	22	225	0.84	115	82	60	257	0.73	34	231	34	299	0.85	462	524	986
7:45 AM - 8:45 AM	47	81	54	182	0.67	22	188	15	225	0.84	97	75	56	228	0.65	24	240	29	293	0.83	410	518	928
8:00 AM - 9:00 AM	36	57	54	147	0.60	28	173	9	210	0.78	69	72	60	201	0.57	22	219	24	265	0.75	348	475	823
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	2	31	19	52		5	34	5	44		26	26	12	64		11	59	4	74		116	118	234
4:15 PM - 4:30 PM	6	24	18	48		7	41	7	55		22	20	13	55		12	47	3	62		103	117	220
4:30 PM - 4:45 PM	3	27	12	42		9	47	5	61		21	10	10	41		4	47	3	54		83	115	198
4:45 PM - 5:00 PM	4	21	8	33		5	58	3	66		10	12	12	34		5	46	0	51		67	117	184
5:00 PM - 5:15 PM	9	22	15	46		4	39	3	46		11	14	3	28		13	45	1	59		74	105	179
5:15 PM - 5:30 PM	7	16	11	34		9	62	2	73		10	9	12	31		6	59	3	68		65	141	206
5:30 PM - 5:45 PM	4	26	12	42		4	69	2	75		19	11	15	45		9	60	1	70		87	145	232
5:45 PM - 6:00 PM	5	27	9	41		7	69	6	82		8	5	7	20		9	52	2	63		61	145	206
6:00 PM - 6:15 PM	13	28	19	60		6	52	5	63		8	5	12	25		6	54	2	62		85	125	210
6:15 PM - 6:30 PM	9	27	12	48		7	57	3	67		5	8	6	19		17	41	0	58		67	125	192
6:30 PM - 6:45 PM	5	18	7	30		2	44	9	55		6	7	10	23		3	39	3	45		53	100	153
6:45 PM - 7:00 PM	3	19	4	26		5	47	3	55		4	10	7	21		7	33	1	41		47	96	143
Total	70	286	146	502		70	619	53	742		150	137	119	406		102	582	23	707		908	1449	2357
PM One Hour Volumes																							
4:00 PM - 5:00 PM	15	103	57	175	0.84	26	180	20	226	0.86	79	68	47	194	0.76	32	199	10	241	0.81	369	467	836
4:15 PM - 5:15 PM	22	94	53	169	0.88	25	185	18	228	0.86	64	56	38	158	0.72	34	185	7	226	0.91	327	454	781
4:30 PM - 5:30 PM	23	86	46	155	0.84	27	206	13	246	0.84	52	45	37	134	0.82	28	197	7	232	0.85	289	478	767
4:45 PM - 5:45 PM	24	85	46	155	0.84	22	228	10	260	0.87	50	46	42	138	0.77	33	210	5	248	0.89	293	508	801
5:00 PM - 6:00 PM	25	91	47	163	0.89	24	239	13	276	0.84	48	39	37	124	0.69	37	216	7	260	0.93	287	536	823
5:15 PM - 6:15 PM	29	97	51	177	0.74	26	252	15	293	0.89	45	30	46	121	0.67	30	225	8	263	0.94	298	556	854
5:30 PM - 6:30 PM	31	108	52	191	0.80	24	247	16	287	0.88	40	29	40	109	0.61	41	207	5	253	0.90	300	540	840
5:45 PM - 6:45 PM	32	100	47	179	0.75	22	222	23	267	0.81	27	25	35	87	0.87	35	186	7	228	0.90	266	495	761
6:00 PM - 7:00 PM	30	92	42	164	0.68	20	200	20	240	0.90	23	30	35	88	0.88	33	167	6	206	0.83	252	446	698

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

PROJECT: Chik-fil-A Car Wash
W+A JOB NO: 6268
INTERSECTION: Maple Ave. & James Madison Dr.
LOCATION: Fairfax County,VA

DATE: 1/27/2015
DAY: Tuesday
WEATHER: clear
COUNTED BY: Luz & Eduvina
INPUTED BY: agan

SOUTHBOUND ROAD: Maple Avenue West - 123
NORTHBOUND ROAD: Chain Bridge Road - 123
WESTBOUND ROAD: Driveway
EASTBOUND ROAD: James Madison Drive - 7249

Time Period	Southbound Maple Avenue West - 123					Westbound Driveway					Northbound Chain Bridge Road - 123					Eastbound James Madison Drive - 7249					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
AM 15 Minute Volumes																							
6:00 AM - 6:15 AM	3	23	7	33		1	1	4	6		8	131	9	148		2	2	6	10		181	16	197
6:15 AM - 6:30 AM	7	29	8	44		0	1	1	2		9	160	17	186		1	1	9	11		230	13	243
6:30 AM - 6:45 AM	42	46	9	97		0	1	0	1		12	232	17	261		4	1	9	14		358	15	373
6:45 AM - 7:00 AM	84	64	11	159		1	0	0	1		10	230	26	266		3	3	14	20		425	21	446
7:00 AM - 7:15 AM	70	97	7	174		0	1	1	2		6	248	20	274		13	0	9	22		448	24	472
7:15 AM - 7:30 AM	12	96	15	123		0	1	0	1		5	288	19	312		14	1	15	30		435	31	466
7:30 AM - 7:45 AM	19	91	13	123		1	0	2	3		9	256	26	291		17	0	7	24		414	27	441
7:45 AM - 8:00 AM	6	93	9	108		0	0	0	0		9	267	34	310		3	0	6	9		418	9	427
8:00 AM - 8:15 AM	8	101	8	117		1	0	1	2		6	251	40	297		12	1	3	16		414	18	432
8:15 AM - 8:30 AM	9	124	25	158		0	0	0	0		1	295	24	320		14	2	6	22		478	22	500
8:30 AM - 8:45 AM	11	110	13	134		2	0	1	3		13	271	21	305		16	0	8	24		439	27	466
8:45 AM - 9:00 AM	10	97	28	135		2	0	2	4		7	261	22	290		19	0	4	23		425	27	452
Total	281	971	153	1405		8	5	12	25		95	2890	275	3260		118	11	96	225		4665	250	4915
AM One Hour Volumes																							
6:00 AM - 7:00 AM	136	162	35	333	0.52	2	3	5	10	0.42	39	753	69	861	0.81	10	7	38	55	0.69	1194	65	1259
6:15 AM - 7:15 AM	203	236	35	474	0.68	1	3	2	6	0.75	37	870	80	987	0.90	21	5	41	67	0.76	1461	73	1534
6:30 AM - 7:30 AM	208	303	42	553	0.79	1	3	1	5	0.63	33	998	82	1113	0.89	34	5	47	86	0.72	1666	91	1757
6:45 AM - 7:45 AM	185	348	46	579	0.83	2	2	3	7	0.58	30	1022	91	1143	0.92	47	4	45	96	0.80	1722	103	1825
7:00 AM - 8:00 AM	107	377	44	528	0.76	1	2	3	6	0.50	29	1059	99	1187	0.95	47	1	37	85	0.71	1715	91	1806
7:15 AM - 8:15 AM	45	381	45	471	0.96	2	1	3	6	0.50	29	1062	119	1210	0.97	46	2	31	79	0.66	1681	85	1766
7:30 AM - 8:30 AM	42	409	55	506	0.80	2	0	3	5	0.42	25	1069	124	1218	0.95	46	3	22	71	0.74	1724	76	1800
7:45 AM - 8:45 AM	34	428	55	517	0.82	3	0	2	5	0.42	29	1084	119	1232	0.96	45	3	23	71	0.74	1749	76	1825
8:00 AM - 9:00 AM	38	432	74	544	0.86	5	0	4	9	0.56	27	1078	107	1212	0.95	61	3	21	85	0.89	1756	94	1850
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	19	268	27	314		0	1	0	1		7	147	23	177		18	0	3	21		491	22	513
4:15 PM - 4:30 PM	10	316	10	336		0	0	4	4		10	142	11	163		18	2	7	27		499	31	530
4:30 PM - 4:45 PM	23	291	18	332		2	0	3	5		7	132	17	156		18	1	7	26		488	31	519
4:45 PM - 5:00 PM	12	242	17	271		1	0	0	1		12	147	18	177		14	1	7	22		448	23	471
5:00 PM - 5:15 PM	11	273	20	304		0	1	4	5		5	177	26	208		21	0	6	27		512	32	544
5:15 PM - 5:30 PM	10	274	15	299		5	0	3	8		2	159	26	187		11	0	11	22		486	30	516
5:30 PM - 5:45 PM	7	276	12	295		0	0	0	0		5	154	23	182		32	0	6	38		477	38	515
5:45 PM - 6:00 PM	19	281	5	305		2	1	0	3		7	186	25	218		26	1	5	32		523	35	558
6:00 PM - 6:15 PM	14	274	13	301		0	1	0	1		6	125	18	149		19	0	3	22		450	23	473
6:15 PM - 6:30 PM	41	256	11	308		0	0	2	2		5	131	24	160		13	0	8	21		468	23	491
6:30 PM - 6:45 PM	15	269	14	298		3	0	3	6		8	133	16	157		24	1	4	29		455	35	490
6:45 PM - 7:00 PM	12	233	6	251		0	0	1	1		1	119	23	143		15	0	5	20		394	21	415
Total	193	3253	168	3614		13	4	20	37		75	1752	250	2077		229	6	72	307		5691	344	6035
PM One Hour Volumes																							
4:00 PM - 5:00 PM	64	1117	72	1253	0.93	3	1	7	11	0.55	36	568	69	673	0.95	68	4	24	96	0.89	1926	107	2033
4:15 PM - 5:15 PM	56	1122	65	1243	0.92	3	1	11	15	0.75	34	598	72	704	0.85	71	4	27	102	0.94	1947	117	2064
4:30 PM - 5:30 PM	56	1080	70	1206	0.91	8	1	10	19	0.59	26	615	87	728	0.88	64	2	31	97	0.90	1934	116	2050
4:45 PM - 5:45 PM	40	1065	64	1169	0.96	6	1	7	14	0.44	24	637	93	754	0.91	78	1	30	109	0.72	1923	123	2046
5:00 PM - 6:00 PM	47	1104	52	1203	0.99	7	2	7	16	0.50	19	676	100	795	0.91	90	1	28	119	0.78	1998	135	2133
5:15 PM - 6:15 PM	50	1105	45	1200	0.98	7	2	3	12	0.38	20	624	92	736	0.84	88	1	25	114	0.75	1936	126	2062
5:30 PM - 6:30 PM	81	1087	41	1209	0.98	2	2	2	6	0.50	23	596	90	709	0.81	90	1	22	113	0.74	1918	119	2037
5:45 PM - 6:45 PM	89	1080	43	1212	0.98	5	2	5	12	0.50	26	575	83	684	0.78	82	2	20	104	0.81	1896	116	2012
6:00 PM - 7:00 PM	82	1032	44	1158	0.94	3	1	6	10	0.42	20	508	81	609	0.95	71	1	20	92	0.79	1767	102	1869

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Total Vehicles

PROJECT: Chik-fil-A Car Wash
W+A JOB NO: 6268
INTERSECTION: Maple Ave. & James Madison Dr.
LOCATION: Fairfax County,VA

DATE: 1/31/2015
DAY: Saturday
WEATHER: clear
COUNTED BY: Irman & Amar
INPUTED BY: agan

SOUTHBOUND ROAD: Maple Avenue West - 123
NORTHBOUND ROAD: Chain Bridge Road - 123
WESTBOUND ROAD: Driveway
EASTBOUND ROAD: James Madison Drive - 7249

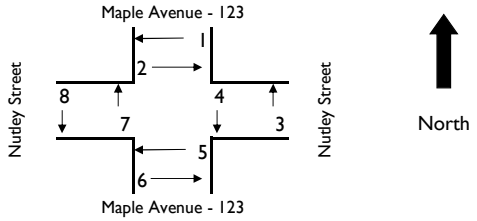
Time Period	Southbound Maple Avenue West - 123					Westbound Driveway					Northbound Chain Bridge Road - 123					Eastbound James Madison Drive - 7249					North & South	East & West	Total
	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF			
15 Minute Volumes																							
10:00 AM - 10:15 AM	3	128	30	161		5		4	9		10	172	21	203		3	1	6	10		364	19	383
10:15 AM - 10:30 AM	4	145	35	184		3		6	9		11	141	11	163		5		6	11		347	20	367
10:30 AM - 10:45 AM	6	133	29	168		3		4	7		10	161	13	184		6	1	7	14		352	21	373
10:45 AM - 11:00 AM	11	149	30	190		1		3	4		7	153	10	170		8		13	21		360	25	385
11:00 AM - 11:15 AM	6	158	37	201		1	1	7	9		12	171	13	196		12	1	9	22		397	31	428
11:15 AM - 11:30 AM	3	175	26	204		1		5	6		7	163	11	181		7	3	3	13		385	19	404
11:30 AM - 11:45 AM	3	160	37	200		3		2	5		13	218	18	249		13		5	18		449	23	472
11:45 AM - 12:00 PM	8	186	33	227		3		6	9		11	189	13	213		5	1	6	12		440	21	461
12:00 PM - 12:15 PM	7	207	45	259		1	1	6	8		7	194	25	226		13		9	22		485	30	515
12:15 PM - 12:30 PM	3	187	49	239		3		2	5		12	210	17	239		12		2	14		478	19	497
12:30 PM - 12:45 PM	3	191	28	222		5		3	8		12	217	21	250		9		6	15		472	23	495
12:45 PM - 1:00 PM	4	190	32	226		5		5	10		16	195	27	238		10	1	3	14		464	24	488
1:00 PM - 1:15 PM	3	207	43	253		1		4	5		6	193	19	218		9		3	12		471	17	488
1:15 PM - 1:30 PM	7	202	43	252		2		4	6		12	195	26	233		9	1	2	12		485	18	503
1:30 PM - 1:45 PM	3	196	46	245		3	2	5	10		7	179	21	207		15	1	6	22		452	32	484
1:45 PM - 2:00 PM	4	235	36	275		5		6	11		6	197	21	224		3	1	4	8		499	19	518
2:00 PM - 2:15 PM	7	236	39	282		2		5	7		9	167	22	198		11	1	5	17		480	24	504
2:15 PM - 2:30 PM	3	206	34	243		2	1	4	7		7	163	18	188		10	1	6	17		431	24	455
2:30 PM - 2:45 PM	11	187	40	238		3		2	5		9	184	24	217		10	1	4	15		455	20	475
2:45 PM - 3:00 PM	3	207	43	253		4		3	7		15	147	19	181		9		2	11		434	18	452
-																							
-																							
-																							
-																							
Total	102	3685	735	4522		56	5	86	147		199	3609	370	4178		179	14	107	300		8700	447	9147
One Hour Volumes																							
10:00 AM - 11:00 AM	24	555	124	703	0.925	12		17	29	0.8056	38	627	55	720	0.8867	22	2	32	56	0.6667	1423	85	1508
10:15 AM - 11:15 AM	27	585	131	743	0.9241	8	1	20	29	0.8056	40	626	47	713	0.9094	31	2	35	68	0.7727	1456	97	1553
10:30 AM - 11:30 AM	26	615	122	763	0.935	6	1	19	26	0.7222	36	648	47	731	0.9324	33	5	32	70	0.7955	1494	96	1590
10:45 AM - 11:45 AM	23	642	130	795	0.9743	6	1	17	24	0.6667	39	705	52	796	0.7992	40	4	30	74	0.8409	1591	98	1689
11:00 AM - 12:00 PM	20	679	133	832	0.9163	8	1	20	29	0.8056	43	741	55	839	0.8424	37	5	23	65	0.7386	1671	94	1765
11:15 AM - 12:15 PM	21	728	141	890	0.8591	8	1	19	28	0.7778	38	764	67	869	0.8725	38	4	23	65	0.7386	1759	93	1852
11:30 AM - 12:30 PM	21	740	164	925	0.8929	10	1	16	27	0.75	43	811	73	927	0.9307	43	1	22	66	0.75	1852	93	1945
11:45 AM - 12:45 PM	21	771	155	947	0.9141	12	1	17	30	0.8333	42	810	76	928	0.928	39	1	23	63	0.7159	1875	93	1968
12:00 PM - 1:00 PM	17	775	154	946	0.9131	14	1	16	31	0.775	47	816	90	953	0.953	44	1	20	65	0.7386	1899	96	1995
12:15 PM - 1:15 PM	13	775	152	940	0.9289	14		14	28	0.7	46	815	84	945	0.945	40	1	14	55	0.9167	1885	83	1968
12:30 PM - 1:30 PM	17	790	146	953	0.9417	13		16	29	0.725	46	800	93	939	0.939	37	2	14	53	0.8833	1892	82	1974
12:45 PM - 1:45 PM	17	795	164	976	0.9644	11	2	18	31	0.775	41	762	93	896	0.9412	43	3	14	60	0.6818	1872	91	1963
1:00 PM - 2:00 PM	17	840	168	1025	0.9318	11	2	19	32	0.7273	31	764	87	882	0.9464	36	3	15	54	0.6136	1907	86	1993
1:15 PM - 2:15 PM	21	869	164	1054	0.9344	12	2	20	34	0.7727	34	738	90	862	0.9249	38	4	17	59	0.6705	1916	93	2009
1:30 PM - 2:30 PM	17	873	155	1045	0.9264	12	3	20	35	0.7955	29	706	82	817	0.9118	39	4	21	64	0.7273	1862	99	1961
1:45 PM - 2:45 PM	25	864	149	1038	0.9202	12	1	17	30	0.6818	31	711	85	827	0.923	34	4	19	57	0.8382	1865	87	1952
2:00 PM - 3:00 PM	24	836	156	1016	0.9007	11	1	14	26	0.9286	40	661	83	784	0.9032	40	3	17	60	0.8824	1800	86	1886
-	17	600	117	734	0.7253	9	1	9	19	0.6786	31	494	61	586	0.6751	29	2	12	43	0.6324	1320	62	1382
-	14	394	83	491	0.4852	7		5	12	0.4286	24	331	43	398	0.4585	19	1	6	26	0.4333	889	38	927
-	3	207	43	253	0.25	4		3	7	0.25	15	147	19	181	0.25	9		2	11	0.25	434	18	452
-																							

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Nutley St.
LOCATION: Town of Vienna,VA
DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Jovana
INPUTED BY: agan



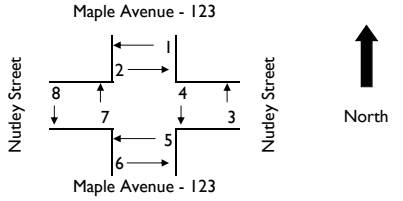
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
AM 15 Minute Volumes													
6:00 AM - 6:15 AM													
6:15 AM - 6:30 AM			2										
6:30 AM - 6:45 AM			1				2						
6:45 AM - 7:00 AM			1			1	1	1					
7:00 AM - 7:15 AM					2								
7:15 AM - 7:30 AM			2										
7:30 AM - 7:45 AM													
7:45 AM - 8:00 AM	1		1	1			1						
8:00 AM - 8:15 AM	9				2			1					
8:15 AM - 8:30 AM	2			1	1		1						
8:30 AM - 8:45 AM													
8:45 AM - 9:00 AM							1						
Total	12	0	7	2	5	1	6	2					
AM One Hour Volumes													
6:00 AM - 7:00 AM	0	0	4	0	0	1	3	1	0	4	1	4	9
6:15 AM - 7:15 AM	0	0	4	0	2	1	3	1	0	4	3	4	11
6:30 AM - 7:30 AM	0	0	4	0	2	1	3	1	0	4	3	4	11
6:45 AM - 7:45 AM	0	0	3	0	2	1	1	1	0	3	3	2	8
7:00 AM - 8:00 AM	1	0	3	1	2	0	1	0	1	4	2	1	8
7:15 AM - 8:15 AM	10	0	3	1	2	0	1	1	10	4	2	2	18
7:30 AM - 8:30 AM	12	0	1	2	3	0	2	1	12	3	3	3	21
7:45 AM - 8:45 AM	12	0	1	2	3	0	2	1	12	3	3	3	21
8:00 AM - 9:00 AM	11	0	0	1	3	0	2	1	11	1	3	3	18
PM 15 Minute Volumes													
4:00 PM - 4:15 PM				1	1	4		1					
4:15 PM - 4:30 PM			2	1		7	2	5					
4:30 PM - 4:45 PM					6		1	2					
4:45 PM - 5:00 PM	3		1				4	5					
5:00 PM - 5:15 PM				1	1			2					
5:15 PM - 5:30 PM	1	1					5						
5:30 PM - 5:45 PM	1		3	2				3					
5:45 PM - 6:00 PM	1		2	1				3					
6:00 PM - 6:15 PM			3				1	7					
6:15 PM - 6:30 PM			1				1	5					
6:30 PM - 6:45 PM							2	2					
6:45 PM - 7:00 PM				1				1					
Total	6	1	12	7	8	11	16	36					
PM One Hour Volumes													
4:00 PM - 5:00 PM	3	0	3	2	7	11	7	13	3	5	18	20	46
4:15 PM - 5:15 PM	3	0	3	2	7	7	7	14	3	5	14	21	43
4:30 PM - 5:30 PM	4	1	1	1	7	0	10	9	5	2	7	19	33
4:45 PM - 5:45 PM	5	1	4	3	1	0	9	10	6	7	1	19	33
5:00 PM - 6:00 PM	3	1	5	4	1	0	5	8	4	9	1	13	27
5:15 PM - 6:15 PM	3	1	8	3	0	0	6	13	4	11	0	19	34
5:30 PM - 6:30 PM	2	0	9	3	0	0	2	18	2	12	0	20	34
5:45 PM - 6:45 PM	1	0	6	1	0	0	4	17	1	7	0	21	29
6:00 PM - 7:00 PM	0	0	4	1	0	0	4	15	0	5	0	19	24

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W + A JOB NO: 6365
INTERSECTION: Maple Ave. & Nutley St.
LOCATION: Town of Vienna,VA
DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Jovana
INPUTED BY: agan



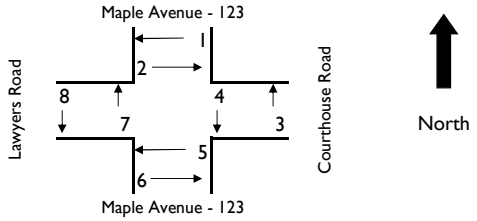
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
10:00 AM - 10:15 AM		2					3						
10:15 AM - 10:30 AM			2				1	1					
10:30 AM - 10:45 AM							1	2					
10:45 AM - 11:00 AM	1						3						
11:00 AM - 11:15 AM			1	2			1						
11:15 AM - 11:30 AM							1	1					
11:30 AM - 11:45 AM			2				1	1					
11:45 AM - 12:00 PM							6						
12:00 PM - 12:15 PM	1		1				1	2					
12:15 PM - 12:30 PM			1				4	1					
12:30 PM - 12:45 PM			1	4			4	2					
12:45 PM - 1:00 PM			2	1			6	4					
1:00 PM - 1:15 PM	2			2			2	3					
1:15 PM - 1:30 PM							1	3					
1:30 PM - 1:45 PM							2						
1:45 PM - 2:00 PM	1	3	2	3			4	1					
2:00 PM - 2:15 PM							1	2					
2:15 PM - 2:30 PM		1					1						
2:30 PM - 2:45 PM							1						
2:45 PM - 3:00 PM							4	2					
Total	5	6	12	12	0	0	48	25					
One Hour Volumes													
10:00 AM - 11:00 AM	1	2	2				8	3	3	2		11	16
10:15 AM - 11:15 AM	1		3	2			6	3	1	5		9	15
10:30 AM - 11:30 AM	1		1	2			6	3	1	3		9	13
10:45 AM - 11:45 AM	1		3	2			6	2	1	5		8	14
11:00 AM - 12:00 PM			3	2			9	2		5		11	16
11:15 AM - 12:15 PM	1		3				9	4	1	3		13	17
11:30 AM - 12:30 PM	1		4				12	4	1	4		16	21
11:45 AM - 12:45 PM	1		3	4			15	5	1	7		20	28
12:00 PM - 1:00 PM	1		5	5			15	9	1	10		24	35
12:15 PM - 1:15 PM	2		4	7			16	10	2	11		26	39
12:30 PM - 1:30 PM	2		3	7			13	12	2	10		25	37
12:45 PM - 1:45 PM	2		2	3			11	10	2	5		21	28
1:00 PM - 2:00 PM	3	3	2	5			9	7	6	7		16	29
1:15 PM - 2:15 PM	1	3	2	3			8	6	4	5		14	23
1:30 PM - 2:30 PM	1	4	2	3			8	3	5	5		11	21
1:45 PM - 2:45 PM	1	4	2	3			7	3	5	5		10	20
2:00 PM - 3:00 PM		1					7	4	1			11	12

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Courthouse Rd.
LOCATION: Town of Vienna,VA
DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Dzemo
INPUTED BY: agan



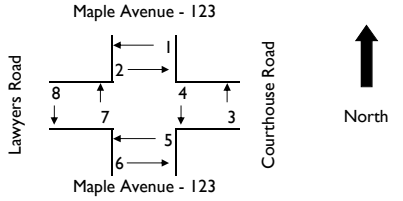
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
AM 15 Minute Volumes													
6:00 AM - 6:15 AM													
6:15 AM - 6:30 AM	4		2	2				1					
6:30 AM - 6:45 AM													
6:45 AM - 7:00 AM	1												
7:00 AM - 7:15 AM		3											
7:15 AM - 7:30 AM			1		1		1						
7:30 AM - 7:45 AM													
7:45 AM - 8:00 AM							2						
8:00 AM - 8:15 AM													
8:15 AM - 8:30 AM							2						
8:30 AM - 8:45 AM	1						2						
8:45 AM - 9:00 AM		1											
Total	6	4	3	2	1	0	7	1					
AM One Hour Volumes													
6:00 AM - 7:00 AM	5	0	2	2	0	0	0	1	5	4	0	1	10
6:15 AM - 7:15 AM	5	3	2	2	0	0	0	1	8	4	0	1	13
6:30 AM - 7:30 AM	1	3	1	0	1	0	1	0	4	1	1	1	7
6:45 AM - 7:45 AM	1	3	1	0	1	0	1	0	4	1	1	1	7
7:00 AM - 8:00 AM	0	3	1	0	1	0	3	0	3	1	1	3	8
7:15 AM - 8:15 AM	0	0	1	0	1	0	3	0	0	1	1	3	5
7:30 AM - 8:30 AM	0	0	0	0	0	0	4	0	0	0	0	4	4
7:45 AM - 8:45 AM	1	0	0	0	0	0	6	0	1	0	0	6	7
8:00 AM - 9:00 AM	1	1	0	0	0	0	4	0	2	0	0	4	6
PM 15 Minute Volumes													
4:00 PM - 4:15 PM	3	3			1		2	2					
4:15 PM - 4:30 PM	4			3		3	4	1					
4:30 PM - 4:45 PM		3	1	1				3					
4:45 PM - 5:00 PM				4									
5:00 PM - 5:15 PM	1				1		2	2					
5:15 PM - 5:30 PM	2	1	2	3		2		3					
5:30 PM - 5:45 PM		1		5				2					
5:45 PM - 6:00 PM	1		2					1					
6:00 PM - 6:15 PM				4		1		2					
6:15 PM - 6:30 PM	5		3				2						
6:30 PM - 6:45 PM			2				1						
6:45 PM - 7:00 PM	2	1		1			2	2					
Total	18	9	10	21	2	6	13	18					
PM One Hour Volumes													
4:00 PM - 5:00 PM	7	6	1	8	1	3	6	6	13	9	4	12	38
4:15 PM - 5:15 PM	5	3	1	8	1	3	6	6	8	9	4	12	33
4:30 PM - 5:30 PM	3	4	3	8	1	2	2	8	7	11	3	10	31
4:45 PM - 5:45 PM	3	2	2	12	1	2	2	7	5	14	3	9	31
5:00 PM - 6:00 PM	4	2	4	8	1	2	2	8	6	12	3	10	31
5:15 PM - 6:15 PM	3	2	4	12	0	3	0	8	5	16	3	8	32
5:30 PM - 6:30 PM	6	1	5	9	0	1	2	5	7	14	1	7	29
5:45 PM - 6:45 PM	6	0	7	4	0	1	3	3	6	11	1	6	24
6:00 PM - 7:00 PM	7	1	5	5	0	1	5	4	8	10	1	9	28

