U.S. Department of Homeland Security
Nebraska Avenue Complex Master Plan
DRAFT ENVIRONMENTAL IMPACT STATEMENT

APPENDIX B

January 14, 2011

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Transportation Study

November 30, 2010

Nebraska Avenue Complex Master Plan

Transportation Study

November 30, 2010

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1. Executive Summary

The U.S. General Services Administration (GSA), in cooperation with the U.S. Department of Homeland Security (DHS), is developing a Master Plan for the Nebraska Avenue Complex (NAC) in Northwest (NW) Washington, DC. The NAC is a 37-acre site located at 3801 Nebraska Avenue, NW, Washington, D.C.

It is intended that the NAC Master Plan will guide future renovation and development of the campus by establishing design and land use planning principles for the construction of new buildings, streets, open green space, utility systems, and other infrastructure needs, while minimizing environmental, economic, and social impacts. The NAC Master Plan is needed to support the goals of the DHS National Capital Region (NCR) Housing Master Plan, which proposes to consolidate approximately 28,000 DHS employees currently housed in approximately 50 locations into 7 to 10 locations. To fulfill DHS' significant space needs, GSA continues to explore various locations for DHS facilities throughout the NCR. The NAC is identified in the DHS NCR Housing Master Plan as a viable site for certain DHS components. The DHS consolidation efforts could result in new or additional components to be housed at the NAC; therefore, a Master Plan is needed to guide any anticipated new facility, security, or infrastructure requirements.

The existing NAC comprises more than 30 buildings containing approximately 653,400 gross square feet (SF) plus site support including parking, guard houses, and backup generators. The NAC is currently occupied by DHS and contains approximately 2,390 seats and 1,239 parking spaces. The NAC Master Plan envisions continued use by DHS and is exploring four different Alternatives as listed below:

- No Action Alternative – 2,390 seats and 653,400 SF
- Alternative A – 3,700 seats and 1,072,720 SF
- Alternative B – 4,200 seats and 1,220,450 SF
- Alternative C – 4,500 seats and 1,309,090 SF

GSA anticipates that the facilities programmed in the NAC Master Plan are to be completed and occupied by 2020; therefore, 2020 will serve as the design year for the transportation analysis.

This transportation study was performed to document and analyze the existing transportation conditions in the vicinity of the NAC, to analyze the feasibility of various project Master Plan Alternatives, to analyze future transportation conditions with and without the Proposed Action, and to develop a Transportation Management Program (TMP). This transportation analysis also serves as a technical study in support of the Environmental Impact Statement (EIS). The TMP is not part of possible mitigation. It is proposed as part of the Master Plan action alternatives.

This study was prepared in accordance with scoping that was agreed upon with the District of Columbia Department of Transportation (DDOT) and the National Capital Planning Commission (NCPC) staffs during a meeting held on February 8, 2010, and through subsequent correspondence.

The study includes descriptions of the existing transportation conditions, 2020 traffic conditions resulting from regional growth and other developments in the vicinity, the NAC Master Plan, proposed TMP, 2020 traffic conditions with the NAC Master Plan, and a 2030 out year analysis with and without the NAC Master Plan.

As a result of this study, it is concluded that the NAC Master Plan will have a negligible effect on the transportation network in the study area under all conditions. The existing street network provides multiple entry and exit points to the area, resulting in an effective dispersal of traffic.

The intersection capacity analyses showed that under all alternatives, all study intersections are projected to operate at level of service (LOS) D or better during the AM and PM peak hours with the exception of Albemarle Street and Fort Drive/40th Street during the AM and PM peak hours and Ward Circle and Massachusetts Avenue (West) during the AM peak hour. The addition of the NAC trips results in a maximum delay increase of 3.9 seconds per vehicle. The LOS can be improved at the Albemarle Street and Fort Drive/40th Street intersection with the modification to an all-way stop control. The Ward Circle and Massachusetts Avenue (West) intersection is currently being studied by DDOT and improvements will be identified as part of the Rock Creek West 2 Livability Study.

All site driveways currently operate at an overall intersection LOS A with all lane groups along Nebraska Avenue and Massachusetts Avenue operating at LOS A and will continue to do so under 2020 and 2030 conditions. The only lane groups to operate below LOS D are the left turns exiting the NAC, which are stop sign controlled. The queue analysis results show that during the AM and PM peak hours, the queues along the public streets will be less than one vehicle length. A review of traffic signal warrants showed that the traffic volumes at the site driveways are below the minimum thresholds and, therefore, do not satisfy the applicable traffic signal warrants. These analysis results indicate that the NAC driveways will operate efficiently under 2020 and 2030 conditions, regardless of the Alternative selected.

The existing pedestrian and transit network provide a variety of travel choices for employees and visitors of the NAC. The newly implemented DDOT bicycle sharing stations at the Tenleytown-AU Metrorail station and near Ward Circle provide NAC employees and visitors another opportunity to bicycle to the site.

The proposed TMP will build upon established existing TMP measures and will provide incentives for employees and visitors to utilize the existing NAC shuttles, public transit, ridesharing, pedestrian, and bicycle facilities to travel to the site. Key elements in the TMP include the appointment of an Employee Transportation Coordinator (ETC), establishing a Community Transportation Working Group, continue managing parking and reduce parking

ratio, carpooling/vanpooling incentives, transit incentives, DHS shuttle service enhancements, bicycling/walking incentives, alternate work schedules, telecommuting/teleworking, government vehicles, and other strategies to reduce single occupant vehicle (SOV) trips.

2. Introduction

The U.S. GSA, in cooperation with the U.S. DHS, is developing a Master Plan for the NAC in NW Washington, D.C. The NAC is a 37-acre site located at 3801 Nebraska Avenue, NW, Washington, D.C. as shown in **Figure 1**.

The intent of the NAC Master Plan is to guide future renovation and development of the campus by establishing design and land use planning principles for the construction of new buildings, streets, open green space, utility systems, and other infrastructure needs, while minimizing environmental, economic, and social impacts. The Master Plan's design and planning principles will encourage the preservation and rehabilitation of the NAC's historic landscape and buildings.

The NAC Master Plan is needed to support the goals of the DHS NCR Housing Master Plan, which proposes to consolidate approximately 28,000 DHS employees currently housed in approximately 50 locations into 7 to 10 locations. To fulfill DHS' significant space needs, GSA continues to explore various locations for DHS facilities throughout the NCR. The NAC is identified in the DHS NCR Housing Master Plan as a viable site for certain DHS components. The DHS consolidation efforts could result in new or additional components to be housed at the NAC; therefore, a Master Plan is needed to guide any anticipated new facility, security, or infrastructure requirements.

Further, a NAC Master Plan is needed to serve as a guide that will provide for functional flexibility in serving programmatic changes related to the evolving mission of DHS. It will steer long-range campus construction, renovation, and maintenance to serve DHS' mission needs. There is a need for a comprehensive plan at the NAC to guide federal investment to maintain, improve, or construct new campus facilities, security, and infrastructure.

The existing NAC comprises more than 30 buildings containing approximately 653,400 gross SF plus site support including parking, guard houses, and backup generators. The NAC is currently occupied by DHS and contains approximately 2,390 seats and 1,239 parking spaces. The NAC Master Plan envisions continued use by DHS and is exploring four different Alternatives as listed below:

- No Action Alternative – 2,390 seats and 653,400 SF
- Alternative A – 3,700 seats and 1,072,720 SF
- Alternative B – 4,200 seats and 1,220,450 SF
- Alternative C – 4,500 seats and 1,309,090 SF

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Vicinity Map

Nebraska Avenue Complex Master Plan

Figure 1

GSA anticipates that the facilities programmed in the NAC Master Plan action alternatives would be completed and occupied by 2020; therefore, 2020 will serve as the design year for the transportation analysis. The NAC Master Plan involves the development of new buildings on the NAC campus.

3. Study Purpose

This study was performed to document and analyze the existing transportation conditions in the vicinity of the NAC, to analyze the feasibility of various project Master Plan Alternatives, to analyze future transportation conditions with and without the Proposed Action, and to develop a TMP. The resulting transportation analysis will serve as a technical study in support of the EIS. This study also will be used to distribute information to the project stakeholders and review agencies. The TMP is not part of possible mitigation. It is proposed as part of the Master Plan.

This study was prepared in accordance with scoping that was agreed upon with DDOT and NCPC staffs during a meeting held on February 8, 2010, and through subsequent correspondence.

The NAC Master Plan is consistent with Executive Order 13514 – Federal Leadership in Environmental, Energy, and Economic Performance. This plan advances regional and local integrated planning by making use of existing transportation infrastructure and promoting energy conservation. This plan promotes car and van pooling, transit, bicycle, and pedestrian travel modes that discourage single occupant vehicle use.

The following sections of the report describe the existing transportation conditions, 2020 No Action Conditions resulting from regional growth and other developments in the vicinity, the NAC Master Plan, 2020 Conditions with Proposed Action, and a 2030 Out Year Conditions analysis with and without the Proposed Action.

4. Existing Conditions

This section of the report describes the existing transportation conditions in the vicinity of the NAC. Included are descriptions of the transportation network, traffic data collection and volumes at the study intersections, description of the NAC, and traffic analyses.

4.1. Transportation Network

Transportation to the NAC is available through a network of streets, transit, and pedestrian facilities. The following sections describe each transportation mode.

4.1.1. Street Network

The street network in the study area is in a general grid pattern. There are multiple entrance and exit points to the area, resulting in an effective dispersal of traffic. The transportation study area, as defined by the area that includes the study intersections, is generally bounded by Albemarle Street to the north, Cathedral Avenue to the south, Wisconsin Avenue to the east, and 49th Street to the west. The major streets considered in this study are Nebraska Avenue, Massachusetts Avenue, and Wisconsin Avenue. Other streets that intersect these major streets are included in this study. They include Cathedral Avenue, Idaho Avenue, 39th Street, Westover Place, New Mexico Avenue, Van Ness Street, 40th Street, 45th Street, Yuma Street, Albemarle Street, Fort Drive, and 49th Street.

There are two traffic circles in the transportation study area. Ward Circle is located adjacent to the NAC and serves as the junction of Nebraska Avenue and Massachusetts Avenue. The Nebraska Avenue through lanes cut through the circle. The two junctions of Nebraska Avenue with Ward Circle are signalized and the junctions of Massachusetts Avenue with Ward Circle are unsignalized. Tenley Circle is located approximately 0.75 miles northeast of the NAC. It serves as the junction of Nebraska Avenue, Wisconsin Avenue, and Yuma Street. The Wisconsin Avenue through lanes cut through the circle. The junctions of Nebraska Avenue and Wisconsin Avenue with Tenley Circle are signalized and the junctions of Yuma Street with Tenley Circle are unsignalized.

Study intersections were agreed upon during the study scoping discussions with DDOT and NCPC staffs during a meeting held on February 8, 2010, and through subsequent correspondence. The agreed upon study intersections are listed below.

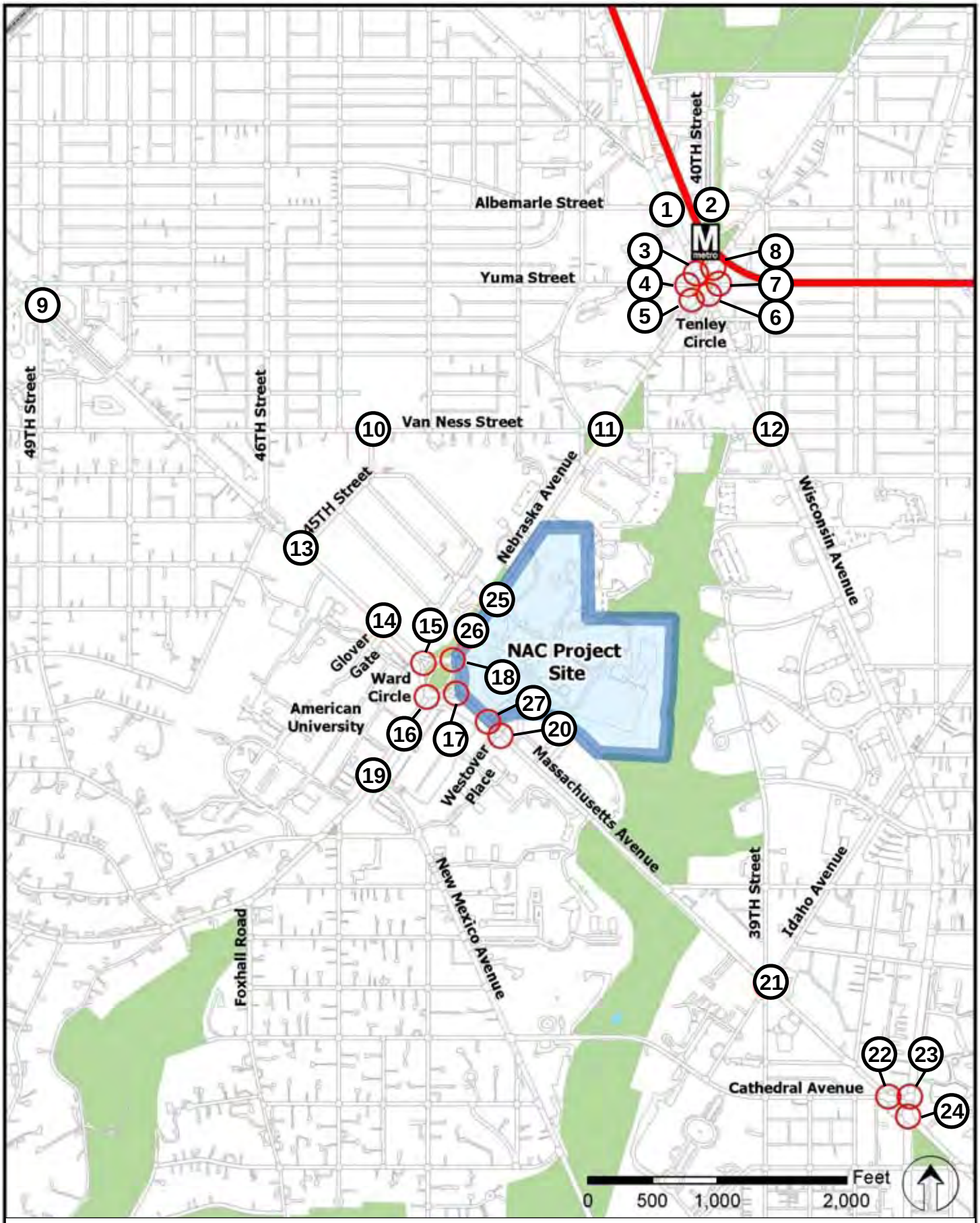
1. Wisconsin Avenue and Albemarle Street – Signalized
2. Albemarle Street and Fort Drive/40th Street – Unsignalized
3. Tenley Circle and Wisconsin Avenue (North) – Signalized
4. Tenley Circle and Yuma Street (West) – Unsignalized
5. Tenley Circle and Nebraska Avenue (South) – Signalized
6. Tenley Circle and Wisconsin Avenue (South) – Signalized
7. Tenley Circle and Yuma Street (East) – Unsignalized
8. Tenley Circle and Nebraska Avenue (North) – Signalized
9. Massachusetts Avenue and 49th Street – Signalized
10. Van Ness Street and 45th Street (East) – Unsignalized
11. Nebraska Avenue and Van Ness Street – Signalized
12. Wisconsin Avenue and Van Ness Street – Signalized
13. Massachusetts Avenue and 45th Street – Unsignalized
14. Massachusetts Avenue and Glover Gate/Katzen Arts Center – Signalized
15. Ward Circle and Massachusetts Avenue (West) – Unsignalized
16. Ward Circle and Nebraska Avenue (South) – Signalized
17. Ward Circle and Massachusetts Avenue (East) – Unsignalized
18. Ward Circle and Nebraska Avenue (North) – Signalized
19. Nebraska Avenue and New Mexico Avenue – Signalized
20. Massachusetts Avenue and Westover Place – Unsignalized
21. Massachusetts Avenue and 39th Street/Idaho Avenue – Signalized
22. Massachusetts Avenue and Cathedral Avenue – Signalized
23. Wisconsin Avenue and Cathedral Avenue – Signalized
24. Massachusetts Avenue and Wisconsin Avenue – Signalized
25. Nebraska Avenue and North NAC Driveway – Unsignalized
26. Nebraska Avenue and South NAC Driveway – Unsignalized
27. Massachusetts Avenue and NAC Driveway – Unsignalized

Figure 2 shows the locations of the study area intersections in relation to the NAC. **Figure A-1** in **Appendix A** depicts the existing intersection lane designations at each study intersection.

DDOT uses a functional classification system to characterize its streets based on connectivity and access. The classifications align with the functional classifications of the Federal Highway Administration (FHWA). The District of Columbia's system consists of freeways, principal arterials (streets), minor arterials (streets), collector streets, and local streets. These are briefly described below:

- ***Freeways*** are controlled access facilities and provide movement for high volumes of people and goods over long distances. They do not provide access to adjacent properties. There are no freeways within the study area.

- ***Principal Arterials*** serve as primary links within the District of Columbia and to surrounding communities. Access is provided to adjacent land on a limited basis.



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Study Area Intersections

Nebraska Avenue Complex Master Plan

Figure 2

- ***Minor Arterials*** serve nearly equally for movement of people and goods and access to adjacent land.
- ***Collector Streets*** carry relatively short trips and a large percentage of residential trips. They provide direct service to residential areas, local parks, neighborhoods, businesses, and schools. They connect local streets to higher classified streets.
- ***Local Streets*** provide direct access to homes, shopping, businesses, and other adjacent land. The local streets connect to collector streets and cut-through traffic should be discouraged.

A brief description of the streets in this study follows.

Nebraska Avenue NW – This is a principal arterial street that runs from the southwest to the northeast in NW Washington D.C. and forms the northern boundary of the NAC. In the vicinity of the NAC, Nebraska Avenue has a curb-to-curb width that accommodates four lanes. On-street parking is generally permitted along Nebraska Avenue. There are locations where parking is prohibited during commuter peak hours to utilize the lane for traffic. The average daily traffic (ADT) along Nebraska Avenue in the vicinity of the NAC is 20,700 vehicles per day (vpd) according to the 2008 DDOT map of existing ADT volumes. The intersections of Nebraska Avenue with New Mexico Avenue, Ward Circle, Van Ness Street, and Tenley Circle are signalized. The intersections of Nebraska Avenue with the NAC driveways are unsignalized.

Massachusetts Avenue NW – This is a principal arterial street that runs from the southeast to the northwest and connects downtown Washington, D.C. and Montgomery County, Maryland. Massachusetts Avenue forms the western boundary of the NAC. In the vicinity of the NAC, Massachusetts Avenue has a curb-to-curb width that accommodates four lanes. On-street parking is generally permitted along Massachusetts Avenue. There are locations where parking is prohibited during commuter peak hours to utilize the lane for traffic. The ADT along Massachusetts Avenue in the vicinity of the NAC is 25,700 vpd according to the 2008 DDOT map of existing ADT volumes. The study intersections of Massachusetts Avenue with Wisconsin Avenue, Cathedral Avenue, 39th Street/Idaho Avenue, 45th Street, Glover Gate/Katzen Arts Center driveway, and 49th Street are signalized. The intersections of Massachusetts Avenue with Westover Place and the NAC driveway are unsignalized. Left turns into the NAC at the Massachusetts Avenue driveway are restricted from 7:00 to 9:30 AM and from 4:00 to 6:30 PM.

Wisconsin Avenue NW – This is a north-south principal arterial street that extends from the Georgetown area of Washington, D.C. to Montgomery County, Maryland. It is located east of the project site and has a curb-to-curb width that accommodates six lanes. On-street parking is generally permitted along Wisconsin Avenue. There are locations where parking is prohibited during commuter peak hours to utilize the lane for traffic. The ADT along Wisconsin Avenue south of Tenley Circle is 31,100 vpd according to the 2008 DDOT map of existing ADT volumes. The study intersections of Wisconsin Avenue with Massachusetts Avenue, Cathedral Avenue, Van Ness Street, Tenley Circle, and Albemarle Street are signalized.

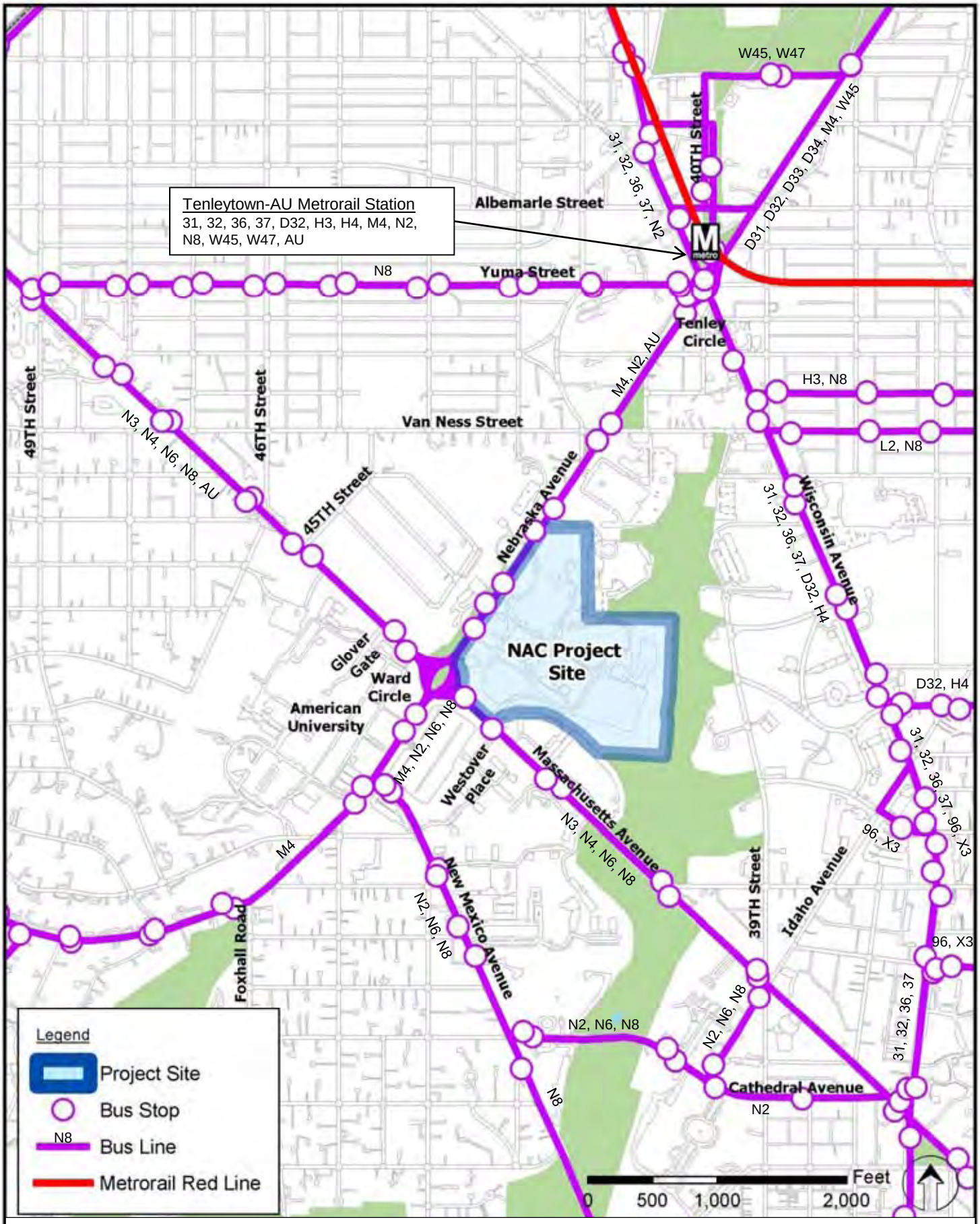
The other streets included in this study consist of 39th, 40th, and 49th Streets, which are north-south oriented collector streets in the study area. Forty-Fifth Street provides a short connection between Massachusetts Avenue and Van Ness Street north of the NAC. Cathedral Avenue, Van Ness Street, and Albemarle Street are east-west oriented collector streets in the study area. Westover Place is located across Massachusetts Avenue from the NAC and leads to a residential community. Idaho Avenue is a southwest to northeast oriented street located east of the NAC. New Mexico Avenue is a southeast to northwest oriented minor arterial street located west of the NAC. These other streets generally have a single travel lane in each direction and on-street parking.

4.1.2. Public Transit Network

The NAC is well served by several public transit modes – Metrorail, with a station located less than a mile from the NAC, several Metrobus routes, and several GSA shuttles. The Tenleytown – AU Metrorail station is located at Wisconsin Avenue and Albemarle Street, approximately 0.75 miles from the NAC. Its location is depicted on **Figure 3**. This station is located on the Red Line, which provides access from the Shady Grove Metrorail station in Montgomery County, Maryland, through downtown Washington, D.C. and back through Montgomery County to the Glenmont Metrorail station. NAC employees can access the Tenleytown-AU station by walking or taking the shuttle (see next section).

The study area also is serviced by numerous Metrobus routes as shown on **Figure 3**. At the NAC, there are three Metrobus routes with stops adjacent to the site:

- ***Route M4, the Nebraska Avenue Line*** – This bus line provides access from Pinehurst Circle to Sibley Hospital. It runs along Nebraska Avenue and travels through Ward Circle in the vicinity of the NAC. It operates from 6:00 AM to 9:30 PM on weekdays. The stop in each direction closest to the NAC is located along Nebraska Avenue, north of Ward Circle.



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Existing Transit Network

Nebraska Avenue Complex Master Plan

Figure 3

- ***Routes N2, 3, 4, and 6, the Massachusetts Avenue Line*** – These bus lines provide access from the Friendship Heights Metrorail station to the Federal Triangle Metrorail Station, and stop at five additional Metrorail stations along the route. They run along both Massachusetts Avenue and Nebraska Avenue and through Ward Circle in the vicinity of the NAC. They operate from 5:30 AM to midnight on weekdays and Saturdays, and from 6:00 AM to 11:00 PM on Sundays. The stop along Route N2 closest to the NAC is located along both sides of Nebraska Avenue, north of Ward Circle. The stop along Routes N3, N4, and N6 closest to the NAC is located along both sides of Massachusetts Avenue, east of Ward Circle.

- ***Route N8, the Van Ness-Wesley Heights Loop Line*** – This line provides access from the Van Ness-UDC Metrorail station to Glover Park. It runs along Massachusetts Avenue and travels through Ward Circle in the vicinity of the NAC. It operates from 6:00 AM to midnight on weekdays. The stop closest to the NAC is located along both sides of Massachusetts Avenue, east of Ward Circle.

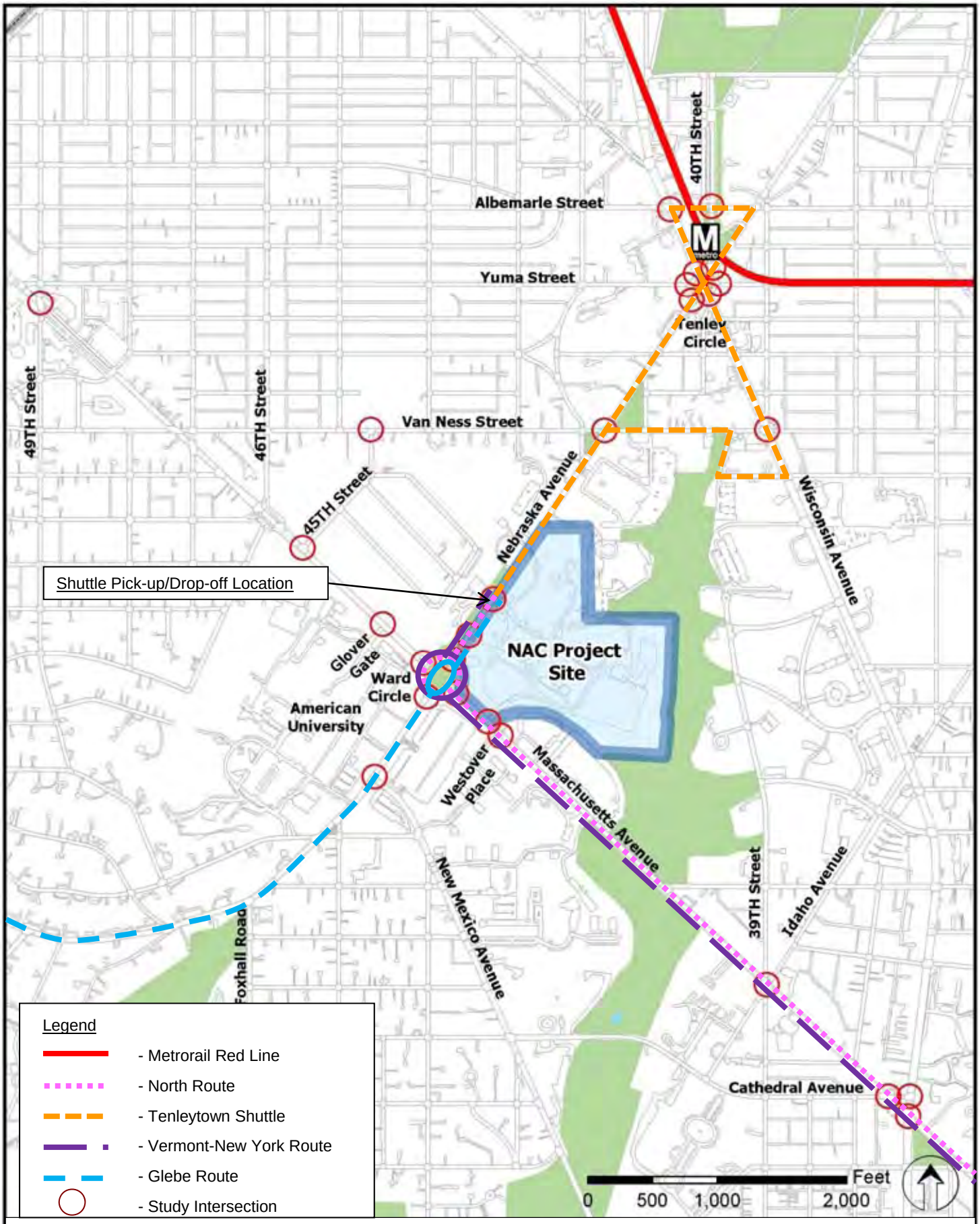
Under current conditions, 24/7 employees do not have access to public transportation after midnight.

4.1.3. Shuttle Service

The U.S. DHS operates shuttle services for their facilities throughout the Washington Capital Region. Four of the shuttle routes provide direct access to the NAC. These shuttles currently access the NAC via the north Nebraska Avenue driveway. The shuttles have designated off-street parking spaces near Building 11 where employees are picked up or dropped off. The shuttle vehicles typically hold 20-24 people with a maximum seating capacity of 24.

More specifically, the four shuttle routes that access the NAC are the North Route, Tenleytown Shuttle, Vermont-New York Route, and Glebe Road Route. These shuttle routes are shown on **Figure 4**. The following are descriptions of each of the routes.

- ***North Route*** - This route operates Monday through Friday at 60-minute headways from 7:00 AM to 7:00 PM. The shuttle provides express service between the NAC and the U.S. GSA building located at the intersection of 7th and D Streets SW. An entrance to the L'Enfant Plaza Metrorail station also is located at this intersection. This shuttle route operates with a single vehicle. The shuttle departs the NAC at each hour from 7:00 AM to 6:00 PM and departs the GSA building at 30 minutes past each hour from 7:30 AM to 6:30 PM.



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Existing NAC Shuttle Routes

Nebraska Avenue Complex Master Plan

Figure 4

Source: U.S. GSA, 2010

- ***Tenleytown Shuttle Route*** – This route operates Monday through Friday at 10- to 15-minute headways from 7:00 AM to 8:00 PM. The shuttle provides express service between the NAC and the Tenleytown-AU Metrorail station. Two vehicles provide this service. The shuttles operate every 10 minutes from 7:00 AM to 9:00 AM and every 15 minutes thereafter for the remainder of the daily service.

- ***Vermont-New York Route*** – This route operates Monday through Friday at 60-minute headways from 7:00 AM to 7:00 PM. The shuttle provides express service between the NAC, an office building located at 1120 Vermont Avenue, and an office building located at 1201 New York Avenue in the downtown area. This route operates with a single vehicle. All shuttle trips depart the NAC on the hour from 7:00 AM to 6:00 PM. Of the 12 shuttle trips during the day, seven stop at both 1120 Vermont Avenue and 1201 New York Avenue, while the other five stop only at 1120 Vermont Avenue. All shuttles depart downtown at 30 minutes past each hour.

- ***Glebe Road Route*** – This route operates Monday through Friday at 90-minute headways from 7:00 AM to 7:00 PM. The shuttle provides express service between the NAC and an office building located at 1102 N. Glebe Road in the Ballston area of Arlington, Virginia. This shuttle route operates with a single vehicle. The shuttle departs 1102 N. Glebe Road starting at 7:00 AM and every 90 minutes thereafter. The shuttle departs the NCA 45 minutes after departing 1102 N. Glebe Road.

DHS also operates a fifth shuttle for DHS employees, the South Route, which provides access to various facilities in Washington, D.C.; however, this route does not include a stop at the NAC.

The DHS operates shuttles for the U.S. Coast Guard (USCG), the Federal Emergency Management Agency (FEMA), and the Transportation Security Administration (TSA). The USCG shuttle provides access between USCG headquarters, the Housing and Urban Development (HUD) building, and L'Enfant Plaza. The FEMA shuttle provides access between FEMA headquarters and the Portals area. The TSA shuttle provides access between the TSA Systems Integration Facility and Ronald Reagan Washington National Airport.

The hourly and daily ridership figures for each of the four routes that serve the NAC are shown in **Table 1**.

Table 1: NAC Shuttle Ridership Totals (Arrivals to NAC and Departures from NAC)

Time	North Route		Tenleytown Shuttle				Vermont-New York Route		Glebe Road Route		Total	
			Vehicle A		Vehicle B							
	Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart
7:00 AM	22	3	26	1	52	0	2	3	8	3	110	10
8:00 AM	24	2	42	2	49	2	8	1	7	NA	130	7
9:00 AM	2	11	26	1	19	1	8	7	NA	1	55	21
10:00 AM	4	2	5	4	5	5	0	0	1	1	15	12
11:00 AM	4	6	0	11	3	7	0	0	1	NA	8	24
12:00 PM	6	3	7	27	25	18	0	5	NA	0	38	53
1:00 PM	0	7	12	15	8	3	1	5	0	0	21	30
2:00 PM	10	9	5	8	3	2	1	4	0	NA	19	23
3:00 PM	5	4	17	23	1	15	4	3	NA	5	27	50
4:00 PM	5	20	3	32	0	32	8	2	3	10	19	96
5:00 PM	1	16	3	30	0	28	3	3	0	NA	7	77
6:00 PM	3	8	0	19	0	26	1	1	NA	5	4	59
7:00 PM	NA	NA	0	6	NA	NA	NA	NA	NA	NA	0	6
Shuttle Arrival Rate	1 per 60 minutes		2 to 3 per 60 minutes		2 to 3 per 60 minutes		1 per 60 minutes		1 per 90 minutes		-	

Note: NA = Not applicable.
Source: DHS, 2010.

Based on the maximum seating capacity of 24, the number of empty seats on each shuttle route for each hour is shown in **Table 2**. The number of empty seats per hour on the Tenleytown Shuttle Routes exceeds 24 seats during certain time periods because 2 to 3 shuttles arrive and depart during each hour.

Table 2: Shuttle Ridership Data at the NAC (Empty Seats)

Time	North Route		Tenleytown Shuttle				Vermont-New York Route		Glebe Road Route		Total	
			Vehicle A		Vehicle B							
	Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart
7:00 AM	2	21	46	71	20	48	22	21	16	21	106	182
8:00 AM	0	22	30	70	23	70	16	23	17	NA	86	185
9:00 AM	22	13	22	47	29	47	16	17	NA	23	89	147
10:00 AM	20	22	43	44	43	43	24	24	23	23	153	156
11:00 AM	20	18	48	37	45	41	24	24	23	NA	160	120
12:00 PM	18	21	41	21	23	30	24	19	NA	24	106	115
1:00 PM	24	17	36	33	40	45	23	19	24	24	147	138
2:00 PM	14	15	43	40	45	46	23	20	24	NA	149	121
3:00 PM	19	20	31	25	47	33	20	21	NA	19	117	118
4:00 PM	19	4	45	16	48	16	16	22	21	14	149	72
5:00 PM	23	8	45	18	48	20	21	21	24	NA	161	67
6:00 PM	21	16	48	29	48	22	23	23	NA	19	140	109
7:00 PM	NA	NA	48	42	NA	NA	NA	NA	NA	NA	48	42
Shuttle Arrival Rate	1 per 60 minutes		2 to 3 per 60 minutes		2 to 3 per 60 minutes		1 per 60 minutes		1 per 90 minutes		-	

Note: NA = Not applicable.

The figures in **Tables 1** and **2** show that there are a high volume of arrivals to NAC during the morning commuter peak hours on the North Route and on the Tenleytown Route and a high volume of departures from NAC during the afternoon peak hours on these two routes. This indicates that there is heavy usage of these routes by commuters. It also should be noted that there is an increase in ridership on the Tenleytown Route during the mid-day lunch period. Commuter peak hours are typically from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. Based on area traffic counts, the network peak hours were determined to be 7:45 AM to 8:45 AM and 5:15 PM to 6:15 PM.

The Vermont-New York Avenue Route and the Glebe Road Route are not as heavily utilized by commuters. They appear to serve as a shuttle between the NAC and these other destinations over the course of the day.

4.1.4. Pedestrian and Bicycle Network

Sidewalks are generally provided along both sides of all study area streets with curb ramps and crosswalks provided at intersections. Pedestrians can access the NAC from both Nebraska Avenue and Massachusetts Avenue. A continuous pedestrian network made up of sidewalks and crosswalks exists to provide pedestrian access from the NAC to the adjacent Metrobus stops along Nebraska Avenue and Massachusetts Avenue as well as the Tenleytown-AU

Metrorail station. Sidewalk widths are generally six feet along Nebraska Avenue between the NAC and the Tenleytown-AU Metrorail station. Crosswalks, curb ramps, and pedestrian countdown signals are generally provided at the signalized intersection crossings.

There are no separate bicycle facilities in the vicinity of the NAC. Bicyclists share the street with motorized vehicles. According to the 2005 District of Columbia Bicycle Master Plan, Nebraska Avenue, Massachusetts Avenue, Albemarle Street, New Mexico Avenue, and 49th Street are currently signed as bicycle routes. In the Bicycle Master Plan, Nebraska Avenue and Massachusetts Avenue are shown to include proposed multi-use trails.

The existing signed bicycle routes in the study area are shown in **Figure 5**.

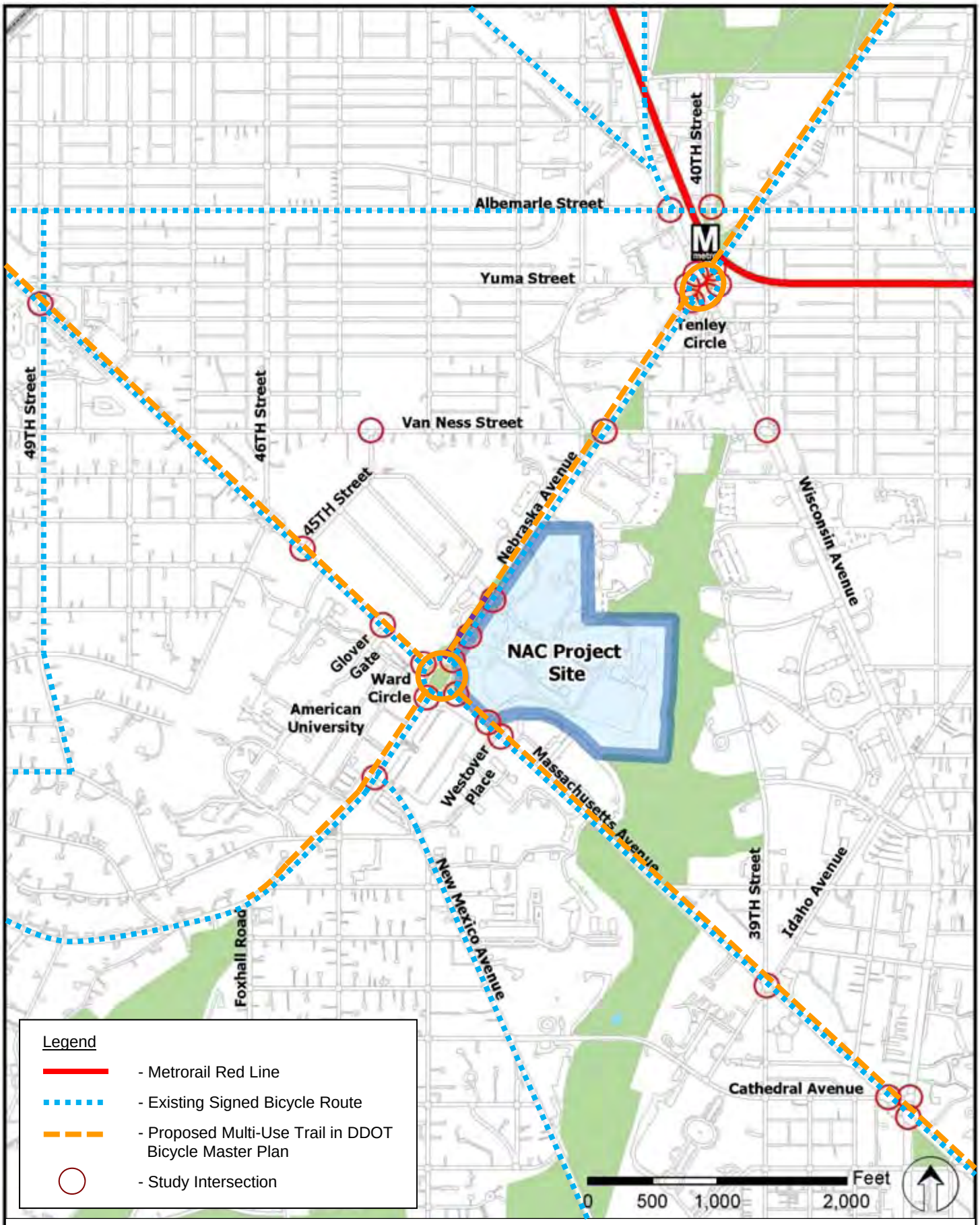
4.2. Existing Traffic Volumes

As agreed during the scoping discussions with DDOT and NCPC, traffic analyses at the study intersections were conducted for the weekday AM and PM commuter peak hours. These analyses were based on existing traffic counts obtained as part of this study and as part of other studies performed in the study area. Traffic counts collected in 2008 by Gorove/Slade Associates, Inc. were available from a study being performed for the AU Campus Master Plan at six study intersections:

- Massachusetts Avenue and Glover Gate/Katzen Arts Center,
- Ward Circle and Massachusetts Avenue (West),
- Ward Circle and Nebraska Avenue (South),
- Ward Circle and Massachusetts Avenue (East),
- Ward Circle and Nebraska Avenue (North), and
- Nebraska Avenue and New Mexico Avenue.

For the study intersections where existing data was not available, existing weekday intersection turning movement counts were collected in April and May 2010 between 6:00 AM and 9:00 AM and between 4:00 PM and 7:00 PM.

A review of the link volumes between adjacent intersections from the 2008 and 2010 data was conducted. The volume review showed that the 2010 counts were generally consistent with the 2008 counts conducted for the AU study, with the 2008 counts being slightly higher than the 2010 counts. As a result, the use of the 2008 traffic data from the AU study provided conservative traffic analyses at these six intersections compared to the analyses based on the 2010 counts. A summary of the 2008 and 2010 count review is contained in **Appendix B**.



Kimley-Horn and Associates, Inc.

Existing Bicycle Routes

Nebraska Avenue Complex Master Plan

Figure 5

The traffic data was used to establish current peak hour traffic conditions for the transportation analysis. The study peak hours were established by identifying the peak 60 minutes of traffic during the weekday AM and PM peak hours for all study area intersections. From these traffic counts, the network peak hours were determined to be 7:45 to 8:45 AM and 5:15 to 6:15 PM.

Figure A-2 in **Appendix A** of this report shows a summary of the existing peak hour traffic volumes at each study intersection. Appendices C and D also contain the traffic count sheets.

4.3. Existing Nebraska Avenue Complex Site

The existing NAC is located on 37 acres at 3801 Nebraska Avenue, NW, Washington, D.C. There are more than 30 buildings on-site containing approximately 653,400 gross SF plus site support including parking, guard houses, and back-up generators. The campus is a secure facility with an established security perimeter. It is bounded by Massachusetts Avenue to the southwest and Nebraska Avenue to the northwest. The NAC is currently occupied by DHS and contains approximately 2,390 seats.

The AU main campus is located across Ward Circle from the NAC, south of Massachusetts Avenue.

4.3.1. Vehicle Access, Circulation, and Security

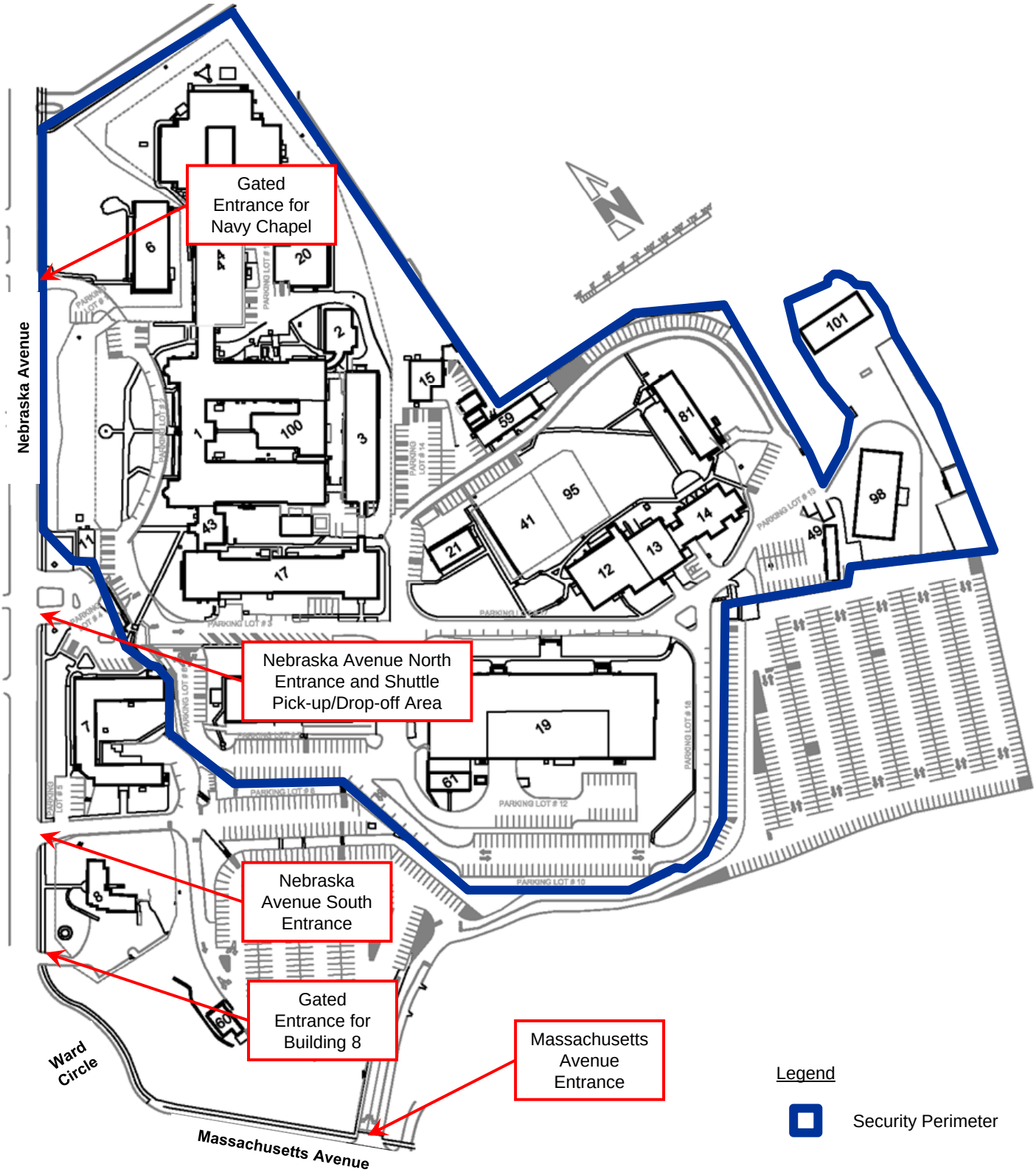
Vehicular access to the NAC is provided via two driveways on Nebraska Avenue and a driveway on Massachusetts Avenue. The first driveway along Nebraska Avenue, which is the north drive, is located between Buildings 7 and 11 and is used as a shuttle pick-up and drop-off location as well as an access to a small number of visitor parking spaces. It has a single lane for entry and exit. The second driveway along Nebraska Avenue, which is the south drive, is located between Buildings 7 and 8. It has a single lane each for entry and exit. This driveway is gated at all times except for the morning commuter peak hours. The driveway along Massachusetts Avenue is more frequently used and has one entry lane and two exit lanes (one for right turns and one for left turns). Left turn entering movements from eastbound Massachusetts Avenue into the NAC are prohibited. GSA is the process of implementing mitigation to enforce this turn prohibition.

There are two additional driveways along Nebraska Avenue that are typically gated and, therefore, not used for general access. The gated driveway adjacent to Ward Circle provides access to Building 8, while the gated driveway near Building 6 provides access to the Navy Chapel.

Figure 6 shows the driveway locations.

There are drive aisles that connect the parking areas within the NAC. These drive aisles provide the ability for drivers to circulate within the site without having to go onto the public streets and reenter the site.

There is a security checkpoint at each driveway. There is an additional, more comprehensive security check to enter the secure perimeter. As described above, the south drive along Nebraska Avenue is only open during the morning commuter peak hours.



Kimley-Horn and Associates, Inc.

NAC Driveway Locations

Nebraska Avenue Complex Master Plan

Figure 6

Source: U.S. GSA, 2010

4.3.2. Driveway Counts

A series of continuous driveway traffic counts were obtained for five weekdays to collect existing entering and exiting volumes at the NAC. These counts were conducted from Monday, April 19 through Friday, April 23, 2010, at the driveway along Massachusetts Avenue and the northern driveway along Nebraska Avenue. Tube counts were not collected at the southern driveway along Nebraska Avenue since this driveway is gated during non-peak hours. As a result, the peak period driveway counts are the daily driveway counts at this location since these are the only hours during which the gate was open.

Figure 7 shows the daily counts at each driveway and the totals for all driveways. These total volumes show a consistent daily count range between 2,946 and 3,173 vpd. Based on the existing seat count of 2,390, this represents a daily two-way trip rate of approximately 1.3 daily vehicle trips per seat.

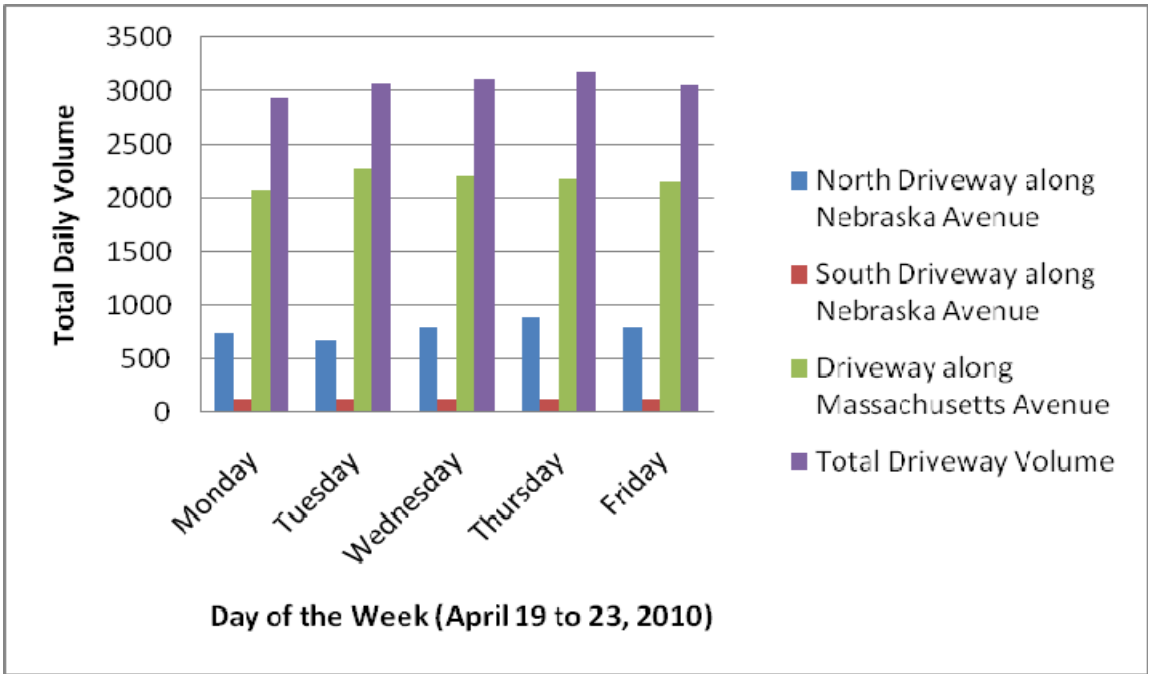


Figure 7: Daily Weekday Driveway Volumes

Source: The Traffic Group, 2010.

The hourly driveway volume patterns are shown in **Figure 8**. These volumes show peaks that occur during the morning arrival hours and during the evening departing hours. The absolute peak occurs during the mid-afternoon hour of 2:00 PM to 3:00 PM. This peak hour count is 250. This peak likely represents a combination of employee and visitor activity. The tube counts are used to determine traffic patterns; however, intersection turning movement traffic counts provide a more reliable basis to perform traffic analyses. As a result, traffic obtained from the turning movement traffic counts were used for determining trip generation and for performing traffic analyses.

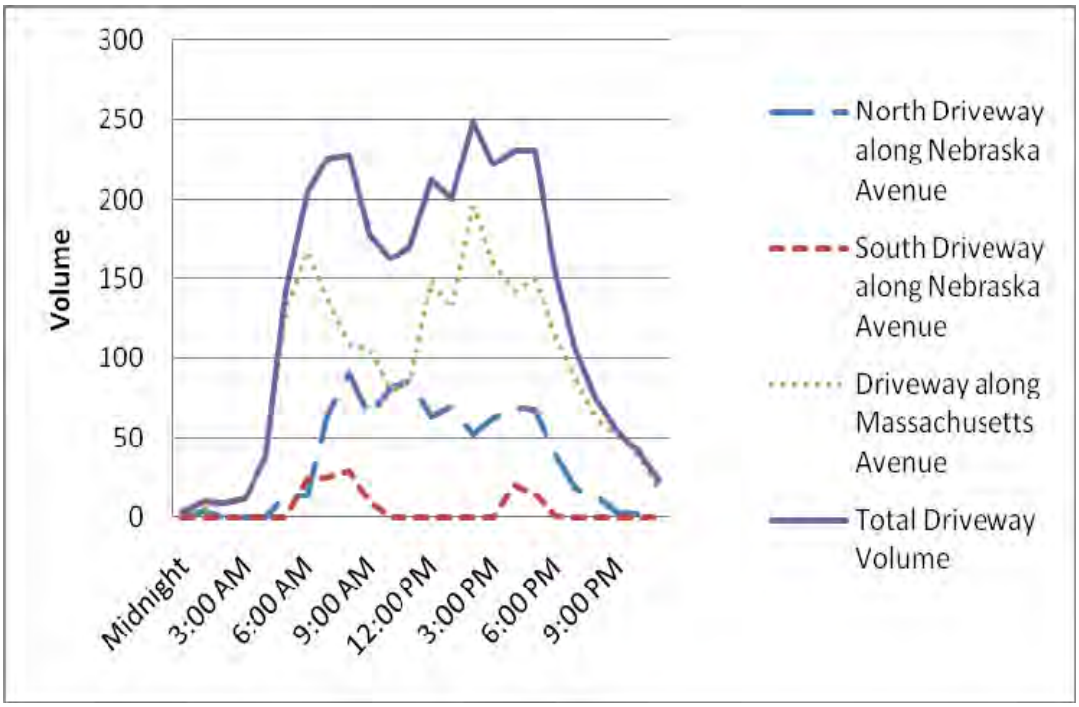


Figure 8: Hourly Driveway Traffic Volumes

Source: The Traffic Group, 2010.

Based on the common peak hour from the turning movement counts performed at the three NAC driveways, the AM peak hour count is 215 vehicle trips and the PM peak hour count is 176 vehicle trips. The AM peak hour of entering and exiting traffic is from 6:30 AM to 7:30 AM. The PM peak hour of entering and exiting traffic is from 5:30 PM to 6:30 PM. It should be noted that the peak hours of driveway traffic differ from the peak hours of surrounding network traffic, which are from 7:45 AM to 8:45 AM and 5:15 PM to 6:15 PM. The analysis contained in this study conservatively assumes that the peak hour traffic volumes on the surrounding street network and at the driveways coincide. The peak hour driveway volumes are shown in **Table 3** below.

Table 3: Existing NAC Peak Hour Driveway Volumes

Description	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Existing NAC (2,390 Seats)	178	37	215	43	133	176

Source: The Traffic Group, 2010.

Appendix D contains the driveway traffic count sheets.

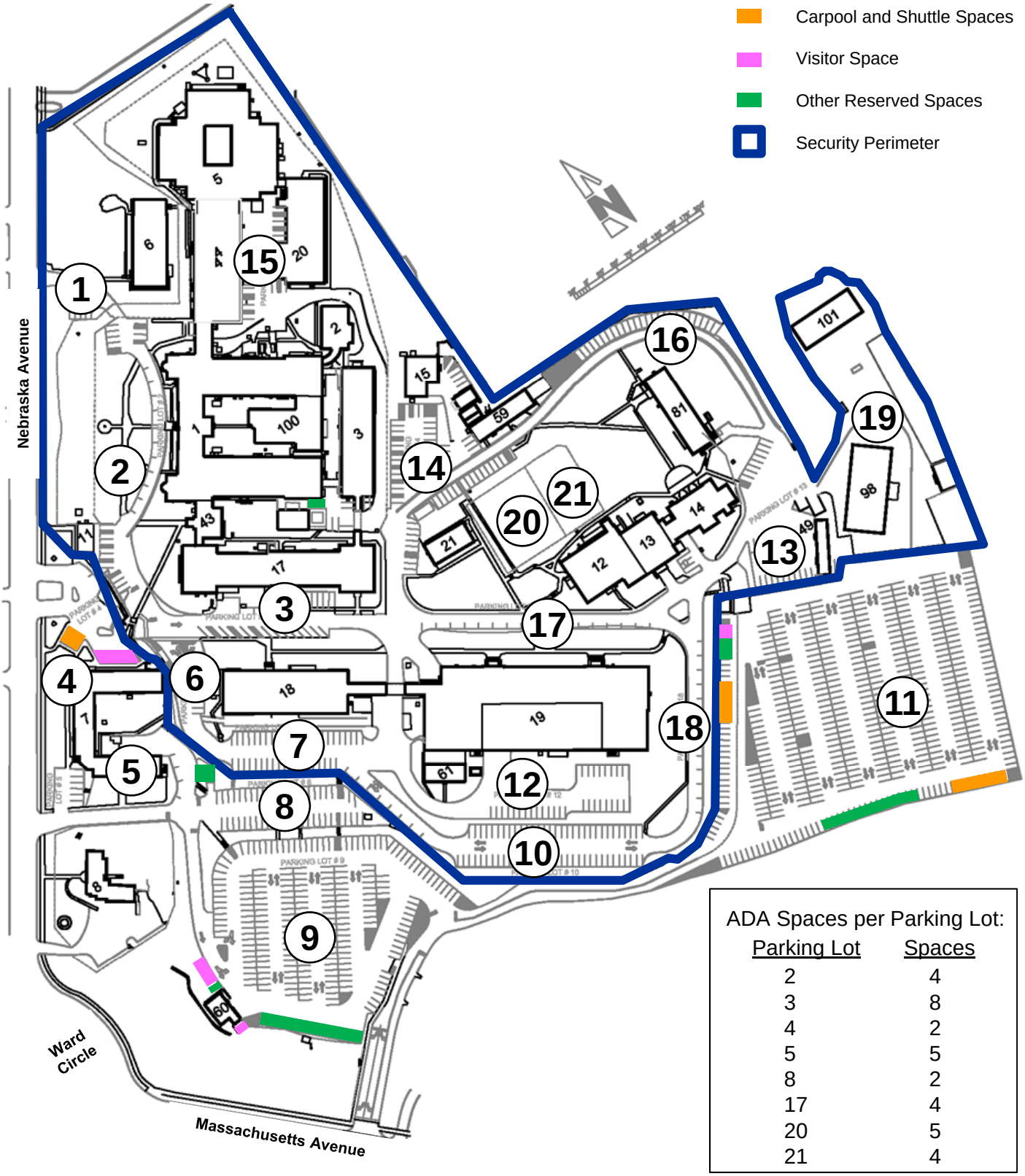
4.3.3. Parking

The NAC has a total of 1,239 parking spaces. The majority of this parking is provided in two large surface parking lots outside the security perimeter. There are currently 450 parking spaces available within the security perimeter. Other smaller parking lots are dispersed throughout the site and can be accessed by the internal drive aisles. **Figure 9** shows the parking lots and areas and **Table 4** summarizes the number of parking spaces at each parking lot based on a field review conducted in April 2010.

Table 4: Nebraska Avenue Parking Lot Summary

Parking Lot*	Number of Spaces
1	7
2	30 (4 ADA)
3	20 (8 ADA)
4	8 (2 ADA)
5	14 (5 ADA)
6	12
7	40
8	49 (2 ADA)
9	245
10	56
11	473
12	18
13	36
14	63
15	9
16	25
17	17 (4 ADA)
18	12
19	57
20	27 (5 ADA)
21	21 (4 ADA)
Total	**1,239 (34 ADA)**

* Lots correspond to Figure 9.



ADA Spaces per Parking Lot:

Parking Lot	Spaces
2	4
3	8
4	2
5	5
8	2
17	4
20	5
21	4

Kimley-Horn and Associates, Inc.

Existing Parking Lots

Nebraska Avenue Complex Master Plan

Figure 9

Source: U.S. GSA, 2010

To measure the existing parking demand at the NAC, counts of parked vehicles were conducted for the parking lots as well as the basketball and tennis courts (parking lots 20 and 21), which are currently used for parking. The counts of parked vehicles were conducted on Wednesday, April 21, 2010, from 5:00 AM to 6:00 PM. The results of the parking counts are shown below in **Table 5**. **Appendix E** shows a detailed summary of parking counts by parking lot.

Table 5: Nebraska Avenue Complex Parking Lot Counts Wednesday, April 21, 2010

Time	Total Vehicles Parked	Occupancy
5:00 AM	156	13%
6:00 AM	242	20%
7:00 AM	422	34%
8:00 AM	616	50%
9:00 AM	770	62%
10:00 AM	842	68%
11:00 AM	869	70%
12:00 PM	847	68%
1:00 PM	834	67%
2:00 PM	811	66%
3:00 PM	775	63%
4:00 PM	657	53%
5:00 PM	480	39%
6:00 PM	385	31%

The parking count data showed that the maximum number of vehicles parked on-site was 869 (70 percent occupancy) at 11:00 AM. This demonstrates that there is sufficient on-site parking available to accommodate existing demand. Applying this parking demand to the NAC seat count and gross building area, the peak parking demand rates are 0.36 parked vehicles per seat or 1.33 parked vehicles per 1,000 gross building SF.

On-street parking, with restrictions, is available in the vicinity of the NAC. Along Nebraska Avenue, parking is generally allowed with a two-hour parking limit from 7:00 AM to 4:00 PM. However, parking is generally prohibited on both sides of the street from 7:00 AM to 9:30 AM and from 4:00 PM to 6:30 PM.

Along Massachusetts Avenue, parking is generally prohibited on the southwest side of the street from 7:00 AM to 9:30 AM. Along the northeast side of Massachusetts Avenue parking is generally prohibited from 4:00 PM to 6:30 PM. Along both adjacent streets, parking is prohibited in the vicinity of all Metrobus stops and Ward Circle. Also, both streets are signed as emergency/snow evacuation routes with parking prohibited during emergencies or snow events.

Parking also is available at an AU surface lot across Massachusetts Avenue. This lot is primarily used for AU activities but is available to the public for a fee.

4.3.4. Existing Transportation Management Measures

The NAC currently has many Transportation Management measures in place. They are:

Shuttle Service: DHS runs various shuttle routes throughout the region. Four of these routes service the NAC campus as shown on **Figure 4**. The shuttles all pick up/drop off passengers on-site near the north driveway along Nebraska Avenue. The shuttles connect NAC employees to the Tenleytown-AU Metrorail station, the GSA building at 7th Street and D Street SW, downtown Washington along Vermont and New York Avenues, and in Arlington, Virginia along N. Glebe Road. The shuttle services are available Monday through Friday generally from 6:30 AM to 7:45 PM, excluding federal holidays and other days when the federal government is closed.

Carpool Program: The NAC currently has seven parking spaces designated for carpool vehicles to encourage employees to ride share.

Parking Management: The NAC maintains an active and enforced parking Standard Operating Procedure (SOP). In general, only federal employees, security personnel, and regular maintenance personnel have full-time parking permits. Contractors are not allowed to park at the NAC unless they are deemed mission critical and have a policy waiver letter from their organization.

Transit Subsidy: Federal employees at the NAC are eligible for the federal transit subsidy program if they do not enroll in the parking permit program. This program allows participants to be reimbursed for their commute to and from work.

Transit Coordinator: The NAC has a designated transit coordinator in the Office of Chief Administrative Officers.

4.4. Existing Conditions Traffic Analysis

The following is a discussion of the assessment of existing traffic conditions for the study area. DDOT staff directed that the following traffic analyses be conducted:

- Intersection capacity analyses for the study intersections

- Queuing analyses at existing NAC driveways

The following sections describe the results of the analyses listed above.

4.4.1. Intersection Capacity Analyses

Intersection capacity analyses were conducted for existing peak hour traffic volumes shown in **Figure A-2** contained in **Appendix A**. The capacity analyses were conducted using *Synchro 7* Software Package, which utilizes methodologies in the *Highway Capacity Manual, 2000 Edition* (HCM) for signalized and unsignalized intersections. The analyses were based on the existing lane designations, traffic operations, and signal timings obtained from DDOT files. Existing peak hour factors were determined from the traffic data.

According to the HCM, capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a fixed time duration. The operating conditions are described by LOS, which is defined as a qualitative measure that describes operational conditions and motorist perceptions within a traffic stream. The HCM defines six levels of service, A through F, with A being the best and F the worst. LOS is based on estimated delay per vehicle in the intersection. **Table 6** shows the LOS and the ranges of delay per vehicle for both signalized and unsignalized intersections. DDOT attempts to maintain an overall intersection LOS D or better during the peak traffic hours.

Table 6: Levels of Service and Ranges of Delay

LOS	Delay per Vehicle (seconds per vehicle)	
	Signalized	Unsignalized
A	≤ 10	≤ 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

Source: Highway Capacity Manual, 2000 Edition.

The results of the capacity analyses are summarized in **Table 7** for the study intersections. Analysis results show the LOS and delay for the overall intersection. The Synchro analysis worksheets are contained in **Appendix F**.

Table 7: Existing Levels of Service at the Study Intersections Level of Service (Delay, Seconds per Vehicle)		
Intersection	AM	PM
1. Wisconsin Avenue and Albemarle Street	C (23.7)	B (14.5)
2. Albemarle Street and Fort Drive/40th Street*	**F (51.6)**	**F (76.0)**
3. Tenley Circle and Wisconsin Avenue (North)	B (11.4)	B (13.6)
4. Tenley Circle and Yuma Street (West)*	A (3.3)	A (1.9)
5. Tenley Circle and Nebraska Avenue (South)	C (27.5)	B (16.6)
6. Tenley Circle and Wisconsin Avenue (South)	A (8.4)	A (9.4)
7. Tenley Circle and Yuma Street (East)*	A (1.1)	A (1.5)
8. Tenley Circle and Nebraska Avenue (North)	C (29.6)	B (16.3)
9. Massachusetts Avenue and 49th Street	C (21.9)	B (17.7)
10. Van Ness Street and 45th Street*	A (8.1)	A (8.4)
11. Nebraska Avenue and Van Ness Street	C (21.1)	B (19.2)
12. Wisconsin Avenue and Van Ness Street	C (22.7)	C (20.9)
13. Massachusetts Avenue and 45th Street*	A (1.8)	A (1.7)
14. Massachusetts Ave and Glover Gate/Katzen Arts Center	B (15.4)	C (29.2)
15. Ward Circle and Massachusetts Avenue (West)*	D (31.9)	C (22.4)
16. Ward Circle and Nebraska Avenue (South)	C (29.6)	C (28.8)
17. Ward Circle and Massachusetts Avenue (East)*	B (10.1)	C (21.8)
18. Ward Circle and Nebraska Avenue (North)	C (24.6)	C (35.0)
19. Nebraska Avenue and New Mexico Avenue	C (28.6)	B (19.9)
20. Massachusetts Avenue and Westover Place*	A (0.4)	A (0.7)
21. Massachusetts Avenue and Idaho Avenue/39th Street	B (19.7)	B (13.3)
22. Massachusetts Avenue and Cathedral Avenue	B (11.1)	B (12.2)
23. Wisconsin Avenue and Cathedral Avenue	A (0.1)	A (0.1)
24. Massachusetts Avenue and Wisconsin Avenue	C (21.8)	C (20.8)

*Unsignalized Intersection

Under existing conditions, all study intersections operate at LOS D or better during the AM and PM peak hours with the exception of Albemarle Street and Fort Drive/40th Street during both the AM and PM peak hours.

Table 8 summarizes the intersection capacity analyses at the NAC driveways. As previously discussed in **Section 4.3.2**, the analysis contained in this study conservatively assumes that the peak hour traffic on the surrounding street network and at the driveways coincide.

Table 8: Existing Levels of Service at the Nebraska Avenue Complex Driveways Level of Service (Delay, Seconds per Vehicle)

Intersection		AM	PM
25. Nebraska Avenue and North NAC Driveway/Parking Lot Driveway*		A (0.3)	A (0.3)
Northbound (Nebraska Avenue)	LT	A (0.2)	A (0.2)
	TR	A (0.0)	A (0.0)
Southbound (Nebraska Avenue)	LT	A (0.3)	A (0.3)
	TR	A (0.0)	A (0.0)
Eastbound (Parking Lot Driveway)	LTR	D (29.8)	D (26.8)
Westbound (North NAC Driveway)	LT	**E (45.8)**	**E (48.0)**
	R	A (9.3)	A (9.3)
26. Nebraska Avenue and South NAC Driveway*		A (0.2)	A (0.0)
Northbound (Nebraska Avenue)	TR	A (0.0)	A (0.0)
Southbound (Nebraska Avenue)	LT	A (1.3)	A (0.1)
Westbound (South NAC Driveway)	LR	A (0.0)	A (10.0)
27. Massachusetts Avenue and NAC Driveway*		A (1.0)	A (3.3)
Southbound (NAC Driveway)	L	**F (54.9)**	**F (166.0)**
	R	B (11.7)	C (22.9)
Eastbound (Massachusetts Avenue)	LT	A (3.0)	A (1.0)
Westbound (Massachusetts Avenue)	TR	A (0.0)	A (0.0)

*Unsignalized Intersection
Note: L = Left, LT = Left-Through, LR = Left-Right, LTR = Left-Through-Right, TR = Through-Right, R = Right.

Under existing conditions, all site driveways operate at an overall intersection LOS A. All lane groups along Nebraska Avenue and Massachusetts Avenue also operate at LOS A. The only lane groups to operate below LOS D are the left-through and left-turn lanes exiting the NAC, which are stop sign controlled.

4.4.2. Queuing at Site Driveways

Queue analyses were performed at the existing NAC driveways. Queue analyses are performed to calculate the queue, or number of vehicles stacked, waiting to turn into or out of a side street. The queue analyses were performed using *Synchro 7* software package to evaluate

the 95th percentile queue lengths under existing traffic conditions. The 95th percentile queue length represents the maximum queue length with the 95th percentile of traffic volumes. The results of the queuing analysis are summarized in **Table 9**. The Synchro worksheets are contained in **Appendix F** of this report.

Table 9: Existing 95th Percentile Queue Length (feet)

Movement		AM Peak Hour	PM Peak Hour
25. Nebraska Avenue and North NAC Driveway			
Northbound (*Nebraska Avenue)*	Left-Through	1	1
	Through-Right	0	0
Southbound (*Nebraska Avenue)*	Left-Through	1	1
	Through-Right	0	0
Eastbound (*Parking Lot Driveway)*	Left-Through-Right	1	2
Westbound *(North NAC Driveway)*	Left-Through	4	5
	Right	1	1
26. Nebraska Avenue and South NAC Driveway			
Northbound (*Nebraska Avenue)*	Through-Right	0	0
Southbound (*Nebraska Avenue)*	Left-Through	3	0
Westbound (*NAC Driveway)*	Left-Right	0	1
27. Massachusetts Avenue and NAC Driveway			
Southbound *(NAC Driveway)*	Left	6	65
	Right	3	32
Eastbound (*Massachusetts Avenue)*	Left-Through	10	2
Westbound (*Massachusetts Avenue)*	Through-Right	0	0

The results of the queue analysis show that during the AM and PM peak hours, the queues for along the public streets are minimal. Parking is restricted along Nebraska Avenue during the weekday AM and PM peak periods and along Massachusetts Avenue at all times near the driveways. As a result, through traffic can typically bypass any vehicles waiting to turn into the NAC. It should be noted that the longest queue on the public streets occurs along

Massachusetts Avenue where vehicles currently disobey the existing left-turn prohibition during the AM and PM peak periods.

4.5. Summary

The existing transportation network provides a variety of travel choices for employees and visitors of the NAC. The results of the intersection capacity analysis show that all of the study intersections and existing NAC driveways currently operate at an overall LOS D or better during AM and PM peak hours under existing conditions with the exception of Albemarle Street and Fort Drive/40th Street. The results of the queue length analysis show that there is minimal queuing that occurs along the public streets at the NAC driveways during the peak hours.

The NAC is well served by several transit modes including DHS shuttles, Metrobus stops along the site frontage, and Metrorail access via the DHS shuttles. Sidewalks are generally provided along all study area streets that allow pedestrians to walk to transit stops or other destinations. Under current conditions, 24/7 employees do not have access to public transportation after midnight.

5. 2020 No Action Conditions

This section of the report describes the 2020 No Action transportation conditions for the design year 2020 in the vicinity of the NAC. Included are descriptions of the programmed transportation improvements, traffic generated by approved and unbuilt developments, description of the growth of existing traffic volumes, and traffic analyses.

5.1. Programmed Transportation Improvements

There are currently no programmed street improvements in the study area. DDOT is currently performing a Rock Creek West 2 Livability Study that includes a review of Massachusetts Avenue northwest of Ward Circle and Nebraska Avenue southwest of and including Ward Circle. The study will identify near-term and long-term transportation improvements based on resident input and review of existing conditions. The Rock Creek West 2 Livability Study is not scheduled to be complete until 2011. Therefore, the results are not available to consider in the NAC Master Plan.

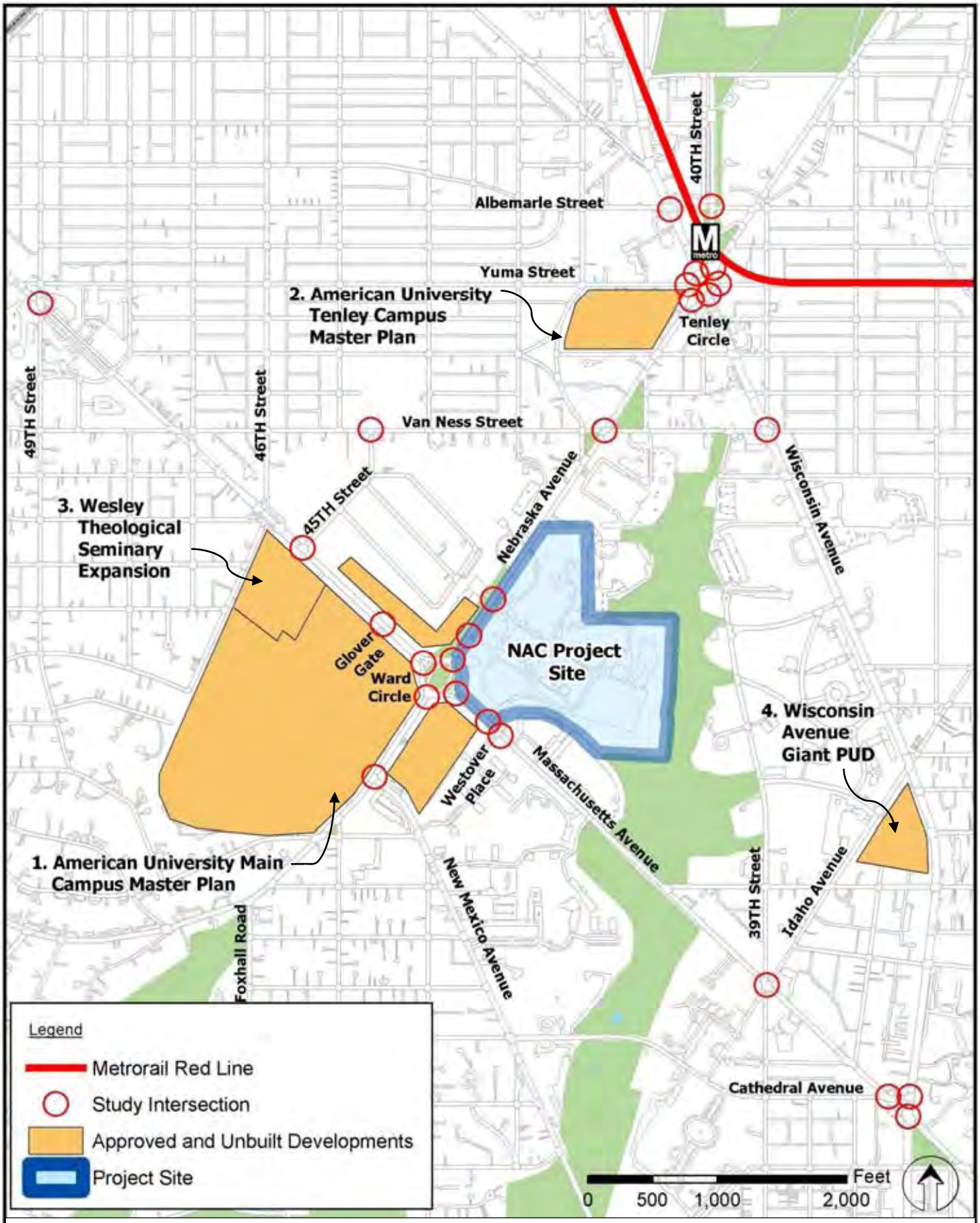
The NAC will soon have new bicycle racks at three locations (Nebraska Avenue driveway, next to Building 88, and at the fitness center) that will be installed as part of the security perimeter improvement project. Employees who bicycle to the NAC are allowed to shower at the fitness center if they wish to do so.

5.2. Approved and Unbuilt Developments

The District of Columbia Office of Planning staff identified four nearby approved and unbuilt developments for inclusion in the calculation of 2020 No Action Conditions traffic volumes:

1. AU Main Campus Master Plan
2. AU Tenley Campus Master Plan
3. Wesley Theological Seminary Expansion
4. Wisconsin Avenue Giant Planned Unit Development (PUD)

The location of each approved and unbuilt development is shown in **Figure 10**.



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Location of Approved and Unbuilt Developments

Nebraska Avenue Complex Master Plan

Figure 10

Source: DC Office of Planning, 2010

1. The AU Main Campus is adjacent to the southwest side of Ward Circle. The AU Main Campus Master Plan includes removing the 903 existing parking spaces on the Nebraska Avenue lot and 100 existing parking spaces from the main campus northwest of Nebraska Avenue. This will allow for construction of new residence halls. The parking spaces removed will be replaced by 458 new parking spaces at the School of International Service building and 500 new parking spaces at the Nebraska Avenue parking lot. The Master Plan also includes two access modifications. The first is the removal of the right-turn in/right-turn out driveway along Nebraska Avenue that currently provides access to a surface parking lot. The second is a new driveway on Nebraska Avenue opposite of New Mexico Avenue for the School of International Service building. At this time, the new driveway is planned to allow only right-turns in and right-turns out. Trip assignments for the AU Main Campus Master Plan were obtained from Gorove/Slade Associates, Inc., the consultant performing the study.

The AU Main Campus Master Plan also is considering a possible third access modification to provide a new driveway onto Massachusetts Avenue. The possible driveway would create a fourth leg opposite the NAC driveway along Massachusetts Avenue. At this time it is understood that DDOT may allow the new four-way intersection to be signalized subject to a more detailed engineering review. Since the status of a new AU driveway on Massachusetts Avenue is unknown at this time, this study assumes that there will not be a new AU Massachusetts Avenue driveway. Should AU pursue this access modification, the intersection operations and queuing will be addressed in the AU Master Plan transportation analysis.

2. The AU Tenley Campus is located west of Nebraska Avenue, between Yuma Street and Warren Street. The campus is accessible by one driveway along Yuma Street and one driveway along Warren Street. The Tenley Campus peak hour traffic information is from the AU 2000 Campus Plan Traffic and Parking Study conducted by Gorove/Slade Associates, Inc. dated December 11, 2000. This campus plan includes the increase of the overall campus population (students, facility, and staff) by 25 percent, redistributing the parking locations within the campus, and modifying the access. The update of the AU Tenley Campus Master Plan will occur after the completion of the AU Main Campus Master Plan.

3. The Wesley Theological Seminary Expansion is located south of Massachusetts Avenue and east of 46th Street and includes a 60-bed dormitory expansion and a 30,000 SF expansion of classroom space. However, since no additional parking will be available on-site, it is not anticipated to generate any additional vehicular trips on the adjacent street network. This assumption is consistent with the planning studies conducted for AU.

4. The Wisconsin Avenue Giant PUD is located on an existing supermarket and retail site in the area of Wisconsin Avenue and Newark Street. The PUD includes retail, office, and residential uses. The peak hour trip generation and assignment is based on the Wisconsin Avenue Giant Transportation Impact Study conducted by Wells and Associates, Inc., dated May 14, 2008.

Figure A-3 in **Appendix A** shows the future intersection lane designations at the study intersections as a result of the approved and unbuilt access modifications.

The peak hour trips generated by each of the approved and unbuilt developments are summarized in **Table 10. Appendix G** contains copies of the trip generation and trip assignment for each development (where applicable).

Table 10: Peak Hour Trips Generated by Approved and Unbuilt Developments

Development	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
1. AU Campus Master Plan						
958 Parking Spaces Added	240	48	288	192	287	479
1,003 Parking Spaces Removed	-122	-16	-138	-220	-185	-405
Total	*118*	*32*	*150*	*-28*	*102*	*74*
2. AU Tenley Campus Master Plan						
Driveway #1	200	0	200	40	0	40
Driveway #2	0	30	30	0	200	200
Total	*200*	*30*	*230*	*40*	*200*	*240*
3. Wesley Theological Seminary Expansion						
60 Bed Dorm	0	0	0	0	0	0
30,000 SF Classroom Expansion	0	0	0	0	0	0
Total	*0*	*0*	*0*	*0*	*0*	*0*
4. Wisconsin Avenue Giant PUD						
56,210 SF Supermarket	112	71	183	302	290	592
17,320 SF Office/Flex Space	40	6	46	17	81	98
62,954 SF Retail Space	118	75	193	113	123	236
8 Townhome Units	0	1	1	12	6	18
138 Residential Apartment Units	7	30	37	32	17	49
Existing Supermarket and Retail Trips	-186	-165	-351	-249	-205	-454
Total	*91*	*18*	*109*	*227*	*312*	*539*
Total	**409**	**80**	**489**	**239**	**614**	**853**

Source: Gorove/Slade Associates, 2010, and Wisconsin Avenue Giant PUD Traffic Impact Study, May 14, 2008.

Figures A-4 through **A-6** in **Appendix A** shows the peak hour traffic volumes generated by each approved and unbuilt development at each study intersection. **Figure A-7** in **Appendix A** shows the total peak hour traffic volumes at each study intersection from all approved and unbuilt developments.

5.3. 2020 No Action Conditions Traffic Volumes

2020 No Action Conditions traffic volumes represent future traffic that would travel through the area in the year 2020 without implementation of the NAC Master Plan. The 2020 No Action Conditions volumes were developed by applying a growth factor to the existing traffic volumes and adding traffic generated by nearby approved and unbuilt developments.

The growth factor was determined by reviewing the Metropolitan Washington Council of Governments (MWCOG) regional travel demand model forecasts contained in the 2009 Constrained Long Range Plan Version 2.2 for years 2010, 2020, and 2030 for streets in the vicinity of the NAC. The MWCOG model AM and PM peak period (three hours each) forecasts were the focus of the review since the NAC Master Plan traffic analyses are based on peak hour intersection capacity analyses. The street segments that were reviewed for traffic forecasts include:

- Massachusetts Avenue, north and south of Ward Circle
- Nebraska Avenue, east and west of Ward Circle
- Wisconsin Avenue, north and south of Tenley Circle

The forecasted peak period traffic volumes were compared from years 2030 to 2020, years 2020 to 2010, and years 2030 to 2010. The comparisons showed the following:

- **Years 2030 to 2020** – The forecasted traffic growth is approximately 1 percent for the 10-year period in the vicinity of the NAC. Many street segments are forecasted to have less traffic in 2030 than in 2020.
- **Years 2020 to 2010** – There is virtually no forecasted traffic growth during this 10-year time period in the vicinity of the NAC.
- **Years 2030 to 2010** – The traffic growth during this 20-year time period is approximately 1 percent in the vicinity of the NAC. This is consistent with the projections from 2010 to 2020 and from 2020 to 2030.

A summary of the AM and PM peak period travel forecasts are contained in **Appendix H**.

As a result of the MWCOG model forecast review, the traffic volumes in the vicinity of the NAC are expected to remain stable over the 20-year period with an estimated increase of 1 percent from 2010 to 2030. This can be expressed as a yearly traffic growth rate of less than 0.1 percent per year. This stable level of traffic volumes can be attributed to the established nature of the surrounding neighborhoods and land uses and the presence of transit service, pedestrian, and bicycle facilities in the area. As a result, a traffic growth factor of 1 percent from 2010 to 2020 for the 2020 No Action Conditions analyses was assumed. This growth factor was applied to all turning movements with the exception of the movements entering and exiting the NAC. This traffic growth rate of 1 percent was agreed to by DDOT staff.

2020 No Action Conditions traffic volumes were calculated by increasing the existing 2010 traffic volumes by 1 percent and adding the trips generated by the approved and unbuilt developments. **Figure A-8** in **Appendix A** of this report shows a summary of the resulting 2020 No Action Conditions peak hour traffic volumes at each study intersection.

5.4. 2020 No Action Conditions Traffic Analysis

The following is a discussion of the assessment of the 2020 No Action Conditions for the study area. DDOT staff directed that the following traffic analyses be conducted:

- Intersection capacity analyses for the study intersections
- Queuing analyses at existing NAC driveways

The following sections describe the results of the analyses listed above.

5.4.1. Intersection Capacity Analyses

Intersection capacity analyses were conducted for 2020 No Action Conditions peak hour traffic volumes. The analyses were based on the future lane designations, existing traffic operations, and existing signal timings (where applicable) in 2020. The results of the capacity analyses are summarized in **Table 11** for the study intersections. Analysis results show the LOS and delay for the overall intersection. The Synchro analysis worksheets are contained in **Appendix F**.

Under 2020 No Action Conditions, all study intersections operate at LOS D or better during the AM and PM peak hours with the exception of Albemarle Street and Fort Drive/40th Street during the AM and PM peak hours and Ward Circle and Massachusetts Avenue (West) during the AM peak hour.

To improve LOS at the Albemarle Street and Fort Drive/40th Street intersection, it is suggested that the traffic operations at this intersection be modified from a two-way stop control to an all-way stop control. **Table 12** shows the intersection delay and LOS with the identified transportation improvement.

Table 11: 2020 No Action Conditions Levels of Service at the Study Intersections Level of Service (Delay, Seconds per Vehicle)				
Intersection	Existing		No Action	
	AM	PM	AM	PM
1. Wisconsin Avenue and Albemarle Street	C (23.7)	B (14.5)	C (25.2)	B (14.6)
2. Albemarle Street and Fort Drive/40th Street*	**F (51.6)**	**F (76.0)**	**F (55.4)**	**F (79.5)**
3. Tenley Circle and Wisconsin Avenue (North)	B (11.4)	B (13.6)	B (18.0)	B (14.0)
4. Tenley Circle and Yuma Street (West)*	A (3.3)	A (1.9)	A (3.6)	A (5.1)
5. Tenley Circle and Nebraska Avenue (South)	C (27.5)	B (16.6)	C (26.8)	B (17.0)
6. Tenley Circle and Wisconsin Avenue (South)	A (8.4)	A (9.4)	A (8.3)	B (10.3)
7. Tenley Circle and Yuma Street (East)*	A (1.1)	A (1.5)	A (1.1)	A (1.5)
8. Tenley Circle and Nebraska Avenue (North)	C (29.6)	B (16.3)	D (44.2)	B (15.6)
9. Massachusetts Avenue and 49th Street	C (21.9)	B (17.7)	C (24.0)	B (18.1)
10. Van Ness Street and 45th Street*	A (8.1)	A (8.4)	A (8.1)	A (8.4)
11. Nebraska Avenue and Van Ness Street	C (21.1)	B (19.2)	C (21.9)	B (19.7)
12. Wisconsin Avenue and Van Ness Street	C (22.7)	C (20.9)	C (23.9)	C (22.0)
13. Massachusetts Avenue and 45th Street*	A (1.8)	A (1.7)	A (1.9)	A (1.7)
14. Massachusetts Ave and Glover Gate/Katzen Arts Center	B (15.4)	C (29.2)	B (16.1)	C (30.4)
15. Ward Circle and Massachusetts Avenue (West)*	D (31.9)	C (22.4)	**E (47.8)**	C (24.5)
16. Ward Circle and Nebraska Avenue (South)	C (29.6)	C (28.8)	D (37.4)	D (36.5)
17. Ward Circle and Massachusetts Avenue (East)*	B (10.1)	C (21.8)	B (10.8)	D (26.6)
18. Ward Circle and Nebraska Avenue (North)	C (24.6)	C (35.0)	C (26.2)	D (39.7)
19. Nebraska Avenue and New Mexico Avenue	C (28.6)	B (19.9)	C (30.4)	C (21.7)
20. Massachusetts Avenue and Westover Place*	A (0.4)	A (0.7)	A (0.5)	A (0.7)
21. Massachusetts Avenue and Idaho Avenue/39th Street	B (19.7)	B (13.3)	B (20.0)	B (13.9)
22. Massachusetts Avenue and Cathedral Avenue	B (11.1)	B (12.2)	B (11.1)	B (12.0)
23. Wisconsin Avenue and Cathedral Avenue	A (0.1)	A (0.1)	A (0.1)	A (0.1)
24. Massachusetts Avenue and Wisconsin Avenue	C (21.8)	C (20.8)	C (21.9)	C (23.4)

*Unsignalized Intersection

Table 12: 2020 No Action Conditions Levels of Service at Albemarle Street and Fort Drive/40th Street Intersection Level of Service (Delay, Seconds per Vehicle)			
No Action Without All-Way Stop		No Action With All-Way Stop	
AM	PM	AM	PM
F (55.4)	**F (79.5)**	C (17.1)	B (14.4)

Table 13 summarizes the intersection capacity analyses at the NAC driveways.

Table 13: 2020 No Action Conditions Levels of Service at the Nebraska Avenue Complex Driveways Level of Service (Delay, Seconds per Vehicle)					
Intersection		Existing		No Action	
		AM	PM	AM	PM
25. Nebraska Avenue and North NAC Driveway/Parking Lot Driveway*		A (0.3)	A (0.3)	A (0.3)	A (0.4)
Northbound (Nebraska Avenue)	Left-Through	A (0.2)	A (0.2)	A (0.2)	A (0.2)
	Through-Right	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Southbound (Nebraska Avenue)	Left-Through	A (0.3)	A (0.3)	A (0.3)	A (0.3)
	Through-Right	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Eastbound (Parking Lot Driveway)	Left-Through-Right	D (29.8)	D (26.8)	D (31.8)	D (29.0)
Westbound (North NAC Driveway)	Left-Through	**E (45.8)**	**E (48.0)**	**E (49.5)**	**F (53.3)**
	Right	A (9.3)	A (9.3)	A (9.3)	A (9.4)
26. Nebraska Avenue and South NAC Driveway*		A (0.2)	A (0.0)	A (0.2)	A (0.0)
Northbound (Nebraska Avenue)	Through-Right	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Southbound (Nebraska Avenue)	Left-Through	A (1.3)	A (0.1)	A (1.3)	A (0.1)
Westbound (South NAC Driveway)	Left-Right	A (0.0)	A (10.0)	A (0.0)	B (10.2)
27. Massachusetts Avenue and NAC Driveway*		A (1.0)	A (3.3)	A (1.0)	A (3.9)
Southbound (NAC Driveway)	Left	**F (54.9)**	**F (166.0)**	**F (62.0)**	**F (216.9)**
	Right	B (11.7)	C (22.9)	B (12.0)	C (24.6)
Eastbound (Massachusetts Avenue)	Left-Through	A (3.0)	A (1.0)	A (3.2)	A (1.1)
Westbound (Massachusetts Avenue)	Through-Right	A (0.0)	A (0.0)	A (0.0)	A (0.0)

*Unsignalized Intersection

Under 2020 No Action Conditions, all site driveways continue to operate at an overall intersection LOS A, with all lane groups along Nebraska Avenue and Massachusetts Avenue

also operating at LOS A. The only lane groups to operate below LOS D continue to be the left turn lane and left-through lane exiting the NAC, which are stop sign controlled.

5.4.2. Queuing at Site Driveways

Queue analyses were conducted for 2020 No Action Conditions peak hour traffic volumes at the site driveways. The analyses were based on the existing lane designations and traffic operations. The results of the 2020 No Action Conditions queuing analyses are summarized in **Table 14**. The Synchro worksheets are contained in **Appendix F** of this report.