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W + A JOB NO: 6365
INTERSECTION: Maple Ave. & Courthouse Rd.
LOCATION: Town of Vienna,VA
DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Jose
INPUTED BY: agan



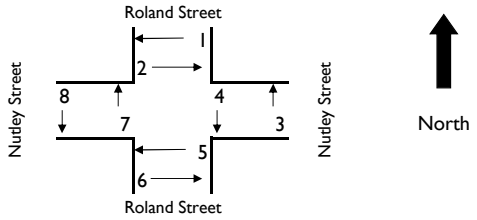
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
10:00 AM - 10:15 AM		1					2						
10:15 AM - 10:30 AM		4			1								
10:30 AM - 10:45 AM					2	1	3						
10:45 AM - 11:00 AM	1			1			2						
11:00 AM - 11:15 AM			2			2							
11:15 AM - 11:30 AM			3										
11:30 AM - 11:45 AM													
11:45 AM - 12:00 PM	2		1		3		6						
12:00 PM - 12:15 PM													
12:15 PM - 12:30 PM	5	1		2	6	10		1					
12:30 PM - 12:45 PM						6							
12:45 PM - 1:00 PM			1										
1:00 PM - 1:15 PM	6				8	7							
1:15 PM - 1:30 PM		2						2					
1:30 PM - 1:45 PM	3		2	1		1	1						
1:45 PM - 2:00 PM		1											
2:00 PM - 2:15 PM	2			2									
2:15 PM - 2:30 PM			1			2							
2:30 PM - 2:45 PM		3											
2:45 PM - 3:00 PM	1		3	1				6					
Total	20	12	13	7	20	29	14	9					
One Hour Volumes													
10:00 AM - 11:00 AM	1	5		1	3	1	7		6	1	4	7	18
10:15 AM - 11:15 AM	1	4	2	1	3	3	5		5	3	6	5	19
10:30 AM - 11:30 AM	1		5	1	2	3	5		1	6	5	5	17
10:45 AM - 11:45 AM	1		5	1		2	2		1	6	2	2	11
11:00 AM - 12:00 PM	2		6		3	2	6		2	6	5	6	19
11:15 AM - 12:15 PM	2		4		3		6		2	4	3	6	15
11:30 AM - 12:30 PM	7	1	1	2	9	10	6	1	8	3	19	7	37
11:45 AM - 12:45 PM	7	1	1	2	9	16	6	1	8	3	25	7	43
12:00 PM - 1:00 PM	5	1	1	2	6	16		1	6	3	22	1	32
12:15 PM - 1:15 PM	11	1	1	2	14	23		1	12	3	37	1	53
12:30 PM - 1:30 PM	6	2	1		8	13		2	8	1	21	2	32
12:45 PM - 1:45 PM	9	2	3	1	8	8	1	2	11	4	16	3	34
1:00 PM - 2:00 PM	9	3	2	1	8	8	1	2	12	3	16	3	34
1:15 PM - 2:15 PM	5	3	2	3		1	1	2	8	5	1	3	17
1:30 PM - 2:30 PM	5	1	3	3		3	1		6	6	3	1	16
1:45 PM - 2:45 PM	2	4	1	2		2			6	3	2		11
2:00 PM - 3:00 PM	3	3	4	3		2		6	6	7	2	6	21

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Nutley St. & Roland St.
LOCATION: Town of Vienna,VA
DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Jose
INPUTED BY: agan



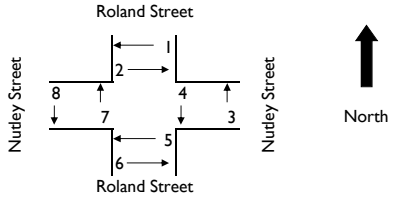
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
AM 15 Minute Volumes													
6:00 AM - 6:15 AM						1							
6:15 AM - 6:30 AM					1	2		1					
6:30 AM - 6:45 AM					1	1							
6:45 AM - 7:00 AM					1								
7:00 AM - 7:15 AM					1								
7:15 AM - 7:30 AM						1							
7:30 AM - 7:45 AM					1	2							
7:45 AM - 8:00 AM	1												
8:00 AM - 8:15 AM	1				3	1							
8:15 AM - 8:30 AM					1								
8:30 AM - 8:45 AM					1	1							
8:45 AM - 9:00 AM					1								
Total	2	0	0	0	11	9	0	1					
AM One Hour Volumes													
6:00 AM - 7:00 AM	0	0	0	0	3	4	0	1	0	0	7	1	8
6:15 AM - 7:15 AM	0	0	0	0	4	3	0	1	0	0	7	1	8
6:30 AM - 7:30 AM	0	0	0	0	3	2	0	0	0	0	5	0	5
6:45 AM - 7:45 AM	0	0	0	0	3	3	0	0	0	0	6	0	6
7:00 AM - 8:00 AM	1	0	0	0	2	3	0	0	1	0	5	0	6
7:15 AM - 8:15 AM	2	0	0	0	4	4	0	0	2	0	8	0	10
7:30 AM - 8:30 AM	2	0	0	0	5	3	0	0	2	0	8	0	10
7:45 AM - 8:45 AM	2	0	0	0	5	2	0	0	2	0	7	0	9
8:00 AM - 9:00 AM	1	0	0	0	6	2	0	0	1	0	8	0	9
PM 15 Minute Volumes													
4:00 PM - 4:15 PM						5							
4:15 PM - 4:30 PM				2	1	2							
4:30 PM - 4:45 PM					6	6							
4:45 PM - 5:00 PM					2								
5:00 PM - 5:15 PM						4							
5:15 PM - 5:30 PM	1					1							
5:30 PM - 5:45 PM													
5:45 PM - 6:00 PM	1	1			1								
6:00 PM - 6:15 PM		1		1									
6:15 PM - 6:30 PM						1							
6:30 PM - 6:45 PM	1	4			4	1							
6:45 PM - 7:00 PM													
Total	3	6	0	3	14	20	0	0					
PM One Hour Volumes													
4:00 PM - 5:00 PM	0	0	0	2	9	13	0	0	0	2	22	0	24
4:15 PM - 5:15 PM	0	0	0	2	9	12	0	0	0	2	21	0	23
4:30 PM - 5:30 PM	1	0	0	0	8	11	0	0	1	0	19	0	20
4:45 PM - 5:45 PM	1	0	0	0	2	5	0	0	1	0	7	0	8
5:00 PM - 6:00 PM	2	1	0	0	1	5	0	0	3	0	6	0	9
5:15 PM - 6:15 PM	2	2	0	1	1	1	0	0	4	1	2	0	7
5:30 PM - 6:30 PM	1	2	0	1	1	1	0	0	3	1	2	0	6
5:45 PM - 6:45 PM	2	6	0	1	5	2	0	0	8	1	7	0	16
6:00 PM - 7:00 PM	1	5	0	1	4	2	0	0	6	1	6	0	13

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W + A JOB NO: 6365
INTERSECTION: Nutley St. & Roland St.
LOCATION: Town of Vienna,VA
DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Di
INPUTED BY: agan



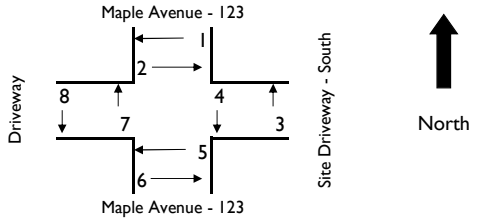
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
10:00 AM - 10:15 AM		2			2								
10:15 AM - 10:30 AM	1												
10:30 AM - 10:45 AM	1					1							
10:45 AM - 11:00 AM		1				2							
11:00 AM - 11:15 AM													
11:15 AM - 11:30 AM													
11:30 AM - 11:45 AM													
11:45 AM - 12:00 PM													
12:00 PM - 12:15 PM	1	1					1						
12:15 PM - 12:30 PM													
12:30 PM - 12:45 PM		2				1							
12:45 PM - 1:00 PM		1			2	1							
1:00 PM - 1:15 PM	1												
1:15 PM - 1:30 PM					5								
1:30 PM - 1:45 PM					2								
1:45 PM - 2:00 PM			1	1	1								
2:00 PM - 2:15 PM	1	1			1	1							
2:15 PM - 2:30 PM					1	1							
2:30 PM - 2:45 PM		1											
2:45 PM - 3:00 PM					1								
Total	5	9	1	1	15	7	1	0					
One Hour Volumes													
10:00 AM - 11:00 AM	2	3			2	3			5		5		10
10:15 AM - 11:15 AM	2	1				3			3		3		6
10:30 AM - 11:30 AM	1	1				3			2		3		5
10:45 AM - 11:45 AM		1				2			1		2		3
11:00 AM - 12:00 PM													
11:15 AM - 12:15 PM	1	1					1		2			1	3
11:30 AM - 12:30 PM	1	1					1		2			1	3
11:45 AM - 12:45 PM	1	3				1	1		4		1	1	6
12:00 PM - 1:00 PM	1	4			2	2	1		5		4	1	10
12:15 PM - 1:15 PM	1	3			2	2			4		4		8
12:30 PM - 1:30 PM	1	3			7	2			4		9		13
12:45 PM - 1:45 PM	1	1			9	1			2		10		12
1:00 PM - 2:00 PM	1		1	1	8				1	2	8		11
1:15 PM - 2:15 PM	1	1	1	1	9	1			2	2	10		14
1:30 PM - 2:30 PM	1	1	1	1	5	2			2	2	7		11
1:45 PM - 2:45 PM	1	2	1	1	3	2			3	2	5		10
2:00 PM - 3:00 PM	1	2			3	2			3		5		8

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Driveway - South
LOCATION: Town of Vienna,VA
DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Salih
INPUTED BY: agan



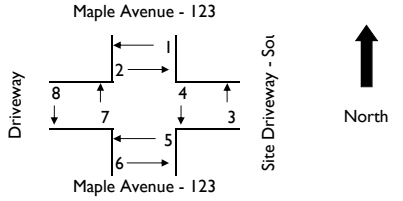
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
AM 15 Minute Volumes													
6:00 AM - 6:15 AM			1				1						
6:15 AM - 6:30 AM			2				2						
6:30 AM - 6:45 AM			1					1					
6:45 AM - 7:00 AM			1										
7:00 AM - 7:15 AM							1						
7:15 AM - 7:30 AM			1	1			1	1					
7:30 AM - 7:45 AM			1	2			2	1					
7:45 AM - 8:00 AM			1	1			2						
8:00 AM - 8:15 AM			1	1			1						
8:15 AM - 8:30 AM							2						
8:30 AM - 8:45 AM													
8:45 AM - 9:00 AM				1									
Total	0	0	9	6	0	0	12	3					
AM One Hour Volumes													
6:00 AM - 7:00 AM	0	0	5	0	0	0	3	1	0	5	0	4	9
6:15 AM - 7:15 AM	0	0	4	0	0	0	3	1	0	4	0	4	8
6:30 AM - 7:30 AM	0	0	3	1	0	0	2	2	0	4	0	4	8
6:45 AM - 7:45 AM	0	0	3	3	0	0	4	2	0	6	0	6	12
7:00 AM - 8:00 AM	0	0	3	4	0	0	6	2	0	7	0	8	15
7:15 AM - 8:15 AM	0	0	4	5	0	0	6	2	0	9	0	8	17
7:30 AM - 8:30 AM	0	0	3	4	0	0	7	1	0	7	0	8	15
7:45 AM - 8:45 AM	0	0	2	2	0	0	5	0	0	4	0	5	9
8:00 AM - 9:00 AM	0	0	1	2	0	0	3	0	0	3	0	3	6
PM 15 Minute Volumes													
4:00 PM - 4:15 PM				2			4						
4:15 PM - 4:30 PM				2				5					
4:30 PM - 4:45 PM				1				3					
4:45 PM - 5:00 PM				3			2	3					
5:00 PM - 5:15 PM							1	2					
5:15 PM - 5:30 PM							5						
5:30 PM - 5:45 PM			2				1	4					
5:45 PM - 6:00 PM	1		1	2				8					
6:00 PM - 6:15 PM			3	1			1	2					
6:15 PM - 6:30 PM				3			1	1					
6:30 PM - 6:45 PM								1					
6:45 PM - 7:00 PM				1			2						
Total	1	0	6	15	0	0	17	29					
PM One Hour Volumes													
4:00 PM - 5:00 PM	0	0	0	8	0	0	6	11	0	8	0	17	25
4:15 PM - 5:15 PM	0	0	0	6	0	0	3	13	0	6	0	16	22
4:30 PM - 5:30 PM	0	0	0	4	0	0	8	8	0	4	0	16	20
4:45 PM - 5:45 PM	0	0	2	3	0	0	9	9	0	5	0	18	23
5:00 PM - 6:00 PM	1	0	3	2	0	0	7	14	1	5	0	21	27
5:15 PM - 6:15 PM	1	0	6	3	0	0	7	14	1	9	0	21	31
5:30 PM - 6:30 PM	1	0	6	6	0	0	3	15	1	12	0	18	31
5:45 PM - 6:45 PM	1	0	4	6	0	0	2	12	1	10	0	14	25
6:00 PM - 7:00 PM	0	0	3	5	0	0	4	4	0	8	0	8	16

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W + A JOB NO: 6365
INTERSECTION: Maple Ave. & Driveway - South
LOCATION: Town of Vienna,VA
DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Salih
INPUTED BY: agan



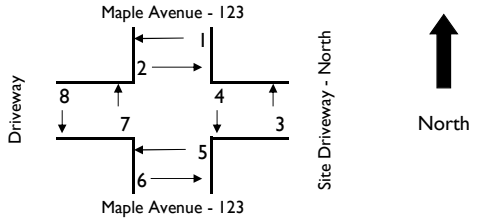
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
10:00 AM - 10:15 AM	2				3								
10:15 AM - 10:30 AM	3				1	1							
10:30 AM - 10:45 AM		1			3	3							
10:45 AM - 11:00 AM					5								
11:00 AM - 11:15 AM		3											
11:15 AM - 11:30 AM	1	1				1		1					
11:30 AM - 11:45 AM	2				2	2							
11:45 AM - 12:00 PM	4												
12:00 PM - 12:15 PM						2							
12:15 PM - 12:30 PM	1				2	1							
12:30 PM - 12:45 PM	3	8			3	1							
12:45 PM - 1:00 PM	2	1			5	3							
1:00 PM - 1:15 PM		2			3	2							
1:15 PM - 1:30 PM					1	3							
1:30 PM - 1:45 PM					2	1							
1:45 PM - 2:00 PM	3	4			2								
2:00 PM - 2:15 PM					1	2							
2:15 PM - 2:30 PM	1				1								
2:30 PM - 2:45 PM	2				2	1							
2:45 PM - 3:00 PM					4	2							
Total	24	20	0	0	40	25	0	1					
One Hour Volumes													
10:00 AM - 11:00 AM	5	1			12	4			6		16		22
10:15 AM - 11:15 AM	3	4			9	4			7		13		20
10:30 AM - 11:30 AM	1	5			8	4		1	6		12	1	19
10:45 AM - 11:45 AM	3	4			7	3		1	7		10	1	18
11:00 AM - 12:00 PM	7	4			2	3		1	11		5	1	17
11:15 AM - 12:15 PM	7	1			2	5		1	8		7	1	16
11:30 AM - 12:30 PM	7				4	5			7		9		16
11:45 AM - 12:45 PM	8	8			5	4			16		9		25
12:00 PM - 1:00 PM	6	9			10	7			15		17		32
12:15 PM - 1:15 PM	6	11			13	7			17		20		37
12:30 PM - 1:30 PM	5	11			12	9			16		21		37
12:45 PM - 1:45 PM	2	3			11	9			5		20		25
1:00 PM - 2:00 PM	3	6			8	6			9		14		23
1:15 PM - 2:15 PM	3	4			6	6			7		12		19
1:30 PM - 2:30 PM	4	4			6	3			8		9		17
1:45 PM - 2:45 PM	6	4			6	3			10		9		19
2:00 PM - 3:00 PM	3				8	5			3		13		16

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Maple Ave. & Driveway - North
LOCATION: Town of Vienna,VA
DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Damir
INPUTED BY: agan



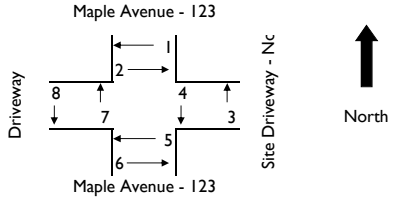
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
AM 15 Minute Volumes													
6:00 AM - 6:15 AM													
6:15 AM - 6:30 AM			3										
6:30 AM - 6:45 AM			1				3						
6:45 AM - 7:00 AM			1					1					
7:00 AM - 7:15 AM													
7:15 AM - 7:30 AM			1	1			1						
7:30 AM - 7:45 AM			1	1			1	1					
7:45 AM - 8:00 AM			1	2			3	1					
8:00 AM - 8:15 AM				1			1						
8:15 AM - 8:30 AM							1						
8:30 AM - 8:45 AM							2						
8:45 AM - 9:00 AM				1			1						
Total	0	0	8	6	0	0	13	3					
AM One Hour Volumes													
6:00 AM - 7:00 AM	0	0	5	0	0	0	3	1	0	5	0	4	9
6:15 AM - 7:15 AM	0	0	5	0	0	0	3	1	0	5	0	4	9
6:30 AM - 7:30 AM	0	0	3	1	0	0	4	1	0	4	0	5	9
6:45 AM - 7:45 AM	0	0	3	2	0	0	2	2	0	5	0	4	9
7:00 AM - 8:00 AM	0	0	3	4	0	0	5	2	0	7	0	7	14
7:15 AM - 8:15 AM	0	0	3	5	0	0	6	2	0	8	0	8	16
7:30 AM - 8:30 AM	0	0	2	4	0	0	6	2	0	6	0	8	14
7:45 AM - 8:45 AM	0	0	1	3	0	0	7	1	0	4	0	8	12
8:00 AM - 9:00 AM	0	0	0	2	0	0	5	0	0	2	0	5	7
PM 15 Minute Volumes													
4:00 PM - 4:15 PM				2				1					
4:15 PM - 4:30 PM			2	2				3					
4:30 PM - 4:45 PM				1			2	2					
4:45 PM - 5:00 PM		1		4				2					
5:00 PM - 5:15 PM							2	2					
5:15 PM - 5:30 PM							1	1					
5:30 PM - 5:45 PM			2					4					
5:45 PM - 6:00 PM				1				3					
6:00 PM - 6:15 PM			1	1			2	4					
6:15 PM - 6:30 PM			1			1	1	2					
6:30 PM - 6:45 PM				1				1					
6:45 PM - 7:00 PM							2						
Total	0	1	6	12	0	1	10	25					
PM One Hour Volumes													
4:00 PM - 5:00 PM	0	1	2	9	0	0	2	8	1	11	0	10	22
4:15 PM - 5:15 PM	0	1	2	7	0	0	4	9	1	9	0	13	23
4:30 PM - 5:30 PM	0	1	0	5	0	0	5	7	1	5	0	12	18
4:45 PM - 5:45 PM	0	1	2	4	0	0	3	9	1	6	0	12	19
5:00 PM - 6:00 PM	0	0	2	1	0	0	3	10	0	3	0	13	16
5:15 PM - 6:15 PM	0	0	3	2	0	0	3	12	0	5	0	15	20
5:30 PM - 6:30 PM	0	0	4	2	0	1	3	13	0	6	1	16	23
5:45 PM - 6:45 PM	0	0	2	3	0	1	3	10	0	5	1	13	19
6:00 PM - 7:00 PM	0	0	2	2	0	1	5	7	0	4	1	12	17

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W + A JOB NO: 6365
INTERSECTION: Maple Ave. & Driveway - North
LOCATION: Town of Vienna,VA
DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Damir
INPUTED BY: agan



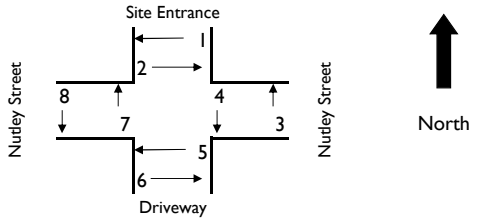
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
10:00 AM - 10:15 AM			2	1			2						
10:15 AM - 10:30 AM			2	1			3	2					
10:30 AM - 10:45 AM			1				3	2					
10:45 AM - 11:00 AM							5						
11:00 AM - 11:15 AM				3									
11:15 AM - 11:30 AM			2	2			1	1					
11:30 AM - 11:45 AM			2				1	1					
11:45 AM - 12:00 PM				2				1					
12:00 PM - 12:15 PM			5					8					
12:15 PM - 12:30 PM			1					2					
12:30 PM - 12:45 PM	1		4	5			2	2					
12:45 PM - 1:00 PM			4	2			2	4					
1:00 PM - 1:15 PM				2			3	6					
1:15 PM - 1:30 PM								1					
1:30 PM - 1:45 PM			2	2			4	1					
1:45 PM - 2:00 PM			1	2			2						
2:00 PM - 2:15 PM			2				2	2					
2:15 PM - 2:30 PM			1	1			2	4					
2:30 PM - 2:45 PM			2				2	1					
2:45 PM - 3:00 PM			2	1	1		4	1					
Total	1	0	33	24	1	0	38	39					
One Hour Volumes													
10:00 AM - 11:00 AM			5	2			13	4		7		17	24
10:15 AM - 11:15 AM			3	4			11	4		7		15	22
10:30 AM - 11:30 AM			3	5			9	3		8		12	20
10:45 AM - 11:45 AM			4	5			7	2		9		9	18
11:00 AM - 12:00 PM			4	7			2	3		11		5	16
11:15 AM - 12:15 PM			9	4			2	11		13		13	26
11:30 AM - 12:30 PM			8	2			1	12		10		13	23
11:45 AM - 12:45 PM	1		10	7			2	13	1	17		15	33
12:00 PM - 1:00 PM	1		14	7			4	16	1	21		20	42
12:15 PM - 1:15 PM	1		9	9			7	14	1	18		21	40
12:30 PM - 1:30 PM	1		8	9			7	13	1	17		20	38
12:45 PM - 1:45 PM			6	6			9	12		12		21	33
1:00 PM - 2:00 PM			3	6			9	8		9		17	26
1:15 PM - 2:15 PM			5	4			8	4		9		12	21
1:30 PM - 2:30 PM			6	5			10	7		11		17	28
1:45 PM - 2:45 PM			6	3			8	7		9		15	24
2:00 PM - 3:00 PM			7	2	1		10	8		9	1	18	28

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W+A JOB NO: 6365
INTERSECTION: Nutley St. & Site Entr.
LOCATION: Town of Vienna,VA
DATE: 4/26/2016
DAY: Tuesday
WEATHER: clear
COUNTED BY: Majda
INPUTED BY: agan



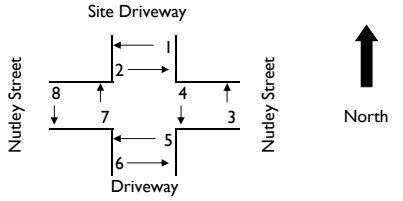
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
AM 15 Minute Volumes													
6:00 AM - 6:15 AM						1							
6:15 AM - 6:30 AM					1	1							
6:30 AM - 6:45 AM					1								
6:45 AM - 7:00 AM													
7:00 AM - 7:15 AM					2	1							
7:15 AM - 7:30 AM													
7:30 AM - 7:45 AM	1												
7:45 AM - 8:00 AM	6			3									
8:00 AM - 8:15 AM				1	1								
8:15 AM - 8:30 AM					1	1							
8:30 AM - 8:45 AM													
8:45 AM - 9:00 AM					1								
Total	7	0	0	4	7	4	0	0					
AM One Hour Volumes													
6:00 AM - 7:00 AM	0	0	0	0	2	2	0	0	0	0	4	0	4
6:15 AM - 7:15 AM	0	0	0	0	4	2	0	0	0	0	6	0	6
6:30 AM - 7:30 AM	0	0	0	0	3	1	0	0	0	0	4	0	4
6:45 AM - 7:45 AM	1	0	0	0	2	1	0	0	1	0	3	0	4
7:00 AM - 8:00 AM	7	0	0	3	2	1	0	0	7	3	3	0	13
7:15 AM - 8:15 AM	7	0	0	4	1	0	0	0	7	4	1	0	12
7:30 AM - 8:30 AM	7	0	0	4	2	1	0	0	7	4	3	0	14
7:45 AM - 8:45 AM	6	0	0	4	2	1	0	0	6	4	3	0	13
8:00 AM - 9:00 AM	0	0	0	1	3	1	0	0	0	1	4	0	5
PM 15 Minute Volumes													
4:00 PM - 4:15 PM						7							
4:15 PM - 4:30 PM													
4:30 PM - 4:45 PM					5	2	1						
4:45 PM - 5:00 PM	1												
5:00 PM - 5:15 PM													
5:15 PM - 5:30 PM		1				1							
5:30 PM - 5:45 PM					1	2							
5:45 PM - 6:00 PM					1	1							
6:00 PM - 6:15 PM						1							
6:15 PM - 6:30 PM					1	2							
6:30 PM - 6:45 PM						2							
6:45 PM - 7:00 PM													
Total	1	1	0	0	8	18	1	0					
PM One Hour Volumes													
4:00 PM - 5:00 PM	1	0	0	0	5	9	1	0	1	0	14	1	16
4:15 PM - 5:15 PM	1	0	0	0	5	2	1	0	1	0	7	1	9
4:30 PM - 5:30 PM	1	1	0	0	5	3	1	0	2	0	8	1	11
4:45 PM - 5:45 PM	1	1	0	0	1	3	0	0	2	0	4	0	6
5:00 PM - 6:00 PM	0	1	0	0	2	4	0	0	1	0	6	0	7
5:15 PM - 6:15 PM	0	1	0	0	2	5	0	0	1	0	7	0	8
5:30 PM - 6:30 PM	0	0	0	0	3	6	0	0	0	0	9	0	9
5:45 PM - 6:45 PM	0	0	0	0	2	6	0	0	0	0	8	0	8
6:00 PM - 7:00 PM	0	0	0	0	1	5	0	0	0	0	6	0	6

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Maple Avenue Grovery
W + A JOB NO: 6365
INTERSECTION: Nutley St. & Site Driveway
LOCATION: Town of Vienna,VA
DATE: 4/30/2016
DAY: Saturday
WEATHER: clear
COUNTED BY: Luz
INPUTED BY: agan



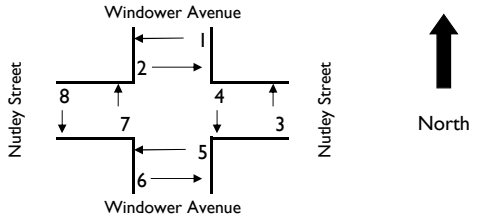
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
10:00 AM - 10:15 AM			1		2	3							
10:15 AM - 10:30 AM		2			2	4							
10:30 AM - 10:45 AM					1	2							
10:45 AM - 11:00 AM	1					1							
11:00 AM - 11:15 AM													
11:15 AM - 11:30 AM		1											
11:30 AM - 11:45 AM						1							
11:45 AM - 12:00 PM													
12:00 PM - 12:15 PM						2							
12:15 PM - 12:30 PM													
12:30 PM - 12:45 PM		3		1	1	1							
12:45 PM - 1:00 PM													
1:00 PM - 1:15 PM													
1:15 PM - 1:30 PM													
1:30 PM - 1:45 PM	1	1											
1:45 PM - 2:00 PM						2							
2:00 PM - 2:15 PM													
2:15 PM - 2:30 PM						1							
2:30 PM - 2:45 PM					1	1		1					
2:45 PM - 3:00 PM				1	1								
Total	2	7	1	2	8	18	0	1					
One Hour Volumes													
10:00 AM - 11:00 AM	1	2	1		5	10			3	1	15		19
10:15 AM - 11:15 AM	1	2			3	7			3		10		13
10:30 AM - 11:30 AM	1	1			1	3			2		4		6
10:45 AM - 11:45 AM	1	1				2			2		2		4
11:00 AM - 12:00 PM		1				1			1		1		2
11:15 AM - 12:15 PM		1				3			1		3		4
11:30 AM - 12:30 PM						3					3		3
11:45 AM - 12:45 PM		3		1	1	3			3	1	4		8
12:00 PM - 1:00 PM		3		1	1	3			3	1	4		8
12:15 PM - 1:15 PM		3		1	1	1			3	1	2		6
12:30 PM - 1:30 PM		3		1	1	1			3	1	2		6
12:45 PM - 1:45 PM	1	1							2				2
1:00 PM - 2:00 PM	1	1				2			2		2		4
1:15 PM - 2:15 PM	1	1				2			2		2		4
1:30 PM - 2:30 PM	1	1				3			2		3		5
1:45 PM - 2:45 PM					1	4		1			5	1	6
2:00 PM - 3:00 PM				1	2	2		1		1	4	1	6

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: CFA Flagship Carwash
W+A JOB NO: 6268
INTERSECTION: Nutley St. & Windower Ave.
LOCATION: Town of Vienna,VA
DATE: 3/31/2016
DAY: Thursday
WEATHER: clear
COUNTED BY: Damir
INPUTED BY: agan



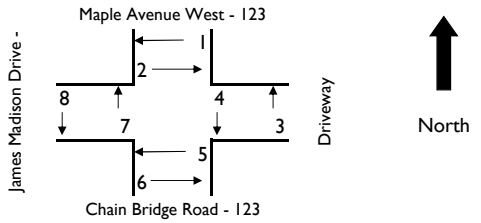
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
AM 15 Minute Volumes													
6:00 AM - 6:15 AM					1		1						
6:15 AM - 6:30 AM													
6:30 AM - 6:45 AM													
6:45 AM - 7:00 AM													
7:00 AM - 7:15 AM													
7:15 AM - 7:30 AM	1					1							
7:30 AM - 7:45 AM					1			2					
7:45 AM - 8:00 AM	11							4					
8:00 AM - 8:15 AM	4							3					
8:15 AM - 8:30 AM					3		4						
8:30 AM - 8:45 AM			1		1		2						
8:45 AM - 9:00 AM		3					1	1					
Total	16	3	1	0	6	1	8	10					
AM One Hour Volumes													
6:00 AM - 7:00 AM	0	0	0	0	1	0	1	0	0	0	1	1	2
6:15 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM - 7:30 AM	1	0	0	0	0	1	0	0	1	0	1	0	2
6:45 AM - 7:45 AM	1	0	0	0	1	1	0	2	1	0	2	2	5
7:00 AM - 8:00 AM	12	0	0	0	1	1	0	6	12	0	2	6	20
7:15 AM - 8:15 AM	16	0	0	0	1	1	0	9	16	0	2	9	27
7:30 AM - 8:30 AM	15	0	0	0	4	0	4	9	15	0	4	13	32
7:45 AM - 8:45 AM	15	0	1	0	4	0	6	7	15	1	4	13	33
8:00 AM - 9:00 AM	4	3	1	0	4	0	7	4	7	1	4	11	23
PM 15 Minute Volumes													
4:00 PM - 4:15 PM					3	2	1	2					
4:15 PM - 4:30 PM					1								
4:30 PM - 4:45 PM		1											
4:45 PM - 5:00 PM	2		2										
5:00 PM - 5:15 PM													
5:15 PM - 5:30 PM	1												
5:30 PM - 5:45 PM	1				2								
5:45 PM - 6:00 PM					1								
6:00 PM - 6:15 PM	1					2							
6:15 PM - 6:30 PM					1	1							
6:30 PM - 6:45 PM		7					1						
6:45 PM - 7:00 PM					3								
Total	5	8	2	0	11	5	2	2					
PM One Hour Volumes													
4:00 PM - 5:00 PM	2	1	2	0	4	2	1	2	3	2	6	3	14
4:15 PM - 5:15 PM	2	1	2	0	1	0	0	0	3	2	1	0	6
4:30 PM - 5:30 PM	3	1	2	0	0	0	0	0	4	2	0	0	6
4:45 PM - 5:45 PM	4	0	2	0	2	0	0	0	4	2	2	0	8
5:00 PM - 6:00 PM	2	0	0	0	3	0	0	0	2	0	3	0	5
5:15 PM - 6:15 PM	3	0	0	0	3	2	0	0	3	0	5	0	8
5:30 PM - 6:30 PM	2	0	0	0	4	3	0	0	2	0	7	0	9
5:45 PM - 6:45 PM	1	7	0	0	2	3	1	0	8	0	5	1	14
6:00 PM - 7:00 PM	1	7	0	0	4	3	1	0	8	0	7	1	16

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Chik-fil-A Car Wash
W+A JOB NO: 6268
INTERSECTION: Maple Ave. & James Madison Dr.
LOCATION: Fairfax County,VA
DATE: 1/27/2015
DAY: Tuesday
WEATHER: clear
COUNTED BY: Luz
INPUTED BY: agan



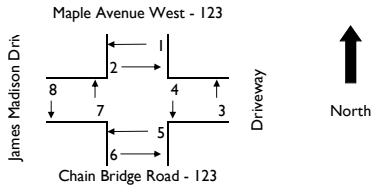
Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
AM 15 Minute Volumes													
6:00 AM - 6:15 AM							1						
6:15 AM - 6:30 AM	1	1	1				4						
6:30 AM - 6:45 AM			1				3	8					
6:45 AM - 7:00 AM	4		4	2		2	1	1					
7:00 AM - 7:15 AM	8	1	1				9	1					
7:15 AM - 7:30 AM					1		3	4					
7:30 AM - 7:45 AM							3						
7:45 AM - 8:00 AM		1	1	1	1	1	3						
8:00 AM - 8:15 AM		1		1		1	6	3					
8:15 AM - 8:30 AM							3	1					
8:30 AM - 8:45 AM			1				1	2					
8:45 AM - 9:00 AM		4					8	2					
Total	13	8	9	4	2	4	45	22					
AM One Hour Volumes													
6:00 AM - 7:00 AM	5	1	6	2	0	2	9	9	6	8	2	18	34
6:15 AM - 7:15 AM	13	2	7	2	0	2	17	10	15	9	2	27	53
6:30 AM - 7:30 AM	12	1	6	2	1	2	16	14	13	8	3	30	54
6:45 AM - 7:45 AM	12	1	5	2	1	2	16	6	13	7	3	22	45
7:00 AM - 8:00 AM	8	2	2	1	2	1	18	5	10	3	3	23	39
7:15 AM - 8:15 AM	0	2	1	2	2	2	15	7	2	3	4	22	31
7:30 AM - 8:30 AM	0	2	1	2	1	2	15	4	2	3	3	19	27
7:45 AM - 8:45 AM	0	2	2	2	1	2	13	6	2	4	3	19	28
8:00 AM - 9:00 AM	0	5	1	1	0	1	18	8	5	2	1	26	34
PM 15 Minute Volumes													
4:00 PM - 4:15 PM		1	4				3	9					
4:15 PM - 4:30 PM	2	4	2	1			4	3					
4:30 PM - 4:45 PM	5	2	2				7	4					
4:45 PM - 5:00 PM	4		1				5	3					
5:00 PM - 5:15 PM	1	1					2	7					
5:15 PM - 5:30 PM		1	2				7	3					
5:30 PM - 5:45 PM	5						2	6					
5:45 PM - 6:00 PM	1	1		3			5	4					
6:00 PM - 6:15 PM	1		3	1	1		1	7					
6:15 PM - 6:30 PM	1						2	3					
6:30 PM - 6:45 PM	5						4	9					
6:45 PM - 7:00 PM		2					6	3					
Total	25	12	14	5	1	0	48	61					
PM One Hour Volumes													
4:00 PM - 5:00 PM	11	7	9	1	0	0	19	19	18	10	0	38	66
4:15 PM - 5:15 PM	12	7	5	1	0	0	18	17	19	6	0	35	60
4:30 PM - 5:30 PM	10	4	5	0	0	0	21	17	14	5	0	38	57
4:45 PM - 5:45 PM	10	2	3	0	0	0	16	19	12	3	0	35	50
5:00 PM - 6:00 PM	7	3	2	3	0	0	16	20	10	5	0	36	51
5:15 PM - 6:15 PM	7	2	5	4	1	0	15	20	9	9	1	35	54
5:30 PM - 6:30 PM	8	1	3	4	1	0	10	20	9	7	1	30	47
5:45 PM - 6:45 PM	8	1	3	4	1	0	12	23	9	7	1	35	52
6:00 PM - 7:00 PM	7	2	3	1	1	0	13	22	9	4	1	35	49

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: Chik-fil-A Car Wash
W + A JOB NO: 6268
INTERSECTION: Maple Ave. & James Madison Dr.
LOCATION: Fairfax County,VA
DATE: 1/31/2015
DAY: Saturday
WEATHER: clear
COUNTED BY: Irman
INPUTED BY: agan



Time Period	Movement 1	2	3	4	5	6	7	8	1 + 2	3 + 4	5 + 6	7+ 8	Total
15 Minute Volumes													
10:00 AM - 10:15 AM	1		1				2						
10:15 AM - 10:30 AM							2	2					
10:30 AM - 10:45 AM	1	1	1				2	4					
10:45 AM - 11:00 AM	2	1		1			1	4					
11:00 AM - 11:15 AM	1						1	3					
11:15 AM - 11:30 AM	2			1			2	1					
11:30 AM - 11:45 AM		3	1	1			5						
11:45 AM - 12:00 PM		3		1			6	1					
12:00 PM - 12:15 PM				2									
12:15 PM - 12:30 PM		3					1						
12:30 PM - 12:45 PM	4	4					4	1					
12:45 PM - 1:00 PM							4	3					
1:00 PM - 1:15 PM							1	4					
1:15 PM - 1:30 PM							5	2					
1:30 PM - 1:45 PM			4	2			3	2					
1:45 PM - 2:00 PM			4				2	3					
2:00 PM - 2:15 PM	3	1					1						
2:15 PM - 2:30 PM	1	5					1	4					
2:30 PM - 2:45 PM	1	2					5	3					
2:45 PM - 3:00 PM	2				1		4	4					
-													
-													
-													
-													
Total	18	23	11	8	1	0	52	41					
One Hour Volumes													
10:00 AM - 11:00 AM	4	2	2	1			7	10	6	3		17	26
10:15 AM - 11:15 AM	4	2	1	1			6	13	6	2		19	27
10:30 AM - 11:30 AM	6	2	1	2			6	12	8	3		18	29
10:45 AM - 11:45 AM	5	4	1	3			9	8	9	4		17	30
11:00 AM - 12:00 PM	3	6	1	3			14	5	9	4		19	32
11:15 AM - 12:15 PM	2	6	1	5			13	2	8	6		15	29
11:30 AM - 12:30 PM		9	1	4			12	1	9	5		13	27
11:45 AM - 12:45 PM	4	10		3			11	2	14	3		13	30
12:00 PM - 1:00 PM	4	7		2			9	4	11	2		13	26
12:15 PM - 1:15 PM	4	7					10	8	11			18	29
12:30 PM - 1:30 PM	4	4					14	10	8			24	32
12:45 PM - 1:45 PM			4	2			13	11		6		24	30
1:00 PM - 2:00 PM			8	2			11	11		10		22	32
1:15 PM - 2:15 PM	3	1	8	2			11	7	4	10		18	32
1:30 PM - 2:30 PM	4	6	8	2			7	9	10	10		16	36
1:45 PM - 2:45 PM	5	8	4				9	10	13	4		19	36
2:00 PM - 3:00 PM	7	8			1		11	11	15		1	22	38
-	4	7			1		10	11	11		1	21	33
-	3	2			1		9	7	5		1	16	22
-	2				1		4	4	2		1	8	11
-													

APPENDIX F

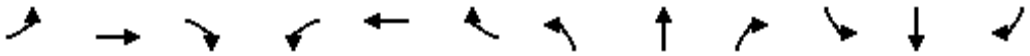
2016 Existing Levels of Service & Queue (Synchro Worksheets)

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	31	1180	151	657	236	247	405	79	389
v/c Ratio	0.10	1.03	0.76	0.46	0.79	0.80	0.68	0.27	1.15
Control Delay	22.5	78.7	54.8	32.3	73.5	72.9	21.2	52.0	146.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	78.7	54.8	32.3	73.5	72.9	21.2	52.0	146.0
Queue Length 50th (ft)	15	~651	86	243	216	227	119	63	~416
Queue Length 95th (ft)	34	#718	#217	315	310	321	227	106	#573
Internal Link Dist (ft)		544		163		251			434
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	314	1148	202	1422	356	372	640	298	338
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	1.03	0.75	0.46	0.66	0.66	0.63	0.27	1.15

Intersection Summary

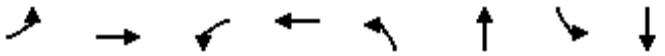
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	909	94	137	545	53	256	189	373	67	314	17
Future Volume (vph)	26	909	94	137	545	53	256	189	373	67	314	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	7.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1735	3355		1687	3368		1609	1679	1598	1637	1847	
Flt Permitted	0.37	1.00		0.07	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	670	3355		129	3368		1609	1679	1598	1637	1847	
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.92	0.92	0.92	0.85	0.85	0.85
Adj. Flow (vph)	31	1069	111	151	599	58	278	205	405	79	369	20
RTOR Reduction (vph)	0	5	0	0	5	0	0	0	172	0	2	0
Lane Group Flow (vph)	31	1175	0	151	652	0	236	247	233	79	387	0
Confl. Peds. (#/hr)	1		2	2		1	1		4	4		1
Confl. Bikes (#/hr)			3			3			3			4
Heavy Vehicles (%)	4%	2%	6%	7%	2%	2%	2%	2%	2%	5%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pm+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases	2			6					8			
Actuated Green, G (s)	51.8	47.6		67.6	55.9		25.9	25.9	38.4	25.5	25.5	
Effective Green, g (s)	51.8	47.6		67.6	55.9		25.9	25.9	38.4	25.5	25.5	
Actuated g/C Ratio	0.37	0.34		0.48	0.40		0.18	0.18	0.27	0.18	0.18	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5	7.5	7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0	4.0	3.0	3.0	
Lane Grp Cap (vph)	279	1140		201	1344		297	310	438	298	336	
v/s Ratio Prot	0.00	c0.35		c0.07	c0.19		0.15	c0.15	0.05	0.05	c0.21	
v/s Ratio Perm	0.04			0.30					0.10			
v/c Ratio	0.11	1.03		0.75	0.49		0.79	0.80	0.53	0.27	1.15	
Uniform Delay, d1	28.4	46.2		34.9	31.3		54.5	54.5	43.2	49.2	57.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	34.8		15.4	1.3		13.6	13.2	1.6	0.5	97.3	
Delay (s)	28.6	81.0		50.4	32.6		68.1	67.8	44.8	49.7	154.6	
Level of Service	C	F		D	C		E	E	D	D	F	
Approach Delay (s)		79.6			35.9			57.4			136.9	
Approach LOS		E			D			E			F	

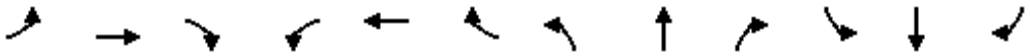
Intersection Summary			
HCM 2000 Control Delay	71.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	78	1327	39	830	62	267	199	295
v/c Ratio	0.60	0.83	0.39	0.56	0.55	0.86	0.94	0.64
Control Delay	80.1	37.3	72.9	29.7	81.1	79.8	108.4	51.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.1	37.3	72.9	29.7	81.1	79.8	108.4	51.9
Queue Length 50th (ft)	69	558	35	287	55	229	182	236
Queue Length 95th (ft)	119	647	68	334	106	#376	#318	323
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	157	1597	168	1471	127	321	211	464
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.83	0.23	0.56	0.49	0.83	0.94	0.64

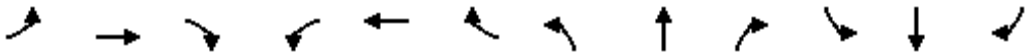
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	1127	15	33	622	83	57	189	57	171	190	64
Future Volume (vph)	67	1127	15	33	622	83	57	189	57	171	190	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	3234		1577	3196		1694	1720		1546	1724	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	3234		1577	3196		1694	1720		1546	1724	
Peak-hour factor, PHF	0.86	0.86	0.86	0.85	0.85	0.85	0.92	0.92	0.92	0.86	0.86	0.86
Adj. Flow (vph)	78	1310	17	39	732	98	62	205	62	199	221	74
RTOR Reduction (vph)	0	1	0	0	7	0	0	8	0	0	8	0
Lane Group Flow (vph)	78	1326	0	39	823	0	62	259	0	199	287	0
Confl. Peds. (#/hr)							4					4
Confl. Bikes (#/hr)						3			1			1
Heavy Vehicles (%)	3%	4%	3%	2%	2%	4%	3%	3%	2%	9%	5%	7%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	11.6	67.0		7.9	63.3		8.1	25.4		19.2	37.0	
Effective Green, g (s)	11.6	67.0		7.9	63.3		8.1	25.4		19.2	37.0	
Actuated g/C Ratio	0.08	0.48		0.06	0.45		0.06	0.18		0.14	0.26	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	130	1547		88	1445		98	312		212	455	
v/s Ratio Prot	c0.05	c0.41		0.02	0.26		0.04	c0.15		c0.13	0.17	
v/s Ratio Perm												
v/c Ratio	0.60	0.86		0.44	0.57		0.63	0.83		0.94	0.63	
Uniform Delay, d1	62.0	32.3		63.9	28.3		64.5	55.2		59.8	45.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.3	6.4		3.5	1.6		12.6	18.2		44.3	3.9	
Delay (s)	69.2	38.6		67.5	29.9		77.1	73.5		104.1	49.4	
Level of Service	E	D		E	C		E	E		F	D	
Approach Delay (s)		40.3			31.6			74.1			71.4	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	46.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	7	17	1	10	5	830	12	3	490	2
Future Volume (Veh/h)	5	0	7	17	1	10	5	830	12	3	490	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	6	0	8	18	1	11	6	976	14	4	576	2
Pedestrians								5			1	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			642	
pX, platoon unblocked	0.85	0.85		0.85	0.85	0.85				0.85		
vC, conflicting volume	1098	1587	294	1304	1581	496	578			990		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	752	1331	294	996	1324	42	578			625		
tC, single (s)	8.2	6.6	6.9	7.5	6.6	7.1	4.5			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.4	2.4			2.2		
p0 queue free %	97	100	99	89	99	99	99			100		
cM capacity (veh/h)	204	127	699	164	128	846	878			806		

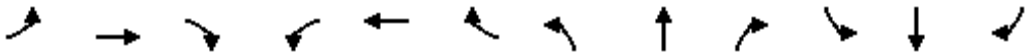
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	14	30	6	651	339	4	384	194
Volume Left	6	18	6	0	0	4	0	0
Volume Right	8	11	0	0	14	0	0	2
cSH	343	230	878	1700	1700	806	1700	1700
Volume to Capacity	0.04	0.13	0.01	0.38	0.20	0.00	0.23	0.11
Queue Length 95th (ft)	3	11	1	0	0	0	0	0
Control Delay (s)	15.9	23.0	9.1	0.0	0.0	9.5	0.0	0.0
Lane LOS	C	C	A			A		
Approach Delay (s)	15.9	23.0	0.1			0.1		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	34.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1348	1	0	757	0	0
Future Volume (Veh/h)	1348	1	0	757	0	0
Sign Control	Free			Free	Stop	
Grade	2%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1465	1	0	823	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	243					
pX, platoon unblocked			0.67		0.67	0.67
vC, conflicting volume			1466		1877	733
vC1, stage 1 conf vol					1466	
vC2, stage 2 conf vol					412	
vCu, unblocked vol			723		1333	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			590		273	730

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	977	489	412	412	0
Volume Left	0	0	0	0	0
Volume Right	0	1	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.57	0.29	0.24	0.24	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					A
Approach Delay (s)	0.0		0.0		0.0
Approach LOS					A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1348	1	4	747	9	2	0	5	0	0	9
Future Volume (Veh/h)	9	1348	1	4	747	9	2	0	5	0	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	1465	1	4	812	10	2	0	5	0	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		503			1123							
pX, platoon unblocked				0.69			0.69	0.69	0.69	0.69	0.69	
vC, conflicting volume	822			1466			1910	2316	733	1582	2311	411
vC1, stage 1 conf vol							1486	1486		825	825	
vC2, stage 2 conf vol							424	830		758	1486	
vCu, unblocked vol	822			763			1410	2002	0	933	1995	411
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			99	100	99	100	100	98
cM capacity (veh/h)	803			580			217	214	744	309	214	590

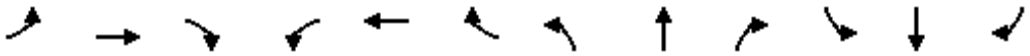
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	742	734	410	416	7	10
Volume Left	10	0	4	0	2	0
Volume Right	0	1	0	10	5	10
cSH	803	1700	580	1700	439	590
Volume to Capacity	0.01	0.43	0.01	0.24	0.02	0.02
Queue Length 95th (ft)	1	0	1	0	1	1
Control Delay (s)	0.3	0.0	0.2	0.0	13.3	11.2
Lane LOS	A		A		B	B
Approach Delay (s)	0.2		0.1		13.3	11.2
Approach LOS					B	B

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	53.6%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	1	817	9	0	472
Future Volume (Veh/h)	0	1	817	9	0	472
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	888	10	0	513
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1284			331
pX, platoon unblocked						
vC, conflicting volume	1150	449			898	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1150	449			898	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	192	557			752	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	1	592	306	256	256
Volume Left	0	0	0	0	0
Volume Right	1	0	10	0	0
cSH	557	1700	1700	1700	1700
Volume to Capacity	0.00	0.35	0.18	0.15	0.15
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	11.5	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	11.5	0.0		0.0	
Approach LOS	B				

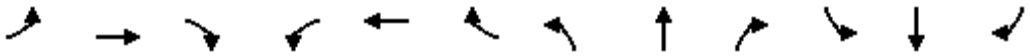
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	29	52	106	38	75	24	21	124	9	20	225	39
Future Volume (vph)	29	52	106	38	75	24	21	124	9	20	225	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	57	115	41	82	26	23	135	10	22	245	42

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	204	149	168	309
Volume Left (vph)	32	41	23	22
Volume Right (vph)	115	26	10	42
Hadj (s)	-0.27	-0.02	0.03	-0.03
Departure Headway (s)	5.2	5.5	5.4	5.1
Degree Utilization, x	0.29	0.23	0.25	0.44
Capacity (veh/h)	635	589	605	663
Control Delay (s)	10.3	10.1	10.2	12.0
Approach Delay (s)	10.3	10.1	10.2	12.0
Approach LOS	B	B	B	B

Intersection Summary				
Delay	10.9			
Level of Service	B			
Intersection Capacity Utilization	37.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	1059	28	44	465	159	6	5	6	37	1	47
Future Volume (Veh/h)	149	1059	28	44	465	159	6	5	6	37	1	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	162	1151	30	48	505	173	7	5	7	40	1	51
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					624							
pX, platoon unblocked	0.90						0.90	0.90		0.90	0.90	0.90
vC, conflicting volume	678			1181			1890	2264	590	1596	2192	339
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	423			1181			1768	2183	590	1442	2104	47
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	84			92			81	84	98	33	97	94
cM capacity (veh/h)	1021			587			36	32	450	60	35	912

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	162	767	414	48	337	341	19	92
Volume Left	162	0	0	48	0	0	7	40
Volume Right	0	0	30	0	0	173	7	51
cSH	1021	1700	1700	587	1700	1700	52	123
Volume to Capacity	0.16	0.45	0.24	0.08	0.20	0.20	0.37	0.75
Queue Length 95th (ft)	14	0	0	7	0	0	33	107
Control Delay (s)	9.2	0.0	0.0	11.7	0.0	0.0	110.1	92.4
Lane LOS	A			B			F	F
Approach Delay (s)	1.1			0.8			110.1	92.4
Approach LOS							F	F

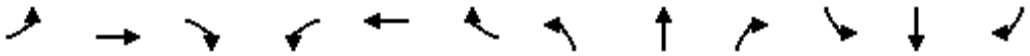
Intersection Summary				
Average Delay	5.8			
Intersection Capacity Utilization	50.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	42	814	291	1329	276	289	375	98	337
v/c Ratio	0.35	0.73	0.88	0.89	0.92	0.93	0.53	0.33	1.02
Control Delay	30.2	48.8	53.7	50.9	98.3	98.1	16.9	62.9	116.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.2	48.8	53.7	50.9	98.3	98.1	16.9	62.9	116.4
Queue Length 50th (ft)	21	375	173	681	300	313	110	93	~403
Queue Length 95th (ft)	43	447	#306	745	#458	#475	201	153	#601
Internal Link Dist (ft)		631		198		257			382
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	119	1141	336	1485	311	324	716	295	331
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.71	0.87	0.89	0.89	0.89	0.52	0.33	1.02

Intersection Summary

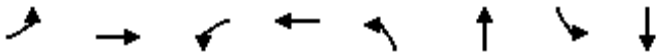
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	525	199	253	1121	35	293	204	330	87	284	16
Future Volume (vph)	37	525	199	253	1121	35	293	204	330	87	284	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	6.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3280		1770	3403		1609	1677	1573	1685	1879	
Flt Permitted	0.07	1.00		0.16	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	139	3280		292	3403		1609	1677	1573	1685	1879	
Peak-hour factor, PHF	0.89	0.89	0.89	0.87	0.87	0.87	0.88	0.88	0.88	0.89	0.89	0.89
Adj. Flow (vph)	42	590	224	291	1289	40	333	232	375	98	319	18
RTOR Reduction (vph)	0	25	0	0	1	0	0	0	151	0	2	0
Lane Group Flow (vph)	42	789	0	291	1328	0	276	289	224	98	335	0
Confl. Peds. (#/hr)	2					2	20		12	12		20
Confl. Bikes (#/hr)									4			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pt+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	8 1	4	4	
Permitted Phases	2			6								
Actuated Green, G (s)	58.7	53.5		81.0	68.3		29.9	29.9	56.4	28.1	28.1	
Effective Green, g (s)	58.7	53.5		81.0	68.3		29.9	29.9	56.4	28.1	28.1	
Actuated g/C Ratio	0.37	0.33		0.51	0.43		0.19	0.19	0.35	0.18	0.18	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5		7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	104	1096		332	1452		300	313	554	295	329	
v/s Ratio Prot	0.01	0.24		c0.11	c0.39		0.17	c0.17	0.14	0.06	c0.18	
v/s Ratio Perm	0.13			0.33								
v/c Ratio	0.40	0.72		0.88	0.91		0.92	0.92	0.40	0.33	1.02	
Uniform Delay, d1	37.3	46.7		29.7	43.1		63.9	63.9	39.1	57.7	66.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.5	4.1		22.4	10.4		31.9	31.5	0.5	0.7	54.6	
Delay (s)	40.8	50.8		52.1	53.5		95.8	95.5	39.6	58.4	120.6	
Level of Service	D	D		D	D		F	F	D	E	F	
Approach Delay (s)		50.3			53.3			73.3			106.6	
Approach LOS		D			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	63.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

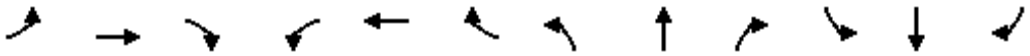


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	810	52	1513	69	378	141	371
v/c Ratio	0.82	0.49	0.49	0.98	0.60	1.04	0.79	0.82
Control Delay	114.8	28.3	86.6	59.4	93.4	118.1	97.6	70.9
Queue Delay	0.0	0.0	0.0	11.4	0.0	0.0	0.0	0.0
Total Delay	114.8	28.3	86.6	70.8	93.4	118.1	97.6	70.9
Queue Length 50th (ft)	107	297	54	808	71	~445	144	365
Queue Length 95th (ft)	#204	365	100	#989	125	#644	#238	#539
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	129	1660	147	1542	133	362	202	453
Starvation Cap Reductn	0	0	0	68	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.49	0.35	1.03	0.52	1.04	0.70	0.82