Table 14: 2020 No Action Conditions 95th Percentile Queue Length (feet)

Movement		Existing		No Action	
		AM	PM	AM	PM
25. Nebraska Avenue and North NAC Driveway					
Northbound (*Nebraska Avenue)*	Left-Through	1	1	1	1
	Through-Right	0	0	0	0
Southbound (*Nebraska Avenue)*	Left-Through	1	1	1	1
	Through-Right	0	0	0	0
Eastbound (*Parking Lot Driveway)*	Left-Through-Right	1	2	1	3
Westbound *(North NAC Driveway)*	Left-Through	4	5	5	5
	Right	1	1	1	1
26. Nebraska Avenue and South NAC Driveway					
Northbound (*Nebraska Avenue)*	Through-Right	0	0	0	0
Southbound (*Nebraska Avenue)*	Left-Through	3	0	3	0
Westbound (*NAC Driveway)*	Left-Right	0	1	0	1
27. Massachusetts Avenue and NAC Driveway					
Southbound *(NAC Driveway)*	Left	6	65	7	73
	Right	3	32	3	35
Eastbound (*Massachusetts Avenue)*	Left-Through	10	2	10	2
Westbound (*Massachusetts Avenue)*	Through-Right	0	0	0	0

The results of the queue analyses show that during the 2020 No Action Conditions AM and PM peak hours, the queues along the public streets are minimal with no calculated increase from the existing conditions. The largest queue on a public street continues to occur along eastbound Massachusetts Avenue where vehicles disregard the left turn prohibition during AM and PM peak hours.

5.5. Summary

2020 No Action Conditions traffic volumes represent future traffic that would travel through the area in the year 2020 without implementation of the NAC Master Plan. The 2020 No Action Conditions traffic volumes include the existing traffic volumes that were increased based on regional traffic growth projections as well as estimated traffic generated by nearby approved and unbuilt developments.

As a result of the 2020 No Action Conditions analysis, all study intersections will operate at LOS D or better during the AM and PM peak hours with the exception of Albemarle Street and Fort Drive/40th Street during the AM and PM peak hours and Ward Circle and Massachusetts Avenue (West) during the AM peak hour. At the Albemarle Street and Fort Drive/40th Street intersection, LOS can be improved from F to C during the AM peak hour and from F to B during the PM peak hour with the modification of the intersection to all-way stop control. The Ward Circle and Massachusetts Avenue (West) intersection is currently being studied by DDOT and improvements will be identified as part of the Rock Creek West 2 Livability Study.

All site driveways operate at an overall intersection LOS A, with all lane groups along Nebraska Avenue and Massachusetts Avenue operating at LOS A. The only lane groups to operate below the LOS standard are the left turn lanes exiting the NAC, which are stop sign controlled. The queue analysis results show that during the 2020 No Action Conditions AM and PM peak hours, the queues along the public streets are minimal.

The pedestrian and transit network will continue to provide a variety of travel choices for employees and visitors of the NAC. The newly implemented DDOT bicycle sharing stations at the Tenleytown-AU Metrorail station and near Ward Circle will provide NAC employees and visitors another travel choice to bicycle to the site.

6. Nebraska Avenue Complex Master Plan

Three alternatives are under consideration for the NAC Master Plan. The three alternatives range from a total of 3,700 to 4,500 seats, a net increase from the existing 2,390 seats of 1,310 to 2,110 seats. The majority of the existing buildings at the NAC will be retained, with some of the buildings possibly being removed and replaced with new buildings based on the Master Plan's process design principles, historic preservation, and other design parameters. There are limited opportunities to relocate existing driveways at the NAC. Along Massachusetts Avenue, the existing driveway is located as far southeast from Ward Circle as possible within the existing property boundaries. Along Nebraska Avenue, the secure perimeter and the retention of the historic buildings along the street frontage and the north portion of the property preclude the relocation of an existing driveway further away from Ward Circle to the northeast. As a result, the existing driveway locations were generally maintained for each Master Plan Alternative. The TMP is not part of possible mitigation. It is proposed as part of the Master Plan.

For all alternatives, the number of parking spaces was reduced from the existing number of parking spaces consistent with NCPC's guidance of one (1) parking space per four (4) employee parking ratio. For each alternative, this 1:4 parking ratio was used per number of seats. In addition, 80 parking spaces for 24/7 employees and 20 visitor parking spaces were provided for each alternative. As a result, each alternative resulted in a reduction in parking from what is currently contained at the site.

Each alternative is described in more detail in the following sections.

6.1. Master Plan Alternatives

The NAC consists of a three alternatives.

6.1.1. Alternative A

Alternative A will provide the least amount of new building space on the site, also known as the Low Density Development. This Alternative, shown in **Figure 11,** is planned to contain:

- 3,700 seats
- 1,072,720 GSF
- 1,025 parking spaces

The existing driveways and vehicle access will operate similar to the existing conditions with one exception. The north Nebraska Avenue driveway will be converted to VIP and emergency vehicle access only. The south Nebraska Avenue and Massachusetts Avenue driveways will provide access for shuttle, secure, non-secure, and visitor vehicles. Internal roadways will be provided to allow vehicles to circulate between the South Nebraska Avenue and Massachusetts Avenue driveways allowing vehicles to enter and exit at the most convenient location. Security checkpoints will be located 300 feet from Massachusetts Avenue and 185 feet from Nebraska Avenue and will operate similar to the existing conditions for vehicles parking outside of the secure perimeter. There will be a security area located near Building 19 (approximately 800 feet from Massachusetts Avenue) for vehicles to enter the secure perimeter. The security checkpoints are located as far away as practical from the public streets to allow vehicles to stack within the internal site roadways.

Most of the parking will be provided in a new garage located on the existing surface lot closest to Ward Circle with limited parking provided within the secure perimeter. Under Action Alternative A, the NAC campus would include 1,025 parking spaces, with 925 spaces provided within the parking garage outside the secure perimeter and 100 spaces located inside the fence, primarily adjacent to the NBC property on the northeast edge of the site. It would utilize a 1:4 ratio for regular DHS employees (one parking space for every four employees). There would also be 80 parking spaces for 24/7 employees and 20 visitor parking spaces.

Kimley-Horn and Associates, Inc.

Alternative A

Nebraska Avenue Complex Master Plan

Figure 11

Source: MTFA Architecture, Inc., 2010

6.1.2. Alternative B

Alternative B will provide a net increase of 2,420 seats to the NAC, also known as the Mid-Density Development. This Alternative, shown in **Figure 12,** is planned to contain:

- 4,200 seats
- 1,220,450 GSF
- 1,150 parking spaces

The three existing driveway curb cuts will generally be in the same locations as the existing conditions. Vehicle access will be modified as follows:

- **North Nebraska Avenue driveway** – VIP, emergency, shuttle, and secure vehicles will be permitted to enter at this location. Only VIP and emergency vehicles will be permitted to exit. Pedestrians may enter and exit at this location.

- **South Nebraska Avenue driveway** – This will be an exit only for secure vehicles.

- **Massachusetts Avenue driveway** – Shuttle, secure, and non-secure vehicles will be permitted to enter and exit in this location. Pedestrians also may enter and exit at this location.

Internal roadways will be provided to allow vehicles to circulate between the South Nebraska Avenue and Massachusetts Avenue driveways allowing vehicles to enter and exit at the most convenient location. It should be noted that all vehicles that exit at the South Nebraska Avenue driveway must go through the secure perimeter. Most of the parking will be provided in a new garage located on the existing surface lot in the southeast part of the property with limited parking provided within the secure perimeter.

A security checkpoint will be located 300 feet from Massachusetts Avenue. The checkpoint along the Massachusetts Avenue driveway will operate similar to the existing conditions for vehicles parking outside of the secure perimeter. There will be two security areas for vehicles to enter the secure perimeter, one located near Building F (approximately 400 feet from Nebraska Avenue), and one near Building 19 (approximately 1,000 feet from Massachusetts Avenue). The checkpoint near Building 19 will have the vehicle screening building and is the only driveway into the secure perimeter for trucks. The security checkpoints are located as far away as practical from the public streets to allow vehicles to stack within the internal site roadways. The NAC campus would include 1,150 parking spaces, with 1,050 located outside the secure perimeter and 100 spaces located inside the fence, primarily adjacent to the NBC property on the northeast edge of the site. It would utilize a 1:4 ratio for regular DHS employees (one parking space for every four employees). There would also be 80 parking spaces for 24/7 employees and 20 visitor parking spaces.

Kimley-Horn and Associates, Inc.

Alternative B

Nebraska Avenue Complex Master Plan

Figure 12

Source: MTFA Architecture, Inc., 2010

6.1.3. Alternative C

Alternative C will provide the greatest amount of new building space on the site, also known as the High Density Development. This Alternative, shown in **Figure 13,** is planned to contain:

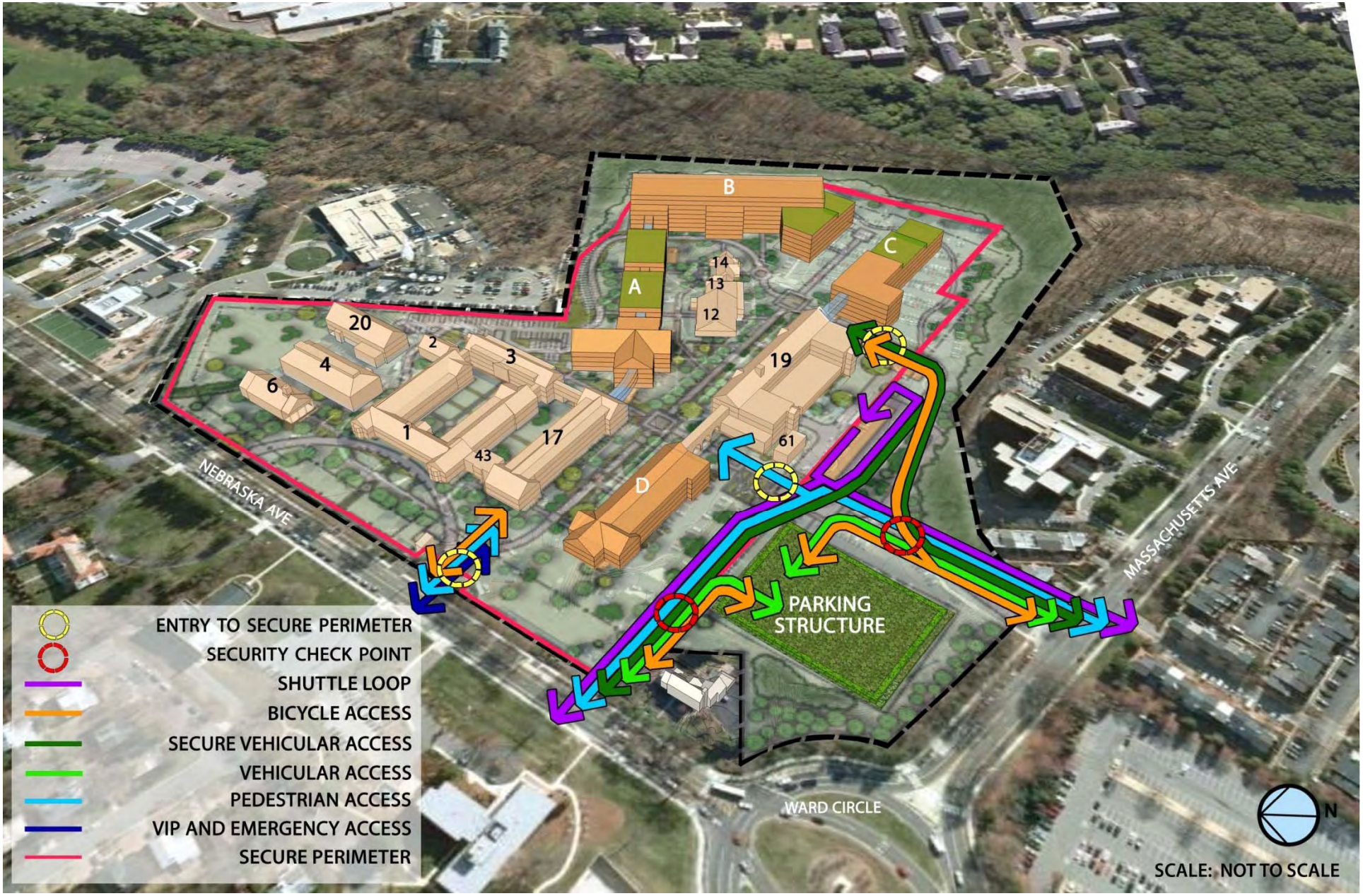
- 4,500 seats
- 1,309,090 GSF
- 1,225 parking spaces

The access and parking for Alternative C is similar to Alternative A. The existing driveways and vehicle access will operate similar to the existing conditions with one exception. The north Nebraska Avenue driveway will be converted to VIP and emergency vehicle access only. The south Nebraska Avenue and Massachusetts Avenue driveways will provide access for shuttle, secure, non-secure, and visitor vehicles. Internal roadways will be provided to allow vehicles to circulate between the South Nebraska Avenue and Massachusetts Avenue driveways allowing vehicles to enter and exit at the most convenient location. Security checkpoints will be located 300 feet from Massachusetts Avenue and 185 feet from Nebraska Avenue and will operate similar to the existing conditions for vehicles parking outside of the secure perimeter. There will be a security area located near Building 19 (approximately 800 feet from Massachusetts Avenue) for vehicles to enter the secure perimeter. The security checkpoints are located as far away as practical from the public streets to allow vehicles to stack within the internal site roadways.

Most of the parking will be provided in a new garage located on the existing surface lot closest to Ward Circle with limited parking provided within the secure perimeter. The NAC campus would include 1,225 parking spaces, with 1,125 located outside the secure perimeter and 100 spaces located inside the fence, primarily adjacent to the NBC property on the northeast edge of the site. It would utilize a 1:4 ratio for regular DHS employees (one parking space for every four employees). There would also be 80 parking spaces for 24/7 employees and 20 visitor parking spaces.

6.2. Alternatives Analysis

An assessment of the three alternatives was performed to evaluate the traffic operations at the site driveway onto the public streets. The following sections describe the trip generation, directional distribution, trip assignment, and intersection capacity and queuing analyses for the alternatives. The traffic analyses for the other study intersections are contained in Section 8, Future Action Conditions.



Kimley-Horn and Associates, Inc.

Alternative C

Nebraska Avenue Complex Master Plan

Figure 13

Source: MTFA Architecture, Inc., 2010

6.2.1. Trip Generation

Traffic generated by the action alternatives for the NAC was estimated based on current peak hour driveway counts and parking accumulations and applying these factors to the proposed number of parking spaces. The following summarizes the steps in determining peak hour trip generation.

As part of the traffic count program for this study, turning movement traffic counts during the AM and PM peak periods were conducted at the existing NAC driveways. Hourly counts of parked vehicles at the NAC also were conducted. The maximum count of parked vehicles was 869. This included employee and visitor parking.

The peak hour driveway volume was divided by the 869 parked vehicles to result in the following trip rates per occupied parking space shown in **Table 15**.

Table 15: Existing NAC Peak Hour Driveway Trips per Occupied Parking Space

Description	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Existing NAC (2,390 Seats)	178	37	215	43	133	176
Trips per Occupied Parking Space*	0.20	0.04	0.24	0.05	0.15	0.20

*Rates rounded to nearest 0.01

The impacts of all three alternatives were evaluated at the NAC driveways. The trip rates from the driveway counts were applied to the total number of parking spaces to obtain the total number of trips generated by each alternative. These resulting volumes are shown in **Table 16**.

Table 16: 2020 Conditions with Proposed Action Alternatives Peak Hour Driveway Volumes

Description	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Alternative A (3,700 Seats) 1,025 Parking Spaces	210	44	254	51	157	208
Alternative B (4,200 Seats) 1,150 Parking Spaces	236	49	285	57	176	233
Alternative C (4,500 Seats) 1,225 Parking Spaces	251	52	303	61	187	248

6.2.2. Directional Distribution

The direction of approach by DHS employees to the NAC was developed based upon two summaries of DHS employee residential locations obtained from two tabulations of employee residential zip codes.

One zip code tabulation was from a survey conducted as part of a TMP for the DHS headquarters at St. Elizabeths[1] in Southeast Washington, D.C. This survey was distributed to DHS employees throughout the Washington, D.C. metropolitan area. The personnel currently at the NAC will not necessarily be the same as those who would be at the NAC in the future. Since the NAC Master Plan is part of the consolidation of DHS, the future personnel at the NAC are expected to come from the general population of DHS employees. Therefore, the travel survey of DHS employees located throughout the region is a valid source of information for use at the NAC. The other tabulation of zip code locations was obtained as part of an unpublished preliminary traffic evaluation[2] of the NAC. This tabulation specifically involved NAC employees.

Tables 17 and **18** provide summaries of the distributions of DHS residential locations.

Table 17: DHS Employee Residential Locations from St. Elizabeths Travel Survey

Area	Percent
Alexandria, VA	8%
Annapolis, MD	1%
Arlington, VA	3%
Rest of VA	37%
Charles County, MD	1%
Prince Georges County, MD	21%
Montgomery County, MD	7%
Baltimore and surrounding MD	9%
Eastern Shore, MD	0%
Frederick County and surrounding MD	2%
Washington, D.C.	8%
Other	3%
Total	**100%**

Source: The DHS Headquarters Consolidation at St. Elizabeths TMP, Washington, D.C., November 10, 2008.

[1] The DHS Headquarters Consolidation at St. Elizabeths Transportation Management Program, Washington, D.C., November 10, 2008.

[2] Nebraska Avenue Complex – Traffic Analysis, Technical Memorandum prepared by Symmetra Design dated April 1, 2009.

Table 18: DHS Employee Residential Locations from NAC Evaluation	
Area	Percent
Alexandria, VA	9%
Arlington, VA	8%
Falls Church, VA	2%
McLean, VA	1%
Rest of VA (inside Capital Beltway)	1%
Rest of VA (outside Capital Beltway)	32%
Annapolis and surrounding MD	5%
Southern Prince Georges County, MD	5%
Charles County, MD	4%
Northern Prince Georges County, MD	4%
Montgomery County, MD	9%
Frederick County and surrounding MD	2%
Baltimore and surrounding MD	4%
Washington, DC	14%
Total	**100%**

Source: Nebraska Avenue Complex – Traffic Analysis, Technical Memorandum prepared by Symmetra Design, April 1, 2009.

Based on the splits of residential locations shown in **Tables 17** and **18**, travel routes were determined.

The resulting directions of approach to the NAC are shown in **Table 19**.

Table 19: Directions of Approach for Nebraska Avenue Complex Employees and Visitors	
From	Percent
Northwest Massachusetts Avenue	15%
North Wisconsin Avenue	10%
Northeast Nebraska Avenue	15%
Southeast Massachusetts Avenue	15%
Southwest Nebraska Avenue	45%

These directions of approach were used as the basis for distributing trips generated by the NAC alternatives onto the area street system.

6.2.3. Trip Assignment

The site generated trips for the three alternatives were assigned to the driveways based upon the directional distribution shown in **Table 19**. The trips were assigned assuming that the Massachusetts Avenue left-turn prohibition will remain. **Figures A-9 through A-11** in **Appendix A** show the trip assignments for Alternatives A, B, and C, respectively.

The NAC trips were added to the 2020 No Action Conditions traffic at the driveways. The resulting volumes at the site driveways are shown for the three alternatives on **Figures A-12 through A-14** in **Appendix A**, respectively.

6.2.4. Proposed Action Alternatives - Intersection Capacity Analyses at Site Driveways

Intersection capacity analyses were conducted for 2020 Conditions with Proposed Action peak hour traffic volumes at the site's driveways. The analyses were based on the proposed lane designations and traffic operations. The results of the 2020 Conditions with Proposed Action intersection capacity analysis at the site driveways for the three action alternatives are summarized in **Table 20**. The Synchro worksheets are contained in **Appendix F** of this report.

Table 20: 2020 Conditions with Proposed Action Levels of Service at the Nebraska Avenue Complex Driveways
Level of Service (Delay, Seconds per Vehicle)

Intersection		Existing		No Action		Action Alternative A		Action Alternative B		Action Alternative C	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
25. Nebraska Avenue and North NAC Driveway/Parking Lot Driveway*		A (0.3)	A (0.3)	A (0.3)	A (0.4)	A (0.1)	A (0.1)	A (0.9)	A (0.3)	A (0.1)	A (0.1)
Northbound (Nebraska Avenue)	LT	A (0.2)	A (0.2)	A (0.2)	A (0.2)	A (0.2)	A (0.2)	A (0.2)	A (0.2)	A (0.2)	A (0.2)
	TR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Southbound (Nebraska Avenue)	LT	A (0.3)	A (0.3)	A (0.3)	A (0.3)	A (0.0)	A (0.0)	A (3.2)	A (0.7)	A (0.0)	A (0.0)
	TR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Eastbound (Parking Lot Driveway)	LTR	D (29.8)	D (26.8)	D (31.8)	D (29.0)	**E (43.5)**	**E (37.0)**	**F (52.0)**	**E (38.5)**	**E (44.2)**	**E (37.4)**
Westbound (North NAC Driveway)	LT	**E (45.8)**	**E (48.0)**	**E (49.5)**	**F (53.3)**	-	-	-	-	-	-
	R	A (9.3)	A (9.3)	A (9.3)	A (9.4)	-	-	-	-	-	-
	LTR	-	-	-	-	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
26. Nebraska Avenue and South NAC Driveway*		A (0.2)	A (0.0)	A (0.2)	A (0.0)	A (0.9)	A (2.0)	A (0.2)	A (1.0)	A (1.2)	A (2.8)
Northbound (Nebraska Avenue)	TR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Southbound (Nebraska Avenue)	LT	A (1.3)	A (0.1)	A (1.3)	A (0.1)	A (3.4)	A (0.8)	A (0.0)	A (0.0)	A (4.0)	A (1.0)
Westbound (South NAC Driveway)	LR	A (0.0)	A (10.0)	A (0.0)	B (10.2)	**E (49.9)**	**F (67.8)**	D (33.3)	**E (48.5)**	**F (52.8)**	**F (82.0)**
27. Massachusetts Avenue and NAC Driveway*		A (1.0)	A (3.3)	A (1.0)	A (3.9)	A (0.3)	A (2.2)	A (0.3)	A (3.0)	A (0.3)	A (3.0)
Southbound (NAC Driveway)	L	**F (54.9)**	**F (166.0)**	**F (62.0)**	**F (216.9)**	**E (41.6)**	**F (151.7)**	**E (41.7)**	**F (165.8)**	**E (42.2)**	**F (175.8)**
	R	B (11.7)	C (22.9)	B (12.0)	C (24.6)	B (11.9)	C (23.0)	B (12.1)	D (26.4)	B (12.0)	C (24.4)
Eastbound (Massachusetts Avenue)	LT	A (3.0)	A (1.0)	A (3.2)	A (1.1)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Westbound (Massachusetts Avenue)	TR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)

*Unsignalized Intersection

Note: L = Left, LT = Left-Through, LR = Left-Right, LTR = Left-Through-Right, TR = Through-Right, R = Right.

The results of the alternatives analysis shows that in Alternatives A, B, and C, all site driveways will operate at an overall intersection LOS A with all lane groups along Nebraska Avenue and Massachusetts Avenue operating at LOS A. The only lane groups to operate below LOS D are the left-turns exiting the NAC and traffic exiting the parking lot across Nebraska Avenue, which are stop sign controlled. The queue analysis results show that during the AM and PM peak hours, the queues along the public streets will range from 0 to 12 feet, or less than one vehicle.

The analysis also shows that the exiting driveway volumes will be below the minimum traffic signal warrant thresholds and, therefore, will not satisfy warrants for signalization.

These analysis results indicate that the NAC driveways will operate well under 2020 Conditions with Proposed Action conditions, regardless of the Alternative selected.

6.2.5. Queuing at Site Driveways

Queue analyses were conducted for 2020 Conditions with Proposed Action peak hour traffic volumes at the site driveways. The analyses were based on the future lane designations and existing traffic operations. The results of the 2020 Conditions with Proposed Action queuing analysis are summarized in **Table 21**. The Synchro worksheets are contained in **Appendix F** of this report.

Table 21: 2020 Conditions with Proposed Action 95th Percentile Queue Length at the Nebraska Avenue Complex Driveways (feet)

Movement		Existing		No Action		Action Alternative A		Action Alternative B		Action Alternative C	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
25. Nebraska Avenue and North NAC Driveway											
Northbound (*Nebraska Avenue*)	LT	1	1	1	1	1	1	1	1	1	1
	TR	0	0	0	0	0	0	0	0	0	0
Southbound (*Nebraska Avenue*)	LT	1	1	1	1	0	0	10	2	0	0
	TR	0	0	0	0	0	0	0	0	0	0
Eastbound (*Parking Lot Driveway*)	LTR	1	2	1	3	2	3	2	4	2	4
Westbound (*North NAC Driveway*)	LT	4	5	5	5	-	-	-	-	-	-
	R	1	1	1	1	-	-	-	-	-	-
	LTR	-	-	-	-	0	0	0	0	0	0
26. Nebraska Avenue and South NAC Driveway											
Northbound (*Nebraska Avenue*)	TR	0	0	0	0	0	0	0	0	0	0
Southbound (*Nebraska Avenue*)	LT	3	0	3	0	10	2	0	0	12	3
Westbound (*NAC Driveway*)	LR	0	1	0	1	16	68	9	41	20	88
27. Massachusetts Avenue and NAC Driveway											
Southbound (*NAC Driveway*)	L	6	65	7	73	6	49	6	57	6	62
	R	3	32	3	35	3	27	4	44	4	34
Eastbound (*Massachusetts Avenue*)	LT	10	2	10	2	0	0	0	0	0	0
Westbound (*Massachusetts Avenue*)	TR	0	0	0	0	0	0	0	0	0	0

Note: L = Left, LT = Left-Through, LR = Left-Right, LTR = Left-Through-Right, TR = Through-Right, R = Right.

6.2.6. Review of Signal Warrants at Site Driveways

A review of traffic signal warrants was performed at the NAC driveways based upon methodologies contained in the 2009 Manual on Uniform Traffic Control Devices (MUTCD). For this study, Warrants 1 (Eight-Hour Volume), Warrant 2 (Four-Hour Volume), and Warrant 3 (Peak Hour) were considered.

Each driveway was analyzed under the conditions of the Master Plan Alternative that generated the most vehicular volume for that intersection as listed below:

- North driveway along Nebraska Avenue – Alternative B
- South driveway along Nebraska Avenue – Alternative C
- Driveway along Massachusetts Avenue – Alternative C

For all three driveways, the signal warrant review considered the major street (Nebraska Avenue or Massachusetts Avenue) two lanes and the minor street (driveway) one lane. It should be noted that the driveway along Massachusetts Avenue has two exiting lanes, one left-turn lane and one right-turn lane. The signal warrant review only considered the Massachusetts Avenue driveway left-turn lane and exiting left-turn traffic volumes because the right turns have a separate lane and can exit more easily.

The forecasted peak hour volumes at the driveways and the minimum threshold volumes for Warrant 1 (Eight-Hour Volume) are shown in **Table 22**.

Table 22: 2020 Conditions with Proposed Action Signal Warrant 1 Analysis Volumes (Vehicles per Hour)

Intersection	AM Peak Hour		PM Peak Hour		Eight-Hour Warrant Threshold Volume (Condition A)				Eight-Hour Warrant Threshold Volume (Condition B)			
	Major Street Volume[1]	Minor Street Volume[2]	Major Street Volume[1]	Minor Street Volume[2]	Major Street Volume[1]		Minor Street Volume[2]		Major Street Volume[1]		Minor Street Volume[2]	
					100%	80%	100%	80%	100%	80%	100%	80%
25. Nebraska Avenue and North NAC Driveway	2,272	2	2,095	5	600	480	150	120	900	720	75	60
26. Nebraska Avenue and South NAC Driveway	2,418	21	2,241	75	600	480	150	120	900	720	75	60
27. Massachusetts Avenue and NAC Driveway[3]	2,074	8	2,227	28	600	480	150	120	900	720	75	60

1. Major street volumes consist of the total of both approaches.
2. Minor street volumes are the higher-volume from one direction only.
3. Exiting left turn volumes only.
Source: MUTCD, 2009 Edition.

Warrant 1, the Eight-Hour Volume warrant is satisfied if any of the following conditions exist for any eight hours of an average day: the 100 percent minimum volume thresholds are met for Condition A, the 100 percent minimum volume thresholds are met for Condition B, or the 80 percent minimum volume thresholds are met for both Conditions A and B.

The major street volumes for each driveway exceeded the minimum thresholds for both Conditions A and B. Under Condition A the minor street approach volumes for all driveways were below the threshold in both the AM or PM peak hours. Under Condition B, the minor street approach volumes for all driveways were below the threshold with the exception of Nebraska Avenue and South NAC driveway during the PM peak hour. Since the AM peak hour is below the threshold, it can be assumed that traffic volumes throughout the day will be below the minimum threshold. Under the combined Conditions A and B, the minor street volumes did not meet the minimum volume thresholds for any of the site driveways. As a result, the site driveways do not satisfy Warrant 1 (Eight-Hour Volume).

Warrant 2, the Four-Hour Volume warrant, is satisfied when there is a large volume of intersecting traffic during any four hours of an average day. Warrant 2 has a minimum volume threshold of 80 vehicles per hour for the minor street approach. None of the volumes at the site driveways met the minimum threshold for either the AM or PM peak hours; therefore, the site driveways did not satisfy Warrant 2 (Four-Hour Volume).

Warrant 3, the Peak-Hour Volume warrant, is satisfied where traffic conditions are such that for a minimum of one hour of an average day, the minor-street suffers undue delay when entering

or crossing the major street. Warrant 3 has a minimum volume threshold of 100 vehicles per hour for the minor street approach. None of the volumes at the site driveways met the minimum threshold for either the AM or PM peak hours; therefore, the site driveways did not satisfy Warrant 3 (Peak-Hour Volume).

6.3. Alternatives Analysis Summary

The results of the alternatives analyses show that in Alternatives A, B, and C, all site driveways operate at an overall intersection LOS A with all lane groups along Nebraska Avenue and Massachusetts Avenue operating at LOS A; and left turns exiting the NAC which are stop controlled operating below LOS D. The queue analysis results show that during the AM and PM peak hours, the queues along the public streets range from 0 to 12 feet, or less than one vehicle.

The analyses also show that the future driveway volumes with the NAC Master Plan are below the minimum traffic signal warrant thresholds and, therefore, will not satisfy warrants for signalization. These analyses also indicate that the NAC driveways will operate well under 2020 Conditions with the Proposed Action, regardless of the Alternative selected.

7. 2020 Conditions with Proposed Action

This section of the report describes the Proposed Action transportation conditions for the design year 2020 in the vicinity of the NAC. Included are descriptions of the traffic generated by NAC Master Plan, description of the 2020 Conditions with Proposed Action traffic volumes, and 2020 Conditions with Proposed Action traffic analyses at the study intersections.

7.1. 2020 Conditions with Proposed Action Traffic Volumes

The 2020 Conditions with Proposed Action traffic volumes represent future traffic volumes for design year 2020 with the build out of the NAC Master Plan. These volumes were calculated by adding the net increase of site generated trips to the 2020 No Action Conditions traffic volumes. Since an alternative has not been selected, the 2020 Conditions with Proposed Action traffic volumes were developed for Alternative C which represents the highest trip generating potential. As a result, the 2020 Conditions with Proposed Action analyses represents the "worst case" scenario.

The net increase in trip generation for Alternative C was calculated by subtracting the existing NAC trips from the Action Alternative C trip generation in **Section 6.2.1**. These calculations are shown in **Table 23**.

Table 23: Alternative C Peak Hour Driveway Volumes

Description	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Alternative C (4,500 Seats) 1,225 Parking Spaces	251	52	303	61	187	248
Existing NAC (2,390 Seats)	178	37	215	43	133	176
Net Increase	73	15	88	18	54	72

The net increase in trips was assigned to the study intersections based on the directional distribution described in **Section 6.2.2**. **Figure A-15** in **Appendix A** depicts the assignment of the net increase in trips at the study intersections.

The 2020 Conditions with Proposed Action traffic volumes were calculated by adding the 2020 No Action Conditions traffic volumes (shown in **Figure A-8** in **Appendix A**) to the net increase in site generated trips (**Figure A-15** in **Appendix A**). **Figure A-16** in **Appendix A** depicts the 2020 Conditions with Proposed Action traffic volumes at the study intersections.

7.2. 2020 Conditions with Proposed Action Traffic Analysis

The following is a discussion of the assessment of 2020 Conditions with Proposed Action traffic conditions for the study area. DDOT staff directed that the following traffic analyses be conducted:

- Intersection capacity analyses for the study intersections
- Queuing analyses at the NAC driveways
- Signal warrant analyses
- Congested corridors analyses

The following sections describe the results of the analyses listed above.

7.2.1. Intersection Capacity Analyses

Intersection capacity analyses were conducted for 2020 Conditions with Proposed Action peak hour traffic volumes. The analyses were based on the future lane designations, existing traffic operations, and existing signal timings (where applicable). The results of the capacity analyses are summarized in **Table 24** for the study intersections. The results show the LOS and delay for the overall intersection. The Synchro analysis worksheets are contained in **Appendix F**.

As a result of the 2020 Conditions with Proposed Action analysis, all study intersections will operate at LOS D or better during the AM and PM peak hours with the exception of Albemarle Street and Fort Drive/40th Street during the AM and PM peak hours and Ward Circle and Massachusetts Avenue (West) during the AM peak hour. Both of these intersections operate below LOS D under the 2020 No Action Conditions. When considering all intersections, the addition of the NAC trips results in a maximum increase in delay of 3.9 seconds per vehicle.

As discussed previously, the LOS can be improved at the Albemarle Street and Fort Drive/40th Street intersection by modifying the intersection to an all-way stop control. The improvement in LOS is shown in **Table 25**. DDOT is leading a study of the Ward Circle and Massachusetts Avenue (West) intersection as part of the Rock Creek West 2 Livability Study.

Intersection capacity and queue analyses of the NAC driveways for the 2020 No Action Conditions and 2020 Conditions with Proposed Action Alternatives are contained in **Sections 5.4.1** and **6.2.4**, respectively.

Table 24: 2020 Conditions with Proposed Action Levels of Service at the Study Intersections Level of Service (Delay, Seconds per Vehicle)

Intersection	2010 Existing		2020 No Action		2020 with Proposed Action	
	AM	PM	AM	PM	AM	PM
1. Wisconsin Avenue and Albemarle Street	C (23.7)	B (14.5)	C (25.2)	B (14.6)	C (25.2)	B (14.7)
2. Albemarle Street and Fort Drive/40th Street*	**F (51.6)**	**F (76.0)**	**F (55.4)**	**F (79.5)**	**F (55.4)**	**F (79.5)**
3. Tenley Circle and Wisconsin Avenue (North)	B (11.4)	B (13.6)	B (18.0)	B (14.0)	B (19.4)	B (14.1)
4. Tenley Circle and Yuma Street (West)*	A (3.3)	A (1.9)	A (3.6)	A (5.1)	A (3.6)	A (5.1)
5. Tenley Circle and Nebraska Avenue (South)	C (27.5)	B (16.6)	C (26.8)	B (17.0)	C (26.7)	B (17.2)
6. Tenley Circle and Wisconsin Avenue (South)	A (8.4)	A (9.4)	A (8.3)	B (10.3)	A (8.3)	B (10.3)
7. Tenley Circle and Yuma Street (East)*	A (1.1)	A (1.5)	A (1.1)	A (1.5)	A (1.1)	A (1.5)
8. Tenley Circle and Nebraska Avenue (North)	C (29.6)	B (16.3)	D (44.2)	B (15.6)	D (47.2)	B (15.6)
9. Massachusetts Avenue and 49th Street	C (21.9)	B (17.7)	C (24.0)	B (18.1)	C (24.4)	B (18.1)
10. Van Ness Street and 45th Street*	A (8.1)	A (8.4)	A (8.1)	A (8.4)	A (8.1)	A (8.4)
11. Nebraska Avenue and Van Ness Street	C (21.1)	B (19.2)	C (21.9)	B (19.7)	C (22.2)	B (19.6)
12. Wisconsin Avenue and Van Ness Street	C (22.7)	C (20.9)	C (23.9)	C (22.0)	C (23.9)	C (22.1)
13. Massachusetts Avenue and 45th Street*	A (1.8)	A (1.7)	A (1.9)	A (1.7)	A (2.0)	A (1.7)
14. Massachusetts Ave. and Glover Gate/Katzen Arts Center	B (15.4)	C (29.2)	B (16.1)	C (30.4)	B (16.2)	C (30.7)
15. Ward Circle and Massachusetts Avenue (West)*	D (31.9)	C (22.4)	**E (47.8)**	C (24.5)	**F (50.3)**	D (25.9)
16. Ward Circle and Nebraska Avenue (South)	C (29.6)	C (28.8)	D (37.4)	D (36.5)	D (41.3)	D (37.7)
17. Ward Circle and Massachusetts Avenue (East)*	B (10.1)	C (21.8)	B (10.8)	D (26.6)	B (10.9)	D (28.5)
18. Ward Circle and Nebraska Avenue (North)	C (24.6)	C (35.0)	C (26.2)	D (39.7)	C (26.2)	D (40.6)
19. Nebraska Avenue and New Mexico Avenue	C (28.6)	B (19.9)	C (30.4)	C (21.7)	C (30.7)	C (21.9)
20. Massachusetts Avenue and Westover Place*	A (0.4)	A (0.7)	A (0.5)	A (0.7)	A (0.5)	A (0.7)
21. Massachusetts Avenue and Idaho Avenue/39th Street	B (19.7)	B (13.3)	B (20.0)	B (13.9)	B (19.9)	B (14.0)
22. Massachusetts Avenue and Cathedral Avenue	B (11.1)	B (12.2)	B (11.1)	B (12.0)	B (11.1)	B (12.2)
23. Wisconsin Avenue and Cathedral Avenue	A (0.1)	A (0.1)	A (0.1)	A (0.1)	A (0.1)	A (0.1)
24. Massachusetts Avenue and Wisconsin Avenue	C (21.8)	C (20.8)	C (21.9)	C (23.4)	C (21.9)	C (23.4)

*Unsignalized Intersection

Table 25: Albemarle Street and Fort Drive/40th Street Level of Service with All-Way Stop Level of Service (Delay, Seconds per Vehicle)			
2020 with Proposed Action Without All-Way Stop		2020 with Proposed Action With All-Way Stop	
AM	PM	AM	PM
F (55.4)	**F (79.5)**	C (17.1)	B (14.4)

At the two intersections where the level of service will operate below LOS D under the 2020 Conditions with Proposed Action conditions, analyses were performed for each action alternative. Table 26 shows the results of this analysis.

Table 26: 2020 Conditions with Proposed Action LOS and Average Delay in Seconds								
Intersection	No Action		Alternative A		Alternative B		Alternative C	
	AM	PM	AM	PM	AM	PM	AM	PM
2. Albemarle Street and Fort Drive/40th Street - Unsignalized	**F (55.4)**	**F (79.5)**	**F (55.4)**	**F (79.5)**	**F (55.4)**	**F (79.5)**	**F (55.4)**	**F (79.5)**
15. Massachusetts Avenue and Ward Circle (West) - Unsignalized	**E (47.8)**	D (24.5)	**E (48.9)**	D (25.1)	**E (49.6)**	D (25.6)	**F (50.3)**	D (25.9)

The analysis results show that the intersection of the Albemarle Street and Fort Drive/40th Street will operate the same under 2020 conditions regardless of which Master Plan alternative is selected. The intersection of Massachusetts Avenue and Ward Circle (West) will operate at LOS E during the AM peak hour under the 2020 No Action Conditions and 2020 Conditions with Alternatives A and B. Under 2020 Conditions with Alternative C, this intersection will operate at LOS F in the AM peak hour. However, the total difference in average vehicle delay between the four alternatives in the AM peak hour is 2.5 seconds per vehicle and the increase between Alternative B and C is 0.7 seconds per vehicle. In the PM peak hour, the intersection of Massachusetts Avenue and Ward Circle (West) will operate at LOS D under all four Master Plan alternatives. The total difference in average vehicle delay between the four alternatives in the PM peak hour is 1.4 seconds per vehicle.

7.2.2. Signal Warrant Analyses

Traffic signal warrants were considered at unsignalized intersections that will operate below an overall intersection LOS D. Signal warrants were not considered for unsignalized intersections that operate at or better than LOS D since the study area street grid network provides opportunities for traffic to disperse. The results showed that the intersection of Albemarle Street

and Fort Drive/40th Street and the intersection of Ward Circle and Massachusetts Avenue (West) were the only two intersections that will operate below LOS D in the future Action conditions. As discussed in **Section 7.2.1**, an improvement was identified for the Albemarle Street and Fort Drive/40th Street intersection to improve the LOS from F to C during the AM peak hour and to B during the PM peak hour. Signalizing the Ward Circle and Massachusetts Avenue (West) intersection will affect the operation of all Ward Circle intersections. This intersection is currently being studied by DDOT and improvements will be identified as part of the Rock Creek West 2 Livability Study.

7.2.3. Congested Corridors Analyses

DDOT requested a congested corridors analysis for streets where congestion typically occurs as shown by intersection LOS lower than D. Since all but one of the study area intersections operate at LOS D or better, a congested corridors analysis was not performed. The Synchro analyses files are available for DDOT review in **Appendix F**.

7.3. Pedestrian and Bicycle Facilities

The existing continuous pedestrian network made up of sidewalks and crosswalks will continue to provide pedestrian access from the NAC to the adjacent Metrobus stops along Nebraska Avenue and Massachusetts Avenue as well as the Tenleytown-AU Metrorail station in the Action conditions. Pedestrian access to the NAC will be enhanced as a part of the NAC Master Plan.

Planned multi-use trails along Nebraska Avenue and Massachusetts Avenue, as contained in the 2005 District of Columbia Bicycle Master Plan, will improve bicycle access to the NAC in the future. Further discussion of potential on-site bicycle facilities associated with the NAC Master Plan is contained in the TMP.

7.4. Transit

The existing public transit services through Metrobus and Tenleytown-AU Metrorail station, located 0.75 miles from the NAC, as well as the DHS shuttle services will continue to provide NAC employees travel choices other than the personal automobile.

7.5. Summary

The 2020 Conditions with Proposed Action traffic volumes represent future traffic that would travel through the area with the implementation of the NAC Master Plan. These traffic volumes include the existing traffic volumes increased based on regional traffic growth projections, estimated traffic generated by nearby approved and unbuilt developments, and traffic generated by the NAC Master Plan. The Proposed Action was tested using Action Alternative C, the highest trip generating Alternative, to represent a worst case scenario.

As a result, all study intersections will operate at LOS D or better during the AM and PM peak hours with the exception of Albemarle Street and Fort Drive/40th Street during the AM and PM peak hours and Ward Circle and Massachusetts Avenue (West) during the AM peak hour. Both of these intersections operate below LOS D under 2020 No Action Conditions. When

considering all intersections, the addition of the NAC trips results in a maximum delay increase of 3.9 seconds per vehicle. As discussed previously, the LOS can be improved at the Albemarle Street and Fort Drive/40th Street intersection with the modification to an all-way stop control. The Ward Circle and Massachusetts Avenue (West) intersection is currently being studied by DDOT and improvements will be identified as part of the Rock Creek West 2 Livability Study.

The pedestrian and transit network will continue to provide a variety of travel choices for employees and visitors. The newly implemented DDOT bicycle sharing stations at the Tenleytown-AU Metrorail station and near Ward Circle will provide NAC employees and visitors another travel choice.

The proposed TMP also will provide an incentive for employees and visitors to utilize the existing NAC shuttle routes, public transit, ride sharing, and pedestrian and bicycle facilities to travel to the site. The TMP is not part of possible mitigation. It is proposed as part of the Master Plan. The proposed TMP will build upon established existing TMP measures. Key elements in the TMP include the appointment of an Employee Transportation Coordinator (ETC), establishing a Community Transportation Working Group, continue managing parking and reduce parking ratio, carpooling/vanpooling incentives, transit incentives, DHS shuttle service enhancements, bicycling/walking incentives, alternate work schedules, telecommuting/teleworking, government vehicles, and other strategies to reduce single occupant vehicle (SOV) trips.

8. Future 2030 Out Year Conditions

This section of the report describes the Future 2030 Out Year transportation conditions in the vicinity of the NAC. These analyses were performed in accordance with DDOT *Design and Engineering Manual* to evaluate the NAC Master Plan on long-range traffic conditions. Included are descriptions of the programmed transportation improvements between the design year 2020 and 2030 out year, description of 2030 Out Year No Action and 2030 Out Year Conditions with Proposed Action traffic volumes, and capacity analyses.

8.1. Programmed Transportation Improvements

There are currently no programmed transportation improvements scheduled for completion between 2020 and 2030 in the study area. Projects may be identified as a result of the Rock Creek West 2 Livability Study currently being performed by DDOT. No improvements were assumed in this study since this is not completed and funding has not been allocated for projects that may arise in the study recommendations.

8.2. 2030 Out Year No Action Conditions Traffic Volumes

The 2030 Out Year No Action Conditions traffic volumes represent future traffic that would travel through the area in the year 2030 without implementing the NAC Master Plan. The 2030 No Action Conditions traffic volumes were developed by applying a growth factor of 2 percent to the existing traffic volumes and adding traffic generated by nearby approved and unbuilt developments, similar to the development of the 2020 No Action Conditions traffic volumes.

The 2 percent total growth factor was determined by reviewing the 2009 Constrained Long Range Plan Version 2.2 MWCOG model forecasts for years 2010, 2020, and 2030 for streets in the vicinity of the NAC. The MWCOG model forecasts show that the traffic volumes in the vicinity of the NAC are expected to remain stable during the 20-year period with an estimated increase of 1 percent from 2010 to 2030. This can be expressed as a yearly traffic growth rate of less than 0.1 percent per year. This stable level of traffic volumes can be attributed to the established nature of the surrounding neighborhoods and land uses the presence of transit service, pedestrian, and bicycle facilities in the area. Based on review of the MWCOG model forecasts, a conservative traffic growth factor of 2 percent from 2010 to 2030 for the 2030 No Action Conditions analyses was assumed. This growth factor was applied to all turning movements with the exception of the movements entering and exiting the NAC. This traffic growth rate of 2 percent was agreed to by DDOT staff.

The 2030 Out Year No Action Conditions traffic volumes were calculated by increasing the existing 2010 traffic volumes by 2 percent and adding the trips generated by the approved and unbuilt developments. **Figure A-17** in **Appendix A** of this report shows a summary of the resulting 2030 Out Year No Action Conditions peak hour traffic volumes at each study intersection.

8.3. 2030 Out Year Conditions with Proposed Action Traffic Volumes

The 2030 Out Year Conditions with Proposed Action traffic volumes represent future traffic volumes with the implementation of the NAC Master Plan. Similar to the 2020 Conditions with Proposed Action, the 2030 Conditions with Proposed Action traffic volumes were developed for Alternative C, which represents the highest trip generating potential. As a result, the 2030 Conditions with Proposed Action analyses represents the "worst case" scenario.

The 2030 Conditions with Proposed Action volumes were calculated by adding the net increase in site generated trips (shown in **Figure A-15** in **Appendix A**) to the 2030 No Action Condtions traffic volumes (**Figure A-17** in **Appendix A**). **Figure A-18** in **Appendix A** depicts the 2030 Conditions with Proposed Action traffic volumes at the study intersections. **Figures A-19 through A-21** in **Appendix A** depict the 2030 Conditions with Proposed Action traffic volumes at the NAC driveways for Alternatives A, B, and C, respectively.

8.4. 2030 Out Year Conditions Traffic Analysis

The following is an assessment of the 2030 Out Year No Action and Action traffic conditions for the study area. The following traffic analyses were conducted:

- Intersection capacity analyses at the study intersections
- Intersection capacity analyses at the NAC driveways
- Queue analyses at the NAC driveways

8.4.1. Intersection Capacity Analyses

Intersection capacity analyses were conducted for 2030 Out Year No Action Conditions and 2030 Out Year Conditions with Proposed Action peak hour traffic volumes assuming the future lane designations, existing traffic operations, and existing signal timings (where applicable). The results of the capacity analyses are summarized in **Table 27** for the study intersections. Analysis results show the LOS and delay for the overall intersection. The Synchro analysis worksheets are contained in **Appendix F**.

Table 27: 2030 Out Year Conditions Levels of Service at the Study Intersections Level of Service (Delay, Seconds per Vehicle)						
Intersection	2010 Existing		2030 No Action		2030 with Proposed Action	
	AM	PM	AM	PM	AM	PM
1. Wisconsin Avenue and Albemarle Street	C (23.7)	B (14.5)	C (25.5)	B (14.8)	C (25.6)	B (14.9)
2. Albemarle Street and Fort Drive/40th Street*	**F (51.6)**	**F (76.0)**	**F (59.3)**	**F (83.0)**	**F (59.3)**	**F (83.0)**
3. Tenley Circle and Wisconsin Avenue (North)	B (11.4)	B (13.6)	B (19.0)	B (14.1)	C (20.3)	B (14.2)
4. Tenley Circle and Yuma Street (West)*	A (3.3)	A (1.9)	A (3.7)	A (5.1)	A (3.7)	A (5.2)
5. Tenley Circle and Nebraska Avenue (South)	C (27.5)	B (16.6)	C (27.1)	B (17.1)	C (26.9)	B (17.3)
6. Tenley Circle and Wisconsin Avenue (South)	A (8.4)	A (9.4)	A (8.3)	B (10.4)	A (8.4)	B (10.4)
7. Tenley Circle and Yuma Street (East)*	A (1.1)	A (1.5)	A (1.1)	A (1.5)	A (1.1)	A (1.5)
8. Tenley Circle and Nebraska Avenue (North)	C (29.6)	B (16.3)	D (45.8)	B (15.7)	D (48.5)	B (15.6)
9. Massachusetts Avenue and 49th Street	C (21.9)	B (17.7)	C (24.7)	B (18.3)	C (25.1)	B (18.3)
10. Van Ness Street and 45th Street*	A (8.1)	A (8.4)	A (8.1)	A (8.5)	A (8.1)	A (8.5)
11. Nebraska Avenue and Van Ness Street	C (21.1)	B (19.2)	C (22.5)	B (19.8)	C (22.8)	B (19.7)
12. Wisconsin Avenue and Van Ness Street	C (22.7)	C (20.9)	C (24.2)	C (22.2)	C (24.2)	C (22.3)
13. Massachusetts Avenue and 45th Street*	A (1.8)	A (1.7)	A (2.0)	A (1.8)	A (2.0)	A (1.8)
14. Massachusetts Ave. and Glover Gate/Katzen Arts Center	B (15.4)	C (29.2)	B (16.3)	C (31.2)	B (16.5)	C (31.5)
15. Ward Circle and Massachusetts Avenue (West)*	D (31.9)	C (22.4)	**F (50.5)**	D (25.6)	**F (53.1)**	D (27.1)
16. Ward Circle and Nebraska Avenue (South)	C (29.6)	C (28.8)	D (38.8)	D (38.6)	D (42.6)	D (39.9)
17. Ward Circle and Massachusetts Avenue (East)*	B (10.1)	C (21.8)	B (10.9)	D (27.7)	B (11.0)	D (29.8)
18. Ward Circle and Nebraska Avenue (North)	C (24.6)	C (35.0)	C (26.9)	D (41.3)	C (26.9)	D (42.2)
19. Nebraska Avenue and New Mexico Avenue	C (28.6)	B (19.9)	C (31.0)	C (21.9)	C (31.3)	C (22.2)
20. Massachusetts Avenue and Westover Place*	A (0.4)	A (0.7)	A (0.5)	A (0.7)	A (0.5)	A (0.7)
21. Massachusetts Avenue and Idaho Avenue/39th Street	B (19.7)	B (13.3)	C (20.1)	B (14.0)	B (20.0)	B (14.1)
22. Massachusetts Avenue and Cathedral Avenue	B (11.1)	B (12.2)	B (11.2)	B (12.1)	B (11.2)	B (12.2)
23. Wisconsin Avenue and Cathedral Avenue	A (0.1)	A (0.1)	A (0.1)	A (0.1)	A (0.1)	A (0.1)
24. Massachusetts Avenue and Wisconsin Avenue	C (21.8)	C (20.8)	C (22.0)	C (23.6)	C (21.9)	C (23.5)

*Unsignalized Intersection

Under 2030 Out Year No Action Conditions and 2030 Out Year Conditions with Proposed Action, all study intersections will operate at LOS D or better during the AM and PM peak hours with the exception of Albemarle Street and Fort Drive/40th Street during the AM and PM peak hours and Ward Circle and Massachusetts Avenue (West) during the AM peak hour. Both of these intersections operate below LOS D under 2030 Out Year No Action and 2030 Conditions with Proposed Action. When considering all intersections, the addition of the NAC trips results in a maximum increase in delay of 3.9 seconds per vehicle.

To improve the LOS at the Albemarle Street and Fort Drive/40th Street intersection, it is suggested that traffic operations at this intersection be modified from a two-way stop control to an all-way stop control. **Table 28** shows the intersection delay and LOS with the identified transportation improvement.

Table 28: 2030 Out Year Conditions Levels of Service Albemarle Street and Fort Drive/40th Street Intersection Level of Service (Delay, Seconds per Vehicle)			
Action Without All-Way Stop		Action With All-Way Stop	
AM	PM	AM	PM
F (59.3)	**F (83.0)**	C (17.5)	B (14.6)

Table 29 summarizes the intersection capacity analyses at the NAC driveways for each Alternative.

Table 29: 2030 Out Year Conditions Levels of Service at the Nebraska Avenue Complex Driveways Level of Service (Delay, Seconds per Vehicle)

Intersection		No Action		Action Alternative A		Action Alternative B		Action Alternative C	
		AM	PM	AM	PM	AM	PM	AM	PM
25. Nebraska Avenue and North NAC Driveway/Parking Lot Driveway*		A (0.3)	A (0.4)	A (0.1)	A (0.1)	A (0.9)	A (0.3)	A (0.1)	A (0.1)
Northbound (Nebraska Avenue)	LT	A (0.2)	A (0.2)	A (0.2)	A (0.2)	A (0.2)	A (0.2)	A (0.2)	A (0.2)
	TR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Southbound (Nebraska Avenue)	LT	A (0.3)	A (0.3)	A (0.0)	A (0.0)	A (3.3)	A (0.8)	A (0.0)	A (0.0)
	TR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Eastbound (Parking Lot Driveway)	LTR	D (32.4)	D (29.6)	**E (44.5)**	**E (37.8)**	**F (53.3)**	**E (39.4)**	**E (45.3)**	**E (38.2)**
Westbound (North NAC Driveway)	LT	**F (50.9)**	**F (54.7)**	-	-	-	-	-	-
	R	A (9.3)	A (9.3)	-	-	-	-	-	-
	LTR	-	-	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
26. Nebraska Avenue and South NAC Driveway*		A (0.2)	A (0.0)	A (0.9)	A (2.1)	A (0.2)	A (1.1)	A (1.2)	A (2.9)
Northbound (Nebraska Avenue)	TR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Southbound (Nebraska Avenue)	LT	A (1.3)	A (0.1)	A (3.4)	A (0.8)	A (0.0)	A (0.0)	A (4.1)	A (1.0)
Westbound (South NAC Driveway)	LR	A (0.0)	B (10.1)	**F (51.3)**	**F (70.7)**	D (34.0)	**F (50.1)**	**F (54.4)**	**F (85.9)**
27. Massachusetts Avenue and NAC Driveway*		A (1.1)	A (4.0)	A (0.3)	A (2.3)	A (0.3)	A (3.0)	A (0.3)	A (3.1)
Southbound (NAC Driveway)	L	**F (63.4)**	**F (228.0)**	**E (42.5)**	**F (158.6)**	**E (42.6)**	**F (173.7)**	**E (43.1)**	**F (184.5)**
	R	B (12.0)	C (24.9)	B (12.0)	C (23.2)	B (12.1)	D (26.7)	B (12.1)	C (24.7)
Eastbound (Massachusetts Avenue)	LT	A (3.2)	A (1.1)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Westbound (Massachusetts Avenue)	TR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)

*Unsignalized Intersection

Note: L = Left, LT = Left-Through, LR = Left-Right, LTR = Left-Through-Right, TR = Through-Right, R = Right.

The results of the 2030 Out Year Conditions traffic analysis shows all site driveways in Alternatives A, B, and C will operate at an overall intersection LOS A with all lane groups along Nebraska Avenue and Massachusetts Avenue operating at LOS A. The only lane groups to operate below LOS D are the left turns exiting the NAC and traffic exiting the parking lot across Nebraska Avenue, which are stop sign controlled.

8.4.2. Queuing at Site Driveways

Queue analyses were conducted for 2030 Out Year Conditions with Proposed Action peak hour traffic volumes at the site driveways. The analyses were based on the future lane designations and existing traffic operations. The results of the 2030 Out Year Conditions with Proposed Action queuing analyses are summarized in **Table 30**. The Synchro worksheets are contained in **Appendix F**.

Table 30: 2030 Out Year Conditions 95th Percentile Queue Length at the Nebraska Avenue Complex Driveways (feet)

Movement		No Action		Action Alternative A		Action Alternative B		Action Alternative C	
		AM	PM	AM	PM	AM	PM	AM	PM
25. Nebraska Avenue and North NAC Driveway									
Northbound (*Nebraska Avenue*)	LT	1	1	1	1	1	1	1	1
	TR	0	0	0	0	0	0	0	0
Southbound (*Nebraska Avenue*)	LT	1	1	0	0	10	2	0	0
	TR	0	0	0	0	0	0	0	0
Eastbound (*Parking Lot Driveway*)	LTR	1	3	2	4	2	4	2	4
Westbound (*North NAC Driveway*)	LT	5	5	-	-	-	-	-	-
	R	1	1	-	-	-	-	-	-
	LTR	-	-	0	0	0	0	0	0
26. Nebraska Avenue and South NAC Driveway									
Northbound (*Nebraska Avenue*)	TR	0	0	0	0	0	0	0	0
Southbound (*Nebraska Avenue*)	LT	4	0	10	2	0	0	12	3
Westbound (*NAC Driveway*)	LR	0	1	16	70	9	42	21	90
27. Massachusetts Avenue and NAC Driveway									
Southbound (*NAC Driveway*)	L	7	75	6	50	6	58	7	63
	R	3	35	3	27	4	45	4	34
Eastbound (*Massachusetts Avenue*)	LT	10	2	0	0	0	0	0	0
Westbound (*Massachusetts Avenue*)	TR	0	0	0	0	0	0	0	0

Note: L = Left, LT = Left-Through, LR = Left-Right, LTR = Left-Through-Right, TR = Through-Right, R = Right.

The queue analysis results show that during the AM and PM peak hours, the queues along the public streets will range from 0 to 12 feet, or less than one vehicle.

8.5. Summary

The 2030 Out Year Conditions traffic volumes represent future traffic that would travel through the area in the year 2030 with and without the implementation of the NAC Master Plan.

As a result of the 2030 Out Year No Action and 2030 Conditions with Proposed Action analyses, all study intersections will continue to operate at LOS D or better during the AM and PM peak hours with the exception of Albemarle Street and Fort Drive/40th Street during the AM and PM peak hours and Ward Circle and Massachusetts Avenue (West) during the AM peak hour. The addition of the NAC trips results in a maximum delay increase of 3.9 seconds per vehicle at the two intersections. As discussed previously, the LOS can be improved at the Albemarle Street and Fort Drive/40th Street intersection with the modification to an all-way stop control. The Ward Circle and Massachusetts Avenue (West) intersection is currently being studied by DDOT and improvements will be identified as part of the Rock Creek West 2 Livability Study.

The results of the 2030 Out Year Conditions with Proposed Action Alternatives analyses show that in Alternatives A, B, and C, all site driveways will continue to operate at an overall intersection LOS A with all lane groups along Nebraska Avenue and Massachusetts Avenue operating at LOS A. The only lane groups to operate below LOS D are the left turns exiting the NAC, which are stop sign controlled. The queue analysis results show that during the AM and PM peak hours, the queues along the public streets will range from 0 to 12 feet, or less than one vehicle. These results indicate that the NAC driveways will operate well in the 2030 Out Year with Proposed Action, regardless of the Alternative selected.

The pedestrian and transit network will continue to provide a variety of travel choices for NAC employees and visitors. The newly implemented DDOT bicycle sharing stations at the Tenleytown-AU Metrorail station and near Ward Circle will provide NAC employees and visitors another travel choice to bicycle to the site.

9. Conclusions

As a result of this study, it is concluded that the NAC Master Plan will have a negligible effect on the transportation network in the study area. The existing street network provides multiple entry and exit points to the area, resulting in an effective dispersal of traffic.

The intersection capacity analyses show that all study intersections are projected to operate at LOS D or better during the AM and PM peak hours with the exception of Albemarle Street and Fort Drive/40th Street during the AM and PM peak hours and Ward Circle and Massachusetts Avenue (West) during the AM peak hour. When considering all intersections under all alternatives, the addition of the NAC trips results in a maximum delay increase of 3.9 seconds per vehicle. The LOS can be improved at the Albemarle Street and Fort Drive/40th Street intersection with the modification to an all-way stop control. The Ward Circle and Massachusetts Avenue (West) intersection is currently being studied by DDOT and improvements will be identified as part of the Rock Creek West 2 Livability Study.

All site driveways currently operate at an overall intersection LOS A with all lane groups along Nebraska Avenue and Massachusetts Avenue operating at LOS A and will continue to do so under 2020 and 2030 conditions. The only lane groups to operate below LOS D are the left turns exiting the NAC, which are stop sign controlled. The queue analysis results show that during the AM and PM peak hours, the queues along the public streets will be less than one vehicle in length. A review of traffic signal warrants showed that the traffic volumes at the site driveways are below the minimum thresholds and, therefore, do not satisfy the applicable traffic signal warrants. These results indicate that the NAC driveways will operate well under 2020 and 2030 conditions, regardless of the Alternative selected.

The existing pedestrian and transit network provides a variety of travel choices for NAC employees and visitors. The newly implemented DDOT bicycle sharing stations at the Tenleytown-AU Metrorail station and near Ward Circle will provide NAC employees and visitors another travel choice to bicycle to the site.

The proposed TMP also will provide an incentive for employees and visitors to utilize the existing NAC shuttle routes, public transit, ride sharing, and pedestrian and bicycle facilities to travel to the site. The TMP is not part of possible mitigation. It is proposed as part of the Master Plan. The proposed TMP will build upon established existing TMP measures in place at the NAC. Key elements in the TMP include the appointment of an Employee Transportation Coordinator (ETC), establishing a Community Transportation Working Group, continue managing parking and reduce parking ratio, carpooling/vanpooling incentives, transit incentives, DHS shuttle service enhancements, bicycling/walking incentives, alternate work schedules, telecommuting/teleworking, government vehicles, and other strategies to reduce single occupant vehicle (SOV) trips.

APPENDICES:

Appendix A:
Figures

Appendix B:
2008-2010 Traffic Count Review

Appendix C:
Study Intersection Turning Movement Count Sheets

Appendix D:
Site Driveway Turning Movement and 24-Hour Count Sheets

Appendix E:
NAC Parking Counts

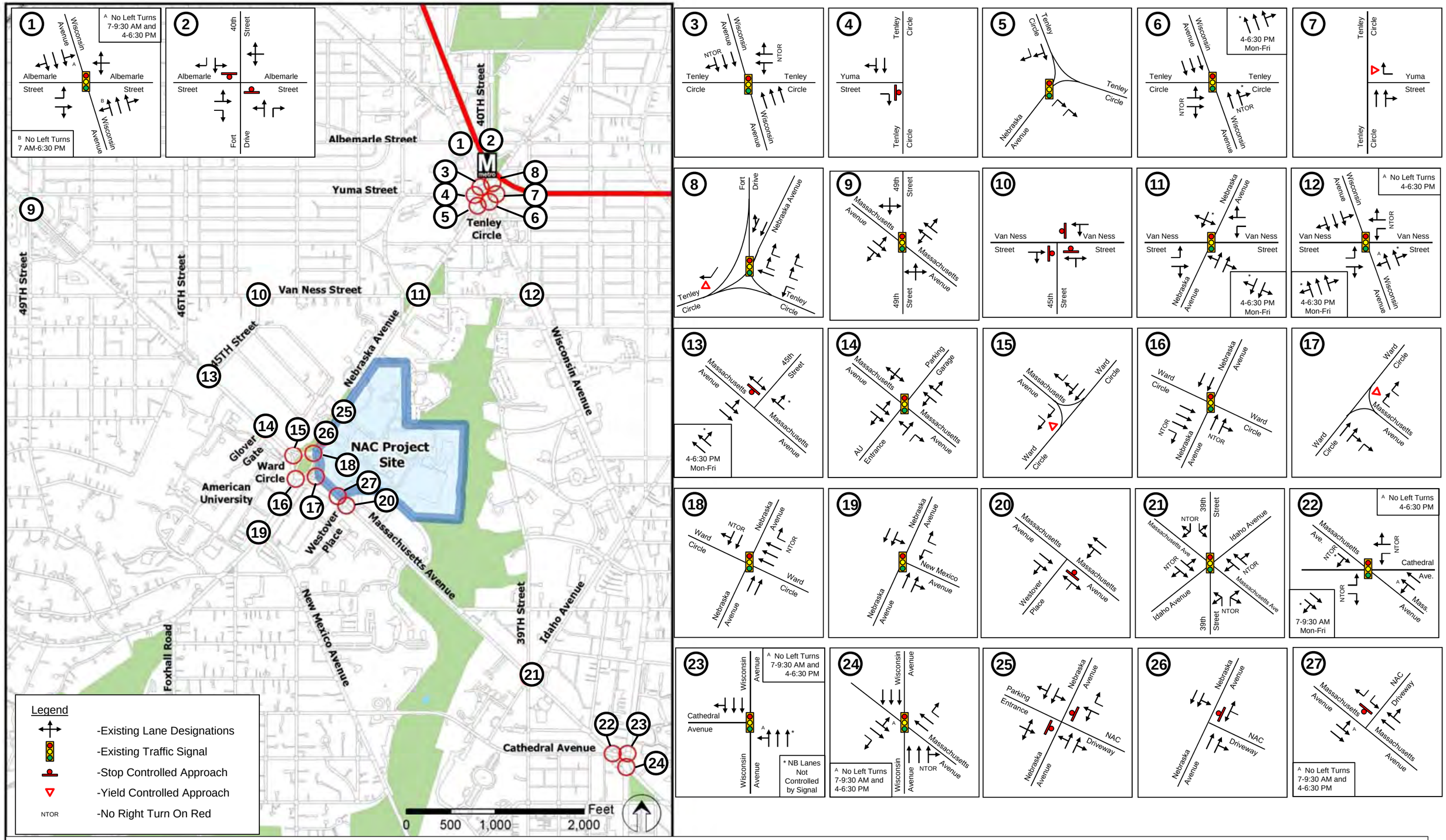
Appendix F:
Synchro Analysis Worksheets

Appendix G:
Approved and Unbuilt Development Trip Generation and Assignment

Appendix H:
Metropolitan Washington Council of Governments Travel Forecasting Model Data Summary

Appendix I:
St. Elizabeths Travel Survey Questions

Appendix A: Figures



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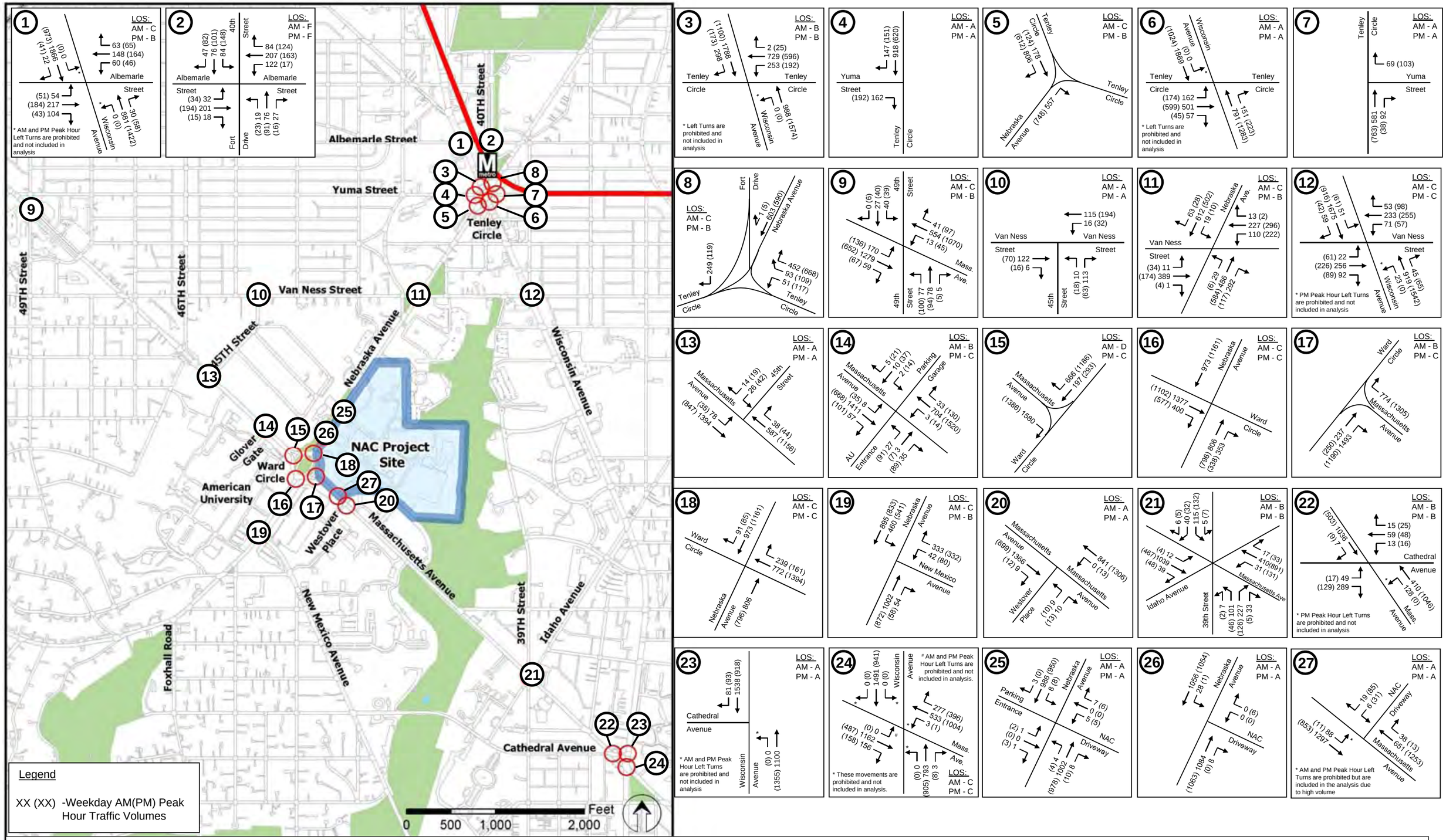
Existing Intersection Lane Designations

Nebraska Avenue Complex Master Plan

Figure A-1



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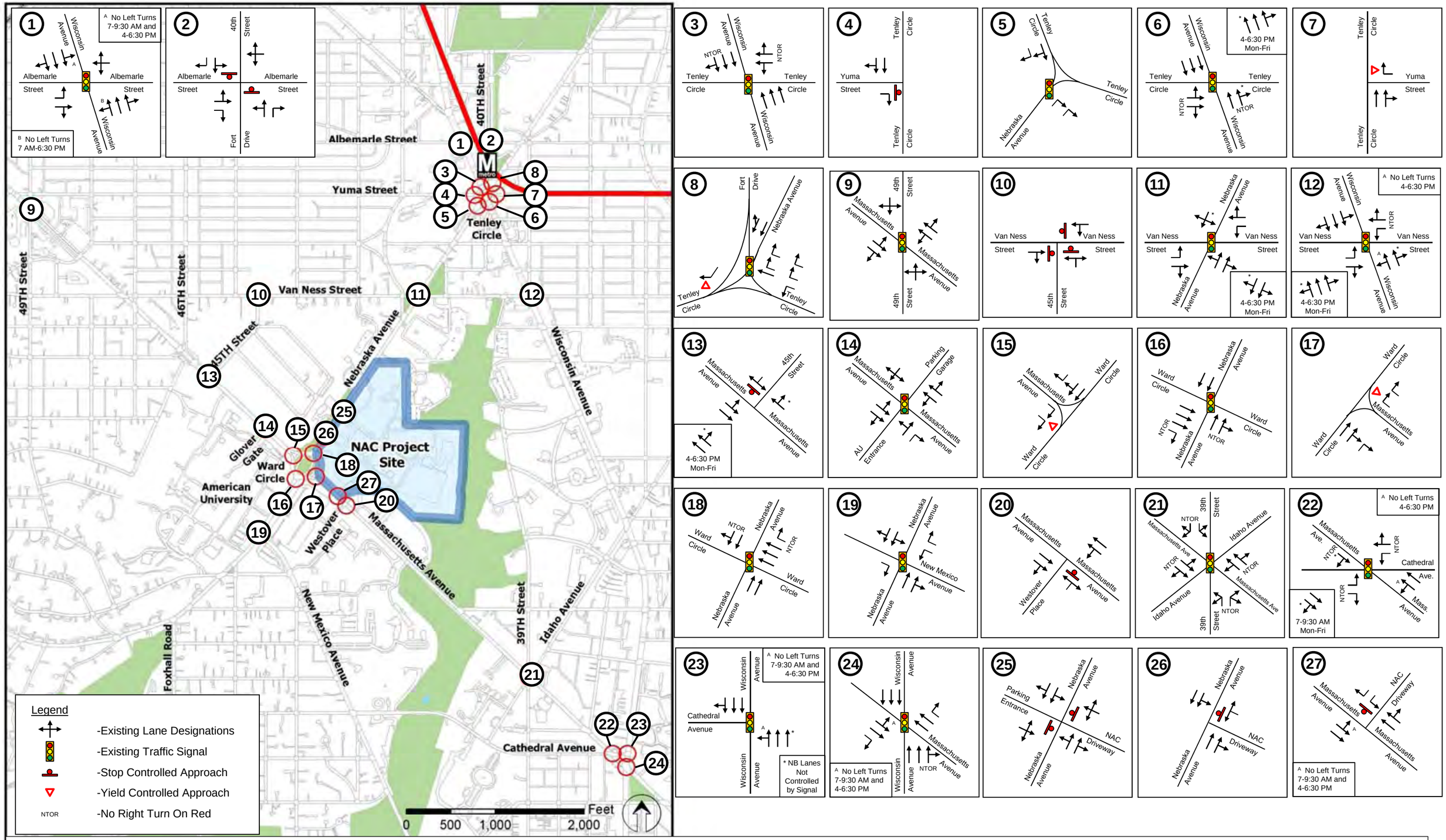
Existing Peak Hour Traffic Volumes and Overall Level of Service

Nebraska Avenue Complex Master Plan

Figure A-2

Source: The Traffic Group, Inc., 2010 and Gorove/Slade Associates, Inc. , 2008



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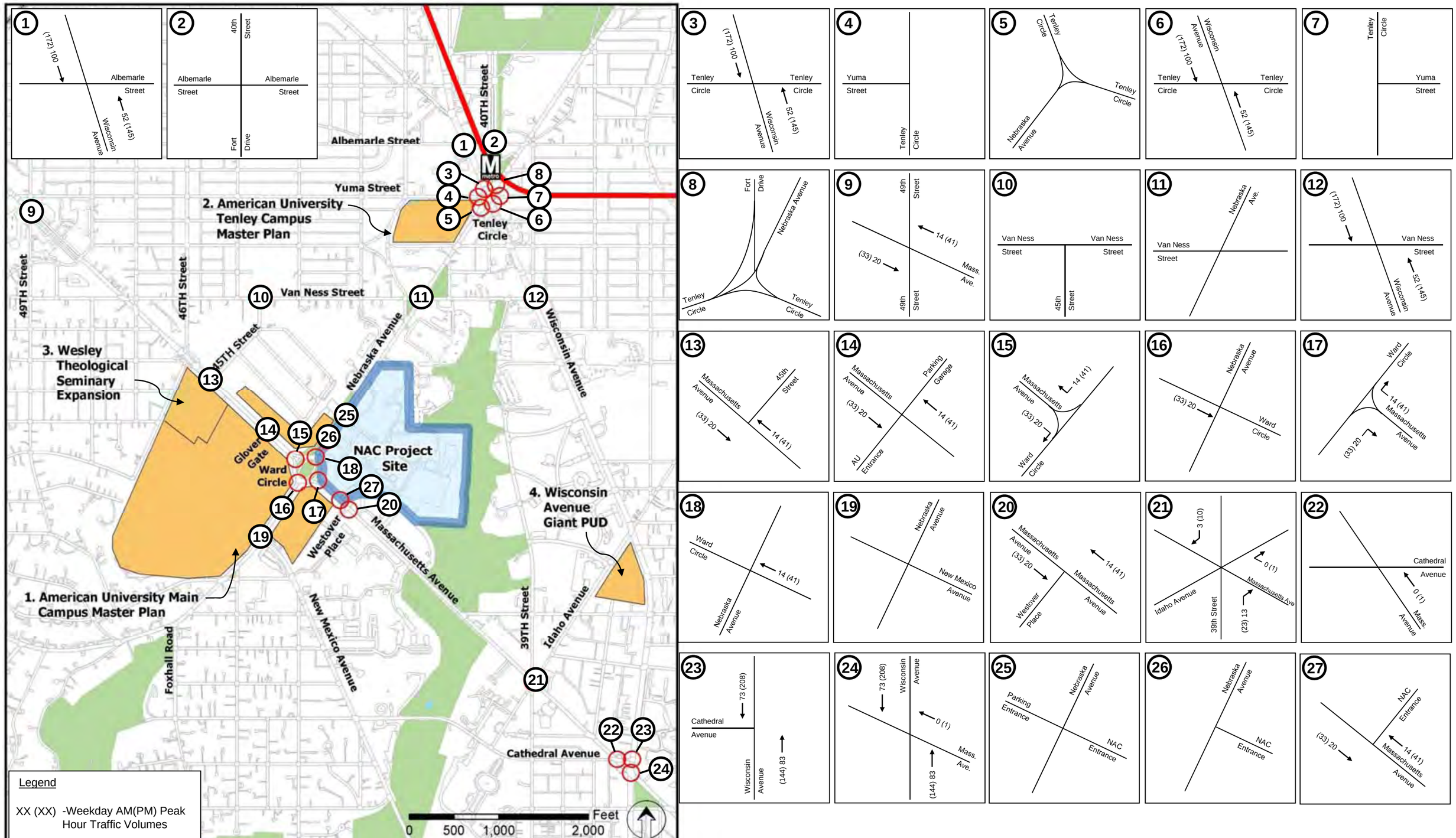
Future Intersection Lane Designations

Nebraska Avenue Complex Master Plan

Figure A-3



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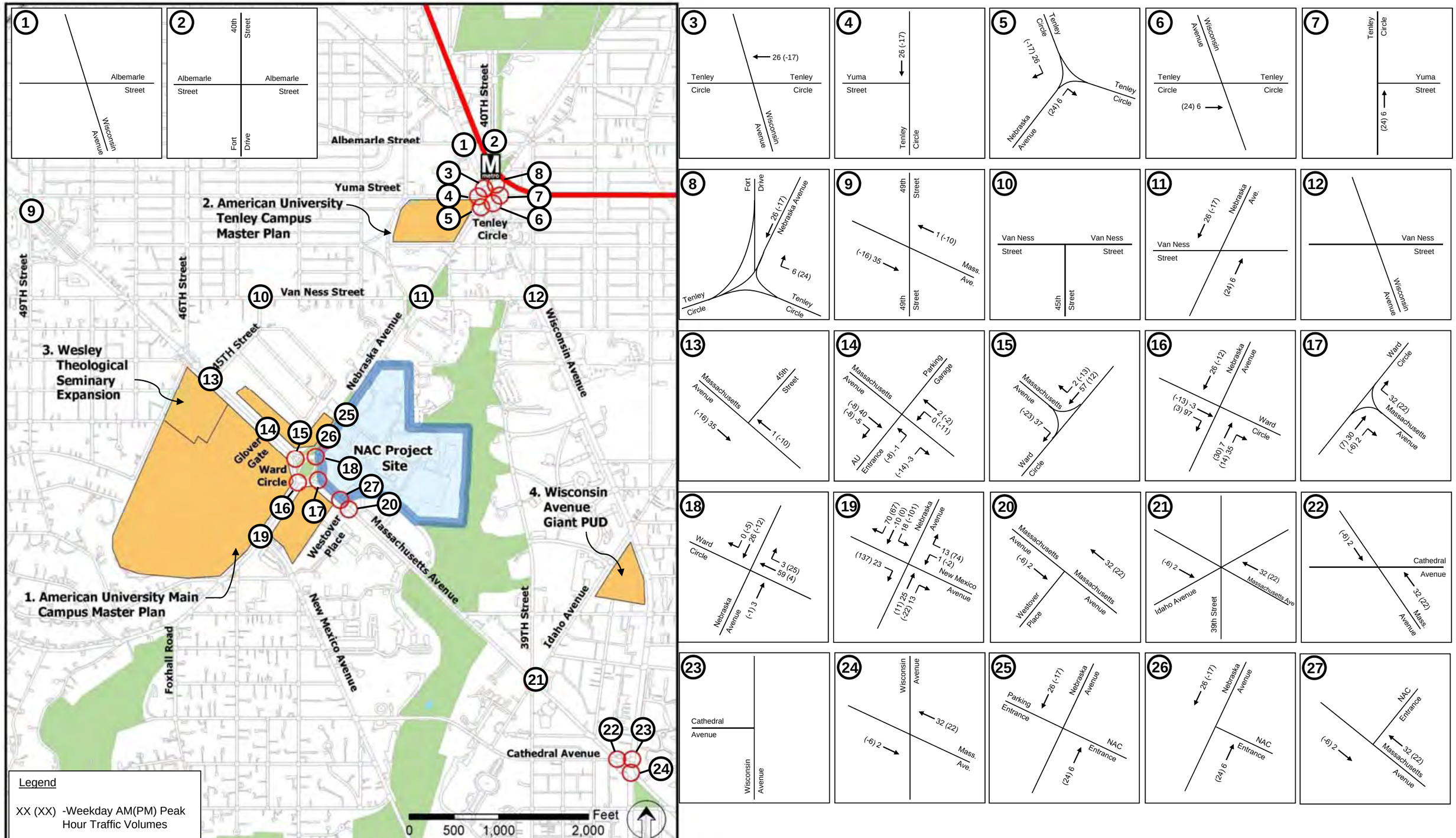
Traffic Generated by the Wisconsin Avenue Giant PUD

Nebraska Avenue Complex Master Plan

Figure A-4

Source: Wisconsin Avenue Giant Traffic Impact Study, 2008



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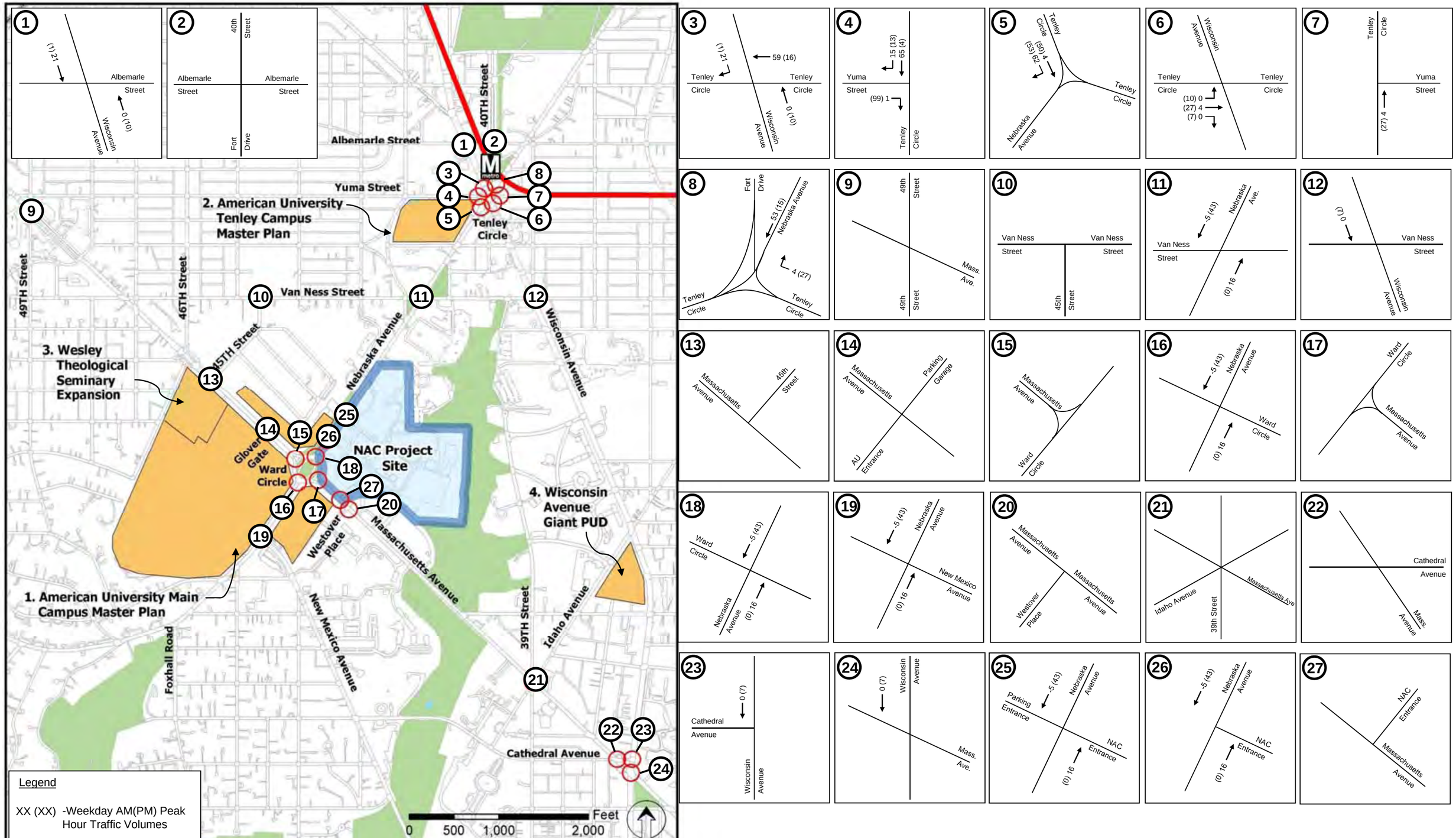
Traffic Generated by the American University Campus Master Plan

Nebraska Avenue Complex Master Plan

Figure A-5

Source: Gorove/Slade Associates, Inc. 2010



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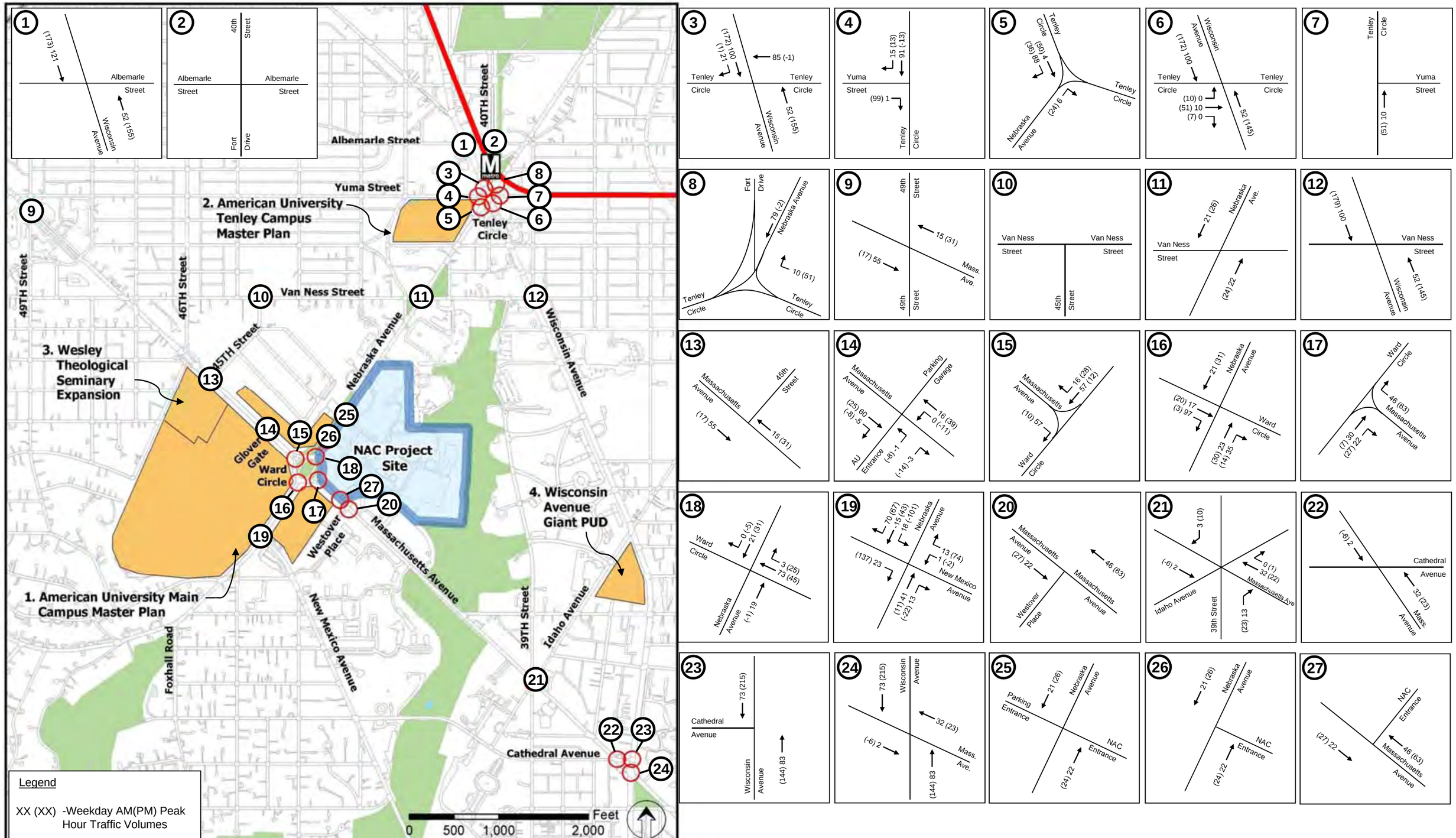
Traffic Generated by American University – Tenley Campus

Nebraska Avenue Complex Master Plan

Figure A-6

Source: Gorove/Slade Associates, Inc. 2000



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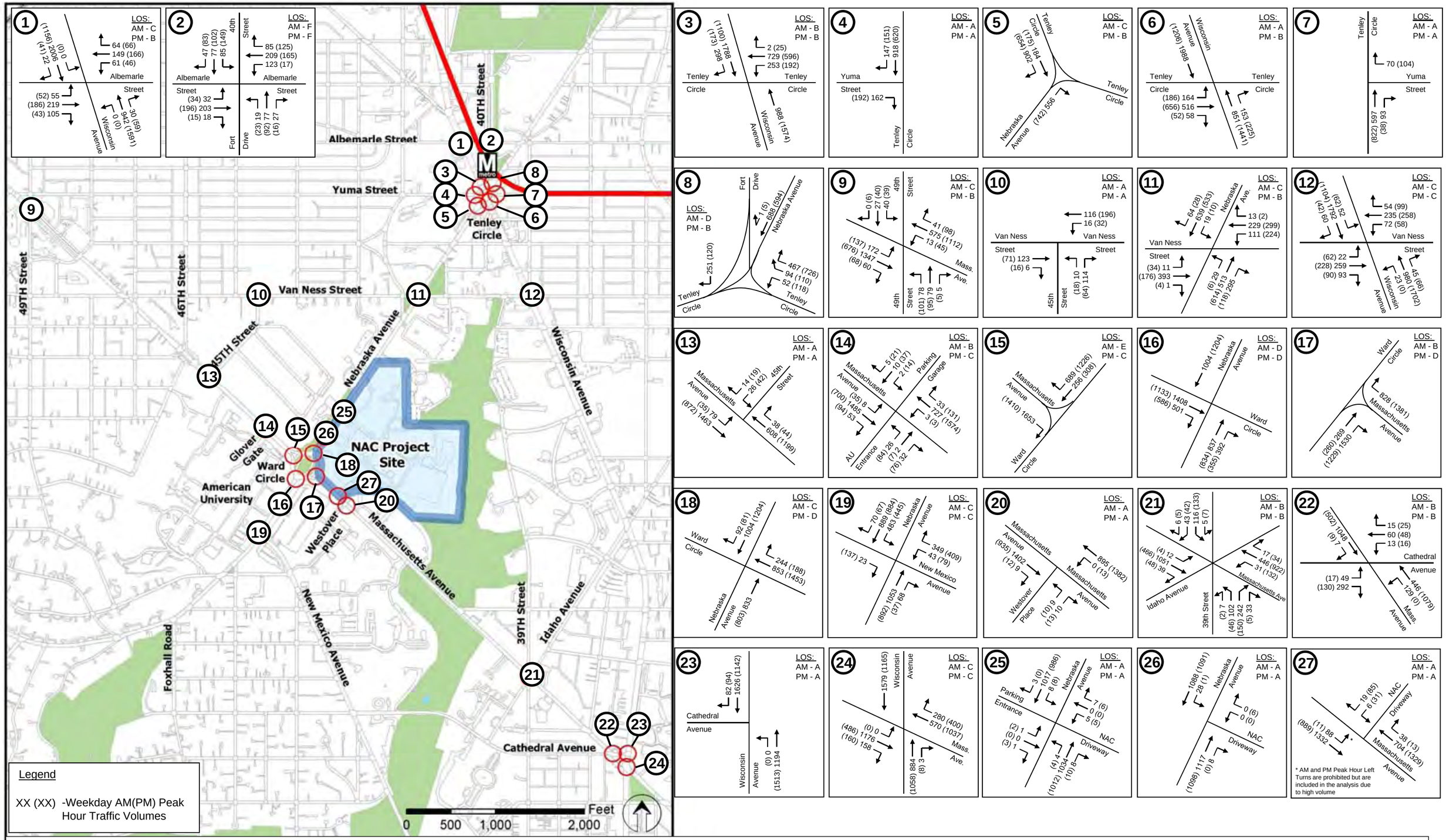
Traffic Generated by Approved and Unbuilt Developments

Nebraska Avenue Complex Master Plan

Figure A-7



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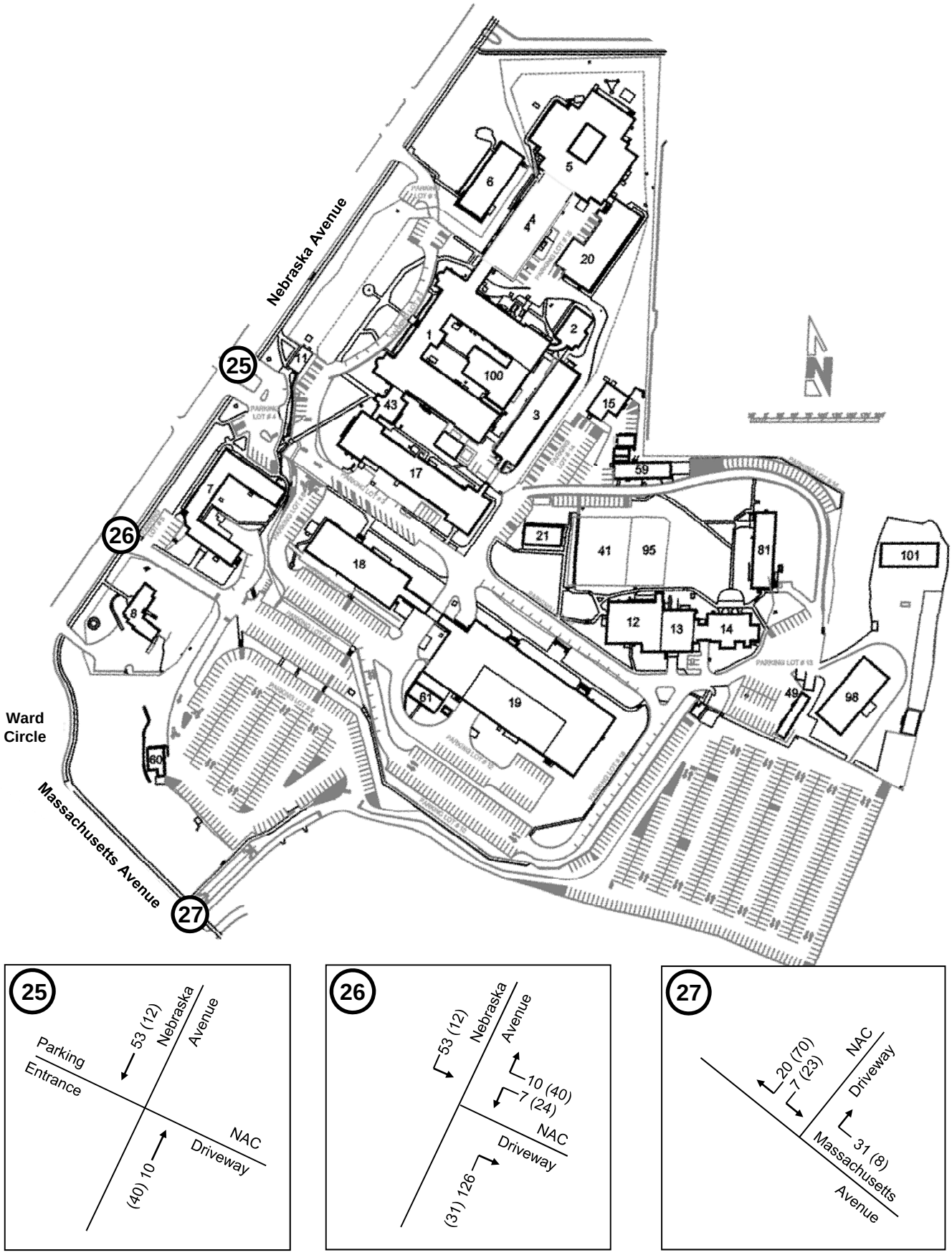
2020 No Action Conditions Peak Hour Traffic Volumes and Overall Level of Service

Nebraska Avenue Complex Master Plan

Figure A-8



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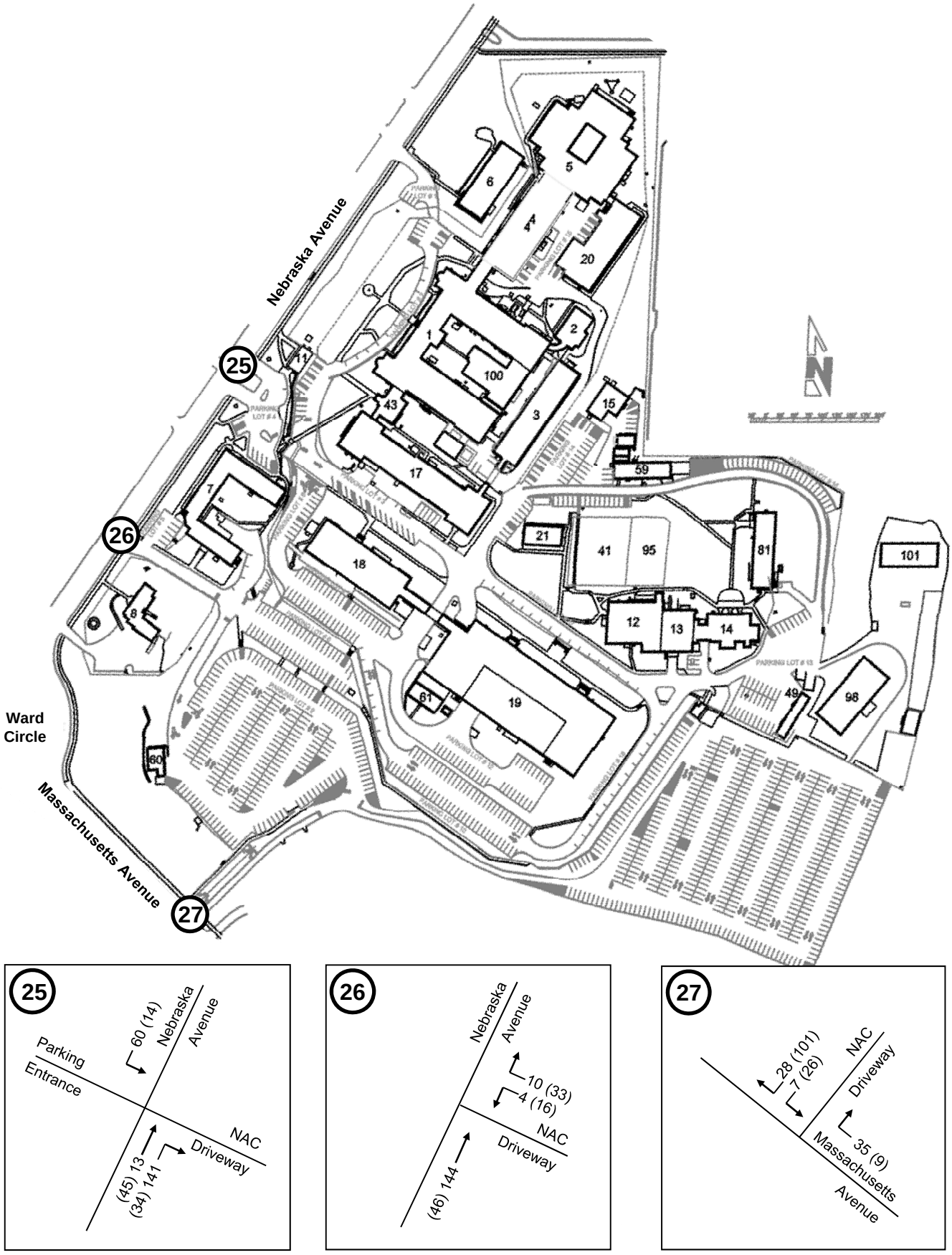
Site Generated Driveway Volumes
Alternative A
Nebraska Avenue Complex Master Plan

Figure A-9

Source: MTFA Architecture, Inc., 2010

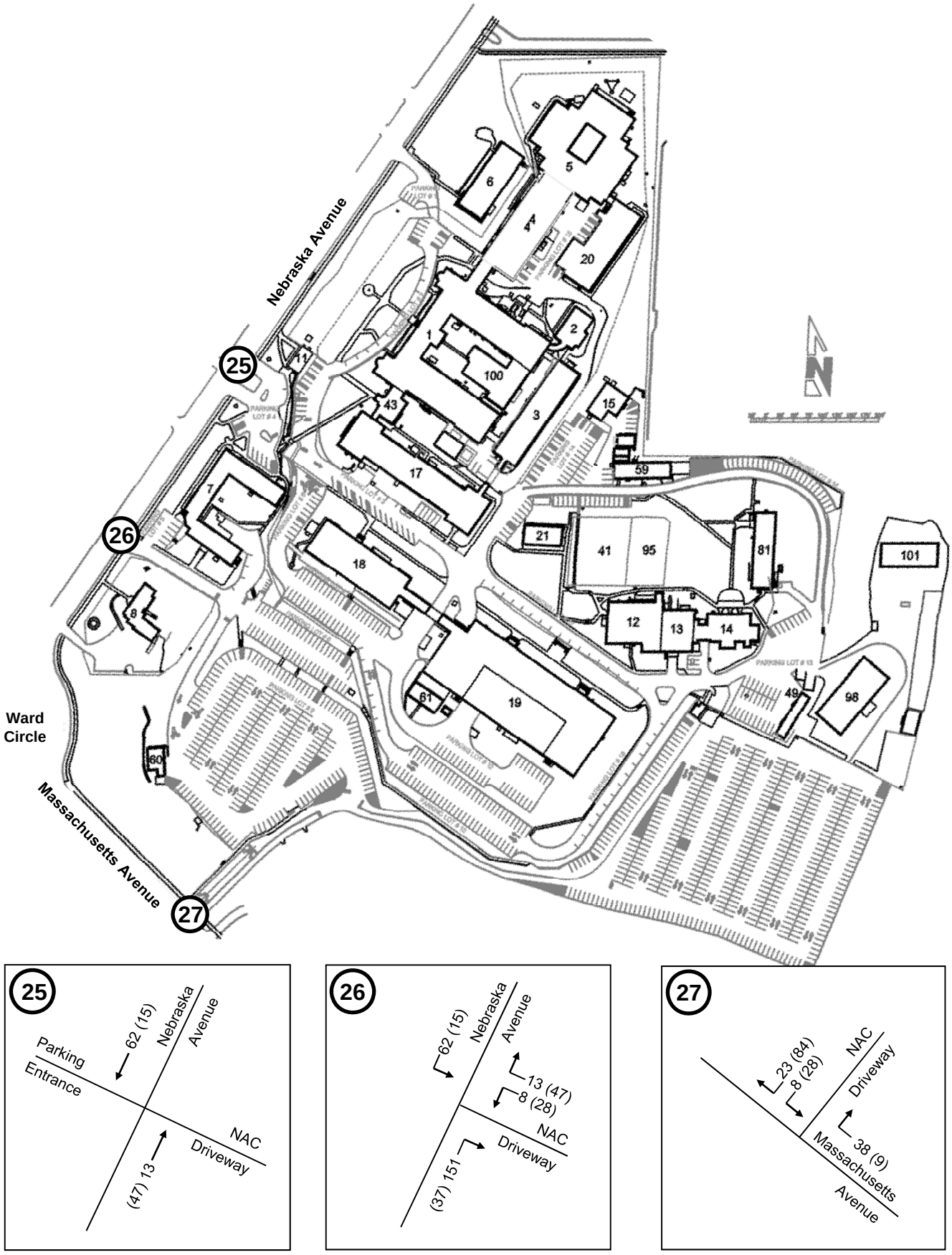


Kimley-Horn and Associates, Inc.

Site Generated Driveway Volumes
Alternative B
Nebraska Avenue Complex Master Plan

Figure A-10

Source: MTFA Architecture, Inc., 2010

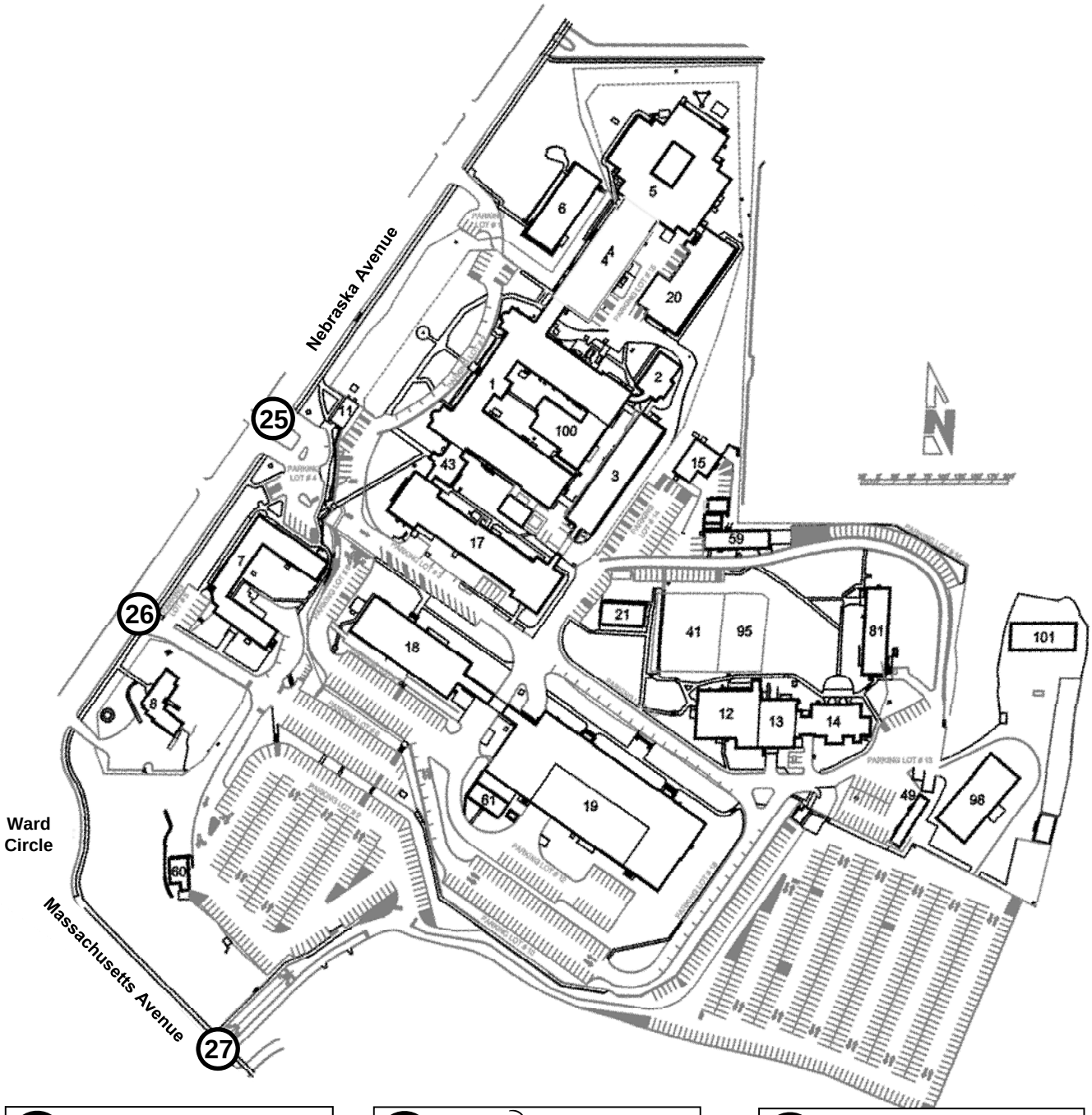


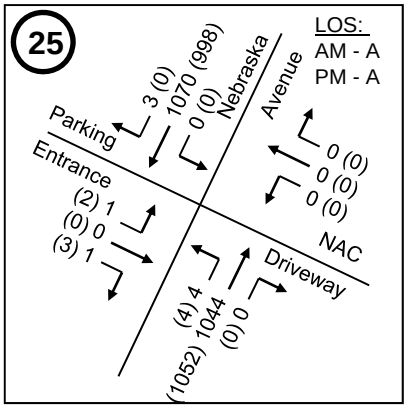
Kimley-Horn and Associates, Inc.

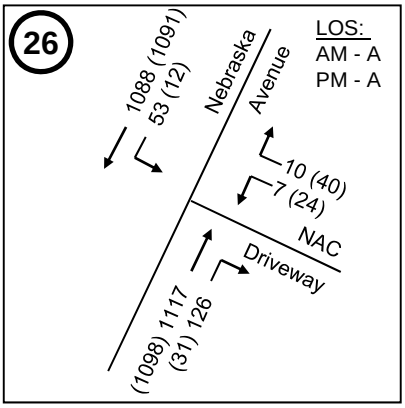
Site Generated Driveway Volumes
Alternative C
Nebraska Avenue Complex Master Plan

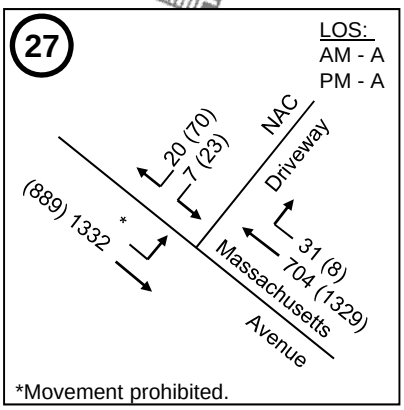
Figure A-11

Source: MTFA Architecture, Inc., 2010









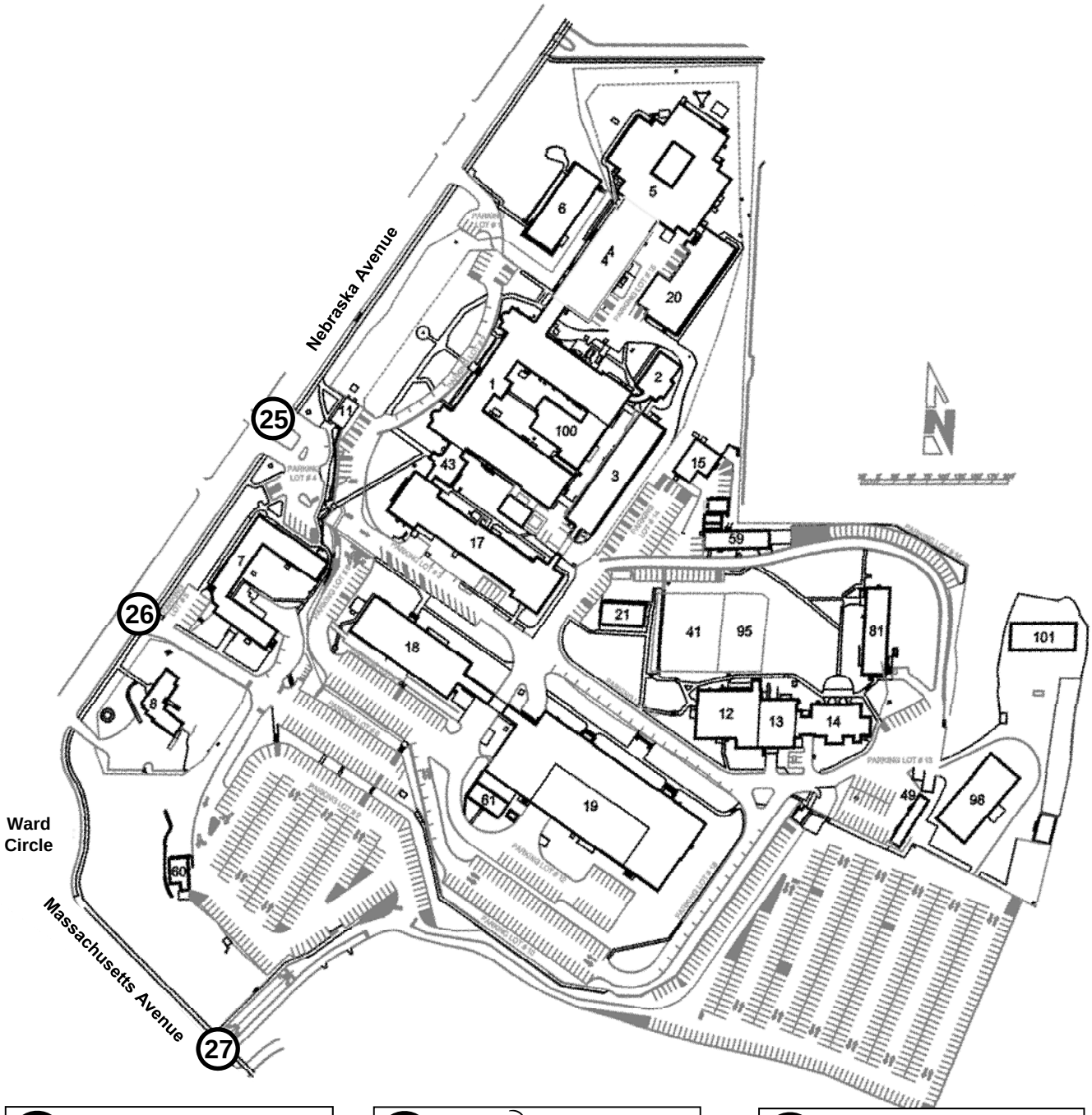
Kimley-Horn and Associates, Inc.

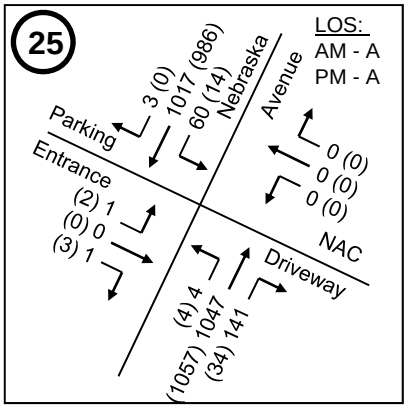
2020 Conditions with Alternative A Driveway Volumes

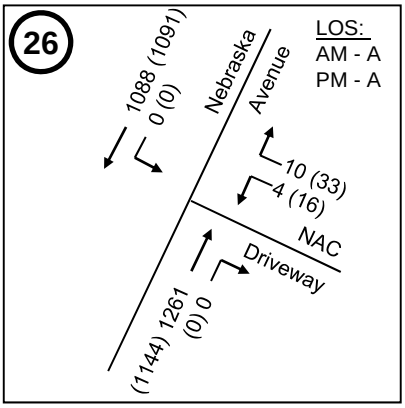
Nebraska Avenue Complex Master Plan

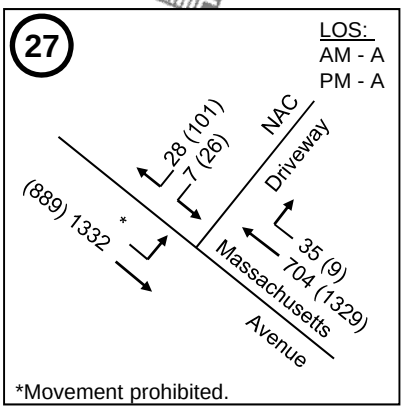
Figure A-12

Source: MTFA Architecture, Inc., 2010









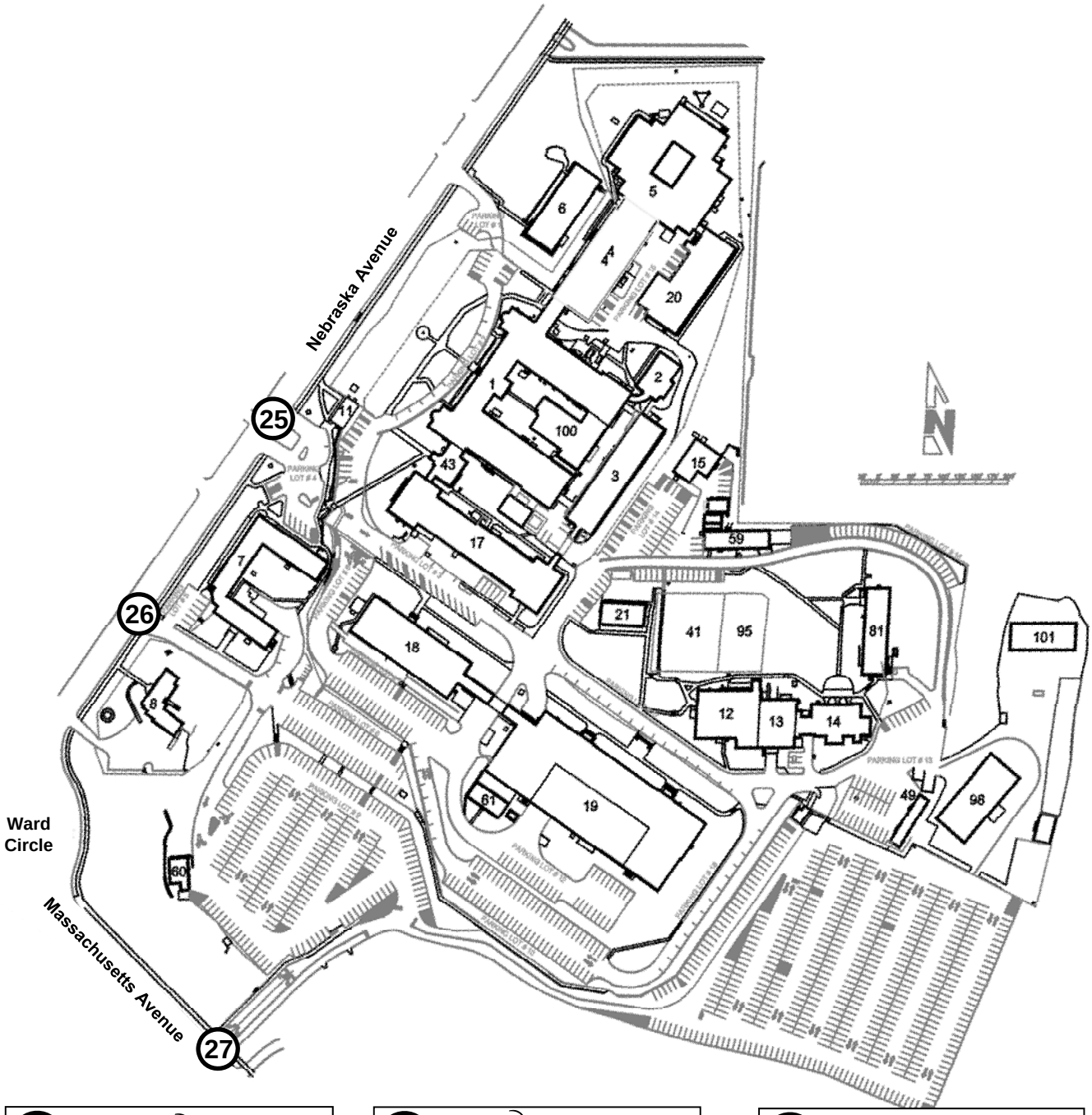
Kimley-Horn and Associates, Inc.

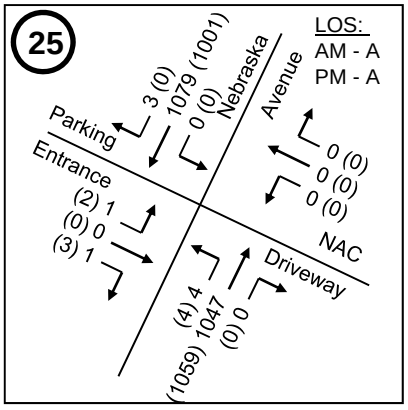
2020 Conditions with Alternative B Driveway Volumes

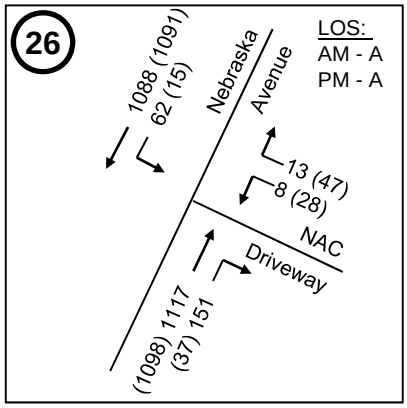
Nebraska Avenue Complex Master Plan

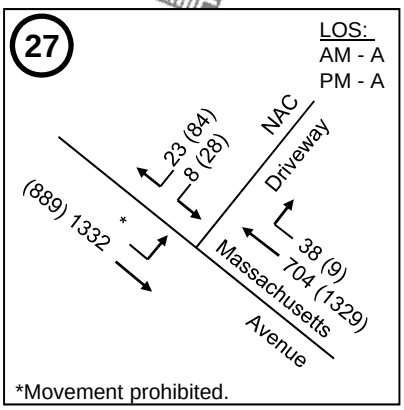
Figure A-13

Source: MTFA Architecture, Inc., 2010









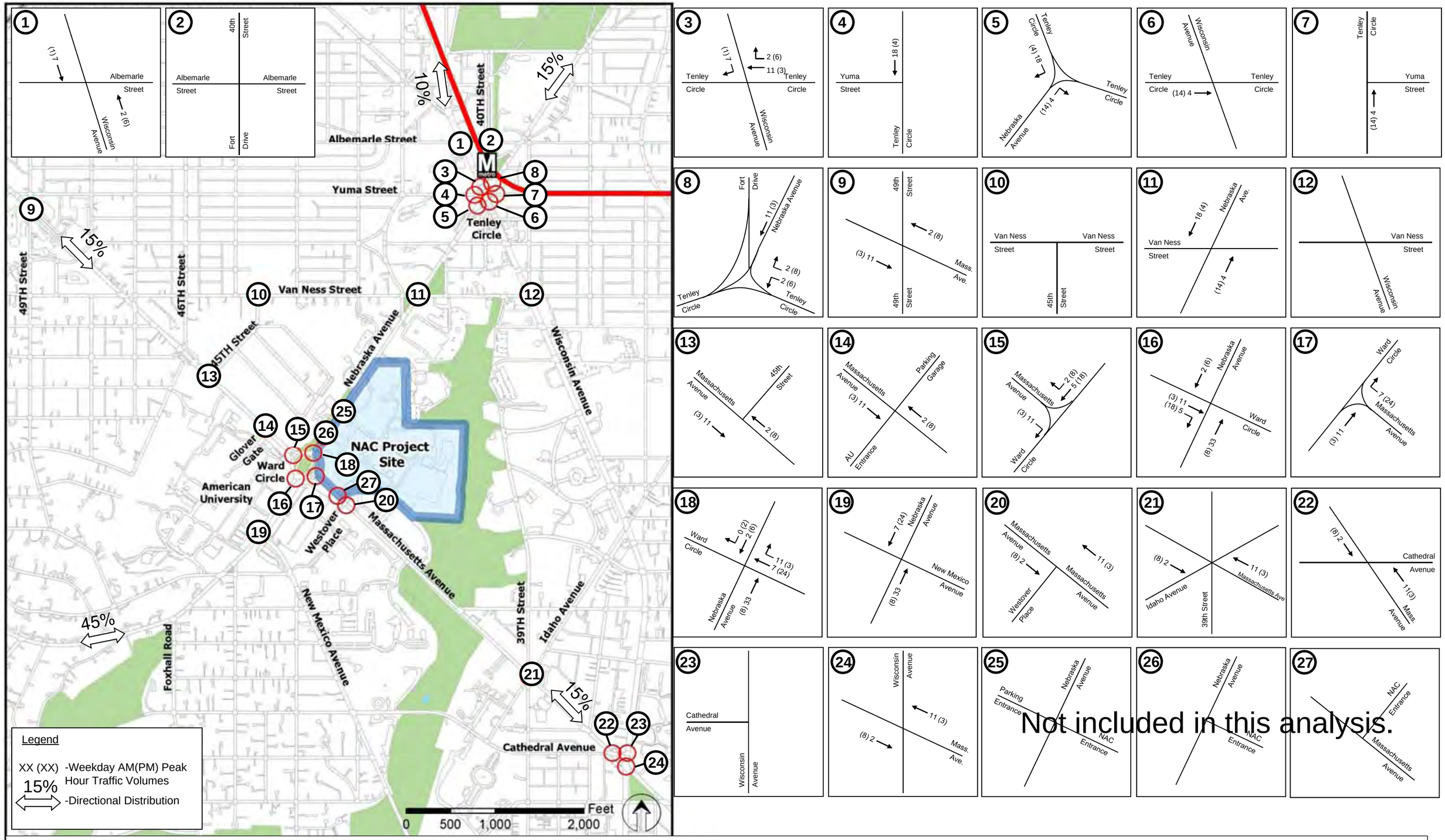
Kimley-Horn and Associates, Inc.

2020 Conditions with Alternative C Driveway Volumes

Nebraska Avenue Complex Master Plan

Figure A-14

Source: MTFA Architecture, Inc., 2010

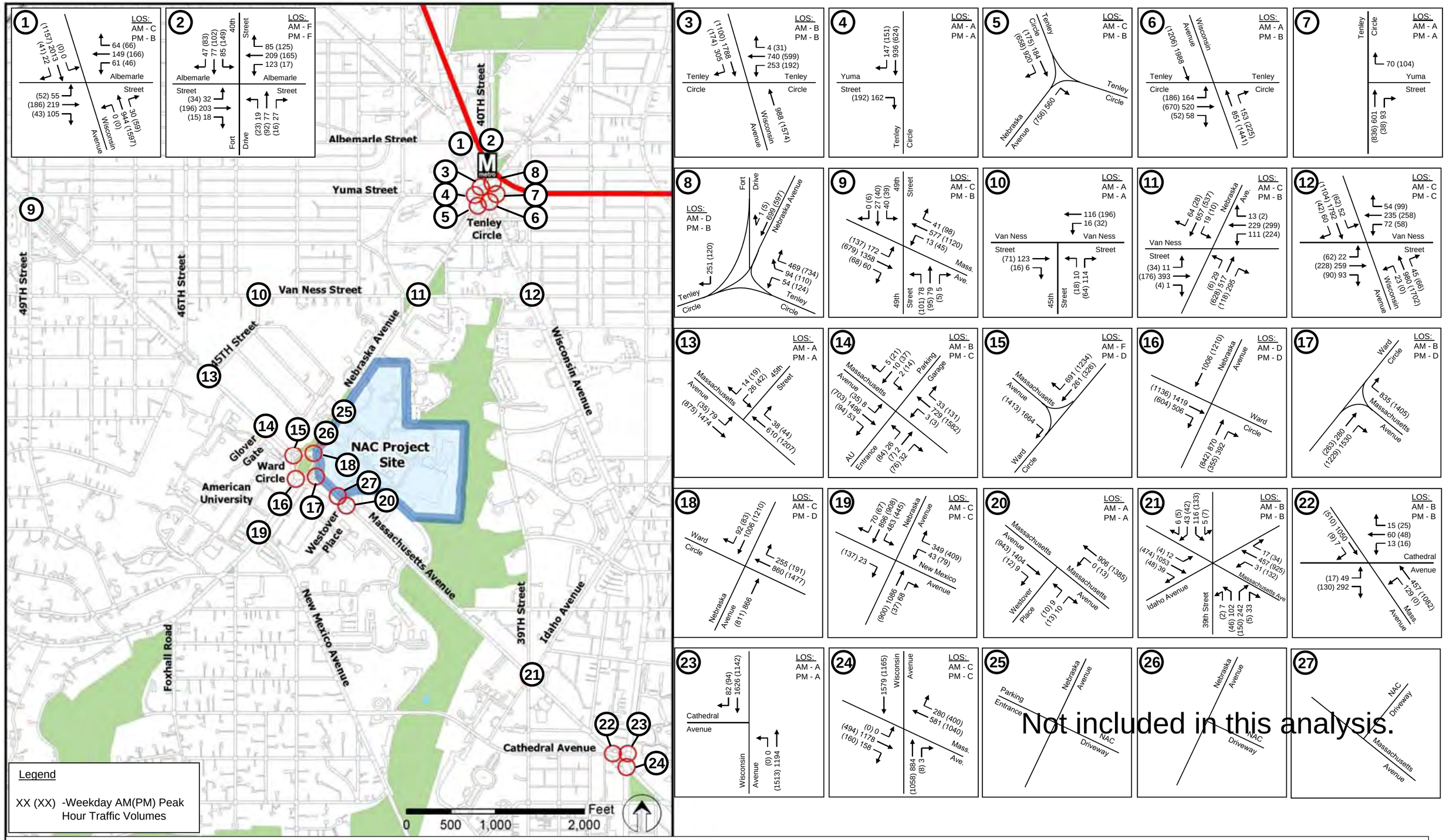


Kimley-Horn and Associates, Inc.

2020 Conditions with Alternative C Net Increase in Site Generated Peak Hour Traffic Volumes

Nebraska Avenue Complex Master Plan

Figure A-15

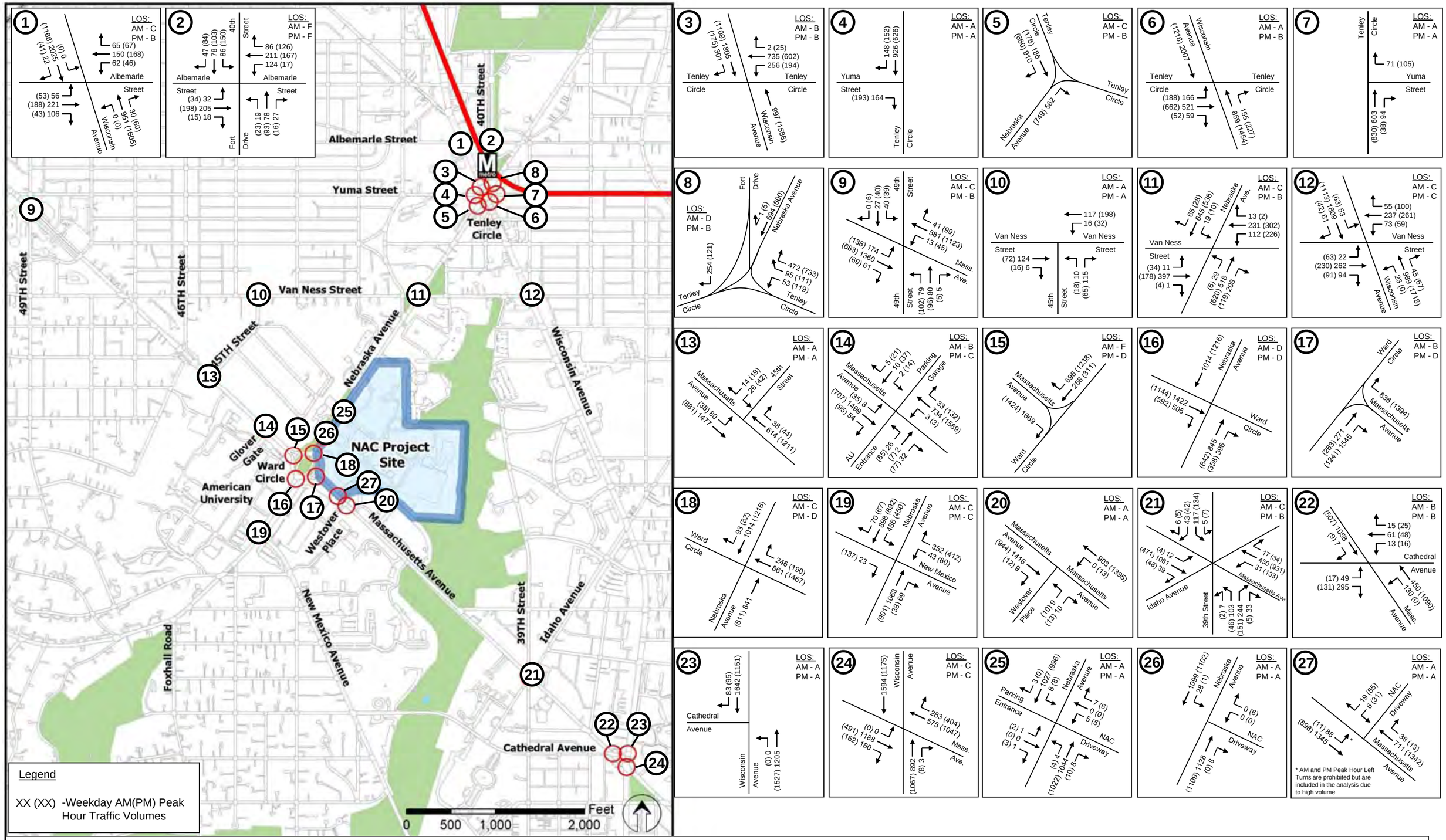


Kimley-Horn and Associates, Inc.

2020 Conditions with Proposed Action Peak Hour Traffic Volumes and Overall Level of Service

Nebraska Avenue Complex Master Plan

Figure A-16

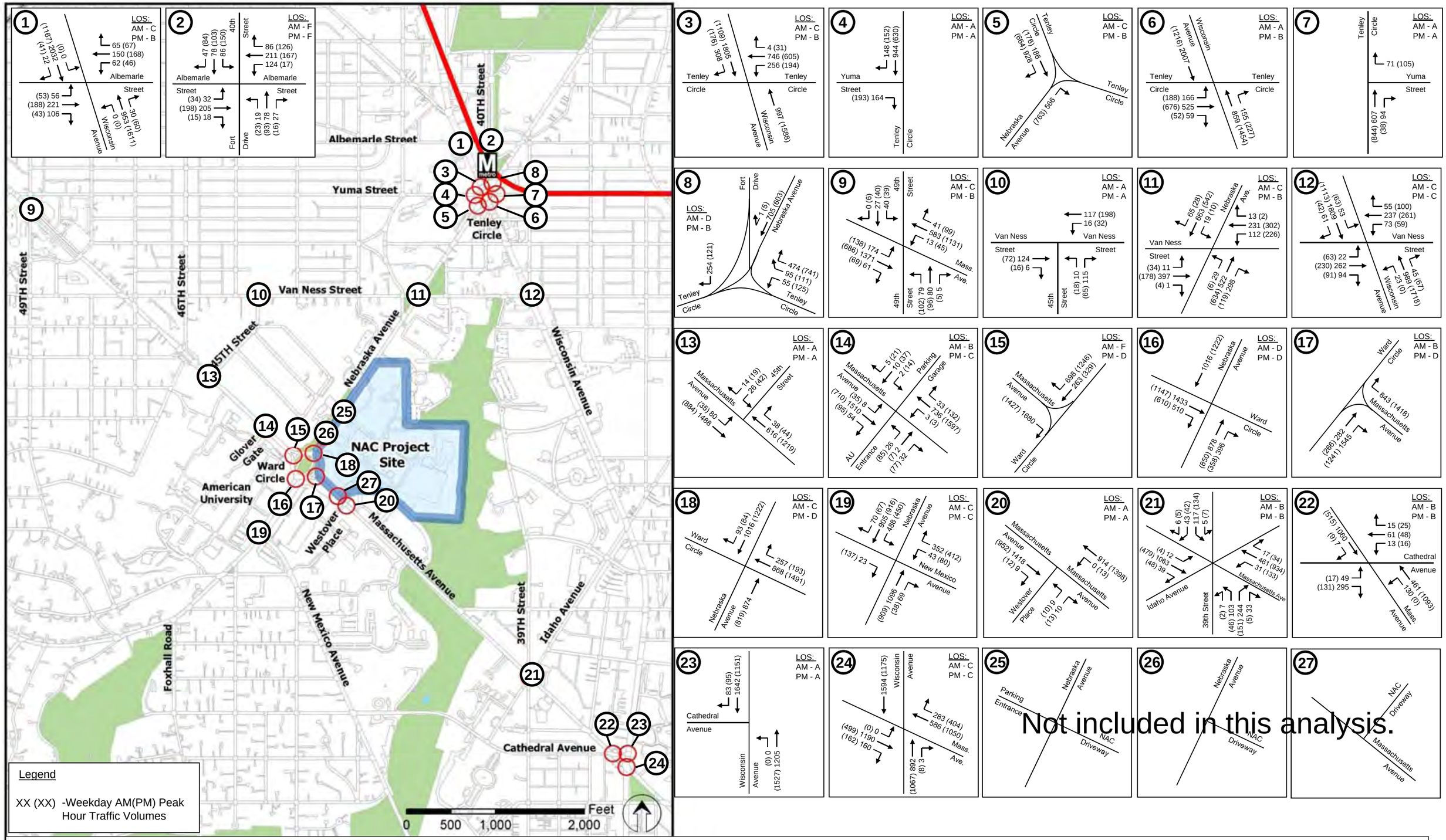


Kimley-Horn and Associates, Inc.

2030 Out Year No Action Conditions Peak Hour Traffic Volumes and Overall Level of Service

Nebraska Avenue Complex Master Plan

Figure A-17

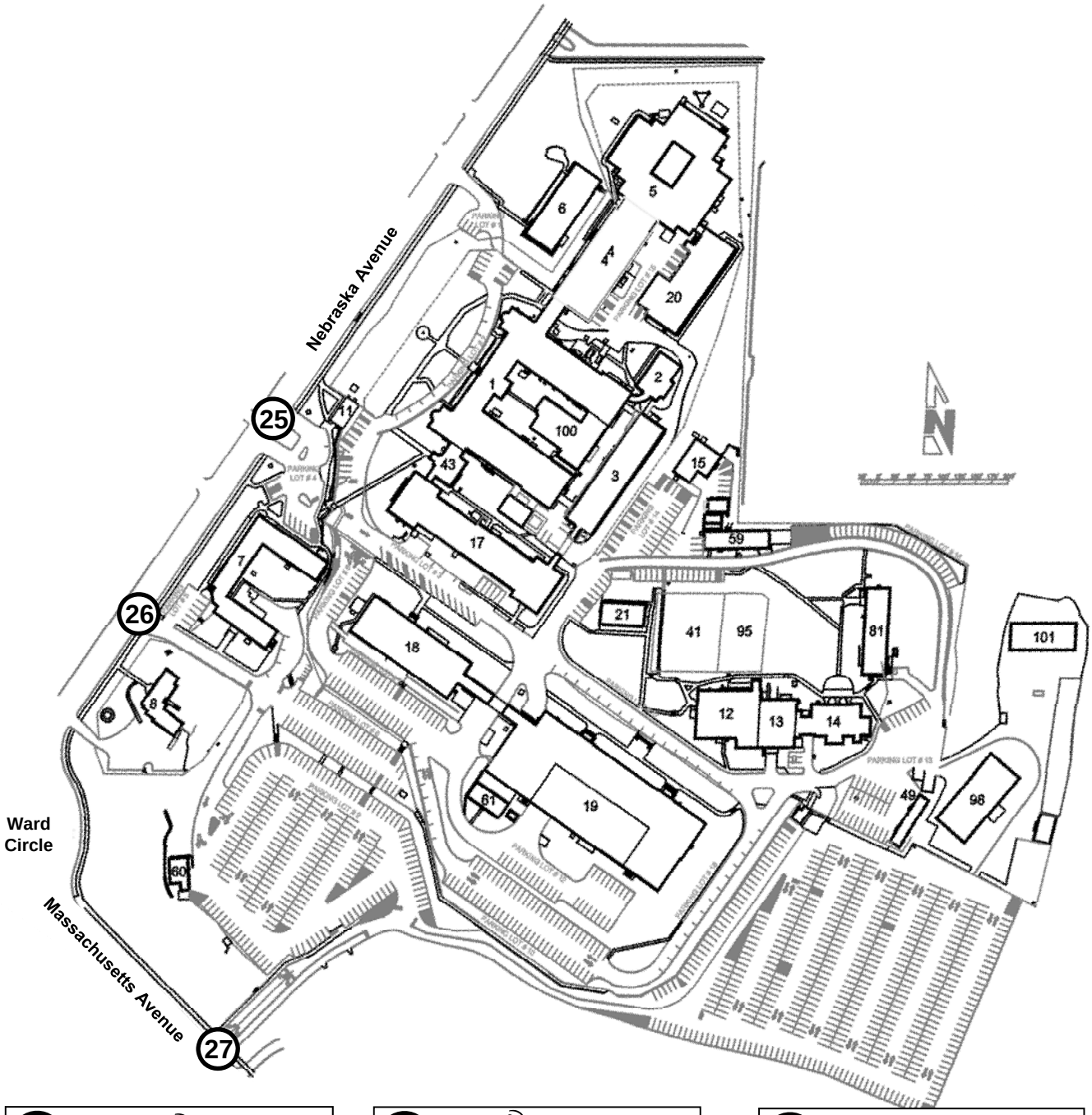


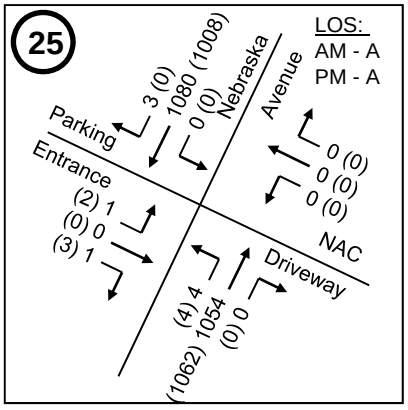
Kimley-Horn and Associates, Inc.

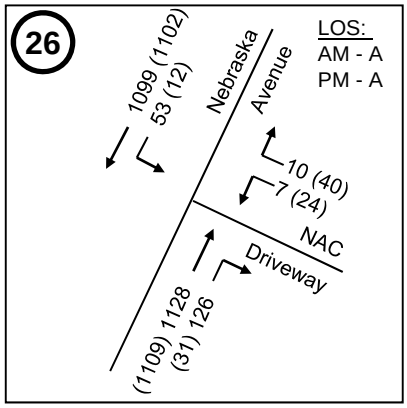
2030 Out Year Conditions with Proposed Action Peak Hour Traffic Volumes and Overall Level of Service

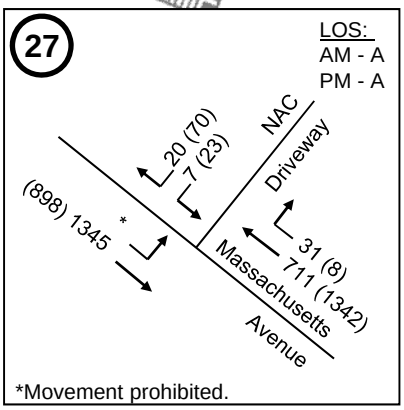
Nebraska Avenue Complex Master Plan

Figure A-18









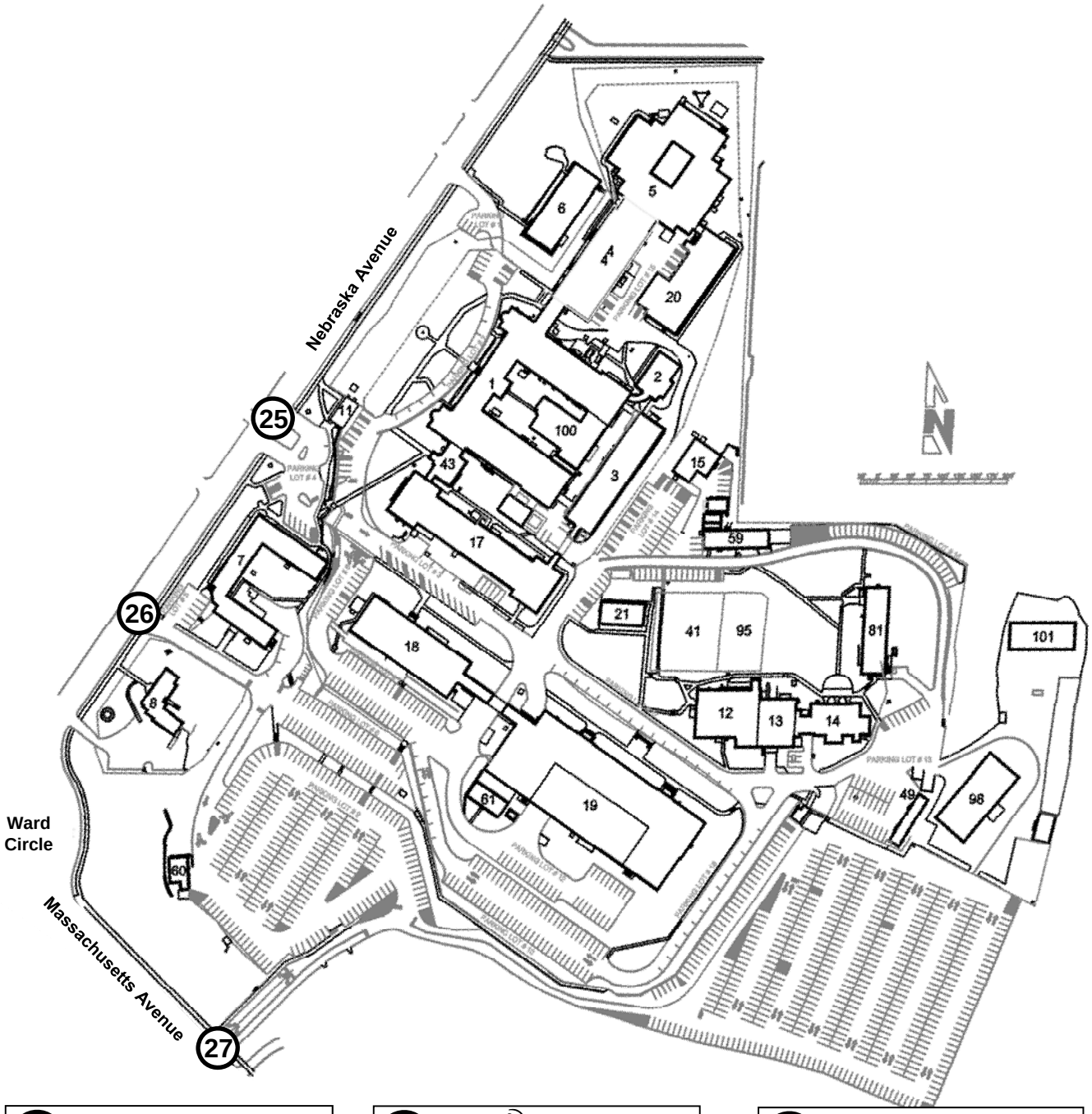
Kimley-Horn and Associates, Inc.

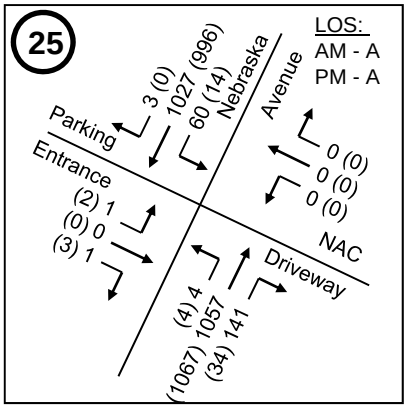
2030 Out Year Conditions with Alternative A Driveway Volumes

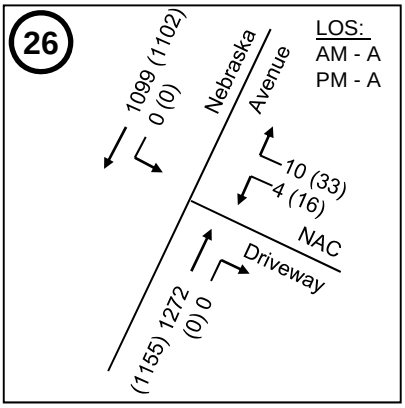
Nebraska Avenue Complex Master Plan

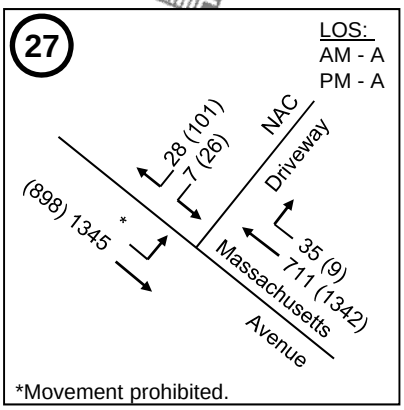
Figure A-19

Source: MTFA Architecture, Inc., 2010









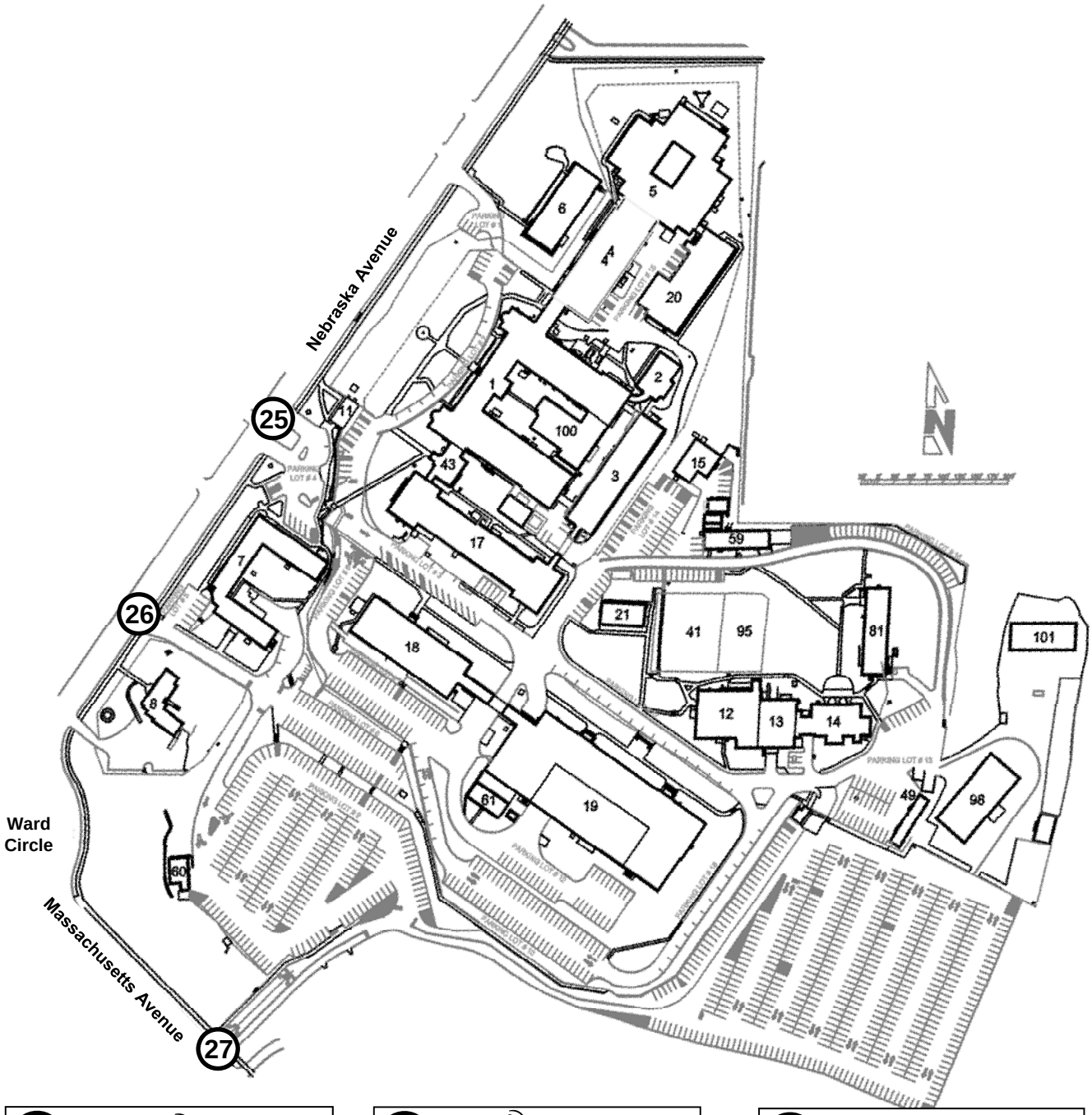
Kimley-Horn and Associates, Inc.

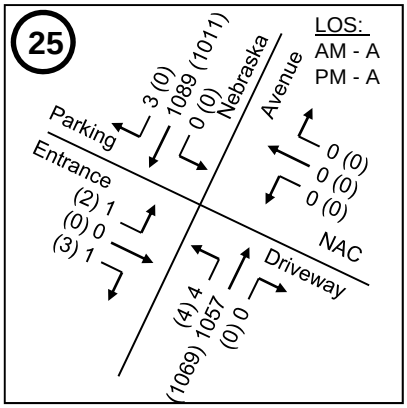
2030 Out Year Conditions with Alternative B Driveway Volumes

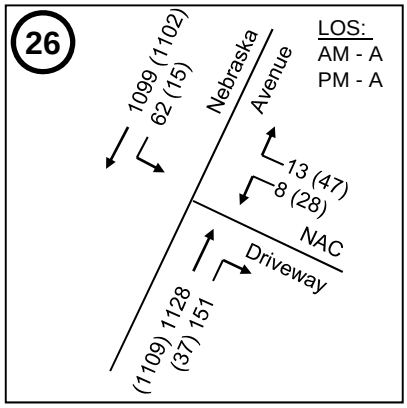
Nebraska Avenue Complex Master Plan

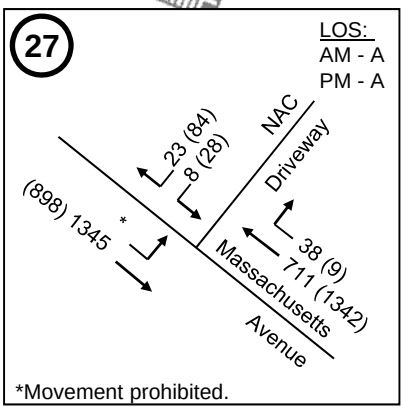
Figure A-20

Source: MTFA Architecture, Inc., 2010









Kimley-Horn and Associates, Inc.

2030 Out Year Conditions with Alternative C Driveway Volumes

Nebraska Avenue Complex Master Plan

Figure A-21

Source: MTFA Architecture, Inc., 2010

Appendix B: 2008-2010 Traffic Count Review

2008 to 2010 Traffic Count Review

The table below shows a summary of the peak hour link volumes between the American University (AU) Master Plan traffic counts (performed in November 2008) and the Nebraska Avenue Complex (NAC) traffic counts (performed in April and May 2010) at adjacent intersections along Massachusetts Avenue and Nebraska Avenue near Ward Circle.

Link *Direction*		Peak Hour Link Volumes (Vehicles per Hour) **NAC Count**	**AU Count**	**Difference**
Massachusetts Avenue	AM	1420	1476	-56
45th Street to Glover Gate/Katzen Arts Center (Eastbound)	PM	889	804	85
Massachusetts Avenue	AM	625	736	-111
Glover Gate/Katzen Arts Center to 45th Street (Westbound)	PM	1200	1632	-432
Massachusetts Avenue	AM	1385	1493	-108
Ward Circle to NAC Entrance (Eastbound)	PM	864	1190	-326
Massachusetts Avenue	AM	670	774	-104
NAC Entrance to Ward Circle (Westbound)	PM	1338	1305	33
Nebraska Avenue	AM	1092	1045	47
Ward Circle to NAC Entrance (Northbound)	PM	1063	957	106
Nebraska Avenue	AM	1056	1064	-8
NAC Entrance to Ward Circle (Southbound)	PM	1054	1246	-192
		Total Difference from AU Count		**-1066**

Source: Gorove/Slade Associates, Inc., 2008

The link volume review shows that the 2008 traffic volumes collected for the AU study are higher than the 2010 traffic volumes collected for the NAC study.

Appendix C: Study Intersection Turning Movement Count Sheets

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Wisconsin Avenue NW
and: Albemarle Street
Location: Washington DC

Date: April 20, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Wisconsin Ave					TRAFFIC FROM SOUTH on: Wisconsin Ave					TRAFFIC FROM EAST on: Albemarle Street					TRAFFIC FROM WEST on: Albemarle Street					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	5	182	3	1	191	2	100	3	0	105	4	5	11	0	20	1	12	10	0	23	339
45-00	3	225	6	1	235	1	108	7	0	116	4	12	6	0	22	2	1	4	0	7	380
07:0-15	1	266	3	0	270	1	119	7	0	127	5	10	9	0	24	6	6	8	0	20	441
15-30	1	351	2	0	354	0	154	8	0	162	19	20	9	0	48	0	12	9	0	21	585
30-45	1	454	4	0	459	0	186	6	0	192	19	26	13	0	58	6	39	17	0	62	771
45-00	0	477	5	0	482	1	238	11	0	250	15	24	13	0	52	9	42	23	0	74	858
08:0-15	1	473	7	0	481	0	235	4	0	239	16	32	13	0	61	12	61	31	0	104	885
15-30	0	481	3	0	484	1	189	9	1	200	17	45	19	0	81	14	68	28	0	110	875
30-45	1	435	7	0	443	0	219	6	0	225	12	47	18	0	77	19	46	22	0	87	832
45-00	1	410	6	0	417	0	210	5	0	215	15	34	15	0	64	14	43	34	0	91	787
09:0-15	4	362	4	0	370	0	193	3	0	196	22	43	21	0	86	8	44	25	0	77	729
15-30	5	298	6	0	309	0	193	5	0	198	15	30	15	0	60	4	27	9	0	40	607
3 Hr Totals	23	4414	56	2	4495	6	2144	74	1	2225	163	328	162	0	653	95	401	220	0	716	8089
1 Hr Totals																					
630-730	10	1024	14	2	1050	4	481	25	0	510	32	47	35	0	114	9	31	31	0	71	1745
645-745	6	1296	15	1	1318	2	567	28	0	597	47	68	37	0	152	14	58	38	0	110	2177
07-08	3	1548	14	0	1565	2	697	32	0	731	58	80	44	0	182	21	99	57	0	177	2655
715-815	3	1755	18	0	1776	1	813	29	0	843	69	102	48	0	219	27	154	80	0	261	3099
730-830	2	1885	19	0	1906	2	848	30	1	881	67	127	58	0	252	41	210	99	0	350	3389
745-845	2	1866	22	0	1890	2	881	30	1	914	60	148	63	0	271	54	217	104	0	375	3450
08-09	3	1799	23	0	1825	1	853	24	1	879	60	158	65	0	283	59	218	115	0	392	3379
815-915	6	1688	20	0	1714	1	811	23	1	836	66	169	73	0	308	55	201	109	0	365	3223
830-930	11	1505	23	0	1539	0	815	19	0	834	64	154	69	0	287	45	160	90	0	295	2955
PEAK HOUR																					
745-845	2	1866	22	0	1890	2	881	30	1	914	60	148	63	0	271	54	217	104	0	375	3450
PM																					
04:0-15	1	192	4	0	197	0	273	7	0	280	12	23	22	0	57	11	34	7	0	52	586
15-30	2	217	5	0	224	0	280	12	0	292	8	28	18	0	54	5	27	16	0	48	618
30-45	1	226	4	0	231	1	283	13	0	297	9	33	19	0	61	6	39	9	0	54	643
45-00	3	235	3	0	241	0	308	10	0	318	16	25	20	0	61	16	29	6	0	51	671
05:0-15	4	245	11	0	260	2	282	13	0	297	9	42	20	0	71	9	55	8	0	72	700
15-30	1	247	5	0	253	0	344	21	0	365	7	38	21	0	66	12	53	14	0	79	763
30-45	0	259	13	0	272	0	356	12	0	368	15	47	13	0	75	9	39	15	0	63	778
45-00	4	249	9	0	262	0	369	11	0	380	14	43	14	0	71	13	39	6	0	58	771
06:0-15	1	218	14	0	233	4	353	14	0	371	10	36	17	0	63	17	53	8	0	78	745
15-30	7	233	5	0	245	0	381	26	0	407	10	33	17	0	60	6	37	11	0	54	766
30-45	5	222	19	0	246	6	333	10	0	349	10	33	18	0	61	10	29	13	0	52	708
45-00	6	212	6	0	224	6	322	10	0	338	11	36	18	0	65	12	29	11	0	52	679
3 Hr Totals	35	2755	98	0	2888	19	3884	159	0	4062	131	417	217	0	765	126	463	124	0	713	8428
1 Hr Totals																					
04-05	7	870	16	0	893	1	1144	42	0	1187	45	109	79	0	233	38	129	38	0	205	2518
415-515	10	923	23	0	956	3	1153	48	0	1204	42	128	77	0	247	36	150	39	0	225	2632
430-530	9	953	23	0	985	3	1217	57	0	1277	41	138	80	0	259	43	176	37	0	256	2777
445-545	8	986	32	0	1026	2	1290	56	0	1348	47	152	74	0	273	46	176	43	0	265	2912
05-06	9	1000	38	0	1047	2	1351	57	0	1410	45	170	68	0	283	43	186	43	0	272	3012
515-615	6	973	41	0	1020	4	1422	58	0	1484	46	164	65	0	275	51	184	43	0	278	3057
530-630	12	959	41	0	1012	4	1459	63	0	1526	49	159	61	0	269	45	168	40	0	253	3060
545-645	17	922	47	0	986	10	1436	61	0	1507	44	145	66	0	255	46	158	38	0	242	2990
06-07	19	885	44	0	948	16	1389	60	0	1465	41	138	70	0	249	45	148	43	0	236	2898
PEAK HOUR																					
530-630	12	959	41	0	1012	4	1459	63	0	1526	49	159	61	0	269	45	168	40	0	253	3060

VEHICLE TURNING MOVEMENT COUNT - TOTAL SUMMARY

Counted by: VCU

Intersection of: Albemarle Street
and: Fort Drive/40th Street
Location: Washington DC

Date: April 20, 2010
Weather: Fair
Entered by: AG

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: 40th Street					TRAFFIC FROM SOUTH on: Fort Drive					TRAFFIC FROM EAST on: Albemarle Street					TRAFFIC FROM WEST on: Albemarle Street					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	6	4	4	1	15	1	4	0	0	5	0	16	4	0	20	4	15	0	0	19	59
45-00	12	3	8	1	24	3	3	0	0	6	3	14	5	0	22	2	9	2	0	13	65
07:0-15	8	8	8	4	28	3	16	2	0	21	1	15	7	0	23	2	15	1	0	18	90
15-30	12	12	11	1	36	3	22	3	0	28	0	33	9	0	42	3	18	5	0	26	132
30-45	21	12	7	5	45	3	17	4	0	24	39	47	16	0	102	3	40	2	0	45	216
45-00	14	16	6	6	42	2	14	6	1	23	39	48	18	0	105	7	46	2	0	55	225
08:0-15	23	19	15	5	62	6	17	8	0	31	26	49	23	0	98	6	45	7	0	58	249
15-30	23	16	11	9	59	2	24	4	1	31	31	63	21	0	115	8	64	6	0	78	283
30-45	24	25	15	12	76	7	21	9	0	37	26	47	22	0	95	11	46	3	0	60	268
45-00	26	17	17	2	62	2	16	4	0	22	23	44	21	0	88	3	40	1	0	44	216
09:0-15	15	13	14	3	45	2	16	3	0	21	26	68	16	0	110	4	47	2	0	53	229
15-30	22	18	11	5	56	2	16	3	0	21	11	48	14	0	73	3	32	4	0	39	189
3 Hr Totals	206	163	127	54	550	36	186	46	2	270	225	492	176	0	893	56	417	35	0	508	2221
1 Hr Totals																					
630-730	38	27	31	7	103	10	45	5	0	60	4	78	25	0	107	11	57	8	0	76	346
645-745	53	35	34	11	133	12	58	9	0	79	43	109	37	0	189	10	82	10	0	102	503
07-08	55	48	32	16	151	11	69	15	1	96	79	143	50	0	272	15	119	10	0	144	663
715-815	70	59	39	17	185	14	70	21	1	106	104	177	66	0	347	19	149	16	0	184	822
730-830	81	63	39	25	208	13	72	22	2	109	135	207	78	0	420	24	195	17	0	236	973
745-845	84	76	47	32	239	17	76	27	2	122	122	207	84	0	413	32	201	18	0	251	1025
08-09	96	77	58	28	259	17	78	25	1	121	106	203	87	0	396	28	195	17	0	240	1016
815-915	88	71	57	26	242	13	77	20	1	111	106	222	80	0	408	26	197	12	0	235	996
830-930	87	73	57	22	239	13	69	19	0	101	86	207	73	0	366	21	165	10	0	196	902
PEAK HOUR																					
745-845	84	76	47	32	239	17	76	27	2	122	122	207	84	0	413	32	201	18	0	251	1025
PM																					
04:0-15	29	16	16	2	63	2	13	5	0	20	1	34	26	0	61	6	35	0	0	41	185
15-30	35	21	17	12	85	7	15	3	0	25	5	37	19	0	61	7	32	3	0	42	213
30-45	35	18	15	10	78	2	14	5	0	21	4	43	30	0	77	6	37	5	0	48	224
45-00	24	18	21	9	72	6	18	1	0	25	2	34	29	0	65	6	36	3	0	45	207
05:0-15	38	17	26	15	96	3	29	5	0	37	2	39	27	0	68	4	64	3	0	71	272
15-30	40	27	18	23	108	5	17	3	0	25	7	48	31	0	86	15	53	6	0	74	293
30-45	40	32	21	11	104	5	30	8	1	44	3	36	33	0	72	3	45	4	0	52	272
45-00	23	19	22	11	75	7	26	3	0	36	4	42	27	0	73	7	41	1	0	49	233
06:0-15	45	23	21	16	105	5	18	2	0	25	3	37	33	0	73	9	55	4	0	68	271
15-30	36	28	18	16	98	4	30	1	0	35	3	46	31	0	80	11	44	13	0	68	281
30-45	36	23	15	13	87	7	17	6	0	30	0	39	40	0	79	10	31	4	0	45	241
45-00	33	32	20	24	109	7	25	2	0	34	0	43	45	0	88	16	28	3	0	47	278
3 Hr Totals	414	274	230	162	1080	60	252	44	1	357	34	478	371	0	883	100	501	49	0	650	2970
1 Hr Totals																					
04-05	123	73	69	33	298	17	60	14	0	91	12	148	104	0	264	25	140	11	0	176	829
415-515	132	74	79	46	331	18	76	14	0	108	13	153	105	0	271	23	169	14	0	206	916
430-530	137	80	80	57	354	16	78	14	0	108	15	164	117	0	296	31	190	17	0	238	996
445-545	142	94	86	58	380	19	94	17	1	131	14	157	120	0	291	28	198	16	0	242	1044
05-06	141	95	87	60	383	20	102	19	1	142	16	165	118	0	299	29	203	14	0	246	1070
515-615	148	101	82	61	392	22	91	16	1	130	17	163	124	0	304	34	194	15	0	243	1069
530-630	144	102	82	54	382	21	104	14	1	140	13	161	124	0	298	30	185	22	0	237	1057
545-645	140	93	76	56	365	23	91	12	0	126	10	164	131	0	305	37	171	22	0	230	1026
06-07	150	106	74	69	399	23	90	11	0	124	6	165	149	0	320	46	158	24	0	228	1071
PEAK HOUR																					
06-07	150	106	74	69	399	23	90	11	0	124	6	165	149	0	320	46	158	24	0	228	1071

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Tenley Circle
and: N. Wisconsin Ave
Location: Washington DC

Date: April 20. 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Wisconsin Ave					TRAFFIC FROM SOUTH on: Tenley Circle					TRAFFIC FROM EAST on: Tenley Circle					TRAFFIC FROM WEST on:					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	0	184	24	0	208	1	117	0	0	118	56	110	3	0	169	0	0	0	0	0	495
45-00	0	179	32	0	211	0	112	0	0	112	66	140	3	0	209	0	0	0	0	0	532
07:0-15	0	250	27	0	277	0	133	0	0	133	69	134	2	0	205	0	0	0	0	0	615
15-30	0	331	35	0	366	0	161	0	0	161	74	137	1	0	212	0	0	0	0	0	739
30-45	0	466	47	0	513	0	214	0	0	214	78	158	0	0	236	0	0	0	0	0	963
45-00	0	415	67	0	482	0	245	0	0	245	59	161	1	0	221	0	0	0	0	0	948
08:0-15	0	434	75	0	509	0	246	0	0	246	62	171	0	0	233	0	0	0	0	0	988
15-30	0	414	78	0	492	3	215	0	0	218	68	158	0	0	226	0	0	0	0	0	936
30-45	0	408	54	0	462	2	221	0	0	223	61	148	1	0	210	0	0	0	0	0	895
45-00	0	395	56	0	451	0	212	0	0	212	60	140	1	0	201	0	0	0	0	0	864
09:0-15	0	343	55	0	398	1	204	0	0	205	63	153	2	0	218	0	0	0	0	0	821
15-30	0	296	28	0	324	0	180	0	0	180	72	145	4	0	221	0	0	0	0	0	725
3 Hr Totals	0	4115	578	0	4693	7	2260	0	0	2267	788	1755	18	0	2561	0	0	0	0	0	9521
1 Hr Totals																					
630-730	0	944	118	0	1062	1	523	0	0	524	265	521	9	0	795	0	0	0	0	0	2381
645-745	0	1226	141	0	1367	0	620	0	0	620	287	569	6	0	862	0	0	0	0	0	2849
07-08	0	1462	176	0	1638	0	753	0	0	753	280	590	4	0	874	0	0	0	0	0	3265
715-815	0	1646	224	0	1870	0	866	0	0	866	273	627	2	0	902	0	0	0	0	0	3638
730-830	0	1729	267	0	1996	3	920	0	0	923	267	648	1	0	916	0	0	0	0	0	3835
745-845	0	1671	274	0	1945	5	927	0	0	932	250	638	2	0	890	0	0	0	0	0	3767
08-09	0	1651	263	0	1914	5	894	0	0	899	251	617	2	0	870	0	0	0	0	0	3683
815-915	0	1560	243	0	1803	6	852	0	0	858	252	599	4	0	855	0	0	0	0	0	3516
830-930	0	1442	193	0	1635	3	817	0	0	820	256	586	8	0	850	0	0	0	0	0	3305
PEAK HOUR																					
730-830	0	1729	267	0	1996	3	920	0	0	923	267	648	1	0	916	0	0	0	0	0	3835
PM																					
04:0-15	0	183	29	0	212	2	278	0	0	280	45	124	4	0	173	0	0	0	0	0	665
15-30	0	196	36	0	232	1	285	0	0	286	40	121	2	0	163	0	0	0	0	0	681
30-45	0	185	39	0	224	2	282	0	0	284	44	137	3	0	184	0	0	0	0	0	692
45-00	0	216	42	0	258	1	286	0	0	287	50	136	3	0	189	0	0	0	0	0	734
05:0-15	0	207	45	0	252	5	269	0	0	274	45	116	6	0	167	0	0	0	0	0	693
15-30	0	239	40	0	279	2	350	0	0	352	51	162	5	0	218	0	0	0	0	0	849
30-45	0	227	46	0	273	4	352	0	0	356	42	138	7	0	187	0	0	0	0	0	816
45-00	0	237	39	0	276	1	364	0	0	365	48	144	7	0	199	0	0	0	0	0	840
06:0-15	0	216	45	0	261	3	339	0	0	342	49	147	6	0	202	0	0	0	0	0	805
15-30	0	220	33	0	253	0	395	0	0	395	53	117	8	0	178	0	0	0	0	0	826
30-45	0	208	33	0	241	5	333	0	0	338	49	134	7	0	190	0	0	0	0	0	769
45-00	0	205	39	0	244	3	323	0	0	326	60	113	7	0	180	0	0	0	0	0	750
3 Hr Totals	0	2539	466	0	3005	29	3856	0	0	3885	576	1589	65	0	2230	0	0	0	0	0	9120
1 Hr Totals																					
04-05	0	780	146	0	926	6	1131	0	0	1137	179	518	12	0	709	0	0	0	0	0	2772
415-515	0	804	162	0	966	9	1122	0	0	1131	179	510	14	0	703	0	0	0	0	0	2800
430-530	0	847	166	0	1013	10	1187	0	0	1197	190	551	17	0	758	0	0	0	0	0	2968
445-545	0	889	173	0	1062	12	1257	0	0	1269	188	552	21	0	761	0	0	0	0	0	3092
05-06	0	910	170	0	1080	12	1335	0	0	1347	186	560	25	0	771	0	0	0	0	0	3198
515-615	0	919	170	0	1089	10	1405	0	0	1415	190	591	25	0	806	0	0	0	0	0	3310
530-630	0	900	163	0	1063	8	1450	0	0	1458	192	546	28	0	766	0	0	0	0	0	3287
545-645	0	881	150	0	1031	9	1431	0	0	1440	199	542	28	0	769	0	0	0	0	0	3240
06-07	0	849	150	0	999	11	1390	0	0	1401	211	511	28	0	750	0	0	0	0	0	3150
PEAK HOUR																					
515-615	0	919	170	0	1089	10	1405	0	0	1415	190	591	25	0	806	0	0	0	0	0	3310

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Tenley Circle
and: West Yuma Street
Location: Washington DC

Date: April 20, 2010
Weather: Fair
Entered by: KI

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Tenley Circle					TRAFFIC FROM SOUTH on: Tenley Circle					TRAFFIC FROM EAST on: West Yuma St.					TRAFFIC FROM WEST on: West Yuma St					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	0	132	5	0	137	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	142
45-00	0	155	14	0	169	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	174
07:0-15	0	145	16	0	161	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7	168
15-30	0	151	21	0	172	0	0	0	0	0	0	0	0	0	0	0	0	17	0	17	189
30-45	0	206	16	0	222	0	0	0	0	0	0	0	0	0	0	0	0	34	0	34	256
45-00	0	204	31	0	235	0	0	0	0	0	0	0	0	0	0	0	0	30	0	30	265
08:0-15	0	217	40	0	257	0	0	0	0	0	0	0	0	0	0	0	0	33	0	33	290
15-30	0	209	34	0	243	0	0	0	0	0	0	0	0	0	0	0	0	44	0	44	287
30-45	0	189	26	0	215	0	0	0	0	0	0	0	0	0	0	0	0	52	0	52	267
45-00	0	180	16	0	196	0	0	0	0	0	0	0	0	0	0	0	0	46	0	46	242
09:0-15	0	194	20	0	214	0	0	0	0	0	0	0	0	0	0	0	0	31	0	31	245
15-30	0	161	16	0	177	0	0	0	0	0	0	0	0	0	0	0	0	22	0	22	199
3 Hr Totals	0	2143	255	0	2398	0	0	0	0	0	0	0	0	0	0	0	0	326	0	326	2724
1 Hr Totals																					
630-730	0	583	56	0	639	0	0	0	0	0	0	0	0	0	0	0	0	34	0	34	673
645-745	0	657	67	0	724	0	0	0	0	0	0	0	0	0	0	0	0	63	0	63	787
07-08	0	706	84	0	790	0	0	0	0	0	0	0	0	0	0	0	0	88	0	88	878
715-815	0	778	108	0	886	0	0	0	0	0	0	0	0	0	0	0	0	114	0	114	1000
730-830	0	836	121	0	957	0	0	0	0	0	0	0	0	0	0	0	0	141	0	141	1098
745-845	0	819	131	0	950	0	0	0	0	0	0	0	0	0	0	0	0	159	0	159	1109
08-09	0	795	116	0	911	0	0	0	0	0	0	0	0	0	0	0	0	175	0	175	1086
815-915	0	772	96	0	868	0	0	0	0	0	0	0	0	0	0	0	0	173	0	173	1041
830-930	0	724	78	0	802	0	0	0	0	0	0	0	0	0	0	0	0	151	0	151	953
PEAK HOUR																					
745-845	0	819	131	0	950	0	0	0	0	0	0	0	0	0	0	0	0	159	0	159	1109
PM																					
04:0-15	0	137	20	0	157	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16	173
15-30	0	128	21	0	149	0	0	0	0	0	0	0	0	0	0	0	0	17	0	17	166
30-45	0	158	25	0	183	0	0	0	0	0	0	0	0	0	0	0	0	24	0	24	207
45-00	0	151	20	0	171	0	0	0	0	0	0	0	0	0	0	0	0	21	0	21	192
05:0-15	0	149	22	0	171	0	0	0	0	0	0	0	0	0	0	0	0	22	0	22	193
15-30	0	173	30	0	203	0	0	0	0	0	0	0	0	0	0	0	0	25	0	25	228
30-45	0	147	40	0	187	0	0	0	0	0	0	0	0	0	0	0	0	21	0	21	208
45-00	0	158	37	0	195	0	0	0	0	0	0	0	0	0	0	0	0	25	0	25	220
06:0-15	0	149	30	0	179	0	0	0	0	0	0	0	0	0	0	0	0	21	0	21	200
15-30	0	132	15	0	147	0	0	0	0	0	0	0	0	0	0	0	0	21	0	21	168
30-45	0	150	19	0	169	0	0	0	0	0	0	0	0	0	0	0	0	13	0	13	182
45-00	0	143	14	0	157	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19	176
3 Hr Totals	0	1775	293	0	2068	0	0	0	0	0	0	0	0	0	0	0	0	245	0	245	2313
1 Hr Totals																					
04-05	0	574	86	0	660	0	0	0	0	0	0	0	0	0	0	0	0	78	0	78	738
415-515	0	586	88	0	674	0	0	0	0	0	0	0	0	0	0	0	0	84	0	84	758
430-530	0	631	97	0	728	0	0	0	0	0	0	0	0	0	0	0	0	92	0	92	820
445-545	0	620	112	0	732	0	0	0	0	0	0	0	0	0	0	0	0	89	0	89	821
05-06	0	627	129	0	756	0	0	0	0	0	0	0	0	0	0	0	0	93	0	93	849
515-615	0	627	137	0	764	0	0	0	0	0	0	0	0	0	0	0	0	92	0	92	856
530-630	0	586	122	0	708	0	0	0	0	0	0	0	0	0	0	0	0	88	0	88	796
545-645	0	589	101	0	690	0	0	0	0	0	0	0	0	0	0	0	0	80	0	80	770
06-07	0	574	78	0	652	0	0	0	0	0	0	0	0	0	0	0	0	74	0	74	726
PEAK HOUR																					
515-615	0	627	137	0	764	0	0	0	0	0	0	0	0	0	0	0	0	92	0	92	856

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Tenley Circle
and: S. Nebraska Avenue
Location: Washington DC

Date: April 20, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: S. Nebraska Ave					TRAFFIC FROM SOUTH on: S. Nebraska Ave					TRAFFIC FROM EAST on: Tenley Circle					TRAFFIC FROM WEST on: Tenley Circle					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	21	107	0	0	128	0	0	41	0	41	0	0	0	0	0	0	0	0	0	0	169
45-00	11	143	0	0	154	0	0	71	0	71	0	0	0	0	0	0	0	0	0	0	225
07:0-15	7	150	0	0	157	0	0	83	0	83	0	0	0	0	0	0	0	0	0	0	240
15-30	11	142	0	0	153	0	0	109	0	109	0	0	0	0	0	0	0	0	0	0	262
30-45	35	189	0	0	224	0	0	114	0	114	0	0	0	0	0	0	0	0	0	0	338
45-00	35	205	0	0	240	0	0	139	0	139	0	0	0	0	0	0	0	0	0	0	379
08:0-15	34	210	0	0	244	0	0	130	0	130	0	0	0	0	0	0	0	0	0	0	374
15-30	56	199	0	0	255	0	0	134	0	134	0	0	0	0	0	0	0	0	0	0	389
30-45	53	192	0	0	245	0	0	142	0	142	0	0	0	0	0	0	0	0	0	0	387
45-00	48	177	0	0	225	0	0	146	0	146	0	0	0	0	0	0	0	0	0	0	371
09:0-15	35	190	0	0	225	0	0	125	0	125	0	0	0	0	0	0	0	0	0	0	350
15-30	26	155	0	0	181	0	0	119	0	119	0	0	0	0	0	0	0	0	0	0	300
3 Hr Totals	372	2059	0	0	2431	0	0	1353	0	1353	0	0	0	0	0	0	0	0	0	0	3784
1 Hr Totals																					
630-730	50	542	0	0	592	0	0	304	0	304	0	0	0	0	0	0	0	0	0	0	896
645-745	64	624	0	0	688	0	0	377	0	377	0	0	0	0	0	0	0	0	0	0	1065
07-08	88	686	0	0	774	0	0	445	0	445	0	0	0	0	0	0	0	0	0	0	1219
715-815	115	746	0	0	861	0	0	492	0	492	0	0	0	0	0	0	0	0	0	0	1353
730-830	160	803	0	0	963	0	0	517	0	517	0	0	0	0	0	0	0	0	0	0	1480
745-845	178	806	0	0	984	0	0	545	0	545	0	0	0	0	0	0	0	0	0	0	1529
08-09	191	778	0	0	969	0	0	552	0	552	0	0	0	0	0	0	0	0	0	0	1521
815-915	192	758	0	0	950	0	0	547	0	547	0	0	0	0	0	0	0	0	0	0	1497
830-930	162	714	0	0	876	0	0	532	0	532	0	0	0	0	0	0	0	0	0	0	1408
PEAK HOUR																					
745-845	178	806	0	0	984	0	0	545	0	545	0	0	0	0	0	0	0	0	0	0	1529
PM																					
04:0-15	19	121	0	0	140	0	0	174	0	174	0	0	0	0	0	0	0	0	0	0	314
15-30	25	142	0	0	167	0	0	171	0	171	0	0	0	0	0	0	0	0	0	0	338
30-45	34	133	0	0	167	0	0	146	0	146	0	0	0	0	0	0	0	0	0	0	313
45-00	28	149	0	0	177	0	0	147	0	147	0	0	0	0	0	0	0	0	0	0	324
05:0-15	34	137	0	0	171	0	0	197	0	197	0	0	0	0	0	0	0	0	0	0	368
15-30	32	167	0	0	199	0	0	172	0	172	0	0	0	0	0	0	0	0	0	0	371
30-45	28	136	0	0	164	0	0	188	0	188	0	0	0	0	0	0	0	0	0	0	352
45-00	33	166	0	0	199	0	0	174	0	174	0	0	0	0	0	0	0	0	0	0	373
06:0-15	31	143	0	0	174	0	0	177	0	177	0	0	0	0	0	0	0	0	0	0	351
15-30	29	124	0	0	153	0	0	182	0	182	0	0	0	0	0	0	0	0	0	0	335
30-45	21	148	0	0	169	0	0	150	0	150	0	0	0	0	0	0	0	0	0	0	319
45-00	25	131	0	0	156	0	0	190	0	190	0	0	0	0	0	0	0	0	0	0	346
3 Hr Totals	339	1697	0	0	2036	0	0	2068	0	2068	0	0	0	0	0	0	0	0	0	0	4104
1 Hr Totals																					
04-05	106	545	0	0	651	0	0	638	0	638	0	0	0	0	0	0	0	0	0	0	1289
415-515	121	561	0	0	682	0	0	661	0	661	0	0	0	0	0	0	0	0	0	0	1343
430-530	128	586	0	0	714	0	0	662	0	662	0	0	0	0	0	0	0	0	0	0	1376
445-545	122	589	0	0	711	0	0	704	0	704	0	0	0	0	0	0	0	0	0	0	1415
05-06	127	606	0	0	733	0	0	731	0	731	0	0	0	0	0	0	0	0	0	0	1464
515-615	124	612	0	0	736	0	0	711	0	711	0	0	0	0	0	0	0	0	0	0	1447
530-630	121	569	0	0	690	0	0	721	0	721	0	0	0	0	0	0	0	0	0	0	1411
545-645	114	581	0	0	695	0	0	683	0	683	0	0	0	0	0	0	0	0	0	0	1378
06-07	106	546	0	0	652	0	0	699	0	699	0	0	0	0	0	0	0	0	0	0	1351
PEAK HOUR																					
05-06	127	606	0	0	733	0	0	731	0	731	0	0	0	0	0	0	0	0	0	0	1464

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Tenley Circle
and: South Wisconsin Ave
Location: Washington DC

Date: April 20, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Tenley Circle					TRAFFIC FROM SOUTH on: Wisconsin Ave					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on: Tenley Circle					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	0	232	0	0	232	0	100	13	0	113	0	0	0	0	0	15	29	21	0	65	410
45-00	0	242	0	0	242	0	83	29	0	112	0	0	0	0	0	27	50	13	0	90	444
07:0-15	0	312	0	0	312	0	114	37	0	151	0	0	0	0	0	19	69	8	0	96	559
15-30	0	407	0	0	407	0	121	38	0	159	0	0	0	0	0	37	77	6	0	120	686
30-45	1	515	0	0	516	0	192	42	0	234	0	0	0	0	0	27	109	19	0	155	905
45-00	0	477	0	0	477	0	215	31	0	246	0	0	0	0	0	38	119	14	0	171	894
08:0-15	0	440	0	0	440	0	190	40	0	230	0	0	0	0	0	42	113	10	0	165	835
15-30	1	486	0	0	487	0	179	56	0	235	0	0	0	0	0	49	125	9	0	183	905
30-45	0	466	0	0	466	0	207	24	0	231	0	0	0	0	0	33	144	24	0	201	898
45-00	0	463	0	0	463	0	171	37	0	208	0	0	0	0	0	46	130	17	0	193	864
09:0-15	0	404	0	0	404	0	194	24	0	218	0	0	0	0	0	37	109	15	0	161	783
15-30	2	362	0	0	364	0	154	34	0	188	0	0	0	0	0	34	92	9	0	135	687
3 Hr Totals	4	4806	0	0	4810	0	1920	405	0	2325	0	0	0	0	0	404	1166	165	0	1735	8870
1 Hr Totals																					
630-730	0	1193	0	0	1193	0	418	117	0	535	0	0	0	0	0	98	225	48	0	371	2099
645-745	1	1476	0	0	1477	0	510	146	0	656	0	0	0	0	0	110	305	46	0	461	2594
07-08	1	1711	0	0	1712	0	642	148	0	790	0	0	0	0	0	121	374	47	0	542	3044
715-815	1	1839	0	0	1840	0	718	151	0	869	0	0	0	0	0	144	418	49	0	611	3320
730-830	2	1918	0	0	1920	0	776	169	0	945	0	0	0	0	0	156	466	52	0	674	3539
745-845	1	1869	0	0	1870	0	791	151	0	942	0	0	0	0	0	162	501	57	0	720	3532
08-09	1	1855	0	0	1856	0	747	157	0	904	0	0	0	0	0	170	512	60	0	742	3502
815-915	1	1819	0	0	1820	0	751	141	0	892	0	0	0	0	0	165	508	65	0	738	3450
830-930	2	1695	0	0	1697	0	726	119	0	845	0	0	0	0	0	150	475	65	0	690	3232
PEAK HOUR																					
730-830	2	1918	0	0	1920	0	776	169	0	945	0	0	0	0	0	156	466	52	0	674	3539
PM																					
04:0-15	0	212	0	0	212	0	242	48	0	290	0	0	0	0	0	35	146	7	0	188	690
15-30	1	236	0	0	237	0	252	39	0	291	0	0	0	0	0	35	141	9	0	185	713
30-45	0	244	0	0	244	0	254	53	0	307	0	0	0	0	0	38	127	18	0	183	734
45-00	1	260	0	0	261	0	251	47	0	298	0	0	0	0	0	42	124	6	0	172	731
05:0-15	2	234	0	0	236	0	233	44	0	277	0	0	0	0	0	49	179	7	0	235	748
15-30	0	278	0	0	278	0	317	52	0	369	0	0	0	0	0	45	142	10	0	197	844
30-45	0	260	0	0	260	0	334	58	0	392	0	0	0	0	0	45	146	10	0	201	853
45-00	0	250	0	0	250	0	331	55	0	386	0	0	0	0	0	47	150	16	0	213	849
06:0-15	2	236	0	0	238	0	301	58	0	359	0	0	0	0	0	37	161	9	0	207	804
15-30	0	264	0	0	264	0	317	43	0	360	0	0	0	0	0	57	135	10	0	202	826
30-45	1	259	0	0	260	0	296	43	0	339	0	0	0	0	0	44	109	11	0	164	763
45-00	0	243	0	0	243	0	281	34	0	315	0	0	0	0	0	40	135	9	0	184	742
3 Hr Totals	7	2976	0	0	2983	0	3409	574	0	3983	0	0	0	0	0	514	1695	122	0	2331	9297
1 Hr Totals																					
04-05	2	952	0	0	954	0	999	187	0	1186	0	0	0	0	0	150	538	40	0	728	2868
415-515	4	974	0	0	978	0	990	183	0	1173	0	0	0	0	0	164	571	40	0	775	2926
430-530	3	1016	0	0	1019	0	1055	196	0	1251	0	0	0	0	0	174	572	41	0	787	3057
445-545	3	1032	0	0	1035	0	1135	201	0	1336	0	0	0	0	0	181	591	33	0	805	3176
05-06	2	1022	0	0	1024	0	1215	209	0	1424	0	0	0	0	0	186	617	43	0	846	3294
515-615	2	1024	0	0	1026	0	1283	223	0	1506	0	0	0	0	0	174	599	45	0	818	3350
530-630	2	1010	0	0	1012	0	1283	214	0	1497	0	0	0	0	0	186	592	45	0	823	3332
545-645	3	1009	0	0	1012	0	1245	199	0	1444	0	0	0	0	0	185	555	46	0	786	3242
06-07	3	1002	0	0	1005	0	1195	178	0	1373	0	0	0	0	0	178	540	39	0	757	3135
PEAK HOUR																					
515-615	2	1024	0	0	1026	0	1283	223	0	1506	0	0	0	0	0	174	599	45	0	818	3350