Intersection Summary

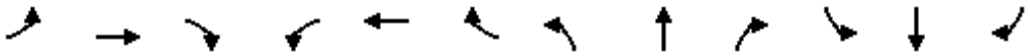
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	692	21	48	1279	113	61	282	51	130	259	82
Future Volume (vph)	90	692	21	48	1279	113	61	282	51	130	259	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3286		1577	3220		1711	1747		1620	1778	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3286		1577	3220		1711	1747		1620	1778	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.88	0.88	0.88	0.92	0.92	0.92
Adj. Flow (vph)	102	786	24	52	1390	123	69	320	58	141	282	89
RTOR Reduction (vph)	0	1	0	0	4	0	0	4	0	0	7	0
Lane Group Flow (vph)	102	809	0	52	1509	0	69	374	0	141	364	0
Confl. Peds. (#/hr)	7		1	1		7	7		14	14		7
Confl. Bikes (#/hr)									3			5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	3%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	12.5	79.5		9.5	76.5		10.8	32.8		17.7	40.2	
Effective Green, g (s)	12.5	79.5		9.5	76.5		10.8	32.8		17.7	40.2	
Actuated g/C Ratio	0.08	0.50		0.06	0.48		0.07	0.20		0.11	0.25	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	124	1632		93	1539		115	358		179	446	
v/s Ratio Prot	c0.06	c0.25		0.03	c0.47		0.04	c0.21		c0.09	c0.20	
v/s Ratio Perm												
v/c Ratio	0.82	0.50		0.56	0.98		0.60	1.04		0.79	0.82	
Uniform Delay, d1	72.7	26.9		73.2	41.0		72.5	63.6		69.3	56.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	33.7	1.1		7.1	18.7		8.2	59.7		20.1	12.4	
Delay (s)	106.4	27.9		80.3	59.7		80.7	123.3		89.4	68.8	
Level of Service	F	C		F	E		F	F		F	E	
Approach Delay (s)		36.7			60.4			116.7			74.5	
Approach LOS		D			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	63.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	7	19	0	6	9	844	13	9	744	6
Future Volume (Veh/h)	4	0	7	19	0	6	9	844	13	9	744	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	0	8	21	0	7	11	993	15	11	875	7
Pedestrians					1			2			3	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			641	
pX, platoon unblocked	0.78	0.78		0.78	0.78	0.78				0.78		
vC, conflicting volume	1429	1932	443	1493	1928	508	882			1009		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	983	1628	443	1065	1623	0	882			443		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	99	84	100	99	99			99		
cM capacity (veh/h)	153	76	561	133	77	842	762			866		

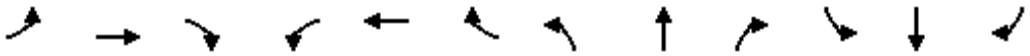
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	28	11	662	346	11	583	299
Volume Left	4	21	11	0	0	11	0	0
Volume Right	8	7	0	0	15	0	0	7
cSH	297	168	762	1700	1700	866	1700	1700
Volume to Capacity	0.04	0.17	0.01	0.39	0.20	0.01	0.34	0.18
Queue Length 95th (ft)	3	15	1	0	0	1	0	0
Control Delay (s)	17.6	30.7	9.8	0.0	0.0	9.2	0.0	0.0
Lane LOS	C	D	A			A		
Approach Delay (s)	17.6	30.7	0.1			0.1		
Approach LOS	C	D						

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	34.7%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	929	13	0	1474	0	6
Future Volume (Veh/h)	929	13	0	1474	0	6
Sign Control	Free			Free	Stop	
Grade	2%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1010	14	0	1602	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	278					
pX, platoon unblocked			0.81		0.81	0.81
vC, conflicting volume			1024		1818	512
vC1, stage 1 conf vol					1017	
vC2, stage 2 conf vol					801	
vCu, unblocked vol			557		1539	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			817		301	877

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	673	351	801	801	7
Volume Left	0	0	0	0	0
Volume Right	0	14	0	0	7
cSH	1700	1700	1700	1700	877
Volume to Capacity	0.40	0.21	0.47	0.47	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	9.1
Lane LOS					A
Approach Delay (s)	0.0		0.0		9.1
Approach LOS					A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	912	0	8	1466	1	3	0	3	2	0	6
Future Volume (Veh/h)	4	912	0	8	1466	1	3	0	3	2	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	991	0	9	1593	1	3	0	3	2	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		508			1117							
pX, platoon unblocked				0.84			0.84	0.84	0.84	0.84	0.84	
vC, conflicting volume	1594			991			1820	2611	496	2118	2610	797
vC1, stage 1 conf vol							999	999		1612	1612	
vC2, stage 2 conf vol							822	1612		506	999	
vCu, unblocked vol	1594			600			1591	2535	7	1946	2535	797
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			99	100	100	98	100	98
cM capacity (veh/h)	407			815			242	141	898	104	144	329

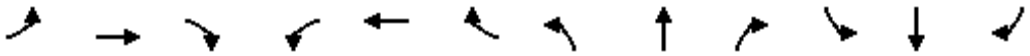
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	500	496	806	798	6	9
Volume Left	4	0	9	0	3	2
Volume Right	0	0	0	1	3	7
cSH	407	1700	815	1700	381	223
Volume to Capacity	0.01	0.29	0.01	0.47	0.02	0.04
Queue Length 95th (ft)	1	0	1	0	1	3
Control Delay (s)	0.3	0.0	0.3	0.0	14.6	21.8
Lane LOS	A		A		B	C
Approach Delay (s)	0.2		0.2		14.6	21.8
Approach LOS					B	C

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	56.1%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	4	823	12	0	730
Future Volume (Veh/h)	0	4	823	12	0	730
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	4	895	13	0	793
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1277			337
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	1298	454			908	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	909	0			430	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	223	883			917	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	4	597	311	396	396
Volume Left	0	0	0	0	0
Volume Right	4	0	13	0	0
cSH	883	1700	1700	1700	1700
Volume to Capacity	0.00	0.35	0.18	0.23	0.23
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.1	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.1	0.0		0.0	
Approach LOS	A				

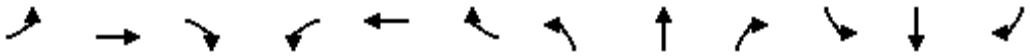
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	33.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	40	29	48	61	108	31	16	247	24	5	240	41
Future Volume (vph)	40	29	48	61	108	31	16	247	24	5	240	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	32	52	66	117	34	17	268	26	5	261	45

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	127	217	311	311
Volume Left (vph)	43	66	17	5
Volume Right (vph)	52	34	26	45
Hadj (s)	-0.14	0.00	-0.01	-0.05
Departure Headway (s)	5.9	5.9	5.5	5.4
Degree Utilization, x	0.21	0.35	0.47	0.47
Capacity (veh/h)	514	552	614	623
Control Delay (s)	10.5	12.0	13.2	13.1
Approach Delay (s)	10.5	12.0	13.2	13.1
Approach LOS	B	B	B	B

Intersection Summary				
Delay	12.5			
Level of Service	B			
Intersection Capacity Utilization	43.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	710	38	41	1153	112	8	7	9	22	1	90
Future Volume (Veh/h)	90	710	38	41	1153	112	8	7	9	22	1	90
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	98	772	41	45	1253	122	9	8	10	24	1	98
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					711							
pX, platoon unblocked	0.65						0.65	0.65		0.65	0.65	0.65
vC, conflicting volume	1375			813			1804	2454	406	2000	2413	688
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	499			813			1158	2159	406	1461	2097	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	86			94			87	68	98	35	96	86
cM capacity (veh/h)	690			810			70	25	594	37	27	704

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	98	515	298	45	835	540	27	123
Volume Left	98	0	0	45	0	0	9	24
Volume Right	0	0	41	0	0	122	10	98
cSH	690	1700	1700	810	1700	1700	58	150
Volume to Capacity	0.14	0.30	0.18	0.06	0.49	0.32	0.47	0.82
Queue Length 95th (ft)	12	0	0	4	0	0	45	133
Control Delay (s)	11.1	0.0	0.0	9.7	0.0	0.0	113.7	91.3
Lane LOS	B			A			F	F
Approach Delay (s)	1.2			0.3			113.7	91.3
Approach LOS							F	F

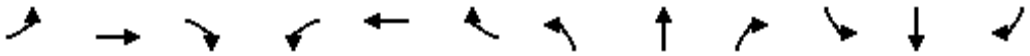
Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	58.2%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	49	1007	350	946	211	219	393	98	235
v/c Ratio	0.20	1.16	0.82	0.64	0.76	0.76	0.46	0.38	0.82
Control Delay	24.5	131.0	53.9	36.5	71.9	71.2	11.9	56.3	76.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	131.0	53.9	36.5	71.9	71.2	11.9	56.3	76.6
Queue Length 50th (ft)	22	~592	252	374	194	202	86	80	201
Queue Length 95th (ft)	49	#693	#511	495	276	284	179	136	293
Internal Link Dist (ft)		629		185		251			415
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	241	865	428	1470	356	370	838	306	337
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	1.16	0.82	0.64	0.59	0.59	0.47	0.32	0.70

Intersection Summary

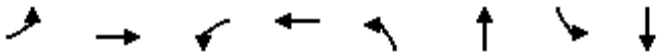
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	689	187	315	798	53	243	153	362	90	170	46
Future Volume (vph)	43	689	187	315	798	53	243	153	362	90	170	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	6.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1769	3312		1770	3384		1609	1673	1620	1685	1817	
Flt Permitted	0.30	1.00		0.09	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	563	3312		172	3384		1609	1673	1620	1685	1817	
Peak-hour factor, PHF	0.87	0.87	0.87	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	792	215	350	887	59	264	166	393	98	185	50
RTOR Reduction (vph)	0	17	0	0	3	0	0	0	138	0	7	0
Lane Group Flow (vph)	49	990	0	350	943	0	211	219	255	98	228	0
Confl. Peds. (#/hr)	2					2	25		10	10		25
Confl. Bikes (#/hr)						1			3			3
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pt+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	8 1	4	4	
Permitted Phases	2			6								
Actuated Green, G (s)	42.2	35.9		73.1	59.3		24.2	24.2	60.4	21.7	21.7	
Effective Green, g (s)	42.2	35.9		73.1	59.3		24.2	24.2	60.4	21.7	21.7	
Actuated g/C Ratio	0.30	0.26		0.52	0.42		0.17	0.17	0.43	0.15	0.15	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5		7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	223	849		428	1433		278	289	698	261	281	
v/s Ratio Prot	0.01	c0.30		c0.17	0.28		c0.13	0.13	0.16	0.06	c0.13	
v/s Ratio Perm	0.06			0.25								
v/c Ratio	0.22	1.17		0.82	0.66		0.76	0.76	0.37	0.38	0.81	
Uniform Delay, d1	35.1	52.0		39.9	32.2		55.1	55.1	26.9	53.1	57.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	87.4		12.1	2.4		11.3	10.8	0.3	0.9	16.2	
Delay (s)	35.8	139.5		52.0	34.6		66.4	65.9	27.2	54.0	73.4	
Level of Service	D	F		D	C		E	E	C	D	E	
Approach Delay (s)		134.6			39.3			47.6			67.7	
Approach LOS		F			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	72.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	99.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

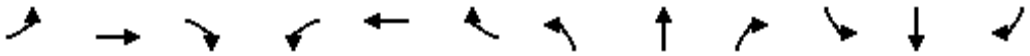


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	790	53	1543	67	370	145	378
v/c Ratio	0.64	0.50	0.46	1.10	0.53	1.03	0.76	0.79
Control Delay	77.9	27.2	74.6	91.6	77.2	109.4	83.4	60.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.9	27.2	74.6	91.6	77.2	109.4	83.4	60.6
Queue Length 50th (ft)	89	262	47	~837	60	~372	128	322
Queue Length 95th (ft)	148	342	92	#1023	111	#594	204	#512
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	204	1578	168	1409	152	358	224	479
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.50	0.32	1.10	0.44	1.03	0.65	0.79

Intersection Summary

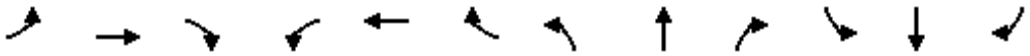
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	706	21	49	1305	115	62	288	52	133	264	84
Future Volume (vph)	92	706	21	49	1305	115	62	288	52	133	264	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3281		1577	3220		1711	1755		1652	1789	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3281		1577	3220		1711	1755		1652	1789	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	767	23	53	1418	125	67	313	57	145	287	91
RTOR Reduction (vph)	0	2	0	0	5	0	0	5	0	0	8	0
Lane Group Flow (vph)	100	788	0	53	1538	0	67	365	0	145	370	0
Confl. Peds. (#/hr)	8		21	21		8	2		1	1		2
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	13.9	65.2		8.9	60.2		9.0	29.1		16.3	36.9	
Effective Green, g (s)	13.9	65.2		8.9	60.2		9.0	29.1		16.3	36.9	
Actuated g/C Ratio	0.10	0.47		0.06	0.43		0.06	0.21		0.12	0.26	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	158	1528		100	1384		109	364		192	471	
v/s Ratio Prot	c0.06	c0.24		0.03	c0.48		0.04	c0.21		c0.09	c0.21	
v/s Ratio Perm												
v/c Ratio	0.63	0.52		0.53	1.11		0.61	1.00		0.76	0.79	
Uniform Delay, d1	60.6	26.3		63.5	39.9		63.8	55.5		59.9	47.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.0	1.2		5.3	60.9		9.9	48.0		15.5	9.7	
Delay (s)	68.6	27.6		68.8	100.8		73.7	103.5		75.4	57.5	
Level of Service	E	C		E	F		E	F		E	E	
Approach Delay (s)		32.2			99.7			98.9			62.5	
Approach LOS		C			F			F			E	

Intersection Summary			
HCM 2000 Control Delay	76.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	3	18	0	9	6	874	7	3	744	4
Future Volume (Veh/h)	4	0	3	18	0	9	6	874	7	3	744	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	3	20	0	10	7	950	8	3	809	4
Pedestrians								9			4	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			642	
pX, platoon unblocked	0.79	0.79		0.79	0.79	0.79				0.79		
vC, conflicting volume	1320	1789	416	1390	1787	483	813			958		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	865	1461	416	955	1458	0	813			405		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	99	88	100	99	99			100		
cM capacity (veh/h)	190	99	582	164	100	850	810			905		

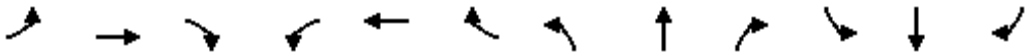
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	7	30	7	633	325	3	539	274
Volume Left	4	20	7	0	0	3	0	0
Volume Right	3	10	0	0	8	0	0	4
cSH	267	224	810	1700	1700	905	1700	1700
Volume to Capacity	0.03	0.13	0.01	0.37	0.19	0.00	0.32	0.16
Queue Length 95th (ft)	2	11	1	0	0	0	0	0
Control Delay (s)	18.8	23.5	9.5	0.0	0.0	9.0	0.0	0.0
Lane LOS	C	C	A			A		
Approach Delay (s)	18.8	23.5	0.1			0.0		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	37.0%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1137	4	0	1203	5	0
Future Volume (Veh/h)	1137	4	0	1203	5	0
Sign Control	Free			Free	Stop	
Grade	2%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1236	4	0	1308	5	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	265					
pX, platoon unblocked			0.76		0.76	0.76
vC, conflicting volume			1240		1892	620
vC1, stage 1 conf vol					1238	
vC2, stage 2 conf vol					654	
vCu, unblocked vol			693		1548	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			685		285	827

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	824	416	654	654	5
Volume Left	0	0	0	0	5
Volume Right	0	4	0	0	0
cSH	1700	1700	1700	1700	285
Volume to Capacity	0.48	0.24	0.38	0.38	0.02
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	17.8
Lane LOS					C
Approach Delay (s)	0.0		0.0		17.8
Approach LOS					C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1145	0	2	1190	3	4	0	4	1	0	9
Future Volume (Veh/h)	2	1145	0	2	1190	3	4	0	4	1	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1245	0	2	1293	3	4	0	4	1	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		534			1091							
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	1296			1245			1910	2549	622	1929	2548	648
vC1, stage 1 conf vol							1249	1249		1298	1298	
vC2, stage 2 conf vol							660	1300		630	1249	
vCu, unblocked vol	1296			753			1604	2423	0	1629	2421	648
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	100	100	99	100	98
cM capacity (veh/h)	531			666			231	179	847	164	180	413

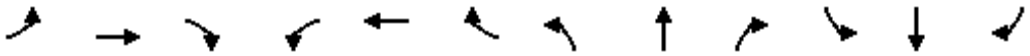
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	624	622	648	650	8	11
Volume Left	2	0	2	0	4	1
Volume Right	0	0	0	3	4	10
cSH	531	1700	666	1700	363	363
Volume to Capacity	0.00	0.37	0.00	0.38	0.02	0.03
Queue Length 95th (ft)	0	0	0	0	2	2
Control Delay (s)	0.1	0.0	0.1	0.0	15.1	15.2
Lane LOS	A		A		C	C
Approach Delay (s)	0.1		0.0		15.1	15.2
Approach LOS					C	C

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	44.4%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	4	754	15	0	734
Future Volume (Veh/h)	0	4	754	15	0	734
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	4	820	16	0	798
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1284			331
pX, platoon unblocked	0.84	0.84			0.84	
vC, conflicting volume	1227	418			836	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	877	0			409	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	240	905			958	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	4	547	289	399	399
Volume Left	0	0	0	0	0
Volume Right	4	0	16	0	0
cSH	905	1700	1700	1700	1700
Volume to Capacity	0.00	0.32	0.17	0.23	0.23
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.0	0.0		0.0	
Approach LOS	A				

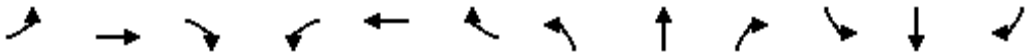
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	0	0	0
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	0.0			
Level of Service	A			
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	982	23	138	876	21	18	1	12	22	1	43
Future Volume (Veh/h)	73	982	23	138	876	21	18	1	12	22	1	43
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	79	1067	25	150	952	23	20	1	13	24	1	47
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					709							
pX, platoon unblocked	0.83						0.83	0.83		0.83	0.83	0.83
vC, conflicting volume	975			1092			2061	2512	546	1968	2514	488
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	550			1092			1864	2410	546	1752	2411	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			76			22	95	97	25	95	95
cM capacity (veh/h)	840			635			26	19	482	32	19	896

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	79	711	381	150	635	340	34	72
Volume Left	79	0	0	150	0	0	20	24
Volume Right	0	0	25	0	0	23	13	47
cSH	840	1700	1700	635	1700	1700	40	84
Volume to Capacity	0.09	0.42	0.22	0.24	0.37	0.20	0.86	0.86
Queue Length 95th (ft)	8	0	0	23	0	0	81	112
Control Delay (s)	9.7	0.0	0.0	12.4	0.0	0.0	254.6	147.5
Lane LOS	A			B			F	F
Approach Delay (s)	0.7			1.7			254.6	147.5
Approach LOS							F	F

Intersection Summary				
Average Delay	9.1			
Intersection Capacity Utilization	49.7%	ICU Level of Service		A
Analysis Period (min)	15			

APPENDIX G

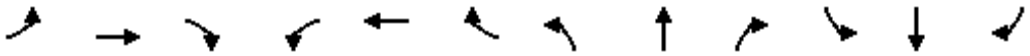
2022 Background Levels of Service & Queue (Synchro Worksheets)

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	1181	149	720	261	270	420	102	390
v/c Ratio	0.14	1.05	0.78	0.55	0.83	0.83	0.72	0.34	1.16
Control Delay	23.4	84.1	71.8	27.8	70.7	69.3	15.9	53.7	148.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	84.1	71.8	27.8	70.7	69.3	15.9	53.7	148.1
Queue Length 50th (ft)	19	~652	85	238	163	167	19	82	~417
Queue Length 95th (ft)	42	#793	#205	354	300	307	102	140	#628
Internal Link Dist (ft)		544		163		251			434
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	270	1129	194	1318	356	371	613	298	337
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	1.05	0.77	0.55	0.73	0.73	0.69	0.34	1.16

Intersection Summary

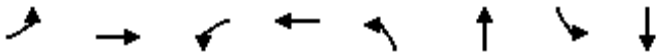
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	970	117	137	606	56	293	196	386	94	329	29
Future Volume (vph)	35	970	117	137	606	56	293	196	386	94	329	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	7.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1735	3346		1687	3370		1609	1676	1598	1637	1838	
Flt Permitted	0.30	1.00		0.08	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	550	3346		134	3370		1609	1676	1598	1637	1838	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1054	127	149	659	61	318	213	420	102	358	32
RTOR Reduction (vph)	0	7	0	0	5	0	0	0	146	0	2	0
Lane Group Flow (vph)	38	1174	0	149	715	0	261	270	274	102	388	0
Confl. Peds. (#/hr)	1		2	2		1	1		4	4		1
Confl. Bikes (#/hr)			3			3			3			4
Heavy Vehicles (%)	4%	2%	6%	7%	2%	2%	2%	2%	2%	5%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pm+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases	2			6					8			
Actuated Green, G (s)	52.7	47.0		64.9	53.1		27.2	27.2	39.0	25.5	25.5	
Effective Green, g (s)	52.7	47.0		64.9	53.1		27.2	27.2	39.0	25.5	25.5	
Actuated g/C Ratio	0.38	0.34		0.46	0.38		0.19	0.19	0.28	0.18	0.18	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5	7.5	7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0	4.0	3.0	3.0	
Lane Grp Cap (vph)	255	1123		193	1278		312	325	445	298	334	
v/s Ratio Prot	0.01	c0.35		c0.07	c0.21		c0.16	0.16	0.05	0.06	c0.21	
v/s Ratio Perm	0.05			0.29					0.12			
v/c Ratio	0.15	1.05		0.77	0.56		0.84	0.83	0.61	0.34	1.16	
Uniform Delay, d1	28.2	46.5		34.4	34.2		54.3	54.2	44.0	49.9	57.2	
Progression Factor	1.00	1.00		1.47	0.76		0.93	0.93	0.45	1.00	1.00	
Incremental Delay, d2	0.4	39.6		18.1	1.8		16.0	15.0	2.6	0.7	100.2	
Delay (s)	28.5	86.1		68.7	27.7		66.4	65.3	22.6	50.6	157.5	
Level of Service	C	F		E	C		E	E	C	D	F	
Approach Delay (s)		84.3			34.7			46.7			135.3	
Approach LOS		F			C			D			F	

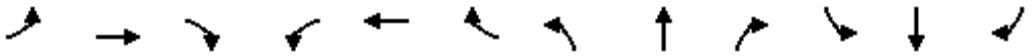
Intersection Summary			
HCM 2000 Control Delay	69.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	77	1335	38	833	70	284	203	302
v/c Ratio	0.59	0.84	0.38	0.57	0.61	0.90	0.94	0.64
Control Delay	88.1	21.3	72.2	26.7	85.1	85.5	107.7	51.8
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.1	21.5	72.2	26.7	85.1	85.5	107.7	51.8
Queue Length 50th (ft)	71	247	36	183	63	247	187	242
Queue Length 95th (ft)	126	#321	76	308	117	#414	#350	351
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	157	1581	168	1456	127	321	215	472
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	16	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.85	0.23	0.57	0.55	0.88	0.94	0.64

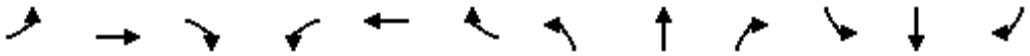
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	1210	18	35	678	88	64	201	61	187	205	73
Future Volume (vph)	71	1210	18	35	678	88	64	201	61	187	205	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	3233		1577	3198		1694	1720		1546	1721	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	3233		1577	3198		1694	1720		1546	1721	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	1315	20	38	737	96	70	218	66	203	223	79
RTOR Reduction (vph)	0	1	0	0	7	0	0	8	0	0	9	0
Lane Group Flow (vph)	77	1334	0	38	826	0	70	276	0	203	293	0
Confl. Peds. (#/hr)							4					4
Confl. Bikes (#/hr)						3			1			1
Heavy Vehicles (%)	3%	4%	3%	2%	2%	4%	3%	3%	2%	9%	5%	7%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	11.6	66.3		7.8	62.5		8.2	25.9		19.5	37.7	
Effective Green, g (s)	11.6	66.3		7.8	62.5		8.2	25.9		19.5	37.7	
Actuated g/C Ratio	0.08	0.47		0.06	0.45		0.06	0.18		0.14	0.27	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	130	1531		87	1427		99	318		215	463	
v/s Ratio Prot	c0.05	c0.41		0.02	0.26		0.04	c0.16		c0.13	0.17	
v/s Ratio Perm												
v/c Ratio	0.59	0.87		0.44	0.58		0.71	0.87		0.94	0.63	
Uniform Delay, d1	61.9	33.0		64.0	28.9		64.7	55.4		59.7	45.1	
Progression Factor	1.15	0.47		1.00	0.88		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.7	6.8		3.3	1.6		20.5	22.8		45.5	3.9	
Delay (s)	77.9	22.2		67.1	27.2		85.2	78.2		105.2	49.0	
Level of Service	E	C		E	C		F	E		F	D	
Approach Delay (s)		25.3			28.9			79.6			71.6	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	39.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	7	17	1	10	5	887	12	3	525	2
Future Volume (Veh/h)	5	0	7	17	1	10	5	887	12	3	525	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	8	18	1	11	5	964	13	3	571	2
Pedestrians								5			1	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			642	
pX, platoon unblocked	0.85	0.85		0.85	0.85	0.85				0.85		
vC, conflicting volume	1082	1565	292	1285	1560	490	573			977		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	741	1310	292	980	1303	43	573			617		
tC, single (s)	8.2	6.6	6.9	7.5	6.6	7.1	4.5			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.4	2.4			2.2		
p0 queue free %	98	100	99	89	99	99	99			100		
cM capacity (veh/h)	209	132	702	169	133	848	882			814		

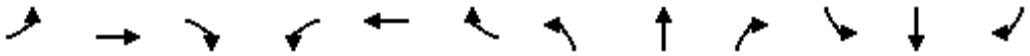
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	13	30	5	643	334	3	381	192
Volume Left	5	18	5	0	0	3	0	0
Volume Right	8	11	0	0	13	0	0	2
cSH	368	237	882	1700	1700	814	1700	1700
Volume to Capacity	0.04	0.13	0.01	0.38	0.20	0.00	0.22	0.11
Queue Length 95th (ft)	3	11	0	0	0	0	0	0
Control Delay (s)	15.1	22.4	9.1	0.0	0.0	9.4	0.0	0.0
Lane LOS	C	C	A			A		
Approach Delay (s)	15.1	22.4	0.0			0.0		
Approach LOS	C	C						

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	36.4%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1440	1	0	812	0	0
Future Volume (Veh/h)	1440	1	0	812	0	0
Sign Control	Free			Free	Stop	
Grade	2%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1565	1	0	883	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	243					
pX, platoon unblocked			0.68		0.68	0.68
vC, conflicting volume			1566		2007	783
vC1, stage 1 conf vol					1566	
vC2, stage 2 conf vol					442	
vCu, unblocked vol			876		1529	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			517		230	732

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	1043	523	442	442	0
Volume Left	0	0	0	0	0
Volume Right	0	1	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.61	0.31	0.26	0.26	0.00
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS					A
Approach Delay (s)	0.0		0.0		0.0
Approach LOS					A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1440	1	4	801	9	2	0	5	0	0	9
Future Volume (Veh/h)	9	1440	1	4	801	9	2	0	5	0	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	1565	1	4	871	10	2	0	5	0	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		503			1123							
pX, platoon unblocked				0.68			0.68	0.68	0.68	0.68	0.68	
vC, conflicting volume	881			1566			2039	2474	783	1692	2470	440
vC1, stage 1 conf vol							1586	1586		884	884	
vC2, stage 2 conf vol							454	889		808	1586	
vCu, unblocked vol	881			906			1597	2233	0	1089	2226	440
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			99	100	99	100	100	98
cM capacity (veh/h)	763			511			179	186	743	283	186	564

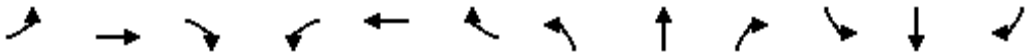
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	792	784	440	446	7	10
Volume Left	10	0	4	0	2	0
Volume Right	0	1	0	10	5	10
cSH	763	1700	511	1700	391	564
Volume to Capacity	0.01	0.46	0.01	0.26	0.02	0.02
Queue Length 95th (ft)	1	0	1	0	1	1
Control Delay (s)	0.4	0.0	0.2	0.0	14.4	11.5
Lane LOS	A		A		B	B
Approach Delay (s)	0.2		0.1		14.4	11.5
Approach LOS					B	B

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	56.1%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	1	873	9	0	506
Future Volume (Veh/h)	0	1	873	9	0	506
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	949	10	0	550
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1284			331
pX, platoon unblocked	0.89	0.89			0.89	
vC, conflicting volume	1229	480			959	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1018	179			716	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	209	744			787	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	1	633	326	275	275
Volume Left	0	0	0	0	0
Volume Right	1	0	10	0	0
cSH	744	1700	1700	1700	1700
Volume to Capacity	0.00	0.37	0.19	0.16	0.16
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.8	0.0		0.0	
Approach LOS	A				

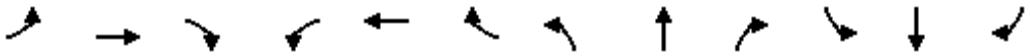
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	34.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	29	52	106	38	75	24	24	134	9	20	241	39
Future Volume (vph)	29	52	106	38	75	24	24	134	9	20	241	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	57	115	41	82	26	26	146	10	22	262	42

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	204	149	182	326
Volume Left (vph)	32	41	26	22
Volume Right (vph)	115	26	10	42
Hadj (s)	-0.27	-0.02	0.03	-0.03
Departure Headway (s)	5.3	5.6	5.4	5.2
Degree Utilization, x	0.30	0.23	0.27	0.47
Capacity (veh/h)	620	573	600	658
Control Delay (s)	10.5	10.3	10.5	12.6
Approach Delay (s)	10.5	10.3	10.5	12.6
Approach LOS	B	B	B	B

Intersection Summary				
Delay	11.2			
Level of Service	B			
Intersection Capacity Utilization	37.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	1148	31	115	482	159	31	5	6	0	1	57
Future Volume (Veh/h)	149	1148	31	115	482	159	31	5	6	0	1	57
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	162	1248	34	125	524	173	34	5	7	0	1	62
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					624							
pX, platoon unblocked	0.90						0.90	0.90		0.90	0.90	0.90
vC, conflicting volume	697			1282			2164	2536	641	1818	2466	348
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	447			1282			2073	2486	641	1689	2409	60
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	84			77			0	70	98	100	95	93
cM capacity (veh/h)	1001			537			18	17	417	30	19	895

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	162	832	450	125	349	348	46	63
Volume Left	162	0	0	125	0	0	34	0
Volume Right	0	0	34	0	0	173	7	62
cSH	1001	1700	1700	537	1700	1700	21	515
Volume to Capacity	0.16	0.49	0.26	0.23	0.21	0.20	2.19	0.12
Queue Length 95th (ft)	14	0	0	22	0	0	150	10
Control Delay (s)	9.3	0.0	0.0	13.7	0.0	0.0	933.0	13.0
Lane LOS	A			B			F	B
Approach Delay (s)	1.0			2.1			933.0	13.0
Approach LOS							F	B

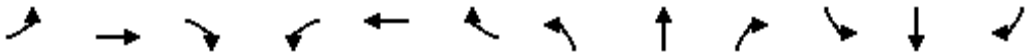
Intersection Summary				
Average Delay	19.8			
Intersection Capacity Utilization	58.1%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	48	879	287	1377	287	300	374	112	353
v/c Ratio	0.41	0.78	0.91	0.92	0.94	0.95	0.54	0.39	1.10
Control Delay	32.6	51.4	80.6	30.2	120.1	119.9	26.4	64.5	137.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	51.4	80.6	30.2	120.1	119.9	26.4	64.5	137.9
Queue Length 50th (ft)	25	416	174	536	334	351	125	107	~440
Queue Length 95th (ft)	48	502	#362	#864	#517	#536	257	175	#653
Internal Link Dist (ft)		631		198		257			382
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	118	1141	317	1493	311	324	696	288	321
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.77	0.91	0.92	0.92	0.93	0.54	0.39	1.10

Intersection Summary

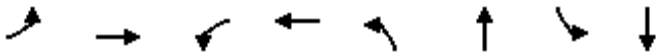
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	588	221	264	1230	37	326	214	344	103	300	25
Future Volume (vph)	44	588	221	264	1230	37	326	214	344	103	300	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	6.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3281		1770	3404		1609	1675	1573	1685	1870	
Flt Permitted	0.07	1.00		0.13	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	139	3281		240	3404		1609	1675	1573	1685	1870	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	639	240	287	1337	40	354	233	374	112	326	27
RTOR Reduction (vph)	0	25	0	0	1	0	0	0	130	0	2	0
Lane Group Flow (vph)	48	854	0	287	1376	0	287	300	244	112	351	0
Confl. Peds. (#/hr)	2					2	20		12	12		20
Confl. Bikes (#/hr)									4			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pt+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	8 1	4	4	
Permitted Phases	2			6								
Actuated Green, G (s)	58.9	53.7		81.3	68.6		30.3	30.3	56.9	27.4	27.4	
Effective Green, g (s)	58.9	53.7		81.3	68.6		30.3	30.3	56.9	27.4	27.4	
Actuated g/C Ratio	0.37	0.34		0.51	0.43		0.19	0.19	0.36	0.17	0.17	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5		7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	104	1101		314	1459		304	317	559	288	320	
v/s Ratio Prot	0.01	0.26		c0.11	c0.40		0.18	c0.18	0.15	0.07	c0.19	
v/s Ratio Perm	0.15			0.35								
v/c Ratio	0.46	0.78		0.91	0.94		0.94	0.95	0.44	0.39	1.10	
Uniform Delay, d1	38.1	47.7		36.8	43.8		64.0	64.0	39.3	58.9	66.3	
Progression Factor	1.00	1.00		1.58	0.44		1.39	1.39	1.38	1.00	1.00	
Incremental Delay, d2	4.4	5.4		29.0	12.9		32.0	31.6	0.4	0.9	79.2	
Delay (s)	42.5	53.1		87.2	32.3		120.8	120.4	54.6	59.7	145.5	
Level of Service	D	D		F	C		F	F	D	E	F	
Approach Delay (s)		52.6			41.8			94.9			124.8	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	66.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



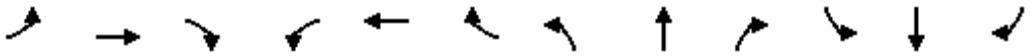
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	103	856	55	1655	83	384	158	415
v/c Ratio	0.82	0.52	0.51	1.07	0.69	1.09	0.84	0.93
Control Delay	129.1	16.9	78.6	82.8	99.7	131.0	102.9	85.1
Queue Delay	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
Total Delay	129.1	16.9	78.6	83.3	99.7	131.0	102.9	85.1
Queue Length 50th (ft)	108	176	59	~991	86	~464	163	423
Queue Length 95th (ft)	#217	320	m86	#1134	#156	#681	#279	#643
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	129	1654	147	1543	133	352	202	446
Starvation Cap Reductn	0	0	0	2	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.52	0.37	1.07	0.62	1.09	0.78	0.93

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

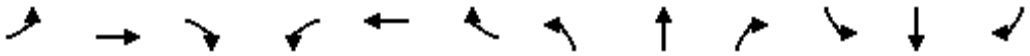
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	762	26	51	1403	120	76	299	54	145	281	101
Future Volume (vph)	95	762	26	51	1403	120	76	299	54	145	281	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3285		1577	3221		1711	1747		1620	1769	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3285		1577	3221		1711	1747		1620	1769	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	828	28	55	1525	130	83	325	59	158	305	110
RTOR Reduction (vph)	0	2	0	0	4	0	0	4	0	0	8	0
Lane Group Flow (vph)	103	854	0	55	1651	0	83	380	0	158	407	0
Confl. Peds. (#/hr)	7		1	1		7	7		14	14		7
Confl. Bikes (#/hr)									3			5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	3%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	12.6	79.3		9.7	76.4		11.4	31.9		18.6	39.6	
Effective Green, g (s)	12.6	79.3		9.7	76.4		11.4	31.9		18.6	39.6	
Actuated g/C Ratio	0.08	0.50		0.06	0.48		0.07	0.20		0.12	0.25	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	125	1628		95	1538		121	348		188	437	
v/s Ratio Prot	c0.06	c0.26		0.03	c0.51		0.05	c0.22		c0.10	c0.23	
v/s Ratio Perm												
v/c Ratio	0.82	0.52		0.58	1.07		0.69	1.09		0.84	0.93	
Uniform Delay, d1	72.6	27.5		73.2	41.8		72.6	64.0		69.2	58.9	
Progression Factor	1.21	0.57		0.92	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	32.8	1.2		6.5	43.2		14.9	75.2		27.2	27.4	
Delay (s)	120.9	16.7		74.2	85.2		87.5	139.2		96.5	86.3	
Level of Service	F	B		E	F		F	F		F	F	
Approach Delay (s)		27.9			84.8			130.0			89.1	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	76.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	7	19	0	6	9	902	13	9	794	6
Future Volume (Veh/h)	4	0	7	19	0	6	9	902	13	9	794	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	8	21	0	7	10	980	14	10	863	7
Pedestrians					1			2			3	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			641	
pX, platoon unblocked	0.80	0.80		0.80	0.80	0.80				0.80		
vC, conflicting volume	1406	1902	437	1470	1898	501	870			995		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1005	1624	437	1083	1620	0	870			489		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	99	84	100	99	99			99		
cM capacity (veh/h)	152	79	566	132	79	863	770			854		

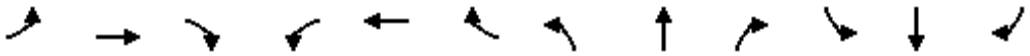
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	28	10	653	341	10	575	295
Volume Left	4	21	10	0	0	10	0	0
Volume Right	8	7	0	0	14	0	0	7
cSH	296	168	770	1700	1700	854	1700	1700
Volume to Capacity	0.04	0.17	0.01	0.38	0.20	0.01	0.34	0.17
Queue Length 95th (ft)	3	15	1	0	0	1	0	0
Control Delay (s)	17.7	30.8	9.7	0.0	0.0	9.3	0.0	0.0
Lane LOS	C	D	A			A		
Approach Delay (s)	17.7	30.8	0.1			0.1		
Approach LOS	C	D						

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	36.3%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	995	13	0	1574	0	6
Future Volume (Veh/h)	995	13	0	1574	0	6
Sign Control	Free			Free	Stop	
Grade	2%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1082	14	0	1711	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	278					
pX, platoon unblocked			0.78		0.78	0.78
vC, conflicting volume			1096		1944	548
vC1, stage 1 conf vol					1089	
vC2, stage 2 conf vol					856	
vCu, unblocked vol			570		1653	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			782		280	850

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	721	375	856	856	7
Volume Left	0	0	0	0	0
Volume Right	0	14	0	0	7
cSH	1700	1700	1700	1700	850
Volume to Capacity	0.42	0.22	0.50	0.50	0.01
Queue Length 95th (ft)	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	9.3
Lane LOS					A
Approach Delay (s)	0.0		0.0		9.3
Approach LOS					A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	977	0	8	1565	1	3	0	3	2	0	6
Future Volume (Veh/h)	4	977	0	8	1565	1	3	0	3	2	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1062	0	9	1701	1	3	0	3	2	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		508			1117							
pX, platoon unblocked				0.81			0.81	0.81	0.81	0.81	0.81	
vC, conflicting volume	1702			1062			1946	2790	531	2262	2790	851
vC1, stage 1 conf vol							1070	1070		1720	1720	
vC2, stage 2 conf vol							876	1720		542	1070	
vCu, unblocked vol	1702			605			1697	2740	0	2087	2740	851
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			99	100	100	98	100	98
cM capacity (veh/h)	370			784			224	125	877	89	128	303

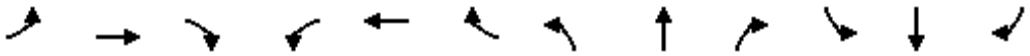
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	535	531	860	852	6	9
Volume Left	4	0	9	0	3	2
Volume Right	0	0	0	1	3	7
cSH	370	1700	784	1700	358	198
Volume to Capacity	0.01	0.31	0.01	0.50	0.02	0.05
Queue Length 95th (ft)	1	0	1	0	1	4
Control Delay (s)	0.3	0.0	0.3	0.0	15.2	24.1
Lane LOS	A		A		C	C
Approach Delay (s)	0.2		0.2		15.2	24.1
Approach LOS					C	C

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	58.9%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	4	880	12	0	779
Future Volume (Veh/h)	0	4	880	12	0	779
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	4	957	13	0	847
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1277			337
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	1387	485			970	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1018	0			505	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	190	882			859	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	4	638	332	424	424
Volume Left	0	0	0	0	0
Volume Right	4	0	13	0	0
cSH	882	1700	1700	1700	1700
Volume to Capacity	0.00	0.38	0.20	0.25	0.25
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.1	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.1	0.0		0.0	
Approach LOS	A				

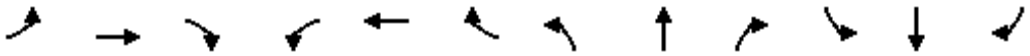
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	40	29	48	61	108	31	17	266	24	5	257	41
Future Volume (vph)	40	29	48	61	108	31	17	266	24	5	257	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	32	52	66	117	34	18	289	26	5	279	45

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	127	217	333	329
Volume Left (vph)	43	66	18	5
Volume Right (vph)	52	34	26	45
Hadj (s)	-0.14	0.00	0.00	-0.05
Departure Headway (s)	6.1	6.0	5.5	5.5
Degree Utilization, x	0.21	0.36	0.51	0.50
Capacity (veh/h)	499	537	609	616
Control Delay (s)	10.7	12.4	14.1	13.9
Approach Delay (s)	10.7	12.4	14.1	13.9
Approach LOS	B	B	B	B

Intersection Summary				
Delay	13.2			
Level of Service	B			
Intersection Capacity Utilization	45.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	793	42	103	1225	112	38	7	9	0	1	97
Future Volume (Veh/h)	90	793	42	103	1225	112	38	7	9	0	1	97
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	98	862	46	112	1332	122	41	8	10	0	1	105
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					711							
pX, platoon unblocked	0.63						0.63	0.63		0.63	0.63	0.63
vC, conflicting volume	1454			908			2076	2759	454	2258	2721	727
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	536			908			1528	2616	454	1818	2555	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	85			85			0	26	98	100	92	85
cM capacity (veh/h)	645			745			31	11	553	10	12	680

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	98	575	333	112	888	566	59	106
Volume Left	98	0	0	112	0	0	41	0
Volume Right	0	0	46	0	0	122	10	105
cSH	645	1700	1700	745	1700	1700	29	444
Volume to Capacity	0.15	0.34	0.20	0.15	0.52	0.33	2.07	0.24
Queue Length 95th (ft)	13	0	0	13	0	0	174	23
Control Delay (s)	11.6	0.0	0.0	10.7	0.0	0.0	789.9	15.6
Lane LOS	B			B			F	C
Approach Delay (s)	1.1			0.8			789.9	15.6
Approach LOS							F	C

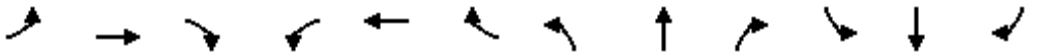
Intersection Summary				
Average Delay	18.5			
Intersection Capacity Utilization	62.1%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	65	1099	353	1049	236	245	405	116	258
v/c Ratio	0.34	1.32	0.86	0.75	0.80	0.80	0.49	0.42	0.85
Control Delay	28.2	193.1	66.1	22.3	60.1	59.6	4.4	56.8	78.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	193.1	66.1	22.3	60.1	59.6	4.4	56.8	78.6
Queue Length 50th (ft)	31	~685	227	383	165	172	10	94	218
Queue Length 95th (ft)	63	#825	#503	#607	248	252	12	157	#341
Internal Link Dist (ft)		629		185		251			415
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	194	832	410	1405	356	369	813	306	336
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	1.32	0.86	0.75	0.66	0.66	0.50	0.38	0.77

Intersection Summary

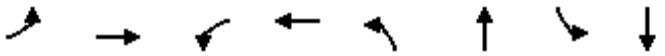
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	791	220	325	909	56	285	157	373	107	175	63
Future Volume (vph)	60	791	220	325	909	56	285	157	373	107	175	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	6.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1769	3310		1770	3386		1609	1668	1620	1685	1797	
Flt Permitted	0.21	1.00		0.10	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	399	3310		177	3386		1609	1668	1620	1685	1797	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	860	239	353	988	61	310	171	405	116	190	68
RTOR Reduction (vph)	0	18	0	0	3	0	0	0	120	0	9	0
Lane Group Flow (vph)	65	1081	0	353	1046	0	236	245	285	116	249	0
Confl. Peds. (#/hr)	2					2	25		10	10		25
Confl. Bikes (#/hr)						1			3			3
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pt+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	8 1	4	4	
Permitted Phases	2			6								
Actuated Green, G (s)	40.7	34.5		70.2	56.5		25.8	25.8	60.5	23.0	23.0	
Effective Green, g (s)	40.7	34.5		70.2	56.5		25.8	25.8	60.5	23.0	23.0	
Actuated g/C Ratio	0.29	0.25		0.50	0.40		0.18	0.18	0.43	0.16	0.16	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5		7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	176	815		409	1366		296	307	700	276	295	
v/s Ratio Prot	0.02	c0.33		c0.17	0.31		0.15	c0.15	0.18	0.07	c0.14	
v/s Ratio Perm	0.09			0.26								
v/c Ratio	0.37	1.33		0.86	0.77		0.80	0.80	0.41	0.42	0.84	
Uniform Delay, d1	36.8	52.8		41.1	36.0		54.6	54.6	27.4	52.5	56.8	
Progression Factor	1.00	1.00		1.22	0.49		0.78	0.78	0.20	1.00	1.00	
Incremental Delay, d2	1.8	155.3		16.9	4.0		12.7	12.3	0.4	1.0	19.2	
Delay (s)	38.6	208.1		67.3	21.6		55.1	54.8	5.8	53.6	76.0	
Level of Service	D	F		E	C		E	D	A	D	E	
Approach Delay (s)		198.6			33.1			32.5			69.0	
Approach LOS		F			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	86.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



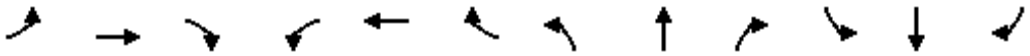
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	132	932	57	1718	90	393	153	428
v/c Ratio	0.75	0.59	0.48	1.25	0.66	1.12	0.77	0.98
Control Delay	63.1	30.2	78.1	149.8	84.9	132.7	84.5	88.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.1	30.2	78.1	149.8	84.9	132.7	84.5	88.4
Queue Length 50th (ft)	97	384	53	~1042	80	~426	135	~391
Queue Length 95th (ft)	#173	483	m86	#1181	141	#642	#223	#616
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	204	1567	168	1370	152	352	224	438
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.59	0.34	1.25	0.59	1.12	0.68	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

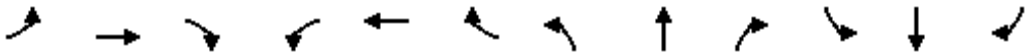
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	821	37	52	1458	122	83	306	55	141	280	114
Future Volume (vph)	121	821	37	52	1458	122	83	306	55	141	280	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3271		1577	3222		1711	1756		1652	1774	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3271		1577	3222		1711	1756		1652	1774	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	892	40	57	1585	133	90	333	60	153	304	124
RTOR Reduction (vph)	0	2	0	0	4	0	0	5	0	0	11	0
Lane Group Flow (vph)	132	930	0	57	1714	0	90	388	0	153	417	0
Confl. Peds. (#/hr)	8		21	21		8	2		1	1		2
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	15.6	65.7		9.3	59.4		11.2	27.7		16.8	33.8	
Effective Green, g (s)	15.6	65.7		9.3	59.4		11.2	27.7		16.8	33.8	
Actuated g/C Ratio	0.11	0.47		0.07	0.42		0.08	0.20		0.12	0.24	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	177	1535		104	1367		136	347		198	428	
v/s Ratio Prot	c0.08	c0.28		0.04	c0.53		0.05	c0.22		c0.09	c0.24	
v/s Ratio Perm												
v/c Ratio	0.75	0.61		0.55	1.25		0.66	1.12		0.77	0.98	
Uniform Delay, d1	60.3	27.5		63.3	40.3		62.6	56.1		59.7	52.7	
Progression Factor	0.65	1.02		1.07	0.79		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.1	1.7		5.3	119.8		11.5	84.4		16.9	37.1	
Delay (s)	54.5	29.8		73.2	151.7		74.0	140.5		76.7	89.8	
Level of Service	D	C		E	F		E	F		E	F	
Approach Delay (s)		32.9			149.2			128.1			86.3	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	105.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	3	18	0	9	6	939	7	3	797	4
Future Volume (Veh/h)	4	0	3	18	0	9	6	939	7	3	797	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	3	20	0	10	7	1021	8	3	866	4
Pedestrians								9			4	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			642	
pX, platoon unblocked	0.83	0.83		0.83	0.83	0.83				0.83		
vC, conflicting volume	1412	1917	444	1490	1915	518	870			1029		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1093	1699	444	1186	1697	19	870			632		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	99	83	100	99	99			100		
cM capacity (veh/h)	137	75	557	117	75	875	770			788		

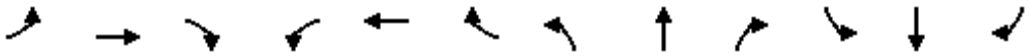
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	7	30	7	681	348	3	577	293
Volume Left	4	20	7	0	0	3	0	0
Volume Right	3	10	0	0	8	0	0	4
cSH	202	165	770	1700	1700	788	1700	1700
Volume to Capacity	0.03	0.18	0.01	0.40	0.20	0.00	0.34	0.17
Queue Length 95th (ft)	3	16	1	0	0	0	0	0
Control Delay (s)	23.4	31.6	9.7	0.0	0.0	9.6	0.0	0.0
Lane LOS	C	D	A			A		
Approach Delay (s)	23.4	31.6	0.1			0.0		
Approach LOS	C	D						

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	38.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1226	4	0	1292	5	0
Future Volume (Veh/h)	1226	4	0	1292	5	0
Sign Control	Free			Free	Stop	
Grade	2%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1333	4	0	1404	5	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh)				2		
Upstream signal (ft)	265					
pX, platoon unblocked			0.77		0.77	0.77
vC, conflicting volume			1337		2037	668
vC1, stage 1 conf vol					1335	
vC2, stage 2 conf vol					702	
vCu, unblocked vol			827		1741	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			612		248	830

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	889	448	702	702	5
Volume Left	0	0	0	0	5
Volume Right	0	4	0	0	0
cSH	1700	1700	1700	1700	248
Volume to Capacity	0.52	0.26	0.41	0.41	0.02
Queue Length 95th (ft)	0	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	0.0	19.8
Lane LOS					C
Approach Delay (s)	0.0		0.0		19.8
Approach LOS					C

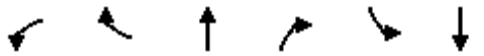
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1234	0	2	1278	3	4	0	4	1	0	9
Future Volume (Veh/h)	2	1234	0	2	1278	3	4	0	4	1	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1341	0	2	1389	3	4	0	4	1	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		534			1091							
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	1392			1341			2054	2741	670	2073	2740	696
vC1, stage 1 conf vol							1345	1345		1394	1394	
vC2, stage 2 conf vol							708	1396		678	1345	
vCu, unblocked vol	1392			862			1780	2666	0	1805	2664	696
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	100	100	99	100	97
cM capacity (veh/h)	487			602			200	158	841	143	159	384

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	672	670	696	698	8	11
Volume Left	2	0	2	0	4	1
Volume Right	0	0	0	3	4	10
cSH	487	1700	602	1700	324	333
Volume to Capacity	0.00	0.39	0.00	0.41	0.02	0.03
Queue Length 95th (ft)	0	0	0	0	2	3
Control Delay (s)	0.1	0.0	0.1	0.0	16.4	16.2
Lane LOS	A		A		C	C
Approach Delay (s)	0.1		0.0		16.4	16.2
Approach LOS					C	C

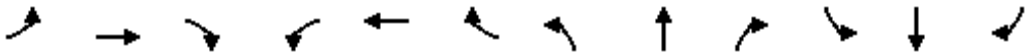
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	46.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	4	811	15	0	786
Future Volume (Veh/h)	0	4	811	15	0	786
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	4	882	16	0	854
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1284			331
pX, platoon unblocked	0.89	0.89			0.89	
vC, conflicting volume	1317	449			898	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1103	125			631	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	182	800			841	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	4	588	310	427	427
Volume Left	0	0	0	0	0
Volume Right	4	0	16	0	0
cSH	800	1700	1700	1700	1700
Volume to Capacity	0.00	0.35	0.18	0.25	0.25
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	9.5	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.5	0.0		0.0	
Approach LOS	A				

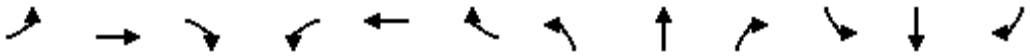
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	3	0	0	4	0
Future Volume (vph)	0	0	0	0	0	0	0	3	0	0	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	3	0	0	4	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	0	3	4
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	0	0	0
Hadj (s)	0.00	0.00	0.03	0.03
Departure Headway (s)	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00
Capacity (veh/h)	913	913	911	909
Control Delay (s)	6.9	6.9	7.0	7.0
Approach Delay (s)	0.0	0.0	7.0	7.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	6.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	1099	29	237	934	21	64	1	12	0	1	50
Future Volume (Veh/h)	73	1099	29	237	934	21	64	1	12	0	1	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	79	1195	32	258	1015	23	70	1	13	0	1	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					709							
pX, platoon unblocked	0.80						0.80	0.80		0.80	0.80	0.80
vC, conflicting volume	1038			1227			2447	2923	614	2312	2928	519
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	537			1227			2306	2903	614	2136	2909	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			54			0	83	97	100	83	94
cM capacity (veh/h)	818			564			8	6	435	11	6	864

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	79	797	430	258	677	361	84	55
Volume Left	79	0	0	258	0	0	70	0
Volume Right	0	0	32	0	0	23	13	54
cSH	818	1700	1700	564	1700	1700	10	240
Volume to Capacity	0.10	0.47	0.25	0.46	0.40	0.21	8.80	0.23
Queue Length 95th (ft)	8	0	0	60	0	0	Err	22
Control Delay (s)	9.9	0.0	0.0	16.7	0.0	0.0	Err	24.4
Lane LOS	A			C			F	C
Approach Delay (s)	0.6			3.3			Err	24.4
Approach LOS							F	C

Intersection Summary				
Average Delay	308.8			
Intersection Capacity Utilization	65.4%	ICU Level of Service	C	
Analysis Period (min)	15			

APPENDIX H

Diurnal Rate Sources

HOURLY VARIATION IN TRIP GENERATION FOR OFFICE AND RESIDENTIAL LAND USES

By Aaron T. Zimmerman, PTP

Abstract

Following the development of *Trip Generation*, 8th Edition, a call for data was sent out to ITE members soliciting twenty-four hour trip generation data. In response, ITE members submitted hundreds of datasets for not only the land uses discussed in this article, but also for other land uses such as shopping centers, auto dealerships, golf courses, hotels, and daycare centers, among others. Due to the short time frame between completion of the initial data collection portion of this project and development of the most recent edition of *Trip Generation Manual*, twenty-four hour summaries for office and residential land uses were not included in the ninth edition.