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Tenley Circle
and: East Yuma Street
Location: Washington DC

Date: April 22, 2010
Weather: Fair
Entered by: KL

Day: Thursday

TIME	TRAFFIC FROM NORTH on: Tenley Circle					TRAFFIC FROM SOUTH on: Tenley Circle					TRAFFIC FROM EAST on: East Yuma St					TRAFFIC FROM WEST on: East Yuma St					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	0	0	0	0	0	0	53	0	0	53	0	0	1	0	1	0	0	0	0	0	54
45-00	0	0	0	0	0	0	75	2	0	77	0	0	0	0	0	0	0	0	0	0	77
07:0-15	0	0	0	0	0	0	100	3	0	103	0	0	5	0	5	0	0	0	0	0	108
15-30	0	0	0	0	0	0	114	9	0	123	0	0	8	0	8	0	0	0	0	0	131
30-45	0	0	0	0	0	0	153	18	0	171	0	0	9	0	9	0	0	0	0	0	180
45-00	0	0	0	0	0	0	146	11	0	157	0	0	15	0	15	0	0	0	0	0	172
08:0-15	0	0	0	0	0	0	134	20	0	154	0	0	17	0	17	0	0	0	0	0	171
15-30	0	0	0	0	0	0	168	34	0	202	0	0	23	0	23	0	0	0	0	0	225
30-45	0	0	0	0	0	0	133	27	0	160	0	0	14	0	14	0	0	0	0	0	174
45-00	0	0	0	0	0	0	125	31	0	156	0	0	9	0	9	0	0	0	0	0	165
09:0-15	0	0	0	0	0	0	133	23	0	156	0	0	11	0	11	0	0	0	0	0	167
15-30	0	0	0	0	0	0	116	21	0	137	0	0	9	0	9	0	0	0	0	0	146
3 Hr Totals	0	0	0	0	0	0	1450	199	0	1649	0	0	121	0	121	0	0	0	0	0	1770
1 Hr Totals																					
630-730	0	0	0	0	0	0	342	14	0	356	0	0	14	0	14	0	0	0	0	0	370
645-745	0	0	0	0	0	0	442	32	0	474	0	0	22	0	22	0	0	0	0	0	496
07-08	0	0	0	0	0	0	513	41	0	554	0	0	37	0	37	0	0	0	0	0	591
715-815	0	0	0	0	0	0	547	58	0	605	0	0	49	0	49	0	0	0	0	0	654
730-830	0	0	0	0	0	0	601	83	0	684	0	0	64	0	64	0	0	0	0	0	748
745-845	0	0	0	0	0	0	581	92	0	673	0	0	69	0	69	0	0	0	0	0	742
08-09	0	0	0	0	0	0	560	112	0	672	0	0	63	0	63	0	0	0	0	0	735
815-915	0	0	0	0	0	0	559	115	0	674	0	0	57	0	57	0	0	0	0	0	731
830-930	0	0	0	0	0	0	507	102	0	609	0	0	43	0	43	0	0	0	0	0	652
PEAK HOUR																					
730-830	0	0	0	0	0	0	601	83	0	684	0	0	64	0	64	0	0	0	0	0	748
PM																					
04:0-15	0	0	0	0	0	0	188	14	0	202	0	0	22	0	22	0	0	0	0	0	224
15-30	0	0	0	0	0	0	198	7	0	205	0	0	21	0	21	0	0	0	0	0	226
30-45	0	0	0	0	0	0	191	10	0	201	0	0	17	0	17	0	0	0	0	0	218
45-00	0	0	0	0	0	0	194	14	0	208	0	0	20	0	20	0	0	0	0	0	228
05:0-15	0	0	0	0	0	0	193	11	0	204	0	0	28	0	28	0	0	0	0	0	232
15-30	0	0	0	0	0	0	215	9	0	224	0	0	19	0	19	0	0	0	0	0	243
30-45	0	0	0	0	0	0	173	5	0	178	0	0	31	0	31	0	0	0	0	0	209
45-00	0	0	0	0	0	0	174	11	0	185	0	0	32	0	32	0	0	0	0	0	217
06:0-15	0	0	0	0	0	0	201	13	0	214	0	0	21	0	21	0	0	0	0	0	235
15-30	0	0	0	0	0	0	212	16	0	228	0	0	32	0	32	0	0	0	0	0	260
30-45	0	0	0	0	0	0	178	12	0	190	0	0	20	0	20	0	0	0	0	0	210
45-00	0	0	0	0	0	0	181	8	0	189	0	0	16	0	16	0	0	0	0	0	205
3 Hr Totals	0	0	0	0	0	0	2298	130	0	2428	0	0	279	0	279	0	0	0	0	0	2707
1 Hr Totals																					
04-05	0	0	0	0	0	0	771	45	0	816	0	0	80	0	80	0	0	0	0	0	896
415-515	0	0	0	0	0	0	776	42	0	818	0	0	86	0	86	0	0	0	0	0	904
430-530	0	0	0	0	0	0	793	44	0	837	0	0	84	0	84	0	0	0	0	0	921
445-545	0	0	0	0	0	0	775	39	0	814	0	0	98	0	98	0	0	0	0	0	912
05-06	0	0	0	0	0	0	755	36	0	791	0	0	110	0	110	0	0	0	0	0	901
515-615	0	0	0	0	0	0	763	38	0	801	0	0	103	0	103	0	0	0	0	0	904
530-630	0	0	0	0	0	0	760	45	0	805	0	0	116	0	116	0	0	0	0	0	921
545-645	0	0	0	0	0	0	765	52	0	817	0	0	105	0	105	0	0	0	0	0	922
06-07	0	0	0	0	0	0	772	49	0	821	0	0	89	0	89	0	0	0	0	0	910
PEAK HOUR																					
545-645	0	0	0	0	0	0	765	52	0	817	0	0	105	0	105	0	0	0	0	0	922

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Tenley Circle — Date: April 20, 2010 — Day: Tuesday

and: North Nebraska Ave & Fort Dr — Weather: Fair

Location: Washington DC — Entered by: KL

TIME	TRAFFIC FROM NORTH on: Fort Drive NW					TRAFFIC FROM SOUTH on: Wisconsin Ave					TRAFFIC FROM EAST on: Nebraska Ave					TRAFFIC FROM WEST on:					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	0	0	8	0	8	4	4	34	0	42	0	159	0	0	159	0	0	0	0	0	209
45-00	0	0	8	0	8	4	9	66	0	79	0	199	0	0	199	0	0	0	0	0	286
07:0-15	0	0	16	0	16	7	24	84	0	115	0	191	0	0	191	0	0	0	0	0	322
15-30	0	0	25	0	25	10	22	82	0	114	0	181	0	0	181	0	0	0	0	0	320
30-45	0	0	67	0	67	10	20	120	0	150	0	159	0	0	159	0	0	0	0	0	376
45-00	0	0	62	0	62	11	17	109	0	137	0	146	0	0	146	0	0	0	0	0	345
08:0-15	0	0	62	0	62	11	21	110	0	142	0	159	0	0	159	0	0	0	0	0	363
15-30	0	0	67	0	67	11	30	118	0	159	0	150	1	0	151	0	0	0	0	0	377
30-45	0	0	58	0	58	18	25	115	0	158	0	148	0	0	148	0	0	0	0	0	364
45-00	0	0	54	0	54	8	20	115	0	143	0	135	0	0	135	0	0	0	0	0	332
09:0-15	0	0	44	0	44	7	20	86	0	113	0	168	0	0	168	0	0	0	0	0	325
15-30	0	0	44	0	44	10	15	89	0	114	0	167	1	0	168	0	0	0	0	0	326
3 Hr Totals	0	0	515	0	515	111	227	1128	0	1466	0	1962	2	0	1964	0	0	0	0	0	3945
1 Hr Totals																					
630-730	0	0	57	0	57	25	59	266	0	350	0	730	0	0	730	0	0	0	0	0	1137
645-745	0	0	116	0	116	31	75	352	0	458	0	730	0	0	730	0	0	0	0	0	1304
07-08	0	0	170	0	170	38	83	395	0	516	0	677	0	0	677	0	0	0	0	0	1363
715-815	0	0	216	0	216	42	80	421	0	543	0	645	0	0	645	0	0	0	0	0	1404
730-830	0	0	258	0	258	43	88	457	0	588	0	614	1	0	615	0	0	0	0	0	1461
745-845	0	0	249	0	249	51	93	452	0	596	0	603	1	0	604	0	0	0	0	0	1449
08-09	0	0	241	0	241	48	96	458	0	602	0	592	1	0	593	0	0	0	0	0	1436
815-915	0	0	223	0	223	44	95	434	0	573	0	601	1	0	602	0	0	0	0	0	1398
830-930	0	0	200	0	200	43	80	405	0	528	0	618	1	0	619	0	0	0	0	0	1347
PEAK HOUR																					
730-830	0	0	258	0	258	43	88	457	0	588	0	614	1	0	615	0	0	0	0	0	1461
PM																					
04:0-15	0	0	20	0	20	18	15	191	0	224	0	112	0	0	112	0	0	0	0	0	356
15-30	0	0	23	0	23	20	23	170	0	213	0	120	1	0	121	0	0	0	0	0	357
30-45	0	0	27	0	27	20	18	167	0	205	0	138	0	0	138	0	0	0	0	0	370
45-00	0	0	26	0	26	18	23	147	0	188	0	141	1	0	142	0	0	0	0	0	356
05:0-15	0	0	20	0	20	20	29	172	0	221	0	124	0	0	124	0	0	0	0	0	365
15-30	0	0	31	0	31	33	22	158	0	213	0	154	2	0	156	0	0	0	0	0	400
30-45	0	0	33	0	33	22	34	164	0	220	0	130	2	0	132	0	0	0	0	0	385
45-00	0	0	26	0	26	30	32	163	0	225	0	157	0	0	157	0	0	0	0	0	408
06:0-15	0	0	29	0	29	32	21	183	0	236	0	149	1	0	150	0	0	0	0	0	415
15-30	0	0	39	0	39	28	31	151	0	210	0	102	1	0	103	0	0	0	0	0	352
30-45	0	0	20	0	20	25	20	135	0	180	0	142	1	0	143	0	0	0	0	0	343
45-00	0	0	36	0	36	35	26	129	0	190	0	117	3	0	120	0	0	0	0	0	346
3 Hr Totals	0	0	330	0	330	301	294	1930	0	2525	0	1586	12	0	1598	0	0	0	0	0	4453
1 Hr Totals																					
04-05	0	0	96	0	96	76	79	675	0	830	0	511	2	0	513	0	0	0	0	0	1439
415-515	0	0	96	0	96	78	93	656	0	827	0	523	2	0	525	0	0	0	0	0	1448
430-530	0	0	104	0	104	91	92	644	0	827	0	557	3	0	560	0	0	0	0	0	1491
445-545	0	0	110	0	110	93	108	641	0	842	0	549	5	0	554	0	0	0	0	0	1506
05-06	0	0	110	0	110	105	117	657	0	879	0	565	4	0	569	0	0	0	0	0	1558
515-615	0	0	119	0	119	117	109	668	0	894	0	590	5	0	595	0	0	0	0	0	1608
530-630	0	0	127	0	127	112	118	661	0	891	0	538	4	0	542	0	0	0	0	0	1560
545-645	0	0	114	0	114	115	104	632	0	851	0	550	3	0	553	0	0	0	0	0	1518
06-07	0	0	124	0	124	120	98	598	0	816	0	510	6	0	516	0	0	0	0	0	1456
PEAK HOUR																					
515-615	0	0	119	0	119	117	109	668	0	894	0	590	5	0	595	0	0	0	0	0	1608

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: CM/JC

Intersection of: Massachusetts Avenue
and: 49th Street
Location: Washington DC

Date: April 22, 2010
Weather: Fair
Entered by: KL

Day: Thursday

TIME	TRAFFIC FROM NORTH on: Massachusetts Ave					TRAFFIC FROM SOUTH on: Massachusetts Ave					TRAFFIC FROM EAST on: 49th Street					TRAFFIC FROM WEST on: 49th Street					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	4	91	10	0	105	1	33	4	0	38	4	1	0	0	5	2	5	0	0	7	155
45-00	9	119	6	0	134	2	44	4	0	50	3	1	0	0	4	3	2	0	0	5	193
07:0-15	13	199	10	0	222	2	52	6	0	60	11	2	0	0	13	6	6	0	0	12	307
15-30	22	299	11	0	332	1	82	4	0	87	10	4	0	0	14	7	10	0	0	17	450
30-45	22	364	12	0	398	2	106	6	0	114	12	10	0	0	22	15	8	1	0	24	558
45-00	37	308	9	0	354	3	117	9	0	129	9	1	0	0	10	21	15	0	0	36	529
08:0-15	45	324	19	0	388	1	135	10	0	146	8	7	0	0	15	16	16	1	0	33	582
15-30	45	323	18	0	386	5	160	15	0	180	14	11	0	0	25	21	29	2	0	52	643
30-45	43	324	13	0	380	4	142	7	0	153	9	8	0	0	17	19	18	2	0	39	589
45-00	57	315	23	0	395	6	123	7	0	136	2	9	3	0	14	14	17	2	0	33	578
09:0-15	36	305	22	0	363	3	96	5	0	104	8	9	0	0	17	21	27	2	0	50	534
15-30	37	214	23	0	274	3	77	6	0	86	11	15	1	0	27	16	18	5	0	39	426
3 Hr Totals	370	3185	176	0	3731	33	1167	83	0	1283	101	78	4	0	183	161	171	15	0	347	5544
1 Hr Totals																					
630-730	48	708	37	0	793	6	211	18	0	235	28	8	0	0	36	18	23	0	0	41	1105
645-745	66	981	39	0	1086	7	284	20	0	311	36	17	0	0	53	31	26	1	0	58	1508
07-08	94	1170	42	0	1306	8	357	25	0	390	42	17	0	0	59	49	39	1	0	89	1844
715-815	126	1295	51	0	1472	7	440	29	0	476	39	22	0	0	61	59	49	2	0	110	2119
730-830	149	1319	58	0	1526	11	518	40	0	569	43	29	0	0	72	73	68	4	0	145	2312
745-845	170	1279	59	0	1508	13	554	41	0	608	40	27	0	0	67	77	78	5	0	160	2343
08-09	190	1286	73	0	1549	16	560	39	0	615	33	35	3	0	71	70	80	7	0	157	2392
815-915	181	1267	76	0	1524	18	521	34	0	573	33	37	3	0	73	75	91	8	0	174	2344
830-930	173	1158	81	0	1412	16	438	25	0	479	30	41	4	0	75	70	80	11	0	161	2127
PEAK HOUR																					
08-09	190	1286	73	0	1549	16	560	39	0	615	33	35	3	0	71	70	80	7	0	157	2392
PM																					
04:0-15	18	131	16	0	165	7	217	18	3	245	8	12	2	0	22	21	28	2	0	51	483
15-30	32	132	19	0	183	11	226	17	5	259	9	8	0	0	17	22	24	4	0	50	509
30-45	28	132	19	0	179	9	222	16	2	249	8	12	3	0	23	10	19	3	0	32	483
45-00	31	119	19	0	169	7	217	16	1	241	8	8	1	0	17	18	15	2	0	35	462
05:0-15	29	146	24	0	199	7	225	17	5	254	10	9	2	0	21	25	22	1	0	48	522
15-30	34	169	24	0	227	8	240	22	3	273	9	10	3	0	22	20	22	2	0	44	566
30-45	31	141	21	0	193	11	263	28	5	307	11	10	1	0	22	24	25	0	0	49	571
45-00	41	158	8	0	207	9	286	26	1	322	10	8	2	0	20	33	27	2	0	62	611
06:0-15	30	184	14	0	228	8	281	21	0	310	9	12	0	0	21	23	20	1	0	44	603
15-30	37	202	21	0	260	9	276	23	3	311	10	10	1	0	21	15	23	0	0	38	630
30-45	25	158	15	0	198	9	276	21	0	306	8	10	2	0	20	13	22	1	0	36	560
45-00	34	143	18	0	195	10	273	24	1	308	9	7	2	0	18	21	27	2	0	50	571
3 Hr Totals	370	1815	218	0	2403	105	3002	249	29	3385	109	116	19	0	244	245	274	20	0	539	6571
1 Hr Totals																					
04-05	109	514	73	0	696	34	882	67	11	994	33	40	6	0	79	71	86	11	0	168	1937
415-515	120	529	81	0	730	34	890	66	13	1003	35	37	6	0	78	75	80	10	0	165	1976
430-530	122	566	86	0	774	31	904	71	11	1017	35	39	9	0	83	73	78	8	0	159	2033
445-545	125	575	88	0	788	33	945	83	14	1075	38	37	7	0	82	87	84	5	0	176	2121
05-06	135	614	77	0	826	35	1014	93	14	1156	40	37	8	0	85	102	96	5	0	203	2270
515-615	136	652	67	0	855	36	1070	97	9	1212	39	40	6	0	85	100	94	5	0	199	2351
530-630	139	685	64	0	888	37	1106	98	9	1250	40	40	4	0	84	95	95	3	0	193	2415
545-645	133	702	58	0	893	35	1119	91	4	1249	37	40	5	0	82	84	92	4	0	180	2404
06-07	126	687	68	0	881	36	1106	89	4	1235	36	39	5	0	80	72	92	4	0	168	2364
PEAK HOUR																					
530-630	139	685	64	0	888	37	1106	98	9	1250	40	40	4	0	84	95	95	3	0	193	2415

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: JC

Intersection of: Van Ness Street
and: 45th Street
Location: Washington DC

Date: April 14, 2010
Weather: Fair
Entered by: KL

Day: Wednesday

TIME	TRAFFIC FROM NORTH on: N/A					TRAFFIC FROM SOUTH on: 45th Street					TRAFFIC FROM EAST on: Van Ness Street					TRAFFIC FROM WEST on: Van Ness Street					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45					0	0	0	1	0	1	0	3	0	0	3	0	4	1	0	5	9
45-00					0	1	0	3	0	4	1	7	0	0	8	0	11	0	0	11	23
07:0-15					0	2	0	3	0	5	2	11	0	0	13	0	17	2	0	19	37
15-30					0	1	0	17	0	18	2	11	0	0	13	0	13	2	0	15	46
30-45					0	3	0	27	0	30	3	17	0	0	20	0	22	1	0	23	73
45-00					0	3	0	29	0	32	4	23	0	0	27	0	27	2	0	29	88
08:0-15					0	3	0	26	0	29	3	22	0	0	25	0	36	2	0	38	92
15-30					0	4	0	41	0	45	6	33	0	0	39	0	32	0	0	32	116
30-45					0	0	0	17	0	17	3	37	0	0	40	0	27	2	0	29	86
45-00					0	1	0	27	0	28	0	29	0	0	29	0	23	3	0	26	83
09:0-15					0	1	0	27	0	28	3	18	0	0	21	0	24	0	0	24	73
15-30					0	7	0	22	0	29	5	26	0	0	31	0	22	3	0	25	85
3 Hr Totals	0	0	0	0	0	26	0	240	0	266	32	237	0	0	269	0	258	18	0	276	811
1 Hr Totals																					
630-730	0	0	0	0	0	4	0	24	0	28	5	32	0	0	37	0	45	5	0	50	115
645-745	0	0	0	0	0	7	0	50	0	57	8	46	0	0	54	0	63	5	0	68	179
07-08	0	0	0	0	0	9	0	76	0	85	11	62	0	0	73	0	79	7	0	86	244
715-815	0	0	0	0	0	10	0	99	0	109	12	73	0	0	85	0	98	7	0	105	299
730-830	0	0	0	0	0	13	0	123	0	136	16	95	0	0	111	0	117	5	0	122	369
745-845	0	0	0	0	0	10	0	113	0	123	16	115	0	0	131	0	122	6	0	128	382
08-09	0	0	0	0	0	8	0	111	0	119	12	121	0	0	133	0	118	7	0	125	377
815-915	0	0	0	0	0	6	0	112	0	118	12	117	0	0	129	0	106	5	0	111	358
830-930	0	0	0	0	0	9	0	93	0	102	11	110	0	0	121	0	96	8	0	104	327
PEAK HOUR																					
745-845	0	0	0	0	0	10	0	113	0	123	16	115	0	0	131	0	122	6	0	128	382
PM																					
04:0-15					0	4	0	14	0	18	9	36	0	0	45	0	14	3	0	17	80
15-30					0	5	0	15	0	20	7	39	0	0	46	0	14	6	0	20	86
30-45					0	6	0	15	0	21	3	41	0	0	44	0	16	4	0	20	85
45-00					0	2	0	11	0	13	4	37	0	0	41	0	10	2	0	12	66
05:0-15					0	4	0	18	0	22	6	56	0	0	62	0	17	8	0	25	109
15-30					0	4	0	15	0	19	9	52	0	0	61	0	20	2	0	22	102
30-45					0	5	0	16	0	21	6	52	0	0	58	0	17	2	0	19	98
45-00					0	5	0	14	0	19	13	51	0	0	64	0	14	5	0	19	102
06:0-15					0	4	0	18	0	22	4	39	0	0	43	0	19	7	0	26	91
15-30					0	3	0	13	0	16	9	56	0	0	65	0	18	3	0	21	102
30-45					0	5	0	11	0	16	4	49	0	0	53	0	21	3	0	24	93
45-00					0	5	0	11	0	16	6	45	0	0	51	0	15	4	0	19	86
3 Hr Totals	0	0	0	0	0	52	0	171	0	223	80	553	0	0	633	0	195	49	0	244	1100
1 Hr Totals																					
04-05	0	0	0	0	0	17	0	55	0	72	23	153	0	0	176	0	54	15	0	69	317
415-515	0	0	0	0	0	17	0	59	0	76	20	173	0	0	193	0	57	20	0	77	346
430-530	0	0	0	0	0	16	0	59	0	75	22	186	0	0	208	0	63	16	0	79	362
445-545	0	0	0	0	0	15	0	60	0	75	25	197	0	0	222	0	64	14	0	78	375
05-06	0	0	0	0	0	18	0	63	0	81	34	211	0	0	245	0	68	17	0	85	411
515-615	0	0	0	0	0	18	0	63	0	81	32	194	0	0	226	0	70	16	0	86	393
530-630	0	0	0	0	0	17	0	61	0	78	32	198	0	0	230	0	68	17	0	85	393
545-645	0	0	0	0	0	17	0	56	0	73	30	195	0	0	225	0	72	18	0	90	388
06-07	0	0	0	0	0	17	0	53	0	70	23	189	0	0	212	0	73	17	0	90	372
PEAK HOUR																					
05-06	0	0	0	0	0	18	0	63	0	81	34	211	0	0	245	0	68	17	0	85	411

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: KL, CM

Intersection of: Nebraska Avenue NW
and: Van Ness Street NW
Location: Washington DC

Date: April 20, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Nebraska Avenue					TRAFFIC FROM SOUTH on: Nebraska Avenue					TRAFFIC FROM EAST on: Van Ness Street					TRAFFIC FROM WEST on: Van Ness Street					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	0	94	1	0	95	0	42	29	0	71	19	3	1	0	23	2	14	0	0	16	205
45-00	0	122	5	0	127	0	71	29	0	100	24	8	2	0	34	1	19	0	0	20	281
07:0-15	1	135	5	0	141	1	86	37	0	124	23	9	0	0	32	3	24	0	0	27	324
15-30	0	117	3	0	120	3	96	55	0	154	27	13	0	0	40	2	33	0	0	35	349
30-45	0	169	4	0	173	1	120	67	0	188	37	24	0	0	61	2	78	1	0	81	503
45-00	2	177	3	0	182	3	128	65	0	196	39	42	4	0	85	3	101	0	0	104	567
08:0-15	8	170	13	0	191	8	106	92	0	206	21	59	3	0	83	2	110	1	0	113	593
15-30	4	135	16	0	155	10	114	61	0	185	22	71	2	0	95	5	79	0	0	84	519
30-45	5	130	31	0	166	8	138	74	0	220	28	55	4	0	87	1	99	0	0	100	573
45-00	2	128	25	0	155	10	141	87	0	238	16	41	3	0	60	2	87	0	0	89	542
09:0-15	8	176	26	0	210	4	118	84	0	206	25	31	1	0	57	3	90	0	0	93	566
15-30	0	119	4	0	123	2	100	71	0	173	20	26	1	0	47	7	75	3	0	85	428
3 Hr Totals	30	1672	136	0	1838	50	1260	751	0	2061	301	382	21	0	704	33	809	5	0	847	5450
1 Hr Totals																					
630-730	1	468	14	0	483	4	295	150	0	449	93	33	3	0	129	8	90	0	0	98	1159
645-745	1	543	17	0	561	5	373	188	0	566	111	54	2	0	167	8	154	1	0	163	1457
07-08	3	598	15	0	616	8	430	224	0	662	126	88	4	0	218	10	236	1	0	247	1743
715-815	10	633	23	0	666	15	450	279	0	744	124	138	7	0	269	9	322	2	0	333	2012
730-830	14	651	36	0	701	22	468	285	0	775	119	196	9	0	324	12	368	2	0	382	2182
745-845	19	612	63	0	694	29	486	292	0	807	110	227	13	0	350	11	389	1	0	401	2252
08-09	19	563	85	0	667	36	499	314	0	849	87	226	12	0	325	10	375	1	0	386	2227
815-915	19	569	98	0	686	32	511	306	0	849	91	198	10	0	299	11	355	0	0	366	2200
830-930	15	553	86	0	654	24	497	316	0	837	89	153	9	0	251	13	351	3	0	367	2109
PEAK HOUR																					
745-845	19	612	63	0	694	29	486	292	0	807	110	227	13	0	350	11	389	1	0	401	2252
PM																					
04:0-15	1	93	10	0	104	1	152	22	0	175	62	49	0	0	111	6	31	0	0	37	427
15-30	0	129	4	0	133	0	142	20	0	162	72	47	1	0	120	6	22	2	0	30	445
30-45	0	122	9	0	131	1	136	26	0	163	47	46	1	0	94	5	38	1	0	44	432
45-00	2	123	8	0	133	2	123	37	0	162	61	55	0	0	116	5	38	0	0	43	454
05:0-15	2	118	5	0	125	0	158	32	0	190	56	63	0	0	119	5	40	0	0	45	479
15-30	5	138	7	0	150	0	134	30	0	164	63	74	0	0	137	1	37	4	0	42	493
30-45	2	109	10	0	121	0	119	30	0	149	43	57	0	0	100	8	45	0	0	53	423
45-00	1	137	8	0	146	0	174	28	0	202	54	89	1	0	144	16	48	0	0	64	556
06:0-15	2	118	3	0	123	6	157	29	0	192	62	76	1	0	139	9	44	0	0	53	507
15-30	1	114	6	0	121	2	160	40	0	202	60	84	0	0	144	5	45	0	0	50	517
30-45	2	113	3	0	118	3	146	32	0	181	65	82	1	0	148	2	37	1	0	40	487
45-00	0	74	4	0	78	0	118	27	0	145	45	34	1	0	80	9	27	1	0	37	340
3 Hr Totals	18	1388	77	0	1483	15	1719	353	0	2087	690	756	6	0	1452	77	452	9	0	538	5560
1 Hr Totals																					
04-05	3	467	31	0	501	4	553	105	0	662	242	197	2	0	441	22	129	3	0	154	1758
415-515	4	492	26	0	522	3	559	115	0	677	236	211	2	0	449	21	138	3	0	162	1810
430-530	9	501	29	0	539	3	551	125	0	679	227	238	1	0	466	16	153	5	0	174	1858
445-545	11	488	30	0	529	2	534	129	0	665	223	249	0	0	472	19	160	4	0	183	1849
05-06	10	502	30	0	542	0	585	120	0	705	216	283	1	0	500	30	170	4	0	204	1951
515-615	10	502	28	0	540	6	584	117	0	707	222	296	2	0	520	34	174	4	0	212	1979
530-630	6	478	27	0	511	8	610	127	0	745	219	306	2	0	527	38	182	0	0	220	2003
545-645	6	482	20	0	508	11	637	129	0	777	241	331	3	0	575	32	174	1	0	207	2067
06-07	5	419	16	0	440	11	581	128	0	720	232	276	3	0	511	25	153	2	0	180	1851
PEAK HOUR																					
545-645	6	482	20	0	508	11	637	129	0	777	241	331	3	0	575	32	174	1	0	207	2067

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCL

Intersection of: Wisconsin Avenue NW
and: Van Ness Street
Location: Washington DC

Date: April 20, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Wisconsin Avenue					TRAFFIC FROM SOUTH on: Wisconsin Avenue					TRAFFIC FROM EAST on: Van Ness Street					TRAFFIC FROM WEST on: Van Ness Street					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	10	200	7	0	217	2	101	4	0	107	10	21	8	0	39	7	14	12	0	33	396
45-00	16	231	8	0	255	2	109	2	0	113	11	25	5	0	41	4	25	11	0	40	449
07:0-15	14	289	13	0	316	3	149	5	0	157	10	27	6	0	43	6	27	9	0	42	558
15-30	13	361	9	0	383	3	156	5	0	164	12	33	10	0	55	4	37	14	0	55	657
30-45	13	437	17	0	467	6	205	5	0	216	13	47	14	0	74	7	62	15	0	84	841
45-00	13	412	17	0	442	3	236	8	0	247	17	56	18	0	91	0	64	21	0	85	865
08:0-15	12	395	9	0	416	7	235	14	0	256	14	55	10	0	79	4	68	27	0	99	850
15-30	6	451	19	0	476	8	224	9	0	241	22	59	8	0	89	13	62	21	0	96	902
30-45	20	417	14	0	451	5	224	14	0	243	18	63	17	0	98	5	62	23	0	90	882
45-00	23	414	17	0	454	4	191	14	0	209	18	48	19	0	85	4	68	23	0	95	843
09:0-15	17	371	24	0	412	0	177	17	0	194	19	47	15	0	81	9	68	25	0	102	789
15-30	12	339	21	0	372	6	175	5	0	186	17	41	9	0	67	2	64	23	0	89	714
3 Hr Totals	169	4317	175	0	4661	49	2182	102	0	2333	181	522	139	0	842	65	621	224	0	910	8746
1 Hr Totals																					
630-730	53	1081	37	0	1171	10	515	16	0	541	43	106	29	0	178	21	103	46	0	170	2060
645-745	56	1318	47	0	1421	14	619	17	0	650	46	132	35	0	213	21	151	49	0	221	2505
07-08	53	1499	56	0	1608	15	746	23	0	784	52	163	48	0	263	17	190	59	0	266	2921
715-815	51	1605	52	0	1708	19	832	32	0	883	56	191	52	0	299	15	231	77	0	323	3213
730-830	44	1695	62	0	1801	24	900	36	0	960	66	217	50	0	333	24	256	84	0	364	3458
745-845	51	1675	59	0	1785	23	919	45	0	987	71	233	53	0	357	22	256	92	0	370	3499
08-09	61	1677	59	0	1797	24	874	51	0	949	72	225	54	0	351	26	260	94	0	380	3477
815-915	66	1653	74	0	1793	17	816	54	0	887	77	217	59	0	353	31	260	92	0	383	3416
830-930	72	1541	76	0	1689	15	767	50	0	832	72	199	60	0	331	20	262	94	0	376	3228
PEAK HOUR																					
745-845	51	1675	59	0	1785	23	919	45	0	987	71	233	53	0	357	22	256	92	0	370	3499
PM																					
04:0-15	8	197	11	0	216	4	299	11	0	314	17	63	19	0	99	9	37	15	0	61	690
15-30	18	209	7	0	234	1	273	9	0	283	12	57	31	0	100	7	42	14	0	63	680
30-45	17	200	16	0	233	4	296	16	0	316	13	49	32	0	94	14	34	18	0	66	709
45-00	12	237	8	0	257	0	286	9	0	295	12	70	20	0	102	12	49	15	0	76	730
05:0-15	9	204	11	0	224	3	259	8	0	270	11	69	16	0	96	9	56	14	0	79	669
15-30	12	266	13	0	291	3	376	16	0	395	13	67	18	0	98	15	63	21	0	99	883
30-45	16	216	9	0	241	3	362	17	0	382	21	61	27	0	109	23	61	21	0	105	837
45-00	14	238	8	0	260	2	389	15	0	406	12	60	30	0	102	10	52	24	0	86	854
06:0-15	19	196	12	0	227	2	415	17	0	434	11	67	23	0	101	13	50	23	0	86	848
15-30	15	234	12	0	261	6	371	15	0	392	15	63	25	0	103	19	58	13	0	90	846
30-45	14	222	8	0	244	1	374	10	0	385	10	58	30	0	98	19	49	17	0	85	812
45-00	20	228	13	0	261	10	327	13	0	350	14	45	26	0	85	17	50	13	0	80	776
3 Hr Totals	174	2647	128	0	2949	39	4027	156	0	4222	161	729	297	0	1187	167	601	208	0	976	9334
1 Hr Totals																					
04-05	55	843	42	0	940	9	1154	45	0	1208	54	239	102	0	395	42	162	62	0	266	2809
415-515	56	850	42	0	948	8	1114	42	0	1164	48	245	99	0	392	42	181	61	0	284	2788
430-530	50	907	48	0	1005	10	1217	49	0	1276	49	255	86	0	390	50	202	68	0	320	2991
445-545	49	923	41	0	1013	9	1283	50	0	1342	57	267	81	0	405	59	229	71	0	359	3119
05-06	51	924	41	0	1016	11	1386	56	0	1453	57	257	91	0	405	57	232	80	0	369	3243
515-615	61	916	42	0	1019	10	1542	65	0	1617	57	255	98	0	410	61	226	89	0	376	3422
530-630	64	884	41	0	989	13	1537	64	0	1614	59	251	105	0	415	65	221	81	0	367	3385
545-645	62	890	40	0	992	11	1549	57	0	1617	48	248	108	0	404	61	209	77	0	347	3360
06-07	68	880	45	0	993	19	1487	55	0	1561	50	233	104	0	387	68	207	66	0	341	3282
PEAK HOUR																					
515-615	61	916	42	0	1019	10	1542	65	0	1617	57	255	98	0	410	61	226	89	0	376	3422

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: JC

Intersection of: Massachusettts Avenue NW
and: 45th Street NW
Location: Washington DC

Date: April 20, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Massachusetts Ave					TRAFFIC FROM SOUTH on: Massachusetts Ave					TRAFFIC FROM EAST on: 45th Street					TRAFFIC FROM WEST on: 45th Street					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	4	132	0	0	136	0	46	3	0	49	4	0	1	0	5	0	0	0	0	0	190
45-00	4	182	0	0	186	0	79	2	0	81	2	0	0	0	2	0	0	0	0	0	269
07:0-15	6	252	0	0	258	0	85	1	0	86	2	0	1	0	3	0	0	0	0	0	347
15-30	14	331	0	0	345	0	96	0	0	96	6	0	3	0	9	0	0	0	0	0	450
30-45	11	340	0	0	351	0	127	3	0	130	5	0	1	0	6	0	0	0	0	0	487
45-00	13	356	0	0	369	0	156	5	0	161	6	0	1	0	7	0	0	0	0	0	537
08:0-15	19	352	0	0	371	0	144	9	0	153	6	0	3	0	9	0	0	0	0	0	533
15-30	25	340	0	0	365	0	141	14	0	155	8	0	6	0	14	0	0	0	0	0	534
30-45	21	346	0	0	367	0	146	10	0	156	6	0	4	0	10	0	0	0	0	0	533
45-00	19	358	0	0	377	0	152	8	0	160	10	0	4	0	14	0	0	0	0	0	551
09:0-15	19	351	0	0	370	0	151	6	0	157	7	0	3	0	10	0	0	0	0	0	537
15-30	21	343	0	0	364	0	152	5	0	157	4	0	4	0	8	0	0	0	0	0	529
3 Hr Totals	176	3683	0	0	3859	0	1475	66	0	1541	66	0	31	0	97	0	0	0	0	0	5497
1 Hr Totals																					
630-730	28	897	0	0	925	0	306	6	0	312	14	0	5	0	19	0	0	0	0	0	1256
645-745	35	1105	0	0	1140	0	387	6	0	393	15	0	5	0	20	0	0	0	0	0	1553
07-08	44	1279	0	0	1323	0	464	9	0	473	19	0	6	0	25	0	0	0	0	0	1821
715-815	57	1379	0	0	1436	0	523	17	0	540	23	0	8	0	31	0	0	0	0	0	2007
730-830	68	1388	0	0	1456	0	568	31	0	599	25	0	11	0	36	0	0	0	0	0	2091
745-845	78	1394	0	0	1472	0	587	38	0	625	26	0	14	0	40	0	0	0	0	0	2137
08-09	84	1396	0	0	1480	0	583	41	0	624	30	0	17	0	47	0	0	0	0	0	2151
815-915	84	1395	0	0	1479	0	590	38	0	628	31	0	17	0	48	0	0	0	0	0	2155
830-930	80	1398	0	0	1478	0	601	29	0	630	27	0	15	0	42	0	0	0	0	0	2150
PEAK HOUR																					
815-915	84	1395	0	0	1479	0	590	38	0	628	31	0	17	0	48	0	0	0	0	0	2155
PM																					
04:0-15	7	183	0	0	190	0	221	8	0	229	2	0	2	0	4	0	0	0	0	0	423
15-30	11	179	0	0	190	0	233	8	0	241	3	0	2	0	5	0	0	0	0	0	436
30-45	14	177	0	0	191	0	248	6	0	254	5	0	4	0	9	0	0	0	0	0	454
45-00	13	185	0	0	198	0	255	5	0	260	7	0	3	0	10	0	0	0	0	0	468
05:0-15	11	197	0	0	208	0	249	6	0	255	9	0	3	0	12	0	0	0	0	0	475
15-30	9	209	0	0	218	0	250	7	0	257	9	0	5	0	14	0	0	0	0	0	489
30-45	9	211	0	0	220	0	283	12	0	295	11	0	6	0	17	0	0	0	0	0	532
45-00	9	217	0	0	226	0	311	15	0	326	13	0	4	0	17	0	0	0	0	0	569
06:0-15	8	210	0	0	218	0	312	10	0	322	9	0	4	0	13	0	0	0	0	0	553
15-30	10	202	0	0	212	0	324	6	0	330	7	0	3	0	10	0	0	0	0	0	552
30-45	8	182	0	0	190	0	293	6	0	299	6	0	2	0	8	0	0	0	0	0	497
45-00	7	172	0	0	179	0	282	9	0	291	4	0	4	0	8	0	0	0	0	0	478
3 Hr Totals	116	2324	0	0	2440	0	3261	98	0	3359	85	0	42	0	127	0	0	0	0	0	5926
1 Hr Totals																					
04-05	45	724	0	0	769	0	957	27	0	984	17	0	11	0	28	0	0	0	0	0	1781
415-515	49	738	0	0	787	0	985	25	0	1010	24	0	12	0	36	0	0	0	0	0	1833
430-530	47	768	0	0	815	0	1002	24	0	1026	30	0	15	0	45	0	0	0	0	0	1886
445-545	42	802	0	0	844	0	1037	30	0	1067	36	0	17	0	53	0	0	0	0	0	1964
05-06	38	834	0	0	872	0	1093	40	0	1133	42	0	18	0	60	0	0	0	0	0	2065
515-615	35	847	0	0	882	0	1156	44	0	1200	42	0	19	0	61	0	0	0	0	0	2143
530-630	36	840	0	0	876	0	1230	43	0	1273	40	0	17	0	57	0	0	0	0	0	2206
545-645	35	811	0	0	846	0	1240	37	0	1277	35	0	13	0	48	0	0	0	0	0	2171
06-07	33	766	0	0	799	0	1211	31	0	1242	26	0	13	0	39	0	0	0	0	0	2080
PEAK HOUR																					
530-630	36	840	0	0	876	0	1230	43	0	1273	40	0	17	0	57	0	0	0	0	0	2206

Gorove/Slade Associates

Project Name :	American University
Project # :	2211-001
Location :	NW Washington, D.C.
Data Source	Gorove/Slade Associates

Intersection: **Massachusetts Avenue NW at Glover Gate and the Katzen Art Center Access**

Date of Counts: Wednesday, November 19, 2008

AM Weather Conditions: **PM Weather Conditions:**

AM PEAK

Direction:			Southbound				Westbound				Northbound				Eastbound			
Roadway:			**Massachusetts Ave**				**Katzen Art Center**				**Massachusetts Ave**				**Glover Gate**			
Movement:			Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
6:00 AM	to	6:15 AM	6	37	0	0	0	0	0	0	0	27	9	0	4	2	1	0
6:15 AM	to	6:30 AM	6	48	0	6	0	0	0	0	0	40	6	0	7	0	0	0
6:30 AM	to	6:45 AM	6	109	1	1	0	0	0	0	0	25	19	0	5	0	3	0
6:45 AM	to	7:00 AM	11	143	1	3	0	1	0	5	2	62	15	0	6	1	5	5
7:00 AM	to	7:15 AM	15	207	1	1	0	3	0	6	2	85	0	1	11	0	4	5
7:15 AM	to	7:30 AM	8	248	1	1	0	0	0	0	4	92	2	2	16	1	12	3
7:30 AM	to	7:45 AM	6	337	1	1	0	0	2	2	4	151	0	2	5	0	5	3
7:45 AM	to	8:00 AM	9	386	0	1	0	0	0	5	6	150	0	3	8	2	5	4
8:00 AM	to	8:15 AM	11	348	3	1	0	4	1	3	10	192	1	7	9	0	6	13
8:15 AM	to	8:30 AM	14	328	3	10	4	2	0	14	6	184	0	14	7	1	13	48
8:30 AM	to	8:45 AM	23	349	2	0	1	4	1	6	11	178	2	8	11	0	3	30
8:45 AM	to	9:00 AM	31	304	2	2	0	2	0	3	9	178	0	9	11	1	9	18

PM PEAK

Direction:			Southbound				Westbound				Northbound				Eastbound			
Roadway:			**Massachusetts Ave**				**Katzen Art Center**				**Massachusetts Ave**				**Glover Gate**			
Movement:			Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
4:00 PM	to	4:15 PM	10	153	3	2	4	1	5	13	22	242	11	31	7	0	2	4
4:15 PM	to	4:30 PM	7	142	0	2	1	2	10	6	14	274	14	44	6	0	1	3
4:30 PM	to	4:45 PM	19	121	2	3	2	5	4	7	12	307	11	77	7	0	4	7
4:45 PM	to	5:00 PM	28	153	6	11	4	5	7	2	13	303	1	117	14	2	11	2
5:00 PM	to	5:15 PM	29	181	6	11	7	8	8	16	18	306	0	80	26	0	36	3
5:15 PM	to	5:30 PM	27	172	6	5	16	5	7	14	27	355	6	89	29	2	24	3
5:30 PM	to	5:45 PM	19	185	2	8	3	8	3	13	20	406	1	42	17	3	17	7
5:45 PM	to	6:00 PM	25	159	8	1	1	8	1	8	40	355	5	46	15	1	29	10
6:00 PM	to	6:15 PM	30	152	19	0	1	16	3	8	43	404	2	88	28	1	21	8
6:15 PM	to	6:30 PM	30	182	9	0	5	5	5	10	21	376	8	55	22	10	29	4
6:30 PM	to	6:45 PM	19	153	3	3	4	8	12	3	46	288	12	67	18	0	36	13
6:45 PM	to	7:00 PM	17	159	2	5	10	4	15	20	13	263	17	52	26	1	8	9

PEAK HOURS

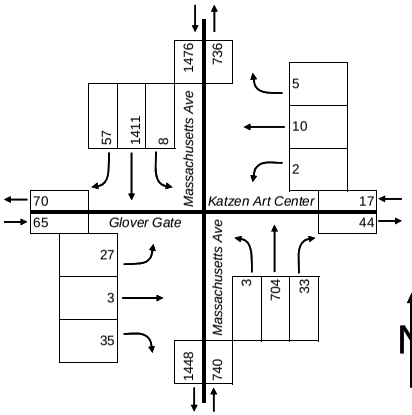
Direction:			Southbound				Westbound				Northbound				Eastbound			
Roadway:			**Massachusetts Ave**				**Katzen Art Center**				**Massachusetts Ave**				**Glover Gate**			
Movement:			Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM INTERSECTION PEAK HOUR																		
7:45 AM	to	8:45 AM	57	1411	8	12	5	10	2	28	33	704	3	32	35	3	27	95
PM INTERSECTION PEAK HOUR																		
5:30 PM	to	6:30 PM	104	678	38	9	10	37	12	39	124	1541	16	231	82	15	96	29
AM SYSTEM PEAK HOUR																		
7:45 AM	to	8:45 AM	57	1411	8	12	5	10	2	28	33	704	3	32	35	3	27	95
PM SYSTEM PEAK HOUR																		
5:00 PM	to	6:00 PM	100	697	22	25	27	29	19	51	105	1422	12	257	87	6	106	23

PEAK HOUR FACTORS	Southbound				Westbound				Northbound				Eastbound			
	Massachusetts Ave				**Katzen Art Center**				**Massachusetts Ave**				**Glover Gate**			
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM PEAK HOUR	0.62	0.91	0.67	N/A	0.31	0.63	0.50	N/A	0.75	0.92	0.38	N/A	0.80	0.38	0.52	N/A
PM PEAK HOUR	0.86	0.94	0.69	N/A	0.42	0.91	0.59	N/A	0.66	0.88	0.50	N/A	0.75	0.50	0.74	N/A

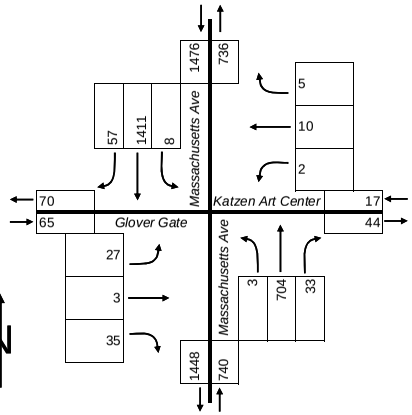
Overall AM PEAK HOUR FACTOR = 0.98 **Overall PM PEAK HOUR FACTOR** = 0.96

AM Period Intersection Volume: 4676 **PM Period Intersection Volume:** 7160

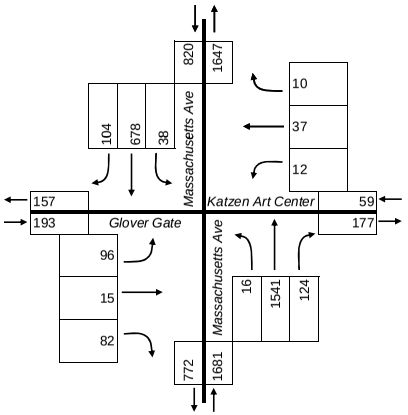
AM INTERSECTION PEAK VOLUMES



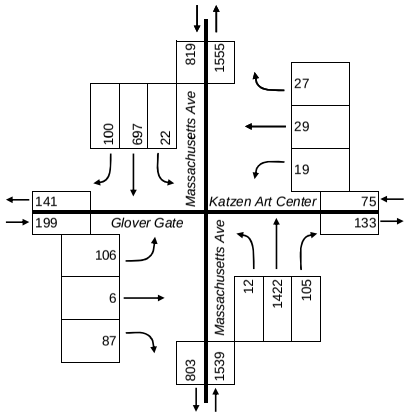
AM SYSTEM PEAK VOLUMES



PM INTERSECTION PEAK VOLUMES



PM SYSTEM PEAK VOLUMES



Gorove/Slade Associates

Project Name :	American University
Project Number:	2211-001
Location:	NW Washington, D.C.
Data Source:	Gorove/Slade Associates

Intersection: **Massachusetts Avenue at Nebraska Avenue (Ward Circle)**

Date of Counts: Wednesday, November 19, 2008

AM Weather Conditions: **PM Weather Conditions:**

AM PEAK

Direction:			Southbound				Westbound				Northbound				Eastbound			
Roadway:			**Massachusetts Ave**				**Nebraska Ave**				**Massachusetts Ave**				**Nebraska Ave**			
Movement:			Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
6:00 AM	to	6:15 AM	24	74	12	6					23	35	9	1	32	39	1	0
6:15 AM	to	6:30 AM	12	75	10	4					10	34	15	0	44	67	5	2
6:30 AM	to	6:45 AM	10	67	6	3					12	50	17	0	37	96	8	7
6:45 AM	to	7:00 AM	15	121	10	2	8	107	9	2	11	67	32	5	48	114	13	4
7:00 AM	to	7:15 AM	36	163	8	3	12	127	13	1	15	96	27	3	59	142	25	2
7:15 AM	to	7:30 AM	38	216	20	3	11	172	16	1	24	106	4	3	65	168	35	4
7:30 AM	to	7:45 AM	37	288	26	14	8	232	11	2	30	86	31	0	60	205	35	8
7:45 AM	to	8:00 AM	53	352	14	15	5	298	14	4	36	113	40	6	61	193	29	8
8:00 AM	to	8:15 AM	50	337	17	24	14	241	16	9	37	120	32	6	49	186	27	12
8:15 AM	to	8:30 AM	68	262	61	36	11	228	7	7	30	145	36	6	65	194	34	34
8:30 AM	to	8:45 AM	79	275	12	38	14	206	10	2	32	111	42	1	45	233	43	30
8:45 AM	to	9:00 AM	102	311	10	39	7	192	11	10	35	117	38	1	56	234	41	29

PM PEAK

Direction:			Southbound				Westbound				Northbound				Eastbound			
Roadway:			**Massachusetts Ave**				**Nebraska Ave**				**Massachusetts Ave**				**Nebraska Ave**			
Movement:			Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
4:00 PM	to	4:15 PM	63	124	11	50	4	210	10	19	29	145	95	5	39	190	49	14
4:15 PM	to	4:30 PM	64	172	14	50	5	206	8	12	25	168	79	0	46	209	47	34
4:30 PM	to	4:45 PM	75	174	12	81	7	204	11	15	23	173	86	2	42	223	46	30
4:45 PM	to	5:00 PM	55	150	10	101	2	248	4	10	25	182	77	0	44	191	47	48
5:00 PM	to	5:15 PM	61	190	12	116	17	284	12	17	34	186	66	0	38	167	40	60
5:15 PM	to	5:30 PM	94	209	14	137	7	316	4	25	20	216	68	0	38	206	29	59
5:30 PM	to	5:45 PM	97	267	27	75	5	319	10	12	23	221	64	10	47	209	50	31
5:45 PM	to	6:00 PM	82	284	12	61	8	259	21	20	22	279	55	3	26	215	49	31
6:00 PM	to	6:15 PM	68	223	9	49	8	267	22	9	34	254	49	5	39	166	60	45
6:15 PM	to	6:30 PM	68	287	10	51	5	311	11	7	24	292	37	10	48	174	50	22
6:30 PM	to	6:45 PM	51	303	6	57	5	208	12	5	31	272	56	0	46	161	40	27
6:45 PM	to	7:00 PM	66	308	5	68	24	172	21	14	23	230	44	0	33	152	44	36

PEAK HOURS

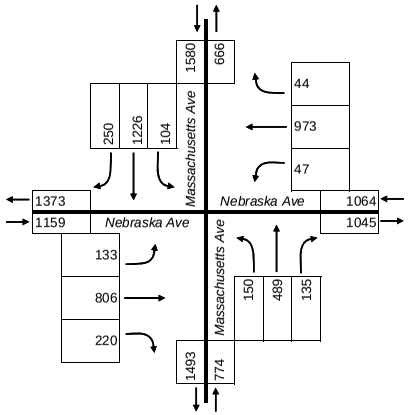
Direction:			Southbound				Westbound				Northbound				Eastbound			
Roadway:			**Massachusetts Ave**				**Nebraska Ave**				**Massachusetts Ave**				**Nebraska Ave**			
Movement:			Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM INTERSECTION PEAK HOUR																		
7:45 AM	to	8:45 AM	250	1226	104	113	44	973	47	22	135	489	150	19	220	806	133	84
PM INTERSECTION PEAK HOUR																		
5:30 PM	to	6:30 PM	315	1061	58	236	26	1156	64	48	103	1046	205	28	160	764	209	129
AM SYSTEM PEAK HOUR																		
7:45 AM	to	8:45 AM	250	1226	104	113	44	973	47	22	135	489	150	19	220	806	133	84
PM SYSTEM PEAK HOUR																		
5:00 PM	to	6:00 PM	334	950	65	389	37	1178	47	74	99	902	253	13	149	797	168	181

PEAK HOUR FACTORS	Southbound				Westbound				Northbound				Eastbound			
	Massachusetts Ave				**Nebraska Ave**				**Massachusetts Ave**				**Nebraska Ave**			
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM PEAK HOUR	0.79	0.87	0.43	N/A	0.79	0.82	0.73	N/A	0.91	0.84	0.89	N/A	0.85	0.86	0.77	N/A
PM PEAK HOUR	0.86	0.84	0.60	N/A	0.54	0.92	0.56	N/A	0.73	0.81	0.93	N/A	0.79	0.93	0.84	N/A

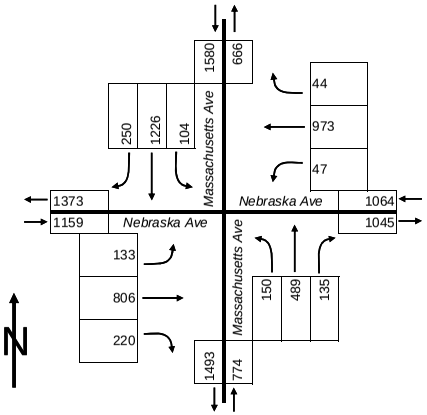
Overall AM PEAK HOUR FACTOR = 0.95 **Overall PM PEAK HOUR FACTOR** = 0.93

AM Period Intersection Volume: 9757 **PM Period Intersection Volume:** 13931

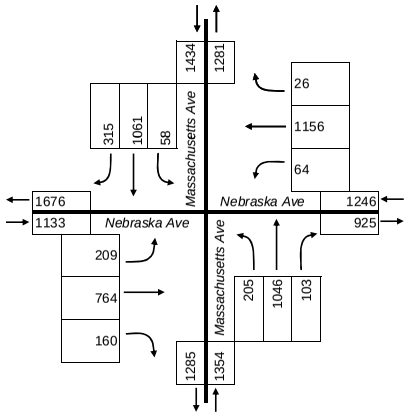
AM INTERSECTION PEAK VOLUMES



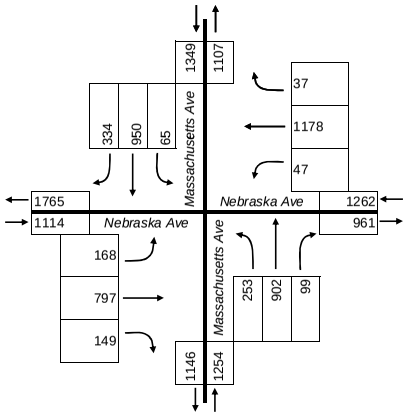
AM SYSTEM PEAK VOLUMES



PM INTERSECTION PEAK VOLUMES



PM SYSTEM PEAK VOLUMES



Gorove/Slade Associates

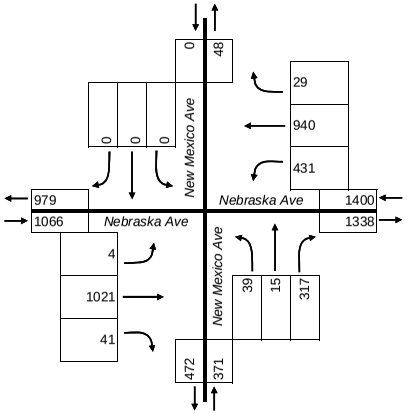
Project Name :	American University
Project Number:	2211-001
Location:	NW Washington, D.C.
Data Source:	Gorove/Slade Associates

Intersection:	**Nebraska Avenue NW at New Mexico Avenue NW**															
AM PEAK																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	**New Mexico Ave**				**Nebraska Ave**				**New Mexico Ave**				**Nebraska Ave**			
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
6:00 AM to 6:15 AM	0	0	0	0	1	56	9	2	9	0	0	4	22	31	0	1
6:15 AM to 6:30 AM	0	0	0	1	0	59	5	0	14	0	4	5	8	95	0	3
6:30 AM to 6:45 AM	0	0	0	0	0	109	22	0	16	0	0	11	2	109	0	3
6:45 AM to 7:00 AM	0	0	0	0	0	128	31	0	26	0	3	7	2	159	0	6
7:00 AM to 7:15 AM	0	0	0	0	0	163	26	0	32	0	4	5	4	189	1	1
7:15 AM to 7:30 AM	0	0	0	1	0	161	37	0	32	0	2	2	31	238	0	3
7:30 AM to 7:45 AM	0	0	0	0	6	203	74	0	70	0	4	6	11	277	0	0
7:45 AM to 8:00 AM	0	0	0	1	10	277	140	0	65	1	4	14	5	279	4	6
8:00 AM to 8:15 AM	0	0	0	1	7	256	110	0	91	12	17	5	12	228	0	0
8:15 AM to 8:30 AM	0	0	0	1	6	204	107	0	91	2	14	34	13	237	0	7
8:30 AM to 8:45 AM	0	0	0	2	3	158	103	0	86	0	7	12	24	258	2	5
8:45 AM to 9:00 AM	0	0	0	8	0	187	129	0	88	0	15	27	21	257	0	3
PM PEAK																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	**New Mexico Ave**				**Nebraska Ave**				**New Mexico Ave**				**Nebraska Ave**			
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
4:00 PM to 4:15 PM	0	0	0	0	7	270	183	0	79	0	19	40	12	196	0	3
4:15 PM to 4:30 PM	0	0	0	0	2	225	120	0	72	0	18	39	8	186	0	5
4:30 PM to 4:45 PM	0	0	0	2	1	213	129	0	71	0	11	44	12	197	0	7
4:45 PM to 5:00 PM	0	0	0	2	4	205	137	0	77	2	23	74	13	210	0	10
5:00 PM to 5:15 PM	0	0	0	4	8	217	193	0	94	0	41	108	27	216	0	12
5:15 PM to 5:30 PM	0	1	0	8	2	217	113	0	73	1	17	90	23	221	0	5
5:30 PM to 5:45 PM	0	0	0	1	5	201	110	0	91	0	22	33	16	228	0	9
5:45 PM to 6:00 PM	0	0	0	0	0	234	134	0	84	0	22	15	10	214	0	0
6:00 PM to 6:15 PM	0	0	0	0	0	181	184	0	84	0	19	61	9	209	0	5
6:15 PM to 6:30 PM	0	0	0	0	0	125	156	0	69	0	8	45	10	214	0	2
6:30 PM to 6:45 PM	0	0	0	3	12	174	153	0	64	0	24	45	8	180	0	8
6:45 PM to 7:00 PM	0	0	0	0	0	129	153	0	64	0	25	35	13	191	0	5
PEAK HOURS																
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	**New Mexico Ave**				**Nebraska Ave**				**New Mexico Ave**				**Nebraska Ave**			
Movement:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM INTERSECTION PEAK HOUR																
7:30 AM to 8:30 AM	0	0	0	3	29	940	431	0	317	15	39	59	41	1021	4	13
PM INTERSECTION PEAK HOUR																
5:00 PM to 6:00 PM	0	1	0	13	15	869	550	0	342	1	102	246	76	879	0	26
AM SYSTEM PEAK HOUR																
7:45 AM to 8:45 AM	0	0	0	5	26	895	460	0	333	15	42	65	54	1002	6	18
PM SYSTEM PEAK HOUR																
5:00 PM to 6:00 PM	0	1	0	13	15	869	550	0	342	1	102	246	76	879	0	26
PEAK HOUR	Southbound				Westbound				Northbound				Eastbound			
FACTORS	**New Mexico Ave**				**Nebraska Ave**				**New Mexico Ave**				**Nebraska Ave**			
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM PEAK HOUR	0.00	0.00	0.00	N/A	0.65	0.81	0.82	N/A	0.91	0.31	0.62	N/A	0.56	0.90	0.38	N/A
PM PEAK HOUR	0.00	0.25	0.00	N/A	0.47	0.93	0.71	N/A	0.91	0.25	0.62	N/A	0.70	0.96	0.00	N/A
Overall AM PEAK HOUR FACTOR				=	0.90				**Overall PM PEAK HOUR FACTOR**				=	0.89		
AM Period Intersection Volume:	6015				**PM Period Intersection Volume:**	7995										

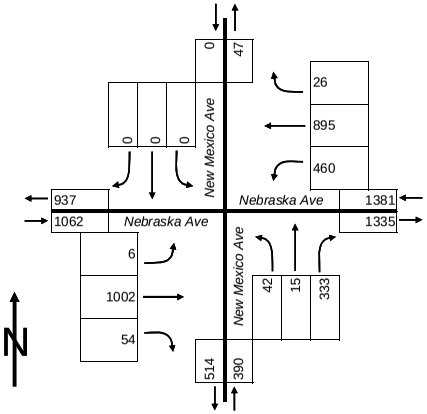
Date of Counts: Wednesday, November 19, 2008

AM Weather Conditions: **PM Weather Conditions:**

AM INTERSECTION PEAK VOLUMES

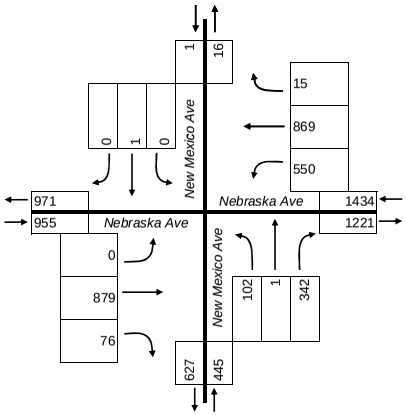


AM SYSTEM PEAK VOLUMES

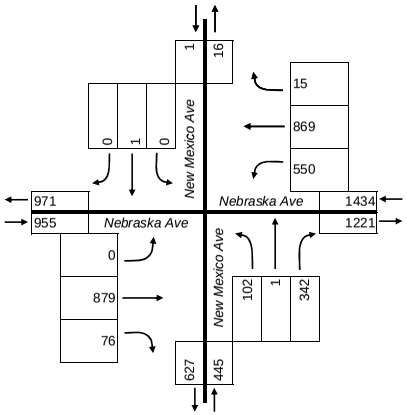


N

PM INTERSECTION PEAK VOLUMES



PM SYSTEM PEAK VOLUMES



VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by:

Intersection of: Massachusetts Avenue
and: Westover Place
Location: Washington DC

Date: April 15, 2010
Weather: Fair
Entered by: KL

Day: Thursday

TIME	TRAFFIC FROM NORTH on: Massachusetts Ave					TRAFFIC FROM SOUTH on: Massachusetts Ave					TRAFFIC FROM EAST on: N/A					TRAFFIC FROM WEST on: Westover Place					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	0	102	0	0	102	2	77	0	0	79	0	0	0	0	0	2	0	0	0	2	183
45-00	0	126	1	0	127	0	90	0	0	90	0	0	0	0	0	1	0	2	0	3	220
07:0-15	0	209	1	0	210	1	91	0	0	92	0	0	0	0	0	2	0	1	0	3	305
15-30	0	286	1	0	287	0	135	0	0	135	0	0	0	0	0	3	0	2	0	5	427
30-45	0	353	1	0	354	0	180	0	0	180	0	0	0	0	0	3	0	0	0	3	537
45-00	0	370	2	0	372	0	211	0	0	211	0	0	0	0	0	3	0	3	0	6	589
08:0-15	0	382	2	0	384	0	220	0	0	220	0	0	0	0	0	2	0	3	0	5	609
15-30	0	312	3	0	315	0	202	0	0	202	0	0	0	0	0	0	0	2	0	2	519
30-45	0	302	2	0	304	0	208	0	0	208	0	0	0	0	0	4	0	2	0	6	518
45-00	0	333	0	0	333	3	181	0	0	184	0	0	0	0	0	3	0	2	0	5	522
09:0-15	0	306	2	0	308	3	174	0	0	177	0	0	0	0	0	6	0	2	0	8	493
15-30	0	283	1	0	284	3	171	0	0	174	0	0	0	0	0	1	0	4	0	5	463
3 Hr Totals	0	3364	16	0	3380	12	1940	0	0	1952	0	0	0	0	0	30	0	23	0	53	5385
1 Hr Totals																					
630-730	0	723	3	0	726	3	393	0	0	396	0	0	0	0	0	8	0	5	0	13	1135
645-745	0	974	4	0	978	1	496	0	0	497	0	0	0	0	0	9	0	5	0	14	1489
07-08	0	1218	5	0	1223	1	617	0	0	618	0	0	0	0	0	11	0	6	0	17	1858
715-815	0	1391	6	0	1397	0	746	0	0	746	0	0	0	0	0	11	0	8	0	19	2162
730-830	0	1417	8	0	1425	0	813	0	0	813	0	0	0	0	0	8	0	8	0	16	2254
745-845	0	1366	9	0	1375	0	841	0	0	841	0	0	0	0	0	9	0	10	0	19	2235
08-09	0	1329	7	0	1336	3	811	0	0	814	0	0	0	0	0	9	0	9	0	18	2168
815-915	0	1253	7	0	1260	6	765	0	0	771	0	0	0	0	0	13	0	8	0	21	2052
830-930	0	1224	5	0	1229	9	734	0	0	743	0	0	0	0	0	14	0	10	0	24	1996
PEAK HOUR																					
730-830	0	1417	8	0	1425	0	813	0	0	813	0	0	0	0	0	8	0	8	0	16	2254
PM																					
04:0-15	0	183	4	0	187	1	284	0	0	285	0	0	0	0	0	0	0	4	0	4	476
15-30	0	155	3	0	158	3	247	0	0	250	0	0	0	0	0	0	0	2	0	2	410
30-45	0	162	5	0	167	4	242	0	0	246	0	0	0	0	0	1	0	2	0	3	416
45-00	0	209	2	0	211	3	295	0	0	298	0	0	0	0	0	2	0	4	0	6	515
05:0-15	0	215	5	0	220	0	234	0	0	234	0	0	0	0	0	3	0	0	0	3	457
15-30	0	196	6	0	202	3	287	0	0	290	0	0	0	0	0	3	0	4	0	7	499
30-45	0	234	0	0	234	3	354	0	0	357	0	0	0	0	0	2	0	3	0	5	596
45-00	0	253	3	0	256	4	357	0	0	361	0	0	0	0	0	1	0	3	0	4	621
06:0-15	0	216	3	0	219	3	308	0	0	311	0	0	0	0	0	4	0	3	0	7	537
15-30	0	223	5	0	228	2	320	0	0	322	0	0	0	0	0	0	0	1	0	1	551
30-45	0	205	0	0	205	2	290	0	0	292	0	0	0	0	0	4	0	1	0	5	502
45-00	0	256	2	0	258	3	239	0	0	242	0	0	0	0	0	0	0	2	0	2	502
3 Hr Totals	0	2507	38	0	2545	31	3457	0	0	3488	0	0	0	0	0	20	0	29	0	49	6082
1 Hr Totals																					
04-05	0	709	14	0	723	11	1068	0	0	1079	0	0	0	0	0	3	0	12	0	15	1817
415-515	0	741	15	0	756	10	1018	0	0	1028	0	0	0	0	0	6	0	8	0	14	1798
430-530	0	782	18	0	800	10	1058	0	0	1068	0	0	0	0	0	9	0	10	0	19	1887
445-545	0	854	13	0	867	9	1170	0	0	1179	0	0	0	0	0	10	0	11	0	21	2067
05-06	0	898	14	0	912	10	1232	0	0	1242	0	0	0	0	0	9	0	10	0	19	2173
515-615	0	899	12	0	911	13	1306	0	0	1319	0	0	0	0	0	10	0	13	0	23	2253
530-630	0	926	11	0	937	12	1339	0	0	1351	0	0	0	0	0	7	0	10	0	17	2305
545-645	0	897	11	0	908	11	1275	0	0	1286	0	0	0	0	0	9	0	8	0	17	2211
06-07	0	900	10	0	910	10	1157	0	0	1167	0	0	0	0	0	8	0	7	0	15	2092
PEAK HOUR																					
530-630	0	926	11	0	937	12	1339	0	0	1351	0	0	0	0	0	7	0	10	0	17	2305

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Massachusetts Ave NW
and: 39th Street NW - Idaho Ave NW
Location: Washington, DC

Counted by: VCU
Date: April 13,2010
Weather: Sunny,Mild
Entered by: JW

Day: Tuesday

TIME	SB 39th Street NW TO							SB Idaho Ave NW TO							WB Massachusetss Ave NW TO							NB 39th St NW							NB Idaho Ave NW TO							EB Mass Ave NW TO							TOTAL N + S + E + W
	NB Mass Ave	SB Idaho Ave	SB 39th St	SB Mass Ave	NB Idaho Ave	NB 39th St	TOTAL	NB 39th St	EB Mass Ave	SB Idaho Ave	SB 39th St	WB Mass Ave	NB 39th St	TOTAL	SB 39th St	SB Idaho Ave	WB Mass Ave	NB 39th St	NB Idaho Ave	EB Mass Ave	TOTAL	SB Idaho Ave	WB Mass Ave	NB 39th St	NB Idaho Ave	EB Mass Ave	SB 39th St	TOTAL	SB 39th St	SB Mass Ave	NB Idaho Ave	NB 39th St	NB Mass Ave	SB Idaho Ave	TOTAL	NB 39th St	NB Idaho Ave	EB Mass Ave	SB 39th St	SB Idaho Ave	WB Mass Ave	TOTAL	
AM																																											
30-45	0	5	0	3	0	0	8	0	0	0	0	0	0	0	0	0	46	0	4	0	50	2	5	0	8	1	0	16	0	0	0	0	0	0	0	0	0	95	0	1	0	96	170
45-00	0	5	0	5	0	0	10	0	0	0	0	0	0	0	0	3	55	0	2	0	60	0	8	0	4	3	0	15	0	0	0	0	0	0	0	0	1	126	0	2	0	129	214
07:0-15	0	4	0	10	1	0	15	0	0	0	0	0	0	0	0	2	52	0	13	0	67	1	12	0	14	2	0	29	0	0	0	0	0	0	0	0	3	159	0	4	0	166	277
15-30	1	24	0	10	2	0	37	0	0	0	0	0	0	0	0	3	65	0	2	0	70	4	14	0	26	8	0	52	0	0	0	0	0	0	0	0	6	224	0	4	0	234	393
30-45	4	18	0	20	0	0	42	0	0	0	0	0	0	0	0	3	93	0	5	0	101	0	14	0	38	5	0	57	0	0	0	0	0	0	0	0	14	234	0	4	0	252	452
45-00	1	18	0	36	0	0	55	0	0	0	0	0	0	0	0	7	120	0	1	0	128	0	20	0	61	13	0	94	0	0	0	0	0	0	0	0	6	283	0	7	0	296	573
08:0-15	0	17	0	27	1	0	45	0	0	0	0	0	0	0	0	10	90	0	7	0	107	4	26	0	73	11	0	114	0	0	0	0	0	0	0	0	4	262	0	7	0	273	539
15-30	0	4	0	20	2	0	26	0	0	0	0	0	0	0	0	7	117	0	7	0	131	3	24	0	45	3	0	75	0	0	0	0	0	0	0	0	1	256	0	10	0	267	499
30-45	5	1	0	32	2	0	40	0	0	0	0	0	0	0	0	7	83	0	2	0	92	0	31	0	48	6	0	85	0	0	0	0	0	0	0	0	1	238	0	15	0	254	471
45-00	1	13	0	26	2	0	42	0	0	0	0	0	0	0	0	7	85	0	2	0	94	1	26	0	43	2	0	72	0	0	0	0	0	0	0	0	3	219	0	7	0	229	437
09:0-15	1	6	0	13	1	0	21	0	0	0	0	0	0	0	0	7	100	0	7	0	114	0	19	0	49	0	0	68	0	0	0	0	0	0	0	0	2	210	0	8	0	220	423
15-30	1	11	0	24	1	0	37	0	0	0	0	0	0	0	0	4	91	0	5	0	100	0	19	0	31	1	0	51	0	0	0	0	0	0	0	0	2	233	0	7	0	242	430
3 Hr Totals	14	126	0	226	12	0	378	0	0	0	0	0	0	0	0	60	997	0	57	0	1114	15	218	0	440	55	0	728	0	0	0	0	0	0	0	0	43	2539	0	76	0	2658	4878
1 Hr Totals																																											
630-730	1	38	0	28	3	0	70	0	0	0	0	0	0	0	0	8	218	0	21	0	247	7	39	0	52	14	0	112	0	0	0	0	0	0	0	0	10	604	0	11	0	625	1054
645-745	5	51	0	45	3	0	104	0	0	0	0	0	0	0	0	11	265	0	22	0	298	5	48	0	82	18	0	153	0	0	0	0	0	0	0	0	24	743	0	14	0	781	1336
7-8	6	64	0	76	3	0	149	0	0	0	0	0	0	0	0	15	330	0	21	0	366	5	60	0	139	28	0	232	0	0	0	0	0	0	0	0	29	900	0	19	0	948	1695
715-815	6	77	0	93	3	0	179	0	0	0	0	0	0	0	0	23	368	0	15	0	406	8	74	0	198	37	0	317	0	0	0	0	0	0	0	0	30	1003	0	22	0	1055	1957
730-830	5	57	0	103	3	0	168	0	0	0	0	0	0	0	0	27	420	0	20	0	467	7	84	0	217	32	0	340	0	0	0	0	0	0	0	0	25	1035	0	28	0	1088	2063
745-845	6	40	0	115	5	0	166	0	0	0	0	0	0	0	0	31	410	0	17	0	458	7	101	0	227	33	0	368	0	0	0	0	0	0	0	0	12	1039	0	39	0	1090	2082
8-9	6	35	0	105	7	0	153	0	0	0	0	0	0	0	0	31	375	0	18	0	424	8	107	0	209	22	0	346	0	0	0	0	0	0	0	0	9	975	0	39	0	1023	1946
815-915	7	24	0	91	7	0	129	0	0	0	0	0	0	0	0	28	385	0	18	0	431	4	100	0	185	11	0	300	0	0	0	0	0	0	0	0	7	923	0	40	0	970	1830
830-930	8	31	0	95	6	0	140	0	0	0	0	0	0	0	0	25	359	0	16	0	400	1	95	0	171	9	0	276	0	0	0	0	0	0	0	0	8	900	0	37	0	945	1761
PEAK HOUR																																											
745-845	6	40	0	115	5	0	166	0	0	0	0	0	0	0	0	31	410	0	17	0	458	7	101	0	227	33	0	368	0	0	0	0	0	0	0	0	12	1039	0	39	0	1090	2082
PM																																											
04:0-15	1	4	0	25	0	0	30	0	0	0	0	0	0	0	0	23	166	0	8	0	197	1	12	0	41	3	0	57	0	0	0	0	0	0	0	0	2	97	0	12	0	111	
15-30	0	6	0	18	0	0	24	0	0	0	0	0	0	0	0	32	163	0	8	0	203	0	5	0	28	1	0	34	0	0	0	0	0	0	0	0	3	100	0	15	0	118	379
30-45	0	6	0	22	2	0	30	0	0	0	0	0	0	0	0	25	158	0	3	0	186	0	10	0	27	1	0	38	0	0	0	0	0	0	0	0	1	92	0	11	0	104	358
45-00	2	1	0	28	1	0	32	0	0	0	0	0	0	0	0	21	208	0	5	0	234	0	7	0	23	0	0	30	0	0	0	0	0	0	0	0	3	100	0	16	0	119	415
05:0-15	2	6	0	32	1	0	41	0	0	0	0	0	0	0	0	30	197	0	5	0	232	0	8	0	30	2	0	40	0	0	0	0	0	0	0	0	2	101	0	10	0	113	426
15-30	1	5	0	40	3	0	49	0	0	0	0	0	0	0	0	32	244	0	11	0	287	2	11	0	32	1	0	46	0	0	0	0	0	0	0	0	0	130	0	15	0	145	527
30-45	1	11	0	26	1	0	39	0	0	0	0	0	0	0	0	32	203	0	8	0	243	0	12	0	30	0	0	42	0	0	0	0	0	0	0	0	1	102	0	7	0	110	434
45-00	0	8	0	30	3	0	41	0	0	0	0	0	0	0	0	35	206	0	6	0	247	0	8	0	31	2	0	41	0	0	0	0	0	0	0	0	1	123	0	13	0	137	466
06:0-15	3	8	0	36	0	0	47	0	0	0	0	0	0	0	0	32	238	0	8	0	278	0	15	0	33	2	0	50	0	0	0	0	0	0	0	0	2	112	0	13	0	127	502
15-30	2	3	0	27	1	0	33	0	0	0	0	0	0	0	0	43	212	0	4	0	259	4	10	0	28	2	0	44	0	0	0	0	0	0	0	0	0	140	0	16	0	156	492
30-45	0	5	0	35	1	0	41	0	0	0	0	0	0	0	0	19	189	0	3	0	211	0	11	0	24	3	0	38	0	0	0	0	0	0	0	0	1	144	0	20	0	165	455
45-00	1	6	0	29	0	0	36	0	0	0	0	0	0	0	0	8	191	0	7	0	206	0	16	0	19	1	0	36	0	0	0	0	0	0	0	0	2	120	0	6	0	128	406
3 Hr Totals	13	69	0	348	13	0	443	0	0	0	0	0	0	0	0	332	2375	0	76	0	2783	7	125	0	346	18	0	496	0	0	0	0	0	0	0	0	18	1361	0	154	0	1533	5255
1 Hr Totals																																											
04-05	3	17	0	93	3	0	116	0	0	0	0	0	0	0	0	101	695	0	24	0	820	1	34	0	119	5	0	159	0	0	0	0	0	0	0	0	9	389	0	54	0	452	1547
415-515	4	19	0	100	4	0	127	0	0	0	0	0	0	0	0	108	726	0	21	0	855	0	30	0	108	4	0	142	0	0	0	0	0	0	0	0	9	393	0	52	0	454	1578
430-530	5	18	0	122	7	0	152	0	0	0	0	0	0	0	0	108	807	0	24	0	939	2	36	0	112	4	0	154	0	0	0	0	0	0	0	0	6	423	0	52	0	481	1726
445-545	6	23	0	126	6	0	161	0	0	0	0	0	0	0	0	115	852	0	29	0	996	2	38	0	115	3	0	158	0	0	0	0	0	0	0	0	6	433	0	48	0	487	1802
05-06	4	30	0	128	8	0	170	0	0	0	0	0	0	0	0	129	850	0	30	0	1009	2	39	0	123	5	0	169	0	0	0	0	0	0	0	0	4	456	0	45	0	505	1853
515-615	5	32	0	132	7	0	176	0	0	0	0	0	0	0	0	131	891	0	33	0	1055	2	46	0	126	5	0	179	0	0	0	0	0	0	0	0	4	467	0	48	0	519	1929
530-630	6	30	0	119	5	0	160	0	0	0	0	0	0	0	0	142	859	0	26	0	1027	4	45	0	122	6	0	177	0	0	0	0	0	0	0	0	4	477	0	49	0	530	1894
545-645	5	24	0	128	5	0	162	0	0	0	0	0	0	0	0	129	845	0	21	0	995	4	44	0	116	9	0	173	0	0	0	0	0	0	0	0	4	519	0	62	0	585	1915
06-07	6	22	0	127	2	0	157	0	0	0	0	0	0	0	0	102	830	0	22	0	954	4	52	0	104	8	0	168	0	0	0	0	0	0	0	0	5	516	0	55	0	576	1855
PEAK HOUR																																											
515-615	5	32	0	132	7	0	176	0	0	0	0	0	0	0	0	131	891	0	33	0	1055	2	46	0	126	5	0	179	0	0	0	0	0	0	0	0	4	467	0	48	0	519	1929

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Massachusetts Ave NW
and: Cathedral Ave NW
Location: Washington, DC

Date: April 13, 2010
Weather: Sunny, Mild
Entered by: JW

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Massachusetts Ave NW					TRAFFIC FROM SOUTH on: Massachusetts Ave NW					TRAFFIC FROM EAST on: Cathedral Ave NW					TRAFFIC FROM WEST on: Cathedral Ave NW					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	0	106	1	0	107	9	48	0	0	57	1	2	4	0	7	1	0	23	0	24	195
45-00	0	149	2	0	151	11	55	0	1	67	0	4	6	0	10	2	0	40	0	42	270
07:0-15	0	179	1	0	180	15	72	0	0	87	0	1	1	0	2	2	0	38	0	40	309
15-30	0	251	1	0	252	19	72	0	0	91	2	10	1	0	13	3	0	34	0	37	393
30-45	0	256	1	0	257	24	88	0	0	112	4	16	6	0	26	10	0	47	0	57	452
45-00	0	250	2	0	252	31	112	0	0	143	2	16	7	0	25	16	0	78	0	94	514
08:0-15	0	266	2	0	268	41	102	0	0	143	4	15	2	0	21	18	0	73	0	91	523
15-30	0	260	2	0	262	23	113	0	0	136	2	18	3	0	23	11	0	70	0	81	502
30-45	0	260	1	0	261	33	83	0	0	116	5	10	3	0	18	4	0	68	0	72	467
45-00	0	256	0	0	256	17	84	0	1	102	4	11	9	0	24	8	0	69	0	77	459
09:0-15	0	263	2	0	265	19	107	0	0	126	0	8	0	0	8	10	0	68	0	78	477
15-30	0	244	2	0	246	17	88	0	1	106	2	10	3	0	15	6	0	46	0	52	419
3 Hr Totals	0	2740	17	0	2757	259	1024	0	3	1286	26	121	45	0	192	91	0	654	0	745	4980
1 Hr Totals																					
630-730	0	685	5	0	690	54	247	0	1	302	3	17	12	0	32	8	0	135	0	143	1167
645-745	0	835	5	0	840	69	287	0	1	357	6	31	14	0	51	17	0	159	0	176	1424
07-08	0	936	5	0	941	89	344	0	0	433	8	43	15	0	66	31	0	197	0	228	1668
715-815	0	1023	6	0	1029	115	374	0	0	489	12	57	16	0	85	47	0	232	0	279	1882
730-830	0	1032	7	0	1039	119	415	0	0	534	12	65	18	0	95	55	0	268	0	323	1991
745-845	0	1036	7	0	1043	128	410	0	0	538	13	59	15	0	87	49	0	289	0	338	2006
08-09	0	1042	5	0	1047	114	382	0	1	497	15	54	17	0	86	41	0	280	0	321	1951
815-915	0	1039	5	0	1044	92	387	0	1	480	11	47	15	0	73	33	0	275	0	308	1905
830-930	0	1023	5	0	1028	86	362	0	2	450	11	39	15	0	65	28	0	251	0	279	1822
PEAK HOUR																					
745-845	0	1036	7	0	1043	128	410	0	0	538	13	59	15	0	87	49	0	289	0	338	2006
PM																					
04:0-15	0	98	2	0	100	0	180	0	0	180	3	11	1	0	15	5	0	22	0	27	322
15-30	0	102	7	0	109	4	213	0	0	217	4	10	1	0	15	1	0	31	0	32	373
30-45	0	97	2	0	99	2	192	0	0	194	1	14	7	0	22	4	0	36	0	40	355
45-00	0	102	3	0	105	2	216	0	0	218	5	13	5	0	23	4	0	25	0	29	375
05:0-15	0	104	1	1	106	3	219	0	0	222	2	15	5	0	22	5	0	32	0	37	387
15-30	0	139	5	0	144	2	277	0	0	279	1	11	4	0	16	7	0	35	0	42	481
30-45	0	114	1	0	115	1	234	0	1	236	5	11	5	0	21	2	0	31	0	33	405
45-00	0	136	3	0	139	3	261	0	1	265	3	12	8	0	23	7	0	25	0	32	459
06:0-15	0	114	0	0	114	2	274	0	0	276	7	14	8	0	29	1	0	38	0	39	458
15-30	0	147	0	0	147	0	270	0	0	270	1	11	5	0	17	1	0	26	0	27	461
30-45	0	173	0	0	173	16	193	0	0	209	0	11	11	0	22	4	0	21	0	25	429
45-00	0	123	0	0	123	34	228	0	2	264	3	9	21	0	33	8	0	38	0	46	466
3 Hr Totals	0	1449	24	1	1474	69	2757	0	4	2830	35	142	81	0	258	49	0	360	0	409	4971
1 Hr Totals																					
04-05	0	399	14	0	413	8	801	0	0	809	13	48	14	0	75	14	0	114	0	128	1425
415-515	0	405	13	1	419	11	840	0	0	851	12	52	18	0	82	14	0	124	0	138	1490
430-530	0	442	11	1	454	9	904	0	0	913	9	53	21	0	83	20	0	128	0	148	1598
445-545	0	459	10	1	470	8	946	0	1	955	13	50	19	0	82	18	0	123	0	141	1648
05-06	0	493	10	1	504	9	991	0	2	1002	11	49	22	0	82	21	0	123	0	144	1732
515-615	0	503	9	0	512	8	1046	0	2	1056	16	48	25	0	89	17	0	129	0	146	1803
530-630	0	511	4	0	515	6	1039	0	2	1047	16	48	26	0	90	11	0	120	0	131	1783
545-645	0	570	3	0	573	21	998	0	1	1020	11	48	32	0	91	13	0	110	0	123	1807
06-07	0	557	0	0	557	52	965	0	2	1019	11	45	45	0	101	14	0	123	0	137	1814
PEAK HOUR																					
06-07	0	557	0	0	557	52	965	0	2	1019	11	45	45	0	101	14	0	123	0	137	1814

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Wisconsin Ave NW
and: Cathedral Ave NW
Location: Washington, DC

Date: April 13, 2010
Weather: Sunny,Mild
Entered by: JW

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Wisconsin Ave NW					TRAFFIC FROM SOUTH on: Wisconsin Ave NW					TRAFFIC FROM EAST on: Cathedral Ave NW					TRAFFIC FROM WEST on: Cathedral Ave NW					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	0	152	4	0	156	3	109	0	1	113	0	0	0	0	0	0	0	0	0	0	269
45-00	0	209	7	0	216	3	154	0	0	157	0	0	0	0	0	0	0	0	0	0	373
07:0-15	0	222	4	0	226	0	168	0	0	168	0	0	0	0	0	0	0	0	0	0	394
15-30	0	247	12	0	259	0	213	0	0	213	0	0	0	0	0	0	0	0	0	0	472
30-45	0	297	24	0	321	0	278	0	0	278	0	0	0	0	0	0	0	0	0	0	599
45-00	0	353	24	0	377	0	288	0	0	288	0	0	0	0	0	0	0	0	0	0	665
08:0-15	0	388	21	0	409	0	252	0	0	252	0	0	0	0	0	0	0	0	0	0	661
15-30	0	403	21	0	424	0	292	0	0	292	0	0	0	0	0	0	0	0	0	0	716
30-45	0	394	15	0	409	0	268	0	0	268	0	0	0	0	0	0	0	0	0	0	677
45-00	0	369	25	0	394	0	302	0	0	302	0	0	0	0	0	0	0	0	0	0	696
09:0-15	0	346	8	0	354	0	271	0	0	271	0	0	0	0	0	0	0	0	0	0	625
15-30	0	315	16	0	331	0	260	0	0	260	0	0	0	0	0	0	0	0	0	0	591
3 Hr Totals	0	3695	181	0	3876	6	2855	0	1	2862	0	0	0	0	0	0	0	0	0	0	6738
1 Hr Totals																					
630-730	0	830	27	0	857	6	644	0	1	651	0	0	0	0	0	0	0	0	0	0	1508
645-745	0	975	47	0	1022	3	813	0	0	816	0	0	0	0	0	0	0	0	0	0	1838
07-08	0	1119	64	0	1183	0	947	0	0	947	0	0	0	0	0	0	0	0	0	0	2130
715-815	0	1285	81	0	1366	0	1031	0	0	1031	0	0	0	0	0	0	0	0	0	0	2397
730-830	0	1441	90	0	1531	0	1110	0	0	1110	0	0	0	0	0	0	0	0	0	0	2641
745-845	0	1538	81	0	1619	0	1100	0	0	1100	0	0	0	0	0	0	0	0	0	0	2719
08-09	0	1554	82	0	1636	0	1114	0	0	1114	0	0	0	0	0	0	0	0	0	0	2750
815-915	0	1512	69	0	1581	0	1133	0	0	1133	0	0	0	0	0	0	0	0	0	0	2714
830-930	0	1424	64	0	1488	0	1101	0	0	1101	0	0	0	0	0	0	0	0	0	0	2589
PEAK HOUR																					
08-09	0	1554	82	0	1636	0	1114	0	0	1114	0	0	0	0	0	0	0	0	0	0	2750
PM																					
04:0-15	0	214	19	0	233	0	299	0	0	299	0	0	0	0	0	0	0	0	0	0	532
15-30	0	189	15	0	204	0	253	0	0	253	0	0	0	0	0	0	0	0	0	0	457
30-45	0	185	23	0	208	1	309	0	0	310	0	0	0	0	0	0	0	0	0	0	518
45-00	0	190	23	0	213	1	287	0	0	288	0	0	0	0	0	0	0	0	0	0	501
05:0-15	0	228	23	0	251	0	322	0	0	322	0	0	0	0	0	0	0	0	0	0	573
15-30	0	245	15	0	260	1	354	0	0	355	0	0	0	0	0	0	0	0	0	0	615
30-45	0	221	24	0	245	1	312	0	0	313	0	0	0	0	0	0	0	0	0	0	558
45-00	0	239	30	0	269	1	358	0	0	359	0	0	0	0	0	0	0	0	0	0	628
06:0-15	0	213	24	0	237	1	331	0	0	332	0	0	0	0	0	0	0	0	0	0	569
15-30	0	220	22	0	242	2	310	0	0	312	0	0	0	0	0	0	0	0	0	0	554
30-45	0	201	14	0	215	7	296	0	0	303	0	0	0	0	0	0	0	0	0	0	518
45-00	0	218	12	0	230	16	291	0	0	307	0	0	0	0	0	0	0	0	0	0	537
3 Hr Totals	0	2563	244	0	2807	31	3722	0	0	3753	0	0	0	0	0	0	0	0	0	0	6560
1 Hr Totals																					
04-05	0	778	80	0	858	2	1148	0	0	1150	0	0	0	0	0	0	0	0	0	0	2008
415-515	0	792	84	0	876	2	1171	0	0	1173	0	0	0	0	0	0	0	0	0	0	2049
430-530	0	848	84	0	932	3	1272	0	0	1275	0	0	0	0	0	0	0	0	0	0	2207
445-545	0	884	85	0	969	3	1275	0	0	1278	0	0	0	0	0	0	0	0	0	0	2247
05-06	0	933	92	0	1025	3	1346	0	0	1349	0	0	0	0	0	0	0	0	0	0	2374
515-615	0	918	93	0	1011	4	1355	0	0	1359	0	0	0	0	0	0	0	0	0	0	2370
530-630	0	893	100	0	993	5	1311	0	0	1316	0	0	0	0	0	0	0	0	0	0	2309
545-645	0	873	90	0	963	11	1295	0	0	1306	0	0	0	0	0	0	0	0	0	0	2269
06-07	0	852	72	0	924	26	1228	0	0	1254	0	0	0	0	0	0	0	0	0	0	2178
PEAK HOUR																					
05-06	0	933	92	0	1025	3	1346	0	0	1349	0	0	0	0	0	0	0	0	0	0	2374

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: TGI

Intersection of: Massachusetts Ave
and: Wisconsin Ave
Location: Washington DC

Date: April 13, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Wisconsin Ave					TRAFFIC FROM SOUTH on: Wisconsin Ave					TRAFFIC FROM EAST on: Massachusetts Ave					TRAFFIC FROM WEST on: Massachusetts Ave					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	1	169	0	0	170	1	87	0	0	88	0	56	39	0	95	1	110	17	0	128	481
45-00	1	235	0	0	236	0	108	0	0	108	0	66	48	0	114	3	174	18	0	195	653
07:0-15	1	236	0	0	237	0	137	0	0	137	0	83	44	0	127	0	211	18	0	229	730
15-30	0	297	0	0	297	0	194	2	0	196	0	87	57	0	144	0	262	33	0	295	932
30-45	0	292	0	0	292	0	222	1	0	223	1	113	66	0	180	0	251	49	0	300	995
45-00	0	342	0	0	342	0	214	1	0	215	0	145	81	0	226	0	284	47	0	331	1114
08:0-15	0	394	0	0	394	0	200	0	0	200	0	138	57	0	195	0	303	31	0	334	1123
15-30	1	387	0	0	388	0	185	1	0	186	3	143	82	0	228	0	293	28	0	321	1123
30-45	8	368	0	0	376	0	194	1	0	195	0	107	57	0	164	0	282	50	0	332	1067
45-00	0	364	0	0	364	0	209	4	0	213	0	110	60	0	170	1	282	37	0	320	1067
09:0-15	2	342	0	0	344	0	192	1	0	193	1	121	52	0	174	0	269	44	0	313	1024
15-30	0	311	0	0	311	0	173	2	0	175	1	101	74	0	176	3	244	45	0	292	954
3 Hr Totals	14	3737	0	0	3751	1	2115	13	0	2129	6	1270	717	0	1993	8	2965	417	0	3390	11263
1 Hr Totals																					
630-730	3	937	0	0	940	1	526	2	0	529	0	292	188	0	480	4	757	86	0	847	2796
645-745	2	1060	0	0	1062	0	661	3	0	664	1	349	215	0	565	3	898	118	0	1019	3310
07-08	1	1167	0	0	1168	0	767	4	0	771	1	428	248	0	677	0	1008	147	0	1155	3771
715-815	0	1325	0	0	1325	0	830	4	0	834	1	483	261	0	745	0	1100	160	0	1260	4164
730-830	1	1415	0	0	1416	0	821	3	0	824	4	539	286	0	829	0	1131	155	0	1286	4355
745-845	9	1491	0	0	1500	0	793	3	0	796	3	533	277	0	813	0	1162	156	0	1318	4427
08-09	9	1513	0	0	1522	0	788	6	0	794	3	498	256	0	757	1	1160	146	0	1307	4380
815-915	11	1461	0	0	1472	0	780	7	0	787	4	481	251	0	736	1	1126	159	0	1286	4281
830-930	10	1385	0	0	1395	0	768	8	0	776	2	439	243	0	684	4	1077	176	0	1257	4112
PEAK HOUR																					
745-845	9	1491	0	0	1500	0	793	3	0	796	3	533	277	0	813	0	1162	156	0	1318	4427
PM																					
04:0-15	0	208	0	0	208	1	216	1	0	218	0	185	62	0	247	2	102	23	0	127	800
15-30	0	191	0	0	191	0	172	2	0	174	3	217	76	0	296	2	94	36	0	132	793
30-45	1	175	0	0	176	0	198	0	0	198	0	190	86	0	276	1	102	30	0	133	783
45-00	0	184	0	0	184	1	197	1	0	199	0	221	90	0	311	1	107	21	0	129	823
05:0-15	0	226	0	0	226	0	233	0	0	233	0	229	88	0	317	2	99	36	0	137	913
15-30	0	248	0	0	248	0	232	2	1	235	0	267	105	0	372	0	135	40	0	175	1030
30-45	0	223	0	0	223	0	193	3	0	196	0	219	91	0	310	0	109	42	0	151	880
45-00	0	249	0	0	249	0	240	2	0	242	1	244	99	0	344	0	110	47	0	157	992
06:0-15	0	221	0	0	221	0	240	1	0	241	0	274	101	0	375	0	133	29	0	162	999
15-30	0	235	0	0	235	0	262	1	0	263	1	270	88	0	359	1	137	35	0	173	1030
30-45	0	227	0	0	227	0	228	3	0	231	0	211	82	0	293	3	149	38	0	190	941
45-00	0	246	1	0	247	0	226	1	0	227	0	297	102	0	399	5	114	39	0	158	1031
3 Hr Totals	1	2633	1	0	2635	2	2637	17	1	2657	5	2824	1070	0	3899	17	1391	416	0	1824	11015
1 Hr Totals																					
04-05	1	758	0	0	759	2	783	4	0	789	3	813	314	0	1130	6	405	110	0	521	3199
415-515	1	776	0	0	777	1	800	3	0	804	3	857	340	0	1200	6	402	123	0	531	3312
430-530	1	833	0	0	834	1	860	3	1	865	0	907	369	0	1276	4	443	127	0	574	3549
445-545	0	881	0	0	881	1	855	6	1	863	0	936	374	0	1310	3	450	139	0	592	3646
05-06	0	946	0	0	946	0	898	7	1	906	1	959	383	0	1343	2	453	165	0	620	3815
515-615	0	941	0	0	941	0	905	8	1	914	1	1004	396	0	1401	0	487	158	0	645	3901
530-630	0	928	0	0	928	0	935	7	0	942	2	1007	379	0	1388	1	489	153	0	643	3901
545-645	0	932	0	0	932	0	970	7	0	977	2	999	370	0	1371	4	529	149	0	682	3962
06-07	0	929	1	0	930	0	956	6	0	962	1	1052	373	0	1426	9	533	141	0	683	4001
PEAK HOUR																					
06-07	0	929	1	0	930	0	956	6	0	962	1	1052	373	0	1426	9	533	141	0	683	4001