This article presents hourly distributions of trip generation for both office and residential land uses. It is intended to supplement the information that is published in the ITE *Trip Generation Manual*, 9th Edition.

Data Collection

This article presents the results of a data collection effort of twenty-four hour trip generation data for office and residential land uses to supplement those currently published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual*, 9th Edition. The data reported is intended to assist planners and engineers seeking to project four, eight, twelve, or more than twelve hours of traffic volumes for a signal warrant analysis. Other important uses include conducting trip generation and parking demand analyses of multiple study hours as part of a traffic impact study for multiuse developments. Specifically, developments that are composed of land uses with differing peak hours for entering and exiting traffic, such as office, retail, residential, movie theaters, sports arenas, restaurants, and daycare centers for example. In addition, the hourly variations will be useful for estimating emissions associated with land use developments. The current method for determining hourly traffic distribution for a particular land use typically involves collecting field counts at a limited number of sites and then making important assumptions about adaptability to the analysis site. The primary goal of this data collection effort was to consolidate twenty-four hour data, collected and submitted for inclusion in ITE's trip generation database, with recently collected datasets. These data were then used to report the average percentage distributions in summary tables making it readily available for all transportation professionals.

Purpose

Most of the hourly datasets analyzed for this study were collected using tube counters and then submitted to ITE on spreadsheets organized in either fifteen-minute or one-hour intervals, typically for each individual driveway serving the site. These newly-collected raw datasets, as well as previously submitted twenty-four hour datasets from the ITE trip generation database, were compiled into spreadsheets in one-hour increments and assigned to the appropriate *Trip Generation Manual* land use codes with guidance from

Table 1: Office Uses Combined

Time	Average Weekday		Average Saturday		Average Sunday	
	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic
6–7 a.m.	4.6	0.7	4.1	1.4	1.8	2.4
7–8 a.m.	14.9	1.9	5.4	2.5	3.8	1.2
8–9 a.m.	20.7	3.0	9.1	1.5	6.0	2.9
9–10 a.m.	8.2	3.2	7.2	3.9	6.6	3.8
10–11 a.m.	5.0	3.9	6.8	4.6	9.7	7.5
11–12 p.m.	5.1	8.6	7.1	11.3	8.9	9.6
12–1 p.m.	8.7	10.5	8.1	14.0	6.9	9.1
1–2 p.m.	10.0	6.6	7.3	8.3	8.6	12.0
2–3 p.m.	5.9	6.3	7.6	7.7	6.6	8.2
3–4 p.m.	4.3	9.5	6.0	9.6	4.6	6.3
4–5 p.m.	3.4	15.4	3.1	7.9	5.5	7.5
5–6 p.m.	2.5	16.5	3.2	6.9	3.1	6.7
6–7 p.m.	1.4	5.5	2.5	3.2	3.5	4.1
7–8 p.m.	0.9	2.5	2.0	2.2	2.7	2.9
8–9 p.m.	0.7	1.6	2.4	2.1	3.3	4.3
9–10 p.m.	0.6	1.1	1.4	1.4	3.1	3.1
10 p.m.–6 a.m.	3.2	3.2	16.9	11.4	15.3	8.4

ITE. Once hourly traffic calculations and land use code assignments were verified for accuracy by ITE staff, the average hourly traffic volumes were then summarized into tables as a percentage of the twenty-hour total entering and exiting vehicles from 6:00 a.m. to 10:00 p.m. This range of hours not only represents an expansion of four hours beyond the range of summary data published in previous editions of *Trip Generation* but also the inclusion of the critical morning commuter peak hours. For practical purposes, information was not provided for individual hours in the middle of the night. Instead, percentages for the combined period of 10:00 p.m. to 6:00 a.m. were provided in the last line of the summary tables. Where available, datasets for Saturdays and Sundays were also tabulated and summarized.

Office Land Uses

There were a total of 38 combined site observations for average weekday data, and five sites observed for each of Saturday and Sunday. The datasets were initially analyzed for each of three office land uses separately—General Office Building (710), Corporate Headquarters (714), and Office Park (750)—but due to the similarities in hourly distributions, it was determined that a combined summary table would provide a more robust and accurate depiction of hourly variations in traffic for general office uses. As expected, ingress traffic tended to be highest in the morning commuter period as office employees arrive for work, while egress traffic tended to be highest during the evening commuter period as office employees leave work for home. There was also a noticeable spike in the middle of the day due to office workers leaving and returning from lunch. The size of office developments analyzed ranged from 10,000 to 903,000 square feet. Based on the analysis conducted, it is noted that size of the office development had no discernible impact on the hourly distribution throughout the day.

Residential Land Uses

There were a total of 40 combined site observations for average weekday data, 36 site observations for average Saturday data, and 35 site observations for average Sunday data compiled for all residential land uses. Analysis of individual residential uses indicated that the general trip generation characteristics throughout the day were noticeably different between traditional residential uses (i.e., apartment, single family home, townhomes, condominiums) and senior-oriented residential uses (i.e., senior-attached, senior-detached, continuing care). Therefore, two separate and distinct summary tables combining similar types of residential uses (senior-oriented facilities only and non-senior residential only) were developed, as shown in Tables 2 and 3. As expected, the traditional residential uses generate a large egress of traffic during the weekday morning commuter rush hours and a similarly large ingress during the evening commuter peak hours. Contrarily, the largest ingress/egress period for senior-oriented residential uses tended to occur after the morning commuter peak hours and before the evening peak hours. The sizes of traditional residential uses

Table 2: Residential Uses Combined – Excluding Senior-Oriented Facilities

Time	Average Weekday		Average Saturday		Average Sunday	
	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic
6–7 a.m.	1.6	5.7	1.1	2.1	0.9	1.9
7–8 a.m.	2.5	9.0	1.8	3.6	1.6	3.3
8–9 a.m.	3.7	9.1	2.8	5.6	2.6	4.7
9–10 a.m.	3.7	6.5	4.4	7.3	3.5	6.8
10–11 a.m.	4.1	5.5	5.6	7.7	6.3	7.5
11–12 p.m.	4.5	5.7	6.9	7.5	6.4	9.5
12–1 p.m.	5.3	5.3	6.6	7.8	6.9	7.6
1–2 p.m.	5.4	5.7	7.1	6.9	7.2	7.4
2–3 p.m.	6.5	5.9	7.1	6.7	7.2	6.6
3–4 p.m.	8.1	6.3	7.4	6.1	7.3	6.6
4–5 p.m.	9.8	6.3	8.5	5.9	8.0	6.7
5–6 p.m.	10.8	6.5	8.6	6.3	7.3	6.9
6–7 p.m.	8.5	5.1	6.4	6.0	5.8	5.1
7–8 p.m.	5.9	4.9	5.2	4.9	5.5	4.1
8–9 p.m.	5.1	3.4	4.2	3.6	4.6	3.3
9–10 p.m.	4.2	2.3	3.8	2.6	4.3	2.7
10 p.m.–6 a.m.	10.3	5.6	12.4	9.3	14.6	9.4

Table 3: Residential Uses Combined–Senior-Oriented Facilities Only

Time	Average Weekday		Average Saturday		Average Sunday	
	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic
6–7 a.m.	3.6	2.0	4.0	1.3	3.7	1.5
7–8 a.m.	5.4	4.5	3.2	3.8	2.8	3.8
8–9 a.m.	6.5	5.8	3.3	3.6	2.9	4.4
9–10 a.m.	6.0	7.5	5.0	6.1	4.1	5.6
10–11 a.m.	7.3	8.0	7.5	7.1	7.6	6.6
11–12 p.m.	8.2	6.8	8.9	8.1	8.2	5.8
12–1 p.m.	8.2	7.7	8.0	7.3	8.6	6.8
1–2 p.m.	7.7	8.0	7.5	7.3	8.2	7.6
2–3 p.m.	8.8	8.0	8.6	7.7	9.5	9.6
3–4 p.m.	9.9	9.6	11.1	11.3	10.5	11.5
4–5 p.m.	6.7	7.6	6.6	7.3	6.8	7.4
5–6 p.m.	4.7	6.5	4.8	5.1	5.6	6.1
6–7 p.m.	3.9	4.4	4.4	3.9	5.2	4.7
7–8 p.m.	4.0	5.0	5.3	6.5	5.0	6.1
8–9 p.m.	3.0	3.1	3.9	4.6	4.3	4.9
9–10 p.m.	1.7	1.6	2.0	2.7	2.0	2.5
10 p.m.–6 a.m.	4.3	3.9	5.7	6.3	4.9	5.1

ranged from 46 to 1,248 dwelling units, and the sizes of senior-oriented developments analyzed ranged from 28 to 2,238 dwelling units. As with the office land use data, smaller and larger sized residential communities generally had similar hourly distributions.

The time-of-day summary tables reported both in this article and in the ninth edition should be used only as a reference. Professional judgment should be exercised with regard to the limited number of site observations, utilizing data for the hours after 10:00 p.m., and in situations where peak hour data may not fit perfectly with the distributions provided. As explained in *Trip Generation Handbook*, 3rd Edition, time-of-day data should not be used to determine peak hour traffic volumes. Instead, peak hour volumes should be estimated by using the standard regression analysis and data plots presented for each land use code in *Trip Generation Manual*. Also note that the percentages in the summary tables do not add up to 100 percent due to rounding. **itej**

Acknowledgments

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Note

The twenty-four hour distribution of trip generation for office and residential land uses presented in the summary tables contained in this article are the result of an effort to develop and provide a useful tool that can be directly applicable to the work done daily by transportation professionals. Although the summary tables provided in this article and in the ninth edition cover a large share of the land uses most regularly analyzed by transportation professionals, the author strongly encourages readers to submit time-of-day trip generation data to ITE to improve the robustness of existing twenty-four hour distribution summaries and to allow summaries for additional land use codes to be established in future editions of Trip Generation Manual. *Time-of-day trip generation data can be submitted to ITE by completing the "Data Collection Form" located at www.ite.org/tripgeneration/index.asp.*

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Hotel (Confidential, do not provide location of count)
Springhill Suites, Sterling Virginia
22595 Shaw Road, Sterling, VA 20166
703-444-3944
Size 158 rooms all suites, 2,760 SF of conf. space (80 to 100 people max)
ADT Thursday, May 28, 2009 Count

Beginning Time	Vehicle Trips IN	OUT	TOTAL	Percent of Daily Traffic IN	OUT	TOTAL
1:00 AM	0	0	0	-	-	-
2:00 AM	0	0	0	-	-	-
3:00 AM	0	0	0	-	-	-
4:00 AM	1	0	1	0.25	-	0.25
5:00 AM	1	3	4	0.25	0.74	0.99
6:00 AM	2	7	9	0.50	1.73	2.23
7:00 AM	6	10	16	1.49	2.48	3.96
8:00 AM	16	18	34	3.96	4.46	8.42
9:00 AM	8	20	28	1.98	4.95	6.93
10:00 AM	8	17	25	1.98	4.21	6.19
11:00 AM	12	18	30	2.97	4.46	7.43
12:00 PM	8	18	26	1.98	4.46	6.44
1:00 PM	4	5	9	0.99	1.24	2.23
2:00 PM	6	5	11	1.49	1.24	2.72
3:00 PM	6	8	14	1.49	1.98	3.47
4:00 PM	11	11	22	2.72	2.72	5.45
5:00 PM	10	8	18	2.48	1.98	4.46
6:00 PM	12	8	20	2.97	1.98	4.95
7:00 PM	10	11	21	2.48	2.72	5.20
8:00 PM	15	12	27	3.71	2.97	6.68
9:00 PM	19	9	28	4.70	2.23	6.93
10:00 PM	16	8	24	3.96	1.98	5.94
11:00 PM	18	6	24	4.46	1.49	5.94
12:00 AM	5	8	13	1.24	1.98	3.22
TOTAL	194	210	404	48.02	51.98	100.00

Appendix E.4

Table 1 Hourly Variation in Shopping Center Traffic						
Time	Average Weekday[a]		Average Saturday[b]		Average Sunday[c]	
	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic	Percent of 24-Hour Entering Traffic	Percent of 24-Hour Exiting Traffic
6 a.m.–7 a.m.	0.8	0.3	0.2	0.2	0.2	0.1
7 a.m.–8 a.m.	2.0	0.9	0.9	0.4	0.4	0.3
8 a.m.–9 a.m.	3.1	1.2	2.7	1.0	0.9	0.5
9 a.m.–10 a.m.	5.5	2.0	5.5	2.2	1.7	1.1
10 a.m.–11 a.m.	7.0	4.3	8.6	4.8	3.8	2.5
11 a.m.–12 p.m.	8.4	6.2	10.8	7.5	10.0	4.6
12 p.m.–1 p.m.	9.4	8.3	11.8	9.3	15.1	7.9
1 p.m.–2 p.m.	8.2	8.6	12.1	10.3	16.7	12.0
2 p.m.–3 p.m.	7.7	8.9	11.8	11.8	15.8	14.7
3 p.m.–4 p.m.	7.8	8.8	10.7	12.5	13.0	15.6
4 p.m.–5 p.m.	8.0	8.9	8.8	12.5	9.4	15.8
5 p.m.–6 p.m.	8.4	9.2	5.3	11.3	5.1	13.0
6 p.m.–7 p.m.	8.0	7.5	3.3	6.7	2.3	4.6
7 p.m.–8 p.m.	7.9	7.2	2.7	2.9	1.7	1.9
8 p.m.–9 p.m.	4.3	7.7	1.8	2.2	1.1	1.3
9 p.m.–10 p.m.	1.8	7.2	1.0	1.6	0.7	1.1
10 p.m.–6 a.m.	1.7	2.8	2.0	2.8	2.1	3.0

Sites ranged in size from 11,000 to 1,750,000 square feet gross leasable area
[a] Source numbers – 13, 73, 88, 190, 217, 220, 225 and 376; based on ten studies
[b] Source numbers – 13, 73, 88, 190, 220, 225 and 376; based on nine studies
[c] Source numbers – 13, 73, 88, 190, 220 and 225; based on eight studies

APPENDIX I

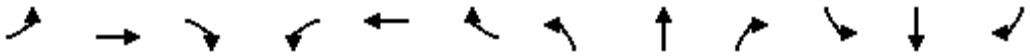
2022/2028 Total Future Levels of Service & Queue (Synchro Worksheets)

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	1191	175	734	270	280	421	109	390
v/c Ratio	0.15	1.10	0.85	0.56	0.85	0.84	0.71	0.37	1.16
Control Delay	23.7	101.0	79.8	28.7	71.3	70.1	16.0	54.3	148.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	101.0	79.8	28.7	71.3	70.1	16.0	54.3	148.1
Queue Length 50th (ft)	19	~663	110	246	167	171	19	88	~417
Queue Length 95th (ft)	42	#804	#262	360	#338	#341	110	149	#628
Internal Link Dist (ft)		544		163		251			434
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	261	1087	205	1308	356	371	617	298	337
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	1.10	0.85	0.56	0.76	0.75	0.68	0.37	1.16

Intersection Summary

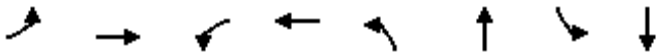
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	979	117	161	613	63	303	203	387	100	329	29
Future Volume (vph)	35	979	117	161	613	63	303	203	387	100	329	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	7.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1735	3346		1687	3366		1609	1676	1598	1637	1838	
Flt Permitted	0.30	1.00		0.08	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	548	3346		135	3366		1609	1676	1598	1637	1838	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1064	127	175	666	68	329	221	421	109	358	32
RTOR Reduction (vph)	0	6	0	0	5	0	0	0	137	0	2	0
Lane Group Flow (vph)	38	1185	0	175	729	0	270	280	284	109	388	0
Confl. Peds. (#/hr)	1		2	2		1	1		4	4		1
Confl. Bikes (#/hr)			3			3			3			4
Heavy Vehicles (%)	4%	2%	6%	7%	2%	2%	2%	2%	2%	5%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pm+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases	2			6					8			
Actuated Green, G (s)	50.7	45.2		65.7	52.7		27.8	27.8	40.8	25.5	25.5	
Effective Green, g (s)	50.7	45.2		65.7	52.7		27.8	27.8	40.8	25.5	25.5	
Actuated g/C Ratio	0.36	0.32		0.47	0.38		0.20	0.20	0.29	0.18	0.18	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5	7.5	7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0	4.0	3.0	3.0	
Lane Grp Cap (vph)	245	1080		207	1267		319	332	465	298	334	
v/s Ratio Prot	0.01	c0.35		c0.08	c0.22		c0.17	0.17	0.06	0.07	c0.21	
v/s Ratio Perm	0.05			0.32					0.12			
v/c Ratio	0.16	1.10		0.85	0.58		0.85	0.84	0.61	0.37	1.16	
Uniform Delay, d1	29.4	47.4		38.6	34.7		54.0	54.0	42.8	50.2	57.2	
Progression Factor	1.00	1.00		1.41	0.77		0.92	0.92	0.47	1.00	1.00	
Incremental Delay, d2	0.4	57.9		26.6	1.9		17.0	16.2	2.5	0.8	100.2	
Delay (s)	29.8	105.3		80.8	28.7		66.8	66.0	22.5	50.9	157.5	
Level of Service	C	F		F	C		E	E	C	D	F	
Approach Delay (s)		103.0			38.7			47.3			134.2	
Approach LOS		F			D			D			F	

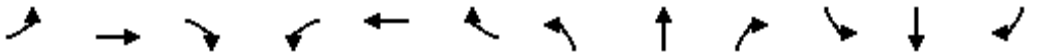
Intersection Summary			
HCM 2000 Control Delay	76.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	1339	38	835	70	286	203	305
v/c Ratio	0.62	0.85	0.38	0.58	0.61	0.91	0.94	0.64
Control Delay	89.1	22.2	72.1	26.9	85.1	86.2	107.7	51.8
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.1	22.3	72.1	26.9	85.1	86.2	107.7	51.8
Queue Length 50th (ft)	75	254	36	184	63	249	187	245
Queue Length 95th (ft)	133	#326	75	309	117	#416	#350	355
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	157	1579	168	1450	127	321	215	473
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	16	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.86	0.23	0.58	0.55	0.89	0.94	0.64

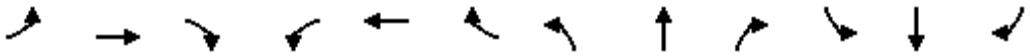
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	1211	21	35	680	88	64	201	63	187	205	75
Future Volume (vph)	75	1211	21	35	680	88	64	201	63	187	205	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	3232		1577	3198		1694	1718		1546	1718	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	3232		1577	3198		1694	1718		1546	1718	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	1316	23	38	739	96	70	218	68	203	223	82
RTOR Reduction (vph)	0	1	0	0	7	0	0	8	0	0	9	0
Lane Group Flow (vph)	82	1338	0	38	828	0	70	278	0	203	296	0
Confl. Peds. (#/hr)							4					4
Confl. Bikes (#/hr)						3			1			1
Heavy Vehicles (%)	3%	4%	3%	2%	2%	4%	3%	3%	2%	9%	5%	7%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	11.8	66.2		7.8	62.2		8.2	26.0		19.5	37.8	
Effective Green, g (s)	11.8	66.2		7.8	62.2		8.2	26.0		19.5	37.8	
Actuated g/C Ratio	0.08	0.47		0.06	0.44		0.06	0.19		0.14	0.27	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	132	1528		87	1420		99	319		215	463	
v/s Ratio Prot	c0.05	c0.41		0.02	0.26		0.04	c0.16		c0.13	0.17	
v/s Ratio Perm												
v/c Ratio	0.62	0.88		0.44	0.58		0.71	0.87		0.94	0.64	
Uniform Delay, d1	61.9	33.2		64.0	29.2		64.7	55.4		59.7	45.1	
Progression Factor	1.14	0.49		0.99	0.88		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.3	7.0		3.3	1.7		20.5	23.4		45.5	4.0	
Delay (s)	79.1	23.3		67.0	27.4		85.2	78.8		105.2	49.1	
Level of Service	E	C		E	C		F	E		F	D	
Approach Delay (s)		26.5			29.2			80.1			71.5	
Approach LOS		C			C			F			E	

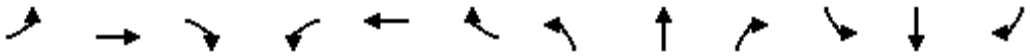
Intersection Summary			
HCM 2000 Control Delay	40.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	7	17	1	10	5	889	12	3	549	2
Future Volume (Veh/h)	5	0	7	17	1	10	5	889	12	3	549	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	8	18	1	11	5	966	13	3	597	2
Pedestrians								5			1	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			642	
pX, platoon unblocked	0.85	0.85		0.85	0.85	0.85				0.85		
vC, conflicting volume	1110	1593	304	1300	1588	490	599			979		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	773	1343	304	997	1336	44	599			619		
tC, single (s)	8.2	6.6	6.9	7.5	6.6	7.1	4.5			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.4	2.4			2.2		
p0 queue free %	97	100	99	89	99	99	99			100		
cM capacity (veh/h)	197	126	689	164	127	846	860			812		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	13	30	5	644	335	3	398	201
Volume Left	5	18	5	0	0	3	0	0
Volume Right	8	11	0	0	13	0	0	2
cSH	352	230	860	1700	1700	812	1700	1700
Volume to Capacity	0.04	0.13	0.01	0.38	0.20	0.00	0.23	0.12
Queue Length 95th (ft)	3	11	0	0	0	0	0	0
Control Delay (s)	15.6	23.0	9.2	0.0	0.0	9.4	0.0	0.0
Lane LOS	C	C	A			A		
Approach Delay (s)	15.6	23.0	0.0			0.0		
Approach LOS	C	C						

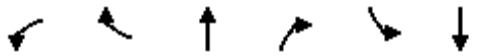
Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	36.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1424	22	14	796	9	51	0	27	0	0	9
Future Volume (Veh/h)	9	1424	22	14	796	9	51	0	27	0	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	1548	24	15	865	10	55	0	29	0	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		503			1123							
pX, platoon unblocked				0.69			0.69	0.69	0.69	0.69	0.69	
vC, conflicting volume	875			1572			2052	2485	786	1723	2492	438
vC1, stage 1 conf vol							1580	1580		900	900	
vC2, stage 2 conf vol							472	905		823	1592	
vCu, unblocked vol	875			940			1633	2257	0	1158	2267	438
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			69	100	96	100	100	98
cM capacity (veh/h)	767			503			176	183	752	269	174	567

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	784	798	448	442	84	10
Volume Left	10	0	15	0	55	0
Volume Right	0	24	0	10	29	10
cSH	767	1700	503	1700	239	567
Volume to Capacity	0.01	0.47	0.03	0.26	0.35	0.02
Queue Length 95th (ft)	1	0	2	0	38	1
Control Delay (s)	0.4	0.0	0.9	0.0	27.9	11.5
Lane LOS	A		A		D	B
Approach Delay (s)	0.2		0.4		27.9	11.5
Approach LOS					D	B

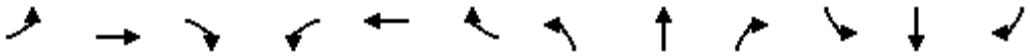
Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	64.2%	ICU Level of Service		C
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	23	871	13	0	530
Future Volume (Veh/h)	0	23	871	13	0	530
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	25	947	14	0	576
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1284			331
pX, platoon unblocked	0.89	0.89			0.89	
vC, conflicting volume	1242	480			961	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1033	180			718	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	204	743			785	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	25	631	330	288	288
Volume Left	0	0	0	0	0
Volume Right	25	0	14	0	0
cSH	743	1700	1700	1700	1700
Volume to Capacity	0.03	0.37	0.19	0.17	0.17
Queue Length 95th (ft)	3	0	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	10.0	0.0		0.0	
Approach LOS	B				

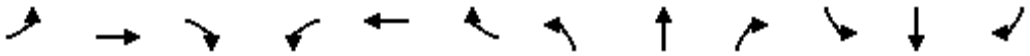
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	29	52	106	38	75	25	24	145	11	20	246	39
Future Volume (vph)	29	52	106	38	75	25	24	145	11	20	246	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	57	115	41	82	27	26	158	12	22	267	42

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	204	150	196	331
Volume Left (vph)	32	41	26	22
Volume Right (vph)	115	27	12	42
Hadj (s)	-0.27	-0.02	0.02	-0.03
Departure Headway (s)	5.3	5.7	5.4	5.2
Degree Utilization, x	0.30	0.24	0.30	0.48
Capacity (veh/h)	611	564	599	653
Control Delay (s)	10.6	10.4	10.7	12.8
Approach Delay (s)	10.6	10.4	10.7	12.8
Approach LOS	B	B	B	B

Intersection Summary			
Delay	11.4		
Level of Service	B		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	1156	31	115	499	161	31	5	6	0	1	58
Future Volume (Veh/h)	149	1156	31	115	499	161	31	5	6	0	1	58
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	162	1257	34	125	542	175	34	5	7	0	1	63
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					624							
pX, platoon unblocked	0.90						0.90	0.90		0.90	0.90	0.90
vC, conflicting volume	717			1291			2182	2565	646	1842	2494	358
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	453			1291			2088	2515	646	1708	2436	53
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	84			77			0	69	98	100	94	93
cM capacity (veh/h)	990			533			17	16	415	29	18	899

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	162	838	453	125	361	356	46	64
Volume Left	162	0	0	125	0	0	34	0
Volume Right	0	0	34	0	0	175	7	63
cSH	990	1700	1700	533	1700	1700	20	508
Volume to Capacity	0.16	0.49	0.27	0.23	0.21	0.21	2.28	0.13
Queue Length 95th (ft)	15	0	0	23	0	0	152	11
Control Delay (s)	9.3	0.0	0.0	13.8	0.0	0.0	987.0	13.1
Lane LOS	A			B			F	B
Approach Delay (s)	1.0			2.1			987.0	13.1
Approach LOS							F	B

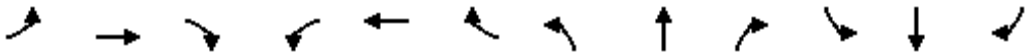
Intersection Summary				
Average Delay	20.6			
Intersection Capacity Utilization	58.3%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	48	891	304	1388	294	301	374	125	353
v/c Ratio	0.41	0.80	0.97	0.93	0.96	0.94	0.54	0.44	1.11
Control Delay	32.5	52.8	93.1	31.7	121.6	117.9	27.6	66.1	142.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	52.8	93.1	31.7	121.6	117.9	27.6	66.1	142.8
Queue Length 50th (ft)	25	425	207	559	342	351	126	120	~440
Queue Length 95th (ft)	48	512	#417	#877	#533	#538	259	192	#653
Internal Link Dist (ft)		631		198		257			382
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	118	1142	315	1494	311	324	688	284	317
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.78	0.97	0.93	0.95	0.93	0.54	0.44	1.11

Intersection Summary

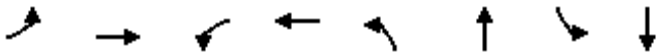
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	599	221	280	1236	41	329	218	344	115	300	25
Future Volume (vph)	44	599	221	280	1236	41	329	218	344	115	300	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	6.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3283		1770	3402		1609	1676	1573	1685	1870	
Flt Permitted	0.08	1.00		0.12	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	141	3283		224	3402		1609	1676	1573	1685	1870	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	651	240	304	1343	45	358	237	374	125	326	27
RTOR Reduction (vph)	0	24	0	0	2	0	0	0	118	0	2	0
Lane Group Flow (vph)	48	867	0	304	1386	0	294	301	256	125	351	0
Confl. Peds. (#/hr)	2					2	20		12	12		20
Confl. Bikes (#/hr)									4			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pt+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	8 1	4	4	
Permitted Phases	2			6								
Actuated Green, G (s)	58.2	53.0		81.4	68.7		30.6	30.6	58.0	27.0	27.0	
Effective Green, g (s)	58.2	53.0		81.4	68.7		30.6	30.6	58.0	27.0	27.0	
Actuated g/C Ratio	0.36	0.33		0.51	0.43		0.19	0.19	0.36	0.17	0.17	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5		7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	104	1087		315	1460		307	320	570	284	315	
v/s Ratio Prot	0.01	0.26		c0.13	c0.41		c0.18	0.18	0.16	0.07	c0.19	
v/s Ratio Perm	0.15			c0.36								
v/c Ratio	0.46	0.80		0.97	0.95		0.96	0.94	0.45	0.44	1.12	
Uniform Delay, d1	38.6	48.6		41.2	44.0		64.1	63.8	38.8	59.7	66.5	
Progression Factor	1.00	1.00		1.53	0.46		1.37	1.37	1.30	1.00	1.00	
Incremental Delay, d2	4.4	6.1		40.1	13.8		35.0	30.6	0.5	1.1	85.5	
Delay (s)	42.9	54.7		103.2	33.9		122.8	118.3	51.1	60.8	152.0	
Level of Service	D	D		F	C		F	F	D	E	F	
Approach Delay (s)		54.1			46.4			93.7			128.1	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	69.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



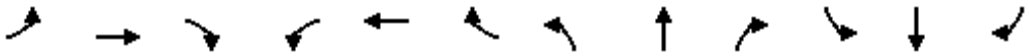
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	107	857	55	1659	83	388	158	419
v/c Ratio	0.85	0.52	0.51	1.08	0.69	1.11	0.84	0.94
Control Delay	132.0	17.5	78.8	84.6	99.7	135.2	102.9	87.2
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	132.0	17.5	78.8	84.9	99.7	135.2	102.9	87.2
Queue Length 50th (ft)	114	186	60	~995	86	~473	163	429
Queue Length 95th (ft)	#228	325	m86	#1140	#156	#693	#279	#653
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	129	1653	147	1539	133	351	202	445
Starvation Cap Reductn	0	0	0	1	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.52	0.37	1.08	0.62	1.11	0.78	0.94

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

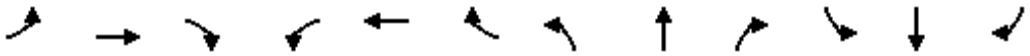
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	759	29	51	1407	120	76	299	58	145	281	105
Future Volume (vph)	98	759	29	51	1407	120	76	299	58	145	281	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3282		1577	3221		1711	1744		1620	1767	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3282		1577	3221		1711	1744		1620	1767	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	107	825	32	55	1529	130	83	325	63	158	305	114
RTOR Reduction (vph)	0	2	0	0	4	0	0	4	0	0	8	0
Lane Group Flow (vph)	107	855	0	55	1655	0	83	384	0	158	411	0
Confl. Peds. (#/hr)	7		1	1		7	7		14	14		7
Confl. Bikes (#/hr)									3			5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	3%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	12.7	79.3		9.7	76.3		11.4	31.9		18.6	39.6	
Effective Green, g (s)	12.7	79.3		9.7	76.3		11.4	31.9		18.6	39.6	
Actuated g/C Ratio	0.08	0.50		0.06	0.48		0.07	0.20		0.12	0.25	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	126	1626		95	1536		121	347		188	437	
v/s Ratio Prot	c0.07	c0.26		0.03	c0.51		0.05	c0.22		c0.10	c0.23	
v/s Ratio Perm												
v/c Ratio	0.85	0.53		0.58	1.08		0.69	1.11		0.84	0.94	
Uniform Delay, d1	72.7	27.5		73.2	41.9		72.6	64.0		69.2	59.0	
Progression Factor	1.21	0.59		0.93	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	37.3	1.2		6.5	44.9		14.9	80.2		27.2	28.9	
Delay (s)	125.2	17.3		74.3	86.9		87.5	144.2		96.5	88.0	
Level of Service	F	B		E	F		F	F		F	F	
Approach Delay (s)		29.3			86.5			134.2			90.3	
Approach LOS		C			F			F			F	

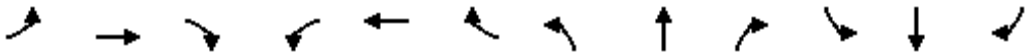
Intersection Summary			
HCM 2000 Control Delay	78.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	7	19	0	6	9	914	13	9	810	6
Future Volume (Veh/h)	4	0	7	19	0	6	9	914	13	9	810	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	8	21	0	7	10	993	14	10	880	7
Pedestrians					1			2			3	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			641	
pX, platoon unblocked	0.80	0.80		0.80	0.80	0.80				0.80		
vC, conflicting volume	1430	1932	446	1491	1928	508	887			1008		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1032	1661	446	1109	1657	0	887			504		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	99	83	100	99	99			99		
cM capacity (veh/h)	145	75	559	126	75	862	759			843		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	28	10	662	345	10	587	300
Volume Left	4	21	10	0	0	10	0	0
Volume Right	8	7	0	0	14	0	0	7
cSH	286	161	759	1700	1700	843	1700	1700
Volume to Capacity	0.04	0.17	0.01	0.39	0.20	0.01	0.35	0.18
Queue Length 95th (ft)	3	15	1	0	0	1	0	0
Control Delay (s)	18.1	32.1	9.8	0.0	0.0	9.3	0.0	0.0
Lane LOS	C	D	A			A		
Approach Delay (s)	18.1	32.1	0.1			0.1		
Approach LOS	C	D						

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	36.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	968	39	23	1562	1	32	0	17	2	0	6
Future Volume (Veh/h)	4	968	39	23	1562	1	32	0	17	2	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1052	42	25	1698	1	35	0	18	2	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		508			1117							
pX, platoon unblocked				0.80			0.80	0.80	0.80	0.80	0.80	
vC, conflicting volume	1699			1094			1987	2830	547	2300	2850	850
vC1, stage 1 conf vol							1081	1081		1748	1748	
vC2, stage 2 conf vol							906	1749		552	1102	
vCu, unblocked vol	1699			614			1732	2787	0	2124	2813	850
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			84	100	98	98	100	98
cM capacity (veh/h)	371			768			216	119	866	84	121	304

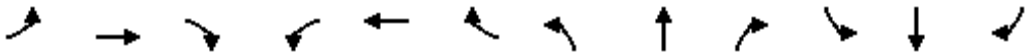
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	530	568	874	850	53	9
Volume Left	4	0	25	0	35	2
Volume Right	0	42	0	1	18	7
cSH	371	1700	768	1700	290	192
Volume to Capacity	0.01	0.33	0.03	0.50	0.18	0.05
Queue Length 95th (ft)	1	0	3	0	16	4
Control Delay (s)	0.3	0.0	0.9	0.0	20.2	24.7
Lane LOS	A		A		C	C
Approach Delay (s)	0.2		0.5		20.2	24.7
Approach LOS					C	C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	14	878	26	0	795
Future Volume (Veh/h)	0	14	878	26	0	795
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	954	28	0	864
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1277			337
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	1400	491			982	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1032	0			518	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	186	882			849	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	15	636	346	432	432
Volume Left	0	0	0	0	0
Volume Right	15	0	28	0	0
cSH	882	1700	1700	1700	1700
Volume to Capacity	0.02	0.37	0.20	0.25	0.25
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	9.2	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.2	0.0		0.0	
Approach LOS	A				

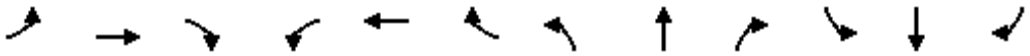
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	40	29	48	61	108	33	17	273	25	5	267	41
Future Volume (vph)	40	29	48	61	108	33	17	273	25	5	267	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	32	52	66	117	36	18	297	27	5	290	45

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	127	219	342	340
Volume Left (vph)	43	66	18	5
Volume Right (vph)	52	36	27	45
Hadj (s)	-0.14	0.00	0.00	-0.04
Departure Headway (s)	6.2	6.1	5.6	5.5
Degree Utilization, x	0.22	0.37	0.53	0.52
Capacity (veh/h)	491	530	605	612
Control Delay (s)	10.9	12.6	14.6	14.4
Approach Delay (s)	10.9	12.6	14.6	14.4
Approach LOS	B	B	B	B

Intersection Summary				
Delay	13.7			
Level of Service	B			
Intersection Capacity Utilization	46.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	802	42	103	1232	113	38	7	9	0	1	99
Future Volume (Veh/h)	90	802	42	103	1232	113	38	7	9	0	1	99
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	98	872	46	112	1339	123	41	8	10	0	1	108
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					711							
pX, platoon unblocked	0.62						0.62	0.62		0.62	0.62	0.62
vC, conflicting volume	1462			918			2093	2777	459	2270	2738	731
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	529			918			1543	2642	459	1828	2580	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	85			85			0	22	98	100	91	84
cM capacity (veh/h)	644			739			30	10	549	9	11	675

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	98	581	337	112	893	569	59	109
Volume Left	98	0	0	112	0	0	41	0
Volume Right	0	0	46	0	0	123	10	108
cSH	644	1700	1700	739	1700	1700	27	438
Volume to Capacity	0.15	0.34	0.20	0.15	0.53	0.33	2.16	0.25
Queue Length 95th (ft)	13	0	0	13	0	0	177	24
Control Delay (s)	11.6	0.0	0.0	10.7	0.0	0.0	843.1	15.9
Lane LOS	B			B			F	C
Approach Delay (s)	1.1			0.8			843.1	15.9
Approach LOS							F	C

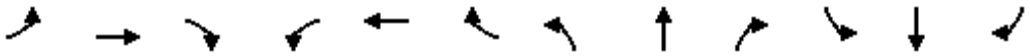
Intersection Summary				
Average Delay	19.5			
Intersection Capacity Utilization	62.3%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	65	1128	390	1072	249	254	404	139	258
v/c Ratio	0.36	1.39	0.94	0.77	0.82	0.80	0.49	0.50	0.85
Control Delay	29.1	223.0	78.2	25.3	62.2	60.4	5.9	59.4	78.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.1	223.0	78.2	25.3	62.2	60.4	5.9	59.4	78.6
Queue Length 50th (ft)	32	~714	~334	446	180	183	10	115	218
Queue Length 95th (ft)	63	#854	#578	#631	277	274	22	184	#341
Internal Link Dist (ft)		629		185		251			415
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	183	810	413	1387	356	369	814	306	336
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	1.39	0.94	0.77	0.70	0.69	0.50	0.45	0.77

Intersection Summary

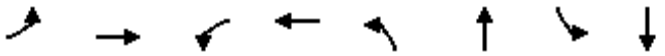
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	818	220	359	921	65	297	166	372	128	175	63
Future Volume (vph)	60	818	220	359	921	65	297	166	372	128	175	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	6.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1769	3313		1770	3381		1609	1669	1620	1685	1797	
Flt Permitted	0.20	1.00		0.10	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	368	3313		182	3381		1609	1669	1620	1685	1797	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	889	239	390	1001	71	323	180	404	139	190	68
RTOR Reduction (vph)	0	18	0	0	4	0	0	0	100	0	9	0
Lane Group Flow (vph)	65	1110	0	390	1068	0	249	254	304	139	249	0
Confl. Peds. (#/hr)	2					2	25		10	10		25
Confl. Bikes (#/hr)						1			3			3
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pt+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	8 1	4	4	
Permitted Phases	2			6								
Actuated Green, G (s)	39.6	33.4		69.4	55.7		26.6	26.6	61.6	23.0	23.0	
Effective Green, g (s)	39.6	33.4		69.4	55.7		26.6	26.6	61.6	23.0	23.0	
Actuated g/C Ratio	0.28	0.24		0.50	0.40		0.19	0.19	0.44	0.16	0.16	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5		7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	166	790		413	1345		305	317	712	276	295	
v/s Ratio Prot	0.02	c0.34		c0.19	0.32		c0.15	0.15	0.19	0.08	c0.14	
v/s Ratio Perm	0.09			0.28								
v/c Ratio	0.39	1.41		0.94	0.79		0.82	0.80	0.43	0.50	0.84	
Uniform Delay, d1	37.7	53.3		43.1	37.1		54.4	54.2	27.0	53.3	56.8	
Progression Factor	1.00	1.00		1.19	0.54		0.79	0.79	0.26	1.00	1.00	
Incremental Delay, d2	2.1	190.1		30.0	4.8		14.3	12.6	0.4	1.4	19.2	
Delay (s)	39.8	243.4		81.5	24.7		57.4	55.5	7.4	54.7	76.0	
Level of Service	D	F		F	C		E	E	A	D	E	
Approach Delay (s)		232.3			39.8			34.6			68.5	
Approach LOS		F			D			C			E	

Intersection Summary			
HCM 2000 Control Delay	99.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



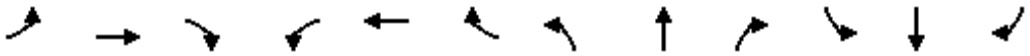
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	138	944	57	1738	90	400	153	436
v/c Ratio	0.76	0.60	0.48	1.28	0.66	1.14	0.77	1.00
Control Delay	65.3	29.7	78.1	159.3	84.9	139.6	84.5	92.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	29.7	78.1	159.3	84.9	139.6	84.5	92.8
Queue Length 50th (ft)	104	392	53	~1068	80	~440	135	~414
Queue Length 95th (ft)	#190	483	m86	#1198	141	#658	#223	#631
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	204	1564	168	1362	152	351	224	438
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.60	0.34	1.28	0.59	1.14	0.68	1.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

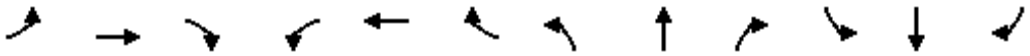
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	825	43	52	1477	122	83	306	62	141	280	121
Future Volume (vph)	127	825	43	52	1477	122	83	306	62	141	280	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3266		1577	3223		1711	1751		1652	1770	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3266		1577	3223		1711	1751		1652	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	897	47	57	1605	133	90	333	67	153	304	132
RTOR Reduction (vph)	0	3	0	0	4	0	0	5	0	0	11	0
Lane Group Flow (vph)	138	941	0	57	1734	0	90	395	0	153	425	0
Confl. Peds. (#/hr)	8		21	21		8	2		1	1		2
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	16.0	65.7		9.3	59.0		11.2	27.7		16.8	33.8	
Effective Green, g (s)	16.0	65.7		9.3	59.0		11.2	27.7		16.8	33.8	
Actuated g/C Ratio	0.11	0.47		0.07	0.42		0.08	0.20		0.12	0.24	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	182	1532		104	1358		136	346		198	427	
v/s Ratio Prot	c0.09	c0.29		0.04	c0.54		0.05	c0.23		c0.09	c0.24	
v/s Ratio Perm												
v/c Ratio	0.76	0.61		0.55	1.28		0.66	1.14		0.77	0.99	
Uniform Delay, d1	60.1	27.7		63.3	40.5		62.6	56.1		59.7	53.0	
Progression Factor	0.67	1.00		1.07	0.80		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.9	1.8		5.3	129.9		11.5	92.8		16.9	42.0	
Delay (s)	56.3	29.4		73.2	162.1		74.0	148.9		76.7	95.0	
Level of Service	E	C		E	F		E	F		E	F	
Approach Delay (s)		32.9			159.3			135.2			90.2	
Approach LOS		C			F			F			F	

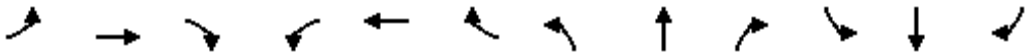
Intersection Summary			
HCM 2000 Control Delay	111.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	3	18	0	9	6	965	7	3	831	4
Future Volume (Veh/h)	4	0	3	18	0	9	6	965	7	3	831	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	3	20	0	10	7	1049	8	3	903	4
Pedestrians								9			4	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			642	
pX, platoon unblocked	0.83	0.83		0.83	0.83	0.83				0.83		
vC, conflicting volume	1464	1982	462	1536	1980	532	907			1057		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1154	1777	462	1242	1775	36	907			666		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	99	81	100	99	99			100		
cM capacity (veh/h)	123	67	542	107	67	854	746			765		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	7	30	7	699	358	3	602	305
Volume Left	4	20	7	0	0	3	0	0
Volume Right	3	10	0	0	8	0	0	4
cSH	185	150	746	1700	1700	765	1700	1700
Volume to Capacity	0.04	0.20	0.01	0.41	0.21	0.00	0.35	0.18
Queue Length 95th (ft)	3	18	1	0	0	0	0	0
Control Delay (s)	25.3	34.8	9.9	0.0	0.0	9.7	0.0	0.0
Lane LOS	D	D	A			A		
Approach Delay (s)	25.3	34.8	0.1			0.0		
Approach LOS	D	D						

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	39.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1176	84	56	1256	3	83	0	49	1	0	9
Future Volume (Veh/h)	2	1176	84	56	1256	3	83	0	49	1	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1278	91	61	1365	3	90	0	53	1	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		534			1091							
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	1368			1369			2142	2818	684	2184	2862	684
vC1, stage 1 conf vol							1328	1328		1488	1488	
vC2, stage 2 conf vol							814	1490		696	1373	
vCu, unblocked vol	1368			919			1905	2767	45	1959	2823	684
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			89			51	100	93	99	100	97
cM capacity (veh/h)	498			579			183	136	795	112	124	391

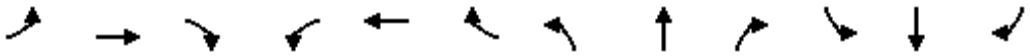
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	641	730	744	686	143	11
Volume Left	2	0	61	0	90	1
Volume Right	0	91	0	3	53	10
cSH	498	1700	579	1700	255	319
Volume to Capacity	0.00	0.43	0.11	0.40	0.56	0.03
Queue Length 95th (ft)	0	0	9	0	78	3
Control Delay (s)	0.1	0.0	2.9	0.0	35.6	16.7
Lane LOS	A		A		E	C
Approach Delay (s)	0.1		1.5		35.6	16.7
Approach LOS					E	C

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	37	800	52	0	820
Future Volume (Veh/h)	0	37	800	52	0	820
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	40	870	57	0	891
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1284			331
pX, platoon unblocked	0.89	0.89			0.89	
vC, conflicting volume	1344	464			927	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1129	135			658	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			100	
cM capacity (veh/h)	175	787			819	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	40	580	347	446	446
Volume Left	0	0	0	0	0
Volume Right	40	0	57	0	0
cSH	787	1700	1700	1700	1700
Volume to Capacity	0.05	0.34	0.20	0.26	0.26
Queue Length 95th (ft)	4	0	0	0	0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.8	0.0		0.0	
Approach LOS	A				

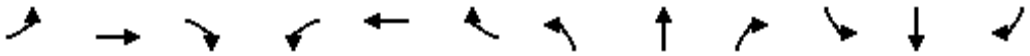
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	33.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	3	0	19	2	0	22	0
Future Volume (vph)	0	0	0	0	0	3	0	19	2	0	22	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	3	0	21	2	0	24	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	3	23	24
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	3	2	0
Hadj (s)	0.00	-0.57	-0.02	0.03
Departure Headway (s)	4.0	3.4	3.9	4.0
Degree Utilization, x	0.00	0.00	0.02	0.03
Capacity (veh/h)	900	1029	916	902
Control Delay (s)	7.0	6.4	7.0	7.1
Approach Delay (s)	0.0	6.4	7.0	7.1
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.0		
Level of Service	A		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	1123	29	237	958	23	64	1	12	0	1	53
Future Volume (Veh/h)	73	1123	29	237	958	23	64	1	12	0	1	53
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	79	1221	32	258	1041	25	70	1	13	0	1	58
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					709							
pX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	1066			1253			2490	2977	626	2352	2980	533
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	537			1253			2351	2971	626	2174	2975	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			53			0	81	97	100	81	93
cM capacity (veh/h)	807			551			7	5	427	10	5	852

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	79	814	439	258	694	372	84	59
Volume Left	79	0	0	258	0	0	70	0
Volume Right	0	0	32	0	0	25	13	58
cSH	807	1700	1700	551	1700	1700	8	227
Volume to Capacity	0.10	0.48	0.26	0.47	0.41	0.22	10.06	0.26
Queue Length 95th (ft)	8	0	0	62	0	0	Err	25
Control Delay (s)	9.9	0.0	0.0	17.2	0.0	0.0	Err	26.3
Lane LOS	A			C			F	D
Approach Delay (s)	0.6			3.3			Err	26.3
Approach LOS							F	D

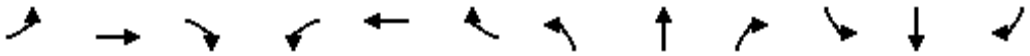
Intersection Summary				
Average Delay	302.5			
Intersection Capacity Utilization	66.1%	ICU Level of Service		C
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	39	1262	185	777	285	296	447	113	413
v/c Ratio	0.16	1.19	0.89	0.60	0.87	0.86	0.75	0.38	1.23
Control Delay	24.1	137.1	84.9	29.9	73.2	72.0	19.2	54.6	171.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.1	137.1	84.9	29.9	73.2	72.0	19.2	54.6	171.6
Queue Length 50th (ft)	20	~734	120	267	188	192	24	92	~461
Queue Length 95th (ft)	43	#876	#280	383	#396	#409	135	154	#676
Internal Link Dist (ft)		544		163		251			434
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	240	1059	209	1290	356	371	620	298	337
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	1.19	0.89	0.60	0.80	0.80	0.72	0.38	1.23

Intersection Summary

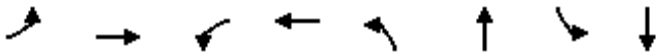
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	1038	123	170	648	67	319	215	411	104	350	30
Future Volume (vph)	36	1038	123	170	648	67	319	215	411	104	350	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	7.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1735	3347		1687	3365		1609	1676	1598	1637	1838	
Flt Permitted	0.27	1.00		0.08	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	498	3347		138	3365		1609	1676	1598	1637	1838	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	1128	134	185	704	73	347	234	447	113	380	33
RTOR Reduction (vph)	0	6	0	0	6	0	0	0	130	0	2	0
Lane Group Flow (vph)	39	1256	0	185	771	0	285	296	317	113	411	0
Confl. Peds. (#/hr)	1		2	2		1	1		4	4		1
Confl. Bikes (#/hr)			3			3			3			4
Heavy Vehicles (%)	4%	2%	6%	7%	2%	2%	2%	2%	2%	5%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pm+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases	2			6					8			
Actuated Green, G (s)	49.5	44.1		64.9	52.0		28.6	28.6	41.9	25.5	25.5	
Effective Green, g (s)	49.5	44.1		64.9	52.0		28.6	28.6	41.9	25.5	25.5	
Actuated g/C Ratio	0.35	0.32		0.46	0.37		0.20	0.20	0.30	0.18	0.18	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5	7.5	7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0	4.0	3.0	3.0	
Lane Grp Cap (vph)	223	1054		211	1249		328	342	478	298	334	
v/s Ratio Prot	0.01	c0.38		c0.08	c0.23		c0.18	0.18	0.06	0.07	c0.22	
v/s Ratio Perm	0.05			0.32					0.14			
v/c Ratio	0.17	1.19		0.88	0.62		0.87	0.87	0.66	0.38	1.23	
Uniform Delay, d1	30.3	48.0		39.6	35.9		53.9	53.8	42.9	50.3	57.2	
Progression Factor	1.00	1.00		1.40	0.77		0.92	0.92	0.51	1.00	1.00	
Incremental Delay, d2	0.5	95.7		31.5	2.3		19.6	18.6	3.5	0.8	126.7	
Delay (s)	30.9	143.7		87.0	30.1		69.3	68.2	25.5	51.1	183.9	
Level of Service	C	F		F	C		E	E	C	D	F	
Approach Delay (s)		140.3			41.0			50.0			155.4	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	93.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

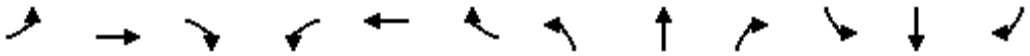


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	86	1421	40	886	73	304	215	322
v/c Ratio	0.64	0.90	0.40	0.61	0.63	0.95	1.03	0.68
Control Delay	90.1	26.7	72.8	27.8	86.6	92.8	128.0	53.8
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.1	27.0	72.8	27.8	86.6	92.8	128.0	53.8
Queue Length 50th (ft)	78	288	38	202	65	269	~208	263
Queue Length 95th (ft)	139	#817	80	331	#126	#454	#374	379
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	157	1576	168	1447	127	321	209	471
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	16	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.91	0.24	0.61	0.57	0.95	1.03	0.68

Intersection Summary

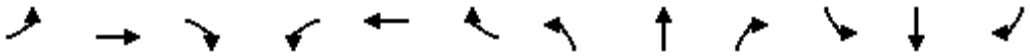
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	1285	22	37	721	94	67	213	66	198	217	79
Future Volume (vph)	79	1285	22	37	721	94	67	213	66	198	217	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	3232		1577	3198		1694	1718		1546	1719	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	3232		1577	3198		1694	1718		1546	1719	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	1397	24	40	784	102	73	232	72	215	236	86
RTOR Reduction (vph)	0	1	0	0	7	0	0	8	0	0	9	0
Lane Group Flow (vph)	86	1420	0	40	879	0	73	296	0	215	313	0
Confl. Peds. (#/hr)							4					4
Confl. Bikes (#/hr)						3			1			1
Heavy Vehicles (%)	3%	4%	3%	2%	2%	4%	3%	3%	2%	9%	5%	7%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	12.0	66.2		7.9	62.1		8.2	26.4		19.0	37.7	
Effective Green, g (s)	12.0	66.2		7.9	62.1		8.2	26.4		19.0	37.7	
Actuated g/C Ratio	0.09	0.47		0.06	0.44		0.06	0.19		0.14	0.27	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	135	1528		88	1418		99	323		209	462	
v/s Ratio Prot	c0.05	c0.44		0.03	0.27		0.04	c0.17		c0.14	0.18	
v/s Ratio Perm												
v/c Ratio	0.64	0.93		0.45	0.62		0.74	0.92		1.03	0.68	
Uniform Delay, d1	61.9	34.7		64.0	29.9		64.8	55.7		60.5	45.7	
Progression Factor	1.13	0.51		1.00	0.88		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.0	11.0		3.6	2.0		24.6	30.6		69.9	5.1	
Delay (s)	79.0	28.6		67.5	28.3		89.4	86.3		130.4	50.8	
Level of Service	E	C		E	C		F	F		F	D	
Approach Delay (s)		31.5			30.0			86.9			82.7	
Approach LOS		C			C			F			F	

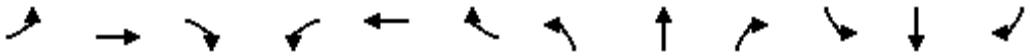
Intersection Summary			
HCM 2000 Control Delay	45.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	7	17	1	10	5	943	12	3	581	2
Future Volume (Veh/h)	5	0	7	17	1	10	5	943	12	3	581	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	8	18	1	11	5	1025	13	3	632	2
Pedestrians								5			1	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			642	
pX, platoon unblocked	0.85	0.85		0.85	0.85	0.85				0.85		
vC, conflicting volume	1174	1687	322	1376	1682	520	634			1038		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	849	1453	322	1087	1447	78	634			688		
tC, single (s)	8.2	6.6	6.9	7.5	6.6	7.1	4.5			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.4	2.4			2.2		
p0 queue free %	97	100	99	87	99	99	99			100		
cM capacity (veh/h)	172	108	671	141	109	804	833			765		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	13	30	5	683	355	3	421	213
Volume Left	5	18	5	0	0	3	0	0
Volume Right	8	11	0	0	13	0	0	2
cSH	317	200	833	1700	1700	765	1700	1700
Volume to Capacity	0.04	0.15	0.01	0.40	0.21	0.00	0.25	0.13
Queue Length 95th (ft)	3	13	0	0	0	0	0	0
Control Delay (s)	16.8	26.2	9.3	0.0	0.0	9.7	0.0	0.0
Lane LOS	C	D	A			A		
Approach Delay (s)	16.8	26.2	0.0			0.0		
Approach LOS	C	D						