PEDESTRIAN OBSERVATIONS

Counted by: VCU
Day: Tuesday
Intersection of: Wisconsin Avenue NW
Date: April 20, 2010
and: Albemarle Street
Weather: Fair
Location: Washington DC
Entered by: KL

TIME	Wisconsin Ave				Albemarle Street			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	75	0	14	0	64	0	61	0
645-745	88	0	12	0	87	0	79	0
07-08	106	0	23	0	153	0	107	0
715-815	132	0	33	0	217	0	181	0
730-830	152	0	49	0	269	2	258	1
745-845	160	1	75	0	311	2	314	2
08-09	173	1	78	0	293	2	351	2
815-915	179	2	77	0	236	2	355	2
830-930	167	2	60	0	205	2	286	3
PM								
04-05	237	0	84	2	521	1	216	0
415-515	261	0	93	3	522	1	267	0
430-530	273	0	94	2	542	0	312	0
445-545	246	0	110	1	537	0	330	0
05-06	249	0	127	2	541	0	346	0
515-615	210	1	132	1	576	0	312	0
530-630	188	1	153	1	628	0	280	0
545-645	169	1	149	1	633	1	258	0
06-07	163	1	138	0	665	3	256	1

PEDESTRIAN OBSERVATIONS

Counted by: VCU
Day: Tuesday
Intersection of: Albemarle Street
Date: April 20, 2010
and: Fort Drive/40th Street
Weather: Fair
Location: Washington DC
Entered by: AG

TIME	40th Street/Fort Drive				Albemarle Street			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	29	0	10	0	11	0	9	0
645-745	45	0	9	0	11	0	9	0
07-08	58	0	16	0	20	0	13	0
715-815	83	0	22	0	23	0	24	0
730-830	101	0	23	0	19	0	26	0
745-845	130	0	36	0	25	0	43	0
08-09	148	2	32	0	16	0	52	0
815-915	149	2	29	0	14	0	46	0
830-930	163	2	25	0	18	0	46	0
PM								
04-05	108	1	34	0	19	1	31	1
415-515	121	1	33	0	22	0	32	1
430-530	140	1	39	0	26	0	45	1
445-545	153	1	30	0	24	0	51	1
05-06	168	0	29	0	27	0	60	0
515-615	171	1	25	1	27	1	66	0
530-630	176	1	17	1	25	2	58	0
545-645	173	1	25	1	29	2	55	0
06-07	160	1	32	1	30	3	48	0

PEDESTRIAN OBSERVATIONS

Intersection of: Tenley Circle
and: N. Wisconsin Ave
Location: Washington DC

Counted by: VCU
Date: April 20. 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	NORTH LEG Wisconsin Ave		SOUTH LEG Wisconsin Ave		EAST LEG Tenley Circle		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	29	1	4	0	60	1	52	0
645-745	58	1	5	0	75	1	80	1
07-08	72	2	4	0	104	2	100	2
715-815	112	2	5	0	117	2	145	2
730-830	122	4	6	0	134	1	172	2
745-845	93	4	8	0	172	1	189	2
08-09	84	3	8	0	185	0	197	1
815-915	48	3	5	0	195	0	178	1
830-930	41	0	5	0	188	0	145	1
PM								
04-05	49	0	12	0	272	0	98	0
415-515	87	0	24	0	264	0	136	0
430-530	97	2	28	0	266	3	158	1
445-545	106	2	30	0	294	8	166	2
05-06	127	3	24	0	296	9	171	4
515-615	104	3	15	0	359	9	142	4
530-630	97	1	12	0	371	6	131	4
545-645	92	2	10	0	405	1	115	4
06-07	72	1	14	0	404	0	124	3

PEDESTRIAN OBSERVATIONS

Intersection of: Tenley Circle
and: West Yuma Street
Location: Washington DC

Counted by: VCU
Date: April 20, 2010
Weather: Fair
Entered by: KI

Day: Tuesday

TIME	Tenley Circle				West Yuma St.			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	1	0	1	0	0	0	75	0
645-745	1	0	1	0	0	0	97	0
07-08	0	0	1	0	0	0	117	1
715-815	0	0	0	0	0	0	145	1
730-830	1	0	0	0	0	0	150	4
745-845	1	0	1	0	0	0	148	4
08-09	1	0	1	0	0	0	142	4
815-915	1	0	1	0	0	0	142	4
830-930	0	0	2	0	0	0	126	2
PM								
04-05	0	0	9	0	0	0	161	7
415-515	0	0	11	0	0	0	185	8
430-530	0	0	7	0	0	0	200	7
445-545	0	0	7	0	0	0	194	8
05-06	0	0	6	0	0	0	209	10
515-615	2	0	3	0	0	0	192	11
530-630	10	0	6	0	0	0	196	9
545-645	27	0	5	0	0	0	195	8
06-07	42	0	9	0	0	0	176	7

PEDESTRIAN OBSERVATIONS

Intersection of: Tenley Circle
and: S. Nebraska Avenue
Location: Washington DC

Counted by: VCU
Date: April 20, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	S. Nebraska Ave				Tenley Circle			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	2	0	0	0	17	1	71	0
645-745	2	0	0	0	15	1	97	0
07-08	1	0	0	0	13	1	107	0
715-815	3	0	0	0	16	2	137	0
730-830	3	0	0	0	20	1	139	0
745-845	3	0	0	0	27	1	135	1
08-09	4	0	1	0	29	1	135	1
815-915	2	0	1	0	29	0	130	3
830-930	2	0	1	0	22	0	120	3
PM								
04-05	8	0	0	0	65	4	158	6
415-515	11	0	0	0	67	3	172	6
430-530	7	0	0	0	74	3	199	3
445-545	7	0	0	0	79	3	189	1
05-06	8	0	0	0	69	5	213	1
515-615	5	0	0	0	84	6	225	1
530-630	7	0	1	0	82	5	222	2
545-645	5	0	1	0	93	3	237	2
06-07	6	0	1	0	98	1	220	1

PEDESTRIAN OBSERVATIONS

Intersection of: Tenley Circle
and: South Wisconsin Ave
Location: Washington DC

Counted by: VCU
Date: April 20, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	NORTH LEG Tenley Circle		SOUTH LEG Wisconsin Ave		EAST LEG		WEST LEG Tenley Circle	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	5	0	8	0	60	2	55	0
645-745	6	0	7	0	76	3	71	0
07-08	9	0	8	0	109	3	70	0
715-815	13	0	16	0	123	2	89	0
730-830	15	0	21	1	120	1	119	2
745-845	16	0	31	1	124	0	153	2
08-09	17	0	42	1	104	0	195	2
815-915	23	0	48	2	98	0	220	3
830-930	20	0	48	1	102	0	190	1
PM								
04-05	17	0	48	0	223	1	164	2
415-515	18	0	48	0	213	0	189	2
430-530	27	0	63	0	220	1	218	2
445-545	29	0	64	1	262	1	229	0
05-06	26	0	58	1	291	3	239	0
515-615	29	0	77	1	322	4	220	0
530-630	20	0	78	1	317	3	205	0
545-645	18	0	91	0	320	4	187	0
06-07	21	0	98	0	311	2	193	0

PEDESTRIAN OBSERVATIONS

Intersection of: Tenley Circle
and: East Yuma Street
Location: Washington DC

Counted by: VCU
Date: April 22, 2010
Weather: Fair
Entered by: KL

Day: Thursday

TIME	Tenley Circle				East Yuma St			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	0	0	56	1	3	1	0	0
645-745	0	0	80	0	3	1	0	0
07-08	0	0	95	0	3	1	0	0
715-815	0	0	118	0	10	1	0	0
730-830	0	0	135	0	15	0	0	0
745-845	0	0	158	0	19	1	0	0
08-09	0	0	176	0	21	1	0	0
815-915	0	0	185	0	16	1	0	0
830-930	0	0	174	0	13	1	0	0
PM								
04-05	0	0	207	0	18	1	0	0
415-515	0	0	209	0	18	1	0	0
430-530	0	0	230	1	26	1	0	0
445-545	0	0	238	1	27	2	0	0
05-06	0	0	250	1	27	2	0	0
515-615	0	0	253	3	31	3	0	0
530-630	0	0	238	4	23	3	0	0
545-645	0	0	237	5	22	4	0	0
06-07	0	0	245	6	23	5	0	0

PEDESTRIAN OBSERVATIONS

Intersection of: Tenley Circle
and: North Nebraska Ave & Fort Dr
Location: Washington DC

Counted by: VCU
Date: April 20, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	NORTH LEG Fort Drive NW		SOUTH LEG Wisconsin Ave		EAST LEG Nebraska Ave		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	13	3	0	0	12	0	0	0
645-745	11	3	1	0	15	0	0	0
07-08	9	4	1	0	20	0	0	0
715-815	12	4	1	0	28	0	0	0
730-830	22	1	1	0	33	0	0	0
745-845	20	1	0	0	41	0	0	0
08-09	26	0	0	0	45	0	1	0
815-915	26	3	0	0	39	0	1	0
830-930	20	4	0	0	38	0	1	0
PM								
04-05	10	4	0	0	19	1	0	2
415-515	11	4	0	0	17	0	0	2
430-530	9	3	0	0	25	0	0	1
445-545	8	3	0	0	24	1	0	0
05-06	9	2	0	0	26	1	0	0
515-615	8	4	1	0	34	1	1	0
530-630	11	5	1	0	40	1	1	0
545-645	13	4	1	0	42	0	1	0
06-07	11	3	1	0	45	0	1	0

PEDESTRIAN OBSERVATIONS

Intersection of: Massachusetts Avenue
and: 49th Street
Location: Washington DC

Counted by: CM/JC
Date: April 22, 2010
Weather: Fair
Entered by: KL

Day: Thursday

TIME	Massachusetts Ave				49th Street			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	7	0	7	0	10	1	11	0
645-745	9	0	10	1	11	1	9	0
07-08	12	0	8	1	11	1	11	0
715-815	10	0	8	2	7	1	13	0
730-830	13	0	9	2	18	0	10	0
745-845	14	0	6	1	25	0	15	0
08-09	13	0	7	2	37	0	21	0
815-915	13	0	9	1	45	0	23	0
830-930	8	0	10	1	43	0	31	0
PM								
04-05	31	0	26	1	11	1	19	0
415-515	29	0	26	1	15	1	15	0
430-530	21	0	22	0	16	1	12	0
445-545	18	0	17	1	13	0	9	0
05-06	12	0	15	1	11	1	18	0
515-615	11	0	12	1	6	1	23	0
530-630	12	0	10	1	4	1	29	0
545-645	7	0	8	1	4	1	32	0
06-07	8	0	5	1	6	0	30	0

PEDESTRIAN OBSERVATIONS

Intersection of: Van Ness Street
and: 45th Street
Location: Washington DC

Counted by: JC
Date: April 14, 2010
Weather: Fair
Entered by: KL

Day: Wednesday

TIME	NORTH LEG		SOUTH LEG 45th Street		EAST LEG Van Ness Street		WEST LEG Van Ness Street	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	0	0	3	0	7	0	9	0
645-745	0	0	4	0	4	0	8	0
07-08	0	0	4	0	4	0	6	0
715-815	0	0	8	0	6	0	6	0
730-830	0	0	9	0	6	0	11	0
745-845	0	0	9	0	8	0	9	0
08-09	0	0	11	0	8	0	7	0
815-915	0	0	5	0	10	0	5	0
830-930	0	0	5	0	17	0	0	0
PM								
04-05	0	0	20	0	81	0	20	0
415-515	0	0	16	0	77	0	30	0
430-530	0	0	19	0	28	0	34	0
445-545	0	0	16	0	22	0	34	0
05-06	0	0	34	0	20	0	32	0
515-615	0	0	51	0	19	0	29	0
530-630	0	0	64	0	21	0	29	0
545-645	0	0	63	0	15	0	26	0
06-07	0	0	44	0	14	0	26	0

PEDESTRIAN OBSERVATIONS

Intersection of: Nebraska Avenue NW
and: Van Ness Street NW
Location: Washington DC

Counted by: KL, CM
Date: April 20, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	Nebraska Avenue				Van Ness Street			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	10	0	61	0	13	0	46	0
645-745	14	0	61	0	18	0	65	0
07-08	12	0	48	0	14	0	73	0
715-815	15	0	47	0	22	0	85	0
730-830	12	0	34	0	22	0	62	0
745-845	8	0	42	0	24	0	47	0
08-09	10	0	46	0	35	0	46	0
815-915	10	0	49	0	32	0	33	0
830-930	11	0	41	0	35	0	35	0
PM								
04-05	16	0	100	0	21	0	115	0
415-515	17	0	104	0	35	0	150	0
430-530	17	0	100	0	37	0	174	0
445-545	25	0	91	0	45	0	152	0
05-06	20	0	87	0	54	0	149	0
515-615	26	0	104	0	55	0	148	0
530-630	27	0	111	0	58	0	122	0
545-645	20	0	123	0	58	0	138	0
06-07	18	0	114	0	51	0	117	0

PEDESTRIAN OBSERVATIONS

Counted by: VCL
Day: Tuesday

Intersection of: Wisconsin Avenue NW
and: Van Ness Street
Location: Washington DC

Date: April 20, 2010
Weather: Fair
Entered by: KL

TIME	Wisconsin Avenue				Van Ness Street			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	17	0	6	1	38	1	56	0
645-745	17	0	12	1	53	3	72	0
07-08	17	0	16	1	68	3	84	0
715-815	14	0	21	2	68	5	98	0
730-830	29	1	26	2	77	5	128	0
745-845	29	1	29	2	77	3	151	0
08-09	41	3	33	1	85	5	194	3
815-915	55	4	36	1	93	3	230	6
830-930	48	4	39	1	82	4	227	8
PM								
04-05	43	0	48	0	114	1	179	0
415-515	37	0	59	1	111	1	201	0
430-530	37	0	59	1	132	2	247	0
445-545	28	0	50	2	134	10	271	0
05-06	32	0	59	3	141	11	267	0
515-615	33	0	52	2	151	11	266	0
530-630	38	0	54	2	142	12	235	0
545-645	39	0	55	3	138	7	209	0
06-07	36	0	45	2	137	6	202	0

PEDESTRIAN OBSERVATIONS

Counted by: JC
Day: Tuesday
Intersection of: Massachusettts Avenue NW
Date: April 20, 2010
and: 45th Street NW
Weather: Fair
Location: Washington DC
Entered by: KL

TIME	Massachusetts Ave				45th Street			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	18	1	12	1	5	1	0	0
645-745	22	2	10	1	3	1	0	0
07-08	18	1	9	2	3	1	0	0
715-815	16	1	11	2	6	1	0	0
730-830	12	1	12	1	6	1	0	0
745-845	7	0	16	3	7	1	0	0
08-09	7	1	21	2	5	1	0	0
815-915	8	1	22	3	4	0	0	0
830-930	15	3	20	3	6	0	0	0
PM								
04-05	20	0	27	0	3	0	0	0
415-515	16	0	21	0	3	0	0	0
430-530	18	0	21	0	6	0	0	0
445-545	19	0	22	0	7	0	0	0
05-06	20	0	28	0	10	0	0	0
515-615	23	0	31	0	10	0	0	0
530-630	27	0	28	0	9	0	0	0
545-645	28	0	23	0	10	0	0	0
06-07	30	0	21	0	8	0	0	0

PEDESTRIAN OBSERVATIONS

Intersection of: Massachusetts Avenue
and: Westover Place
Location: Washington DC

Counted by:
Date: April 15, 2010
Weather: Fair
Entered by: KL

Day: Thursday

TIME	NORTH LEG Massachusetts Ave		SOUTH LEG Massachusetts Ave		EAST LEG N/A		WEST LEG Westover Place	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	29	0	60	0	0	0	7	0
645-745	33	0	60	0	0	0	8	0
07-08	35	0	65	0	0	0	9	0
715-815	37	0	73	0	0	0	11	0
730-830	35	0	101	0	0	0	12	0
745-845	37	0	110	0	0	0	12	0
08-09	35	0	124	0	0	0	8	0
815-915	38	0	126	0	0	0	9	0
830-930	36	0	114	0	0	0	7	0
PM								
04-05	223	0	145	0	0	0	4	0
415-515	251	0	147	0	0	0	4	0
430-530	268	0	190	0	0	0	3	0
445-545	268	0	199	0	0	0	5	0
05-06	249	0	202	0	0	0	7	0
515-615	204	0	181	0	0	0	6	0
530-630	186	0	131	0	0	0	9	0
545-645	181	0	129	0	0	0	9	0
06-07	188	0	129	0	0	0	6	0

PEDESTRIAN OBSERVATIONS

Counted by: VCU
Day: Tuesday
Intersection of: Massachusetts Ave NW
Date: April 13, 2010
and: 39th Street NW - Idaho Ave NW
Weather: Sunny,Mild
Location: Washington, DC
Entered by: JW

TIME	Idaho Avenue/39th Street				Massachusetts Avenue NW			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	35	0	26	0	9	0	13	0
645-745	31	0	29	1	7	0	21	0
07-08	29	1	29	2	10	0	21	1
715-815	26	2	35	6	17	0	25	1
730-830	23	3	38	6	17	0	30	2
745-845	22	3	40	5	19	0	26	2
08-09	24	2	39	4	18	0	28	1
815-915	21	1	34	0	14	0	25	1
830-930	19	1	25	0	15	0	25	0
PM								
04-05	26	2	21	3	13	1	18	1
415-515	14	2	23	2	13	1	21	0
430-530	14	1	24	1	14	1	20	0
445-545	10	1	32	1	22	1	20	1
05-06	11	1	31	0	24	0	26	1
515-615	16	1	32	0	21	0	27	1
530-630	16	1	26	0	24	0	33	1
545-645	17	1	19	0	20	0	35	0
06-07	22	1	24	0	23	0	35	0

PEDESTRIAN OBSERVATIONS

Intersection of: Massachusetts Ave NW
and: Cathedral Ave NW
Location: Washington, DC

Counted by: VCU
Date: April 13, 2010
Weather: Sunny, Mild
Entered by: JW

Day: Tuesday

TIME	Massachusetts Ave NW				Cathedral Ave NW			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	29	0	10	0	16	0	26	3
645-745	31	1	11	0	18	0	30	3
07-08	41	1	9	0	17	1	27	4
715-815	37	1	7	0	19	1	34	4
730-830	36	1	4	0	18	2	40	5
745-845	40	0	9	0	20	2	40	4
08-09	31	0	12	0	18	2	43	2
815-915	33	0	15	0	12	2	41	1
830-930	32	0	16	0	15	2	35	0
PM								
04-05	27	0	6	0	29	0	19	0
415-515	23	0	9	0	20	0	19	1
430-530	24	1	9	0	20	0	23	3
445-545	26	1	10	0	14	0	29	4
05-06	24	1	10	0	13	2	25	4
515-615	21	1	11	0	21	2	24	3
530-630	25	0	20	0	25	3	28	1
545-645	21	0	22	0	24	5	24	0
06-07	24	0	24	0	22	3	21	0

PEDESTRIAN OBSERVATIONS

Intersection of: Wisconsin Ave NW
and: Cathedral Ave NW
Location: Washington, DC

Counted by: VCU
Date: April 13, 2010
Weather: Sunny, Mild
Entered by: JW

Day: Tuesday

TIME	Wisconsin Ave NW				Cathedral Ave NW			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	6	0	2	0	22	8	44	1
645-745	6	0	0	0	37	8	57	1
07-08	11	0	1	1	35	9	77	1
715-815	12	0	1	1	35	10	92	0
730-830	8	0	1	1	38	10	95	1
745-845	9	0	2	1	44	21	103	1
08-09	4	0	3	0	56	18	93	2
815-915	5	0	4	0	62	15	81	3
830-930	5	0	4	0	58	15	67	4
PM								
04-05	4	0	2	0	109	1	34	0
415-515	2	0	2	0	83	3	32	0
430-530	2	0	1	0	75	3	45	0
445-545	3	0	0	0	50	4	47	0
05-06	3	0	1	0	42	4	47	0
515-615	4	0	1	0	39	3	39	0
530-630	2	0	1	0	33	3	33	0
545-645	2	0	1	0	35	4	21	1
06-07	2	0	0	0	40	4	29	1

PEDESTRIAN OBSERVATIONS

Intersection of: Massachusetts Ave
and: Wisconsin Ave
Location: Washington DC

Counted by: TGI
Date: April 13, 2010
Weather: Fair
Entered by: KL

Day: Tuesday

TIME	Wisconsin Ave				Massachusetts Ave			
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	26	0	9	0	12	0	45	0
645-745	34	0	15	0	16	0	58	0
07-08	38	0	14	0	16	0	73	0
715-815	38	0	20	0	19	0	83	1
730-830	32	2	24	0	20	1	89	1
745-845	33	2	24	2	29	4	95	1
08-09	28	5	31	4	38	6	86	1
815-915	24	5	26	4	37	8	82	1
830-930	24	3	23	5	36	7	74	4
PM								
04-05	34	2	19	1	21	0	38	2
415-515	26	2	21	0	27	0	37	2
430-530	28	2	22	0	30	0	41	1
445-545	22	1	32	0	36	0	48	1
05-06	26	0	34	0	32	0	52	0
515-615	33	0	38	0	38	0	52	0
530-630	42	0	44	0	42	0	61	0
545-645	45	0	40	0	40	0	66	0
06-07	42	0	34	0	41	0	79	0

Appendix D: Site Driveway Turning Movement and 24-Hour Count Sheets

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: TGI

Intersection of: Nebraska Ave
and: North NAC Site Access
Location: Washington DC

Date: May 6, 2010
Weather: Fair
Entered by: PZ

Day: Thursday

TIME	TRAFFIC FROM NORTH on: Nebraska Ave					TRAFFIC FROM SOUTH on: Nebraska Ave					TRAFFIC FROM EAST on: N. NAC Site Access					TRAFFIC FROM WEST on: Parking Lot Access					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	1	147	0	0	148	2	101	2	0	105	0	0	2	0	2	0	0	0	0	0	255
45-00	3	179	3	0	185	1	129	4	0	134	2	0	3	0	5	0	0	0	0	0	324
07:0-15	3	148	1	0	152	2	158	1	0	161	3	0	2	0	5	0	0	0	0	0	318
15-30	1	224	2	0	227	2	224	1	0	227	0	0	0	0	0	0	0	0	0	0	454
30-45	2	221	0	0	223	1	250	3	0	254	2	0	2	0	4	1	0	0	0	1	482
45-00	2	275	0	0	277	1	242	5	0	248	3	0	2	0	5	0	0	0	0	0	530
08:0-15	4	261	0	0	265	1	256	3	0	260	2	0	3	0	5	0	0	1	0	1	531
15-30	3	231	3	0	237	1	254	3	0	258	4	0	1	0	5	1	0	0	0	1	501
30-45	3	219	0	0	222	1	250	1	0	252	0	0	2	0	2	0	0	0	0	0	476
45-00	3	207	1	0	211	0	235	6	0	241	1	0	3	0	4	0	0	0	0	0	456
09:0-15	2	187	1	0	190	2	254	2	0	258	3	0	4	0	7	0	0	1	0	1	456
15-30	2	149	4	0	155	2	251	1	0	254	3	0	1	0	4	7	0	4	0	11	424
3 Hr Totals	29	2448	15	0	2492	16	2604	32	0	2652	23	0	25	0	48	9	0	6	0	15	5207
1 Hr Totals																					
630-730	8	698	6	0	712	7	612	8	0	627	5	0	7	0	12	0	0	0	0	0	1351
645-745	9	772	6	0	787	6	761	9	0	776	7	0	7	0	14	1	0	0	0	1	1578
07-08	8	868	3	0	879	6	874	10	0	890	8	0	6	0	14	1	0	0	0	1	1784
715-815	9	981	2	0	992	5	972	12	0	989	7	0	7	0	14	1	0	1	0	2	1997
730-830	11	988	3	0	1002	4	1002	14	0	1020	11	0	8	0	19	2	0	1	0	3	2044
745-845	12	986	3	0	1001	4	1002	12	0	1018	9	0	8	0	17	1	0	1	0	2	2038
08-09	13	918	4	0	935	3	995	13	0	1011	7	0	9	0	16	1	0	1	0	2	1964
815-915	11	844	5	0	860	4	993	12	0	1009	8	0	10	0	18	1	0	1	0	2	1889
830-930	10	762	6	0	778	5	990	10	0	1005	7	0	10	0	17	7	0	5	0	12	1812
PEAK HOUR																					
730-830	11	988	3	0	1002	4	1002	14	0	1020	11	0	8	0	19	2	0	1	0	3	2044
PM																					
04:0-15	1	213	2	0	216	0	281	0	0	281	1	0	1	0	2	1	1	1	0	3	502
15-30	1	257	1	0	259	17	217	2	0	236	1	0	2	0	3	0	0	0	0	0	498
30-45	3	232	0	0	235	1	258	4	0	263	1	0	4	0	5	0	0	1	0	1	504
45-00	2	205	0	0	207	0	240	3	0	243	1	0	3	0	4	0	0	0	0	0	454
05:0-15	1	204	5	0	210	0	289	0	0	289	0	0	1	0	1	1	0	2	0	3	503
15-30	1	208	0	0	209	0	240	1	0	241	1	0	1	0	2	2	0	1	0	3	455
30-45	1	240	0	0	241	3	222	2	0	227	1	0	2	0	3	0	0	0	0	0	471
45-00	1	235	0	0	236	1	249	6	0	256	2	0	2	0	4	0	0	1	0	1	497
06:0-15	4	267	0	0	271	0	267	2	0	269	2	0	1	0	3	0	0	1	0	1	544
15-30	2	240	2	0	244	17	253	0	0	270	0	0	1	0	1	0	0	0	0	0	515
30-45	1	249	0	0	250	1	229	0	0	230	0	0	0	0	0	0	0	0	0	0	480
45-00	0	172	1	0	173	0	167	0	0	167	0	0	1	0	1	2	0	1	0	3	344
3 Hr Totals	18	2722	11	0	2751	40	2912	20	0	2972	10	0	19	0	29	6	1	8	0	15	5767
1 Hr Totals																					
04-05	7	907	3	0	917	18	996	9	0	1023	4	0	10	0	14	1	1	2	0	4	1958
415-515	7	898	6	0	911	18	1004	9	0	1031	3	0	10	0	13	1	0	3	0	4	1959
430-530	7	849	5	0	861	1	1027	8	0	1036	3	0	9	0	12	3	0	4	0	7	1916
445-545	5	857	5	0	867	3	991	6	0	1000	3	0	7	0	10	3	0	3	0	6	1883
05-06	4	887	5	0	896	4	1000	9	0	1013	4	0	6	0	10	3	0	4	0	7	1926
515-615	7	950	0	0	957	4	978	11	0	993	6	0	6	0	12	2	0	3	0	5	1967
530-630	8	982	2	0	992	21	991	10	0	1022	5	0	6	0	11	0	0	2	0	2	2027
545-645	8	991	2	0	1001	19	998	8	0	1025	4	0	4	0	8	0	0	2	0	2	2036
06-07	7	928	3	0	938	18	916	2	0	936	2	0	3	0	5	2	0	2	0	4	1883
PEAK HOUR																					
545-645	8	991	2	0	1001	19	998	8	0	1025	4	0	4	0	8	0	0	2	0	2	2036

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: TGI

Intersection of: Nebraska Ave
and: South NAC Site Access
Location: Washington DC

Date: May 6, 2010
Weather: Fair
Entered by: PZ

Day: Thursday

TIME	TRAFFIC FROM NORTH on: Nebraska Ave					TRAFFIC FROM SOUTH on: Nebraska Ave					TRAFFIC FROM EAST on: S. NAC Site Access					TRAFFIC FROM WEST on: Parking Lot Access					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	13	154	0	0	167	0	125	1	0	126	0	0	0	0	0	0	0	0	0	0	293
45-00	9	173	0	0	182	0	122	1	0	123	0	0	0	0	0	0	0	0	0	0	305
07:0-15	3	156	0	0	159	0	160	3	0	163	0	0	0	0	0	0	0	0	0	0	322
15-30	3	217	0	0	220	0	249	3	0	252	0	0	0	0	0	0	0	0	0	0	472
30-45	6	254	0	0	260	0	258	2	0	260	0	0	0	0	0	0	0	0	0	0	520
45-00	3	317	0	0	320	0	252	2	0	254	0	0	0	0	0	0	0	0	0	0	574
08:0-15	2	257	0	0	259	0	284	1	0	285	0	0	0	0	0	0	0	0	0	0	544
15-30	1	249	0	0	250	0	283	2	0	285	0	0	0	0	0	0	0	0	0	0	535
30-45	9	233	0	0	242	0	265	2	0	267	0	0	0	0	0	0	0	0	0	0	509
45-00	7	238	0	0	245	0	247	5	0	252	0	0	0	0	0	0	0	0	0	0	497
09:0-15	4	212	0	0	216	0	271	2	0	273	0	0	0	0	0	0	0	0	0	0	489
15-30	3	198	0	0	201	0	308	0	0	308	0	0	0	0	0	0	0	0	0	0	509
3 Hr Totals	63	2658	0	0	2721	0	2824	24	0	2848	0	0	0	0	0	0	0	0	0	0	5569
1 Hr Totals																					
630-730	28	700	0	0	728	0	656	8	0	664	0	0	0	0	0	0	0	0	0	0	1392
645-745	21	800	0	0	821	0	789	9	0	798	0	0	0	0	0	0	0	0	0	0	1619
07-08	15	944	0	0	959	0	919	10	0	929	0	0	0	0	0	0	0	0	0	0	1888
715-815	14	1045	0	0	1059	0	1043	8	0	1051	0	0	0	0	0	0	0	0	0	0	2110
730-830	12	1077	0	0	1089	0	1077	7	0	1084	0	0	0	0	0	0	0	0	0	0	2173
745-845	15	1056	0	0	1071	0	1084	7	0	1091	0	0	0	0	0	0	0	0	0	0	2162
08-09	19	977	0	0	996	0	1079	10	0	1089	0	0	0	0	0	0	0	0	0	0	2085
815-915	21	932	0	0	953	0	1066	11	0	1077	0	0	0	0	0	0	0	0	0	0	2030
830-930	23	881	0	0	904	0	1091	9	0	1100	0	0	0	0	0	0	0	0	0	0	2004
PEAK HOUR																					
730-830	12	1077	0	0	1089	0	1077	7	0	1084	0	0	0	0	0	0	0	0	0	0	2173
PM																					
04:0-15	0	220	0	0	220	0	283	0	0	283	0	0	3	0	3	0	0	0	0	0	506
15-30	0	259	0	0	259	0	216	0	0	216	0	0	5	0	5	0	0	0	0	0	480
30-45	0	249	0	0	249	0	269	0	0	269	0	0	4	0	4	0	0	0	0	0	522
45-00	1	219	0	0	220	0	253	0	0	253	1	0	6	0	7	0	0	0	0	0	480
05:0-15	0	242	0	0	242	0	291	0	0	291	1	0	4	0	5	0	0	0	0	0	538
15-30	0	233	0	0	233	0	259	0	0	259	0	0	3	0	3	0	0	0	0	0	495
30-45	1	263	0	0	264	0	250	0	0	250	0	0	4	0	4	0	0	0	0	0	518
45-00	0	270	0	0	270	0	267	0	0	267	0	0	1	0	1	0	0	0	0	0	538
06:0-15	0	288	0	0	288	0	287	0	0	287	0	0	1	0	1	0	0	0	0	0	576
15-30	0	252	0	0	252	0	266	0	0	266	0	0	0	0	0	0	0	0	0	0	518
30-45	0	266	0	0	266	0	230	0	0	230	0	0	0	0	0	0	0	0	0	0	496
45-00	0	204	0	0	204	0	198	0	0	198	0	0	0	0	0	0	0	0	0	0	402
3 Hr Totals	2	2965	0	0	2967	0	3069	0	0	3069	2	0	31	0	33	0	0	0	0	0	6069
1 Hr Totals																					
04-05	1	947	0	0	948	0	1021	0	0	1021	1	0	18	0	19	0	0	0	0	0	1988
415-515	1	969	0	0	970	0	1029	0	0	1029	2	0	19	0	21	0	0	0	0	0	2020
430-530	1	943	0	0	944	0	1072	0	0	1072	2	0	17	0	19	0	0	0	0	0	2035
445-545	2	957	0	0	959	0	1053	0	0	1053	2	0	17	0	19	0	0	0	0	0	2031
05-06	1	1008	0	0	1009	0	1067	0	0	1067	1	0	12	0	13	0	0	0	0	0	2089
515-615	1	1054	0	0	1055	0	1063	0	0	1063	0	0	9	0	9	0	0	0	0	0	2127
530-630	1	1073	0	0	1074	0	1070	0	0	1070	0	0	6	0	6	0	0	0	0	0	2150
545-645	0	1076	0	0	1076	0	1050	0	0	1050	0	0	2	0	2	0	0	0	0	0	2128
06-07	0	1010	0	0	1010	0	981	0	0	981	0	0	1	0	1	0	0	0	0	0	1992
PEAK HOUR																					
530-630	1	1073	0	0	1074	0	1070	0	0	1070	0	0	6	0	6	0	0	0	0	0	2150

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: KL

Intersection of: Massachusetts Ave
and: NAC Site Access
Location: Washington DC

Date: May 6, 2010
Weather: Fair
Entered by: PZ

Day: Thursday

TIME	TRAFFIC FROM NORTH on: Massachussetts					TRAFFIC FROM SOUTH on: Massachussetts					TRAFFIC FROM EAST on: NAC Access					TRAFFIC FROM WEST on: Parking Lot Access					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	LEFT	THRU	RIGHT	U-TN	TOTAL	
AM																					
30-45	31	87	0	0	118	0	60	4	0	64	3	0	13	0	16	0	0	0	0	0	198
45-00	26	155	0	0	181	0	80	6	0	86	2	0	1	0	3	0	0	0	0	0	270
07:0-15	17	232	0	0	249	0	86	13	0	99	1	0	3	0	4	0	0	0	0	0	352
15-30	14	320	0	0	334	0	115	15	0	130	0	0	2	0	2	0	0	0	0	0	466
30-45	13	385	0	0	398	0	161	16	0	177	1	0	0	0	1	0	0	0	0	0	576
45-00	14	341	0	0	355	0	160	6	0	166	0	0	1	0	1	0	0	0	0	0	522
08:0-15	12	310	0	0	322	0	165	10	0	175	0	0	3	0	3	0	0	0	0	0	500
15-30	5	349	0	0	354	0	144	10	0	154	4	0	1	0	5	0	0	0	0	0	513
30-45	35	297	0	0	332	0	182	9	0	191	2	0	6	0	8	1	0	0	0	1	532
45-00	10	296	0	0	306	0	144	15	0	159	3	0	2	0	5	0	0	0	0	0	470
09:0-15	11	299	0	0	310	0	142	9	0	151	2	0	3	0	5	0	0	0	0	0	466
15-30	8	258	0	0	266	0	131	9	0	140	1	0	3	0	4	0	0	0	0	0	410
3 Hr Totals	196	3329	0	0	3525	0	1570	122	0	1692	19	0	38	0	57	1	0	0	0	1	5275
1 Hr Totals																					
630-730	88	794	0	0	882	0	341	38	0	379	6	0	19	0	25	0	0	0	0	0	1286
645-745	70	1092	0	0	1162	0	442	50	0	492	4	0	6	0	10	0	0	0	0	0	1664
07-08	58	1278	0	0	1336	0	522	50	0	572	2	0	6	0	8	0	0	0	0	0	1916
715-815	53	1356	0	0	1409	0	601	47	0	648	1	0	6	0	7	0	0	0	0	0	2064
730-830	44	1385	0	0	1429	0	630	42	0	672	5	0	5	0	10	0	0	0	0	0	2111
745-845	66	1297	0	0	1363	0	651	35	0	686	6	0	11	0	17	1	0	0	0	1	2067
08-09	62	1252	0	0	1314	0	635	44	0	679	9	0	12	0	21	1	0	0	0	1	2015
815-915	61	1241	0	0	1302	0	612	43	0	655	11	0	12	0	23	1	0	0	0	1	1981
830-930	64	1150	0	0	1214	0	599	42	0	641	8	0	14	0	22	1	0	0	0	1	1878
PEAK HOUR																					
730-830	44	1385	0	0	1429	0	630	42	0	672	5	0	5	0	10	0	0	0	0	0	2111
PM																					
04:0-15	3	158	0	0	161	0	256	0	0	256	15	0	28	0	43	2	0	0	0	2	462
15-30	0	180	0	0	180	0	211	0	0	211	4	0	18	0	22	0	0	0	0	0	413
30-45	1	169	0	0	170	0	221	2	0	223	6	0	16	0	22	0	0	0	0	0	415
45-00	2	169	0	0	171	0	266	0	0	266	4	0	18	0	22	0	0	0	0	0	459
05:0-15	2	169	0	0	171	0	277	1	0	278	8	0	17	0	25	0	0	0	0	0	474
15-30	2	190	0	0	192	0	317	2	0	319	7	0	11	0	18	0	0	0	0	0	529
30-45	5	215	0	0	220	0	310	3	0	313	8	0	17	0	25	0	0	0	0	0	558
45-00	1	241	0	0	242	0	319	6	0	325	2	0	27	0	29	0	0	0	0	0	596
06:0-15	3	207	0	0	210	0	307	3	0	310	8	0	22	0	30	0	0	0	0	0	550
15-30	2	241	1	0	244	0	273	1	0	274	13	0	19	0	32	1	0	0	0	1	551
30-45	3	243	0	0	246	0	257	0	0	257	7	0	24	0	31	0	0	0	0	0	534
45-00	0	204	0	0	204	0	198	0	0	198	5	1	13	0	19	0	0	0	0	0	421
3 Hr Totals	24	2386	1	0	2411	0	3212	18	0	3230	87	1	230	0	318	3	0	0	0	3	5962
1 Hr Totals																					
04-05	6	676	0	0	682	0	954	2	0	956	29	0	80	0	109	2	0	0	0	2	1749
415-515	5	687	0	0	692	0	975	3	0	978	22	0	69	0	91	0	0	0	0	0	1761
430-530	7	697	0	0	704	0	1081	5	0	1086	25	0	62	0	87	0	0	0	0	0	1877
445-545	11	743	0	0	754	0	1170	6	0	1176	27	0	63	0	90	0	0	0	0	0	2020
05-06	10	815	0	0	825	0	1223	12	0	1235	25	0	72	0	97	0	0	0	0	0	2157
515-615	11	853	0	0	864	0	1253	14	0	1267	25	0	77	0	102	0	0	0	0	0	2233
530-630	11	904	1	0	916	0	1209	13	0	1222	31	0	85	0	116	1	0	0	0	1	2255
545-645	9	932	1	0	942	0	1156	10	0	1166	30	0	92	0	122	1	0	0	0	1	2231
06-07	8	895	1	0	904	0	1035	4	0	1039	33	1	78	0	112	1	0	0	0	1	2056
PEAK HOUR																					
530-630	11	904	1	0	916	0	1209	13	0	1222	31	0	85	0	116	1	0	0	0	1	2255

PEDESTRIAN OBSERVATIONS

Intersection of: Nebraska Ave
and: North NAC Site Access
Location: Washington DC

Counted by: TGI
Date: May 6, 2010
Weather: Fair
Entered by: PZ

Day: Thursday

TIME	NORTH LEG Nebraska Ave		SOUTH LEG Nebraska Ave		EAST LEG N. NAC Site Access		WEST LEG Parking Lot Access	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	16	0	4	0	25	1	22	2
645-745	19	0	2	0	26	0	21	0
07-08	21	0	1	0	22	0	16	0
715-815	15	0	0	0	16	0	17	0
730-830	15	0	0	0	13	0	15	0
745-845	13	0	0	0	14	0	26	0
08-09	12	0	0	0	20	0	36	2
815-915	19	0	0	0	30	0	38	2
830-930	20	0	0	0	24	0	40	2
PM								
04-05	12	0	0	0	34	2	61	0
415-515	14	0	0	0	32	2	69	0
430-530	14	1	0	0	29	3	66	3
445-545	12	1	0	0	33	2	59	3
05-06	11	1	0	0	43	5	57	4
515-615	5	1	0	0	41	5	52	5
530-630	6	0	0	0	44	4	56	2
545-645	5	0	0	0	33	4	53	2
06-07	5	0	0	0	26	1	53	1

PEDESTRIAN OBSERVATIONS

Counted by: TGI
Day: Thursday
Intersection of: Nebraska Ave
Date: May 6, 2010
and: South NAC Site Access
Weather: Fair
Location: Washington DC
Entered by: PZ

TIME	NORTH LEG Nebraska Ave		SOUTH LEG Nebraska Ave		EAST LEG NAC South Access		WEST LEG Parking Lot Access	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	0	0	0	0	57	6	17	2
645-745	0	0	0	0	55	5	16	1
07-08	0	0	0	0	45	6	14	2
715-815	0	0	0	0	46	3	20	2
730-830	0	0	0	0	38	2	21	4
745-845	0	0	0	0	36	4	27	7
08-09	0	0	0	0	50	4	38	10
815-915	0	0	0	0	52	5	39	10
830-930	0	0	0	0	54	5	42	13
PM								
04-05	0	0	0	0	84	7	48	9
415-515	0	0	0	0	88	9	58	10
430-530	0	0	0	0	103	10	60	10
445-545	0	0	0	0	102	8	59	12
05-06	0	0	0	0	113	10	57	12
515-615	0	0	0	0	98	11	52	12
530-630	0	0	0	0	80	12	52	11
545-645	0	0	0	0	75	10	51	9
06-07	0	0	0	0	51	9	51	9

PEDESTRIAN OBSERVATIONS

Intersection of: Massachusetts Ave
and: NAC Site Access
Location: Washington DC

Counted by: KL
Date: May 6, 2010
Weather: Fair
Entered by: PZ

Day: Thursday

TIME	NORTH LEG Massachussetts Ave		SOUTH LEG Massachussetts Ave		EAST LEG NAC Access		WEST LEG Parking Lot Access	
	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES	PEDESTRIANS	BICYCLES
AM								
1 Hr Totals								
630-730	0	0	1	0	45	1	34	2
645-745	0	0	2	0	45	0	34	2
07-08	0	0	1	0	45	2	24	1
715-815	0	0	2	0	35	2	20	1
730-830	0	0	2	0	54	4	21	0
745-845	0	0	1	0	53	5	19	2
08-09	0	0	1	0	55	6	22	3
815-915	1	0	0	0	71	8	29	3
830-930	1	0	0	0	75	6	29	3
PM								
04-05	1	0	0	0	109	3	42	3
415-515	1	0	0	0	106	6	67	3
430-530	0	0	0	0	124	6	89	3
445-545	0	0	0	0	130	7	91	3
05-06	0	0	0	0	131	8	84	3
515-615	0	0	0	0	137	5	67	3
530-630	0	0	0	0	121	4	59	3
545-645	0	0	0	0	119	1	59	4
06-07	0	0	0	0	133	0	66	4

The Traffic Group Inc.

9900 Franklin Square Drive Suite H
Nottingham, MD 21236
800-583-8411

NAC Project Site
Massachusetts Avenue Access
Washington DC

Site Code: MASS0ENTRANC
Site Code: MASS0ENTRANC
Station ID: MASSAVEENTR0

Latitude: 0' 0.000 Undefined

Start	19-Apr-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Entrance	Exit	Entrance	Exit	Entrance	Exit	Entrance	Exit	Entrance	Exit	Entrance	Exit	Entrance	Exit	Entrance	Exit
12:00 AM	7	3	7	3	3	2	1	2	6	6	*	*	*	*	5	3
01:00	0	0	0	0	0	1	2	3	4	3	*	*	*	*	1	1
02:00	2	0	2	1	1	1	4	4	5	4	*	*	*	*	3	2
03:00	7	0	9	0	13	0	10	1	13	2	*	*	*	*	10	1
04:00	41	3	47	5	40	1	37	1	49	4	*	*	*	*	43	3
05:00	118	16	**152**	18	123	18	104	25	119	18	*	*	*	*	123	19
06:00	**140**	**32**	141	28	**141**	39	**133**	34	**141**	34	*	*	*	*	**139**	33
07:00	122	9	121	10	110	10	124	13	127	7	*	*	*	*	121	10
08:00	95	11	111	10	100	14	92	17	91	15	*	*	*	*	98	13
09:00	73	17	75	21	86	20	84	22	81	25	*	*	*	*	80	21
10:00	39	20	74	27	73	29	57	23	58	30	*	*	*	*	60	26
11:00	32	14	46	**52**	44	**47**	42	**43**	43	**64**	*	*	*	*	41	**44**
12:00 PM	47	96	64	70	70	79	**78**	71	51	92	*	*	*	*	62	82
01:00	**68**	61	**72**	93	**72**	67	64	67	**72**	63	*	*	*	*	**70**	70
02:00	49	**141**	41	137	51	**151**	48	**148**	46	**149**	*	*	*	*	47	**145**
03:00	38	109	30	123	31	105	34	126	36	106	*	*	*	*	34	114
04:00	15	140	18	**143**	16	131	18	124	20	149	*	*	*	*	17	137
05:00	20	128	19	122	20	140	25	125	15	102	*	*	*	*	20	123
06:00	17	110	14	103	20	108	11	103	15	86	*	*	*	*	15	102
07:00	16	76	17	85	15	57	17	70	6	51	*	*	*	*	14	68
08:00	14	30	17	35	15	36	21	40	22	31	*	*	*	*	18	34
09:00	28	11	28	18	26	22	29	22	20	13	*	*	*	*	26	17
10:00	13	39	11	38	9	34	5	34	9	34	*	*	*	*	9	36
11:00	5	10	5	8	4	12	3	14	6	7	*	*	*	*	5	10
Lane	1006	1076	1121	1150	1083	1124	1043	1132	1055	1095	0	0	0	0	1061	1114
Day	2082		2271		2207		2175		2150		0		0		2175	
AM Peak	06:00	06:00	05:00	11:00	06:00	11:00	06:00	11:00	06:00	11:00					06:00	11:00
Vol.	140	32	152	52	141	47	133	43	141	64					139	44
PM Peak	13:00	14:00	13:00	16:00	13:00	14:00	12:00	14:00	13:00	14:00					13:00	14:00
Vol.	68	141	72	143	72	151	78	148	72	149					70	145

Comb. Total	2082	2271	2207	2175	2150	0	0	2175

ADT ADT 1,612 AADT 1,612

The Traffic Group Inc.

9900 Franklin Square Drive Suite H
Nottingham, MD 21236
800-583-8411

NAC Project Site
Access on Nebraska Ave
Washington DC

Site Code: ENTRANCE0000
Site Code: ENTRANCE0000
Station ID: NEBRASKA0AVE

Latitude: 0' 0.000 Undefined

Start	19-Apr-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	Entrance	Exit	Entrance	Exit	Entrance	Exit	Entrance	Exit	Entrance	Exit	Entrance	Exit	Entrance	Exit	Entrance	Exit
12:00 AM	2	1	1	2	0	0	0	0	2	0	*	*	*	*	1	1
01:00	0	0	2	1	1	0	2	2	0	1	*	*	*	*	1	1
02:00	0	0	0	0	0	1	0	0	0	0	*	*	*	*	0	0
03:00	0	0	0	0	0	0	0	0	0	0	*	*	*	*	0	0
04:00	0	0	2	1	0	0	0	0	0	0	*	*	*	*	0	0
05:00	1	1	5	6	2	3	6	7	5	5	*	*	*	*	4	4
06:00	10	2	13	4	9	4	10	3	13	7	*	*	*	*	11	4
07:00	25	28	26	29	21	21	34	30	23	22	*	*	*	*	26	26
08:00	31	31	25	24	33	33	**47**	**43**	31	**30**	*	*	*	*	33	32
09:00	29	24	**43**	36	28	30	32	31	33	26	*	*	*	*	33	29
10:00	33	**34**	41	**38**	**40**	**37**	47	35	30	28	*	*	*	*	**38**	**34**
11:00	**34**	31	26	27	32	27	44	41	**36**	27	*	*	*	*	34	31
12:00 PM	**40**	30	23	29	**45**	37	32	31	42	36	*	*	*	*	**36**	**33**
01:00	35	**37**	17	19	36	**39**	36	33	32	34	*	*	*	*	31	32
02:00	39	33	30	29	33	30	26	26	**44**	**37**	*	*	*	*	34	31
03:00	19	16	20	13	25	22	35	27	26	20	*	*	*	*	25	20
04:00	28	23	**33**	**35**	36	31	**40**	29	23	21	*	*	*	*	32	28
05:00	21	27	17	15	24	24	32	**35**	31	22	*	*	*	*	25	25
06:00	15	17	9	12	9	15	19	20	18	22	*	*	*	*	14	17
07:00	7	9	4	6	13	10	9	9	12	9	*	*	*	*	9	9
08:00	4	3	2	0	8	4	6	6	7	11	*	*	*	*	5	5
09:00	5	4	1	3	3	7	2	1	3	2	*	*	*	*	3	3
10:00	5	8	0	0	4	2	1	1	2	1	*	*	*	*	2	2
11:00	0	0	3	2	3	3	4	2	3	4	*	*	*	*	3	2
Lane	383	359	343	331	405	380	464	412	416	365	0	0	0	0	400	369
Day	742		674		785		876		781		0		0		769	
AM Peak	11:00	10:00	09:00	10:00	10:00	10:00	08:00	08:00	11:00	08:00					10:00	10:00
Vol.	34	34	43	38	40	37	47	43	36	30					38	34
PM Peak	12:00	13:00	16:00	16:00	12:00	13:00	16:00	17:00	14:00	14:00					12:00	12:00
Vol.	40	37	33	35	45	39	40	35	44	37					36	33

Comb. Total	742	674	785	876	781	0	0	769

ADT ADT 563 AADT 563

Appendix E: NAC Parking Counts

Kimley-Horn and Associates, Inc.

NAC Master Plan

Parking Lot Counts - Wednesday, April 21, 2010															
Location	**Total**	**5:00 AM**	**6:00 AM**	**7:00 AM**	**8:00 AM**	**9:00 AM**	**10:00 AM**	**11:00 AM**	**12:00 PM**	**1:00 PM**	**2:00 PM**	**3:00 PM**	**4:00 PM**	**5:00 PM**	**6:00 PM**
Lot 1	**7**	**1**	**1**	**1**	**5**	**8**	**8**	**8**	**6**	**6**	**7**	**6**	**6**	**5**	**4**
General	7	1	1	1	4	7	7	7	6	6	6	6	6	5	4
Unmarked	-	0	0	0	1	1	1	1	0	0	1	0	0	0	0
Lot 2	**30**	**2**	**3**	**6**	**14**	**16**	**17**	**19**	**16**	**17**	**17**	**16**	**18**	**18**	**17**
General	26	2	2	5	12	15	16	17	14	16	16	15	17	17	16
Handicapped	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unmarked	-	0	1	1	2	1	1	2	2	1	1	1	1	1	1
Lot 3	**20**	**0**	**0**	**0**	**3**	**6**	**8**	**8**	**7**	**6**	**6**	**6**	**6**	**6**	**4**
General	12	0	0	0	2	2	3	3	3	3	3	3	3	3	2
Handicapped	8	0	0	0	1	4	5	5	4	3	3	3	3	3	2
Lot 4	**8**	**0**	**0**	**3**	**3**	**5**	**6**	**4**	**7**	**3**	**2**	**4**	**2**	**3**	**1**
Reserved	6	0	0	1	3	4	4	4	5	2	2	3	2	2	1
Handicapped	2	0	0	2	0	1	2	0	2	1	0	1	0	1	0
Note: Both Handicapped spaces were occupied exclusively by shuttles and all Reserved spaces were designated for visitors															
Lot 5	**14**	**10**	**9**	**10**	**10**	**10**	**11**	**11**	**10**	**11**	**10**	**10**	**8**	**5**	**3**
General	3	3	3	3	3	3	3	3	2	3	2	2	2	2	1
Motorcycle	6	2	1	1	1	1	1	1	1	1	1	1	0	0	0
Handicapped	5	4	4	4	4	4	4	4	4	4	4	4	4	2	2
Unmarked	-	1	1	2	2	2	3	3	3	3	3	3	2	1	0
Lot 6	**12**	**2**	**4**	**6**	**7**	**11**	**12**	**12**	**13**	**12**	**12**	**10**	**10**	**10**	**9**
General	12	0	2	4	5	8	10	10	11	10	10	8	8	8	7
Unmarked	-	2	2	2	2	3	2	2	2	2	2	2	2	2	2
Lot 7	**40**	**1**	**2**	**7**	**11**	**17**	**19**	**20**	**16**	**15**	**15**	**16**	**16**	**13**	**9**
General	40	1	2	7	11	17	19	20	16	15	15	16	16	13	9
Lot 8	**49**	**38**	**37**	**48**	**48**	**48**	**48**	**47**	**44**	**40**	**37**	**31**	**30**	**21**	**19**
General	47	38	37	47	47	47	47	46	43	39	36	30	29	20	18
Handicapped	2	0	0	1	1	1	1	1	1	1	1	1	1	1	1
Lot 9	**245**	**23**	**40**	**83**	**156**	**222**	**227**	**227**	**226**	**224**	**223**	**216**	**187**	**124**	**81**
General	220	22	38	81	153	216	219	220	219	218	217	210	183	120	80
Reserved	25	1	2	2	3	6	7	6	7	6	6	6	4	4	1
Unmarked	-	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Note: Reserved spaces were marked as either GSA or Visitor															
Lot 10	**56**	**2**	**7**	**9**	**18**	**20**	**21**	**22**	**19**	**20**	**21**	**21**	**16**	**14**	**10**
General	56	2	7	9	18	20	21	22	19	20	21	21	16	14	10
Lot 11	**473**	**53**	**96**	**157**	**217**	**270**	**323**	**344**	**353**	**343**	**335**	**323**	**254**	**173**	**159**
General	429	37	80	138	197	252	302	322	324	316	309	297	237	156	143
Reserved	36	16	16	19	19	17	20	21	29	26	25	25	16	16	16
Motorcycle	8	0	0	0	1	1	1	1	0	1	1	1	1	1	0
Note: Reserved spaces were marked as Government, Carpool, Shuttle, or Visitor															
Lot 12	**18**	**1**	**1**	**1**	**3**	**3**	**3**	**3**	**1**	**2**	**2**	**2**	**2**	**2**	**2**
General	12	0	0	0	2	2	2	2	1	1	1	1	1	1	1
Reserved	6	1	1	1	1	1	1	1	0	1	1	1	1	1	1
Note: Reserved spaces were signed as "Discretionary Parking"															
Lot 13	**36**	**1**	**3**	**5**	**11**	**7**	**9**	**9**	**17**	**14**	**14**	**14**	**10**	**8**	**6**
General	36	1	3	5	11	7	9	9	16	13	13	13	10	8	6
Unmarked	-	0	0	0	0	0	0	0	1	1	1	1	0	0	0
Lot 14	**63**	**0**	**8**	**24**	**32**	**40**	**41**	**40**	**32**	**39**	**32**	**31**	**28**	**22**	**16**
General	62	0	8	20	28	35	37	36	29	33	29	29	26	20	14
Reserved	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0
Unmarked	-	0	0	3	3	4	3	3	3	6	3	2	2	2	2
Note: Spaces in the lot were not delineated with pavement markings, total spaces is an estimate															
Lot 15	**9**	**2**	**0**	**4**	**6**	**7**	**10**	**10**	**7**	**6**	**6**	**6**	**5**	**5**	**4**
General	9	0	0	1	2	3	5	5	6	5	5	5	4	4	4
Unmarked	-	2	0	3	4	4	5	5	1	1	1	1	1	1	0
Note: Does not include 3 spaces in the unpaved area marked "No Vendor Parking" and 1 additional spot with multiple markings															
Lot 16	**25**	**2**	**5**	**12**	**13**	**13**	**13**	**15**	**15**	**15**	**15**	**12**	**12**	**9**	**8**
General	25	2	4	8	9	9	9	11	11	11	11	9	9	8	7
Unmarked	-	0	1	4	4	4	4	4	4	4	4	3	3	1	1
Lot 17	**17**	**0**	**3**	**10**	**12**	**12**	**10**	**11**	**8**	**6**	**6**	**5**	**5**	**4**	**4**
General	13	0	2	7	8	8	6	7	4	4	4	4	4	4	4
Handicapped	4	0	1	3	4	4	4	4	4	2	2	1	1	0	0
Lot 18	**12**	**0**	**0**	**4**	**7**	**6**	**6**	**6**	**5**	**4**	**4**	**4**	**4**	**4**	**2**
General	12	0	0	4	6	6	6	6	5	4	4	4	4	4	2
Unmarked	-	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Lot 19	**57**	**16**	**19**	**23**	**27**	**29**	**27**	**28**	**23**	**29**	**25**	**22**	**20**	**16**	**12**
General	57	16	19	23	27	29	27	27	22	26	23	20	18	14	10
Unmarked	-	0	0	0	0	0	0	1	1	3	2	2	2	2	2
Note: Parking Lot contained construction area with 24 spaces blocked off for a trailer and equipment															
Lot 20 (Tennis Courts)	**27**	**2**	**2**	**6**	**9**	**10**	**12**	**12**	**9**	**9**	**10**	**10**	**9**	**9**	**7**
General	22	2	2	6	9	10	9	9	7	7	8	8	6	6	4
Handicapped	5	0	0	0	0	0	2	2	1	1	1	1	1	1	1
Unmarked	-	0	0	0	0	0	1	1	1	1	1	1	2	2	2
Lot 21 (Basketball Courts)	**21**	**0**	**2**	**3**	**4**	**10**	**11**	**13**	**13**	**13**	**12**	**10**	**9**	**9**	**8**
General	17	0	2	3	4	10	9	11	11	10	10	8	7	7	6
Handicapped	4	0	0	0	0	0	2	2	2	2	2	2	2	2	2
Unmarked	-	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Total	**1239**	**156**	**242**	**422**	**616**	**770**	**842**	**869**	**847**	**834**	**811**	**775**	**657**	**480**	**385**
General	1117	127	212	372	558	706	766	793	769	760	743	709	606	434	348
Reserved	74	18	19	24	27	29	33	33	41	35	34	35	23	23	19
Motorcycle	14	2	1	1	2	2	2	2	1	2	2	2	1	1	0
Handicapped	34	4	5	10	10	14	20	18	18	14	13	13	12	10	8
Unmarked*	-	5	5	15	19	19	21	23	18	23	19	16	15	12	10
*Included as part of demand, not as available spaces															
Overall Occupancy		**12.6%**	**19.5%**	**34.1%**	**49.7%**	**62.1%**	**68.0%**	**70.1%**	**68.4%**	**67.3%**	**65.5%**	**62.6%**	**53.0%**	**38.7%**	**31.1%**

Appendix F: Synchro Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	217	104	60	148	63	0	881	30	0	1866	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.97			0.95			0.99			1.00	
Flpb, ped/bikes	0.96	1.00			0.99			1.00			1.00	
Frt	1.00	0.95			0.97			0.99			1.00	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1708	1711			1672			5005			5057	
Flt Permitted	0.40	1.00			0.83			1.00			1.00	
Satd. Flow (perm)	725	1711			1396			5005			5057	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	228	109	63	156	66	0	927	32	0	1964	23
RTOR Reduction (vph)	0	1	0	0	11	0	0	4	0	0	1	0
Lane Group Flow (vph)	57	336	0	0	274	0	0	956	0	0	1986	0
Confl. Peds. (#/hr)	160		75	75		160	314		311	311		314
Confl. Bikes (#/hr)						1			2			2
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.0	38.0			23.0			50.0			50.0	
Effective Green, g (s)	38.0	38.0			23.0			50.0			50.0	
Actuated g/C Ratio	0.38	0.38			0.23			0.50			0.50	
Clearance Time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Grp Cap (vph)	384	650			321			2503			2529	
v/s Ratio Prot	0.02	c0.20						0.19			c0.39	
v/s Ratio Perm	0.04				c0.20							
v/c Ratio	0.15	0.52			0.85			0.38			0.79	
Uniform Delay, d1	21.1	23.9			36.9			15.4			20.6	
Progression Factor	1.00	1.00			1.00			0.81			1.00	
Incremental Delay, d2	0.8	2.9			24.1			0.4			2.5	
Delay (s)	21.9	26.9			60.9			12.9			23.1	
Level of Service	C	C			E			B			C	
Approach Delay (s)		26.1			60.9			12.9			23.1	
Approach LOS		C			E			B			C	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	96.1%	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												
Volume (veh/h)	32	201	18	122	207	84	19	76	27	84	76	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	34	212	19	128	218	88	20	80	28	88	80	49
Pedestrians		43			25			36			130	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		4			2			3			11	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	436			267			966	1008	273	1021	983	435
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	436			173			926	971	179	985	943	435
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	97			90			81	55	96	6	56	91
cM capacity (veh/h)	1002			1266			106	177	762	94	183	534

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	245	19	435	20	108	168	49
Volume Left	34	0	128	20	0	88	0
Volume Right	0	19	88	0	28	0	49
cSH	1002	1700	1266	106	221	122	534
Volume to Capacity	0.03	0.01	0.10	0.19	0.49	1.38	0.09
Queue Length 95th (ft)	3	0	8	16	61	283	8
Control Delay (s)	1.5	0.0	3.1	46.5	36.0	277.9	12.4
Lane LOS	A		A	E	E	F	B
Approach Delay (s)	1.4		3.1	37.6		217.6	
Approach LOS				E		F	

Intersection Summary			
Average Delay	51.6		
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Volume (vph)	250	638	2	0	927	0	0	1671	274	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			12.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		1.00			1.00			0.98			
Flpb, ped/bikes		1.00			1.00			1.00			
Frt		1.00			1.00			0.98			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3440			5085			4896			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3440			5085			4896			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	263	672	2	0	976	0	0	1759	288	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	937	0	0	976	0	0	2047	0	0	0
Confl. Peds. (#/hr)	8	189	93	189		172	172		189	93	172
Confl. Bikes (#/hr)			4			1			2		1
Turn Type	Split										
Protected Phases	8	8			2 10			6 14			
Permitted Phases											
Actuated Green, G (s)		28.0			62.0			55.0			
Effective Green, g (s)		28.0			60.0			53.0			
Actuated g/C Ratio		0.28			0.60			0.53			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		963			3051			2595			
v/s Ratio Prot		c0.27			0.19			c0.42			
v/s Ratio Perm											
v/c Ratio		0.97			0.32			0.79			
Uniform Delay, d1		35.6			9.9			19.0			
Progression Factor		0.41			0.31			0.16			
Incremental Delay, d2		20.3			0.2			1.6			
Delay (s)		35.0			3.3			4.5			
Level of Service		C			A			A			
Approach Delay (s)		35.0			3.3			4.5		0.0	
Approach LOS		C			A			A		A	

Intersection Summary			
HCM Average Control Delay	11.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	132.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	159	0	0	819	131
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	167	0	0	862	138
Pedestrians	148			1	1	
Lane Width (ft)	12.0			0.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	12			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				152	168	
pX, platoon unblocked						
vC, conflicting volume	1080	649	1148			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1080	649	1148			
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	54	100			
cM capacity (veh/h)	186	362	530			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	167	575	425
Volume Left	0	0	0
Volume Right	167	0	138
cSH	362	1700	1700
Volume to Capacity	0.46	0.34	0.25
Queue Length 95th (ft)	59	0	0
Control Delay (s)	23.3	0.0	0.0
Lane LOS	C		
Approach Delay (s)	23.3	0.0	
Approach LOS	C		

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	545	0	806
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				9.0		10.0
Lane Util. Factor				0.88		0.95
Frt				0.85		1.00
Flt Protected				1.00		1.00
Satd. Flow (prot)				2787		3539
Flt Permitted				1.00		1.00
Satd. Flow (perm)				2787		3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	574	0	848
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	574	0	848
Turn Type				custom		
Protected Phases						4 6 7
Permitted Phases				3		
Actuated Green, G (s)				27.0		67.0
Effective Green, g (s)				27.0		65.0
Actuated g/C Ratio				0.27		0.65
Clearance Time (s)				9.0		
Lane Grp Cap (vph)				752		2300
v/s Ratio Prot						c0.24
v/s Ratio Perm				c0.21		
v/c Ratio				0.76		0.37
Uniform Delay, d1				33.6		8.1
Progression Factor				1.61		0.59
Incremental Delay, d2				6.7		0.3
Delay (s)				60.6		5.0
Level of Service				E		A
Approach Delay (s)	0.0		60.6			5.0
Approach LOS	A		E			A

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	30.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Volume (vph)	162	501	57	0	791	151	0	1869	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			12.0			5.0			
Lane Util. Factor		0.97			0.95			0.91			
Frpb, ped/bikes		1.00			0.99			1.00			
Flpb, ped/bikes		0.98			1.00			1.00			
Frt		0.99			0.98			1.00			
Flt Protected		0.96			1.00			1.00			
Satd. Flow (prot)		3348			3409			5085			
Flt Permitted		0.96			1.00			1.00			
Satd. Flow (perm)		3348			3409			5085			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	171	527	60	0	833	159	0	1967	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	758	0	0	992	0	0	1967	0	0	0
Confl. Peds. (#/hr)	16		31	153		124	124		153	31	
Confl. Bikes (#/hr)			1						2		
Turn Type	Perm										
Protected Phases		4			2 10			6 14			
Permitted Phases	4										
Actuated Green, G (s)		28.0			55.0			62.0			
Effective Green, g (s)		28.0			53.0			60.0			
Actuated g/C Ratio		0.28			0.53			0.60			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		937			1807			3051			
v/s Ratio Prot					0.29			c0.39			
v/s Ratio Perm		0.23									
v/c Ratio		0.81			0.55			0.64			
Uniform Delay, d1		33.5			15.6			13.0			
Progression Factor		0.37			0.68			0.17			
Incremental Delay, d2		6.2			1.0			0.6			
Delay (s)		18.5			11.7			2.9			
Level of Service		B			B			A			
Approach Delay (s)		18.5			11.7			2.9		0.0	
Approach LOS		B			B			A		A	

Intersection Summary			
HCM Average Control Delay	8.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	132.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	69	581	92	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	73	612	97	0	0
Pedestrians	19		158			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	2		13			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			166			198
pX, platoon unblocked						
vC, conflicting volume	837	373			727	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	837	373			727	
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	88			100	
cM capacity (veh/h)	261	614			858	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	73	408	301
Volume Left	0	0	0
Volume Right	73	0	97
cSH	614	1700	1700
Volume to Capacity	0.12	0.24	0.18
Queue Length 95th (ft)	10	0	0
Control Delay (s)	11.6	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.6	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR	SWR2
Lane Configurations											
Volume (vph)	0	0	0	93	452	0	0	0	0	603	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0					9.0	
Lane Util. Factor				1.00	0.88					0.88	
Frpb, ped/bikes				1.00	0.95					0.94	
Flpb, ped/bikes				1.00	1.00					1.00	
Frt				1.00	0.85					0.85	
Flt Protected				1.00	1.00					1.00	
Satd. Flow (prot)				1863	2649					2626	
Flt Permitted				1.00	1.00					1.00	
Satd. Flow (perm)				1863	2649					2626	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	98	476	0	0	0	0	635	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	98	476	0	0	0	0	636	0
Confl. Peds. (#/hr)	41				41	41					20
Confl. Bikes (#/hr)											1
Turn Type					custom					custom	
Protected Phases				1 3 9							
Permitted Phases					1 2 3					2	
Actuated Green, G (s)				57.0	77.0					27.0	
Effective Green, g (s)				45.0	68.0					27.0	
Actuated g/C Ratio				0.45	0.68					0.27	
Clearance Time (s)										9.0	
Lane Grp Cap (vph)				838	1801					709	
v/s Ratio Prot				c0.05							
v/s Ratio Perm					c0.18					c0.24	
v/c Ratio				0.12	0.26					0.90	
Uniform Delay, d1				16.0	6.2					35.2	
Progression Factor				0.84	0.53					1.00	
Incremental Delay, d2				0.2	0.3					16.3	
Delay (s)				13.7	3.6					51.5	
Level of Service				B	A					D	
Approach Delay (s)	0.0			5.3			0.0		51.5		
Approach LOS	A			A			A		D		

Intersection Summary			
HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	77	78	5	40	27	0	170	1279	59	13	554	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		1.00			1.00			0.99			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1796			1803			3491			3487	
Flt Permitted		0.83			0.78			0.64			0.89	
Satd. Flow (perm)		1531			1441			2263			3124	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	81	82	5	42	28	0	179	1346	62	14	583	43
RTOR Reduction (vph)	0	1	0	0	0	0	0	3	0	0	5	0
Lane Group Flow (vph)	0	167	0	0	70	0	0	1584	0	0	635	0
Confl. Peds. (#/hr)	14		6	6		14	25		15	15		25
Confl. Bikes (#/hr)			1									
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		8			4		5	2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		22.0			22.0			68.0			38.0	
Effective Green, g (s)		22.0			22.0			68.0			38.0	
Actuated g/C Ratio		0.22			0.22			0.68			0.38	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		337			317			1846			1187	
v/s Ratio Prot								c0.21				
v/s Ratio Perm		c0.11			0.05			c0.37			0.20	
v/c Ratio		0.50			0.22			0.86			0.53	
Uniform Delay, d1		34.1			32.0			12.3			24.1	
Progression Factor		1.00			1.00			1.00			1.03	
Incremental Delay, d2		5.1			1.6			5.4			1.7	
Delay (s)		39.3			33.6			17.7			26.5	
Level of Service		D			C			B			C	
Approach Delay (s)		39.3			33.6			17.7			26.5	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	122	6	16	115	10	113
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	128	6	17	121	11	119

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	135	138	129
Volume Left (vph)	0	17	11
Volume Right (vph)	6	0	119
Hadj (s)	0.01	0.06	-0.50
Departure Headway (s)	4.3	4.4	4.0
Degree Utilization, x	0.16	0.17	0.14
Capacity (veh/h)	801	784	840
Control Delay (s)	8.2	8.3	7.7
Approach Delay (s)	8.2	8.3	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	8.1		
HCM Level of Service	A		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	389	1	110	227	13	29	486	292	19	612	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1760	1862		1737	1845			3311			1828	
Flt Permitted	0.49	1.00		0.25	1.00			0.91			0.97	
Satd. Flow (perm)	900	1862		462	1845			3008			1769	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	12	409	1	116	239	14	31	512	307	20	644	66
RTOR Reduction (vph)	0	0	0	0	2	0	0	47	0	0	4	0
Lane Group Flow (vph)	12	410	0	116	251	0	0	803	0	0	726	0
Confl. Peds. (#/hr)	8		42	42		8	47		24	24		47
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.0	29.0		29.0	29.0			59.0			59.0	
Effective Green, g (s)	29.0	29.0		29.0	29.0			59.0			59.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29			0.59			0.59	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)	261	540		134	535			1775			1044	
v/s Ratio Prot		0.22			0.14							
v/s Ratio Perm	0.01			c0.25				0.27			c0.41	
v/c Ratio	0.05	0.76		0.87	0.47			0.45			0.70	
Uniform Delay, d1	25.5	32.3		33.7	29.2			11.5			14.3	
Progression Factor	1.00	1.00		1.21	1.22			0.54			0.47	
Incremental Delay, d2	0.3	9.7		41.5	2.4			0.7			3.6	
Delay (s)	25.9	42.0		82.2	37.9			6.9			10.4	
Level of Service	C	D		F	D			A			B	
Approach Delay (s)		41.5			51.8			6.9			10.4	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.1%	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												
Volume (vph)	22	256	92	71	233	53	23	919	45	51	1675	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.91	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.98	1.00		0.98	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.97			0.99			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1736	1766		1742	1795			3498			5037	
Flt Permitted	0.37	1.00		0.26	1.00			0.85			0.86	
Satd. Flow (perm)	672	1766		473	1795			2978			4338	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	269	97	75	245	56	24	967	47	54	1763	62
RTOR Reduction (vph)	0	10	0	0	0	0	0	3	0	0	4	0
Lane Group Flow (vph)	23	356	0	75	301	0	0	1035	0	0	1875	0
Confl. Peds. (#/hr)	29		29	29		29	151		77	77		151
Confl. Bikes (#/hr)			2			1			3			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.0	25.0		25.0	25.0			64.0			64.0	
Effective Green, g (s)	25.0	25.0		25.0	25.0			64.0			64.0	
Actuated g/C Ratio	0.25	0.25		0.25	0.25			0.64			0.64	
Clearance Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	168	442		118	449			1906			2776	
v/s Ratio Prot		c0.20			0.17							
v/s Ratio Perm	0.03			0.16				0.35			c0.43	
v/c Ratio	0.14	0.81		0.64	0.67			0.54			0.68	
Uniform Delay, d1	29.1	35.2		33.4	33.8			9.9			11.4	
Progression Factor	0.80	0.77		1.00	1.00			1.98			1.34	
Incremental Delay, d2	1.3	11.5		23.3	7.7			1.1			1.0	
Delay (s)	24.6	38.6		56.7	41.5			20.7			16.3	
Level of Service	C	D		E	D			C			B	
Approach Delay (s)		37.8			44.6			20.7			16.3	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	22.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (veh/h)	78	1394	587	38	26	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	82	1467	618	40	27	15
Pedestrians		7	16		7	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			856			
pX, platoon unblocked	0.83				0.83	0.83
vC, conflicting volume	665				1559	652
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	490				1571	475
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				63	97
cM capacity (veh/h)	879				74	438

Direction, Lane #	SE 1	SE 2	NW 1	SW 1
Volume Total	571	978	658	42
Volume Left	82	0	0	27
Volume Right	0	0	40	15
cSH	879	1700	1700	105
Volume to Capacity	0.09	0.58	0.39	0.40
Queue Length 95th (ft)	8	0	0	42
Control Delay (s)	2.4	0.0	0.0	60.6
Lane LOS	A			F
Approach Delay (s)	0.9		0.0	60.6
Approach LOS				F

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	8	1411	57	3	704	33	27	3	35	2	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		0.99			1.00			1.00	0.94		0.99	
Flpb, ped/bikes		1.00			1.00			0.97	1.00		0.99	
Frt		0.99			0.99			1.00	0.85		0.96	
Flt Protected		1.00			1.00			0.96	1.00		0.99	
Satd. Flow (prot)		3494			3504			1733	1486		1746	
Flt Permitted		0.95			0.95			0.79	1.00		0.98	
Satd. Flow (perm)		3323			3328			1439	1486		1726	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	1485	60	3	741	35	28	3	37	2	11	5
RTOR Reduction (vph)	0	3	0	0	3	0	0	0	24	0	4	0
Lane Group Flow (vph)	0	1550	0	0	776	0	0	31	13	0	14	0
Confl. Peds. (#/hr)	28		95	95		28	12		32	32		12
Turn Type	Perm			Perm			Perm		custom	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8		4	4		
Actuated Green, G (s)		64.0			64.0			24.0	24.0		24.0	
Effective Green, g (s)		64.0			64.0			24.0	24.0		24.0	
Actuated g/C Ratio		0.64			0.64			0.24	0.24		0.24	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Grp Cap (vph)		2127			2130			345	357		414	
v/s Ratio Prot												
v/s Ratio Perm		c0.47			0.23			c0.02	0.01		0.01	
v/c Ratio		0.73			0.36			0.09	0.04		0.03	
Uniform Delay, d1		12.1			8.4			29.5	29.1		29.1	
Progression Factor		1.12			1.62			1.00	1.00		1.00	
Incremental Delay, d2		1.5			0.5			0.5	0.2		0.2	
Delay (s)		15.2			14.2			30.0	29.3		29.3	
Level of Service		B			B			C	C		C	
Approach Delay (s)		15.2			14.2			29.6			29.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	0	0	1580	197	0
Sign Control	Free		Yield		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	1663	207	0
Pedestrians	22					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None				None	
Median storage veh)						
Upstream signal (ft)	208					
pX, platoon unblocked						
vC, conflicting volume	207		207	126		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	207		207	126		
tC, single (s)	4.1		6.8	6.9		
tC, 2 stage (s)						
tF (s)	2.2		3.5	3.3		
p0 queue free %	100		100	0		
cM capacity (veh/h)	1361		762	901		

Direction, Lane #	SE 1	SE 2	SW 1	SW 2
Volume Total	832	832	104	104
Volume Left	0	0	0	0
Volume Right	832	832	0	0
cSH	901	901	1700	1700
Volume to Capacity	0.92	0.92	0.06	0.06
Queue Length 95th (ft)	346	346	0	0
Control Delay (s)	35.9	35.9	0.0	0.0
Lane LOS	E	E		
Approach Delay (s)	35.9		0.0	
Approach LOS	E			

Intersection Summary			
Average Delay	31.9		
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	SBL	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1377	400	0	806	353	0	973	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		0.95			1.00	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3377			3539	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3377			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1449	421	0	848	372	0	1024	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1449	421	0	1220	0	0	1024	0
Confl. Peds. (#/hr)	84			84						
Turn Type				Prot						
Protected Phases			4	4		6			6	
Permitted Phases										
Actuated Green, G (s)			52.0	52.0		34.0			34.0	
Effective Green, g (s)			52.0	52.0		34.0			34.0	
Actuated g/C Ratio			0.52	0.52		0.34			0.34	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2595	823		1148			1203	
v/s Ratio Prot			c0.29	0.27		c0.36			0.29	
v/s Ratio Perm										
v/c Ratio			0.56	0.51		1.06			0.85	
Uniform Delay, d1			16.2	15.7		33.0			30.7	
Progression Factor			0.92	0.92		0.71			0.29	
Incremental Delay, d2			0.9	2.3		41.8			2.8	
Delay (s)			15.9	16.8		65.4			11.7	
Level of Service			B	B		E			B	
Approach Delay (s)	0.0		16.1			65.4			11.7	
Approach LOS	A		B			E			B	

Intersection Summary			
HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	162.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	774	237	0	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	815	249	0	0	0
Pedestrians	19					19
Lane Width (ft)	12.0					0.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	2					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						174
pX, platoon unblocked						
vC, conflicting volume	268	163			268	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	268	163			268	
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	3			100	
cM capacity (veh/h)	687	840			1272	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2
Volume Total	407	407	125	125
Volume Left	0	0	0	0
Volume Right	407	407	0	0
cSH	840	840	1700	1700
Volume to Capacity	0.49	0.49	0.07	0.07
Queue Length 95th (ft)	67	67	0	0
Control Delay (s)	13.3	13.3	0.0	0.0
Lane LOS	B	B		
Approach Delay (s)	13.3		0.0	
Approach LOS	B			

Intersection Summary			
Average Delay	10.1		
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	772	239	0	806	0	0	973	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		1.00			0.99	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3539			3494	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3539			3494	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	813	252	0	848	0	0	1024	96
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	813	252	0	848	0	0	1120	0
Confl. Peds. (#/hr)	22			22						
Turn Type				Prot						
Protected Phases			8	8		2			2	
Permitted Phases										
Actuated Green, G (s)			52.0	52.0		34.0			34.0	
Effective Green, g (s)			52.0	52.0		34.0			34.0	
Actuated g/C Ratio			0.52	0.52		0.34			0.34	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2595	823		1203			1188	
v/s Ratio Prot			c0.16	0.16		0.24			c0.32	
v/s Ratio Perm										
v/c Ratio			0.31	0.31		0.70			0.94	
Uniform Delay, d1			13.8	13.7		28.6			32.1	
Progression Factor			0.88	0.87		0.38			1.00	
Incremental Delay, d2			0.3	1.0		0.3			14.4	
Delay (s)			12.4	12.9		11.2			46.4	
Level of Service			B	B		B			D	
Approach Delay (s)	0.0		12.5			11.2			46.4	
Approach LOS	A		B			B			D	

Intersection Summary			
HCM Average Control Delay	24.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	162.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	42	333	1002	54	460	895
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.99			1.00
Flt Protected	0.95	1.00	1.00			0.98
Satd. Flow (prot)	1770	1583	3496			3474
Flt Permitted	0.95	1.00	1.00			0.52
Satd. Flow (perm)	1770	1583	3496			1821
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	44	351	1055	57	484	942
RTOR Reduction (vph)	0	36	4	0	0	0
Lane Group Flow (vph)	44	315	1108	0	0	1426
Confl. Peds. (#/hr)	18			65	65	
Turn Type		pm+ov			pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4			6	
Actuated Green, G (s)	14.0	36.0	46.0			73.0
Effective Green, g (s)	14.0	36.0	46.0			73.0
Actuated g/C Ratio	0.14	0.36	0.46			0.73
Clearance Time (s)	5.0	5.0	5.0			5.0
Lane Grp Cap (vph)	248	649	1608			1693
v/s Ratio Prot	0.02	c0.11	0.32			c0.19
v/s Ratio Perm		0.09				c0.43
v/c Ratio	0.18	0.49	0.69			0.95dl
Uniform Delay, d1	37.9	24.8	21.3			9.5
Progression Factor	1.00	1.00	1.00			3.04
Incremental Delay, d2	1.6	2.6	2.4			3.5
Delay (s)	39.5	27.4	23.8			32.2
Level of Service	D	C	C			C
Approach Delay (s)	28.8		23.8			32.2
Approach LOS	C		C			C

Intersection Summary			
HCM Average Control Delay	28.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Volume (veh/h)	9	10	1366	9	0	841
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	11	1438	9	0	885
Pedestrians	12		37			110
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		3			9
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1934	846			1459	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1934	846			1459	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	96			100	
cM capacity (veh/h)	55	275			455	

Direction, Lane #	NB 1	SE 1	SE 2	NW 1	NW 2
Volume Total	20	959	489	295	590
Volume Left	9	0	0	0	0
Volume Right	11	0	9	0	0
cSH	96	1700	1700	455	1700
Volume to Capacity	0.21	0.56	0.29	0.00	0.35
Queue Length 95th (ft)	18	0	0	0	0
Control Delay (s)	52.4	0.0	0.0	0.0	0.0
Lane LOS	F				
Approach Delay (s)	52.4	0.0		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SEL	SET
Lane Configurations												
Volume (vph)	7	101	0	227	33	5	115	0	40	6	12	1039
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0					6.0				6.0
Lane Util. Factor			0.95					0.95				0.95
Frpb, ped/bikes			0.96					0.98				1.00
Flpb, ped/bikes			0.98					0.98				1.00
Frt			0.89					0.96				0.99
Flt Protected			0.99					0.97				1.00
Satd. Flow (prot)			2948					3144				3509
Flt Permitted			0.80					0.60				0.95
Satd. Flow (perm)			2387					1941				3326
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	7	106	0	239	35	5	121	0	42	6	13	1094
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	387	0	0	0	0	174	0	0	0	1148
Confl. Peds. (#/hr)	40	26		22	19	22	19		40	26	22	
Confl. Bikes (#/hr)				3					5	2		
Turn Type	Perm	Perm				Perm	Perm				Perm	
Protected Phases			8					4				2
Permitted Phases	8	8				4	4				2	
Actuated Green, G (s)			29.0					29.0				45.0
Effective Green, g (s)			29.0					29.0				45.0
Actuated g/C Ratio			0.29					0.29				0.45
Clearance Time (s)			6.0					6.0				6.0
Lane Grp Cap (vph)			692					563				1497
v/s Ratio Prot												
v/s Ratio Perm			c0.16					0.09				c0.35
v/c Ratio			0.56					0.31				0.77
Uniform Delay, d1			30.1					27.7				23.1
Progression Factor			1.00					1.00				0.69
Incremental Delay, d2			3.2					1.4				3.0
Delay (s)			33.3					29.1				18.9
Level of Service			C					C				B
Approach Delay (s)			33.3					29.1				18.9
Approach LOS			C					C				B

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER2	NWL	NWT	NWR2
Lane Configurations				
Volume (vph)	39	31	410	17
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			6.0	
Lane Util. Factor			0.95	
Frpb, ped/bikes			1.00	
Flpb, ped/bikes			1.00	
Frt			0.99	
Flt Protected			1.00	
Satd. Flow (prot)			3500	
Flt Permitted			0.79	
Satd. Flow (perm)			2758	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	33	432	18
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	483	0
Confl. Peds. (#/hr)	40	40		22
Confl. Bikes (#/hr)	5			3
Turn Type		pm+pt		
Protected Phases		1	6	
Permitted Phases		6		
Actuated Green, G (s)			59.0	
Effective Green, g (s)			59.0	
Actuated g/C Ratio			0.59	
Clearance Time (s)			6.0	
Lane Grp Cap (vph)			1687	
v/s Ratio Prot			c0.02	
v/s Ratio Perm			0.15	
v/c Ratio			0.29	
Uniform Delay, d1			10.1	
Progression Factor			0.71	
Incremental Delay, d2			0.4	
Delay (s)			7.6	
Level of Service			A	
Approach Delay (s)			7.6	
Approach LOS			A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	49	0	289	13	59	15	0	1036	7	128	410	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.95		1.00	0.99	1.00			1.00			1.00	
Frt	1.00		0.85	1.00	0.97			1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1687		1583	1749	1782			3533			3498	
Flt Permitted	0.71		1.00	0.95	1.00			1.00			0.53	
Satd. Flow (perm)	1254		1583	1749	1782			3533			1861	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	52	0	304	14	62	16	0	1091	7	135	432	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	0	304	14	78	0	0	1098	0	0	567	0
Confl. Peds. (#/hr)	40		9	9		40	20		40	40		20
Confl. Bikes (#/hr)									4			2
Turn Type	custom		custom	Perm						pm+pt		
Protected Phases			4 5		8			6		5	2	
Permitted Phases	4			8						2		
Actuated Green, G (s)	29.0		43.0	29.0	29.0			46.0			60.0	
Effective Green, g (s)	29.0		38.0	29.0	29.0			46.0			60.0	
Actuated g/C Ratio	0.29		0.38	0.29	0.29			0.46			0.60	
Clearance Time (s)	6.0			6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	364		602	507	517			1625			1264	
v/s Ratio Prot			c0.19		0.04			c0.31			c0.04	
v/s Ratio Perm	0.04			0.01							0.23	
v/c Ratio	0.14		0.50	0.03	0.15			0.68			0.45	
Uniform Delay, d1	26.3		23.8	25.4	26.4			21.2			10.9	
Progression Factor	1.00		1.00	1.15	1.18			0.28			0.34	
Incremental Delay, d2	0.8		3.0	0.1	0.6			1.6			1.1	
Delay (s)	27.1		26.8	29.3	31.7			7.5			4.8	
Level of Service	C		C	C	C			A			A	
Approach Delay (s)		26.8			31.4			7.5			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	1100	1538	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				2.0	58.0	
Lane Util. Factor				0.91	0.91	
Frpb, ped/bikes				1.00	0.99	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	0.99	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5085	4997	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5085	4997	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1158	1619	85
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1158	1704	0
Confl. Peds. (#/hr)	9	2	103			103
Confl. Bikes (#/hr)		1				1
Turn Type			Perm			
Protected Phases				2	6	
Permitted Phases			2			
Actuated Green, G (s)				100.0	100.0	
Effective Green, g (s)				100.0	100.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				2.0	58.0	
Lane Grp Cap (vph)				5085	4997	
v/s Ratio Prot				0.23	c0.34	
v/s Ratio Perm						
v/c Ratio				0.23	0.34	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.1	0.1	
Delay (s)				0.1	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.1	0.1	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	793	3	0	1491	0	0	1162	156	0	533	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Util. Factor		0.91			0.91			0.95	1.00		0.95	1.00
Frpb, ped/bikes		1.00			1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	1.00
Frt		1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)		5082			5085			3539	1539		3539	1529
Flt Permitted		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)		5082			5085			3539	1539		3539	1529
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	835	3	0	1569	0	0	1223	164	0	561	292
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	2	0	0	35
Lane Group Flow (vph)	0	838	0	0	1569	0	0	1223	162	0	561	257
Confl. Peds. (#/hr)	95		29	29		95	33		24	24		33
Confl. Bikes (#/hr)			4			1			2			2
Turn Type							Perm		Perm			Perm
Protected Phases		2			6			4			8	
Permitted Phases							4		4			8
Actuated Green, G (s)		42.0			42.0			46.0	46.0		46.0	46.0
Effective Green, g (s)		42.0			42.0			46.0	46.0		46.0	46.0
Actuated g/C Ratio		0.42			0.42			0.46	0.46		0.46	0.46
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Grp Cap (vph)		2134			2136			1628	708		1628	703
v/s Ratio Prot		0.16			c0.31			c0.35			0.16	
v/s Ratio Perm									0.11			0.17
v/c Ratio		0.39			0.73			0.75	0.23		0.34	0.37
Uniform Delay, d1		20.1			24.3			22.3	16.3		17.3	17.5
Progression Factor		1.00			1.14			0.61	0.52		1.00	1.00
Incremental Delay, d2		0.5			2.2			2.6	0.6		0.6	1.5
Delay (s)		20.7			29.9			16.2	9.0		17.9	19.0
Level of Service		C			C			B	A		B	B
Approach Delay (s)		20.7			29.9			15.4			18.3	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1002	8	8	986	3	1	0	1	5	0	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1055	8	8	1038	3	1	0	1	5	0	7
Pedestrians					13			26			14	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					1			2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		601										
pX, platoon unblocked				0.80			0.80	0.80		0.80	0.80	0.80
vC, conflicting volume	1067			1077			1638	2168	547	1618	2165	559
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1067			608			1306	1965	547	1281	1962	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 %	99			99			99	100	100	94	100	99
cM capacity (veh/h)	635			768			87	48	471	93	48	852

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1	NW 2
Volume Total	532	536	527	522	2	5	7
Volume Left	4	0	8	0	1	5	0
Volume Right	0	8	0	3	1	0	7
cSH	635	1700	768	1700	147	93	852
Volume to Capacity	0.01	0.32	0.01	0.31	0.01	0.06	0.01
Queue Length 95th (ft)	1	0	1	0	1	4	1
Control Delay (s)	0.2	0.0	0.3	0.0	29.8	45.8	9.3
Lane LOS	A		A		D	E	A
Approach Delay (s)	0.1		0.2		29.8	24.5	
Approach LOS					D	C	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	1084	8	28	1056
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	1141	8	29	1112
Pedestrians	36					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	3					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			266			
pX, platoon unblocked	0.79	0.79			0.79	
vC, conflicting volume	1796	611			1185	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1479	0			708	
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			96	
cM capacity (veh/h)	86	833			681	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	761	389	400	741
Volume Left	0	0	0	29	0
Volume Right	0	0	8	0	0
cSH	1700	1700	1700	681	1700
Volume to Capacity	0.00	0.45	0.23	0.04	0.44
Queue Length 95th (ft)	0	0	0	3	0
Control Delay (s)	0.0	0.0	0.0	1.3	0.0
Lane LOS	A			A	
Approach Delay (s)	0.0	0.0		0.5	
Approach LOS	A				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	6	19	88	1297	651	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	20	93	1365	685	40
Pedestrians	53				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	4				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1627	416	778			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1627	416	778			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	96	88			
cM capacity (veh/h)	78	560	797			

Direction, Lane #	SB 1	SB 2	SE 1	SE 2	NW 1	NW 2
Volume Total	6	20	548	910	457	268
Volume Left	6	0	93	0	0	0
Volume Right	0	20	0	0	0	40
cSH	78	560	797	1700	1700	1700
Volume to Capacity	0.08	0.04	0.12	0.54	0.27	0.16
Queue Length 95th (ft)	6	3	10	0	0	0
Control Delay (s)	54.9	11.7	3.0	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	22.1		1.1		0.0	
Approach LOS	C					

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	184	43	46	164	65	0	1422	58	0	973	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.96			0.93			0.98			0.99	
Flpb, ped/bikes	0.96	1.00			0.98			1.00			1.00	
Frt	1.00	0.97			0.97			0.99			0.99	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1697	1746			1630			4952			4989	
Flt Permitted	0.37	1.00			0.89			1.00			1.00	
Satd. Flow (perm)	652	1746			1464			4952			4989	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	194	45	48	173	68	0	1497	61	0	1024	43
RTOR Reduction (vph)	0	8	0	0	11	0	0	4	0	0	4	0
Lane Group Flow (vph)	54	231	0	0	278	0	0	1554	0	0	1063	0
Confl. Peds. (#/hr)	210		132	132		210	312		576	576		312
Confl. Bikes (#/hr)			1			1						2
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.0	37.0			22.0			51.0			51.0	
Effective Green, g (s)	37.0	37.0			22.0			51.0			51.0	
Actuated g/C Ratio	0.37	0.37			0.22			0.51			0.51	
Clearance Time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Grp Cap (vph)	356	646			322			2526			2544	
v/s Ratio Prot	0.02	c0.13						c0.31			0.21	
v/s Ratio Perm	0.04				c0.19							
v/c Ratio	0.15	0.36			0.86			0.62			0.42	
Uniform Delay, d1	21.8	22.9			37.6			17.5			15.3	
Progression Factor	1.00	1.00			1.00			0.11			1.00	
Incremental Delay, d2	0.9	1.5			25.1			1.0			0.5	
Delay (s)	22.7	24.4			62.7			2.9			15.8	
Level of Service	C	C			E			A			B	
Approach Delay (s)		24.1			62.7			2.9			15.8	
Approach LOS		C			E			A			B	