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	38.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1512	22	14	845	9	51	0	27	0	0	9
Future Volume (Veh/h)	9	1512	22	14	845	9	51	0	27	0	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	1643	24	15	918	10	55	0	29	0	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		503			1123							
pX, platoon unblocked				0.70			0.70	0.70	0.70	0.70	0.70	
vC, conflicting volume	928			1667			2174	2633	834	1824	2640	464
vC1, stage 1 conf vol							1675	1675		953	953	
vC2, stage 2 conf vol							499	958		870	1687	
vCu, unblocked vol	928			1093			1818	2475	0	1317	2485	464
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			62	100	96	100	100	98
cM capacity (veh/h)	733			443			145	160	758	248	150	545

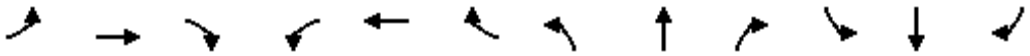
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	832	846	474	469	84	10
Volume Left	10	0	15	0	55	0
Volume Right	0	24	0	10	29	10
cSH	733	1700	443	1700	201	545
Volume to Capacity	0.01	0.50	0.03	0.28	0.42	0.02
Queue Length 95th (ft)	1	0	3	0	48	1
Control Delay (s)	0.4	0.0	1.0	0.0	35.2	11.7
Lane LOS	A		A		E	B
Approach Delay (s)	0.2		0.5		35.2	11.7
Approach LOS					E	B

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	66.6%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	23	925	13	0	561
Future Volume (Veh/h)	0	23	925	13	0	561
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	25	1005	14	0	610
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1284			331
pX, platoon unblocked	0.89	0.89			0.89	
vC, conflicting volume	1317	510			1019	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1115	210			781	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			100	
cM capacity (veh/h)	180	710			743	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	25	670	349	305	305
Volume Left	0	0	0	0	0
Volume Right	25	0	14	0	0
cSH	710	1700	1700	1700	1700
Volume to Capacity	0.04	0.39	0.21	0.18	0.18
Queue Length 95th (ft)	3	0	0	0	0
Control Delay (s)	10.3	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	10.3	0.0		0.0	
Approach LOS	B				

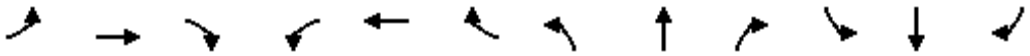
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	36.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	29	52	106	38	75	25	24	153	11	20	261	39
Future Volume (vph)	29	52	106	38	75	25	24	153	11	20	261	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	57	115	41	82	27	26	166	12	22	284	42

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	204	150	204	348
Volume Left (vph)	32	41	26	22
Volume Right (vph)	115	27	12	42
Hadj (s)	-0.27	-0.02	0.02	-0.03
Departure Headway (s)	5.4	5.8	5.5	5.2
Degree Utilization, x	0.31	0.24	0.31	0.51
Capacity (veh/h)	597	553	594	650
Control Delay (s)	10.8	10.6	11.0	13.4
Approach Delay (s)	10.8	10.6	11.0	13.4
Approach LOS	B	B	B	B

Intersection Summary				
Delay	11.8			
Level of Service	B			
Intersection Capacity Utilization	39.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	1225	31	115	529	161	31	5	6	0	1	58
Future Volume (Veh/h)	149	1225	31	115	529	161	31	5	6	0	1	58
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	162	1332	34	125	575	175	34	5	7	0	1	63
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					624							
pX, platoon unblocked	0.89						0.89	0.89		0.89	0.89	0.89
vC, conflicting volume	750			1366			2274	2673	683	1912	2602	375
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	462			1366			2181	2631	683	1773	2552	39
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	83			75			0	61	98	100	93	93
cM capacity (veh/h)	971			499			14	13	392	23	15	908

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	162	888	478	125	383	367	46	64
Volume Left	162	0	0	125	0	0	34	0
Volume Right	0	0	34	0	0	175	7	63
cSH	971	1700	1700	499	1700	1700	16	463
Volume to Capacity	0.17	0.52	0.28	0.25	0.23	0.22	2.79	0.14
Queue Length 95th (ft)	15	0	0	25	0	0	160	12
Control Delay (s)	9.4	0.0	0.0	14.6	0.0	0.0	1286.3	14.0
Lane LOS	A			B			F	B
Approach Delay (s)	1.0			2.1			1286.3	14.0
Approach LOS							F	B

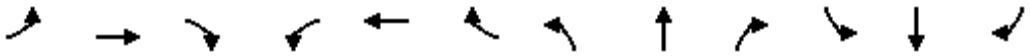
Intersection Summary				
Average Delay	25.2			
Intersection Capacity Utilization	60.2%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	51	943	322	1470	310	319	398	132	375
v/c Ratio	0.43	0.83	1.06	0.97	1.00	0.98	0.58	0.49	1.25
Control Delay	33.9	53.8	119.7	38.9	128.6	124.9	29.7	68.4	190.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	53.8	119.7	38.9	128.6	124.9	29.7	68.4	190.7
Queue Length 50th (ft)	26	461	~277	~720	361	371	135	128	~488
Queue Length 95th (ft)	50	552	#482	#971	#573	#583	275	203	#703
Internal Link Dist (ft)		631		198		257			382
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	118	1142	303	1517	311	324	686	268	299
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.83	1.06	0.97	1.00	0.98	0.58	0.49	1.25

Intersection Summary

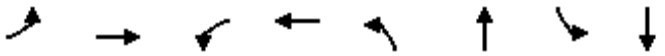
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	634	234	296	1309	43	348	231	366	121	319	26
Future Volume (vph)	47	634	234	296	1309	43	348	231	366	121	319	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	6.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3283		1770	3402		1609	1676	1573	1685	1871	
Flt Permitted	0.07	1.00		0.11	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	137	3283		199	3402		1609	1676	1573	1685	1871	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	689	254	322	1423	47	378	251	398	132	347	28
RTOR Reduction (vph)	0	24	0	0	2	0	0	0	108	0	2	0
Lane Group Flow (vph)	51	919	0	322	1468	0	310	319	290	132	373	0
Confl. Peds. (#/hr)	2					2	20		12	12		20
Confl. Bikes (#/hr)									4			4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pt+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	8 1	4	4	
Permitted Phases	2			6								
Actuated Green, G (s)	59.7	54.5		82.5	69.8		31.0	31.0	58.0	25.5	25.5	
Effective Green, g (s)	59.7	54.5		82.5	69.8		31.0	31.0	58.0	25.5	25.5	
Actuated g/C Ratio	0.37	0.34		0.52	0.44		0.19	0.19	0.36	0.16	0.16	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5		7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	104	1118		303	1484		311	324	570	268	298	
v/s Ratio Prot	0.02	0.28		c0.14	c0.43		c0.19	0.19	0.18	0.08	c0.20	
v/s Ratio Perm	0.17			c0.41								
v/c Ratio	0.49	0.82		1.06	0.99		1.00	0.98	0.51	0.49	1.25	
Uniform Delay, d1	39.2	48.3		44.6	44.7		64.5	64.3	39.9	61.3	67.2	
Progression Factor	1.00	1.00		1.48	0.48		1.34	1.34	1.18	1.00	1.00	
Incremental Delay, d2	4.9	6.9		68.2	20.5		45.6	41.4	0.6	1.4	138.3	
Delay (s)	44.1	55.2		134.2	42.2		132.2	127.8	47.8	62.8	205.6	
Level of Service	D	E		F	D		F	F	D	E	F	
Approach Delay (s)		54.6			58.7			98.1			168.4	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	80.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



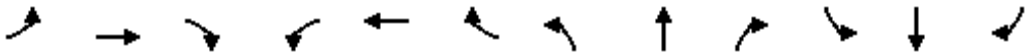
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	112	908	59	1758	87	412	166	444
v/c Ratio	0.88	0.55	0.53	1.14	0.71	1.19	0.86	1.00
Control Delay	136.2	18.0	80.6	110.0	101.3	162.3	105.7	100.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	136.2	18.0	80.6	110.0	101.3	162.3	105.7	100.5
Queue Length 50th (ft)	119	216	63	~1109	90	~526	172	~484
Queue Length 95th (ft)	#243	351	m92	#1250	#167	#747	#301	#710
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	129	1648	147	1537	133	347	202	443
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.55	0.40	1.14	0.65	1.19	0.82	1.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

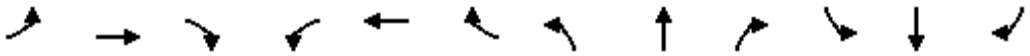
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	804	31	54	1490	127	80	318	61	153	298	110
Future Volume (vph)	103	804	31	54	1490	127	80	318	61	153	298	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3282		1577	3221		1711	1745		1620	1767	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3282		1577	3221		1711	1745		1620	1767	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	874	34	59	1620	138	87	346	66	166	324	120
RTOR Reduction (vph)	0	2	0	0	4	0	0	4	0	0	8	0
Lane Group Flow (vph)	112	906	0	59	1754	0	87	408	0	166	436	0
Confl. Peds. (#/hr)	7		1	1		7	7		14	14		7
Confl. Bikes (#/hr)									3			5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	4%	2%	3%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	12.8	79.1		9.9	76.2		11.6	31.5		19.0	39.4	
Effective Green, g (s)	12.8	79.1		9.9	76.2		11.6	31.5		19.0	39.4	
Actuated g/C Ratio	0.08	0.49		0.06	0.48		0.07	0.20		0.12	0.25	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	127	1622		97	1534		124	343		192	435	
v/s Ratio Prot	c0.07	c0.28		0.04	c0.54		0.05	c0.23		c0.10	c0.25	
v/s Ratio Perm												
v/c Ratio	0.88	0.56		0.61	1.14		0.70	1.19		0.86	1.00	
Uniform Delay, d1	72.9	28.3		73.2	41.9		72.5	64.2		69.2	60.3	
Progression Factor	1.21	0.58		0.93	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	44.8	1.4		8.5	71.4		16.4	110.6		30.8	43.6	
Delay (s)	132.8	17.8		76.8	113.4		88.9	174.9		100.1	103.9	
Level of Service	F	B		E	F		F	F		F	F	
Approach Delay (s)		30.4			112.2			159.9			102.8	
Approach LOS		C			F			F			F	

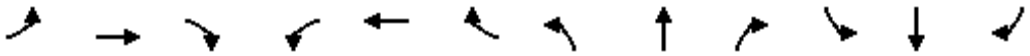
Intersection Summary			
HCM 2000 Control Delay	95.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	7	19	0	6	9	969	13	9	858	6
Future Volume (Veh/h)	4	0	7	19	0	6	9	969	13	9	858	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	8	21	0	7	10	1053	14	10	933	7
Pedestrians					1			2			3	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			641	
pX, platoon unblocked	0.80	0.80		0.80	0.80	0.80				0.80		
vC, conflicting volume	1513	2044	472	1578	2041	538	940			1068		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1136	1802	472	1217	1798	0	940			579		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	99	80	100	99	99			99		
cM capacity (veh/h)	121	61	537	105	61	862	725			790		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	28	10	702	365	10	622	318
Volume Left	4	21	10	0	0	10	0	0
Volume Right	8	7	0	0	14	0	0	7
cSH	251	134	725	1700	1700	790	1700	1700
Volume to Capacity	0.05	0.21	0.01	0.41	0.21	0.01	0.37	0.19
Queue Length 95th (ft)	4	19	1	0	0	1	0	0
Control Delay (s)	20.1	38.7	10.0	0.0	0.0	9.6	0.0	0.0
Lane LOS	C	E	B			A		
Approach Delay (s)	20.1	38.7	0.1			0.1		
Approach LOS	C	E						

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	38.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1028	39	23	1658	1	32	0	17	2	0	6
Future Volume (Veh/h)	4	1028	39	23	1658	1	32	0	17	2	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1117	42	25	1802	1	35	0	18	2	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		508			1117							
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	1803			1159			2104	2999	580	2437	3020	902
vC1, stage 1 conf vol							1146	1146		1852	1852	
vC2, stage 2 conf vol							958	1853		584	1167	
vCu, unblocked vol	1803			646			1855	2999	0	2280	3025	902
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			82	100	98	97	100	98
cM capacity (veh/h)	338			731			199	105	848	72	107	281

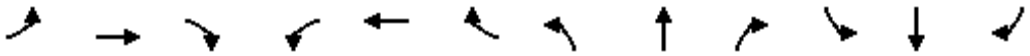
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	562	600	926	902	53	9
Volume Left	4	0	25	0	35	2
Volume Right	0	42	0	1	18	7
cSH	338	1700	731	1700	269	171
Volume to Capacity	0.01	0.35	0.03	0.53	0.20	0.05
Queue Length 95th (ft)	1	0	3	0	18	4
Control Delay (s)	0.4	0.0	1.0	0.0	21.7	27.3
Lane LOS	A		A		C	D
Approach Delay (s)	0.2		0.5		21.7	27.3
Approach LOS					C	D

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	75.1%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	14	931	26	0	843
Future Volume (Veh/h)	0	14	931	26	0	843
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	1012	28	0	916
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1277			337
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	1484	520			1040	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1135	0			589	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	159	881			799	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	15	675	365	458	458
Volume Left	0	0	0	0	0
Volume Right	15	0	28	0	0
cSH	881	1700	1700	1700	1700
Volume to Capacity	0.02	0.40	0.21	0.27	0.27
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	9.2	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.2	0.0		0.0	
Approach LOS	A				

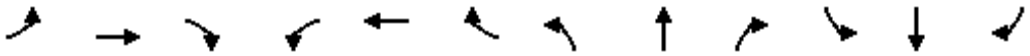
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	40	29	48	61	108	33	17	289	25	5	282	41
Future Volume (vph)	40	29	48	61	108	33	17	289	25	5	282	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	32	52	66	117	36	18	314	27	5	307	45

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	127	219	359	357
Volume Left (vph)	43	66	18	5
Volume Right (vph)	52	36	27	45
Hadj (s)	-0.14	0.00	0.00	-0.04
Departure Headway (s)	6.3	6.2	5.7	5.6
Degree Utilization, x	0.22	0.38	0.56	0.56
Capacity (veh/h)	475	516	600	607
Control Delay (s)	11.1	12.9	15.7	15.5
Approach Delay (s)	11.1	12.9	15.7	15.5
Approach LOS	B	B	C	C

Intersection Summary				
Delay	14.5			
Level of Service	B			
Intersection Capacity Utilization	47.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	848	42	103	1307	113	38	7	9	0	1	99
Future Volume (Veh/h)	90	848	42	103	1307	113	38	7	9	0	1	99
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	98	922	46	112	1421	123	41	8	10	0	1	108
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					711							
pX, platoon unblocked	0.59						0.59	0.59		0.59	0.59	0.59
vC, conflicting volume	1544			968			2184	2909	484	2378	2870	772
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	539			968			1621	2846	484	1948	2781	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	84			84			0	0	98	0	87	83
cM capacity (veh/h)	607			707			24	7	529	0	8	641

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	98	615	353	112	947	597	59	109
Volume Left	98	0	0	112	0	0	41	0
Volume Right	0	0	46	0	0	123	10	108
cSH	607	1700	1700	707	1700	1700	20	367
Volume to Capacity	0.16	0.36	0.21	0.16	0.56	0.35	2.89	0.30
Queue Length 95th (ft)	14	0	0	14	0	0	193	31
Control Delay (s)	12.1	0.0	0.0	11.0	0.0	0.0	1249.4	18.9
Lane LOS	B			B			F	C
Approach Delay (s)	1.1			0.7			1249.4	18.9
Approach LOS							F	C

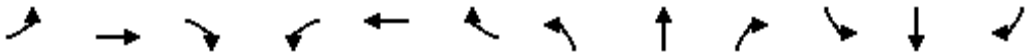
Intersection Summary				
Average Delay	27.1			
Intersection Capacity Utilization	64.4%	ICU Level of Service		C
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	67	1190	413	1133	262	269	430	145	275
v/c Ratio	0.42	1.47	1.05	0.83	0.84	0.83	0.53	0.51	0.88
Control Delay	32.7	254.9	103.0	29.5	64.5	63.0	8.0	59.2	81.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	254.9	103.0	29.5	64.5	63.0	8.0	59.2	81.9
Queue Length 50th (ft)	34	~777	~399	515	198	204	44	120	234
Queue Length 95th (ft)	65	#918	#626	#694	#303	303	43	192	#377
Internal Link Dist (ft)		629		185		251			415
Turn Bay Length (ft)	90		285		220			200	
Base Capacity (vph)	158	810	395	1360	356	369	798	306	336
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	1.47	1.05	0.83	0.74	0.73	0.54	0.47	0.82

Intersection Summary

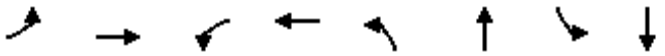
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	863	232	380	973	69	313	176	396	133	187	66
Future Volume (vph)	62	863	232	380	973	69	313	176	396	133	187	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	11	11	13	10	12	12
Grade (%)		0%			0%			2%			-4%	
Total Lost time (s)	7.5	7.5		7.5	7.5		6.5	6.5	6.5	7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1769	3313		1770	3381		1609	1669	1620	1685	1798	
Flt Permitted	0.15	1.00		0.10	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	278	3313		182	3381		1609	1669	1620	1685	1798	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	67	938	252	413	1058	75	340	191	430	145	203	72
RTOR Reduction (vph)	0	17	0	0	4	0	0	0	97	0	9	0
Lane Group Flow (vph)	67	1173	0	413	1129	0	262	269	333	145	266	0
Confl. Peds. (#/hr)	2					2	25		10	10		25
Confl. Bikes (#/hr)						1			3			3
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	pt+ov	Split	NA	
Protected Phases	5	2		1	6		8	8	8 1	4	4	
Permitted Phases	2			6								
Actuated Green, G (s)	39.3	33.5		68.0	54.7		27.3	27.3	60.8	23.7	23.7	
Effective Green, g (s)	39.3	33.5		68.0	54.7		27.3	27.3	60.8	23.7	23.7	
Actuated g/C Ratio	0.28	0.24		0.49	0.39		0.20	0.20	0.43	0.17	0.17	
Clearance Time (s)	7.5	7.5		7.5	7.5		6.5	6.5		7.0	7.0	
Vehicle Extension (s)	4.0	5.0		4.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	139	792		394	1321		313	325	703	285	304	
v/s Ratio Prot	0.02	c0.35		c0.20	0.33		c0.16	0.16	0.21	0.09	c0.15	
v/s Ratio Perm	0.11			0.31								
v/c Ratio	0.48	1.48		1.05	0.85		0.84	0.83	0.47	0.51	0.87	
Uniform Delay, d1	38.4	53.2		44.7	39.0		54.2	54.1	28.2	52.9	56.7	
Progression Factor	1.00	1.00		1.18	0.56		0.80	0.80	0.34	1.00	1.00	
Incremental Delay, d2	3.6	223.0		58.0	7.1		16.4	14.8	0.5	1.4	23.2	
Delay (s)	42.0	276.2		110.7	29.1		59.9	58.3	10.0	54.3	79.9	
Level of Service	D	F		F	C		E	E	A	D	E	
Approach Delay (s)		263.7			50.9			37.1			71.0	
Approach LOS		F			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	113.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	111.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



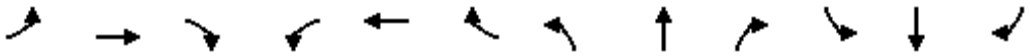
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	145	997	60	1840	95	425	163	461
v/c Ratio	0.78	0.64	0.50	1.36	0.69	1.23	0.80	1.06
Control Delay	68.4	30.8	78.5	195.0	86.9	172.2	86.7	108.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.4	30.8	78.5	195.0	86.9	172.2	86.7	108.4
Queue Length 50th (ft)	112	411	56	~1175	85	~495	145	~463
Queue Length 95th (ft)	#218	508	m91	#1301	#154	#710	#246	#684
Internal Link Dist (ft)		667		792		621		810
Turn Bay Length (ft)	160		145		230		245	
Base Capacity (vph)	204	1560	168	1355	152	345	224	435
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.64	0.36	1.36	0.63	1.23	0.73	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

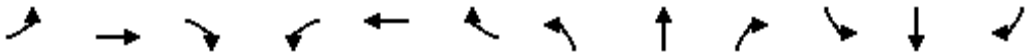
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	872	45	55	1563	130	87	325	66	150	297	127
Future Volume (vph)	133	872	45	55	1563	130	87	325	66	150	297	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	10	9	10	12	11	11	12	10	12	12
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3266		1577	3222		1711	1751		1652	1771	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3266		1577	3222		1711	1751		1652	1771	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	145	948	49	60	1699	141	95	353	72	163	323	138
RTOR Reduction (vph)	0	3	0	0	4	0	0	5	0	0	11	0
Lane Group Flow (vph)	145	994	0	60	1836	0	95	420	0	163	450	0
Confl. Peds. (#/hr)	8		21	21		8	2		1	1		2
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	16.3	65.5		9.5	58.7		11.4	27.2		17.3	33.6	
Effective Green, g (s)	16.3	65.5		9.5	58.7		11.4	27.2		17.3	33.6	
Actuated g/C Ratio	0.12	0.47		0.07	0.42		0.08	0.19		0.12	0.24	
Clearance Time (s)	6.0	5.0		6.0	5.0		4.5	4.5		5.0	4.5	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	185	1528		107	1350		139	340		204	425	
v/s Ratio Prot	c0.09	c0.30		0.04	c0.57		0.06	c0.24		c0.10	c0.25	
v/s Ratio Perm												
v/c Ratio	0.78	0.65		0.56	1.36		0.68	1.24		0.80	1.06	
Uniform Delay, d1	60.1	28.5		63.2	40.6		62.5	56.4		59.7	53.2	
Progression Factor	0.69	1.00		1.07	0.81		1.00	1.00		1.00	1.00	
Incremental Delay, d2	18.7	2.1		6.1	166.5		13.0	128.9		19.3	60.3	
Delay (s)	59.9	30.5		73.9	199.3		75.6	185.3		78.9	113.5	
Level of Service	E	C		E	F		E	F		E	F	
Approach Delay (s)		34.2			195.4			165.3			104.5	
Approach LOS		C			F			F			F	

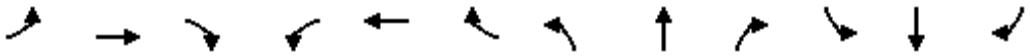
Intersection Summary			
HCM 2000 Control Delay	134.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	3	18	0	9	6	1022	7	3	879	4
Future Volume (Veh/h)	4	0	3	18	0	9	6	1022	7	3	879	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			2%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	3	20	0	10	7	1111	8	3	955	4
Pedestrians								9			4	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								973			642	
pX, platoon unblocked	0.83	0.83		0.83	0.83	0.83				0.83		
vC, conflicting volume	1546	2096	488	1624	2094	564	959			1119		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1254	1914	488	1347	1912	73	959			740		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	99	78	100	99	99			100		
cM capacity (veh/h)	104	55	521	89	55	808	713			718		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	7	30	7	741	378	3	637	322
Volume Left	4	20	7	0	0	3	0	0
Volume Right	3	10	0	0	8	0	0	4
cSH	158	126	713	1700	1700	718	1700	1700
Volume to Capacity	0.04	0.24	0.01	0.44	0.22	0.00	0.37	0.19
Queue Length 95th (ft)	3	22	1	0	0	0	0	0
Control Delay (s)	28.8	42.1	10.1	0.0	0.0	10.0	0.0	0.0
Lane LOS	D	E	B			B		
Approach Delay (s)	28.8	42.1	0.1			0.0		
Approach LOS	D	E						

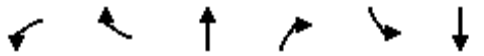
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	41.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1251	84	56	1334	3	83	0	49	1	0	9
Future Volume (Veh/h)	2	1251	84	56	1334	3	83	0	49	1	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		2%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1360	91	61	1450	3	90	0	53	1	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		534			1091							
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	1453			1451			2266	2984	726	2310	3028	726
vC1, stage 1 conf vol							1410	1410		1574	1574	
vC2, stage 2 conf vol							857	1575		737	1455	
vCu, unblocked vol	1453			1022			2063	2980	95	2119	3036	726
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			88			44	100	93	99	100	97
cM capacity (veh/h)	462			529			161	121	738	98	109	367

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	682	771	786	728	143	11
Volume Left	2	0	61	0	90	1
Volume Right	0	91	0	3	53	10
cSH	462	1700	529	1700	227	293
Volume to Capacity	0.00	0.45	0.12	0.43	0.63	0.04
Queue Length 95th (ft)	0	0	10	0	94	3
Control Delay (s)	0.1	0.0	3.3	0.0	44.5	17.8
Lane LOS	A		A		E	C
Approach Delay (s)	0.1		1.7		44.5	17.8
Approach LOS					E	C

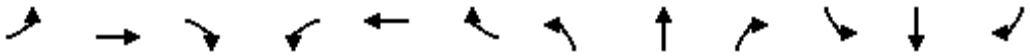
Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	99.0%	ICU Level of Service		F
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	37	850	52	0	868
Future Volume (Veh/h)	0	37	850	52	0	868
Sign Control	Stop		Free			Free
Grade	0%		2%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	40	924	57	0	943
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1284			331
pX, platoon unblocked	0.88	0.88			0.88	
vC, conflicting volume	1424	490			981	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1219	164			719	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			100	
cM capacity (veh/h)	153	753			777	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	40	616	365	472	472
Volume Left	0	0	0	0	0
Volume Right	40	0	57	0	0
cSH	753	1700	1700	1700	1700
Volume to Capacity	0.05	0.36	0.21	0.28	0.28
Queue Length 95th (ft)	4	0	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	10.0	0.0		0.0	
Approach LOS	B				

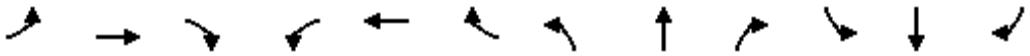
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	3	0	19	2	0	22	0
Future Volume (vph)	0	0	0	0	0	3	0	19	2	0	22	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	3	0	21	2	0	24	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	3	23	24
Volume Left (vph)	0	0	0	0
Volume Right (vph)	0	3	2	0
Hadj (s)	0.00	-0.57	-0.02	0.03
Departure Headway (s)	4.0	3.4	3.9	4.0
Degree Utilization, x	0.00	0.00	0.02	0.03
Capacity (veh/h)	900	1029	916	902
Control Delay (s)	7.0	6.4	7.0	7.1
Approach Delay (s)	0.0	6.4	7.0	7.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	1188	29	237	1015	23	64	1	12	0	1	53
Future Volume (Veh/h)	73	1188	29	237	1015	23	64	1	12	0	1	53
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	79	1291	32	258	1103	25	70	1	13	0	1	58
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					709							
pX, platoon unblocked	0.76						0.76	0.76		0.76	0.76	0.76
vC, conflicting volume	1128			1323			2591	3109	662	2448	3112	564
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	526			1323			2460	3144	662	2271	3149	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			50			0	73	97	100	72	93
cM capacity (veh/h)	785			518			5	4	405	7	4	821

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	79	861	462	258	735	393	84	59
Volume Left	79	0	0	258	0	0	70	0
Volume Right	0	0	32	0	0	25	13	58
cSH	785	1700	1700	518	1700	1700	6	171
Volume to Capacity	0.10	0.51	0.27	0.50	0.43	0.23	14.20	0.35
Queue Length 95th (ft)	8	0	0	69	0	0	Err	36
Control Delay (s)	10.1	0.0	0.0	18.6	0.0	0.0	Err	36.9
Lane LOS	B			C			F	E
Approach Delay (s)	0.6			3.5			Err	36.9
Approach LOS							F	E

Intersection Summary				
Average Delay	289.2			
Intersection Capacity Utilization	67.9%	ICU Level of Service	C	
Analysis Period (min)	15			