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	95.0%	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												
Volume (veh/h)	34	194	15	17	163	124	23	91	16	148	101	82
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	204	16	18	172	131	24	96	17	156	106	86
Pedestrians		66			28			26			172	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		6			2			2			14	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	474			246			780	812	258	813	762	475
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	474			159			730	764	172	765	711	475
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	96			99			83	61	98	0	60	82
cM capacity (veh/h)	932			1300			141	248	779	146	266	477

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	240	16	320	24	113	262	86
Volume Left	36	0	18	24	0	156	0
Volume Right	0	16	131	0	17	0	86
cSH	932	1700	1300	141	276	179	477
Volume to Capacity	0.04	0.01	0.01	0.17	0.41	1.47	0.18
Queue Length 95th (ft)	3	0	1	15	47	410	16
Control Delay (s)	1.7	0.0	0.6	35.9	26.7	286.0	14.2
Lane LOS	A		A	E	D	F	B
Approach Delay (s)	1.6		0.6	28.3		218.7	
Approach LOS				D		F	

Intersection Summary			
Average Delay	76.0		
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Volume (vph)	190	591	25	0	1405	0	0	919	170	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			12.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		0.99			1.00			0.98			
Flpb, ped/bikes		1.00			1.00			1.00			
Frt		1.00			1.00			0.98			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3409			5085			4880			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3409			5085			4880			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	200	622	26	0	1479	0	0	967	179	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	848	0	0	1479	0	0	1146	0	0	0
Confl. Peds. (#/hr)	15		104	142		359	359		142	104	
Confl. Bikes (#/hr)			3			9			4		
Turn Type	Split										
Protected Phases	8	8			2 10			6 14			
Permitted Phases											
Actuated Green, G (s)		38.0			52.0			45.0			
Effective Green, g (s)		38.0			50.0			43.0			
Actuated g/C Ratio		0.38			0.50			0.43			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		1295			2543			2098			
v/s Ratio Prot		c0.25			c0.29			0.23			
v/s Ratio Perm											
v/c Ratio		0.65			0.58			0.55			
Uniform Delay, d1		25.6			17.6			21.2			
Progression Factor		1.00			0.18			0.69			
Incremental Delay, d2		2.6			0.7			0.9			
Delay (s)		28.2			3.8			15.6			
Level of Service		C			A			B			
Approach Delay (s)		28.2			3.8			15.6		0.0	
Approach LOS		C			A			B		A	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	92	0	0	627	137
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	97	0	0	660	144
Pedestrians	192			3	2	
Lane Width (ft)	12.0			0.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	16			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				189	168	
pX, platoon unblocked						
vC, conflicting volume	926	597	996			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	926	597	996			
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	74	100			
cM capacity (veh/h)	224	375	580			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	97	440	364
Volume Left	0	0	0
Volume Right	97	0	144
cSH	375	1700	1700
Volume to Capacity	0.26	0.26	0.21
Queue Length 95th (ft)	25	0	0
Control Delay (s)	17.9	0.0	0.0
Lane LOS	C		
Approach Delay (s)	17.9	0.0	
Approach LOS	C		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	711	0	612
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				9.0		10.0
Lane Util. Factor				0.88		0.95
Frt				0.85		1.00
Flt Protected				1.00		1.00
Satd. Flow (prot)				2787		3539
Flt Permitted				1.00		1.00
Satd. Flow (perm)				2787		3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	748	0	644
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	748	0	644
Turn Type				custom		
Protected Phases						4 6 7
Permitted Phases				3		
Actuated Green, G (s)				37.0		67.0
Effective Green, g (s)				37.0		65.0
Actuated g/C Ratio				0.37		0.65
Clearance Time (s)				9.0		
Lane Grp Cap (vph)				1031		2300
v/s Ratio Prot						c0.18
v/s Ratio Perm				c0.27		
v/c Ratio				0.73		0.28
Uniform Delay, d1				27.1		7.5
Progression Factor				0.86		0.47
Incremental Delay, d2				4.3		0.3
Delay (s)				27.6		3.8
Level of Service				C		A
Approach Delay (s)	0.0		27.6			3.8
Approach LOS	A		C			A

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Volume (vph)	174	599	45	0	1283	223	0	1024	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			12.0			5.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		1.00			0.97			1.00			
Flpb, ped/bikes		0.97			1.00			1.00			
Frt		0.99			0.98			1.00			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3309			4800			5085			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3309			4800			5085			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	183	631	47	0	1351	235	0	1078	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	861	0	0	1586	0	0	1078	0	0	0
Confl. Peds. (#/hr)	29		77	220		322	322		220	77	
Confl. Bikes (#/hr)			1			4					
Turn Type	Perm										
Protected Phases		4			2 10			6 14			
Permitted Phases	4										
Actuated Green, G (s)		38.0			45.0			52.0			
Effective Green, g (s)		38.0			43.0			50.0			
Actuated g/C Ratio		0.38			0.43			0.50			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		1257			2064			2543			
v/s Ratio Prot					c0.33			0.21			
v/s Ratio Perm		0.26									
v/c Ratio		0.68			0.77			0.42			
Uniform Delay, d1		26.0			24.3			15.9			
Progression Factor		0.24			0.43			0.28			
Incremental Delay, d2		2.4			2.4			0.4			
Delay (s)		8.8			12.9			4.9			
Level of Service		A			B			A			
Approach Delay (s)		8.8			12.9			4.9		0.0	
Approach LOS		A			B			A		A	

Intersection Summary			
HCM Average Control Delay	9.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	103	763	38	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	108	803	40	0	0
Pedestrians	31		253			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	3		21			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			166			237
pX, platoon unblocked						
vC, conflicting volume	1107	453			874	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1107	453			874	
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	80			100	
cM capacity (veh/h)	157	540			748	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	108	535	308
Volume Left	0	0	0
Volume Right	108	0	40
cSH	540	1700	1700
Volume to Capacity	0.20	0.31	0.18
Queue Length 95th (ft)	19	0	0
Control Delay (s)	13.3	0.0	0.0
Lane LOS	B		
Approach Delay (s)	13.3	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	109	668	0	0	0	0	0	0	0	590	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0								9.0	
Lane Util. Factor		1.00	0.88								0.95	
Frpb, ped/bikes		1.00	0.95								1.00	
Flpb, ped/bikes		1.00	1.00								1.00	
Frt		1.00	0.85								1.00	
Flt Protected		1.00	1.00								1.00	
Satd. Flow (prot)		1863	2649								3534	
Flt Permitted		1.00	1.00								1.00	
Satd. Flow (perm)		1863	2649								3534	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	115	703	0	0	0	0	0	0	0	621	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	115	703	0	0	0	0	0	0	0	626	0
Confl. Peds. (#/hr)	1		34	34		1	8		1	1		8
Confl. Bikes (#/hr)			1									4
Turn Type			custom									
Protected Phases		1 3 9										
Permitted Phases			1 2 3								2	
Actuated Green, G (s)		47.0	67.0								37.0	
Effective Green, g (s)		35.0	58.0								37.0	
Actuated g/C Ratio		0.35	0.58								0.37	
Clearance Time (s)											9.0	
Lane Grp Cap (vph)		652	1536								1308	
v/s Ratio Prot		c0.06										
v/s Ratio Perm			c0.27								0.18	
v/c Ratio		0.18	0.46								0.48	
Uniform Delay, d1		22.5	12.0								24.1	
Progression Factor		0.94	0.55								1.00	
Incremental Delay, d2		0.5	0.8								1.3	
Delay (s)		21.7	7.4								25.4	
Level of Service		C	A								C	
Approach Delay (s)		9.4			0.0			0.0			25.4	
Approach LOS		A			A			A			C	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	100	94	5	39	40	6	136	652	67	45	1070	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		1.00			0.99			0.99			0.99	
Flt Protected		0.98			0.98			0.99			1.00	
Satd. Flow (prot)		1794			1791			3459			3483	
Flt Permitted		0.80			0.73			0.54			0.88	
Satd. Flow (perm)		1480			1342			1898			3061	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	99	5	41	42	6	143	686	71	47	1126	102
RTOR Reduction (vph)	0	1	0	0	3	0	0	6	0	0	6	0
Lane Group Flow (vph)	0	208	0	0	86	0	0	894	0	0	1269	0
Confl. Peds. (#/hr)	11		12	12		11	6		23	23		6
Confl. Bikes (#/hr)			1									1
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		8			4		5	2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		15.0			15.0			75.0			64.0	
Effective Green, g (s)		15.0			15.0			75.0			64.0	
Actuated g/C Ratio		0.15			0.15			0.75			0.64	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		222			201			1517			1959	
v/s Ratio Prot								c0.04				
v/s Ratio Perm		c0.14			0.06			0.41			c0.41	
v/c Ratio		0.94			0.43			0.59			0.65	
Uniform Delay, d1		42.0			38.6			5.6			11.1	
Progression Factor		1.00			1.00			1.00			0.97	
Incremental Delay, d2		46.1			6.6			1.7			0.9	
Delay (s)		88.2			45.2			7.3			11.6	
Level of Service		F			D			A			B	
Approach Delay (s)		88.2			45.2			7.3			11.6	
Approach LOS		F			D			A			B	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	133.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	70	16	32	194	18	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	74	17	34	204	19	66

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	91	238	85
Volume Left (vph)	0	34	19
Volume Right (vph)	17	0	66
Hadj (s)	-0.08	0.06	-0.39
Departure Headway (s)	4.3	4.3	4.2
Degree Utilization, x	0.11	0.28	0.10
Capacity (veh/h)	817	829	788
Control Delay (s)	7.8	8.9	7.7
Approach Delay (s)	7.8	8.9	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	8.4		
HCM Level of Service	A		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	174	4	222	296	2	6	584	117	10	502	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		0.92	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1745	1852		1637	1861			3425			3482	
Flt Permitted	0.41	1.00		0.60	1.00			0.95			0.94	
Satd. Flow (perm)	757	1852		1031	1861			3258			3269	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	36	183	4	234	312	2	6	615	123	11	528	29
RTOR Reduction (vph)	0	1	0	0	0	0	0	16	0	0	4	0
Lane Group Flow (vph)	36	186	0	234	314	0	0	728	0	0	564	0
Confl. Peds. (#/hr)	26		104	104		26	148		55	55		148
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	31.0	31.0		31.0	31.0			57.0			57.0	
Effective Green, g (s)	31.0	31.0		31.0	31.0			57.0			57.0	
Actuated g/C Ratio	0.31	0.31		0.31	0.31			0.57			0.57	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)	235	574		320	577			1857			1863	
v/s Ratio Prot		0.10			0.17							
v/s Ratio Perm	0.05			c0.23				c0.22			0.17	
v/c Ratio	0.15	0.32		0.73	0.54			0.39			0.30	
Uniform Delay, d1	25.0	26.5		30.8	28.6			11.9			11.2	
Progression Factor	1.00	1.00		0.57	0.54			1.45			1.18	
Incremental Delay, d2	1.4	1.5		12.8	3.4			0.5			0.4	
Delay (s)	26.4	28.0		30.2	18.9			17.8			13.5	
Level of Service	C	C		C	B			B			B	
Approach Delay (s)		27.7			23.7			17.8			13.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.6%	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												
Volume (vph)	61	226	89	57	255	98	0	1542	65	61	916	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.99			0.99			0.99	
Flpb, ped/bikes	0.98	1.00		0.97	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.96			0.99			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1740	1748		1718	1761			5025			5007	
Flt Permitted	0.28	1.00		0.34	1.00			1.00			0.73	
Satd. Flow (perm)	515	1748		619	1761			5025			3669	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	64	238	94	60	268	103	0	1623	68	64	964	44
RTOR Reduction (vph)	0	14	0	0	0	0	0	5	0	0	5	0
Lane Group Flow (vph)	64	318	0	60	371	0	0	1686	0	0	1067	0
Confl. Peds. (#/hr)	33		52	52		33	266		151	151		266
Confl. Bikes (#/hr)			2			1			11			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.0	27.0		27.0	27.0			62.0			62.0	
Effective Green, g (s)	27.0	27.0		27.0	27.0			62.0			62.0	
Actuated g/C Ratio	0.27	0.27		0.27	0.27			0.62			0.62	
Clearance Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	139	472		167	475			3116			2275	
v/s Ratio Prot		0.18			c0.21			c0.34				
v/s Ratio Perm	0.12			0.10							0.29	
v/c Ratio	0.46	0.67		0.36	0.78			0.54			0.47	
Uniform Delay, d1	30.4	32.6		29.5	33.8			10.9			10.2	
Progression Factor	0.95	0.96		1.00	1.00			1.10			1.72	
Incremental Delay, d2	10.3	7.3		5.9	12.0			0.7			0.6	
Delay (s)	39.1	38.6		35.4	45.8			12.6			18.2	
Level of Service	D	D		D	D			B			B	
Approach Delay (s)		38.7			44.4			12.6			18.2	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (veh/h)	35	847	1156	44	42	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	37	892	1217	46	44	20
Pedestrians		23	31		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	3		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			856			
pX, platoon unblocked	0.69				0.69	0.69
vC, conflicting volume	1273				1800	665
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	480				1250	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				57	97
cM capacity (veh/h)	733				104	723

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	SW 1
Volume Total	334	594	811	452	64
Volume Left	37	0	0	0	44
Volume Right	0	0	0	46	20
cSH	733	1700	1700	1700	141
Volume to Capacity	0.05	0.35	0.48	0.27	0.45
Queue Length 95th (ft)	4	0	0	0	51
Control Delay (s)	1.7	0.0	0.0	0.0	50.1
Lane LOS	A				F
Approach Delay (s)	0.6		0.0		50.1
Approach LOS					F

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	35	668	101	14	1520	130	91	7	89	14	37	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		0.99			0.99			1.00	0.67		0.99	
Flpb, ped/bikes		1.00			1.00			0.98	1.00		0.94	
Frt		0.98			0.99			1.00	0.85		0.96	
Flt Protected		1.00			1.00			0.96	1.00		0.99	
Satd. Flow (prot)		3439			3471			1747	1062		1651	
Flt Permitted		0.69			0.94			0.69	1.00		0.94	
Satd. Flow (perm)		2375			3279			1256	1062		1574	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	703	106	15	1600	137	96	7	94	15	39	22
RTOR Reduction (vph)	0	11	0	0	6	0	0	0	66	0	15	0
Lane Group Flow (vph)	0	835	0	0	1746	0	0	103	28	0	61	0
Confl. Peds. (#/hr)	43		28	28		43	14		265	265		14
Turn Type	Perm			Perm			Perm		custom	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8		4	4		
Actuated Green, G (s)		58.0			58.0			30.0	30.0		30.0	
Effective Green, g (s)		58.0			58.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.58			0.58			0.30	0.30		0.30	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Grp Cap (vph)		1378			1902			377	319		472	
v/s Ratio Prot												
v/s Ratio Perm		0.35			c0.53			c0.08	0.03		0.04	
v/c Ratio		0.61			0.92			0.27	0.09		0.13	
Uniform Delay, d1		13.6			18.9			26.7	25.2		25.5	
Progression Factor		0.87			1.54			1.00	1.00		1.00	
Incremental Delay, d2		1.8			8.0			1.8	0.5		0.6	
Delay (s)		13.7			37.1			28.5	25.7		26.1	
Level of Service		B			D			C	C		C	
Approach Delay (s)		13.7			37.1			27.2			26.1	
Approach LOS		B			D			C			C	

Intersection Summary			
HCM Average Control Delay	29.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	1386	0	0	293	0
Sign Control	Yield		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1459	0	0	308	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh)						
Upstream signal (ft)			187			
pX, platoon unblocked						
vC, conflicting volume	308	154	308			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	308	154	308			
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	0	100			
cM capacity (veh/h)	659	864	1249			

Direction, Lane #	EB 1	EB 2	SW 1	SW 2
Volume Total	729	729	154	154
Volume Left	0	0	0	0
Volume Right	729	729	0	0
cSH	864	864	1700	1700
Volume to Capacity	0.84	0.84	0.09	0.09
Queue Length 95th (ft)	254	254	0	0
Control Delay (s)	27.1	27.1	0.0	0.0
Lane LOS	D	D		
Approach Delay (s)	27.1		0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	22.4		
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	SBL	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1102	577	0	796	338	0	1161	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		0.96			1.00	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3381			3539	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3381			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1160	607	0	838	356	0	1222	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1160	607	0	1194	0	0	1222	0
Confl. Peds. (#/hr)	166			166						
Turn Type				Prot						
Protected Phases			4	4		6			6	
Permitted Phases										
Actuated Green, G (s)			51.0	51.0		35.0			35.0	
Effective Green, g (s)			51.0	51.0		35.0			35.0	
Actuated g/C Ratio			0.51	0.51		0.35			0.35	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2545	807		1183			1239	
v/s Ratio Prot			0.23	c0.38		c0.35			0.35	
v/s Ratio Perm										
v/c Ratio			0.46	0.75		1.01			0.99	
Uniform Delay, d1			15.6	19.5		32.5			32.3	
Progression Factor			0.86	0.86		0.89			0.48	
Incremental Delay, d2			0.6	6.4		25.7			5.1	
Delay (s)			14.0	23.2		54.5			20.5	
Level of Service			B	C		D			C	
Approach Delay (s)	0.0		17.2			54.5			20.5	
Approach LOS	A		B			D			C	

Intersection Summary			
HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	163.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (veh/h)	250	0	0	0	0	1305
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	263	0	0	0	0	1374
Pedestrians				18	18	
Lane Width (ft)				0.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				188		
pX, platoon unblocked						
vC, conflicting volume			281		281	168
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			281		281	168
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	0
cM capacity (veh/h)			1259		675	835

Direction, Lane #	NB 1	NB 2	NW 1	NW 2
Volume Total	132	132	687	687
Volume Left	0	0	0	0
Volume Right	0	0	687	687
cSH	1700	1700	835	835
Volume to Capacity	0.08	0.08	0.82	0.82
Queue Length 95th (ft)	0	0	232	232
Control Delay (s)	0.0	0.0	25.9	25.9
Lane LOS			D	D
Approach Delay (s)	0.0		25.9	
Approach LOS			D	

Intersection Summary			
Average Delay	21.8		
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1394	161	0	796	0	0	1161	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		1.00			0.99	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3539			3503	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3539			3503	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1467	169	0	838	0	0	1222	89
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1467	169	0	838	0	0	1311	0
Confl. Peds. (#/hr)	66			66						
Turn Type				Prot						
Protected Phases			8	8		2			2	
Permitted Phases										
Actuated Green, G (s)			51.0	51.0		35.0			35.0	
Effective Green, g (s)			51.0	51.0		35.0			35.0	
Actuated g/C Ratio			0.51	0.51		0.35			0.35	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2545	807		1239			1226	
v/s Ratio Prot			c0.29	0.11		0.24			c0.37	
v/s Ratio Perm										
v/c Ratio			0.58	0.21		0.68			1.07	
Uniform Delay, d1			17.0	13.4		27.7			32.5	
Progression Factor			0.91	0.92		0.45			0.82	
Incremental Delay, d2			1.0	0.6		0.3			46.2	
Delay (s)			16.5	13.0		12.6			72.9	
Level of Service			B	B		B			E	
Approach Delay (s)	0.0		16.2			12.6			72.9	
Approach LOS	A		B			B			E	

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	163.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	80	332	872	58	541	833
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frpb, ped/bikes	1.00	1.00	0.98			1.00
Flpb, ped/bikes	1.00	1.00	1.00			0.99
Frt	1.00	0.85	0.99			1.00
Flt Protected	0.95	1.00	1.00			0.98
Satd. Flow (prot)	1770	1583	3453			3442
Flt Permitted	0.95	1.00	1.00			0.52
Satd. Flow (perm)	1770	1583	3453			1821
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	349	918	61	569	877
RTOR Reduction (vph)	0	26	5	0	0	0
Lane Group Flow (vph)	84	323	974	0	0	1446
Confl. Peds. (#/hr)	19			199	199	
Turn Type		pm+ov			pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4			6	
Actuated Green, G (s)	14.0	38.0	44.0			73.0
Effective Green, g (s)	14.0	38.0	44.0			73.0
Actuated g/C Ratio	0.14	0.38	0.44			0.73
Clearance Time (s)	5.0	5.0	5.0			5.0
Lane Grp Cap (vph)	248	681	1519			1718
v/s Ratio Prot	0.05	c0.11	0.28			c0.20
v/s Ratio Perm		0.09				c0.41
v/c Ratio	0.34	0.47	0.64			1.00dl
Uniform Delay, d1	38.8	23.4	21.8			9.5
Progression Factor	1.00	1.00	1.00			1.29
Incremental Delay, d2	3.7	2.4	2.1			2.2
Delay (s)	42.5	25.8	23.9			14.4
Level of Service	D	C	C			B
Approach Delay (s)	29.0		23.9			14.4
Approach LOS	C		C			B

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBR	EBR2	NBL	NBR	NWL2	NWL
Lane Configurations						
Volume (veh/h)	899	12	10	13	13	1306
Sign Control	Free		Stop			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	946	13	11	14	14	1375
Pedestrians	204		6			181
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	17		1			15
Right turn flare (veh)						
Median type	None					None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1877	666	965	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1877	666	965	
tC, single (s)			6.8	6.9	4.1	
tC, 2 stage (s)						
tF (s)			3.5	3.3	2.2	
p0 queue free %			79	96	98	
cM capacity (veh/h)			51	339	706	

Direction, Lane #	EB 1	EB 2	NB 1	NW 1	NW 2
Volume Total	631	328	24	472	916
Volume Left	0	0	11	14	0
Volume Right	0	13	14	0	0
cSH	1700	1700	98	706	1700
Volume to Capacity	0.37	0.19	0.25	0.02	0.54
Queue Length 95th (ft)	0	0	22	1	0
Control Delay (s)	0.0	0.0	53.2	0.6	0.0
Lane LOS			F	A	
Approach Delay (s)	0.0		53.2	0.2	
Approach LOS			F		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SEL	SET
Lane Configurations												
Volume (vph)	2	46	0	126	5	7	132	0	32	5	4	467
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0					6.0				6.0
Lane Util. Factor			0.95					0.95				0.95
Frpb, ped/bikes			0.93					0.98				0.99
Flpb, ped/bikes			0.98					0.95				1.00
Frt			0.89					0.97				0.99
Flt Protected			0.99					0.96				1.00
Satd. Flow (prot)			2834					3078				3469
Flt Permitted			0.82					0.68				0.95
Satd. Flow (perm)			2352					2165				3288
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	48	0	133	5	7	139	0	34	5	4	492
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	188	0	0	0	0	185	0	0	0	547
Confl. Peds. (#/hr)	32	27		16	21	16	21		32	27	16	
Confl. Bikes (#/hr)				1						1		
Turn Type	Perm	Perm				Perm	Perm				Perm	
Protected Phases			8					4				2
Permitted Phases	8	8				4	4				2	
Actuated Green, G (s)			23.0					23.0				45.0
Effective Green, g (s)			23.0					23.0				45.0
Actuated g/C Ratio			0.23					0.23				0.45
Clearance Time (s)			6.0					6.0				6.0
Lane Grp Cap (vph)			541					498				1480
v/s Ratio Prot												
v/s Ratio Perm			0.08					c0.09				0.17
v/c Ratio			0.35					0.37				0.37
Uniform Delay, d1			32.2					32.4				18.1
Progression Factor			1.00					1.00				0.85
Incremental Delay, d2			1.8					2.1				0.6
Delay (s)			34.0					34.5				16.1
Level of Service			C					C				B
Approach Delay (s)			34.0					34.5				16.1
Approach LOS			C					C				B

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER2	NWL	NWT	NWR2
Lane Configurations				
Volume (vph)	48	131	891	33
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			6.0	
Lane Util. Factor			0.95	
Frpb, ped/bikes			1.00	
Flpb, ped/bikes			1.00	
Frt			1.00	
Flt Protected			0.99	
Satd. Flow (prot)			3491	
Flt Permitted			0.70	
Satd. Flow (perm)			2471	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95
Adj. Flow (vph)	51	138	938	35
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	1111	0
Confl. Peds. (#/hr)	32	32		16
Confl. Bikes (#/hr)				1
Turn Type		pm+pt		
Protected Phases		1	6	
Permitted Phases		6		
Actuated Green, G (s)			65.0	
Effective Green, g (s)			65.0	
Actuated g/C Ratio			0.65	
Clearance Time (s)			6.0	
Lane Grp Cap (vph)			1749	
v/s Ratio Prot			c0.09	
v/s Ratio Perm			c0.32	
v/c Ratio			0.64	
Uniform Delay, d1			10.4	
Progression Factor			0.32	
Incremental Delay, d2			1.6	
Delay (s)			4.9	
Level of Service			A	
Approach Delay (s)			4.9	
Approach LOS			A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	17	0	129	16	48	25	0	503	9	0	1046	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00			1.00			0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.98		1.00	0.99	1.00			1.00			1.00	
Frt	1.00		0.85	1.00	0.95			1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1731		1583	1747	1747			1857			3539	
Flt Permitted	0.71		1.00	0.95	1.00			1.00			1.00	
Satd. Flow (perm)	1288		1583	1747	1747			1857			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	18	0	136	17	51	26	0	529	9	0	1101	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	0	136	17	77	0	0	538	0	0	1101	0
Confl. Peds. (#/hr)	21		11	11		21	21		24	24		21
Confl. Bikes (#/hr)						1			3			2
Turn Type	custom		custom	Perm						pm+pt		
Protected Phases			4 5		8			6		5	2	
Permitted Phases	4			8						2		
Actuated Green, G (s)	26.0		36.0	26.0	26.0			53.0			63.0	
Effective Green, g (s)	26.0		36.0	26.0	26.0			53.0			63.0	
Actuated g/C Ratio	0.26		0.36	0.26	0.26			0.53			0.63	
Clearance Time (s)	6.0			6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	335		570	454	454			984			2230	
v/s Ratio Prot			c0.09		0.04			c0.29			c0.31	
v/s Ratio Perm	0.01			0.01								
v/c Ratio	0.05		0.24	0.04	0.17			0.55			0.49	
Uniform Delay, d1	27.8		22.4	27.6	28.6			15.6			9.9	
Progression Factor	1.00		1.00	1.03	1.02			1.29			0.35	
Incremental Delay, d2	0.3		1.0	0.2	0.8			2.1			0.7	
Delay (s)	28.1		23.4	28.6	30.0			22.2			4.1	
Level of Service	C		C	C	C			C			A	
Approach Delay (s)		23.9			29.8			22.2			4.1	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	1355	918	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				2.0	71.0	
Lane Util. Factor				0.91	0.91	
Frpb, ped/bikes				1.00	0.99	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	0.99	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5085	4976	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5085	4976	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1426	966	98
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1426	1064	0
Confl. Peds. (#/hr)	4	1	39			39
Confl. Bikes (#/hr)						2
Turn Type			Perm			
Protected Phases				2	6	
Permitted Phases			2			
Actuated Green, G (s)				100.0	100.0	
Effective Green, g (s)				100.0	100.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				2.0	71.0	
Lane Grp Cap (vph)				5085	4976	
v/s Ratio Prot				c0.28	0.21	
v/s Ratio Perm						
v/c Ratio				0.28	0.21	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.1	0.1	
Delay (s)				0.1	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.1	0.1	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	905	8	0	941	0	0	487	158	0	1004	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Util. Factor		0.91			0.91			0.95	1.00		0.95	1.00
Frpb, ped/bikes		1.00			1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	1.00
Frt		1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)		5077			5085			3539	1534		3539	1537
Flt Permitted		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)		5077			5085			3539	1534		3539	1537
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	953	8	0	991	0	0	513	166	0	1057	417
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	2	0	0	3
Lane Group Flow (vph)	0	961	0	0	991	0	0	513	164	0	1057	414
Confl. Peds. (#/hr)	52		38	38		52	33		38	38		33
Confl. Bikes (#/hr)						1						2
Turn Type							Perm		Perm			Perm
Protected Phases		2			6			4			8	
Permitted Phases							4		4			8
Actuated Green, G (s)		29.0			29.0			59.0	59.0		59.0	59.0
Effective Green, g (s)		29.0			29.0			59.0	59.0		59.0	59.0
Actuated g/C Ratio		0.29			0.29			0.59	0.59		0.59	0.59
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Grp Cap (vph)		1472			1475			2088	905		2088	907
v/s Ratio Prot		0.19			c0.19			0.14			c0.30	
v/s Ratio Perm									0.11			0.27
v/c Ratio		0.65			0.67			0.25	0.18		0.51	0.46
Uniform Delay, d1		31.1			31.3			9.8	9.4		12.0	11.5
Progression Factor		1.00			0.92			0.44	0.44		1.00	1.00
Incremental Delay, d2		2.3			2.4			0.3	0.4		0.9	1.7
Delay (s)		33.4			31.2			4.6	4.5		12.9	13.2
Level of Service		C			C			A	A		B	B
Approach Delay (s)		33.4			31.2			4.6			12.9	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	137.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	978	10	8	950	0	2	0	3	5	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1029	11	8	1000	0	2	0	3	5	0	6
Pedestrians					5			52			41	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			4			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		598										
pX, platoon unblocked				0.81			0.81	0.81		0.81	0.81	0.81
vC, conflicting volume	1052			1081			1603	2158	552	1604	2153	566
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1052			633			1277	1962	552	1278	1955	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 %	99			99			98	100	99	94	100	99
cM capacity (veh/h)	629			741			88	46	457	89	46	845

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1	NW 2
Volume Total	519	525	508	500	5	5	6
Volume Left	4	0	8	0	2	5	0
Volume Right	0	11	0	0	3	0	6
cSH	629	1700	741	1700	171	89	845
Volume to Capacity	0.01	0.31	0.01	0.29	0.03	0.06	0.01
Queue Length 95th (ft)	1	0	1	0	2	5	1
Control Delay (s)	0.2	0.0	0.3	0.0	26.8	48.0	9.3
Lane LOS	A		A		D	E	A
Approach Delay (s)	0.1		0.2		26.8	26.9	
Approach LOS					D	D	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	6	1063	0	1	1054
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	6	1119	0	1	1109
Pedestrians	98					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	8					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			263			
pX, platoon unblocked	0.80	0.80			0.80	
vC, conflicting volume	1774	657			1217	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1464	65			766	
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	99			100	
cM capacity (veh/h)	87	723			618	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	6	746	373	371	740
Volume Left	0	0	0	1	0
Volume Right	6	0	0	0	0
cSH	723	1700	1700	618	1700
Volume to Capacity	0.01	0.44	0.22	0.00	0.44
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.1	0.0
Lane LOS	B			A	
Approach Delay (s)	10.0	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBR	WBR2	SBL	SBR	SEL2	SEL
Lane Configurations						
Volume (veh/h)	1253	13	31	85	11	853
Sign Control	Free		Stop			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1319	14	33	89	12	898
Pedestrians			137			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			4.0			
Percent Blockage			11			
Right turn flare (veh)						
Median type	None					None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1935	803	1470	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1935	803	1470	
tC, single (s)			6.8	6.9	4.1	
tC, 2 stage (s)						
tF (s)			3.5	3.3	2.2	
p0 queue free %			34	69	97	
cM capacity (veh/h)			50	289	403	

Direction, Lane #	WB 1	WB 2	SB 1	SB 2	SE 1	SE 2
Volume Total	879	453	33	89	311	599
Volume Left	0	0	33	0	12	0
Volume Right	0	14	0	89	0	0
cSH	1700	1700	50	289	403	1700
Volume to Capacity	0.52	0.27	0.66	0.31	0.03	0.35
Queue Length 95th (ft)	0	0	65	32	2	0
Control Delay (s)	0.0	0.0	166.0	22.9	1.0	0.0
Lane LOS			F	C	A	
Approach Delay (s)	0.0		61.2		0.3	
Approach LOS			F			

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	219	105	61	149	64	0	942	30	0	2006	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.96			0.95			0.99			1.00	
Flpb, ped/bikes	0.97	1.00			0.99			1.00			1.00	
Frt	1.00	0.95			0.97			1.00			1.00	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1709	1710			1671			5010			5059	
Flt Permitted	0.40	1.00			0.82			1.00			1.00	
Satd. Flow (perm)	721	1710			1392			5010			5059	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	231	111	64	157	67	0	992	32	0	2112	23
RTOR Reduction (vph)	0	0	0	0	11	0	0	4	0	0	1	0
Lane Group Flow (vph)	58	342	0	0	277	0	0	1021	0	0	2134	0
Confl. Peds. (#/hr)	160		75	75		160	314		311	311		314
Confl. Bikes (#/hr)						1			2			2
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.0	38.0			23.0			50.0			50.0	
Effective Green, g (s)	38.0	38.0			23.0			50.0			50.0	
Actuated g/C Ratio	0.38	0.38			0.23			0.50			0.50	
Clearance Time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Grp Cap (vph)	383	650			320			2505			2530	
v/s Ratio Prot	0.02	c0.20						0.20			c0.42	
v/s Ratio Perm	0.04				c0.20							
v/c Ratio	0.15	0.53			0.87			0.41			0.84	
Uniform Delay, d1	21.1	24.0			37.0			15.7			21.6	
Progression Factor	1.00	1.00			1.00			0.86			1.00	
Incremental Delay, d2	0.8	3.0			25.6			0.5			3.6	
Delay (s)	21.9	27.1			62.6			14.0			25.3	
Level of Service	C	C			E			B			C	
Approach Delay (s)		26.3			62.6			14.0			25.3	
Approach LOS		C			E			B			C	

Intersection Summary			
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	96.3%	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												
Volume (veh/h)	32	203	18	123	209	85	19	77	27	85	77	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	34	214	19	129	220	89	20	81	28	89	81	49
Pedestrians		43			25			36			130	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		4			2			3			11	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	439			269			974	1015	275	1029	990	438
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	439			172			932	977	178	992	949	438
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	97			90			81	54	96	2	55	91
cM capacity (veh/h)	999			1264			104	174	761	92	181	532

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	247	19	439	20	109	171	49
Volume Left	34	0	129	20	0	89	0
Volume Right	0	19	89	0	28	0	49
cSH	999	1700	1264	104	218	120	532
Volume to Capacity	0.03	0.01	0.10	0.19	0.50	1.42	0.09
Queue Length 95th (ft)	3	0	9	17	64	295	8
Control Delay (s)	1.5	0.0	3.1	47.9	37.1	299.1	12.5
Lane LOS	A		A	E	E	F	B
Approach Delay (s)	1.4		3.1	38.8		234.6	
Approach LOS				E		F	

Intersection Summary			
Average Delay	55.4		
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Volume (vph)	253	729	2	0	988	0	0	1788	298	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			12.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		1.00			1.00			0.98			
Flpb, ped/bikes		1.00			1.00			1.00			
Frt		1.00			1.00			0.98			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3440			5085			4893			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3440			5085			4893			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	266	767	2	0	1040	0	0	1882	314	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1035	0	0	1040	0	0	2196	0	0	0
Confl. Peds. (#/hr)	8	189	93	189		172	172		189	93	172
Confl. Bikes (#/hr)			4			1			2		1
Turn Type	Split										
Protected Phases	8	8			2 10			6 14			
Permitted Phases											
Actuated Green, G (s)		28.0			62.0			55.0			
Effective Green, g (s)		28.0			60.0			53.0			
Actuated g/C Ratio		0.28			0.60			0.53			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		963			3051			2593			
v/s Ratio Prot		c0.30			0.20			c0.45			
v/s Ratio Perm											
v/c Ratio		1.07			0.34			0.85			
Uniform Delay, d1		36.0			10.1			20.0			
Progression Factor		0.38			0.28			0.15			
Incremental Delay, d2		46.9			0.2			2.0			
Delay (s)		60.8			3.1			5.0			
Level of Service		E			A			A			
Approach Delay (s)		60.8			3.1			5.0		0.0	
Approach LOS		E			A			A		A	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	139.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	162	0	0	918	147
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	171	0	0	966	155
Pedestrians	148			1	1	
Lane Width (ft)	12.0			0.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	12			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				152	168	
pX, platoon unblocked						
vC, conflicting volume	1193	710	1269			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1193	710	1269			
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	48	100			
cM capacity (veh/h)	157	330	476			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	171	644	477
Volume Left	0	0	0
Volume Right	171	0	155
cSH	330	1700	1700
Volume to Capacity	0.52	0.38	0.28
Queue Length 95th (ft)	70	0	0
Control Delay (s)	27.0	0.0	0.0
Lane LOS	D		
Approach Delay (s)	27.0	0.0	
Approach LOS	D		

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	556	0	902
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				9.0		10.0
Lane Util. Factor				0.88		0.95
Frt				0.85		1.00
Flt Protected				1.00		1.00
Satd. Flow (prot)				2787		3539
Flt Permitted				1.00		1.00
Satd. Flow (perm)				2787		3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	585	0	949
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	585	0	949
Turn Type				custom		
Protected Phases						4 6 7
Permitted Phases				3		
Actuated Green, G (s)				27.0		67.0
Effective Green, g (s)				27.0		65.0
Actuated g/C Ratio				0.27		0.65
Clearance Time (s)				9.0		
Lane Grp Cap (vph)				752		2300
v/s Ratio Prot						c0.27
v/s Ratio Perm				c0.21		
v/c Ratio				0.78		0.41
Uniform Delay, d1				33.7		8.4
Progression Factor				1.63		0.58
Incremental Delay, d2				7.1		0.3
Delay (s)				62.0		5.1
Level of Service				E		A
Approach Delay (s)	0.0		62.0			5.1
Approach LOS	A		E			A

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Volume (vph)	164	516	58	0	851	153	0	1988	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			12.0			5.0			
Lane Util. Factor		0.97			0.95			0.91			
Frpb, ped/bikes		1.00			0.99			1.00			
Flpb, ped/bikes		0.98			1.00			1.00			
Frt		0.99			0.98			1.00			
Flt Protected		0.96			1.00			1.00			
Satd. Flow (prot)		3348			3416			5085			
Flt Permitted		0.96			1.00			1.00			
Satd. Flow (perm)		3348			3416			5085			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	173	543	61	0	896	161	0	2093	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	777	0	0	1057	0	0	2093	0	0	0
Confl. Peds. (#/hr)	16		31	153		124	124		153	31	
Confl. Bikes (#/hr)			1						2		
Turn Type	Perm										
Protected Phases		4			2 10			6 14			
Permitted Phases	4										
Actuated Green, G (s)		28.0			55.0			62.0			
Effective Green, g (s)		28.0			53.0			60.0			
Actuated g/C Ratio		0.28			0.53			0.60			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		937			1810			3051			
v/s Ratio Prot					0.31			c0.41			
v/s Ratio Perm		0.23									
v/c Ratio		0.83			0.58			0.69			
Uniform Delay, d1		33.8			16.0			13.6			
Progression Factor		0.37			0.62			0.15			
Incremental Delay, d2		7.0			1.1			0.6			
Delay (s)		19.4			11.1			2.7			
Level of Service		B			B			A			
Approach Delay (s)		19.4			11.1			2.7		0.0	
Approach LOS		B			B			A		A	

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	139.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	70	597	93	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	74	628	98	0	0
Pedestrians	19		158			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	2		13			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			166			198
pX, platoon unblocked						
vC, conflicting volume	854	382			745	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	854	382			745	
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	88			100	
cM capacity (veh/h)	254	606			845	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	74	419	307
Volume Left	0	0	0
Volume Right	74	0	98
cSH	606	1700	1700
Volume to Capacity	0.12	0.25	0.18
Queue Length 95th (ft)	10	0	0
Control Delay (s)	11.8	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.8	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	30.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR	SWR2
Lane Configurations											
Volume (vph)	0	0	0	94	467	0	0	0	0	688	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0					9.0	
Lane Util. Factor				1.00	0.88					0.88	
Frpb, ped/bikes				1.00	0.95					0.94	
Flpb, ped/bikes				1.00	1.00					1.00	
Frt				1.00	0.85					0.85	
Flt Protected				1.00	1.00					1.00	
Satd. Flow (prot)				1863	2649					2626	
Flt Permitted				1.00	1.00					1.00	
Satd. Flow (perm)				1863	2649					2626	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	99	492	0	0	0	0	724	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	99	492	0	0	0	0	725	0
Confl. Peds. (#/hr)	41				41	41					20
Confl. Bikes (#/hr)											1
Turn Type					custom					custom	
Protected Phases				1 3 9							
Permitted Phases					1 2 3					2	
Actuated Green, G (s)				57.0	77.0					27.0	
Effective Green, g (s)				45.0	68.0					27.0	
Actuated g/C Ratio				0.45	0.68					0.27	
Clearance Time (s)										9.0	
Lane Grp Cap (vph)				838	1801					709	
v/s Ratio Prot				c0.05							
v/s Ratio Perm					c0.19					c0.28	
v/c Ratio				0.12	0.27					1.02	
Uniform Delay, d1				16.0	6.3					36.5	
Progression Factor				0.85	0.50					1.00	
Incremental Delay, d2				0.2	0.3					39.6	
Delay (s)				13.8	3.4					76.1	
Level of Service				B	A					E	
Approach Delay (s)	0.0			5.1			0.0		76.1		
Approach LOS	A			A			A		E		

Intersection Summary			
HCM Average Control Delay	44.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	78	79	5	40	27	0	172	1347	60	13	575	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		1.00			1.00			0.99			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1796			1803			3492			3489	
Flt Permitted		0.83			0.77			0.64			0.89	
Satd. Flow (perm)		1531			1438			2243			3116	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	82	83	5	42	28	0	181	1418	63	14	605	43
RTOR Reduction (vph)	0	1	0	0	0	0	0	3	0	0	5	0
Lane Group Flow (vph)	0	169	0	0	70	0	0	1659	0	0	657	0
Confl. Peds. (#/hr)	14		6	6		14	25		15	15		25
Confl. Bikes (#/hr)			1									
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		8			4		5	2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		22.0			22.0			68.0			38.0	
Effective Green, g (s)		22.0			22.0			68.0			38.0	
Actuated g/C Ratio		0.22			0.22			0.68			0.38	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		337			316			1837			1184	
v/s Ratio Prot								c0.23				
v/s Ratio Perm		c0.11			0.05			c0.39			0.21	
v/c Ratio		0.50			0.22			0.90			0.55	
Uniform Delay, d1		34.2			32.0			13.3			24.4	
Progression Factor		1.00			1.00			1.00			1.01	
Incremental Delay, d2		5.3			1.6			7.8			1.8	
Delay (s)		39.5			33.6			21.0			26.5	
Level of Service		D			C			C			C	
Approach Delay (s)		39.5			33.6			21.0			26.5	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	106.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	123	6	16	116	10	114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	129	6	17	122	11	120

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	136	139	131
Volume Left (vph)	0	17	11
Volume Right (vph)	6	0	120
Hadj (s)	0.01	0.06	-0.50
Departure Headway (s)	4.3	4.4	4.0
Degree Utilization, x	0.16	0.17	0.15
Capacity (veh/h)	800	784	839
Control Delay (s)	8.2	8.3	7.7
Approach Delay (s)	8.2	8.3	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	8.1		
HCM Level of Service	A		
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												
Volume (vph)	11	393	1	111	229	13	29	513	295	19	639	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1760	1862		1738	1845			3316			1828	
Flt Permitted	0.48	1.00		0.25	1.00			0.91			0.97	
Satd. Flow (perm)	894	1862		450	1845			3011			1769	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	12	414	1	117	241	14	31	540	311	20	673	67
RTOR Reduction (vph)	0	0	0	0	2	0	0	46	0	0	3	0
Lane Group Flow (vph)	12	415	0	117	253	0	0	836	0	0	757	0
Confl. Peds. (#/hr)	8		42	42		8	47		24	24		47
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.0	29.0		29.0	29.0			59.0			59.0	
Effective Green, g (s)	29.0	29.0		29.0	29.0			59.0			59.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29			0.59			0.59	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)	259	540		131	535			1776			1044	
v/s Ratio Prot		0.22			0.14							
v/s Ratio Perm	0.01			c0.26				0.28			c0.43	
v/c Ratio	0.05	0.77		0.89	0.47			0.47			0.72	
Uniform Delay, d1	25.5	32.4		34.0	29.2			11.6			14.7	
Progression Factor	1.00	1.00		1.19	1.20			0.58			0.54	
Incremental Delay, d2	0.3	10.1		46.4	2.4			0.7			4.1	
Delay (s)	25.9	42.5		87.0	37.5			7.5			12.1	
Level of Service	C	D		F	D			A			B	
Approach Delay (s)		42.1			53.1			7.5			12.1	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.7%	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												
Volume (vph)	22	259	93	72	235	54	23	980	45	52	1792	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.91	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.98	1.00		0.98	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.97			0.99			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1737	1766		1743	1794			3500			5040	
Flt Permitted	0.36	1.00		0.25	1.00			0.84			0.86	
Satd. Flow (perm)	663	1766		457	1794			2959			4319	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	273	98	76	247	57	24	1032	47	55	1886	63
RTOR Reduction (vph)	0	8	0	0	0	0	0	3	0	0	3	0
Lane Group Flow (vph)	23	364	0	76	304	0	0	1100	0	0	2001	0
Confl. Peds. (#/hr)	29		29	29		29	151		77	77		151
Confl. Bikes (#/hr)			2			1			3			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.0	25.0		25.0	25.0			64.0			64.0	
Effective Green, g (s)	25.0	25.0		25.0	25.0			64.0			64.0	
Actuated g/C Ratio	0.25	0.25		0.25	0.25			0.64			0.64	
Clearance Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	166	442		114	449			1894			2764	
v/s Ratio Prot		c0.21			0.17							
v/s Ratio Perm	0.03			0.17				0.37			c0.46	
v/c Ratio	0.14	0.82		0.67	0.68			0.58			0.72	
Uniform Delay, d1	29.1	35.4		33.8	33.9			10.3			12.1	
Progression Factor	0.80	0.77		1.00	1.00			2.08			1.35	
Incremental Delay, d2	1.3	12.4		26.8	8.0			1.3			1.2	
Delay (s)	24.5	39.6		60.5	41.8			22.8			17.6	
Level of Service	C	D		E	D			C			B	
Approach Delay (s)		38.7			45.6			22.8			17.6	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	112.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (veh/h)	79	1463	608	38	26	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	83	1540	640	40	27	15
Pedestrians		7	16		7	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			856			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	687				1619	674
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	505				1646	489
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				58	97
cM capacity (veh/h)	858				65	424

Direction, Lane #	SE 1	SE 2	NW 1	SW 1
Volume Total	596	1027	680	42
Volume Left	83	0	0	27
Volume Right	0	0	40	15
cSH	858	1700	1700	93
Volume to Capacity	0.10	0.60	0.40	0.45
Queue Length 95th (ft)	8	0	0	48
Control Delay (s)	2.5	0.0	0.0	72.7
Lane LOS	A			F
Approach Delay (s)	0.9		0.0	72.7
Approach LOS				F

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	8	1485	53	3	727	33	26	2	32	2	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		0.99			1.00			1.00	0.94		0.99	
Flpb, ped/bikes		1.00			1.00			0.97	1.00		0.99	
Frt		0.99			0.99			1.00	0.85		0.96	
Flt Protected		1.00			1.00			0.96	1.00		0.99	
Satd. Flow (prot)		3499			3505			1729	1486		1746	
Flt Permitted		0.95			0.95			0.79	1.00		0.98	
Satd. Flow (perm)		3327			3328			1434	1486		1726	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	1563	56	3	765	35	27	2	34	2	11	5
RTOR Reduction (vph)	0	3	0	0	3	0	0	0	21	0	4	0
Lane Group Flow (vph)	0	1624	0	0	800	0	0	29	13	0	14	0
Confl. Peds. (#/hr)	28		95	95		28	12		32	32		12
Turn Type	Perm			Perm			Perm		custom	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8		4	4		
Actuated Green, G (s)		64.0			64.0			24.0	24.0		24.0	
Effective Green, g (s)		64.0			64.0			24.0	24.0		24.0	
Actuated g/C Ratio		0.64			0.64			0.24	0.24		0.24	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Grp Cap (vph)		2129			2130			344	357		414	
v/s Ratio Prot												
v/s Ratio Perm		c0.49			0.24			c0.02	0.01		0.01	
v/c Ratio		0.76			0.38			0.08	0.04		0.03	
Uniform Delay, d1		12.7			8.5			29.5	29.1		29.1	
Progression Factor		1.13			1.69			1.00	1.00		1.00	
Incremental Delay, d2		1.7			0.5			0.5	0.2		0.2	
Delay (s)		16.1			14.9			30.0	29.3		29.3	
Level of Service		B			B			C	C		C	
Approach Delay (s)		16.1			14.9			29.6			29.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	0	0	1653	256	0
Sign Control	Free		Yield		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	1740	269	0
Pedestrians	22					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None				None	
Median storage veh)						
Upstream signal (ft)	208					
pX, platoon unblocked						
vC, conflicting volume	269		269	157		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	269		269	157		
tC, single (s)	4.1		6.8	6.9		
tC, 2 stage (s)						
tF (s)	2.2		3.5	3.3		
p0 queue free %	100		100	0		
cM capacity (veh/h)	1291		697	861		

Direction, Lane #	SE 1	SE 2	SW 1	SW 2
Volume Total	870	870	135	135
Volume Left	0	0	0	0
Volume Right	870	870	0	0
cSH	861	861	1700	1700
Volume to Capacity	1.01	1.01	0.08	0.08
Queue Length 95th (ft)	466	466	0	0
Control Delay (s)	55.2	55.2	0.0	0.0
Lane LOS	F	F		
Approach Delay (s)	55.2		0.0	
Approach LOS	F			

Intersection Summary			
Average Delay	47.8		
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	SBL	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1408	501	0	837	392	0	1004	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		0.95			1.00	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3370			3539	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3370			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1482	527	0	881	413	0	1057	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1482	527	0	1294	0	0	1057	0
Confl. Peds. (#/hr)	84			84						
Turn Type				Prot						
Protected Phases			4	4		6			6	
Permitted Phases										
Actuated Green, G (s)			52.0	52.0		34.0			34.0	
Effective Green, g (s)			52.0	52.0		34.0			34.0	
Actuated g/C Ratio			0.52	0.52		0.34			0.34	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2595	823		1146			1203	
v/s Ratio Prot			0.30	c0.33		c0.38			0.30	
v/s Ratio Perm										
v/c Ratio			0.57	0.64		1.13			0.88	
Uniform Delay, d1			16.4	17.3		33.0			31.1	
Progression Factor			0.90	0.91		0.70			0.31	
Incremental Delay, d2			0.9	3.8		66.7			2.9	
Delay (s)			15.7	19.5		89.9			12.6	
Level of Service			B	B		F			B	
Approach Delay (s)	0.0		16.7			89.9			12.6	
Approach LOS	A		B			F			B	

Intersection Summary			
HCM Average Control Delay	37.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	165.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	828	269	0	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	872	283	0	0	0
Pedestrians	19					19
Lane Width (ft)	12.0					0.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	2					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						174
pX, platoon unblocked						
vC, conflicting volume	302	180			302	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	302	180			302	
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	0			100	
cM capacity (veh/h)	655	819			1236	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2
Volume Total	436	436	142	142
Volume Left	0	0	0	0
Volume Right	436	436	0	0
cSH	819	819	1700	1700
Volume to Capacity	0.53	0.53	0.08	0.08
Queue Length 95th (ft)	80	80	0	0
Control Delay (s)	14.3	14.3	0.0	0.0
Lane LOS	B	B		
Approach Delay (s)	14.3		0.0	
Approach LOS	B			

Intersection Summary			
Average Delay	10.8		
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	853	244	0	833	0	0	1004	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		1.00			0.99	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3539			3495	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3539			3495	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	898	257	0	877	0	0	1057	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	898	257	0	877	0	0	1154	0
Confl. Peds. (#/hr)	22			22						
Turn Type				Prot						
Protected Phases			8	8		2			2	
Permitted Phases										
Actuated Green, G (s)			52.0	52.0		34.0			34.0	
Effective Green, g (s)			52.0	52.0		34.0			34.0	
Actuated g/C Ratio			0.52	0.52		0.34			0.34	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2595	823		1203			1188	
v/s Ratio Prot			c0.18	0.16		0.25			c0.33	
v/s Ratio Perm										
v/c Ratio			0.35	0.31		0.73			0.97	
Uniform Delay, d1			14.0	13.8		29.0			32.5	
Progression Factor			0.87	0.87		0.40			0.99	
Incremental Delay, d2			0.4	1.0		0.4			18.6	
Delay (s)			12.6	13.0		12.0			50.7	
Level of Service			B	B		B			D	
Approach Delay (s)	0.0		12.7			12.0			50.7	
Approach LOS	A		B			B			D	

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	165.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	0	23	43	0	349	0	1053	68	483	889	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Util. Factor			1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00		0.99			1.00	
Flpb, ped/bikes			1.00	0.96		1.00		1.00			1.00	
Frt			0.86	1.00		0.85		0.99			0.99	
Flt Protected			1.00	0.95		1.00		1.00			0.98	
Satd. Flow (prot)			1611	1701		1583		3488			3450	
Flt Permitted			1.00	0.95		1.00		1.00			0.52	
Satd. Flow (perm)			1611	1701		1583		3488			1818	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	24	45	0	367	0	1108	72	508	936	74
RTOR Reduction (vph)	0	0	21	0	0	33	0	5	0	0	4	0
Lane Group Flow (vph)	0	0	3	45	0	334	0	1175	0	0	1514	0
Confl. Peds. (#/hr)				18					65	65		
Turn Type			custom	custom		custom				pm+pt		
Protected Phases						1		2		1	6	
Permitted Phases			4	4		4				6		
Actuated Green, G (s)			14.0	14.0		36.0		46.0			73.0	
Effective Green, g (s)			14.0	14.0		36.0		46.0			73.0	
Actuated g/C Ratio			0.14	0.14		0.36		0.46			0.73	
Clearance Time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Grp Cap (vph)			226	238		649		1604			1686	
v/s Ratio Prot						c0.11		0.34			c0.20	
v/s Ratio Perm			0.00	0.03		0.10					c0.46	
v/c Ratio			0.01	0.19		0.52		0.73			1.03dl	
Uniform Delay, d1			37.1	38.0		25.1		22.0			10.6	
Progression Factor			1.00	1.00		1.00		1.00			2.83	
Incremental Delay, d2			0.1	1.8		2.9		3.0			4.9	
Delay (s)			37.2	39.7		28.1		25.0			34.9	
Level of Service			D	D		C		C			C	
Approach Delay (s)		37.2			29.3			25.0			34.9	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Volume (veh/h)	9	10	1402	9	0	895
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	11	1476	9	0	942
Pedestrians	12		37			110
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		3			9
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2001	865			1497	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2001	865			1497	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	96			100	
cM capacity (veh/h)	50	267			440	

Direction, Lane #	NB 1	SE 1	SE 2	NW 1	NW 2
Volume Total	20	984	501	314	628
Volume Left	9	0	0	0	0
Volume Right	11	0	9	0	0
cSH	87	1700	1700	440	1700
Volume to Capacity	0.23	0.58	0.29	0.00	0.37
Queue Length 95th (ft)	20	0	0	0	0
Control Delay (s)	58.1	0.0	0.0	0.0	0.0
Lane LOS	F				
Approach Delay (s)	58.1	0.0		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SEL	SET
Lane Configurations												
Volume (vph)	7	102	0	242	33	5	116	0	43	6	12	1051
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0					6.0				6.0
Lane Util. Factor			0.95					0.95				0.95
Frpb, ped/bikes			0.96					0.98				1.00
Flpb, ped/bikes			0.98					0.98				1.00
Frt			0.89					0.96				0.99
Flt Protected			0.99					0.97				1.00
Satd. Flow (prot)			2945					3140				3509
Flt Permitted			0.80					0.59				0.95
Satd. Flow (perm)			2390					1918				3324
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	7	107	0	255	35	5	122	0	45	6	13	1106
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	404	0	0	0	0	178	0	0	0	1160
Confl. Peds. (#/hr)	40	26		22	19	22	19		40	26	22	
Confl. Bikes (#/hr)				3					5	2		
Turn Type	Perm	Perm				Perm	Perm				Perm	
Protected Phases			8					4				2
Permitted Phases	8	8				4	4				2	
Actuated Green, G (s)			29.0					29.0				45.0
Effective Green, g (s)			29.0					29.0				45.0
Actuated g/C Ratio			0.29					0.29				0.45
Clearance Time (s)			6.0					6.0				6.0
Lane Grp Cap (vph)			693					556				1496
v/s Ratio Prot												
v/s Ratio Perm			c0.17					0.09				c0.35
v/c Ratio			0.58					0.32				0.78
Uniform Delay, d1			30.3					27.8				23.2
Progression Factor			1.00					1.00				0.70
Incremental Delay, d2			3.6					1.5				3.0
Delay (s)			33.9					29.3				19.4
Level of Service			C					C				B
Approach Delay (s)			33.9					29.3				19.4
Approach LOS			C					C				B

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER2	NWL	NWT	NWR2
Lane Configurations				
Volume (vph)	39	31	446	17
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			6.0	
Lane Util. Factor			0.95	
Frpb, ped/bikes			1.00	
Flpb, ped/bikes			1.00	
Frt			0.99	
Flt Protected			1.00	
Satd. Flow (prot)			3503	
Flt Permitted			0.79	
Satd. Flow (perm)			2760	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	33	469	18
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	520	0
Confl. Peds. (#/hr)	40	40		22
Confl. Bikes (#/hr)	5			3
Turn Type		pm+pt		
Protected Phases		1	6	
Permitted Phases		6		
Actuated Green, G (s)			59.0	
Effective Green, g (s)			59.0	
Actuated g/C Ratio			0.59	
Clearance Time (s)			6.0	
Lane Grp Cap (vph)			1688	
v/s Ratio Prot			c0.02	
v/s Ratio Perm			0.16	
v/c Ratio			0.31	
Uniform Delay, d1			10.3	
Progression Factor			0.68	
Incremental Delay, d2			0.4	
Delay (s)			7.4	
Level of Service			A	
Approach Delay (s)			7.4	
Approach LOS			A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	49	0	292	13	60	15	0	1048	7	129	446	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.95		1.00	0.99	1.00			1.00			1.00	
Frt	1.00		0.85	1.00	0.97			1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1687		1583	1749	1783			3533			3500	
Flt Permitted	0.71		1.00	0.95	1.00			1.00			0.53	
Satd. Flow (perm)	1253		1583	1749	1783			3533			1859	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	52	0	307	14	63	16	0	1103	7	136	469	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	0	307	14	79	0	0	1110	0	0	605	0
Confl. Peds. (#/hr)	40		9	9		40	20		40	40		20
Confl. Bikes (#/hr)									4			2
Turn Type	custom		custom	Perm						pm+pt		
Protected Phases			4 5		8			6		5	2	
Permitted Phases	4			8						2		
Actuated Green, G (s)	29.0		43.0	29.0	29.0			46.0			60.0	
Effective Green, g (s)	29.0		38.0	29.0	29.0			46.0			60.0	
Actuated g/C Ratio	0.29		0.38	0.29	0.29			0.46			0.60	
Clearance Time (s)	6.0			6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	363		602	507	517			1625			1263	
v/s Ratio Prot			c0.19		0.04			c0.31			c0.04	
v/s Ratio Perm	0.04			0.01							0.24	
v/c Ratio	0.14		0.51	0.03	0.15			0.68			0.48	
Uniform Delay, d1	26.3		23.8	25.4	26.4			21.3			11.2	
Progression Factor	1.00		1.00	1.09	1.12			0.28			0.37	
Incremental Delay, d2	0.8		3.1	0.1	0.6			1.6			1.2	
Delay (s)	27.1		26.9	27.8	30.1			7.5			5.4	
Level of Service	C		C	C	C			A			A	
Approach Delay (s)		26.9			29.7			7.5			5.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	111.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	1194	1626	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				2.0	58.0	
Lane Util. Factor				0.91	0.91	
Frpb, ped/bikes				1.00	0.99	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	0.99	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5085	5000	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5085	5000	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1257	1712	86
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1257	1798	0
Confl. Peds. (#/hr)	9	2	103			103
Confl. Bikes (#/hr)		1				1
Turn Type			Perm			
Protected Phases				2	6	
Permitted Phases			2			
Actuated Green, G (s)				100.0	100.0	
Effective Green, g (s)				100.0	100.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				2.0	58.0	
Lane Grp Cap (vph)				5085	5000	
v/s Ratio Prot				0.25	c0.36	
v/s Ratio Perm						
v/c Ratio				0.25	0.36	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.1	0.1	
Delay (s)				0.1	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.1	0.1	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	884	3	0	1579	0	0	1176	158	0	570	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Util. Factor		0.91			0.91			0.95	1.00		0.95	1.00
Frpb, ped/bikes		1.00			1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	1.00
Frt		1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)		5082			5085			3539	1539		3539	1529
Flt Permitted		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)		5082			5085			3539	1539		3539	1529
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	931	3	0	1662	0	0	1238	166	0	600	295
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	1	0	0	25
Lane Group Flow (vph)	0	934	0	0	1662	0	0	1238	165	0	600	270
Confl. Peds. (#/hr)	95		29	29		95	33		24	24		33
Confl. Bikes (#/hr)			4			1			2			2
Turn Type							Perm		Perm			Perm
Protected Phases		2			6			4			8	
Permitted Phases							4		4			8
Actuated Green, G (s)		42.0			42.0			46.0	46.0		46.0	46.0
Effective Green, g (s)		42.0			42.0			46.0	46.0		46.0	46.0
Actuated g/C Ratio		0.42			0.42			0.46	0.46		0.46	0.46
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Grp Cap (vph)		2134			2136			1628	708		1628	703
v/s Ratio Prot		0.18			c0.33			c0.35			0.17	
v/s Ratio Perm									0.11			0.18
v/c Ratio		0.44			0.78			0.76	0.23		0.37	0.38
Uniform Delay, d1		20.6			25.0			22.4	16.3		17.6	17.7
Progression Factor		1.00			1.07			0.61	0.52		1.00	1.00
Incremental Delay, d2		0.7			2.7			2.7	0.6		0.6	1.6
Delay (s)		21.3			29.6			16.4	9.1		18.2	19.3
Level of Service		C			C			B	A		B	B
Approach Delay (s)		21.3			29.6			15.5			18.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1034	8	8	1017	3	1	0	1	5	0	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1088	8	8	1071	3	1	0	1	5	0	7
Pedestrians					13			26			14	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					1			2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		601										
pX, platoon unblocked				0.79			0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	1100			1111			1688	2234	563	1668	2232	575
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1100			619			1347	2035	563	1322	2032	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 %	99			99			99	100	100	94	100	99
cM capacity (veh/h)	617			751			80	42	459	86	43	841

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1	NW 2
Volume Total	548	553	544	538	2	5	7
Volume Left	4	0	8	0	1	5	0
Volume Right	0	8	0	3	1	0	7
cSH	617	1700	751	1700	137	86	841
Volume to Capacity	0.01	0.33	0.01	0.32	0.02	0.06	0.01
Queue Length 95th (ft)	1	0	1	0	1	5	1
Control Delay (s)	0.2	0.0	0.3	0.0	31.8	49.5	9.3
Lane LOS	A		A		D	E	A
Approach Delay (s)	0.1		0.2		31.8	26.1	
Approach LOS					D	D	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	1117	8	28	1088
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	1176	8	29	1145
Pedestrians	36					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	3					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			266			
pX, platoon unblocked	0.78	0.78			0.78	
vC, conflicting volume	1848	628			1220	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1526	0			724	
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			96	
cM capacity (veh/h)	79	822			663	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	784	400	411	764
Volume Left	0	0	0	29	0
Volume Right	0	0	8	0	0
cSH	1700	1700	1700	663	1700
Volume to Capacity	0.00	0.46	0.24	0.04	0.45
Queue Length 95th (ft)	0	0	0	3	0
Control Delay (s)	0.0	0.0	0.0	1.3	0.0
Lane LOS	A			A	
Approach Delay (s)	0.0	0.0		0.5	
Approach LOS	A				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	6	19	88	1332	704	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	20	93	1402	741	40
Pedestrians	53				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	4				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1701	444	834			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1701	444	834			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	96	88			
cM capacity (veh/h)	69	537	760			

Direction, Lane #	SB 1	SB 2	SE 1	SE 2	NW 1	NW 2
Volume Total	6	20	560	935	494	287
Volume Left	6	0	93	0	0	0
Volume Right	0	20	0	0	0	40
cSH	69	537	760	1700	1700	1700
Volume to Capacity	0.09	0.04	0.12	0.55	0.29	0.17
Queue Length 95th (ft)	7	3	10	0	0	0
Control Delay (s)	62.0	12.0	3.2	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	24.0		1.2		0.0	
Approach LOS	C					

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	186	43	46	166	66	0	1591	59	0	1156	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.96			0.93			0.98			0.99	
Flpb, ped/bikes	0.96	1.00			0.98			1.00			1.00	
Frt	1.00	0.97			0.97			0.99			0.99	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1698	1747			1629			4964			5004	
Flt Permitted	0.36	1.00			0.89			1.00			1.00	
Satd. Flow (perm)	646	1747			1465			4964			5004	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	55	196	45	48	175	69	0	1675	62	0	1217	43
RTOR Reduction (vph)	0	4	0	0	11	0	0	4	0	0	4	0
Lane Group Flow (vph)	55	237	0	0	281	0	0	1733	0	0	1256	0
Confl. Peds. (#/hr)	210		132	132		210	312		576	576		312
Confl. Bikes (#/hr)			1			1						2
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.0	37.0			22.0			51.0			51.0	
Effective Green, g (s)	37.0	37.0			22.0			51.0			51.0	
Actuated g/C Ratio	0.37	0.37			0.22			0.51			0.51	
Clearance Time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Grp Cap (vph)	355	646			322			2532			2552	
v/s Ratio Prot	0.02	c0.14						c0.35			0.25	
v/s Ratio Perm	0.04				c0.19							
v/c Ratio	0.15	0.37			0.87			0.68			0.49	
Uniform Delay, d1	21.8	23.0			37.7			18.4			16.0	
Progression Factor	1.00	1.00			1.00			0.11			1.00	
Incremental Delay, d2	0.9	1.6			26.3			1.2			0.7	
Delay (s)	22.7	24.6			64.0			3.2			16.7	
Level of Service	C	C			E			A			B	
Approach Delay (s)		24.2			64.0			3.2			16.7	
Approach LOS		C			E			A			B	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	95.0%	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												
Volume (veh/h)	34	196	15	17	165	125	23	92	16	149	102	83
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	206	16	18	174	132	24	97	17	157	107	87
Pedestrians		66			28			26			172	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		6			2			2			14	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	477			248			786	817	260	818	767	477
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	477			159			735	768	172	770	715	477
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	96			99			82	61	98	0	59	82
cM capacity (veh/h)	929			1297			138	246	777	144	264	476

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	242	16	323	24	114	264	87
Volume Left	36	0	18	24	0	157	0
Volume Right	0	16	132	0	17	0	87
cSH	929	1700	1297	138	274	176	476
Volume to Capacity	0.04	0.01	0.01	0.18	0.42	1.50	0.18
Queue Length 95th (ft)	3	0	1	15	49	422	17
Control Delay (s)	1.7	0.0	0.6	36.7	27.2	299.9	14.3
Lane LOS	A		A	E	D	F	B
Approach Delay (s)	1.6		0.6	28.8		229.0	
Approach LOS				D		F	

Intersection Summary			
Average Delay	79.5		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Volume (vph)	192	596	25	0	1574	0	0	1100	173	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			12.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		0.99			1.00			0.98			
Flpb, ped/bikes		1.00			1.00			1.00			
Frt		1.00			1.00			0.98			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3410			5085			4907			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3410			5085			4907			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	202	627	26	0	1657	0	0	1158	182	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	855	0	0	1657	0	0	1340	0	0	0
Confl. Peds. (#/hr)	15		104	142		359	359		142	104	
Confl. Bikes (#/hr)			3			9			4		
Turn Type	Split										
Protected Phases	8	8			2 10			6 14			
Permitted Phases											
Actuated Green, G (s)		38.0			52.0			45.0			
Effective Green, g (s)		38.0			50.0			43.0			
Actuated g/C Ratio		0.38			0.50			0.43			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		1296			2543			2110			
v/s Ratio Prot		c0.25			c0.33			0.27			
v/s Ratio Perm											
v/c Ratio		0.66			0.65			0.64			
Uniform Delay, d1		25.7			18.5			22.3			
Progression Factor		1.00			0.15			0.74			
Incremental Delay, d2		2.6			0.8			1.3			
Delay (s)		28.3			3.6			17.8			
Level of Service		C			A			B			
Approach Delay (s)		28.3			3.6			17.8		0.0	
Approach LOS		C			A			B		A	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	126.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	192	0	0	620	151
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	202	0	0	653	159
Pedestrians	192			3	2	
Lane Width (ft)	12.0			0.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	16			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				189	168	
pX, platoon unblocked						
vC, conflicting volume	926	601	1004			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	926	601	1004			
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	46	100			
cM capacity (veh/h)	224	373	576			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	202	435	376
Volume Left	0	0	0
Volume Right	202	0	159
cSH	373	1700	1700
Volume to Capacity	0.54	0.26	0.22
Queue Length 95th (ft)	78	0	0
Control Delay (s)	25.5	0.0	0.0
Lane LOS	D		
Approach Delay (s)	25.5	0.0	
Approach LOS	D		

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	742	0	654
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				9.0		10.0
Lane Util. Factor				0.88		0.95
Frt				0.85		1.00
Flt Protected				1.00		1.00
Satd. Flow (prot)				2787		3539
Flt Permitted				1.00		1.00
Satd. Flow (perm)				2787		3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	781	0	688
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	781	0	688
Turn Type				custom		
Protected Phases						4 6 7
Permitted Phases				3		
Actuated Green, G (s)				37.0		67.0
Effective Green, g (s)				37.0		65.0
Actuated g/C Ratio				0.37		0.65
Clearance Time (s)				9.0		
Lane Grp Cap (vph)				1031		2300
v/s Ratio Prot						c0.19
v/s Ratio Perm				c0.28		
v/c Ratio				0.76		0.30
Uniform Delay, d1				27.6		7.6
Progression Factor				0.84		0.52
Incremental Delay, d2				5.0		0.3
Delay (s)				28.3		4.3
Level of Service				C		A
Approach Delay (s)	0.0		28.3			4.3
Approach LOS	A		C			A

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Volume (vph)	186	656	52	0	1441	225	0	1206	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			12.0			5.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		0.99			0.97			1.00			
Flpb, ped/bikes		0.97			1.00			1.00			
Frt		0.99			0.98			1.00			
Flt Protected		0.96			1.00			1.00			
Satd. Flow (prot)		3307			4825			5085			
Flt Permitted		0.96			1.00			1.00			
Satd. Flow (perm)		3307			4825			5085			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	196	691	55	0	1517	237	0	1269	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	942	0	0	1754	0	0	1269	0	0	0
Confl. Peds. (#/hr)	29		77	220		322	322		220	77	
Confl. Bikes (#/hr)			1			4					
Turn Type	Perm										
Protected Phases		4			2 10			6 14			
Permitted Phases	4										
Actuated Green, G (s)		38.0			45.0			52.0			
Effective Green, g (s)		38.0			43.0			50.0			
Actuated g/C Ratio		0.38			0.43			0.50			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		1257			2075			2543			
v/s Ratio Prot					c0.36			0.25			
v/s Ratio Perm		0.28									
v/c Ratio		0.75			0.85			0.50			
Uniform Delay, d1		26.9			25.5			16.7			
Progression Factor		0.30			0.41			0.23			
Incremental Delay, d2		3.3			3.6			0.6			
Delay (s)		11.3			14.0			4.4			
Level of Service		B			B			A			
Approach Delay (s)		11.3			14.0			4.4		0.0	
Approach LOS		B			B			A		A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	126.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	104	822	38	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	109	865	40	0	0
Pedestrians	31		253			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	3		21			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			166			237
pX, platoon unblocked						
vC, conflicting volume	1169	484			936	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1169	484			936	
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	79			100	
cM capacity (veh/h)	143	515			708	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	109	577	328
Volume Left	0	0	0
Volume Right	109	0	40
cSH	515	1700	1700
Volume to Capacity	0.21	0.34	0.19
Queue Length 95th (ft)	20	0	0
Control Delay (s)	13.9	0.0	0.0
Lane LOS	B		
Approach Delay (s)	13.9	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	110	726	0	0	0	0	0	0	0	594	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0								9.0	
Lane Util. Factor		1.00	0.88								0.95	
Frpb, ped/bikes		1.00	0.95								1.00	
Flpb, ped/bikes		1.00	1.00								1.00	
Frt		1.00	0.85								1.00	
Flt Protected		1.00	1.00								1.00	
Satd. Flow (prot)		1863	2649								3534	
Flt Permitted		1.00	1.00								1.00	
Satd. Flow (perm)		1863	2649								3534	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	116	764	0	0	0	0	0	0	0	625	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	116	764	0	0	0	0	0	0	0	630	0
Confl. Peds. (#/hr)	1		34	34		1	8		1	1		8
Confl. Bikes (#/hr)			1									4
Turn Type			custom									
Protected Phases		1 3 9										
Permitted Phases			1 2 3								2	
Actuated Green, G (s)		47.0	67.0								37.0	
Effective Green, g (s)		35.0	58.0								37.0	
Actuated g/C Ratio		0.35	0.58								0.37	
Clearance Time (s)											9.0	
Lane Grp Cap (vph)		652	1536								1308	
v/s Ratio Prot		c0.06										
v/s Ratio Perm			c0.29								0.18	
v/c Ratio		0.18	0.50								0.48	
Uniform Delay, d1		22.5	12.4								24.1	
Progression Factor		0.94	0.47								1.00	
Incremental Delay, d2		0.4	0.9								1.3	
Delay (s)		21.6	6.7								25.4	
Level of Service		C	A								C	
Approach Delay (s)		8.6			0.0			0.0			25.4	
Approach LOS		A			A			A			C	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	101	95	5	39	40	6	137	676	68	45	1112	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		1.00			0.99			0.99			0.99	
Flt Protected		0.98			0.98			0.99			1.00	
Satd. Flow (prot)		1794			1791			3461			3484	
Flt Permitted		0.80			0.73			0.54			0.88	
Satd. Flow (perm)		1480			1340			1875			3060	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	100	5	41	42	6	144	712	72	47	1171	103
RTOR Reduction (vph)	0	1	0	0	3	0	0	6	0	0	6	0
Lane Group Flow (vph)	0	210	0	0	86	0	0	922	0	0	1315	0
Confl. Peds. (#/hr)	11		12	12		11	6		23	23		6
Confl. Bikes (#/hr)			1									1
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		8			4		5	2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		15.0			15.0			75.0			64.0	
Effective Green, g (s)		15.0			15.0			75.0			64.0	
Actuated g/C Ratio		0.15			0.15			0.75			0.64	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		222			201			1501			1958	
v/s Ratio Prot								c0.04				
v/s Ratio Perm		c0.14			0.06			0.42			c0.43	
v/c Ratio		0.95			0.43			0.61			0.67	
Uniform Delay, d1		42.1			38.6			5.8			11.4	
Progression Factor		1.00			1.00			1.00			0.98	
Incremental Delay, d2		48.0			6.6			1.9			0.9	
Delay (s)		90.1			45.2			7.7			12.0	
Level of Service		F			D			A			B	
Approach Delay (s)		90.1			45.2			7.7			12.0	
Approach LOS		F			D			A			B	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	133.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	71	16	32	196	18	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	75	17	34	206	19	67

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	92	240	86
Volume Left (vph)	0	34	19
Volume Right (vph)	17	0	67
Hadj (s)	-0.08	0.06	-0.39
Departure Headway (s)	4.3	4.3	4.2
Degree Utilization, x	0.11	0.28	0.10
Capacity (veh/h)	816	818	786
Control Delay (s)	7.8	8.9	7.7
Approach Delay (s)	7.8	8.9	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	8.4		
HCM Level of Service	A		
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												
Volume (vph)	34	176	4	224	299	2	6	614	118	10	533	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		0.93	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1745	1852		1637	1861			3429			3485	
Flt Permitted	0.41	1.00		0.60	1.00			0.95			0.94	
Satd. Flow (perm)	749	1852		1026	1861			3262			3272	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	36	185	4	236	315	2	6	646	124	11	561	29
RTOR Reduction (vph)	0	1	0	0	0	0	0	16	0	0	3	0
Lane Group Flow (vph)	36	188	0	236	317	0	0	760	0	0	598	0
Confl. Peds. (#/hr)	26		104	104		26	148		55	55		148
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	31.0	31.0		31.0	31.0			57.0			57.0	
Effective Green, g (s)	31.0	31.0		31.0	31.0			57.0			57.0	
Actuated g/C Ratio	0.31	0.31		0.31	0.31			0.57			0.57	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)	232	574		318	577			1859			1865	
v/s Ratio Prot		0.10			0.17							
v/s Ratio Perm	0.05			c0.23				c0.23			0.18	
v/c Ratio	0.16	0.33		0.74	0.55			0.41			0.32	
Uniform Delay, d1	25.0	26.5		30.9	28.7			12.1			11.3	
Progression Factor	1.00	1.00		0.56	0.54			1.43			1.31	
Incremental Delay, d2	1.4	1.5		13.4	3.4			0.6			0.4	
Delay (s)	26.4	28.0		30.8	18.9			17.8			15.3	
Level of Service	C	C		C	B			B			B	
Approach Delay (s)		27.8			24.0			17.8			15.3	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.7%	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												
Volume (vph)	62	228	90	58	258	99	0	1702	66	62	1104	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.99			0.99			1.00	
Flpb, ped/bikes	0.98	1.00		0.97	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.96			0.99			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1741	1748		1718	1761			5030			5020	
Flt Permitted	0.27	1.00		0.34	1.00			1.00			0.72	
Satd. Flow (perm)	501	1748		610	1761			5030			3625	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	65	240	95	61	272	104	0	1792	69	65	1162	44
RTOR Reduction (vph)	0	15	0	0	0	0	0	4	0	0	4	0
Lane Group Flow (vph)	65	320	0	61	376	0	0	1857	0	0	1267	0
Confl. Peds. (#/hr)	33		52	52		33	266		151	151		266
Confl. Bikes (#/hr)			2			1			11			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.0	27.0		27.0	27.0			62.0			62.0	
Effective Green, g (s)	27.0	27.0		27.0	27.0			62.0			62.0	
Actuated g/C Ratio	0.27	0.27		0.27	0.27			0.62			0.62	
Clearance Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	135	472		165	475			3119			2248	
v/s Ratio Prot		0.18			c0.21			c0.37				
v/s Ratio Perm	0.13			0.10							0.35	
v/c Ratio	0.48	0.68		0.37	0.79			0.60			0.56	
Uniform Delay, d1	30.6	32.6		29.6	33.9			11.4			11.1	
Progression Factor	0.94	0.96		1.00	1.00			1.10			1.85	
Incremental Delay, d2	11.5	7.5		6.3	12.7			0.8			0.9	
Delay (s)	40.4	38.7		35.9	46.6			13.4			21.4	
Level of Service	D	D		D	D			B			C	
Approach Delay (s)		39.0			45.1			13.4			21.4	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (veh/h)	35	872	1199	44	42	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	37	918	1262	46	44	20
Pedestrians		23	31		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	3		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			856			
pX, platoon unblocked	0.65				0.65	0.65
vC, conflicting volume	1318				1859	687
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	421				1250	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				55	97
cM capacity (veh/h)	734				99	688

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	SW 1
Volume Total	343	612	841	467	64
Volume Left	37	0	0	0	44
Volume Right	0	0	0	46	20
cSH	734	1700	1700	1700	135
Volume to Capacity	0.05	0.36	0.49	0.27	0.48
Queue Length 95th (ft)	4	0	0	0	55
Control Delay (s)	1.6	0.0	0.0	0.0	54.1
Lane LOS	A				F
Approach Delay (s)	0.6		0.0		54.1
Approach LOS					F

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	35	700	94	3	1574	131	84	7	76	14	37	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		0.99			0.99			1.00	0.67		0.99	
Flpb, ped/bikes		1.00			1.00			0.98	1.00		0.94	
Frt		0.98			0.99			1.00	0.85		0.96	
Flt Protected		1.00			1.00			0.96	1.00		0.99	
Satd. Flow (prot)		3448			3474			1747	1062		1650	
Flt Permitted		0.68			0.95			0.69	1.00		0.94	
Satd. Flow (perm)		2342			3314			1269	1062		1574	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	737	99	3	1657	138	88	7	80	15	39	22
RTOR Reduction (vph)	0	10	0	0	6	0	0	0	56	0	13	0
Lane Group Flow (vph)	0	863	0	0	1792	0	0	95	24	0	63	0
Confl. Peds. (#/hr)	43		28	28		43	14		265	265		14
Turn Type	Perm			Perm			Perm		custom	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8		4	4		
Actuated Green, G (s)		58.0			58.0			30.0	30.0		30.0	
Effective Green, g (s)		58.0			58.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.58			0.58			0.30	0.30		0.30	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Grp Cap (vph)		1358			1922			381	319		472	
v/s Ratio Prot												
v/s Ratio Perm		0.37			c0.54			c0.07	0.02		0.04	
v/c Ratio		0.64			0.93			0.25	0.08		0.13	
Uniform Delay, d1		14.0			19.2			26.5	25.1		25.5	
Progression Factor		0.86			1.55			1.00	1.00		1.00	
Incremental Delay, d2		2.1			9.0			1.6	0.5		0.6	
Delay (s)		14.1			38.8			28.0	25.5		26.1	
Level of Service		B			D			C	C		C	
Approach Delay (s)		14.1			38.8			26.9			26.1	
Approach LOS		B			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	1410	0	0	308	0
Sign Control	Yield		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1484	0	0	324	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh)						
Upstream signal (ft)			187			
pX, platoon unblocked						
vC, conflicting volume	324	162	324			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	324	162	324			
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	0	100			
cM capacity (veh/h)	645	854	1232			

Direction, Lane #	EB 1	EB 2	SW 1	SW 2
Volume Total	742	742	162	162
Volume Left	0	0	0	0
Volume Right	742	742	0	0
cSH	854	854	1700	1700
Volume to Capacity	0.87	0.87	0.10	0.10
Queue Length 95th (ft)	277	277	0	0
Control Delay (s)	29.9	29.9	0.0	0.0
Lane LOS	D	D		
Approach Delay (s)	29.9		0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	24.5		
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	SBL	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1133	586	0	834	355	0	1204	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		0.96			1.00	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3381			3539	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3381			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1193	617	0	878	374	0	1267	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1193	617	0	1252	0	0	1267	0
Confl. Peds. (#/hr)	166			166						
Turn Type				Prot						
Protected Phases			4	4		6			6	
Permitted Phases										
Actuated Green, G (s)			51.0	51.0		35.0			35.0	
Effective Green, g (s)			51.0	51.0		35.0			35.0	
Actuated g/C Ratio			0.51	0.51		0.35			0.35	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2545	807		1183			1239	
v/s Ratio Prot			0.24	c0.39		c0.37			0.36	
v/s Ratio Perm										
v/c Ratio			0.47	0.76		1.06			1.02	
Uniform Delay, d1			15.8	19.7		32.5			32.5	
Progression Factor			0.86	0.86		0.95			0.47	
Incremental Delay, d2			0.6	6.8		40.2			14.4	
Delay (s)			14.1	23.7		71.1			29.6	
Level of Service			B	C		E			C	
Approach Delay (s)	0.0		17.4			71.1			29.6	
Approach LOS	A		B			E			C	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	166.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (veh/h)	260	0	0	0	0	1381
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	274	0	0	0	0	1454
Pedestrians				18	18	
Lane Width (ft)				0.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				188		
pX, platoon unblocked						
vC, conflicting volume			292		292	173
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			292		292	173
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	0
cM capacity (veh/h)			1248		665	828

Direction, Lane #	NB 1	NB 2	NW 1	NW 2
Volume Total	137	137	727	727
Volume Left	0	0	0	0
Volume Right	0	0	727	727
cSH	1700	1700	828	828
Volume to Capacity	0.08	0.08	0.88	0.88
Queue Length 95th (ft)	0	0	284	284
Control Delay (s)	0.0	0.0	31.6	31.6
Lane LOS			D	D
Approach Delay (s)	0.0		31.6	
Approach LOS			D	

Intersection Summary			
Average Delay	26.6		
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1453	188	0	803	0	0	1204	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		1.00			0.99	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3539			3506	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3539			3506	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1529	198	0	845	0	0	1267	85
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1529	198	0	845	0	0	1352	0
Confl. Peds. (#/hr)	66			66						
Turn Type				Prot						
Protected Phases			8	8		2			2	
Permitted Phases										
Actuated Green, G (s)			51.0	51.0		35.0			35.0	
Effective Green, g (s)			51.0	51.0		35.0			35.0	
Actuated g/C Ratio			0.51	0.51		0.35			0.35	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2545	807		1239			1227	
v/s Ratio Prot			c0.31	0.13		0.24			c0.39	
v/s Ratio Perm										
v/c Ratio			0.60	0.25		0.68			1.10	
Uniform Delay, d1			17.3	13.7		27.7			32.5	
Progression Factor			0.92	0.92		0.47			0.85	
Incremental Delay, d2			1.1	0.7		0.3			58.1	
Delay (s)			16.9	13.4		13.2			85.8	
Level of Service			B	B		B			F	
Approach Delay (s)	0.0		16.5			13.2			85.8	
Approach LOS	A		B			B			F	

Intersection Summary			
HCM Average Control Delay	39.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	166.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	0	137	79	0	409	0	892	37	445	884	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Util. Factor			1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00		0.99			1.00	
Flpb, ped/bikes			1.00	0.96		1.00		1.00			0.99	
Frt			0.86	1.00		0.85		0.99			0.99	
Flt Protected			1.00	0.95		1.00		1.00			0.98	
Satd. Flow (prot)			1611	1698		1583		3484			3435	
Flt Permitted			1.00	0.95		1.00		1.00			0.51	
Satd. Flow (perm)			1611	1698		1583		3484			1781	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	144	83	0	431	0	939	39	468	931	71
RTOR Reduction (vph)	0	0	124	0	0	25	0	3	0	0	4	0
Lane Group Flow (vph)	0	0	20	83	0	406	0	975	0	0	1466	0
Confl. Peds. (#/hr)				19					199	199		
Turn Type			custom	custom		custom				pm+pt		
Protected Phases						1		2		1	6	
Permitted Phases			4	4		4				6		
Actuated Green, G (s)			14.0	14.0		38.0		44.0			73.0	
Effective Green, g (s)			14.0	14.0		38.0		44.0			73.0	
Actuated g/C Ratio			0.14	0.14		0.38		0.44			0.73	
Clearance Time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Grp Cap (vph)			226	238		681		1533			1697	
v/s Ratio Prot						c0.14		0.28			c0.21	
v/s Ratio Perm			0.01	0.05		0.11					c0.42	
v/c Ratio			0.09	0.35		0.60		0.64			0.86	
Uniform Delay, d1			37.4	38.9		24.8		21.8			9.9	
Progression Factor			1.00	1.00		1.00		1.00			1.34	
Incremental Delay, d2			0.8	4.0		3.8		2.0			2.2	
Delay (s)			38.2	42.9		28.7		23.8			15.5	
Level of Service			D	D		C		C			B	
Approach Delay (s)		38.2			31.0			23.8			15.5	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBR	EBR2	NBL	NBR	NWL2	NWL
Lane Configurations						
Volume (veh/h)	935	12	10	13	13	1382
Sign Control	Free		Stop			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	984	13	11	14	14	1455
Pedestrians	204		6			181
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	17		1			15
Right turn flare (veh)						
Median type	None					None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1955	685	1003	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1955	685	1003	
tC, single (s)			6.8	6.9	4.1	
tC, 2 stage (s)						
tF (s)			3.5	3.3	2.2	
p0 queue free %			77	96	98	
cM capacity (veh/h)			45	330	683	

Direction, Lane #	EB 1	EB 2	NB 1	NW 1	NW 2
Volume Total	656	341	24	499	970
Volume Left	0	0	11	14	0
Volume Right	0	13	14	0	0
cSH	1700	1700	88	683	1700
Volume to Capacity	0.39	0.20	0.27	0.02	0.57
Queue Length 95th (ft)	0	0	25	2	0
Control Delay (s)	0.0	0.0	60.5	0.6	0.0
Lane LOS			F	A	
Approach Delay (s)	0.0		60.5	0.2	
Approach LOS			F		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SEL	SET
Lane Configurations												
Volume (vph)	2	46	0	150	5	7	133	0	42	5	4	466
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0					6.0				6.0
Lane Util. Factor			0.95					0.95				0.95
Frpb, ped/bikes			0.92					0.98				0.99
Flpb, ped/bikes			0.99					0.96				1.00
Frt			0.89					0.96				0.99
Flt Protected			0.99					0.96				1.00
Satd. Flow (prot)			2820					3067				3469
Flt Permitted			0.83					0.67				0.95
Satd. Flow (perm)			2361					2143				3286
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	48	0	158	5	7	140	0	44	5	4	491
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	213	0	0	0	0	196	0	0	0	546
Confl. Peds. (#/hr)	32	27		16	21	16	21		32	27	16	
Confl. Bikes (#/hr)				1						1		
Turn Type	Perm	Perm				Perm	Perm				Perm	
Protected Phases			8					4				2
Permitted Phases	8	8				4	4				2	
Actuated Green, G (s)			23.0					23.0				45.0
Effective Green, g (s)			23.0					23.0				45.0
Actuated g/C Ratio			0.23					0.23				0.45
Clearance Time (s)			6.0					6.0				6.0
Lane Grp Cap (vph)			543					493				1479
v/s Ratio Prot												
v/s Ratio Perm			0.09					c0.09				0.17
v/c Ratio			0.39					0.40				0.37
Uniform Delay, d1			32.6					32.6				18.1
Progression Factor			1.00					1.00				0.86
Incremental Delay, d2			2.1					2.4				0.6
Delay (s)			34.7					35.0				16.2
Level of Service			C					D				B
Approach Delay (s)			34.7					35.0				16.2
Approach LOS			C					D				B

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER2	NWL	NWT	NWR2
Lane Configurations				
Volume (vph)	48	132	922	34
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			6.0	
Lane Util. Factor			0.95	
Frpb, ped/bikes			1.00	
Flpb, ped/bikes			1.00	
Frt			1.00	
Flt Protected			0.99	
Satd. Flow (prot)			3492	
Flt Permitted			0.70	
Satd. Flow (perm)			2477	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95
Adj. Flow (vph)	51	139	971	36
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	1146	0
Confl. Peds. (#/hr)	32	32		16
Confl. Bikes (#/hr)				1
Turn Type		pm+pt		
Protected Phases		1	6	
Permitted Phases		6		
Actuated Green, G (s)			65.0	
Effective Green, g (s)			65.0	
Actuated g/C Ratio			0.65	
Clearance Time (s)			6.0	
Lane Grp Cap (vph)			1752	
v/s Ratio Prot			c0.09	
v/s Ratio Perm			c0.33	
v/c Ratio			0.65	
Uniform Delay, d1			10.7	
Progression Factor			0.33	
Incremental Delay, d2			1.7	
Delay (s)			5.3	
Level of Service			A	
Approach Delay (s)			5.3	
Approach LOS			A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	17	0	130	16	48	25	0	502	9	0	1079	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00			1.00			0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.98		1.00	0.99	1.00			1.00			1.00	
Frt	1.00		0.85	1.00	0.95			1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1731		1583	1747	1747			1857			3539	
Flt Permitted	0.71		1.00	0.95	1.00			1.00			1.00	
Satd. Flow (perm)	1288		1583	1747	1747			1857			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	18	0	137	17	51	26	0	528	9	0	1136	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	0	137	17	77	0	0	537	0	0	1136	0
Confl. Peds. (#/hr)	21		11	11		21	21		24	24		21
Confl. Bikes (#/hr)						1			3			2
Turn Type	custom		custom	Perm						pm+pt		
Protected Phases			4 5		8			6		5	2	
Permitted Phases	4			8						2		
Actuated Green, G (s)	26.0		36.0	26.0	26.0			53.0			63.0	
Effective Green, g (s)	26.0		36.0	26.0	26.0			53.0			63.0	
Actuated g/C Ratio	0.26		0.36	0.26	0.26			0.53			0.63	
Clearance Time (s)	6.0			6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	335		570	454	454			984			2230	
v/s Ratio Prot			c0.09		0.04			c0.29			c0.32	
v/s Ratio Perm	0.01			0.01								
v/c Ratio	0.05		0.24	0.04	0.17			0.55			0.51	
Uniform Delay, d1	27.8		22.4	27.6	28.6			15.5			10.1	
Progression Factor	1.00		1.00	0.99	0.99			1.29			0.35	
Incremental Delay, d2	0.3		1.0	0.2	0.8			2.1			0.7	
Delay (s)	28.1		23.4	27.6	29.2			22.1			4.2	
Level of Service	C		C	C	C			C			A	
Approach Delay (s)		24.0			28.9			22.1			4.2	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	1513	1142	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				2.0	71.0	
Lane Util. Factor				0.91	0.91	
Frpb, ped/bikes				1.00	0.99	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	0.99	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5085	4995	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5085	4995	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1593	1202	99
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1593	1301	0
Confl. Peds. (#/hr)	4	1	39			39
Confl. Bikes (#/hr)						2
Turn Type			Perm			
Protected Phases				2	6	
Permitted Phases			2			
Actuated Green, G (s)				100.0	100.0	
Effective Green, g (s)				100.0	100.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				2.0	71.0	
Lane Grp Cap (vph)				5085	4995	
v/s Ratio Prot				c0.31	0.26	
v/s Ratio Perm						
v/c Ratio				0.31	0.26	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.1	0.1	
Delay (s)				0.1	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.1	0.1	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	1058	8	0	1165	0	0	486	160	0	1037	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Util. Factor		0.91			0.91			0.95	1.00		0.95	1.00
Frpb, ped/bikes		1.00			1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	1.00
Frt		1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)		5078			5085			3539	1534		3539	1537
Flt Permitted		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)		5078			5085			3539	1534		3539	1537
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1114	8	0	1226	0	0	512	168	0	1092	421
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	1	0	0	2
Lane Group Flow (vph)	0	1122	0	0	1226	0	0	512	167	0	1092	419
Confl. Peds. (#/hr)	52		38	38		52	33		38	38		33
Confl. Bikes (#/hr)						1						2
Turn Type							Perm		Perm			Perm
Protected Phases		2			6			4			8	
Permitted Phases							4		4			8
Actuated Green, G (s)		29.0			29.0			59.0	59.0		59.0	59.0
Effective Green, g (s)		29.0			29.0			59.0	59.0		59.0	59.0
Actuated g/C Ratio		0.29			0.29			0.59	0.59		0.59	0.59
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Grp Cap (vph)		1473			1475			2088	905		2088	907
v/s Ratio Prot		0.22			c0.24			0.14			c0.31	
v/s Ratio Perm									0.11			0.27
v/c Ratio		0.76			0.83			0.25	0.18		0.52	0.46
Uniform Delay, d1		32.4			33.2			9.8	9.4		12.2	11.6
Progression Factor		1.00			0.89			0.44	0.44		1.00	1.00
Incremental Delay, d2		3.8			5.5			0.3	0.4		0.9	1.7
Delay (s)		36.1			35.0			4.6	4.6		13.1	13.3
Level of Service		D			C			A	A		B	B
Approach Delay (s)		36.1			35.0			4.6			13.1	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	137.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1012	10	8	986	0	2	0	3	5	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1065	11	8	1038	0	2	0	3	5	0	6
Pedestrians					5			52			41	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			4			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		598										
pX, platoon unblocked				0.81			0.81	0.81		0.81	0.81	0.81
vC, conflicting volume	1090			1117			1659	2232	571	1659	2227	584
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1090			669			1340	2049	571	1340	2043	10
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 %	99			99			97	100	99	93	100	99
cM capacity (veh/h)	608			715			79	40	444	80	41	831

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1	NW 2
Volume Total	537	543	527	519	5	5	6
Volume Left	4	0	8	0	2	5	0
Volume Right	0	11	0	0	3	0	6
cSH	608	1700	715	1700	155	80	831
Volume to Capacity	0.01	0.32	0.01	0.31	0.03	0.07	0.01
Queue Length 95th (ft)	1	0	1	0	3	5	1
Control Delay (s)	0.2	0.0	0.3	0.0	29.0	53.3	9.4
Lane LOS	A		A		D	F	A
Approach Delay (s)	0.1		0.2		29.0	29.3	
Approach LOS					D	D	

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	6	1098	0	1	1091
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	6	1156	0	1	1148
Pedestrians	98					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	8					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			263			
pX, platoon unblocked	0.80	0.80			0.80	
vC, conflicting volume	1830	676			1254	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1530	79			806	
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	99			100	
cM capacity (veh/h)	79	705			595	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	6	771	385	384	766
Volume Left	0	0	0	1	0
Volume Right	6	0	0	0	0
cSH	705	1700	1700	595	1700
Volume to Capacity	0.01	0.45	0.23	0.00	0.45
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	10.2	0.0	0.0	0.1	0.0
Lane LOS	B			A	
Approach Delay (s)	10.2	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBR	WBR2	SBL	SBR	SEL2	SEL
Lane Configurations						
Volume (veh/h)	1329	13	31	85	11	889
Sign Control	Free		Stop			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1399	14	33	89	12	936
Pedestrians			137			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			4.0			
Percent Blockage			11			
Right turn flare (veh)						
Median type	None					None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			2034	843	1550	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2034	843	1550	
tC, single (s)			6.8	6.9	4.1	
tC, 2 stage (s)						
tF (s)			3.5	3.3	2.2	
p0 queue free %			23	67	97	
cM capacity (veh/h)			42	272	375	

Direction, Lane #	WB 1	WB 2	SB 1	SB 2	SE 1	SE 2
Volume Total	933	480	33	89	324	624
Volume Left	0	0	33	0	12	0
Volume Right	0	14	0	89	0	0
cSH	1700	1700	42	272	375	1700
Volume to Capacity	0.55	0.28	0.77	0.33	0.03	0.37
Queue Length 95th (ft)	0	0	73	35	2	0
Control Delay (s)	0.0	0.0	216.9	24.6	1.1	0.0
Lane LOS			F	C	A	
Approach Delay (s)	0.0		76.0		0.4	
Approach LOS			F			

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1044	0	0	1070	3	1	0	1	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1099	0	0	1126	3	1	0	1	0	0	0
Pedestrians					13			26			14	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					1			2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1155			1113			1725	2275	591	1686	2277	576
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1155			1113			1725	2275	591	1686	2277	576
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 %	99			100			98	100	100	100	100	100
cM capacity (veh/h)	587			616			54	38	441	58	38	450

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	554	549	563	566	2	0
Volume Left	4	0	0	0	1	0
Volume Right	0	0	0	3	1	0
cSH	587	1700	616	1700	96	1700
Volume to Capacity	0.01	0.32	0.00	0.33	0.02	0.00
Queue Length 95th (ft)	1	0	0	0	2	0
Control Delay (s)	0.2	0.0	0.0	0.0	43.5	0.0
Lane LOS	A				E	A
Approach Delay (s)	0.1		0.0		43.5	0.0
Approach LOS					E	A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	7	10	1117	126	53	1088
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	7	11	1176	133	56	1145
Pedestrians	36					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	3					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1962	690			1344	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1962	690			1344	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	97			89	
cM capacity (veh/h)	48	376			493	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	18	784	525	438	764
Volume Left	7	0	0	56	0
Volume Right	11	0	133	0	0
cSH	98	1700	1700	493	1700
Volume to Capacity	0.18	0.46	0.31	0.11	0.45
Queue Length 95th (ft)	16	0	0	10	0
Control Delay (s)	49.9	0.0	0.0	3.4	0.0
Lane LOS	E			A	
Approach Delay (s)	49.9	0.0		1.2	
Approach LOS	E				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	7	20	0	1332	704	31
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	7	21	0	1402	741	33
Pedestrians	53				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	4				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1512	440	827			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1512	440	827			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	96	100			
cM capacity (veh/h)	106	540	765			

Direction, Lane #	SB 1	SB 2	SE 1	SE 2	NW 1	NW 2
Volume Total	7	21	467	935	494	280
Volume Left	7	0	0	0	0	0
Volume Right	0	21	0	0	0	33
cSH	106	540	765	1700	1700	1700
Volume to Capacity	0.07	0.04	0.00	0.55	0.29	0.16
Queue Length 95th (ft)	6	3	0	0	0	0
Control Delay (s)	41.6	11.9	0.0	0.0	0.0	0.0
Lane LOS	E	B				
Approach Delay (s)	19.6		0.0		0.0	
Approach LOS	C					

Intersection Summary				
Average Delay		0.3		
Intersection Capacity Utilization		46.8%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1052	0	0	998	0	2	0	3	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1107	0	0	1051	0	2	0	3	0	0	0
Pedestrians					5			52			41	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			4			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1103			1148			1670	2259	577	1685	2259	600
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1103			1148			1670	2259	577	1685	2259	600
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 %	99			100			96	100	99	100	100	100
cM capacity (veh/h)	602			584			56	37	440	55	37	427

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	558	554	525	525	5	0
Volume Left	4	0	0	0	2	0
Volume Right	0	0	0	0	3	0
cSH	602	1700	584	1700	118	1700
Volume to Capacity	0.01	0.33	0.00	0.31	0.04	0.00
Queue Length 95th (ft)	1	0	0	0	3	0
Control Delay (s)	0.2	0.0	0.0	0.0	37.0	0.0
Lane LOS	A				E	A
Approach Delay (s)	0.1		0.0		37.0	0.0
Approach LOS					E	A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	24	40	1098	31	12	1091
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	25	42	1156	33	13	1148
Pedestrians	98					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	8					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1870	692			1286	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1870	692			1286	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	56	88			97	
cM capacity (veh/h)	57	355			491	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	67	771	418	395	766
Volume Left	25	0	0	13	0
Volume Right	42	0	33	0	0
cSH	120	1700	1700	491	1700
Volume to Capacity	0.56	0.45	0.25	0.03	0.45
Queue Length 95th (ft)	68	0	0	2	0
Control Delay (s)	67.8	0.0	0.0	0.8	0.0
Lane LOS	F			A	
Approach Delay (s)	67.8	0.0		0.3	
Approach LOS	F				

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBR	WBR2	SBL	SBR	SEL
Lane Configurations					
Volume (veh/h)	1329	8	23	70	889
Sign Control	Free		Stop		Free
Grade	0%		0%		0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1399	8	24	74	936
Pedestrians			137		
Lane Width (ft)			12.0		
Walking Speed (ft/s)			4.0		
Percent Blockage			11		
Right turn flare (veh)					
Median type	None				None
Median storage veh)					
Upstream signal (ft)					
pX, platoon unblocked					
vC, conflicting volume			2008	841	
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol			2008	841	
tC, single (s)			6.8	6.9	
tC, 2 stage (s)					
tF (s)			3.5	3.3	
p0 queue free %			47	73	
cM capacity (veh/h)			46	273	

Direction, Lane #	WB 1	WB 2	SB 1	SB 2	SE 1	SE 2
Volume Total	933	475	24	74	312	624
Volume Left	0	0	24	0	0	0
Volume Right	0	8	0	74	0	0
cSH	1700	1700	46	273	377	1700
Volume to Capacity	0.55	0.28	0.53	0.27	0.00	0.37
Queue Length 95th (ft)	0	0	49	27	0	0
Control Delay (s)	0.0	0.0	151.7	23.0	0.0	0.0
Lane LOS			F	C		
Approach Delay (s)	0.0		54.8		0.0	
Approach LOS			F			

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1047	141	60	1017	3	1	0	1	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1102	148	63	1071	3	1	0	1	0	0	0
Pedestrians					13			26			14	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					1			2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1100			1265			1797	2497	563	1861	2425	652
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1100			1265			1797	2497	563	1861	2425	652
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 %	99			88			98	100	100	100	100	100
cM capacity (veh/h)	617			539			43	24	459	39	27	401

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	555	699	598	538	2	0
Volume Left	4	0	63	0	1	0
Volume Right	0	148	0	3	1	0
cSH	617	1700	539	1700	79	1700
Volume to Capacity	0.01	0.41	0.12	0.32	0.03	0.00
Queue Length 95th (ft)	1	0	10	0	2	0
Control Delay (s)	0.2	0.0	3.2	0.0	52.0	0.0
Lane LOS	A		A		F	A
Approach Delay (s)	0.1		1.7		52.0	0.0
Approach LOS					F	A

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	4	10	1261	0	0	1088
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	11	1327	0	0	1145
Pedestrians	36					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	3					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1936	700			1363	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1936	700			1363	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	97			100	
cM capacity (veh/h)	56	370			485	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	15	885	442	382	764
Volume Left	4	0	0	0	0
Volume Right	11	0	0	0	0
cSH	142	1700	1700	485	1700
Volume to Capacity	0.10	0.52	0.26	0.00	0.45
Queue Length 95th (ft)	9	0	0	0	0
Control Delay (s)	33.3	0.0	0.0	0.0	0.0
Lane LOS	D				
Approach Delay (s)	33.3	0.0		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	7	28	0	1332	704	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	7	29	0	1402	741	37
Pedestrians	53				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	4				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1515	442	831			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1515	442	831			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	95	100			
cM capacity (veh/h)	105	538	762			

Direction, Lane #	SB 1	SB 2	SE 1	SE 2	NW 1	NW 2
Volume Total	7	29	467	935	494	284
Volume Left	7	0	0	0	0	0
Volume Right	0	29	0	0	0	37
cSH	105	538	762	1700	1700	1700
Volume to Capacity	0.07	0.05	0.00	0.55	0.29	0.17
Queue Length 95th (ft)	6	4	0	0	0	0
Control Delay (s)	41.7	12.1	0.0	0.0	0.0	0.0
Lane LOS	E	B				
Approach Delay (s)	18.0		0.0		0.0	
Approach LOS	C					

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1057	34	14	986	0	2	0	3	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1113	36	15	1038	0	2	0	3	0	0	0
Pedestrians					5			52			41	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			4			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1090			1189			1689	2317	571	1732	2299	620
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1090			1189			1689	2317	571	1732	2299	620
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 %	99			97			96	100	99	100	100	100
cM capacity (veh/h)	608			563			53	33	444	50	34	414

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	561	592	534	519	5	0
Volume Left	4	0	15	0	2	0
Volume Right	0	36	0	0	3	0
cSH	608	1700	563	1700	113	1700
Volume to Capacity	0.01	0.35	0.03	0.31	0.05	0.00
Queue Length 95th (ft)	1	0	2	0	4	0
Control Delay (s)	0.2	0.0	0.7	0.0	38.5	0.0
Lane LOS	A		A		E	A
Approach Delay (s)	0.1		0.4		38.5	0.0
Approach LOS					E	A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	16	33	1144	0	0	1091
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	17	35	1204	0	0	1148
Pedestrians	98					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	8					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1876	700			1302	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1876	700			1302	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	71	90			100	
cM capacity (veh/h)	58	351			485	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	52	803	401	383	766
Volume Left	17	0	0	0	0
Volume Right	35	0	0	0	0
cSH	132	1700	1700	485	1700
Volume to Capacity	0.39	0.47	0.24	0.00	0.45
Queue Length 95th (ft)	41	0	0	0	0
Control Delay (s)	48.5	0.0	0.0	0.0	0.0
Lane LOS	E				
Approach Delay (s)	48.5	0.0		0.0	
Approach LOS	E				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBR	WBR2	SBL	SBR	SEL
Lane Configurations					
Volume (veh/h)	1329	9	26	101	889
Sign Control	Free		Stop		Free
Grade	0%		0%		0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1399	9	27	106	936
Pedestrians			137		
Lane Width (ft)			12.0		
Walking Speed (ft/s)			4.0		
Percent Blockage			11		
Right turn flare (veh)					
Median type	None				None
Median storage veh)					
Upstream signal (ft)					
pX, platoon unblocked					
vC, conflicting volume			2009	841	
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol			2009	841	
tC, single (s)			6.8	6.9	
tC, 2 stage (s)					
tF (s)			3.5	3.3	
p0 queue free %			40	61	
cM capacity (veh/h)			46	273	

Direction, Lane #	WB 1	WB 2	SB 1	SB 2	SE 1	SE 2
Volume Total	933	476	27	106	312	624
Volume Left	0	0	27	0	0	0
Volume Right	0	9	0	106	0	0
cSH	1700	1700	46	273	377	1700
Volume to Capacity	0.55	0.28	0.60	0.39	0.00	0.37
Queue Length 95th (ft)	0	0	57	44	0	0
Control Delay (s)	0.0	0.0	165.8	26.4	0.0	0.0
Lane LOS			F	D		
Approach Delay (s)	0.0		54.9		0.0	
Approach LOS			F			

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1047	0	0	1079	3	1	0	1	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1102	0	0	1136	3	1	0	1	0	0	0
Pedestrians					13			26			14	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					1			2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1165			1116			1736	2288	595	1693	2289	578
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1165			1116			1736	2288	595	1693	2289	578
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 %	99			100			98	100	100	100	100	100
cM capacity (veh/h)	583			614			53	37	437	58	37	449

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	555	551	568	571	2	0
Volume Left	4	0	0	0	1	0
Volume Right	0	0	0	3	1	0
cSH	583	1700	614	1700	94	1700
Volume to Capacity	0.01	0.32	0.00	0.34	0.02	0.00
Queue Length 95th (ft)	1	0	0	0	2	0
Control Delay (s)	0.2	0.0	0.0	0.0	44.2	0.0
Lane LOS	A				E	A
Approach Delay (s)	0.1		0.0		44.2	0.0
Approach LOS					E	A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	8	13	1117	151	62	1088
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	14	1176	159	65	1145
Pedestrians	36					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	3					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1994	703			1371	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1994	703			1371	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	96			86	
cM capacity (veh/h)	44	368			482	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	22	784	551	447	764
Volume Left	8	0	0	65	0
Volume Right	14	0	159	0	0
cSH	97	1700	1700	482	1700
Volume to Capacity	0.23	0.46	0.32	0.14	0.45
Queue Length 95th (ft)	20	0	0	12	0
Control Delay (s)	52.8	0.0	0.0	4.0	0.0
Lane LOS	F			A	
Approach Delay (s)	52.8	0.0		1.5	
Approach LOS	F				

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	8	23	0	1332	704	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	24	0	1402	741	40
Pedestrians	53				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	4				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1516	444	834			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1516	444	834			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	95	100			
cM capacity (veh/h)	105	537	760			

Direction, Lane #	SB 1	SB 2	SE 1	SE 2	NW 1	NW 2
Volume Total	8	24	467	935	494	287
Volume Left	8	0	0	0	0	0
Volume Right	0	24	0	0	0	40
cSH	105	537	760	1700	1700	1700
Volume to Capacity	0.08	0.05	0.00	0.55	0.29	0.17
Queue Length 95th (ft)	6	4	0	0	0	0
Control Delay (s)	42.2	12.0	0.0	0.0	0.0	0.0
Lane LOS	E	B				
Approach Delay (s)	19.8		0.0		0.0	
Approach LOS	C					

Intersection Summary				
Average Delay		0.3		
Intersection Capacity Utilization		46.8%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1059	0	0	1001	0	2	0	3	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1115	0	0	1054	0	2	0	3	0	0	0
Pedestrians					5			52			41	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			4			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1106			1156			1676	2270	579	1694	2270	603
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1106			1156			1676	2270	579	1694	2270	603
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 %	99			100			96	100	99	100	100	100
cM capacity (veh/h)	600			580			55	37	439	54	37	425

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	562	557	527	527	5	0
Volume Left	4	0	0	0	2	0
Volume Right	0	0	0	0	3	0
cSH	600	1700	580	1700	117	1700
Volume to Capacity	0.01	0.33	0.00	0.31	0.05	0.00
Queue Length 95th (ft)	1	0	0	0	4	0
Control Delay (s)	0.2	0.0	0.0	0.0	37.4	0.0
Lane LOS	A				E	A
Approach Delay (s)	0.1		0.0		37.4	0.0
Approach LOS					E	A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	28	47	1098	37	15	1091
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	29	49	1156	39	16	1148
Pedestrians	98					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	8					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1879	695			1293	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1879	695			1293	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	47	86			97	
cM capacity (veh/h)	56	353			489	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	79	771	424	399	766
Volume Left	29	0	0	16	0
Volume Right	49	0	39	0	0
cSH	118	1700	1700	489	1700
Volume to Capacity	0.67	0.45	0.25	0.03	0.45
Queue Length 95th (ft)	88	0	0	3	0
Control Delay (s)	82.0	0.0	0.0	1.0	0.0
Lane LOS	F			A	
Approach Delay (s)	82.0	0.0		0.3	
Approach LOS	F				

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBR	WBR2	SBL	SBR	SEL
Lane Configurations					
Volume (veh/h)	1329	9	28	84	889
Sign Control	Free		Stop		Free
Grade	0%		0%		0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1399	9	29	88	936
Pedestrians			137		
Lane Width (ft)			12.0		
Walking Speed (ft/s)			4.0		
Percent Blockage			11		
Right turn flare (veh)					
Median type	None				None
Median storage veh)					
Upstream signal (ft)					
pX, platoon unblocked					
vC, conflicting volume			2009	841	
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol			2009	841	
tC, single (s)			6.8	6.9	
tC, 2 stage (s)					
tF (s)			3.5	3.3	
p0 queue free %			35	68	
cM capacity (veh/h)			46	273	

Direction, Lane #	WB 1	WB 2	SB 1	SB 2	SE 1	SE 2
Volume Total	933	476	29	88	312	624
Volume Left	0	0	29	0	0	0
Volume Right	0	9	0	88	0	0
cSH	1700	1700	46	273	377	1700
Volume to Capacity	0.55	0.28	0.65	0.32	0.00	0.37
Queue Length 95th (ft)	0	0	62	34	0	0
Control Delay (s)	0.0	0.0	175.8	24.4	0.0	0.0
Lane LOS			F	C		
Approach Delay (s)	0.0		62.3		0.0	
Approach LOS			F			

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	219	105	61	149	64	0	944	30	0	2013	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.96			0.95			0.99			1.00	
Flpb, ped/bikes	0.97	1.00			0.99			1.00			1.00	
Frt	1.00	0.95			0.97			1.00			1.00	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1709	1710			1671			5010			5059	
Flt Permitted	0.40	1.00			0.82			1.00			1.00	
Satd. Flow (perm)	721	1710			1392			5010			5059	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	231	111	64	157	67	0	994	32	0	2119	23
RTOR Reduction (vph)	0	0	0	0	11	0	0	4	0	0	1	0
Lane Group Flow (vph)	58	342	0	0	277	0	0	1023	0	0	2141	0
Confl. Peds. (#/hr)	160		75	75		160	314		311	311		314
Confl. Bikes (#/hr)						1			2			2
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.0	38.0			23.0			50.0			50.0	
Effective Green, g (s)	38.0	38.0			23.0			50.0			50.0	
Actuated g/C Ratio	0.38	0.38			0.23			0.50			0.50	
Clearance Time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Grp Cap (vph)	383	650			320			2505			2530	
v/s Ratio Prot	0.02	c0.20						0.20			c0.42	
v/s Ratio Perm	0.04				c0.20							
v/c Ratio	0.15	0.53			0.87			0.41			0.85	
Uniform Delay, d1	21.1	24.0			37.0			15.7			21.7	
Progression Factor	1.00	1.00			1.00			0.86			1.00	
Incremental Delay, d2	0.8	3.0			25.6			0.5			3.7	
Delay (s)	21.9	27.1			62.6			14.0			25.4	
Level of Service	C	C			E			B			C	
Approach Delay (s)		26.3			62.6			14.0			25.4	
Approach LOS		C			E			B			C	

Intersection Summary			
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	96.3%	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												
Volume (veh/h)	32	203	18	123	209	85	19	77	27	85	77	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	34	214	19	129	220	89	20	81	28	89	81	49
Pedestrians		43			25			36			130	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		4			2			3			11	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	439			269			974	1015	275	1029	990	438
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	439			172			932	977	178	992	949	438
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	97			90			81	54	96	2	55	91
cM capacity (veh/h)	999			1264			104	174	761	92	181	532

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	247	19	439	20	109	171	49
Volume Left	34	0	129	20	0	89	0
Volume Right	0	19	89	0	28	0	49
cSH	999	1700	1264	104	218	120	532
Volume to Capacity	0.03	0.01	0.10	0.19	0.50	1.42	0.09
Queue Length 95th (ft)	3	0	9	17	64	295	8
Control Delay (s)	1.5	0.0	3.1	47.9	37.1	299.1	12.5
Lane LOS	A		A	E	E	F	B
Approach Delay (s)	1.4		3.1	38.8		234.6	
Approach LOS				E		F	

Intersection Summary			
Average Delay	55.4		
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Volume (vph)	253	740	4	0	988	0	0	1788	305	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			12.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		1.00			1.00			0.98			
Flpb, ped/bikes		1.00			1.00			1.00			
Frt		1.00			1.00			0.98			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3439			5085			4889			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3439			5085			4889			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	266	779	4	0	1040	0	0	1882	321	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1049	0	0	1040	0	0	2203	0	0	0
Confl. Peds. (#/hr)	8	189	93	189		172	172		189	93	172
Confl. Bikes (#/hr)			4			1			2		1
Turn Type	Split										
Protected Phases	8	8			2 10			6 14			
Permitted Phases											
Actuated Green, G (s)		28.0			62.0			55.0			
Effective Green, g (s)		28.0			60.0			53.0			
Actuated g/C Ratio		0.28			0.60			0.53			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		963			3051			2591			
v/s Ratio Prot		c0.31			0.20			c0.45			
v/s Ratio Perm											
v/c Ratio		1.09			0.34			0.85			
Uniform Delay, d1		36.0			10.1			20.1			
Progression Factor		0.38			0.28			0.15			
Incremental Delay, d2		52.0			0.2			2.0			
Delay (s)		65.8			3.1			5.0			
Level of Service		E			A			A			
Approach Delay (s)		65.8			3.1			5.0		0.0	
Approach LOS		E			A			A		A	

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	140.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	162	0	0	936	147
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	171	0	0	985	155
Pedestrians	148			1	1	
Lane Width (ft)	12.0			0.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	12			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				152	168	
pX, platoon unblocked						
vC, conflicting volume	1212	719	1288			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1212	719	1288			
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	48	100			
cM capacity (veh/h)	153	325	468			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	171	657	483
Volume Left	0	0	0
Volume Right	171	0	155
cSH	325	1700	1700
Volume to Capacity	0.52	0.39	0.28
Queue Length 95th (ft)	72	0	0
Control Delay (s)	27.7	0.0	0.0
Lane LOS	D		
Approach Delay (s)	27.7	0.0	
Approach LOS	D		

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	560	0	920
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				9.0		10.0
Lane Util. Factor				0.88		0.95
Frt				0.85		1.00
Flt Protected				1.00		1.00
Satd. Flow (prot)				2787		3539
Flt Permitted				1.00		1.00
Satd. Flow (perm)				2787		3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	589	0	968
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	589	0	968
Turn Type				custom		
Protected Phases						4 6 7
Permitted Phases				3		
Actuated Green, G (s)				27.0		67.0
Effective Green, g (s)				27.0		65.0
Actuated g/C Ratio				0.27		0.65
Clearance Time (s)				9.0		
Lane Grp Cap (vph)				752		2300
v/s Ratio Prot						c0.27
v/s Ratio Perm				c0.21		
v/c Ratio				0.78		0.42
Uniform Delay, d1				33.8		8.4
Progression Factor				1.62		0.58
Incremental Delay, d2				7.3		0.3
Delay (s)				61.9		5.2
Level of Service				E		A
Approach Delay (s)	0.0		61.9			5.2
Approach LOS	A		E			A

Intersection Summary			
HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Volume (vph)	164	520	58	0	851	153	0	1988	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			12.0			5.0			
Lane Util. Factor		0.97			0.95			0.91			
Frpb, ped/bikes		1.00			0.99			1.00			
Flpb, ped/bikes		0.98			1.00			1.00			
Frt		0.99			0.98			1.00			
Flt Protected		0.96			1.00			1.00			
Satd. Flow (prot)		3348			3416			5085			
Flt Permitted		0.96			1.00			1.00			
Satd. Flow (perm)		3348			3416			5085			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	173	547	61	0	896	161	0	2093	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	781	0	0	1057	0	0	2093	0	0	0
Confl. Peds. (#/hr)	16		31	153		124	124		153	31	
Confl. Bikes (#/hr)			1						2		
Turn Type	Perm										
Protected Phases		4			2 10			6 14			
Permitted Phases	4										
Actuated Green, G (s)		28.0			55.0			62.0			
Effective Green, g (s)		28.0			53.0			60.0			
Actuated g/C Ratio		0.28			0.53			0.60			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		937			1810			3051			
v/s Ratio Prot					0.31			c0.41			
v/s Ratio Perm		0.23									
v/c Ratio		0.83			0.58			0.69			
Uniform Delay, d1		33.8			16.0			13.6			
Progression Factor		0.37			0.62			0.15			
Incremental Delay, d2		7.1			1.1			0.6			
Delay (s)		19.6			11.1			2.7			
Level of Service		B			B			A			
Approach Delay (s)		19.6			11.1			2.7		0.0	
Approach LOS		B			B			A		A	

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	140.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	70	601	93	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	74	633	98	0	0
Pedestrians	19		158			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	2		13			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			166			198
pX, platoon unblocked						
vC, conflicting volume	859	384			750	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	859	384			750	
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	88			100	
cM capacity (veh/h)	253	604			842	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	74	422	309
Volume Left	0	0	0
Volume Right	74	0	98
cSH	604	1700	1700
Volume to Capacity	0.12	0.25	0.18
Queue Length 95th (ft)	10	0	0
Control Delay (s)	11.8	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.8	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR	SWR2
Lane Configurations											
Volume (vph)	0	0	0	94	469	0	0	0	0	699	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0					9.0	
Lane Util. Factor				1.00	0.88					0.88	
Frpb, ped/bikes				1.00	0.95					0.94	
Flpb, ped/bikes				1.00	1.00					1.00	
Frt				1.00	0.85					0.85	
Flt Protected				1.00	1.00					1.00	
Satd. Flow (prot)				1863	2649					2626	
Flt Permitted				1.00	1.00					1.00	
Satd. Flow (perm)				1863	2649					2626	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	99	494	0	0	0	0	736	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	99	494	0	0	0	0	737	0
Confl. Peds. (#/hr)	41				41	41					20
Confl. Bikes (#/hr)											1
Turn Type					custom					custom	
Protected Phases				1 3 9							
Permitted Phases					1 2 3					2	
Actuated Green, G (s)				57.0	77.0					27.0	
Effective Green, g (s)				45.0	68.0					27.0	
Actuated g/C Ratio				0.45	0.68					0.27	
Clearance Time (s)										9.0	
Lane Grp Cap (vph)				838	1801					709	
v/s Ratio Prot				c0.05							
v/s Ratio Perm					c0.19					c0.28	
v/c Ratio				0.12	0.27					1.04	
Uniform Delay, d1				16.0	6.3					36.5	
Progression Factor				0.85	0.49					1.00	
Incremental Delay, d2				0.2	0.3					44.5	
Delay (s)				13.8	3.4					81.0	
Level of Service				B	A					F	
Approach Delay (s)	0.0			5.1			0.0		81.0		
Approach LOS	A			A			A		F		

Intersection Summary			
HCM Average Control Delay	47.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	78	79	5	40	27	0	172	1358	60	13	577	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		1.00			1.00			0.99			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1796			1803			3493			3489	
Flt Permitted		0.83			0.77			0.64			0.89	
Satd. Flow (perm)		1531			1438			2242			3114	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	82	83	5	42	28	0	181	1429	63	14	607	43
RTOR Reduction (vph)	0	1	0	0	0	0	0	3	0	0	5	0
Lane Group Flow (vph)	0	169	0	0	70	0	0	1670	0	0	659	0
Confl. Peds. (#/hr)	14		6	6		14	25		15	15		25
Confl. Bikes (#/hr)			1									
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		8			4		5	2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		22.0			22.0			68.0			38.0	
Effective Green, g (s)		22.0			22.0			68.0			38.0	
Actuated g/C Ratio		0.22			0.22			0.68			0.38	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		337			316			1837			1183	
v/s Ratio Prot								c0.23				
v/s Ratio Perm		c0.11			0.05			c0.39			0.21	
v/c Ratio		0.50			0.22			0.91			0.56	
Uniform Delay, d1		34.2			32.0			13.4			24.4	
Progression Factor		1.00			1.00			1.00			1.01	
Incremental Delay, d2		5.3			1.6			8.2			1.8	
Delay (s)		39.5			33.6			21.6			26.5	
Level of Service		D			C			C			C	
Approach Delay (s)		39.5			33.6			21.6			26.5	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	107.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	123	6	16	116	10	114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	129	6	17	122	11	120

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	136	139	131
Volume Left (vph)	0	17	11
Volume Right (vph)	6	0	120
Hadj (s)	0.01	0.06	-0.50
Departure Headway (s)	4.3	4.4	4.0
Degree Utilization, x	0.16	0.17	0.15
Capacity (veh/h)	800	784	839
Control Delay (s)	8.2	8.3	7.7
Approach Delay (s)	8.2	8.3	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	8.1		
HCM Level of Service	A		
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												
Volume (vph)	11	393	1	111	229	13	29	517	295	19	657	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1760	1862		1738	1845			3317			1829	
Flt Permitted	0.48	1.00		0.25	1.00			0.91			0.97	
Satd. Flow (perm)	894	1862		450	1845			3008			1771	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	12	414	1	117	241	14	31	544	311	20	692	67
RTOR Reduction (vph)	0	0	0	0	2	0	0	46	0	0	3	0
Lane Group Flow (vph)	12	415	0	117	253	0	0	840	0	0	776	0
Confl. Peds. (#/hr)	8		42	42		8	47		24	24		47
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.0	29.0		29.0	29.0			59.0			59.0	
Effective Green, g (s)	29.0	29.0		29.0	29.0			59.0			59.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29			0.59			0.59	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)	259	540		131	535			1775			1045	
v/s Ratio Prot		0.22			0.14							
v/s Ratio Perm	0.01			c0.26				0.28			c0.44	
v/c Ratio	0.05	0.77		0.89	0.47			0.47			0.74	
Uniform Delay, d1	25.5	32.4		34.0	29.2			11.7			15.0	
Progression Factor	1.00	1.00		1.19	1.20			0.62			0.56	
Incremental Delay, d2	0.3	10.1		46.4	2.4			0.7			4.4	
Delay (s)	25.9	42.5		87.0	37.5			8.0			12.9	
Level of Service	C	D		F	D			A			B	
Approach Delay (s)		42.1			53.1			8.0			12.9	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	22	259	93	72	235	54	23	980	45	52	1792	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.91	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.98	1.00		0.98	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.97			0.99			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1737	1766		1743	1794			3500			5040	
Flt Permitted	0.36	1.00		0.25	1.00			0.84			0.86	
Satd. Flow (perm)	663	1766		457	1794			2959			4319	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	273	98	76	247	57	24	1032	47	55	1886	63
RTOR Reduction (vph)	0	8	0	0	0	0	0	3	0	0	3	0
Lane Group Flow (vph)	23	364	0	76	304	0	0	1100	0	0	2001	0
Confl. Peds. (#/hr)	29		29	29		29	151		77	77		151
Confl. Bikes (#/hr)			2			1			3			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.0	25.0		25.0	25.0			64.0			64.0	
Effective Green, g (s)	25.0	25.0		25.0	25.0			64.0			64.0	
Actuated g/C Ratio	0.25	0.25		0.25	0.25			0.64			0.64	
Clearance Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	166	442		114	449			1894			2764	
v/s Ratio Prot		c0.21			0.17							
v/s Ratio Perm	0.03			0.17				0.37			c0.46	
v/c Ratio	0.14	0.82		0.67	0.68			0.58			0.72	
Uniform Delay, d1	29.1	35.4		33.8	33.9			10.3			12.1	
Progression Factor	0.80	0.77		1.00	1.00			2.08			1.35	
Incremental Delay, d2	1.3	12.3		26.8	8.0			1.3			1.2	
Delay (s)	24.5	39.4		60.5	41.8			22.8			17.6	
Level of Service	C	D		E	D			C			B	
Approach Delay (s)		38.5			45.6			22.8			17.6	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	112.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (veh/h)	79	1474	610	38	26	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	83	1552	642	40	27	15
Pedestrians		7	16		7	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			856			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	689				1627	676
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	507				1656	491
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				57	97
cM capacity (veh/h)	856				64	422

Direction, Lane #	SE 1	SE 2	NW 1	SW 1
Volume Total	600	1034	682	42
Volume Left	83	0	0	27
Volume Right	0	0	40	15
cSH	856	1700	1700	91
Volume to Capacity	0.10	0.61	0.40	0.46
Queue Length 95th (ft)	8	0	0	49
Control Delay (s)	2.5	0.0	0.0	74.4
Lane LOS	A			F
Approach Delay (s)	0.9		0.0	74.4
Approach LOS				F

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	8	1496	53	3	729	33	26	2	32	2	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		0.99			1.00			1.00	0.94		0.99	
Flpb, ped/bikes		1.00			1.00			0.97	1.00		0.99	
Frt		0.99			0.99			1.00	0.85		0.96	
Flt Protected		1.00			1.00			0.96	1.00		0.99	
Satd. Flow (prot)		3499			3505			1729	1486		1746	
Flt Permitted		0.95			0.95			0.79	1.00		0.98	
Satd. Flow (perm)		3328			3328			1434	1486		1726	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	1575	56	3	767	35	27	2	34	2	11	5
RTOR Reduction (vph)	0	3	0	0	3	0	0	0	20	0	4	0
Lane Group Flow (vph)	0	1636	0	0	802	0	0	29	14	0	14	0
Confl. Peds. (#/hr)	28		95	95		28	12		32	32		12
Turn Type	Perm			Perm			Perm		custom	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8		4	4		
Actuated Green, G (s)		64.0			64.0			24.0	24.0		24.0	
Effective Green, g (s)		64.0			64.0			24.0	24.0		24.0	
Actuated g/C Ratio		0.64			0.64			0.24	0.24		0.24	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Grp Cap (vph)		2130			2130			344	357		414	
v/s Ratio Prot												
v/s Ratio Perm		c0.49			0.24			c0.02	0.01		0.01	
v/c Ratio		0.77			0.38			0.08	0.04		0.03	
Uniform Delay, d1		12.7			8.5			29.5	29.2		29.1	
Progression Factor		1.14			1.69			1.00	1.00		1.00	
Incremental Delay, d2		1.7			0.5			0.5	0.2		0.2	
Delay (s)		16.3			14.9			30.0	29.4		29.3	
Level of Service		B			B			C	C		C	
Approach Delay (s)		16.3			14.9			29.6			29.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	0	0	1664	261	0
Sign Control	Free		Yield		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	1752	275	0
Pedestrians	22					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None				None	
Median storage veh)						
Upstream signal (ft)	208					
pX, platoon unblocked						
vC, conflicting volume	275		275	159		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275		275	159		
tC, single (s)	4.1		6.8	6.9		
tC, 2 stage (s)						
tF (s)	2.2		3.5	3.3		
p0 queue free %	100		100	0		
cM capacity (veh/h)	1285		692	858		

Direction, Lane #	SE 1	SE 2	SW 1	SW 2
Volume Total	876	876	137	137
Volume Left	0	0	0	0
Volume Right	876	876	0	0
cSH	858	858	1700	1700
Volume to Capacity	1.02	1.02	0.08	0.08
Queue Length 95th (ft)	482	482	0	0
Control Delay (s)	58.2	58.2	0.0	0.0
Lane LOS	F	F		
Approach Delay (s)	58.2		0.0	
Approach LOS	F			

Intersection Summary			
Average Delay	50.3		
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	SBL	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1419	506	0	870	392	0	1006	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		0.95			1.00	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3374			3539	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3374			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1494	533	0	916	413	0	1059	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1494	533	0	1329	0	0	1059	0
Confl. Peds. (#/hr)	84			84						
Turn Type				Prot						
Protected Phases			4	4		6			6	
Permitted Phases										
Actuated Green, G (s)			52.0	52.0		34.0			34.0	
Effective Green, g (s)			52.0	52.0		34.0			34.0	
Actuated g/C Ratio			0.52	0.52		0.34			0.34	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2595	823		1147			1203	
v/s Ratio Prot			0.30	c0.34		c0.39			0.30	
v/s Ratio Perm										
v/c Ratio			0.58	0.65		1.16			0.88	
Uniform Delay, d1			16.4	17.4		33.0			31.1	
Progression Factor			0.90	0.91		0.69			0.31	
Incremental Delay, d2			0.9	3.9		78.7			2.9	
Delay (s)			15.8	19.7		101.4			12.6	
Level of Service			B	B		F			B	
Approach Delay (s)	0.0		16.8			101.4			12.6	
Approach LOS	A		B			F			B	

Intersection Summary			
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	166.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	835	280	0	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	879	295	0	0	0
Pedestrians	19					19
Lane Width (ft)	12.0					0.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	2					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						174
pX, platoon unblocked						
vC, conflicting volume	314	185			314	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	314	185			314	
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	0			100	
cM capacity (veh/h)	644	812			1224	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2
Volume Total	439	439	147	147
Volume Left	0	0	0	0
Volume Right	439	439	0	0
cSH	812	812	1700	1700
Volume to Capacity	0.54	0.54	0.09	0.09
Queue Length 95th (ft)	83	83	0	0
Control Delay (s)	14.5	14.5	0.0	0.0
Lane LOS	B	B		
Approach Delay (s)	14.5		0.0	
Approach LOS	B			

Intersection Summary			
Average Delay	10.9		
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	860	255	0	866	0	0	1006	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		1.00			0.99	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3539			3495	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3539			3495	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	905	268	0	912	0	0	1059	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	905	268	0	912	0	0	1156	0
Confl. Peds. (#/hr)	22			22						
Turn Type				Prot						
Protected Phases			8	8		2			2	
Permitted Phases										
Actuated Green, G (s)			52.0	52.0		34.0			34.0	
Effective Green, g (s)			52.0	52.0		34.0			34.0	
Actuated g/C Ratio			0.52	0.52		0.34			0.34	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2595	823		1203			1188	
v/s Ratio Prot			c0.18	0.17		0.26			c0.33	
v/s Ratio Perm										
v/c Ratio			0.35	0.33		0.76			0.97	
Uniform Delay, d1			14.1	13.9		29.3			32.5	
Progression Factor			0.87	0.87		0.41			0.99	
Incremental Delay, d2			0.4	1.0		0.4			18.8	
Delay (s)			12.6	13.1		12.4			50.9	
Level of Service			B	B		B			D	
Approach Delay (s)	0.0		12.7			12.4			50.9	
Approach LOS	A		B			B			D	

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	166.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	0	23	43	0	349	0	1086	68	483	896	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Util. Factor			1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00		0.99			1.00	
Flpb, ped/bikes			1.00	0.96		1.00		1.00			1.00	
Frt			0.86	1.00		0.85		0.99			0.99	
Flt Protected			1.00	0.95		1.00		1.00			0.98	
Satd. Flow (prot)			1611	1701		1583		3489			3451	
Flt Permitted			1.00	0.95		1.00		1.00			0.52	
Satd. Flow (perm)			1611	1701		1583		3489			1824	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	24	45	0	367	0	1143	72	508	943	74
RTOR Reduction (vph)	0	0	21	0	0	31	0	4	0	0	4	0
Lane Group Flow (vph)	0	0	3	45	0	336	0	1211	0	0	1521	0
Confl. Peds. (#/hr)				18					65	65		
Turn Type			custom	custom		custom				pm+pt		
Protected Phases						1		2		1	6	
Permitted Phases			4	4		4				6		
Actuated Green, G (s)			14.0	14.0		36.0		46.0			73.0	
Effective Green, g (s)			14.0	14.0		36.0		46.0			73.0	
Actuated g/C Ratio			0.14	0.14		0.36		0.46			0.73	
Clearance Time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Grp Cap (vph)			226	238		649		1605			1689	
v/s Ratio Prot						c0.11		0.35			c0.20	
v/s Ratio Perm			0.00	0.03		0.10					c0.46	
v/c Ratio			0.01	0.19		0.52		0.75			1.05dl	
Uniform Delay, d1			37.1	38.0		25.2		22.3			10.6	
Progression Factor			1.00	1.00		1.00		1.00			2.82	
Incremental Delay, d2			0.1	1.8		2.9		3.3			5.0	
Delay (s)			37.2	39.7		28.1		25.7			34.9	
Level of Service			D	D		C		C			C	
Approach Delay (s)		37.2			29.4			25.7			34.9	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Volume (veh/h)	9	10	1404	9	0	906
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	11	1478	9	0	954
Pedestrians	12		37			110
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		3			9
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2008	866			1499	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2008	866			1499	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	96			100	
cM capacity (veh/h)	49	267			439	

Direction, Lane #	NB 1	SE 1	SE 2	NW 1	NW 2
Volume Total	20	985	502	318	636
Volume Left	9	0	0	0	0
Volume Right	11	0	9	0	0
cSH	86	1700	1700	439	1700
Volume to Capacity	0.23	0.58	0.30	0.00	0.37
Queue Length 95th (ft)	21	0	0	0	0
Control Delay (s)	58.8	0.0	0.0	0.0	0.0
Lane LOS	F				
Approach Delay (s)	58.8	0.0		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SEL	SET
Lane Configurations												
Volume (vph)	7	102	0	242	33	5	116	0	43	6	12	1053
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0					6.0				6.0
Lane Util. Factor			0.95					0.95				0.95
Frpb, ped/bikes			0.96					0.98				1.00
Flpb, ped/bikes			0.98					0.98				1.00
Frt			0.89					0.96				0.99
Flt Protected			0.99					0.97				1.00
Satd. Flow (prot)			2945					3140				3509
Flt Permitted			0.80					0.59				0.95
Satd. Flow (perm)			2390					1918				3324
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	7	107	0	255	35	5	122	0	45	6	13	1108
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	404	0	0	0	0	178	0	0	0	1162
Confl. Peds. (#/hr)	40	26		22	19	22	19		40	26	22	
Confl. Bikes (#/hr)				3					5	2		
Turn Type	Perm	Perm				Perm	Perm				Perm	
Protected Phases			8					4				2
Permitted Phases	8	8				4	4				2	
Actuated Green, G (s)			29.0					29.0				45.0
Effective Green, g (s)			29.0					29.0				45.0
Actuated g/C Ratio			0.29					0.29				0.45
Clearance Time (s)			6.0					6.0				6.0
Lane Grp Cap (vph)			693					556				1496
v/s Ratio Prot												
v/s Ratio Perm			c0.17					0.09				c0.35
v/c Ratio			0.58					0.32				0.78
Uniform Delay, d1			30.3					27.8				23.3
Progression Factor			1.00					1.00				0.70
Incremental Delay, d2			3.6					1.5				3.0
Delay (s)			33.9					29.3				19.3
Level of Service			C					C				B
Approach Delay (s)			33.9					29.3				19.3
Approach LOS			C					C				B

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER2	NWL	NWT	NWR2
Lane Configurations				
Volume (vph)	39	31	457	17
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			6.0	
Lane Util. Factor			0.95	
Frpb, ped/bikes			1.00	
Flpb, ped/bikes			1.00	
Frt			0.99	
Flt Protected			1.00	
Satd. Flow (prot)			3503	
Flt Permitted			0.79	
Satd. Flow (perm)			2763	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	33	481	18
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	532	0
Confl. Peds. (#/hr)	40	40		22
Confl. Bikes (#/hr)	5			3
Turn Type		pm+pt		
Protected Phases		1	6	
Permitted Phases		6		
Actuated Green, G (s)			59.0	
Effective Green, g (s)			59.0	
Actuated g/C Ratio			0.59	
Clearance Time (s)			6.0	
Lane Grp Cap (vph)			1689	
v/s Ratio Prot			c0.03	
v/s Ratio Perm			0.16	
v/c Ratio			0.31	
Uniform Delay, d1			10.3	
Progression Factor			0.68	
Incremental Delay, d2			0.4	
Delay (s)			7.4	
Level of Service			A	
Approach Delay (s)			7.4	
Approach LOS			A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	49	0	292	13	60	15	0	1050	7	129	457	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.95		1.00	0.99	1.00			1.00			1.00	
Frt	1.00		0.85	1.00	0.97			1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1687		1583	1749	1783			3533			3501	
Flt Permitted	0.71		1.00	0.95	1.00			1.00			0.53	
Satd. Flow (perm)	1253		1583	1749	1783			3533			1861	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	52	0	307	14	63	16	0	1105	7	136	481	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	0	307	14	79	0	0	1112	0	0	617	0
Confl. Peds. (#/hr)	40		9	9		40	20		40	40		20
Confl. Bikes (#/hr)									4			2
Turn Type	custom		custom	Perm						pm+pt		
Protected Phases			4 5		8			6		5	2	
Permitted Phases	4			8						2		
Actuated Green, G (s)	29.0		43.0	29.0	29.0			46.0			60.0	
Effective Green, g (s)	29.0		38.0	29.0	29.0			46.0			60.0	
Actuated g/C Ratio	0.29		0.38	0.29	0.29			0.46			0.60	
Clearance Time (s)	6.0			6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	363		602	507	517			1625			1264	
v/s Ratio Prot			c0.19		0.04			c0.31			c0.04	
v/s Ratio Perm	0.04			0.01							0.25	
v/c Ratio	0.14		0.51	0.03	0.15			0.68			0.49	
Uniform Delay, d1	26.3		23.8	25.4	26.4			21.3			11.3	
Progression Factor	1.00		1.00	1.10	1.11			0.28			0.38	
Incremental Delay, d2	0.8		3.1	0.1	0.6			1.6			1.3	
Delay (s)	27.1		26.9	28.0	30.0			7.5			5.5	
Level of Service	C		C	C	C			A			A	
Approach Delay (s)		26.9			29.7			7.5			5.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	111.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	1194	1626	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				2.0	58.0	
Lane Util. Factor				0.91	0.91	
Frpb, ped/bikes				1.00	0.99	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	0.99	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5085	5000	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5085	5000	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1257	1712	86
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1257	1798	0
Confl. Peds. (#/hr)	9	2	103			103
Confl. Bikes (#/hr)		1				1
Turn Type			Perm			
Protected Phases				2	6	
Permitted Phases			2			
Actuated Green, G (s)				100.0	100.0	
Effective Green, g (s)				100.0	100.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				2.0	58.0	
Lane Grp Cap (vph)				5085	5000	
v/s Ratio Prot				0.25	c0.36	
v/s Ratio Perm						
v/c Ratio				0.25	0.36	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.1	0.1	
Delay (s)				0.1	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.1	0.1	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	884	3	0	1579	0	0	1178	158	0	581	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Util. Factor		0.91			0.91			0.95	1.00		0.95	1.00
Frpb, ped/bikes		1.00			1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	1.00
Frt		1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)		5082			5085			3539	1539		3539	1529
Flt Permitted		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)		5082			5085			3539	1539		3539	1529
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	931	3	0	1662	0	0	1240	166	0	612	295
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	1	0	0	25
Lane Group Flow (vph)	0	934	0	0	1662	0	0	1240	165	0	612	270
Confl. Peds. (#/hr)	95		29	29		95	33		24	24		33
Confl. Bikes (#/hr)			4			1			2			2
Turn Type							Perm		Perm			Perm
Protected Phases		2			6			4			8	
Permitted Phases							4		4			8
Actuated Green, G (s)		42.0			42.0			46.0	46.0		46.0	46.0
Effective Green, g (s)		42.0			42.0			46.0	46.0		46.0	46.0
Actuated g/C Ratio		0.42			0.42			0.46	0.46		0.46	0.46
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Grp Cap (vph)		2134			2136			1628	708		1628	703
v/s Ratio Prot		0.18			c0.33			c0.35			0.17	
v/s Ratio Perm									0.11			0.18
v/c Ratio		0.44			0.78			0.76	0.23		0.38	0.38
Uniform Delay, d1		20.6			25.0			22.4	16.3		17.6	17.7
Progression Factor		1.00			1.07			0.61	0.52		1.00	1.00
Incremental Delay, d2		0.7			2.7			2.7	0.6		0.7	1.6
Delay (s)		21.3			29.5			16.4	9.0		18.3	19.3
Level of Service		C			C			B	A		B	B
Approach Delay (s)		21.3			29.5			15.5			18.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	186	43	46	166	66	0	1597	59	0	1157	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.96			0.93			0.98			0.99	
Flpb, ped/bikes	0.96	1.00			0.98			1.00			1.00	
Frt	1.00	0.97			0.97			0.99			0.99	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1698	1747			1629			4964			5004	
Flt Permitted	0.36	1.00			0.89			1.00			1.00	
Satd. Flow (perm)	646	1747			1465			4964			5004	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	55	196	45	48	175	69	0	1681	62	0	1218	43
RTOR Reduction (vph)	0	4	0	0	11	0	0	4	0	0	4	0
Lane Group Flow (vph)	55	237	0	0	281	0	0	1739	0	0	1257	0
Confl. Peds. (#/hr)	210		132	132		210	312		576	576		312
Confl. Bikes (#/hr)			1			1						2
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.0	37.0			22.0			51.0			51.0	
Effective Green, g (s)	37.0	37.0			22.0			51.0			51.0	
Actuated g/C Ratio	0.37	0.37			0.22			0.51			0.51	
Clearance Time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Grp Cap (vph)	355	646			322			2532			2552	
v/s Ratio Prot	0.02	c0.14						c0.35			0.25	
v/s Ratio Perm	0.04				c0.19							
v/c Ratio	0.15	0.37			0.87			0.69			0.49	
Uniform Delay, d1	21.8	23.0			37.7			18.5			16.0	
Progression Factor	1.00	1.00			1.00			0.12			1.00	
Incremental Delay, d2	0.9	1.6			26.3			1.2			0.7	
Delay (s)	22.7	24.6			64.0			3.4			16.7	
Level of Service	C	C			E			A			B	
Approach Delay (s)		24.2			64.0			3.4			16.7	
Approach LOS		C			E			A			B	

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	95.0%	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												
Volume (veh/h)	34	196	15	17	165	125	23	92	16	149	102	83
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	206	16	18	174	132	24	97	17	157	107	87
Pedestrians		66			28			26			172	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		6			2			2			14	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	477			248			786	817	260	818	767	477
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	477			159			735	768	172	770	715	477
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	96			99			82	61	98	0	59	82
cM capacity (veh/h)	929			1297			138	246	777	144	264	476

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	242	16	323	24	114	264	87
Volume Left	36	0	18	24	0	157	0
Volume Right	0	16	132	0	17	0	87
cSH	929	1700	1297	138	274	176	476
Volume to Capacity	0.04	0.01	0.01	0.18	0.42	1.50	0.18
Queue Length 95th (ft)	3	0	1	15	49	422	17
Control Delay (s)	1.7	0.0	0.6	36.7	27.2	299.9	14.3
Lane LOS	A		A	E	D	F	B
Approach Delay (s)	1.6		0.6	28.8		229.0	
Approach LOS				D		F	

Intersection Summary			
Average Delay	79.5		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Volume (vph)	192	599	31	0	1574	0	0	1100	174	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			12.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		0.99			1.00			0.98			
Flpb, ped/bikes		1.00			1.00			1.00			
Frt		0.99			1.00			0.98			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3402			5085			4906			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3402			5085			4906			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	202	631	33	0	1657	0	0	1158	183	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	866	0	0	1657	0	0	1341	0	0	0
Confl. Peds. (#/hr)	15		104	142		359	359		142	104	
Confl. Bikes (#/hr)			3			9			4		
Turn Type	Split										
Protected Phases	8	8			2 10			6 14			
Permitted Phases											
Actuated Green, G (s)		38.0			52.0			45.0			
Effective Green, g (s)		38.0			50.0			43.0			
Actuated g/C Ratio		0.38			0.50			0.43			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		1293			2543			2110			
v/s Ratio Prot		c0.25			c0.33			0.27			
v/s Ratio Perm											
v/c Ratio		0.67			0.65			0.64			
Uniform Delay, d1		25.8			18.5			22.4			
Progression Factor		1.00			0.15			0.74			
Incremental Delay, d2		2.8			0.8			1.3			
Delay (s)		28.6			3.6			17.8			
Level of Service		C			A			B			
Approach Delay (s)		28.6			3.6			17.8		0.0	
Approach LOS		C			A			B		A	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	127.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	192	0	0	624	151
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	202	0	0	657	159
Pedestrians	192			3	2	
Lane Width (ft)	12.0			0.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	16			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				189	168	
pX, platoon unblocked						
vC, conflicting volume	930	603	1008			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	930	603	1008			
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	46	100			
cM capacity (veh/h)	223	371	574			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	202	438	378
Volume Left	0	0	0
Volume Right	202	0	159
cSH	371	1700	1700
Volume to Capacity	0.54	0.26	0.22
Queue Length 95th (ft)	78	0	0
Control Delay (s)	25.7	0.0	0.0
Lane LOS	D		
Approach Delay (s)	25.7	0.0	
Approach LOS	D		

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	756	0	658
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				9.0		10.0
Lane Util. Factor				0.88		0.95
Frt				0.85		1.00
Flt Protected				1.00		1.00
Satd. Flow (prot)				2787		3539
Flt Permitted				1.00		1.00
Satd. Flow (perm)				2787		3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	796	0	693
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	796	0	693
Turn Type				custom		
Protected Phases						4 6 7
Permitted Phases				3		
Actuated Green, G (s)				37.0		67.0
Effective Green, g (s)				37.0		65.0
Actuated g/C Ratio				0.37		0.65
Clearance Time (s)				9.0		
Lane Grp Cap (vph)				1031		2300
v/s Ratio Prot						c0.20
v/s Ratio Perm				c0.29		
v/c Ratio				0.77		0.30
Uniform Delay, d1				27.8		7.6
Progression Factor				0.83		0.52
Incremental Delay, d2				5.3		0.3
Delay (s)				28.5		4.3
Level of Service				C		A
Approach Delay (s)	0.0		28.5			4.3
Approach LOS	A		C			A

Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Volume (vph)	186	670	52	0	1441	225	0	1206	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			12.0			5.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		0.99			0.97			1.00			
Flpb, ped/bikes		0.97			1.00			1.00			
Frt		0.99			0.98			1.00			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3307			4825			5085			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3307			4825			5085			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	196	705	55	0	1517	237	0	1269	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	956	0	0	1754	0	0	1269	0	0	0
Confl. Peds. (#/hr)	29		77	220		322	322		220	77	
Confl. Bikes (#/hr)			1			4					
Turn Type	Perm										
Protected Phases		4			2 10			6 14			
Permitted Phases	4										
Actuated Green, G (s)		38.0			45.0			52.0			
Effective Green, g (s)		38.0			43.0			50.0			
Actuated g/C Ratio		0.38			0.43			0.50			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		1257			2075			2543			
v/s Ratio Prot					c0.36			0.25			
v/s Ratio Perm		0.29									
v/c Ratio		0.76			0.85			0.50			
Uniform Delay, d1		27.0			25.5			16.7			
Progression Factor		0.29			0.41			0.23			
Incremental Delay, d2		3.4			3.6			0.6			
Delay (s)		11.3			14.0			4.4			
Level of Service		B			B			A			
Approach Delay (s)		11.3			14.0			4.4		0.0	
Approach LOS		B			B			A		A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	127.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	104	836	38	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	109	880	40	0	0
Pedestrians	31		253			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	3		21			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			166			237
pX, platoon unblocked						
vC, conflicting volume	1184	491			951	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1184	491			951	
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	79			100	
cM capacity (veh/h)	140	510			699	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	109	587	333
Volume Left	0	0	0
Volume Right	109	0	40
cSH	510	1700	1700
Volume to Capacity	0.21	0.35	0.20
Queue Length 95th (ft)	20	0	0
Control Delay (s)	14.0	0.0	0.0
Lane LOS	B		
Approach Delay (s)	14.0	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	110	734	0	0	0	0	0	0	0	597	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0								9.0	
Lane Util. Factor		1.00	0.88								0.95	
Frpb, ped/bikes		1.00	0.95								1.00	
Flpb, ped/bikes		1.00	1.00								1.00	
Frt		1.00	0.85								1.00	
Flt Protected		1.00	1.00								1.00	
Satd. Flow (prot)		1863	2649								3534	
Flt Permitted		1.00	1.00								1.00	
Satd. Flow (perm)		1863	2649								3534	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	116	773	0	0	0	0	0	0	0	628	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	116	773	0	0	0	0	0	0	0	633	0
Confl. Peds. (#/hr)	1		34	34		1	8		1	1		8
Confl. Bikes (#/hr)			1									4
Turn Type			custom									
Protected Phases		1 3 9										
Permitted Phases			1 2 3								2	
Actuated Green, G (s)		47.0	67.0								37.0	
Effective Green, g (s)		35.0	58.0								37.0	
Actuated g/C Ratio		0.35	0.58								0.37	
Clearance Time (s)											9.0	
Lane Grp Cap (vph)		652	1536								1308	
v/s Ratio Prot		c0.06										
v/s Ratio Perm			c0.29								0.18	
v/c Ratio		0.18	0.50								0.48	
Uniform Delay, d1		22.5	12.5								24.2	
Progression Factor		0.94	0.46								1.00	
Incremental Delay, d2		0.4	0.9								1.3	
Delay (s)		21.5	6.6								25.5	
Level of Service		C	A								C	
Approach Delay (s)		8.5			0.0			0.0			25.5	
Approach LOS		A			A			A			C	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	101	95	5	39	40	6	137	679	68	45	1120	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		1.00			0.99			0.99			0.99	
Flt Protected		0.98			0.98			0.99			1.00	
Satd. Flow (prot)		1794			1791			3461			3484	
Flt Permitted		0.80			0.73			0.54			0.88	
Satd. Flow (perm)		1480			1340			1872			3060	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	100	5	41	42	6	144	715	72	47	1179	103
RTOR Reduction (vph)	0	1	0	0	3	0	0	6	0	0	6	0
Lane Group Flow (vph)	0	210	0	0	86	0	0	925	0	0	1323	0
Confl. Peds. (#/hr)	11		12	12		11	6		23	23		6
Confl. Bikes (#/hr)			1									1
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		8			4		5	2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		15.0			15.0			75.0			64.0	
Effective Green, g (s)		15.0			15.0			75.0			64.0	
Actuated g/C Ratio		0.15			0.15			0.75			0.64	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		222			201			1499			1958	
v/s Ratio Prot								c0.04				
v/s Ratio Perm		c0.14			0.06			0.43			c0.43	
v/c Ratio		0.95			0.43			0.62			0.68	
Uniform Delay, d1		42.1			38.6			5.8			11.4	
Progression Factor		1.00			1.00			1.00			0.98	
Incremental Delay, d2		48.0			6.6			1.9			0.9	
Delay (s)		90.1			45.2			7.7			12.1	
Level of Service		F			D			A			B	
Approach Delay (s)		90.1			45.2			7.7			12.1	
Approach LOS		F			D			A			B	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	133.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	71	16	32	196	18	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	75	17	34	206	19	67

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	92	240	86
Volume Left (vph)	0	34	19
Volume Right (vph)	17	0	67
Hadj (s)	-0.08	0.06	-0.39
Departure Headway (s)	4.3	4.3	4.2
Degree Utilization, x	0.11	0.28	0.10
Capacity (veh/h)	816	818	786
Control Delay (s)	7.8	8.9	7.7
Approach Delay (s)	7.8	8.9	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	8.4		
HCM Level of Service	A		
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												
Volume (vph)	34	176	4	224	299	2	6	628	118	10	537	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		0.93	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1745	1852		1637	1861			3431			3485	
Flt Permitted	0.41	1.00		0.60	1.00			0.95			0.94	
Satd. Flow (perm)	749	1852		1026	1861			3264			3271	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	36	185	4	236	315	2	6	661	124	11	565	29
RTOR Reduction (vph)	0	1	0	0	0	0	0	15	0	0	3	0
Lane Group Flow (vph)	36	188	0	236	317	0	0	776	0	0	602	0
Confl. Peds. (#/hr)	26		104	104		26	148		55	55		148
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	31.0	31.0		31.0	31.0			57.0			57.0	
Effective Green, g (s)	31.0	31.0		31.0	31.0			57.0			57.0	
Actuated g/C Ratio	0.31	0.31		0.31	0.31			0.57			0.57	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)	232	574		318	577			1860			1864	
v/s Ratio Prot		0.10			0.17							
v/s Ratio Perm	0.05			c0.23				c0.24			0.18	
v/c Ratio	0.16	0.33		0.74	0.55			0.42			0.32	
Uniform Delay, d1	25.0	26.5		30.9	28.7			12.1			11.3	
Progression Factor	1.00	1.00		0.56	0.54			1.40			1.31	
Incremental Delay, d2	1.4	1.5		13.4	3.4			0.6			0.4	
Delay (s)	26.4	28.0		30.8	18.9			17.6			15.3	
Level of Service	C	C		C	B			B			B	
Approach Delay (s)		27.8			24.0			17.6			15.3	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.7%	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												
Volume (vph)	62	228	90	58	258	99	0	1702	66	62	1104	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.99			0.99			1.00	
Flpb, ped/bikes	0.98	1.00		0.97	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.96			0.99			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1741	1748		1718	1761			5030			5020	
Flt Permitted	0.27	1.00		0.34	1.00			1.00			0.72	
Satd. Flow (perm)	501	1748		610	1761			5030			3625	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	65	240	95	61	272	104	0	1792	69	65	1162	44
RTOR Reduction (vph)	0	15	0	0	0	0	0	4	0	0	4	0
Lane Group Flow (vph)	65	320	0	61	376	0	0	1857	0	0	1267	0
Confl. Peds. (#/hr)	33		52	52		33	266		151	151		266
Confl. Bikes (#/hr)			2			1			11			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.0	27.0		27.0	27.0			62.0			62.0	
Effective Green, g (s)	27.0	27.0		27.0	27.0			62.0			62.0	
Actuated g/C Ratio	0.27	0.27		0.27	0.27			0.62			0.62	
Clearance Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	135	472		165	475			3119			2248	
v/s Ratio Prot		0.18			c0.21			c0.37				
v/s Ratio Perm	0.13			0.10							0.35	
v/c Ratio	0.48	0.68		0.37	0.79			0.60			0.56	
Uniform Delay, d1	30.6	32.6		29.6	33.9			11.4			11.1	
Progression Factor	0.95	0.96		1.00	1.00			1.10			1.85	
Incremental Delay, d2	11.5	7.4		6.3	12.7			0.8			0.9	
Delay (s)	40.5	38.9		35.9	46.6			13.4			21.4	
Level of Service	D	D		D	D			B			C	
Approach Delay (s)		39.1			45.1			13.4			21.4	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM Average Control Delay	22.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (veh/h)	35	875	1207	44	42	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	37	921	1271	46	44	20
Pedestrians		23	31		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	3		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			856			
pX, platoon unblocked	0.65				0.65	0.65
vC, conflicting volume	1327				1869	691
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	412				1251	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				55	97
cM capacity (veh/h)	733				98	682

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	SW 1
Volume Total	344	614	847	470	64
Volume Left	37	0	0	0	44
Volume Right	0	0	0	46	20
cSH	733	1700	1700	1700	133
Volume to Capacity	0.05	0.36	0.50	0.28	0.48
Queue Length 95th (ft)	4	0	0	0	55
Control Delay (s)	1.6	0.0	0.0	0.0	54.9
Lane LOS	A				F
Approach Delay (s)	0.6		0.0		54.9
Approach LOS					F

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	35	703	94	3	1582	131	84	7	76	14	37	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		0.99			0.99			1.00	0.67		0.99	
Flpb, ped/bikes		1.00			1.00			0.98	1.00		0.94	
Frt		0.98			0.99			1.00	0.85		0.96	
Flt Protected		1.00			1.00			0.96	1.00		0.99	
Satd. Flow (prot)		3449			3474			1747	1062		1650	
Flt Permitted		0.68			0.95			0.69	1.00		0.94	
Satd. Flow (perm)		2335			3315			1269	1062		1574	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	740	99	3	1665	138	88	7	80	15	39	22
RTOR Reduction (vph)	0	10	0	0	6	0	0	0	56	0	13	0
Lane Group Flow (vph)	0	866	0	0	1800	0	0	95	24	0	63	0
Confl. Peds. (#/hr)	43		28	28		43	14		265	265		14
Turn Type	Perm			Perm			Perm		custom	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8		4	4		
Actuated Green, G (s)		58.0			58.0			30.0	30.0		30.0	
Effective Green, g (s)		58.0			58.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.58			0.58			0.30	0.30		0.30	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Grp Cap (vph)		1354			1923			381	319		472	
v/s Ratio Prot												
v/s Ratio Perm		0.37			c0.54			c0.07	0.02		0.04	
v/c Ratio		0.64			0.94			0.25	0.08		0.13	
Uniform Delay, d1		14.0			19.3			26.5	25.1		25.5	
Progression Factor		0.86			1.55			1.00	1.00		1.00	
Incremental Delay, d2		2.1			9.3			1.6	0.5		0.6	
Delay (s)		14.2			39.2			28.0	25.5		26.1	
Level of Service		B			D			C	C		C	
Approach Delay (s)		14.2			39.2			26.9			26.1	
Approach LOS		B			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	1413	0	0	326	0
Sign Control	Yield		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1487	0	0	343	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh)						
Upstream signal (ft)			187			
pX, platoon unblocked						
vC, conflicting volume	343	172	343			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	343	172	343			
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	0	100			
cM capacity (veh/h)	627	842	1213			

Direction, Lane #	EB 1	EB 2	SW 1	SW 2
Volume Total	744	744	172	172
Volume Left	0	0	0	0
Volume Right	744	744	0	0
cSH	842	842	1700	1700
Volume to Capacity	0.88	0.88	0.10	0.10
Queue Length 95th (ft)	291	291	0	0
Control Delay (s)	31.9	31.9	0.0	0.0
Lane LOS	D	D		
Approach Delay (s)	31.9		0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	25.9		
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	SBL	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1136	604	0	842	355	0	1210	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		0.96			1.00	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3382			3539	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3382			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1196	636	0	886	374	0	1274	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1196	636	0	1260	0	0	1274	0
Confl. Peds. (#/hr)	166			166						
Turn Type				Prot						
Protected Phases			4	4		6			6	
Permitted Phases										
Actuated Green, G (s)			51.0	51.0		35.0			35.0	
Effective Green, g (s)			51.0	51.0		35.0			35.0	
Actuated g/C Ratio			0.51	0.51		0.35			0.35	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2545	807		1184			1239	
v/s Ratio Prot			0.24	c0.40		c0.37			0.36	
v/s Ratio Perm										
v/c Ratio			0.47	0.79		1.06			1.03	
Uniform Delay, d1			15.8	20.1		32.5			32.5	
Progression Factor			0.85	0.85		0.95			0.47	
Incremental Delay, d2			0.6	7.7		42.2			16.4	
Delay (s)			14.0	24.7		73.0			31.6	
Level of Service			B	C		E			C	
Approach Delay (s)	0.0		17.7			73.0			31.6	
Approach LOS	A		B			E			C	

Intersection Summary			
HCM Average Control Delay	37.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	168.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (veh/h)	263	0	0	0	0	1405
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	277	0	0	0	0	1479
Pedestrians				18	18	
Lane Width (ft)				0.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				188		
pX, platoon unblocked						
vC, conflicting volume			295		295	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			295		295	174
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	0
cM capacity (veh/h)			1245		662	826

Direction, Lane #	NB 1	NB 2	NW 1	NW 2
Volume Total	138	138	739	739
Volume Left	0	0	0	0
Volume Right	0	0	739	739
cSH	1700	1700	826	826
Volume to Capacity	0.08	0.08	0.90	0.90
Queue Length 95th (ft)	0	0	302	302
Control Delay (s)	0.0	0.0	33.8	33.8
Lane LOS			D	D
Approach Delay (s)	0.0		33.8	
Approach LOS			D	

Intersection Summary			
Average Delay	28.5		
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1477	191	0	811	0	0	1210	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		1.00			0.99	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3539			3505	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3539			3505	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1555	201	0	854	0	0	1274	87
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1555	201	0	854	0	0	1361	0
Confl. Peds. (#/hr)	66			66						
Turn Type				Prot						
Protected Phases			8	8		2			2	
Permitted Phases										
Actuated Green, G (s)			51.0	51.0		35.0			35.0	
Effective Green, g (s)			51.0	51.0		35.0			35.0	
Actuated g/C Ratio			0.51	0.51		0.35			0.35	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2545	807		1239			1227	
v/s Ratio Prot			c0.31	0.13		0.24			c0.39	
v/s Ratio Perm										
v/c Ratio			0.61	0.25		0.69			1.11	
Uniform Delay, d1			17.4	13.8		27.8			32.5	
Progression Factor			0.92	0.92		0.47			0.85	
Incremental Delay, d2			1.1	0.7		0.3			60.9	
Delay (s)			17.1	13.4		13.3			88.7	
Level of Service			B	B		B			F	
Approach Delay (s)	0.0		16.7			13.3			88.7	
Approach LOS	A		B			B			F	

Intersection Summary			
HCM Average Control Delay	40.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	168.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	0	137	79	0	409	0	900	37	445	908	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Util. Factor			1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00		0.99			1.00	
Flpb, ped/bikes			1.00	0.96		1.00		1.00			0.99	
Frt			0.86	1.00		0.85		0.99			0.99	
Flt Protected			1.00	0.95		1.00		1.00			0.98	
Satd. Flow (prot)			1611	1698		1583		3485			3437	
Flt Permitted			1.00	0.95		1.00		1.00			0.51	
Satd. Flow (perm)			1611	1698		1583		3485			1781	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	144	83	0	431	0	947	39	468	956	71
RTOR Reduction (vph)	0	0	124	0	0	25	0	3	0	0	4	0
Lane Group Flow (vph)	0	0	20	83	0	406	0	983	0	0	1491	0
Confl. Peds. (#/hr)				19					199	199		
Turn Type			custom	custom		custom				pm+pt		
Protected Phases						1		2		1	6	
Permitted Phases			4	4		4				6		
Actuated Green, G (s)			14.0	14.0		38.0		44.0			73.0	
Effective Green, g (s)			14.0	14.0		38.0		44.0			73.0	
Actuated g/C Ratio			0.14	0.14		0.38		0.44			0.73	
Clearance Time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Grp Cap (vph)			226	238		681		1533			1698	
v/s Ratio Prot						c0.14		0.28			c0.21	
v/s Ratio Perm			0.01	0.05		0.11					c0.43	
v/c Ratio			0.09	0.35		0.60		0.64			0.88	
Uniform Delay, d1			37.4	38.9		24.8		21.8			10.2	
Progression Factor			1.00	1.00		1.00		1.00			1.33	
Incremental Delay, d2			0.8	4.0		3.8		2.1			2.4	
Delay (s)			38.2	42.9		28.7		23.9			15.9	
Level of Service			D	D		C		C			B	
Approach Delay (s)		38.2			31.0			23.9			15.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBR	EBR2	NBL	NBR	NWL2	NWL
Lane Configurations						
Volume (veh/h)	943	12	10	13	13	1385
Sign Control	Free		Stop			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	993	13	11	14	14	1458
Pedestrians	204		6			181
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	17		1			15
Right turn flare (veh)						
Median type	None					None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1965	690	1011	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1965	690	1011	
tC, single (s)			6.8	6.9	4.1	
tC, 2 stage (s)						
tF (s)			3.5	3.3	2.2	
p0 queue free %			76	96	98	
cM capacity (veh/h)			45	328	678	

Direction, Lane #	EB 1	EB 2	NB 1	NW 1	NW 2
Volume Total	662	344	24	500	972
Volume Left	0	0	11	14	0
Volume Right	0	13	14	0	0
cSH	1700	1700	87	678	1700
Volume to Capacity	0.39	0.20	0.28	0.02	0.57
Queue Length 95th (ft)	0	0	26	2	0
Control Delay (s)	0.0	0.0	61.6	0.6	0.0
Lane LOS			F	A	
Approach Delay (s)	0.0		61.6	0.2	
Approach LOS			F		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SEL	SET
Lane Configurations												
Volume (vph)	2	46	0	150	5	7	133	0	42	5	4	474
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0					6.0				6.0
Lane Util. Factor			0.95					0.95				0.95
Frpb, ped/bikes			0.92					0.98				0.99
Flpb, ped/bikes			0.99					0.96				1.00
Frt			0.89					0.96				0.99
Flt Protected			0.99					0.96				1.00
Satd. Flow (prot)			2820					3067				3470
Flt Permitted			0.83					0.67				0.95
Satd. Flow (perm)			2361					2143				3288
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	48	0	158	5	7	140	0	44	5	4	499
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	213	0	0	0	0	196	0	0	0	554
Confl. Peds. (#/hr)	32	27		16	21	16	21		32	27	16	
Confl. Bikes (#/hr)				1						1		
Turn Type	Perm	Perm				Perm	Perm				Perm	
Protected Phases			8					4				2
Permitted Phases	8	8				4	4				2	
Actuated Green, G (s)			23.0					23.0				45.0
Effective Green, g (s)			23.0					23.0				45.0
Actuated g/C Ratio			0.23					0.23				0.45
Clearance Time (s)			6.0					6.0				6.0
Lane Grp Cap (vph)			543					493				1480
v/s Ratio Prot												
v/s Ratio Perm			0.09					c0.09				0.17
v/c Ratio			0.39					0.40				0.37
Uniform Delay, d1			32.6					32.6				18.2
Progression Factor			1.00					1.00				0.86
Incremental Delay, d2			2.1					2.4				0.6
Delay (s)			34.7					35.0				16.3
Level of Service			C					D				B
Approach Delay (s)			34.7					35.0				16.3
Approach LOS			C					D				B

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER2	NWL	NWT	NWR2
Lane Configurations				
Volume (vph)	48	132	925	34
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			6.0	
Lane Util. Factor			0.95	
Frpb, ped/bikes			1.00	
Flpb, ped/bikes			1.00	
Frt			1.00	
Flt Protected			0.99	
Satd. Flow (prot)			3492	
Flt Permitted			0.70	
Satd. Flow (perm)			2467	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95
Adj. Flow (vph)	51	139	974	36
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	1149	0
Confl. Peds. (#/hr)	32	32		16
Confl. Bikes (#/hr)				1
Turn Type		pm+pt		
Protected Phases		1	6	
Permitted Phases		6		
Actuated Green, G (s)			65.0	
Effective Green, g (s)			65.0	
Actuated g/C Ratio			0.65	
Clearance Time (s)			6.0	
Lane Grp Cap (vph)			1747	
v/s Ratio Prot			c0.09	
v/s Ratio Perm			c0.34	
v/c Ratio			0.66	
Uniform Delay, d1			10.7	
Progression Factor			0.34	
Incremental Delay, d2			1.7	
Delay (s)			5.4	
Level of Service			A	
Approach Delay (s)			5.4	
Approach LOS			A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	17	0	130	16	48	25	0	510	9	0	1082	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00			1.00			0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.98		1.00	0.99	1.00			1.00			1.00	
Frt	1.00		0.85	1.00	0.95			1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1731		1583	1747	1747			1857			3539	
Flt Permitted	0.71		1.00	0.95	1.00			1.00			1.00	
Satd. Flow (perm)	1288		1583	1747	1747			1857			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	18	0	137	17	51	26	0	537	9	0	1139	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	0	137	17	77	0	0	546	0	0	1139	0
Confl. Peds. (#/hr)	21		11	11		21	21		24	24		21
Confl. Bikes (#/hr)						1			3			2
Turn Type	custom		custom	Perm						pm+pt		
Protected Phases			4 5		8			6		5	2	
Permitted Phases	4			8						2		
Actuated Green, G (s)	26.0		36.0	26.0	26.0			53.0			63.0	
Effective Green, g (s)	26.0		36.0	26.0	26.0			53.0			63.0	
Actuated g/C Ratio	0.26		0.36	0.26	0.26			0.53			0.63	
Clearance Time (s)	6.0			6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	335		570	454	454			984			2230	
v/s Ratio Prot			c0.09		0.04			c0.29			c0.32	
v/s Ratio Perm	0.01			0.01								
v/c Ratio	0.05		0.24	0.04	0.17			0.55			0.51	
Uniform Delay, d1	27.8		22.4	27.6	28.6			15.6			10.1	
Progression Factor	1.00		1.00	0.99	0.99			1.31			0.35	
Incremental Delay, d2	0.3		1.0	0.2	0.8			2.1			0.7	
Delay (s)	28.1		23.4	27.6	29.3			22.5			4.2	
Level of Service	C		C	C	C			C			A	
Approach Delay (s)		24.0			29.0			22.5			4.2	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	1513	1142	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				2.0	71.0	
Lane Util. Factor				0.91	0.91	
Frpb, ped/bikes				1.00	0.99	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	0.99	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5085	4995	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5085	4995	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1593	1202	99
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1593	1301	0
Confl. Peds. (#/hr)	4	1	39			39
Confl. Bikes (#/hr)						2
Turn Type			Perm			
Protected Phases				2	6	
Permitted Phases			2			
Actuated Green, G (s)				100.0	100.0	
Effective Green, g (s)				100.0	100.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				2.0	71.0	
Lane Grp Cap (vph)				5085	4995	
v/s Ratio Prot				c0.31	0.26	
v/s Ratio Perm						
v/c Ratio				0.31	0.26	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.1	0.1	
Delay (s)				0.1	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.1	0.1	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	1058	8	0	1165	0	0	494	160	0	1040	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Util. Factor		0.91			0.91			0.95	1.00		0.95	1.00
Frpb, ped/bikes		1.00			1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	1.00
Frt		1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)		5078			5085			3539	1534		3539	1537
Flt Permitted		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)		5078			5085			3539	1534		3539	1537
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1114	8	0	1226	0	0	520	168	0	1095	421
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	1	0	0	2
Lane Group Flow (vph)	0	1122	0	0	1226	0	0	520	167	0	1095	419
Confl. Peds. (#/hr)	52		38	38		52	33		38	38		33
Confl. Bikes (#/hr)						1						2
Turn Type							Perm		Perm			Perm
Protected Phases		2			6			4			8	
Permitted Phases							4		4			8
Actuated Green, G (s)		29.0			29.0			59.0	59.0		59.0	59.0
Effective Green, g (s)		29.0			29.0			59.0	59.0		59.0	59.0
Actuated g/C Ratio		0.29			0.29			0.59	0.59		0.59	0.59
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Grp Cap (vph)		1473			1475			2088	905		2088	907
v/s Ratio Prot		0.22			c0.24			0.15			c0.31	
v/s Ratio Perm									0.11			0.27
v/c Ratio		0.76			0.83			0.25	0.18		0.52	0.46
Uniform Delay, d1		32.4			33.2			9.9	9.4		12.2	11.6
Progression Factor		1.00			0.89			0.43	0.44		1.00	1.00
Incremental Delay, d2		3.8			5.5			0.3	0.4		0.9	1.7
Delay (s)		36.1			34.9			4.5	4.5		13.1	13.3
Level of Service		D			C			A	A		B	B
Approach Delay (s)		36.1			34.9			4.5			13.2	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	137.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	32	203	18	123	209	85	19	77	27	85	77	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	34	214	19	129	220	89	20	81	28	89	81	49
Pedestrians		43			25			36			130	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		4			2			3			11	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	439			269			974	1015	275	1029	990	438
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	439			172			932	977	178	992	949	438
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	97			90			81	54	96	2	55	91
cM capacity (veh/h)	999			1264			104	174	761	92	181	532

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	247	19	439	20	109	171	49
Volume Left	34	0	129	20	0	89	0
Volume Right	0	19	89	0	28	0	49
cSH	999	1700	1264	104	218	120	532
Volume to Capacity	0.03	0.01	0.10	0.19	0.50	1.42	0.09
Queue Length 95th (ft)	3	0	9	17	64	295	8
Control Delay (s)	1.5	0.0	3.1	47.9	37.1	299.1	12.5
Lane LOS	A		A	E	E	F	B
Approach Delay (s)	1.4		3.1	38.8		234.6	
Approach LOS				E		F	

Intersection Summary			
Average Delay	55.4		
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	0	0	1658	258	0
Sign Control	Free		Yield		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	1745	272	0
Pedestrians	22					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None				None	
Median storage veh)						
Upstream signal (ft)	208					
pX, platoon unblocked						
vC, conflicting volume	272		272	158		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	272		272	158		
tC, single (s)	4.1		6.8	6.9		
tC, 2 stage (s)						
tF (s)	2.2		3.5	3.3		
p0 queue free %	100		100	0		
cM capacity (veh/h)	1289		695	860		

Direction, Lane #	SE 1	SE 2	SW 1	SW 2
Volume Total	873	873	136	136
Volume Left	0	0	0	0
Volume Right	873	873	0	0
cSH	860	860	1700	1700
Volume to Capacity	1.02	1.02	0.08	0.08
Queue Length 95th (ft)	473	473	0	0
Control Delay (s)	56.5	56.5	0.0	0.0
Lane LOS	F	F		
Approach Delay (s)	56.5		0.0	
Approach LOS	F			

Intersection Summary			
Average Delay	48.9		
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	196	15	17	165	125	23	92	16	149	102	83
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	206	16	18	174	132	24	97	17	157	107	87
Pedestrians		66			28			26			172	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		6			2			2			14	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	477			248			786	817	260	818	767	477
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	477			159			735	768	172	770	715	477
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	96			99			82	61	98	0	59	82
cM capacity (veh/h)	929			1297			138	246	777	144	264	476

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	242	16	323	24	114	264	87
Volume Left	36	0	18	24	0	157	0
Volume Right	0	16	132	0	17	0	87
cSH	929	1700	1297	138	274	176	476
Volume to Capacity	0.04	0.01	0.01	0.18	0.42	1.50	0.18
Queue Length 95th (ft)	3	0	1	15	49	422	17
Control Delay (s)	1.7	0.0	0.6	36.7	27.2	299.9	14.3
Lane LOS	A		A	E	D	F	B
Approach Delay (s)	1.6		0.6	28.8		229.0	
Approach LOS				D		F	

Intersection Summary			
Average Delay	79.5		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	1411	0	0	316	0
Sign Control	Yield		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1485	0	0	333	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh)						
Upstream signal (ft)			187			
pX, platoon unblocked						
vC, conflicting volume	333	166	333			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	333	166	333			
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	0	100			
cM capacity (veh/h)	637	849	1223			

Direction, Lane #	EB 1	EB 2	SW 1	SW 2
Volume Total	743	743	166	166
Volume Left	0	0	0	0
Volume Right	743	743	0	0
cSH	849	849	1700	1700
Volume to Capacity	0.87	0.87	0.10	0.10
Queue Length 95th (ft)	283	283	0	0
Control Delay (s)	30.7	30.7	0.0	0.0
Lane LOS	D	D		
Approach Delay (s)	30.7		0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	25.1		
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	32	203	18	123	209	85	19	77	27	85	77	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	34	214	19	129	220	89	20	81	28	89	81	49
Pedestrians		43			25			36			130	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		4			2			3			11	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	439			269			974	1015	275	1029	990	438
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	439			172			932	977	178	992	949	438
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	97			90			81	54	96	2	55	91
cM capacity (veh/h)	999			1264			104	174	761	92	181	532

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	247	19	439	20	109	171	49
Volume Left	34	0	129	20	0	89	0
Volume Right	0	19	89	0	28	0	49
cSH	999	1700	1264	104	218	120	532
Volume to Capacity	0.03	0.01	0.10	0.19	0.50	1.42	0.09
Queue Length 95th (ft)	3	0	9	17	64	295	8
Control Delay (s)	1.5	0.0	3.1	47.9	37.1	299.1	12.5
Lane LOS	A		A	E	E	F	B
Approach Delay (s)	1.4		3.1	38.8		234.6	
Approach LOS				E		F	

Intersection Summary			
Average Delay	55.4		
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	0	0	1662	259	0
Sign Control	Free		Yield		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	1749	273	0
Pedestrians	22					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None				None	
Median storage veh)						
Upstream signal (ft)	208					
pX, platoon unblocked						
vC, conflicting volume	273		273	158		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	273		273	158		
tC, single (s)	4.1		6.8	6.9		
tC, 2 stage (s)						
tF (s)	2.2		3.5	3.3		
p0 queue free %	100		100	0		
cM capacity (veh/h)	1288		694	859		

Direction, Lane #	SE 1	SE 2	SW 1	SW 2
Volume Total	875	875	136	136
Volume Left	0	0	0	0
Volume Right	875	875	0	0
cSH	859	859	1700	1700
Volume to Capacity	1.02	1.02	0.08	0.08
Queue Length 95th (ft)	478	478	0	0
Control Delay (s)	57.4	57.4	0.0	0.0
Lane LOS	F	F		
Approach Delay (s)	57.4		0.0	
Approach LOS	F			

Intersection Summary			
Average Delay	49.6		
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	196	15	17	165	125	23	92	16	149	102	83
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	206	16	18	174	132	24	97	17	157	107	87
Pedestrians		66			28			26			172	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		6			2			2			14	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	477			248			786	817	260	818	767	477
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	477			159			735	768	172	770	715	477
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	96			99			82	61	98	0	59	82
cM capacity (veh/h)	929			1297			138	246	777	144	264	476

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	242	16	323	24	114	264	87
Volume Left	36	0	18	24	0	157	0
Volume Right	0	16	132	0	17	0	87
cSH	929	1700	1297	138	274	176	476
Volume to Capacity	0.04	0.01	0.01	0.18	0.42	1.50	0.18
Queue Length 95th (ft)	3	0	1	15	49	422	17
Control Delay (s)	1.7	0.0	0.6	36.7	27.2	299.9	14.3
Lane LOS	A		A	E	D	F	B
Approach Delay (s)	1.6		0.6	28.8		229.0	
Approach LOS				D		F	

Intersection Summary			
Average Delay	79.5		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	1412	0	0	323	0
Sign Control	Yield		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1486	0	0	340	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh)						
Upstream signal (ft)			187			
pX, platoon unblocked						
vC, conflicting volume	340	170	340			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	340	170	340			
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	0	100			
cM capacity (veh/h)	630	844	1216			

Direction, Lane #	EB 1	EB 2	SW 1	SW 2
Volume Total	743	743	170	170
Volume Left	0	0	0	0
Volume Right	743	743	0	0
cSH	844	844	1700	1700
Volume to Capacity	0.88	0.88	0.10	0.10
Queue Length 95th (ft)	288	288	0	0
Control Delay (s)	31.5	31.5	0.0	0.0
Lane LOS	D	D		
Approach Delay (s)	31.5		0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	25.6		
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	32	203	18	123	209	85	19	77	27	85	77	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	34	214	19	129	220	89	20	81	28	89	81	49
Pedestrians		43			25			36			130	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		4			2			3			11	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	439			269			974	1015	275	1029	990	438
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	439			172			932	977	178	992	949	438
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	97			90			81	54	96	2	55	91
cM capacity (veh/h)	999			1264			104	174	761	92	181	532

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	247	19	439	20	109	171	49
Volume Left	34	0	129	20	0	89	0
Volume Right	0	19	89	0	28	0	49
cSH	999	1700	1264	104	218	120	532
Volume to Capacity	0.03	0.01	0.10	0.19	0.50	1.42	0.09
Queue Length 95th (ft)	3	0	9	17	64	295	8
Control Delay (s)	1.5	0.0	3.1	47.9	37.1	299.1	12.5
Lane LOS	A		A	E	E	F	B
Approach Delay (s)	1.4		3.1	38.8		234.6	
Approach LOS				E		F	

Intersection Summary			
Average Delay	55.4		
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	0	0	1664	261	0
Sign Control	Free		Yield		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	1752	275	0
Pedestrians	22					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None				None	
Median storage veh)						
Upstream signal (ft)	208					
pX, platoon unblocked						
vC, conflicting volume	275		275	159		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275		275	159		
tC, single (s)	4.1		6.8	6.9		
tC, 2 stage (s)						
tF (s)	2.2		3.5	3.3		
p0 queue free %	100		100	0		
cM capacity (veh/h)	1285		692	858		

Direction, Lane #	SE 1	SE 2	SW 1	SW 2
Volume Total	876	876	137	137
Volume Left	0	0	0	0
Volume Right	876	876	0	0
cSH	858	858	1700	1700
Volume to Capacity	1.02	1.02	0.08	0.08
Queue Length 95th (ft)	482	482	0	0
Control Delay (s)	58.2	58.2	0.0	0.0
Lane LOS	F	F		
Approach Delay (s)	58.2		0.0	
Approach LOS	F			

Intersection Summary			
Average Delay	50.3		
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	196	15	17	165	125	23	92	16	149	102	83
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	206	16	18	174	132	24	97	17	157	107	87
Pedestrians		66			28			26			172	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		6			2			2			14	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	477			248			786	817	260	818	767	477
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	477			159			735	768	172	770	715	477
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	96			99			82	61	98	0	59	82
cM capacity (veh/h)	929			1297			138	246	777	144	264	476

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	242	16	323	24	114	264	87
Volume Left	36	0	18	24	0	157	0
Volume Right	0	16	132	0	17	0	87
cSH	929	1700	1297	138	274	176	476
Volume to Capacity	0.04	0.01	0.01	0.18	0.42	1.50	0.18
Queue Length 95th (ft)	3	0	1	15	49	422	17
Control Delay (s)	1.7	0.0	0.6	36.7	27.2	299.9	14.3
Lane LOS	A		A	E	D	F	B
Approach Delay (s)	1.6		0.6	28.8		229.0	
Approach LOS				D		F	

Intersection Summary			
Average Delay	79.5		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	1413	0	0	326	0
Sign Control	Yield		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1487	0	0	343	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh)						
Upstream signal (ft)			187			
pX, platoon unblocked						
vC, conflicting volume	343	172	343			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	343	172	343			
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	0	100			
cM capacity (veh/h)	627	842	1213			

Direction, Lane #	EB 1	EB 2	SW 1	SW 2
Volume Total	744	744	172	172
Volume Left	0	0	0	0
Volume Right	744	744	0	0
cSH	842	842	1700	1700
Volume to Capacity	0.88	0.88	0.10	0.10
Queue Length 95th (ft)	291	291	0	0
Control Delay (s)	31.9	31.9	0.0	0.0
Lane LOS	D	D		
Approach Delay (s)	31.9		0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	25.9		
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	221	106	62	150	65	0	951	30	0	2025	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.96			0.95			0.99			1.00	
Flpb, ped/bikes	0.97	1.00			0.99			1.00			1.00	
Frt	1.00	0.95			0.97			1.00			1.00	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1709	1710			1671			5011			5059	
Flt Permitted	0.40	1.00			0.82			1.00			1.00	
Satd. Flow (perm)	717	1710			1389			5011			5059	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	59	233	112	65	158	68	0	1001	32	0	2132	23
RTOR Reduction (vph)	0	0	0	0	11	0	0	4	0	0	1	0
Lane Group Flow (vph)	59	345	0	0	280	0	0	1030	0	0	2154	0
Confl. Peds. (#/hr)	160		75	75		160	314		311	311		314
Confl. Bikes (#/hr)						1			2			2
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.0	38.0			23.0			50.0			50.0	
Effective Green, g (s)	38.0	38.0			23.0			50.0			50.0	
Actuated g/C Ratio	0.38	0.38			0.23			0.50			0.50	
Clearance Time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Grp Cap (vph)	382	650			319			2506			2530	
v/s Ratio Prot	0.02	c0.20						0.21			c0.43	
v/s Ratio Perm	0.04				c0.20							
v/c Ratio	0.15	0.53			0.88			0.41			0.85	
Uniform Delay, d1	21.1	24.1			37.2			15.7			21.8	
Progression Factor	1.00	1.00			1.00			0.87			1.00	
Incremental Delay, d2	0.9	3.1			27.2			0.5			3.9	
Delay (s)	22.0	27.2			64.4			14.1			25.6	
Level of Service	C	C			E			B			C	
Approach Delay (s)		26.4			64.4			14.1			25.6	
Approach LOS		C			E			B			C	

Intersection Summary			
HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	96.4%	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												
Volume (veh/h)	32	205	18	124	211	86	19	78	27	86	78	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	34	216	19	131	222	91	20	82	28	91	82	49
Pedestrians		43			25			36			130	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		4			2			3			11	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	443			271			981	1023	277	1036	997	440
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	443			171			939	984	178	998	956	440
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	97			90			80	52	96	0	54	91
cM capacity (veh/h)	996			1262			101	172	760	89	179	530

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	249	19	443	20	111	173	49
Volume Left	34	0	131	20	0	91	0
Volume Right	0	19	91	0	28	0	49
cSH	996	1700	1262	101	215	117	530
Volume to Capacity	0.03	0.01	0.10	0.20	0.51	1.48	0.09
Queue Length 95th (ft)	3	0	9	17	66	306	8
Control Delay (s)	1.5	0.0	3.1	49.4	38.3	321.5	12.5
Lane LOS	A		A	E	E	F	B
Approach Delay (s)	1.4		3.1	40.0		252.7	
Approach LOS				E		F	

Intersection Summary			
Average Delay	59.3		
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Volume (vph)	256	735	2	0	997	0	0	1805	301	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			12.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		1.00			1.00			0.98			
Flpb, ped/bikes		1.00			1.00			1.00			
Frt		1.00			1.00			0.98			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3440			5085			4893			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3440			5085			4893			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	269	774	2	0	1049	0	0	1900	317	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1045	0	0	1049	0	0	2217	0	0	0
Confl. Peds. (#/hr)	8	189	93	189		172	172		189	93	172
Confl. Bikes (#/hr)			4			1			2		1
Turn Type	Split										
Protected Phases	8	8			2 10			6 14			
Permitted Phases											
Actuated Green, G (s)		28.0			62.0			55.0			
Effective Green, g (s)		28.0			60.0			53.0			
Actuated g/C Ratio		0.28			0.60			0.53			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		963			3051			2593			
v/s Ratio Prot		c0.30			0.21			c0.45			
v/s Ratio Perm											
v/c Ratio		1.09			0.34			0.85			
Uniform Delay, d1		36.0			10.1			20.2			
Progression Factor		0.39			0.28			0.15			
Incremental Delay, d2		50.6			0.2			2.1			
Delay (s)		64.5			3.1			5.1			
Level of Service		E			A			A			
Approach Delay (s)		64.5			3.1			5.1		0.0	
Approach LOS		E			A			A		A	

Intersection Summary			
HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	140.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	164	0	0	926	148
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	173	0	0	975	156
Pedestrians	148			1	1	
Lane Width (ft)	12.0			0.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	12			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				152	168	
pX, platoon unblocked						
vC, conflicting volume	1202	714	1279			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1202	714	1279			
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	47	100			
cM capacity (veh/h)	155	328	472			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	173	650	481
Volume Left	0	0	0
Volume Right	173	0	156
cSH	328	1700	1700
Volume to Capacity	0.53	0.38	0.28
Queue Length 95th (ft)	73	0	0
Control Delay (s)	27.6	0.0	0.0
Lane LOS	D		
Approach Delay (s)	27.6	0.0	
Approach LOS	D		

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	562	0	910
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				9.0		10.0
Lane Util. Factor				0.88		0.95
Frt				0.85		1.00
Flt Protected				1.00		1.00
Satd. Flow (prot)				2787		3539
Flt Permitted				1.00		1.00
Satd. Flow (perm)				2787		3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	592	0	958
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	592	0	958
Turn Type				custom		
Protected Phases						4 6 7
Permitted Phases				3		
Actuated Green, G (s)				27.0		67.0
Effective Green, g (s)				27.0		65.0
Actuated g/C Ratio				0.27		0.65
Clearance Time (s)				9.0		
Lane Grp Cap (vph)				752		2300
v/s Ratio Prot						c0.27
v/s Ratio Perm				c0.21		
v/c Ratio				0.79		0.42
Uniform Delay, d1				33.8		8.4
Progression Factor				1.63		0.58
Incremental Delay, d2				7.4		0.3
Delay (s)				62.4		5.2
Level of Service				E		A
Approach Delay (s)	0.0		62.4			5.2
Approach LOS	A		E			A

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Volume (vph)	166	521	59	0	859	155	0	2007	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			12.0			5.0			
Lane Util. Factor		0.97			0.95			0.91			
Frpb, ped/bikes		1.00			0.99			1.00			
Flpb, ped/bikes		0.98			1.00			1.00			
Frt		0.99			0.98			1.00			
Flt Protected		0.96			1.00			1.00			
Satd. Flow (prot)		3348			3415			5085			
Flt Permitted		0.96			1.00			1.00			
Satd. Flow (perm)		3348			3415			5085			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	175	548	62	0	904	163	0	2113	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	785	0	0	1067	0	0	2113	0	0	0
Confl. Peds. (#/hr)	16		31	153		124	124		153	31	
Confl. Bikes (#/hr)			1						2		
Turn Type	Perm										
Protected Phases		4			2 10			6 14			
Permitted Phases	4										
Actuated Green, G (s)		28.0			55.0			62.0			
Effective Green, g (s)		28.0			53.0			60.0			
Actuated g/C Ratio		0.28			0.53			0.60			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		937			1810			3051			
v/s Ratio Prot					0.31			c0.42			
v/s Ratio Perm		0.23									
v/c Ratio		0.84			0.59			0.69			
Uniform Delay, d1		33.9			16.1			13.7			
Progression Factor		0.37			0.61			0.15			
Incremental Delay, d2		7.3			1.2			0.6			
Delay (s)		19.8			11.0			2.7			
Level of Service		B			B			A			
Approach Delay (s)		19.8			11.0			2.7		0.0	
Approach LOS		B			B			A		A	

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	140.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	71	603	94	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	75	635	99	0	0
Pedestrians	19		158			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	2		13			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			166			198
pX, platoon unblocked						
vC, conflicting volume	861	386			753	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	861	386			753	
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	88			100	
cM capacity (veh/h)	252	603			839	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	75	423	311
Volume Left	0	0	0
Volume Right	75	0	99
cSH	603	1700	1700
Volume to Capacity	0.12	0.25	0.18
Queue Length 95th (ft)	11	0	0
Control Delay (s)	11.8	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.8	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR	SWR2
Lane Configurations											
Volume (vph)	0	0	0	95	472	0	0	0	0	694	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0					9.0	
Lane Util. Factor				1.00	0.88					0.88	
Frpb, ped/bikes				1.00	0.95					0.94	
Flpb, ped/bikes				1.00	1.00					1.00	
Frt				1.00	0.85					0.85	
Flt Protected				1.00	1.00					1.00	
Satd. Flow (prot)				1863	2649					2626	
Flt Permitted				1.00	1.00					1.00	
Satd. Flow (perm)				1863	2649					2626	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	100	497	0	0	0	0	731	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	100	497	0	0	0	0	732	0
Confl. Peds. (#/hr)	41				41	41					20
Confl. Bikes (#/hr)											1
Turn Type					custom					custom	
Protected Phases				1 3 9							
Permitted Phases					1 2 3					2	
Actuated Green, G (s)				57.0	77.0					27.0	
Effective Green, g (s)				45.0	68.0					27.0	
Actuated g/C Ratio				0.45	0.68					0.27	
Clearance Time (s)										9.0	
Lane Grp Cap (vph)				838	1801					709	
v/s Ratio Prot				c0.05							
v/s Ratio Perm					c0.19					c0.28	
v/c Ratio				0.12	0.28					1.03	
Uniform Delay, d1				16.0	6.3					36.5	
Progression Factor				0.85	0.49					1.00	
Incremental Delay, d2				0.2	0.3					42.4	
Delay (s)				13.8	3.4					78.9	
Level of Service				B	A					E	
Approach Delay (s)	0.0			5.1			0.0		78.9		
Approach LOS	A			A			A		E		

Intersection Summary			
HCM Average Control Delay	45.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	79	80	5	40	27	0	174	1360	61	13	581	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		1.00			1.00			0.99			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1796			1803			3492			3490	
Flt Permitted		0.83			0.77			0.64			0.89	
Satd. Flow (perm)		1530			1435			2233			3115	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	83	84	5	42	28	0	183	1432	64	14	612	43
RTOR Reduction (vph)	0	1	0	0	0	0	0	3	0	0	5	0
Lane Group Flow (vph)	0	171	0	0	70	0	0	1676	0	0	664	0
Confl. Peds. (#/hr)	14		6	6		14	25		15	15		25
Confl. Bikes (#/hr)			1									
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		8			4		5	2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		22.0			22.0			68.0			38.0	
Effective Green, g (s)		22.0			22.0			68.0			38.0	
Actuated g/C Ratio		0.22			0.22			0.68			0.38	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		337			316			1833			1184	
v/s Ratio Prot								c0.23				
v/s Ratio Perm		c0.11			0.05			c0.39			0.21	
v/c Ratio		0.51			0.22			0.91			0.56	
Uniform Delay, d1		34.2			32.0			13.5			24.4	
Progression Factor		1.00			1.00			1.00			1.01	
Incremental Delay, d2		5.4			1.6			8.6			1.8	
Delay (s)		39.6			33.6			22.1			26.5	
Level of Service		D			C			C			C	
Approach Delay (s)		39.6			33.6			22.1			26.5	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	107.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	124	6	16	117	10	115
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	131	6	17	123	11	121

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	137	140	132
Volume Left (vph)	0	17	11
Volume Right (vph)	6	0	121
Hadj (s)	0.01	0.06	-0.50
Departure Headway (s)	4.3	4.4	4.0
Degree Utilization, x	0.17	0.17	0.15
Capacity (veh/h)	800	783	838
Control Delay (s)	8.2	8.3	7.7
Approach Delay (s)	8.2	8.3	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	8.1		
HCM Level of Service	A		
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												
Volume (vph)	11	397	1	112	231	13	29	518	298	19	645	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1760	1862		1738	1846			3316			1828	
Flt Permitted	0.48	1.00		0.24	1.00			0.91			0.97	
Satd. Flow (perm)	889	1862		439	1846			3011			1769	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	12	418	1	118	243	14	31	545	314	20	679	68
RTOR Reduction (vph)	0	0	0	0	2	0	0	45	0	0	4	0
Lane Group Flow (vph)	12	419	0	118	255	0	0	845	0	0	763	0
Confl. Peds. (#/hr)	8		42	42		8	47		24	24		47
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.0	29.0		29.0	29.0			59.0			59.0	
Effective Green, g (s)	29.0	29.0		29.0	29.0			59.0			59.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29			0.59			0.59	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)	258	540		127	535			1776			1044	
v/s Ratio Prot		0.23			0.14							
v/s Ratio Perm	0.01			c0.27				0.28			c0.43	
v/c Ratio	0.05	0.78		0.93	0.48			0.48			0.73	
Uniform Delay, d1	25.5	32.5		34.5	29.2			11.7			14.8	
Progression Factor	1.00	1.00		1.19	1.20			0.59			0.55	
Incremental Delay, d2	0.3	10.5		54.2	2.4			0.7			4.2	
Delay (s)	25.9	43.0		95.3	37.5			7.7			12.3	
Level of Service	C	D		F	D			A			B	
Approach Delay (s)		42.5			55.7			7.7			12.3	
Approach LOS		D			E			A			B	

Intersection Summary			
HCM Average Control Delay	22.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.1%	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												
Volume (vph)	22	262	94	73	237	55	23	989	45	53	1809	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.91	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.98	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.97			0.99			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1737	1766		1743	1794			3501			5040	
Flt Permitted	0.36	1.00		0.24	1.00			0.84			0.85	
Satd. Flow (perm)	653	1766		445	1794			2955			4307	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	276	99	77	249	58	24	1041	47	56	1904	64
RTOR Reduction (vph)	0	8	0	0	0	0	0	3	0	0	3	0
Lane Group Flow (vph)	23	368	0	77	307	0	0	1109	0	0	2021	0
Confl. Peds. (#/hr)	29		29	29		29	151		77	77		151
Confl. Bikes (#/hr)			2			1			3			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.0	25.0		25.0	25.0			64.0			64.0	
Effective Green, g (s)	25.0	25.0		25.0	25.0			64.0			64.0	
Actuated g/C Ratio	0.25	0.25		0.25	0.25			0.64			0.64	
Clearance Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	163	442		111	449			1891			2756	
v/s Ratio Prot		c0.21			0.17							
v/s Ratio Perm	0.04			0.17				0.38			c0.47	
v/c Ratio	0.14	0.83		0.69	0.68			0.59			0.73	
Uniform Delay, d1	29.2	35.5		34.0	33.9			10.4			12.2	
Progression Factor	0.79	0.77		1.00	1.00			2.09			1.34	
Incremental Delay, d2	1.4	12.9		30.1	8.2			1.3			1.3	
Delay (s)	24.5	40.1		64.2	42.1			23.0			17.7	
Level of Service	C	D		E	D			C			B	
Approach Delay (s)		39.2			46.5			23.0			17.7	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	24.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	114.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (veh/h)	80	1477	614	38	26	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	84	1555	646	40	27	15
Pedestrians		7	16		7	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			856			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	693				1635	680
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	510				1666	494
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				57	96
cM capacity (veh/h)	852				63	420

Direction, Lane #	SE 1	SE 2	NW 1	SW 1
Volume Total	602	1036	686	42
Volume Left	84	0	0	27
Volume Right	0	0	40	15
cSH	852	1700	1700	90
Volume to Capacity	0.10	0.61	0.40	0.47
Queue Length 95th (ft)	8	0	0	50
Control Delay (s)	2.5	0.0	0.0	76.6
Lane LOS	A			F
Approach Delay (s)	0.9		0.0	76.6
Approach LOS				F

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	8	1499	54	3	734	33	26	2	32	2	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		0.99			1.00			1.00	0.94		0.99	
Flpb, ped/bikes		1.00			1.00			0.97	1.00		0.99	
Frt		0.99			0.99			1.00	0.85		0.96	
Flt Protected		1.00			1.00			0.96	1.00		0.99	
Satd. Flow (prot)		3498			3506			1729	1486		1746	
Flt Permitted		0.95			0.95			0.79	1.00		0.98	
Satd. Flow (perm)		3327			3329			1434	1486		1726	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	1578	57	3	773	35	27	2	34	2	11	5
RTOR Reduction (vph)	0	3	0	0	3	0	0	0	20	0	4	0
Lane Group Flow (vph)	0	1640	0	0	808	0	0	29	14	0	14	0
Confl. Peds. (#/hr)	28		95	95		28	12		32	32		12
Turn Type	Perm			Perm			Perm		custom	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8		4	4		
Actuated Green, G (s)		64.0			64.0			24.0	24.0		24.0	
Effective Green, g (s)		64.0			64.0			24.0	24.0		24.0	
Actuated g/C Ratio		0.64			0.64			0.24	0.24		0.24	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Grp Cap (vph)		2129			2131			344	357		414	
v/s Ratio Prot												
v/s Ratio Perm		c0.49			0.24			c0.02	0.01		0.01	
v/c Ratio		0.77			0.38			0.08	0.04		0.03	
Uniform Delay, d1		12.8			8.6			29.5	29.2		29.1	
Progression Factor		1.14			1.70			1.00	1.00		1.00	
Incremental Delay, d2		1.7			0.5			0.5	0.2		0.2	
Delay (s)		16.3			15.0			30.0	29.4		29.3	
Level of Service		B			B			C	C		C	
Approach Delay (s)		16.3			15.0			29.6			29.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	0	0	1669	258	0
Sign Control	Free		Yield		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	1757	272	0
Pedestrians	22					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None				None	
Median storage veh)						
Upstream signal (ft)	208					
pX, platoon unblocked						
vC, conflicting volume	272		272	158		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	272		272	158		
tC, single (s)	4.1		6.8	6.9		
tC, 2 stage (s)						
tF (s)	2.2		3.5	3.3		
p0 queue free %	100		100	0		
cM capacity (veh/h)	1289		695	860		

Direction, Lane #	SE 1	SE 2	SW 1	SW 2
Volume Total	878	878	136	136
Volume Left	0	0	0	0
Volume Right	878	878	0	0
cSH	860	860	1700	1700
Volume to Capacity	1.02	1.02	0.08	0.08
Queue Length 95th (ft)	484	484	0	0
Control Delay (s)	58.3	58.3	0.0	0.0
Lane LOS	F	F		
Approach Delay (s)	58.3		0.0	
Approach LOS	F			

Intersection Summary			
Average Delay	50.5		
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	SBL	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1422	505	0	845	396	0	1014	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		0.95			1.00	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3370			3539	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3370			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1497	532	0	889	417	0	1067	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1497	532	0	1306	0	0	1067	0
Confl. Peds. (#/hr)	84			84						
Turn Type				Prot						
Protected Phases			4	4		6			6	
Permitted Phases										
Actuated Green, G (s)			52.0	52.0		34.0			34.0	
Effective Green, g (s)			52.0	52.0		34.0			34.0	
Actuated g/C Ratio			0.52	0.52		0.34			0.34	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2595	823		1146			1203	
v/s Ratio Prot			0.30	c0.34		c0.39			0.30	
v/s Ratio Perm										
v/c Ratio			0.58	0.65		1.14			0.89	
Uniform Delay, d1			16.5	17.4		33.0			31.2	
Progression Factor			0.90	0.91		0.70			0.32	
Incremental Delay, d2			0.9	3.9		70.9			2.9	
Delay (s)			15.8	19.7		94.1			12.8	
Level of Service			B	B		F			B	
Approach Delay (s)	0.0		16.8			94.1			12.8	
Approach LOS	A		B			F			B	

Intersection Summary			
HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	165.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	836	271	0	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	880	285	0	0	0
Pedestrians	19					19
Lane Width (ft)	12.0					0.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	2					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						174
pX, platoon unblocked						
vC, conflicting volume	304	181			304	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304	181			304	
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	0			100	
cM capacity (veh/h)	653	818			1234	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2
Volume Total	440	440	143	143
Volume Left	0	0	0	0
Volume Right	440	440	0	0
cSH	818	818	1700	1700
Volume to Capacity	0.54	0.54	0.08	0.08
Queue Length 95th (ft)	82	82	0	0
Control Delay (s)	14.4	14.4	0.0	0.0
Lane LOS	B	B		
Approach Delay (s)	14.4		0.0	
Approach LOS	B			

Intersection Summary			
Average Delay	10.9		
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	861	246	0	841	0	0	1014	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		1.00			0.99	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3539			3495	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3539			3495	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	906	259	0	885	0	0	1067	98
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	906	259	0	885	0	0	1165	0
Confl. Peds. (#/hr)	22			22						
Turn Type				Prot						
Protected Phases			8	8		2			2	
Permitted Phases										
Actuated Green, G (s)			52.0	52.0		34.0			34.0	
Effective Green, g (s)			52.0	52.0		34.0			34.0	
Actuated g/C Ratio			0.52	0.52		0.34			0.34	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2595	823		1203			1188	
v/s Ratio Prot			c0.18	0.16		0.25			c0.33	
v/s Ratio Perm										
v/c Ratio			0.35	0.31		0.74			0.98	
Uniform Delay, d1			14.1	13.8		29.0			32.7	
Progression Factor			0.87	0.87		0.40			0.99	
Incremental Delay, d2			0.4	1.0		0.4			20.2	
Delay (s)			12.6	13.0		12.1			52.4	
Level of Service			B	B		B			D	
Approach Delay (s)	0.0		12.7			12.1			52.4	
Approach LOS	A		B			B			D	

Intersection Summary			
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	165.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	0	23	43	0	352	0	1063	69	488	898	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Util. Factor			1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00		0.99			1.00	
Flpb, ped/bikes			1.00	0.96		1.00		1.00			1.00	
Frt			0.86	1.00		0.85		0.99			0.99	
Flt Protected			1.00	0.95		1.00		1.00			0.98	
Satd. Flow (prot)			1611	1701		1583		3488			3450	
Flt Permitted			1.00	0.95		1.00		1.00			0.52	
Satd. Flow (perm)			1611	1701		1583		3488			1820	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	24	45	0	371	0	1119	73	514	945	74
RTOR Reduction (vph)	0	0	21	0	0	32	0	5	0	0	4	0
Lane Group Flow (vph)	0	0	3	45	0	339	0	1187	0	0	1529	0
Confl. Peds. (#/hr)				18					65	65		
Turn Type			custom	custom		custom				pm+pt		
Protected Phases						1		2		1	6	
Permitted Phases			4	4		4				6		
Actuated Green, G (s)			14.0	14.0		36.0		46.0			73.0	
Effective Green, g (s)			14.0	14.0		36.0		46.0			73.0	
Actuated g/C Ratio			0.14	0.14		0.36		0.46			0.73	
Clearance Time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Grp Cap (vph)			226	238		649		1604			1687	
v/s Ratio Prot						c0.11		0.34			c0.20	
v/s Ratio Perm			0.00	0.03		0.10					c0.46	
v/c Ratio			0.01	0.19		0.52		0.74			1.05dl	
Uniform Delay, d1			37.1	38.0		25.2		22.1			10.8	
Progression Factor			1.00	1.00		1.00		1.00			2.83	
Incremental Delay, d2			0.1	1.8		3.0		3.1			5.2	
Delay (s)			37.2	39.7		28.2		25.2			35.7	
Level of Service			D	D		C		C			D	
Approach Delay (s)		37.2			29.5			25.2			35.7	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	31.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Volume (veh/h)	9	10	1416	9	0	903
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	11	1491	9	0	951
Pedestrians	12		37			110
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		3			9
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2020	872			1512	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2020	872			1512	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	96			100	
cM capacity (veh/h)	49	264			434	

Direction, Lane #	NB 1	SE 1	SE 2	NW 1	NW 2
Volume Total	20	994	506	317	634
Volume Left	9	0	0	0	0
Volume Right	11	0	9	0	0
cSH	85	1700	1700	434	1700
Volume to Capacity	0.24	0.58	0.30	0.00	0.37
Queue Length 95th (ft)	21	0	0	0	0
Control Delay (s)	59.9	0.0	0.0	0.0	0.0
Lane LOS	F				
Approach Delay (s)	59.9	0.0		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SEL	SET
Lane Configurations												
Volume (vph)	7	103	0	244	33	5	117	0	43	6	12	1061
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0					6.0				6.0
Lane Util. Factor			0.95					0.95				0.95
Frpb, ped/bikes			0.96					0.98				1.00
Flpb, ped/bikes			0.98					0.98				1.00
Frt			0.89					0.96				0.99
Flt Protected			0.99					0.97				1.00
Satd. Flow (prot)			2945					3141				3509
Flt Permitted			0.80					0.59				0.95
Satd. Flow (perm)			2389					1914				3324
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	7	108	0	257	35	5	123	0	45	6	13	1117
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	407	0	0	0	0	179	0	0	0	1171
Confl. Peds. (#/hr)	40	26		22	19	22	19		40	26	22	
Confl. Bikes (#/hr)				3					5	2		
Turn Type	Perm	Perm				Perm	Perm				Perm	
Protected Phases			8					4				2
Permitted Phases	8	8				4	4				2	
Actuated Green, G (s)			29.0					29.0				45.0
Effective Green, g (s)			29.0					29.0				45.0
Actuated g/C Ratio			0.29					0.29				0.45
Clearance Time (s)			6.0					6.0				6.0
Lane Grp Cap (vph)			693					555				1496
v/s Ratio Prot												
v/s Ratio Perm			c0.17					0.09				c0.35
v/c Ratio			0.59					0.32				0.78
Uniform Delay, d1			30.4					27.8				23.3
Progression Factor			1.00					1.00				0.70
Incremental Delay, d2			3.6					1.5				3.1
Delay (s)			34.0					29.3				19.6
Level of Service			C					C				B
Approach Delay (s)			34.0					29.3				19.6
Approach LOS			C					C				B

Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER2	NWL	NWT	NWR2
Lane Configurations				
Volume (vph)	39	31	450	17
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			6.0	
Lane Util. Factor			0.95	
Frpb, ped/bikes			1.00	
Flpb, ped/bikes			1.00	
Frt			0.99	
Flt Protected			1.00	
Satd. Flow (prot)			3503	
Flt Permitted			0.78	
Satd. Flow (perm)			2751	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	33	474	18
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	525	0
Confl. Peds. (#/hr)	40	40		22
Confl. Bikes (#/hr)	5			3
Turn Type		pm+pt		
Protected Phases		1	6	
Permitted Phases		6		
Actuated Green, G (s)			59.0	
Effective Green, g (s)			59.0	
Actuated g/C Ratio			0.59	
Clearance Time (s)			6.0	
Lane Grp Cap (vph)			1683	
v/s Ratio Prot			c0.02	
v/s Ratio Perm			0.16	
v/c Ratio			0.31	
Uniform Delay, d1			10.3	
Progression Factor			0.68	
Incremental Delay, d2			0.4	
Delay (s)			7.4	
Level of Service			A	
Approach Delay (s)			7.4	
Approach LOS			A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	49	0	295	13	61	15	0	1058	7	130	450	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.95		1.00	0.99	1.00			1.00			1.00	
Frt	1.00		0.85	1.00	0.97			1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1687		1583	1749	1784			3533			3500	
Flt Permitted	0.70		1.00	0.95	1.00			1.00			0.52	
Satd. Flow (perm)	1252		1583	1749	1784			3533			1850	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	52	0	311	14	64	16	0	1114	7	137	474	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	0	311	14	80	0	0	1121	0	0	611	0
Confl. Peds. (#/hr)	40		9	9		40	20		40	40		20
Confl. Bikes (#/hr)									4			2
Turn Type	custom		custom	Perm						pm+pt		
Protected Phases			4 5		8			6		5	2	
Permitted Phases	4			8						2		
Actuated Green, G (s)	29.0		43.0	29.0	29.0			46.0			60.0	
Effective Green, g (s)	29.0		38.0	29.0	29.0			46.0			60.0	
Actuated g/C Ratio	0.29		0.38	0.29	0.29			0.46			0.60	
Clearance Time (s)	6.0			6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	363		602	507	517			1625			1259	
v/s Ratio Prot			c0.20		0.04			c0.32			c0.04	
v/s Ratio Perm	0.04			0.01							0.25	
v/c Ratio	0.14		0.52	0.03	0.15			0.69			0.49	
Uniform Delay, d1	26.3		23.9	25.4	26.4			21.4			11.3	
Progression Factor	1.00		1.00	1.08	1.11			0.28			0.38	
Incremental Delay, d2	0.8		3.1	0.1	0.6			1.6			1.3	
Delay (s)	27.1		27.1	27.6	29.9			7.5			5.5	
Level of Service	C		C	C	C			A			A	
Approach Delay (s)		27.1			29.6			7.5			5.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	112.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	1205	1642	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				2.0	58.0	
Lane Util. Factor				0.91	0.91	
Frpb, ped/bikes				1.00	0.99	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	0.99	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5085	5000	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5085	5000	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1268	1728	87
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1268	1815	0
Confl. Peds. (#/hr)	9	2	103			103
Confl. Bikes (#/hr)		1				1
Turn Type			Perm			
Protected Phases				2	6	
Permitted Phases			2			
Actuated Green, G (s)				100.0	100.0	
Effective Green, g (s)				100.0	100.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				2.0	58.0	
Lane Grp Cap (vph)				5085	5000	
v/s Ratio Prot				0.25	c0.36	
v/s Ratio Perm						
v/c Ratio				0.25	0.36	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.1	0.1	
Delay (s)				0.1	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.1	0.1	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	892	3	0	1594	0	0	1188	160	0	575	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Util. Factor		0.91			0.91			0.95	1.00		0.95	1.00
Frpb, ped/bikes		1.00			1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	1.00
Frt		1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)		5082			5085			3539	1539		3539	1529
Flt Permitted		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)		5082			5085			3539	1539		3539	1529
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	939	3	0	1678	0	0	1251	168	0	605	298
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	1	0	0	24
Lane Group Flow (vph)	0	942	0	0	1678	0	0	1251	167	0	605	274
Confl. Peds. (#/hr)	95		29	29		95	33		24	24		33
Confl. Bikes (#/hr)			4			1			2			2
Turn Type							Perm		Perm			Perm
Protected Phases		2			6			4			8	
Permitted Phases							4		4			8
Actuated Green, G (s)		42.0			42.0			46.0	46.0		46.0	46.0
Effective Green, g (s)		42.0			42.0			46.0	46.0		46.0	46.0
Actuated g/C Ratio		0.42			0.42			0.46	0.46		0.46	0.46
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Grp Cap (vph)		2134			2136			1628	708		1628	703
v/s Ratio Prot		0.19			c0.33			c0.35			0.17	
v/s Ratio Perm									0.11			0.18
v/c Ratio		0.44			0.79			0.77	0.24		0.37	0.39
Uniform Delay, d1		20.6			25.1			22.6	16.4		17.6	17.8
Progression Factor		1.00			1.06			0.61	0.52		1.00	1.00
Incremental Delay, d2		0.7			2.8			2.8	0.6		0.7	1.6
Delay (s)		21.3			29.5			16.5	9.1		18.2	19.4
Level of Service		C			C			B	A		B	B
Approach Delay (s)		21.3			29.5			15.6			18.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1044	8	8	1027	3	1	0	1	5	0	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1099	8	8	1081	3	1	0	1	5	0	7
Pedestrians					13			26			14	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					1			2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		601										
pX, platoon unblocked				0.79			0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	1110			1121			1704	2255	568	1684	2253	581
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1110			624			1360	2058	568	1335	2055	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 %	99			99			99	100	100	94	100	99
cM capacity (veh/h)	611			745			78	41	456	84	41	838

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1	NW 2
Volume Total	554	558	549	544	2	5	7
Volume Left	4	0	8	0	1	5	0
Volume Right	0	8	0	3	1	0	7
cSH	611	1700	745	1700	133	84	838
Volume to Capacity	0.01	0.33	0.01	0.32	0.02	0.06	0.01
Queue Length 95th (ft)	1	0	1	0	1	5	1
Control Delay (s)	0.2	0.0	0.3	0.0	32.4	50.9	9.3
Lane LOS	A		A		D	F	A
Approach Delay (s)	0.1		0.2		32.4	26.6	
Approach LOS					D	D	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	1128	8	28	1099
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	1187	8	29	1157
Pedestrians	36					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	3					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			266			
pX, platoon unblocked	0.78	0.78			0.78	
vC, conflicting volume	1865	634			1232	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1543	0			730	
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			96	
cM capacity (veh/h)	76	819			657	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	792	404	415	771
Volume Left	0	0	0	29	0
Volume Right	0	0	8	0	0
cSH	1700	1700	1700	657	1700
Volume to Capacity	0.00	0.47	0.24	0.04	0.45
Queue Length 95th (ft)	0	0	0	4	0
Control Delay (s)	0.0	0.0	0.0	1.3	0.0
Lane LOS	A			A	
Approach Delay (s)	0.0	0.0		0.5	
Approach LOS	A				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	6	19	88	1345	711	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	20	93	1416	748	40
Pedestrians	53				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	4				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1716	447	841			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1716	447	841			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	96	88			
cM capacity (veh/h)	68	534	755			

Direction, Lane #	SB 1	SB 2	SE 1	SE 2	NW 1	NW 2
Volume Total	6	20	565	944	499	289
Volume Left	6	0	93	0	0	0
Volume Right	0	20	0	0	0	40
cSH	68	534	755	1700	1700	1700
Volume to Capacity	0.09	0.04	0.12	0.56	0.29	0.17
Queue Length 95th (ft)	7	3	10	0	0	0
Control Delay (s)	63.4	12.0	3.2	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	24.3		1.2		0.0	
Approach LOS	C					

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	188	43	46	168	67	0	1605	60	0	1166	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.97			0.93			0.98			0.99	
Flpb, ped/bikes	0.96	1.00			0.98			1.00			1.00	
Frt	1.00	0.97			0.97			0.99			0.99	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1701	1748			1628			4963			5005	
Flt Permitted	0.36	1.00			0.89			1.00			1.00	
Satd. Flow (perm)	637	1748			1465			4963			5005	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	56	198	45	48	177	71	0	1689	63	0	1227	43
RTOR Reduction (vph)	0	4	0	0	12	0	0	4	0	0	3	0
Lane Group Flow (vph)	56	239	0	0	284	0	0	1748	0	0	1267	0
Confl. Peds. (#/hr)	210		132	132		210	312		576	576		312
Confl. Bikes (#/hr)			1			1						2
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.0	37.0			22.0			51.0			51.0	
Effective Green, g (s)	37.0	37.0			22.0			51.0			51.0	
Actuated g/C Ratio	0.37	0.37			0.22			0.51			0.51	
Clearance Time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Grp Cap (vph)	353	647			322			2531			2553	
v/s Ratio Prot	0.02	c0.14						c0.35			0.25	
v/s Ratio Perm	0.04				c0.19							
v/c Ratio	0.16	0.37			0.88			0.69			0.50	
Uniform Delay, d1	21.8	23.0			37.8			18.5			16.1	
Progression Factor	1.00	1.00			1.00			0.11			1.00	
Incremental Delay, d2	1.0	1.6			27.6			1.2			0.7	
Delay (s)	22.8	24.6			65.4			3.2			16.8	
Level of Service	C	C			E			A			B	
Approach Delay (s)		24.3			65.4			3.2			16.8	
Approach LOS		C			E			A			B	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	95.0%	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												
Volume (veh/h)	34	198	15	17	167	126	23	93	16	150	103	84
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	208	16	18	176	133	24	98	17	158	108	88
Pedestrians		66			28			26			172	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		6			2			2			14	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	480			250			793	822	262	824	772	480
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	480			160			741	773	173	775	719	480
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	96			99			82	60	98	0	59	81
cM capacity (veh/h)	927			1295			135	244	776	141	263	474

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	244	16	326	24	115	266	88
Volume Left	36	0	18	24	0	158	0
Volume Right	0	16	133	0	17	0	88
cSH	927	1700	1295	135	272	174	474
Volume to Capacity	0.04	0.01	0.01	0.18	0.42	1.53	0.19
Queue Length 95th (ft)	3	0	1	16	50	433	17
Control Delay (s)	1.7	0.0	0.6	37.5	27.6	314.4	14.3
Lane LOS	A		A	E	D	F	B
Approach Delay (s)	1.6		0.6	29.3		239.6	
Approach LOS				D		F	

Intersection Summary			
Average Delay	83.0		
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Volume (vph)	194	602	25	0	1588	0	0	1109	175	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			12.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		0.99			1.00			0.98			
Flpb, ped/bikes		1.00			1.00			1.00			
Frt		1.00			1.00			0.98			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3410			5085			4906			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3410			5085			4906			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	204	634	26	0	1672	0	0	1167	184	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	864	0	0	1672	0	0	1351	0	0	0
Confl. Peds. (#/hr)	15		104	142		359	359		142	104	
Confl. Bikes (#/hr)			3			9			4		
Turn Type	Split										
Protected Phases	8	8			2 10			6 14			
Permitted Phases											
Actuated Green, G (s)		38.0			52.0			45.0			
Effective Green, g (s)		38.0			50.0			43.0			
Actuated g/C Ratio		0.38			0.50			0.43			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		1296			2543			2110			
v/s Ratio Prot		c0.25			c0.33			0.28			
v/s Ratio Perm											
v/c Ratio		0.67			0.66			0.64			
Uniform Delay, d1		25.7			18.6			22.4			
Progression Factor		1.00			0.15			0.74			
Incremental Delay, d2		2.7			0.8			1.3			
Delay (s)		28.5			3.6			17.9			
Level of Service		C			A			B			
Approach Delay (s)		28.5			3.6			17.9		0.0	
Approach LOS		C			A			B		A	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	127.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	193	0	0	626	152
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	203	0	0	659	160
Pedestrians	192			3	2	
Lane Width (ft)	12.0			0.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	16			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				189	168	
pX, platoon unblocked						
vC, conflicting volume	933	604	1011			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	933	604	1011			
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	45	100			
cM capacity (veh/h)	222	371	572			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	203	439	380
Volume Left	0	0	0
Volume Right	203	0	160
cSH	371	1700	1700
Volume to Capacity	0.55	0.26	0.22
Queue Length 95th (ft)	79	0	0
Control Delay (s)	25.9	0.0	0.0
Lane LOS	D		
Approach Delay (s)	25.9	0.0	
Approach LOS	D		

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	749	0	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				9.0		10.0
Lane Util. Factor				0.88		0.95
Frt				0.85		1.00
Flt Protected				1.00		1.00
Satd. Flow (prot)				2787		3539
Flt Permitted				1.00		1.00
Satd. Flow (perm)				2787		3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	788	0	695
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	788	0	695
Turn Type				custom		
Protected Phases						4 6 7
Permitted Phases				3		
Actuated Green, G (s)				37.0		67.0
Effective Green, g (s)				37.0		65.0
Actuated g/C Ratio				0.37		0.65
Clearance Time (s)				9.0		
Lane Grp Cap (vph)				1031		2300
v/s Ratio Prot						c0.20
v/s Ratio Perm				c0.28		
v/c Ratio				0.76		0.30
Uniform Delay, d1				27.7		7.6
Progression Factor				0.84		0.52
Incremental Delay, d2				5.1		0.3
Delay (s)				28.4		4.3
Level of Service				C		A
Approach Delay (s)	0.0		28.4			4.3
Approach LOS	A		C			A

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Volume (vph)	188	662	52	0	1454	227	0	1216	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			12.0			5.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		0.99			0.97			1.00			
Flpb, ped/bikes		0.97			1.00			1.00			
Frt		0.99			0.98			1.00			
Flt Protected		0.96			1.00			1.00			
Satd. Flow (prot)		3307			4825			5085			
Flt Permitted		0.96			1.00			1.00			
Satd. Flow (perm)		3307			4825			5085			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	198	697	55	0	1531	239	0	1280	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	950	0	0	1770	0	0	1280	0	0	0
Confl. Peds. (#/hr)	29		77	220		322	322		220	77	
Confl. Bikes (#/hr)			1			4					
Turn Type	Perm										
Protected Phases		4			2 10			6 14			
Permitted Phases	4										
Actuated Green, G (s)		38.0			45.0			52.0			
Effective Green, g (s)		38.0			43.0			50.0			
Actuated g/C Ratio		0.38			0.43			0.50			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		1257			2075			2543			
v/s Ratio Prot					c0.37			0.25			
v/s Ratio Perm		0.29									
v/c Ratio		0.76			0.85			0.50			
Uniform Delay, d1		27.0			25.7			16.7			
Progression Factor		0.30			0.40			0.23			
Incremental Delay, d2		3.4			3.8			0.6			
Delay (s)		11.4			14.2			4.4			
Level of Service		B			B			A			
Approach Delay (s)		11.4			14.2			4.4		0.0	
Approach LOS		B			B			A		A	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	127.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	105	830	38	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	111	874	40	0	0
Pedestrians	31		253			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	3		21			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			166			237
pX, platoon unblocked						
vC, conflicting volume	1178	488			945	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1178	488			945	
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	78			100	
cM capacity (veh/h)	141	512			703	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	111	582	331
Volume Left	0	0	0
Volume Right	111	0	40
cSH	512	1700	1700
Volume to Capacity	0.22	0.34	0.19
Queue Length 95th (ft)	20	0	0
Control Delay (s)	14.0	0.0	0.0
Lane LOS	B		
Approach Delay (s)	14.0	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	111	733	0	0	0	0	0	0	0	600	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0								9.0	
Lane Util. Factor		1.00	0.88								0.95	
Frpb, ped/bikes		1.00	0.95								1.00	
Flpb, ped/bikes		1.00	1.00								1.00	
Frt		1.00	0.85								1.00	
Flt Protected		1.00	1.00								1.00	
Satd. Flow (prot)		1863	2649								3534	
Flt Permitted		1.00	1.00								1.00	
Satd. Flow (perm)		1863	2649								3534	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	117	772	0	0	0	0	0	0	0	632	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	117	772	0	0	0	0	0	0	0	637	0
Confl. Peds. (#/hr)	1		34	34		1	8		1	1		8
Confl. Bikes (#/hr)			1									4
Turn Type			custom									
Protected Phases		1 3 9										
Permitted Phases			1 2 3								2	
Actuated Green, G (s)		47.0	67.0								37.0	
Effective Green, g (s)		35.0	58.0								37.0	
Actuated g/C Ratio		0.35	0.58								0.37	
Clearance Time (s)											9.0	
Lane Grp Cap (vph)		652	1536								1308	
v/s Ratio Prot		c0.06										
v/s Ratio Perm			c0.29								0.18	
v/c Ratio		0.18	0.50								0.49	
Uniform Delay, d1		22.5	12.4								24.2	
Progression Factor		0.94	0.46								1.00	
Incremental Delay, d2		0.4	0.9								1.3	
Delay (s)		21.7	6.7								25.5	
Level of Service		C	A								C	
Approach Delay (s)		8.6			0.0			0.0			25.5	
Approach LOS		A			A			A			C	

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	102	96	5	39	40	6	138	683	69	45	1123	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		1.00			0.99			0.99			0.99	
Flt Protected		0.98			0.98			0.99			1.00	
Satd. Flow (prot)		1794			1791			3461			3484	
Flt Permitted		0.80			0.73			0.54			0.88	
Satd. Flow (perm)		1480			1338			1866			3059	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	107	101	5	41	42	6	145	719	73	47	1182	104
RTOR Reduction (vph)	0	1	0	0	3	0	0	6	0	0	6	0
Lane Group Flow (vph)	0	212	0	0	86	0	0	931	0	0	1327	0
Confl. Peds. (#/hr)	11		12	12		11	6		23	23		6
Confl. Bikes (#/hr)			1									1
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		8			4		5	2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		15.0			15.0			75.0			64.0	
Effective Green, g (s)		15.0			15.0			75.0			64.0	
Actuated g/C Ratio		0.15			0.15			0.75			0.64	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		222			201			1495			1958	
v/s Ratio Prot								c0.04				
v/s Ratio Perm		c0.14			0.06			0.43			c0.43	
v/c Ratio		0.96			0.43			0.62			0.68	
Uniform Delay, d1		42.2			38.6			5.9			11.4	
Progression Factor		1.00			1.00			1.00			0.98	
Incremental Delay, d2		49.9			6.6			2.0			0.9	
Delay (s)		92.1			45.2			7.8			12.1	
Level of Service		F			D			A			B	
Approach Delay (s)		92.1			45.2			7.8			12.1	
Approach LOS		F			D			A			B	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	133.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	72	16	32	198	18	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	76	17	34	208	19	68

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	93	242	87
Volume Left (vph)	0	34	19
Volume Right (vph)	17	0	68
Hadj (s)	-0.08	0.06	-0.39
Departure Headway (s)	4.3	4.3	4.2
Degree Utilization, x	0.11	0.29	0.10
Capacity (veh/h)	814	817	785
Control Delay (s)	7.8	9.0	7.7
Approach Delay (s)	7.8	9.0	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	8.5		
HCM Level of Service	A		
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												
Volume (vph)	34	178	4	226	302	2	6	620	119	10	538	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		0.93	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1745	1853		1638	1861			3430			3485	
Flt Permitted	0.40	1.00		0.59	1.00			0.95			0.94	
Satd. Flow (perm)	741	1853		1021	1861			3262			3272	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	36	187	4	238	318	2	6	653	125	11	566	29
RTOR Reduction (vph)	0	1	0	0	0	0	0	15	0	0	3	0
Lane Group Flow (vph)	36	190	0	238	320	0	0	769	0	0	603	0
Confl. Peds. (#/hr)	26		104	104		26	148		55	55		148
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	31.0	31.0		31.0	31.0			57.0			57.0	
Effective Green, g (s)	31.0	31.0		31.0	31.0			57.0			57.0	
Actuated g/C Ratio	0.31	0.31		0.31	0.31			0.57			0.57	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)	230	574		317	577			1859			1865	
v/s Ratio Prot		0.10			0.17							
v/s Ratio Perm	0.05			c0.23				c0.24			0.18	
v/c Ratio	0.16	0.33		0.75	0.55			0.41			0.32	
Uniform Delay, d1	25.0	26.5		31.0	28.7			12.1			11.3	
Progression Factor	1.00	1.00		0.56	0.54			1.43			1.31	
Incremental Delay, d2	1.4	1.5		13.9	3.5			0.6			0.4	
Delay (s)	26.5	28.1		31.3	18.9			17.8			15.3	
Level of Service	C	C		C	B			B			B	
Approach Delay (s)		27.8			24.2			17.8			15.3	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.9%	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												
Volume (vph)	63	230	91	59	261	100	0	1718	67	63	1113	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.99			0.99			1.00	
Flpb, ped/bikes	0.98	1.00		0.97	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.96			0.99			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1741	1748		1719	1762			5029			5020	
Flt Permitted	0.27	1.00		0.33	1.00			1.00			0.72	
Satd. Flow (perm)	490	1748		602	1762			5029			3608	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	66	242	96	62	275	105	0	1808	71	66	1172	44
RTOR Reduction (vph)	0	15	0	0	0	0	0	4	0	0	4	0
Lane Group Flow (vph)	66	323	0	62	380	0	0	1875	0	0	1278	0
Confl. Peds. (#/hr)	33		52	52		33	266		151	151		266
Confl. Bikes (#/hr)			2			1			11			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.0	27.0		27.0	27.0			62.0			62.0	
Effective Green, g (s)	27.0	27.0		27.0	27.0			62.0			62.0	
Actuated g/C Ratio	0.27	0.27		0.27	0.27			0.62			0.62	
Clearance Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	132	472		163	476			3118			2237	
v/s Ratio Prot		0.19			c0.22			c0.37				
v/s Ratio Perm	0.13			0.10							0.35	
v/c Ratio	0.50	0.69		0.38	0.80			0.60			0.57	
Uniform Delay, d1	30.8	32.7		29.7	34.0			11.5			11.2	
Progression Factor	0.94	0.96		1.00	1.00			1.10			1.85	
Incremental Delay, d2	12.5	7.6		6.6	13.1			0.8			0.9	
Delay (s)	41.6	38.9		36.3	47.0			13.5			21.6	
Level of Service	D	D		D	D			B			C	
Approach Delay (s)		39.3			45.5			13.5			21.6	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	111.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (veh/h)	35	881	1211	44	42	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	37	927	1275	46	44	20
Pedestrians		23	31		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	3		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			856			
pX, platoon unblocked	0.64				0.64	0.64
vC, conflicting volume	1331				1876	694
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	404				1252	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				54	97
cM capacity (veh/h)	734				97	678

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	SW 1
Volume Total	346	618	850	471	64
Volume Left	37	0	0	0	44
Volume Right	0	0	0	46	20
cSH	734	1700	1700	1700	132
Volume to Capacity	0.05	0.36	0.50	0.28	0.49
Queue Length 95th (ft)	4	0	0	0	56
Control Delay (s)	1.6	0.0	0.0	0.0	55.6
Lane LOS	A				F
Approach Delay (s)	0.6		0.0		55.6
Approach LOS					F

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	35	707	95	3	1589	132	85	7	77	14	37	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		0.99			0.99			1.00	0.67		0.99	
Flpb, ped/bikes		1.00			1.00			0.98	1.00		0.94	
Frt		0.98			0.99			1.00	0.85		0.96	
Flt Protected		1.00			1.00			0.96	1.00		0.99	
Satd. Flow (prot)		3448			3474			1747	1062		1650	
Flt Permitted		0.67			0.95			0.69	1.00		0.94	
Satd. Flow (perm)		2327			3314			1267	1062		1574	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	744	100	3	1673	139	89	7	81	15	39	22
RTOR Reduction (vph)	0	10	0	0	6	0	0	0	57	0	12	0
Lane Group Flow (vph)	0	871	0	0	1809	0	0	96	24	0	64	0
Confl. Peds. (#/hr)	43		28	28		43	14		265	265		14
Turn Type	Perm			Perm			Perm		custom	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8		4	4		
Actuated Green, G (s)		58.0			58.0			30.0	30.0		30.0	
Effective Green, g (s)		58.0			58.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.58			0.58			0.30	0.30		0.30	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Grp Cap (vph)		1350			1922			380	319		472	
v/s Ratio Prot												
v/s Ratio Perm		0.37			c0.55			c0.08	0.02		0.04	
v/c Ratio		0.65			0.94			0.25	0.08		0.14	
Uniform Delay, d1		14.1			19.4			26.5	25.1		25.5	
Progression Factor		0.86			1.55			1.00	1.00		1.00	
Incremental Delay, d2		2.2			9.9			1.6	0.5		0.6	
Delay (s)		14.3			40.0			28.1	25.5		26.1	
Level of Service		B			D			C	C		C	
Approach Delay (s)		14.3			40.0			26.9			26.1	
Approach LOS		B			D			C			C	

Intersection Summary			
HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	1424	0	0	311	0
Sign Control	Yield		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1499	0	0	327	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh)						
Upstream signal (ft)			187			
pX, platoon unblocked						
vC, conflicting volume	327	164	327			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	327	164	327			
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	0	100			
cM capacity (veh/h)	642	852	1229			

Direction, Lane #	EB 1	EB 2	SW 1	SW 2
Volume Total	749	749	164	164
Volume Left	0	0	0	0
Volume Right	749	749	0	0
cSH	852	852	1700	1700
Volume to Capacity	0.88	0.88	0.10	0.10
Queue Length 95th (ft)	288	288	0	0
Control Delay (s)	31.2	31.2	0.0	0.0
Lane LOS	D	D		
Approach Delay (s)	31.2		0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	25.6		
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	SBL	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1144	592	0	842	358	0	1216	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		0.96			1.00	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3381			3539	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3381			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1204	623	0	886	377	0	1280	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1204	623	0	1263	0	0	1280	0
Confl. Peds. (#/hr)	166			166						
Turn Type				Prot						
Protected Phases			4	4		6			6	
Permitted Phases										
Actuated Green, G (s)			51.0	51.0		35.0			35.0	
Effective Green, g (s)			51.0	51.0		35.0			35.0	
Actuated g/C Ratio			0.51	0.51		0.35			0.35	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2545	807		1183			1239	
v/s Ratio Prot			0.24	c0.39		c0.37			0.36	
v/s Ratio Perm										
v/c Ratio			0.47	0.77		1.07			1.03	
Uniform Delay, d1			15.8	19.8		32.5			32.5	
Progression Factor			0.85	0.86		0.95			0.47	
Incremental Delay, d2			0.6	7.1		43.4			18.2	
Delay (s)			14.2	24.0		74.3			33.4	
Level of Service			B	C		E			C	
Approach Delay (s)	0.0		17.5			74.3			33.4	
Approach LOS	A		B			E			C	

Intersection Summary			
HCM Average Control Delay	38.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	167.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (veh/h)	263	0	0	0	0	1394
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	277	0	0	0	0	1467
Pedestrians				18	18	
Lane Width (ft)				0.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				188		
pX, platoon unblocked						
vC, conflicting volume			295		295	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			295		295	174
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	0
cM capacity (veh/h)			1245		662	826

Direction, Lane #	NB 1	NB 2	NW 1	NW 2
Volume Total	138	138	734	734
Volume Left	0	0	0	0
Volume Right	0	0	734	734
cSH	1700	1700	826	826
Volume to Capacity	0.08	0.08	0.89	0.89
Queue Length 95th (ft)	0	0	295	295
Control Delay (s)	0.0	0.0	32.9	32.9
Lane LOS			D	D
Approach Delay (s)	0.0		32.9	
Approach LOS			D	

Intersection Summary			
Average Delay	27.7		
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1467	190	0	811	0	0	1216	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		1.00			0.99	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3539			3506	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3539			3506	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1544	200	0	854	0	0	1280	86
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1544	200	0	854	0	0	1366	0
Confl. Peds. (#/hr)	66			66						
Turn Type				Prot						
Protected Phases			8	8		2			2	
Permitted Phases										
Actuated Green, G (s)			51.0	51.0		35.0			35.0	
Effective Green, g (s)			51.0	51.0		35.0			35.0	
Actuated g/C Ratio			0.51	0.51		0.35			0.35	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2545	807		1239			1227	
v/s Ratio Prot			c0.31	0.13		0.24			c0.39	
v/s Ratio Perm										
v/c Ratio			0.61	0.25		0.69			1.11	
Uniform Delay, d1			17.4	13.7		27.8			32.5	
Progression Factor			0.92	0.92		0.47			0.85	
Incremental Delay, d2			1.1	0.7		0.3			62.5	
Delay (s)			17.0	13.4		13.3			90.3	
Level of Service			B	B		B			F	
Approach Delay (s)	0.0		16.6			13.3			90.3	
Approach LOS	A		B			B			F	

Intersection Summary			
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	167.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	0	137	80	0	412	0	901	38	450	892	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Util. Factor			1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00		0.99			1.00	
Flpb, ped/bikes			1.00	0.96		1.00		1.00			0.99	
Frt			0.86	1.00		0.85		0.99			0.99	
Flt Protected			1.00	0.95		1.00		1.00			0.98	
Satd. Flow (prot)			1611	1698		1583		3483			3436	
Flt Permitted			1.00	0.95		1.00		1.00			0.51	
Satd. Flow (perm)			1611	1698		1583		3483			1783	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	144	84	0	434	0	948	40	474	939	71
RTOR Reduction (vph)	0	0	124	0	0	25	0	3	0	0	4	0
Lane Group Flow (vph)	0	0	20	84	0	409	0	985	0	0	1480	0
Confl. Peds. (#/hr)				19					199	199		
Turn Type			custom	custom		custom				pm+pt		
Protected Phases						1		2		1	6	
Permitted Phases			4	4		4				6		
Actuated Green, G (s)			14.0	14.0		38.0		44.0			73.0	
Effective Green, g (s)			14.0	14.0		38.0		44.0			73.0	
Actuated g/C Ratio			0.14	0.14		0.38		0.44			0.73	
Clearance Time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Grp Cap (vph)			226	238		681		1533			1698	
v/s Ratio Prot						c0.14		0.28			c0.21	
v/s Ratio Perm			0.01	0.05		0.11					c0.43	
v/c Ratio			0.09	0.35		0.60		0.64			0.87	
Uniform Delay, d1			37.4	38.9		24.9		21.9			10.0	
Progression Factor			1.00	1.00		1.00		1.00			1.35	
Incremental Delay, d2			0.8	4.1		3.9		2.1			2.3	
Delay (s)			38.2	43.0		28.8		23.9			15.8	
Level of Service			D	D		C		C			B	
Approach Delay (s)		38.2			31.1			23.9			15.8	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBR	EBR2	NBL	NBR	NWL2	NWL
Lane Configurations						
Volume (veh/h)	944	12	10	13	13	1395
Sign Control	Free		Stop			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	994	13	11	14	14	1468
Pedestrians	204		6			181
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	17		1			15
Right turn flare (veh)						
Median type	None					None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1972	690	1012	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1972	690	1012	
tC, single (s)			6.8	6.9	4.1	
tC, 2 stage (s)						
tF (s)			3.5	3.3	2.2	
p0 queue free %			76	96	98	
cM capacity (veh/h)			44	327	677	

Direction, Lane #	EB 1	EB 2	NB 1	NW 1	NW 2
Volume Total	662	344	24	503	979
Volume Left	0	0	11	14	0
Volume Right	0	13	14	0	0
cSH	1700	1700	86	677	1700
Volume to Capacity	0.39	0.20	0.28	0.02	0.58
Queue Length 95th (ft)	0	0	26	2	0
Control Delay (s)	0.0	0.0	62.3	0.6	0.0
Lane LOS			F	A	
Approach Delay (s)	0.0		62.3	0.2	
Approach LOS			F		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SEL	SET
Lane Configurations												
Volume (vph)	2	46	0	151	5	7	134	0	42	5	4	471
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0					6.0				6.0
Lane Util. Factor			0.95					0.95				0.95
Frpb, ped/bikes			0.92					0.98				0.99
Flpb, ped/bikes			0.99					0.96				1.00
Frt			0.89					0.96				0.99
Flt Protected			0.99					0.96				1.00
Satd. Flow (prot)			2819					3068				3470
Flt Permitted			0.83					0.67				0.95
Satd. Flow (perm)			2361					2142				3287
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	48	0	159	5	7	141	0	44	5	4	496
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	214	0	0	0	0	197	0	0	0	551
Confl. Peds. (#/hr)	32	27		16	21	16	21		32	27	16	
Confl. Bikes (#/hr)				1						1		
Turn Type	Perm	Perm				Perm	Perm				Perm	
Protected Phases			8					4				2
Permitted Phases	8	8				4	4				2	
Actuated Green, G (s)			23.0					23.0				45.0
Effective Green, g (s)			23.0					23.0				45.0
Actuated g/C Ratio			0.23					0.23				0.45
Clearance Time (s)			6.0					6.0				6.0
Lane Grp Cap (vph)			543					493				1479
v/s Ratio Prot												
v/s Ratio Perm			0.09					c0.09				0.17
v/c Ratio			0.39					0.40				0.37
Uniform Delay, d1			32.6					32.6				18.2
Progression Factor			1.00					1.00				0.86
Incremental Delay, d2			2.1					2.4				0.6
Delay (s)			34.7					35.1				16.3
Level of Service			C					D				B
Approach Delay (s)			34.7					35.1				16.3
Approach LOS			C					D				B

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER2	NWL	NWT	NWR2
Lane Configurations				
Volume (vph)	48	133	931	34
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			6.0	
Lane Util. Factor			0.95	
Frpb, ped/bikes			1.00	
Flpb, ped/bikes			1.00	
Frt			1.00	
Flt Protected			0.99	
Satd. Flow (prot)			3492	
Flt Permitted			0.70	
Satd. Flow (perm)			2467	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95
Adj. Flow (vph)	51	140	980	36
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	1156	0
Confl. Peds. (#/hr)	32	32		16
Confl. Bikes (#/hr)				1
Turn Type		pm+pt		
Protected Phases		1	6	
Permitted Phases		6		
Actuated Green, G (s)			65.0	
Effective Green, g (s)			65.0	
Actuated g/C Ratio			0.65	
Clearance Time (s)			6.0	
Lane Grp Cap (vph)			1747	
v/s Ratio Prot			c0.09	
v/s Ratio Perm			c0.34	
v/c Ratio			0.66	
Uniform Delay, d1			10.7	
Progression Factor			0.34	
Incremental Delay, d2			1.8	
Delay (s)			5.4	
Level of Service			A	
Approach Delay (s)			5.4	
Approach LOS			A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	17	0	131	16	48	25	0	507	9	0	1090	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00			1.00			0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.98		1.00	0.99	1.00			1.00			1.00	
Frt	1.00		0.85	1.00	0.95			1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1731		1583	1747	1747			1857			3539	
Flt Permitted	0.71		1.00	0.95	1.00			1.00			1.00	
Satd. Flow (perm)	1288		1583	1747	1747			1857			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	18	0	138	17	51	26	0	534	9	0	1147	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	0	138	17	77	0	0	543	0	0	1147	0
Confl. Peds. (#/hr)	21		11	11		21	21		24	24		21
Confl. Bikes (#/hr)						1			3			2
Turn Type	custom		custom	Perm						pm+pt		
Protected Phases			4 5		8			6		5	2	
Permitted Phases	4			8						2		
Actuated Green, G (s)	26.0		36.0	26.0	26.0			53.0			63.0	
Effective Green, g (s)	26.0		36.0	26.0	26.0			53.0			63.0	
Actuated g/C Ratio	0.26		0.36	0.26	0.26			0.53			0.63	
Clearance Time (s)	6.0			6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	335		570	454	454			984			2230	
v/s Ratio Prot			c0.09		0.04			c0.29			c0.32	
v/s Ratio Perm	0.01			0.01								
v/c Ratio	0.05		0.24	0.04	0.17			0.55			0.51	
Uniform Delay, d1	27.8		22.4	27.6	28.6			15.6			10.1	
Progression Factor	1.00		1.00	0.99	0.99			1.30			0.35	
Incremental Delay, d2	0.3		1.0	0.2	0.8			2.1			0.7	
Delay (s)	28.1		23.4	27.5	29.2			22.3			4.3	
Level of Service	C		C	C	C			C			A	
Approach Delay (s)		24.0			28.9			22.3			4.3	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	1527	1151	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				2.0	71.0	
Lane Util. Factor				0.91	0.91	
Frpb, ped/bikes				1.00	0.99	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	0.99	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5085	4995	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5085	4995	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1607	1212	100
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1607	1312	0
Confl. Peds. (#/hr)	4	1	39			39
Confl. Bikes (#/hr)						2
Turn Type			Perm			
Protected Phases				2	6	
Permitted Phases			2			
Actuated Green, G (s)				100.0	100.0	
Effective Green, g (s)				100.0	100.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				2.0	71.0	
Lane Grp Cap (vph)				5085	4995	
v/s Ratio Prot				c0.32	0.26	
v/s Ratio Perm						
v/c Ratio				0.32	0.26	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.1	0.1	
Delay (s)				0.1	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.1	0.1	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	1067	8	0	1175	0	0	491	162	0	1047	404
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Util. Factor		0.91			0.91			0.95	1.00		0.95	1.00
Frpb, ped/bikes		1.00			1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	1.00
Frt		1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)		5078			5085			3539	1534		3539	1537
Flt Permitted		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)		5078			5085			3539	1534		3539	1537
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1123	8	0	1237	0	0	517	171	0	1102	425
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	1	0	0	1
Lane Group Flow (vph)	0	1131	0	0	1237	0	0	517	170	0	1102	424
Confl. Peds. (#/hr)	52		38	38		52	33		38	38		33
Confl. Bikes (#/hr)						1						2
Turn Type							Perm		Perm			Perm
Protected Phases		2			6			4			8	
Permitted Phases							4		4			8
Actuated Green, G (s)		29.0			29.0			59.0	59.0		59.0	59.0
Effective Green, g (s)		29.0			29.0			59.0	59.0		59.0	59.0
Actuated g/C Ratio		0.29			0.29			0.59	0.59		0.59	0.59
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Grp Cap (vph)		1473			1475			2088	905		2088	907
v/s Ratio Prot		0.22			c0.24			0.15			c0.31	
v/s Ratio Perm									0.11			0.28
v/c Ratio		0.77			0.84			0.25	0.19		0.53	0.47
Uniform Delay, d1		32.4			33.3			9.8	9.5		12.2	11.6
Progression Factor		1.00			0.88			0.44	0.44		1.00	1.00
Incremental Delay, d2		3.9			5.8			0.3	0.4		1.0	1.7
Delay (s)		36.3			35.2			4.6	4.6		13.2	13.3
Level of Service		D			D			A	A		B	B
Approach Delay (s)		36.3			35.2			4.6			13.2	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	23.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	137.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1022	10	8	996	0	2	0	3	5	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1076	11	8	1048	0	2	0	3	5	0	6
Pedestrians					5			52			41	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			4			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		598										
pX, platoon unblocked				0.80			0.80	0.80		0.80	0.80	0.80
vC, conflicting volume	1100			1127			1675	2253	576	1675	2248	589
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1100			673			1353	2072	576	1353	2065	4
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 %	99			99			97	100	99	93	100	99
cM capacity (veh/h)	603			710			77	39	440	78	39	834

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1	NW 2
Volume Total	542	548	533	524	5	5	6
Volume Left	4	0	8	0	2	5	0
Volume Right	0	11	0	0	3	0	6
cSH	603	1700	710	1700	152	78	834
Volume to Capacity	0.01	0.32	0.01	0.31	0.03	0.07	0.01
Queue Length 95th (ft)	1	0	1	0	3	5	1
Control Delay (s)	0.2	0.0	0.3	0.0	29.6	54.7	9.3
Lane LOS	A		A		D	F	A
Approach Delay (s)	0.1		0.2		29.6	30.0	
Approach LOS					D	D	

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	6	1109	0	1	1102
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	6	1167	0	1	1160
Pedestrians	98					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	8					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			263			
pX, platoon unblocked	0.79	0.79			0.79	
vC, conflicting volume	1847	682			1265	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1546	76			812	
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	99			100	
cM capacity (veh/h)	76	706			590	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	6	778	389	388	773
Volume Left	0	0	0	1	0
Volume Right	6	0	0	0	0
cSH	706	1700	1700	590	1700
Volume to Capacity	0.01	0.46	0.23	0.00	0.45
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	10.1	0.0	0.0	0.1	0.0
Lane LOS	B			A	
Approach Delay (s)	10.1	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBR	WBR2	SBL	SBR	SEL2	SEL
Lane Configurations						
Volume (veh/h)	1342	13	31	85	11	898
Sign Control	Free		Stop			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1413	14	33	89	12	945
Pedestrians			137			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			4.0			
Percent Blockage			11			
Right turn flare (veh)						
Median type	None					None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			2052	850	1563	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2052	850	1563	
tC, single (s)			6.8	6.9	4.1	
tC, 2 stage (s)						
tF (s)			3.5	3.3	2.2	
p0 queue free %			21	67	97	
cM capacity (veh/h)			41	269	371	

Direction, Lane #	WB 1	WB 2	SB 1	SB 2	SE 1	SE 2
Volume Total	942	485	33	89	327	630
Volume Left	0	0	33	0	12	0
Volume Right	0	14	0	89	0	0
cSH	1700	1700	41	269	371	1700
Volume to Capacity	0.55	0.29	0.79	0.33	0.03	0.37
Queue Length 95th (ft)	0	0	75	35	2	0
Control Delay (s)	0.0	0.0	228.0	24.9	1.1	0.0
Lane LOS			F	C	A	
Approach Delay (s)	0.0		79.2		0.4	
Approach LOS			F			

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	221	106	62	150	65	0	953	30	0	2032	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.96			0.95			0.99			1.00	
Flpb, ped/bikes	0.97	1.00			0.99			1.00			1.00	
Frt	1.00	0.95			0.97			1.00			1.00	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1709	1710			1671			5011			5059	
Flt Permitted	0.40	1.00			0.82			1.00			1.00	
Satd. Flow (perm)	717	1710			1389			5011			5059	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	59	233	112	65	158	68	0	1003	32	0	2139	23
RTOR Reduction (vph)	0	0	0	0	11	0	0	4	0	0	1	0
Lane Group Flow (vph)	59	345	0	0	280	0	0	1032	0	0	2161	0
Confl. Peds. (#/hr)	160		75	75		160	314		311	311		314
Confl. Bikes (#/hr)						1			2			2
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.0	38.0			23.0			50.0			50.0	
Effective Green, g (s)	38.0	38.0			23.0			50.0			50.0	
Actuated g/C Ratio	0.38	0.38			0.23			0.50			0.50	
Clearance Time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Grp Cap (vph)	382	650			319			2506			2530	
v/s Ratio Prot	0.02	c0.20						0.21			c0.43	
v/s Ratio Perm	0.04				c0.20							
v/c Ratio	0.15	0.53			0.88			0.41			0.85	
Uniform Delay, d1	21.1	24.1			37.2			15.7			21.8	
Progression Factor	1.00	1.00			1.00			0.87			1.00	
Incremental Delay, d2	0.9	3.1			27.2			0.5			3.9	
Delay (s)	22.0	27.2			64.4			14.1			25.7	
Level of Service	C	C			E			B			C	
Approach Delay (s)		26.4			64.4			14.1			25.7	
Approach LOS		C			E			B			C	

Intersection Summary			
HCM Average Control Delay	25.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	96.4%	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												
Volume (veh/h)	32	205	18	124	211	86	19	78	27	86	78	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	34	216	19	131	222	91	20	82	28	91	82	49
Pedestrians		43			25			36			130	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		4			2			3			11	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	443			271			981	1023	277	1036	997	440
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	443			171			939	984	178	998	956	440
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	97			90			80	52	96	0	54	91
cM capacity (veh/h)	996			1262			101	172	760	89	179	530

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	249	19	443	20	111	173	49
Volume Left	34	0	131	20	0	91	0
Volume Right	0	19	91	0	28	0	49
cSH	996	1700	1262	101	215	117	530
Volume to Capacity	0.03	0.01	0.10	0.20	0.51	1.48	0.09
Queue Length 95th (ft)	3	0	9	17	66	306	8
Control Delay (s)	1.5	0.0	3.1	49.4	38.3	321.5	12.5
Lane LOS	A		A	E	E	F	B
Approach Delay (s)	1.4		3.1	40.0		252.7	
Approach LOS				E		F	

Intersection Summary			
Average Delay	59.3		
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Volume (vph)	256	746	4	0	997	0	0	1805	308	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			12.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		1.00			1.00			0.98			
Flpb, ped/bikes		1.00			1.00			1.00			
Frt		1.00			1.00			0.98			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3439			5085			4889			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3439			5085			4889			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	269	785	4	0	1049	0	0	1900	324	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1058	0	0	1049	0	0	2224	0	0	0
Confl. Peds. (#/hr)	8	189	93	189		172	172		189	93	172
Confl. Bikes (#/hr)			4			1			2		1
Turn Type	Split										
Protected Phases	8	8			2 10			6 14			
Permitted Phases											
Actuated Green, G (s)		28.0			62.0			55.0			
Effective Green, g (s)		28.0			60.0			53.0			
Actuated g/C Ratio		0.28			0.60			0.53			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		963			3051			2591			
v/s Ratio Prot		c0.31			0.21			c0.45			
v/s Ratio Perm											
v/c Ratio		1.10			0.34			0.86			
Uniform Delay, d1		36.0			10.1			20.3			
Progression Factor		0.38			0.28			0.15			
Incremental Delay, d2		55.5			0.2			2.1			
Delay (s)		69.3			3.1			5.2			
Level of Service		E			A			A			
Approach Delay (s)		69.3			3.1			5.2		0.0	
Approach LOS		E			A			A		A	

Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	141.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	164	0	0	944	148
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	173	0	0	994	156
Pedestrians	148			1	1	
Lane Width (ft)	12.0			0.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	12			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				152	168	
pX, platoon unblocked						
vC, conflicting volume	1221	724	1297			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1221	724	1297			
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	47	100			
cM capacity (veh/h)	151	323	465			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	173	662	487
Volume Left	0	0	0
Volume Right	173	0	156
cSH	323	1700	1700
Volume to Capacity	0.53	0.39	0.29
Queue Length 95th (ft)	74	0	0
Control Delay (s)	28.3	0.0	0.0
Lane LOS	D		
Approach Delay (s)	28.3	0.0	
Approach LOS	D		

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	566	0	928
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				9.0		10.0
Lane Util. Factor				0.88		0.95
Frt				0.85		1.00
Flt Protected				1.00		1.00
Satd. Flow (prot)				2787		3539
Flt Permitted				1.00		1.00
Satd. Flow (perm)				2787		3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	596	0	977
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	596	0	977
Turn Type				custom		
Protected Phases						4 6 7
Permitted Phases				3		
Actuated Green, G (s)				27.0		67.0
Effective Green, g (s)				27.0		65.0
Actuated g/C Ratio				0.27		0.65
Clearance Time (s)				9.0		
Lane Grp Cap (vph)				752		2300
v/s Ratio Prot						c0.28
v/s Ratio Perm				c0.21		
v/c Ratio				0.79		0.42
Uniform Delay, d1				33.9		8.5
Progression Factor				1.62		0.59
Incremental Delay, d2				7.6		0.3
Delay (s)				62.4		5.3
Level of Service				E		A
Approach Delay (s)	0.0		62.4			5.3
Approach LOS	A		E			A

Intersection Summary			
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Volume (vph)	166	525	59	0	859	155	0	2007	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			12.0			5.0			
Lane Util. Factor		0.97			0.95			0.91			
Frpb, ped/bikes		1.00			0.99			1.00			
Flpb, ped/bikes		0.98			1.00			1.00			
Frt		0.99			0.98			1.00			
Flt Protected		0.96			1.00			1.00			
Satd. Flow (prot)		3348			3415			5085			
Flt Permitted		0.96			1.00			1.00			
Satd. Flow (perm)		3348			3415			5085			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	175	553	62	0	904	163	0	2113	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	790	0	0	1067	0	0	2113	0	0	0
Confl. Peds. (#/hr)	16		31	153		124	124		153	31	
Confl. Bikes (#/hr)			1						2		
Turn Type	Perm										
Protected Phases		4			2 10			6 14			
Permitted Phases	4										
Actuated Green, G (s)		28.0			55.0			62.0			
Effective Green, g (s)		28.0			53.0			60.0			
Actuated g/C Ratio		0.28			0.53			0.60			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		937			1810			3051			
v/s Ratio Prot					0.31			c0.42			
v/s Ratio Perm		0.24									
v/c Ratio		0.84			0.59			0.69			
Uniform Delay, d1		33.9			16.1			13.7			
Progression Factor		0.37			0.61			0.15			
Incremental Delay, d2		7.5			1.2			0.6			
Delay (s)		20.0			11.0			2.7			
Level of Service		C			B			A			
Approach Delay (s)		20.0			11.0			2.7		0.0	
Approach LOS		C			B			A		A	

Intersection Summary			
HCM Average Control Delay	8.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	141.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	71	607	94	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	75	639	99	0	0
Pedestrians	19		158			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	2		13			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			166			198
pX, platoon unblocked						
vC, conflicting volume	865	388			757	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	865	388			757	
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	88			100	
cM capacity (veh/h)	250	601			836	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	75	426	312
Volume Left	0	0	0
Volume Right	75	0	99
cSH	601	1700	1700
Volume to Capacity	0.12	0.25	0.18
Queue Length 95th (ft)	11	0	0
Control Delay (s)	11.8	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.8	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR	SWR2
Lane Configurations											
Volume (vph)	0	0	0	95	474	0	0	0	0	705	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				7.0	7.0					9.0	
Lane Util. Factor				1.00	0.88					0.88	
Frpb, ped/bikes				1.00	0.95					0.94	
Flpb, ped/bikes				1.00	1.00					1.00	
Frt				1.00	0.85					0.85	
Flt Protected				1.00	1.00					1.00	
Satd. Flow (prot)				1863	2649					2626	
Flt Permitted				1.00	1.00					1.00	
Satd. Flow (perm)				1863	2649					2626	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	100	499	0	0	0	0	742	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	100	499	0	0	0	0	743	0
Confl. Peds. (#/hr)	41				41	41					20
Confl. Bikes (#/hr)											1
Turn Type					custom					custom	
Protected Phases				1 3 9							
Permitted Phases					1 2 3					2	
Actuated Green, G (s)				57.0	77.0					27.0	
Effective Green, g (s)				45.0	68.0					27.0	
Actuated g/C Ratio				0.45	0.68					0.27	
Clearance Time (s)										9.0	
Lane Grp Cap (vph)				838	1801					709	
v/s Ratio Prot				c0.05							
v/s Ratio Perm					c0.19					c0.28	
v/c Ratio				0.12	0.28					1.05	
Uniform Delay, d1				16.0	6.3					36.5	
Progression Factor				0.85	0.49					1.00	
Incremental Delay, d2				0.2	0.3					47.0	
Delay (s)				13.8	3.4					83.5	
Level of Service				B	A					F	
Approach Delay (s)	0.0			5.1			0.0		83.5		
Approach LOS	A			A			A		F		

Intersection Summary			
HCM Average Control Delay	48.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	79	80	5	40	27	0	174	1371	61	13	583	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		1.00			1.00			0.99			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1796			1803			3493			3490	
Flt Permitted		0.83			0.77			0.64			0.89	
Satd. Flow (perm)		1530			1435			2232			3113	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	83	84	5	42	28	0	183	1443	64	14	614	43
RTOR Reduction (vph)	0	1	0	0	0	0	0	3	0	0	5	0
Lane Group Flow (vph)	0	171	0	0	70	0	0	1687	0	0	666	0
Confl. Peds. (#/hr)	14		6	6		14	25		15	15		25
Confl. Bikes (#/hr)			1									
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		8			4		5	2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		22.0			22.0			68.0			38.0	
Effective Green, g (s)		22.0			22.0			68.0			38.0	
Actuated g/C Ratio		0.22			0.22			0.68			0.38	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		337			316			1833			1183	
v/s Ratio Prot								c0.23				
v/s Ratio Perm		c0.11			0.05			c0.40			0.21	
v/c Ratio		0.51			0.22			0.92			0.56	
Uniform Delay, d1		34.2			32.0			13.7			24.5	
Progression Factor		1.00			1.00			1.00			1.01	
Incremental Delay, d2		5.4			1.6			9.1			1.8	
Delay (s)		39.6			33.6			22.7			26.5	
Level of Service		D			C			C			C	
Approach Delay (s)		39.6			33.6			22.7			26.5	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	107.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	124	6	16	117	10	115
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	131	6	17	123	11	121

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	137	140	132
Volume Left (vph)	0	17	11
Volume Right (vph)	6	0	121
Hadj (s)	0.01	0.06	-0.50
Departure Headway (s)	4.3	4.4	4.0
Degree Utilization, x	0.17	0.17	0.15
Capacity (veh/h)	800	783	838
Control Delay (s)	8.2	8.3	7.7
Approach Delay (s)	8.2	8.3	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	8.1		
HCM Level of Service	A		
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												
Volume (vph)	11	397	1	112	231	13	29	522	298	19	663	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1760	1862		1738	1846			3317			1829	
Flt Permitted	0.48	1.00		0.24	1.00			0.91			0.97	
Satd. Flow (perm)	889	1862		439	1846			3008			1771	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	12	418	1	118	243	14	31	549	314	20	698	68
RTOR Reduction (vph)	0	0	0	0	2	0	0	45	0	0	3	0
Lane Group Flow (vph)	12	419	0	118	255	0	0	849	0	0	783	0
Confl. Peds. (#/hr)	8		42	42		8	47		24	24		47
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.0	29.0		29.0	29.0			59.0			59.0	
Effective Green, g (s)	29.0	29.0		29.0	29.0			59.0			59.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29			0.59			0.59	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)	258	540		127	535			1775			1045	
v/s Ratio Prot		0.23			0.14							
v/s Ratio Perm	0.01			c0.27				0.28			c0.44	
v/c Ratio	0.05	0.78		0.93	0.48			0.48			0.75	
Uniform Delay, d1	25.5	32.5		34.5	29.2			11.7			15.1	
Progression Factor	1.00	1.00		1.19	1.20			0.63			0.57	
Incremental Delay, d2	0.3	10.5		54.2	2.4			0.8			4.6	
Delay (s)	25.9	43.0		95.4	37.5			8.1			13.1	
Level of Service	C	D		F	D			A			B	
Approach Delay (s)		42.5			55.7			8.1			13.1	
Approach LOS		D			E			A			B	

Intersection Summary			
HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	22	262	94	73	237	55	23	989	45	53	1809	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.91	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.98	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.97			0.99			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1737	1766		1743	1794			3501			5040	
Flt Permitted	0.36	1.00		0.24	1.00			0.84			0.85	
Satd. Flow (perm)	653	1766		445	1794			2955			4307	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	276	99	77	249	58	24	1041	47	56	1904	64
RTOR Reduction (vph)	0	8	0	0	0	0	0	3	0	0	3	0
Lane Group Flow (vph)	23	368	0	77	307	0	0	1109	0	0	2021	0
Confl. Peds. (#/hr)	29		29	29		29	151		77	77		151
Confl. Bikes (#/hr)			2			1			3			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.0	25.0		25.0	25.0			64.0			64.0	
Effective Green, g (s)	25.0	25.0		25.0	25.0			64.0			64.0	
Actuated g/C Ratio	0.25	0.25		0.25	0.25			0.64			0.64	
Clearance Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	163	442		111	449			1891			2756	
v/s Ratio Prot		c0.21			0.17							
v/s Ratio Perm	0.04			0.17				0.38			c0.47	
v/c Ratio	0.14	0.83		0.69	0.68			0.59			0.73	
Uniform Delay, d1	29.2	35.5		34.0	33.9			10.4			12.2	
Progression Factor	0.79	0.76		1.00	1.00			2.09			1.35	
Incremental Delay, d2	1.4	12.9		30.1	8.2			1.3			1.3	
Delay (s)	24.3	40.0		64.2	42.1			23.0			17.7	
Level of Service	C	D		E	D			C			B	
Approach Delay (s)		39.1			46.5			23.0			17.7	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	24.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	114.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (veh/h)	80	1488	616	38	26	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	84	1566	648	40	27	15
Pedestrians		7	16		7	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			856			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	695				1643	682
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	511				1676	495
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				56	96
cM capacity (veh/h)	850				62	418

Direction, Lane #	SE 1	SE 2	NW 1	SW 1
Volume Total	606	1044	688	42
Volume Left	84	0	0	27
Volume Right	0	0	40	15
cSH	850	1700	1700	88
Volume to Capacity	0.10	0.61	0.40	0.48
Queue Length 95th (ft)	8	0	0	51
Control Delay (s)	2.5	0.0	0.0	78.4
Lane LOS	A			F
Approach Delay (s)	0.9		0.0	78.4
Approach LOS				F

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	8	1510	54	3	736	33	26	2	32	2	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		0.99			1.00			1.00	0.94		0.99	
Flpb, ped/bikes		1.00			1.00			0.97	1.00		0.99	
Frt		0.99			0.99			1.00	0.85		0.96	
Flt Protected		1.00			1.00			0.96	1.00		0.99	
Satd. Flow (prot)		3499			3506			1729	1486		1746	
Flt Permitted		0.95			0.95			0.79	1.00		0.98	
Satd. Flow (perm)		3327			3328			1434	1486		1726	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	1589	57	3	775	35	27	2	34	2	11	5
RTOR Reduction (vph)	0	3	0	0	3	0	0	0	19	0	4	0
Lane Group Flow (vph)	0	1651	0	0	810	0	0	29	15	0	14	0
Confl. Peds. (#/hr)	28		95	95		28	12		32	32		12
Turn Type	Perm			Perm			Perm		custom	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8		4	4		
Actuated Green, G (s)		64.0			64.0			24.0	24.0		24.0	
Effective Green, g (s)		64.0			64.0			24.0	24.0		24.0	
Actuated g/C Ratio		0.64			0.64			0.24	0.24		0.24	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Grp Cap (vph)		2129			2130			344	357		414	
v/s Ratio Prot												
v/s Ratio Perm		c0.50			0.24			c0.02	0.01		0.01	
v/c Ratio		0.78			0.38			0.08	0.04		0.03	
Uniform Delay, d1		12.9			8.6			29.5	29.2		29.1	
Progression Factor		1.14			1.70			1.00	1.00		1.00	
Incremental Delay, d2		1.8			0.5			0.5	0.2		0.2	
Delay (s)		16.5			15.1			30.0	29.4		29.3	
Level of Service		B			B			C	C		C	
Approach Delay (s)		16.5			15.1			29.7			29.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	0	0	1680	263	0
Sign Control	Free		Yield		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	1768	277	0
Pedestrians	22					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None				None	
Median storage veh)						
Upstream signal (ft)	208					
pX, platoon unblocked						
vC, conflicting volume	277		277	160		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	277		277	160		
tC, single (s)	4.1		6.8	6.9		
tC, 2 stage (s)						
tF (s)	2.2		3.5	3.3		
p0 queue free %	100		100	0		
cM capacity (veh/h)	1283		690	856		

Direction, Lane #	SE 1	SE 2	SW 1	SW 2
Volume Total	884	884	138	138
Volume Left	0	0	0	0
Volume Right	884	884	0	0
cSH	856	856	1700	1700
Volume to Capacity	1.03	1.03	0.08	0.08
Queue Length 95th (ft)	501	501	0	0
Control Delay (s)	61.4	61.4	0.0	0.0
Lane LOS	F	F		
Approach Delay (s)	61.4		0.0	
Approach LOS	F			

Intersection Summary			
Average Delay	53.1		
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	SBL	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1433	510	0	878	396	0	1016	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		0.95			1.00	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3374			3539	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3374			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1508	537	0	924	417	0	1069	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1508	537	0	1341	0	0	1069	0
Confl. Peds. (#/hr)	84			84						
Turn Type				Prot						
Protected Phases			4	4		6			6	
Permitted Phases										
Actuated Green, G (s)			52.0	52.0		34.0			34.0	
Effective Green, g (s)			52.0	52.0		34.0			34.0	
Actuated g/C Ratio			0.52	0.52		0.34			0.34	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2595	823		1147			1203	
v/s Ratio Prot			0.30	c0.34		c0.40			0.30	
v/s Ratio Perm										
v/c Ratio			0.58	0.65		1.17			0.89	
Uniform Delay, d1			16.5	17.4		33.0			31.2	
Progression Factor			0.90	0.91		0.69			0.32	
Incremental Delay, d2			1.0	4.0		83.0			2.9	
Delay (s)			15.9	19.9		105.7			12.8	
Level of Service			B	B		F			B	
Approach Delay (s)	0.0		16.9			105.7			12.8	
Approach LOS	A		B			F			B	

Intersection Summary			
HCM Average Control Delay	42.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	166.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	843	282	0	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	887	297	0	0	0
Pedestrians	19					19
Lane Width (ft)	12.0					0.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	2					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						174
pX, platoon unblocked						
vC, conflicting volume	316	186			316	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	316	186			316	
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	0			100	
cM capacity (veh/h)	642	811			1221	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2
Volume Total	444	444	148	148
Volume Left	0	0	0	0
Volume Right	444	444	0	0
cSH	811	811	1700	1700
Volume to Capacity	0.55	0.55	0.09	0.09
Queue Length 95th (ft)	84	84	0	0
Control Delay (s)	14.7	14.7	0.0	0.0
Lane LOS	B	B		
Approach Delay (s)	14.7		0.0	
Approach LOS	B			

Intersection Summary			
Average Delay	11.0		
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	868	257	0	874	0	0	1016	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		1.00			0.99	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3539			3495	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3539			3495	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	914	271	0	920	0	0	1069	98
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	914	271	0	920	0	0	1167	0
Confl. Peds. (#/hr)	22			22						
Turn Type				Prot						
Protected Phases			8	8		2			2	
Permitted Phases										
Actuated Green, G (s)			52.0	52.0		34.0			34.0	
Effective Green, g (s)			52.0	52.0		34.0			34.0	
Actuated g/C Ratio			0.52	0.52		0.34			0.34	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2595	823		1203			1188	
v/s Ratio Prot			c0.18	0.17		0.26			c0.33	
v/s Ratio Perm										
v/c Ratio			0.35	0.33		0.76			0.98	
Uniform Delay, d1			14.1	13.9		29.4			32.7	
Progression Factor			0.87	0.87		0.41			0.99	
Incremental Delay, d2			0.4	1.1		0.4			20.5	
Delay (s)			12.6	13.1		12.4			52.9	
Level of Service			B	B		B			D	
Approach Delay (s)	0.0		12.7			12.4			52.9	
Approach LOS	A		B			B			D	

Intersection Summary			
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	166.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	0	23	43	0	352	0	1096	69	488	905	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Util. Factor			1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00		0.99			1.00	
Flpb, ped/bikes			1.00	0.96		1.00		1.00			1.00	
Frt			0.86	1.00		0.85		0.99			0.99	
Flt Protected			1.00	0.95		1.00		1.00			0.98	
Satd. Flow (prot)			1611	1701		1583		3489			3451	
Flt Permitted			1.00	0.95		1.00		1.00			0.52	
Satd. Flow (perm)			1611	1701		1583		3489			1826	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	24	45	0	371	0	1154	73	514	953	74
RTOR Reduction (vph)	0	0	21	0	0	30	0	4	0	0	4	0
Lane Group Flow (vph)	0	0	3	45	0	341	0	1223	0	0	1537	0
Confl. Peds. (#/hr)				18					65	65		
Turn Type			custom	custom		custom				pm+pt		
Protected Phases						1		2		1	6	
Permitted Phases			4	4		4				6		
Actuated Green, G (s)			14.0	14.0		36.0		46.0			73.0	
Effective Green, g (s)			14.0	14.0		36.0		46.0			73.0	
Actuated g/C Ratio			0.14	0.14		0.36		0.46			0.73	
Clearance Time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Grp Cap (vph)			226	238		649		1605			1690	
v/s Ratio Prot						c0.12		0.35			c0.20	
v/s Ratio Perm			0.00	0.03		0.10					c0.46	
v/c Ratio			0.01	0.19		0.53		0.76			1.07dl	
Uniform Delay, d1			37.1	38.0		25.3		22.4			10.9	
Progression Factor			1.00	1.00		1.00		1.00			2.82	
Incremental Delay, d2			0.1	1.8		3.0		3.5			5.3	
Delay (s)			37.2	39.7		28.3		25.9			35.9	
Level of Service			D	D		C		C			D	
Approach Delay (s)		37.2			29.5			25.9			35.9	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	31.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Volume (veh/h)	9	10	1418	9	0	914
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	11	1493	9	0	962
Pedestrians	12		37			110
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		3			9
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2027	873			1514	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2027	873			1514	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	96			100	
cM capacity (veh/h)	48	264			433	

Direction, Lane #	NB 1	SE 1	SE 2	NW 1	NW 2
Volume Total	20	995	507	321	641
Volume Left	9	0	0	0	0
Volume Right	11	0	9	0	0
cSH	84	1700	1700	433	1700
Volume to Capacity	0.24	0.59	0.30	0.00	0.38
Queue Length 95th (ft)	21	0	0	0	0
Control Delay (s)	60.6	0.0	0.0	0.0	0.0
Lane LOS	F				
Approach Delay (s)	60.6	0.0		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SEL	SET
Lane Configurations												
Volume (vph)	7	103	0	244	33	5	117	0	43	6	12	1063
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0					6.0				6.0
Lane Util. Factor			0.95					0.95				0.95
Frpb, ped/bikes			0.96					0.98				1.00
Flpb, ped/bikes			0.98					0.98				1.00
Frt			0.89					0.96				0.99
Flt Protected			0.99					0.97				1.00
Satd. Flow (prot)			2945					3141				3509
Flt Permitted			0.80					0.59				0.95
Satd. Flow (perm)			2389					1914				3324
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	7	108	0	257	35	5	123	0	45	6	13	1119
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	407	0	0	0	0	179	0	0	0	1173
Confl. Peds. (#/hr)	40	26		22	19	22	19		40	26	22	
Confl. Bikes (#/hr)				3					5	2		
Turn Type	Perm	Perm				Perm	Perm				Perm	
Protected Phases			8					4				2
Permitted Phases	8	8				4	4				2	
Actuated Green, G (s)			29.0					29.0				45.0
Effective Green, g (s)			29.0					29.0				45.0
Actuated g/C Ratio			0.29					0.29				0.45
Clearance Time (s)			6.0					6.0				6.0
Lane Grp Cap (vph)			693					555				1496
v/s Ratio Prot												
v/s Ratio Perm			c0.17					0.09				c0.35
v/c Ratio			0.59					0.32				0.78
Uniform Delay, d1			30.4					27.8				23.4
Progression Factor			1.00					1.00				0.70
Incremental Delay, d2			3.6					1.5				3.1
Delay (s)			34.0					29.3				19.5
Level of Service			C					C				B
Approach Delay (s)			34.0					29.3				19.5
Approach LOS			C					C				B

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER2	NWL	NWT	NWR2
Lane Configurations				
Volume (vph)	39	31	461	17
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			6.0	
Lane Util. Factor			0.95	
Frpb, ped/bikes			1.00	
Flpb, ped/bikes			1.00	
Frt			0.99	
Flt Protected			1.00	
Satd. Flow (prot)			3504	
Flt Permitted			0.78	
Satd. Flow (perm)			2753	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95
Adj. Flow (vph)	41	33	485	18
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	536	0
Confl. Peds. (#/hr)	40	40		22
Confl. Bikes (#/hr)	5			3
Turn Type		pm+pt		
Protected Phases		1	6	
Permitted Phases		6		
Actuated Green, G (s)			59.0	
Effective Green, g (s)			59.0	
Actuated g/C Ratio			0.59	
Clearance Time (s)			6.0	
Lane Grp Cap (vph)			1684	
v/s Ratio Prot			c0.03	
v/s Ratio Perm			0.16	
v/c Ratio			0.32	
Uniform Delay, d1			10.3	
Progression Factor			0.67	
Incremental Delay, d2			0.5	
Delay (s)			7.4	
Level of Service			A	
Approach Delay (s)			7.4	
Approach LOS			A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	49	0	295	13	61	15	0	1060	7	130	461	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.95		1.00	0.99	1.00			1.00			1.00	
Frt	1.00		0.85	1.00	0.97			1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1687		1583	1749	1784			3533			3501	
Flt Permitted	0.70		1.00	0.95	1.00			1.00			0.52	
Satd. Flow (perm)	1252		1583	1749	1784			3533			1851	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	52	0	311	14	64	16	0	1116	7	137	485	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	0	311	14	80	0	0	1123	0	0	622	0
Confl. Peds. (#/hr)	40		9	9		40	20		40	40		20
Confl. Bikes (#/hr)									4			2
Turn Type	custom		custom	Perm						pm+pt		
Protected Phases			4 5		8			6		5	2	
Permitted Phases	4			8						2		
Actuated Green, G (s)	29.0		43.0	29.0	29.0			46.0			60.0	
Effective Green, g (s)	29.0		38.0	29.0	29.0			46.0			60.0	
Actuated g/C Ratio	0.29		0.38	0.29	0.29			0.46			0.60	
Clearance Time (s)	6.0			6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	363		602	507	517			1625			1259	
v/s Ratio Prot			c0.20		0.04			c0.32			c0.04	
v/s Ratio Perm	0.04			0.01							0.25	
v/c Ratio	0.14		0.52	0.03	0.15			0.69			0.49	
Uniform Delay, d1	26.3		23.9	25.4	26.4			21.4			11.4	
Progression Factor	1.00		1.00	1.08	1.11			0.28			0.39	
Incremental Delay, d2	0.8		3.1	0.1	0.6			1.6			1.3	
Delay (s)	27.1		27.1	27.6	29.8			7.5			5.7	
Level of Service	C		C	C	C			A			A	
Approach Delay (s)		27.1			29.5			7.5			5.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	112.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	1205	1642	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				2.0	58.0	
Lane Util. Factor				0.91	0.91	
Frpb, ped/bikes				1.00	0.99	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	0.99	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5085	5000	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5085	5000	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1268	1728	87
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1268	1815	0
Confl. Peds. (#/hr)	9	2	103			103
Confl. Bikes (#/hr)		1				1
Turn Type			Perm			
Protected Phases				2	6	
Permitted Phases			2			
Actuated Green, G (s)				100.0	100.0	
Effective Green, g (s)				100.0	100.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				2.0	58.0	
Lane Grp Cap (vph)				5085	5000	
v/s Ratio Prot				0.25	c0.36	
v/s Ratio Perm						
v/c Ratio				0.25	0.36	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.1	0.1	
Delay (s)				0.1	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.1	0.1	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	892	3	0	1594	0	0	1190	160	0	586	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Util. Factor		0.91			0.91			0.95	1.00		0.95	1.00
Frpb, ped/bikes		1.00			1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	1.00
Frt		1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)		5082			5085			3539	1539		3539	1529
Flt Permitted		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)		5082			5085			3539	1539		3539	1529
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	939	3	0	1678	0	0	1253	168	0	617	298
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	1	0	0	24
Lane Group Flow (vph)	0	942	0	0	1678	0	0	1253	167	0	617	274
Confl. Peds. (#/hr)	95		29	29		95	33		24	24		33
Confl. Bikes (#/hr)			4			1			2			2
Turn Type							Perm		Perm			Perm
Protected Phases		2			6			4			8	
Permitted Phases							4		4			8
Actuated Green, G (s)		42.0			42.0			46.0	46.0		46.0	46.0
Effective Green, g (s)		42.0			42.0			46.0	46.0		46.0	46.0
Actuated g/C Ratio		0.42			0.42			0.46	0.46		0.46	0.46
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Grp Cap (vph)		2134			2136			1628	708		1628	703
v/s Ratio Prot		0.19			c0.33			c0.35			0.17	
v/s Ratio Perm									0.11			0.18
v/c Ratio		0.44			0.79			0.77	0.24		0.38	0.39
Uniform Delay, d1		20.6			25.1			22.6	16.4		17.7	17.8
Progression Factor		1.00			1.06			0.61	0.52		1.00	1.00
Incremental Delay, d2		0.7			2.8			2.8	0.6		0.7	1.6
Delay (s)		21.3			29.4			16.5	9.1		18.3	19.4
Level of Service		C			C			B	A		B	B
Approach Delay (s)		21.3			29.4			15.6			18.7	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	188	43	46	168	67	0	1611	60	0	1167	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Util. Factor	1.00	1.00			1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.97			0.93			0.98			0.99	
Flpb, ped/bikes	0.96	1.00			0.98			1.00			1.00	
Frt	1.00	0.97			0.97			0.99			0.99	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1701	1748			1628			4963			5005	
Flt Permitted	0.36	1.00			0.89			1.00			1.00	
Satd. Flow (perm)	637	1748			1465			4963			5005	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	56	198	45	48	177	71	0	1696	63	0	1228	43
RTOR Reduction (vph)	0	4	0	0	12	0	0	4	0	0	3	0
Lane Group Flow (vph)	56	239	0	0	284	0	0	1755	0	0	1268	0
Confl. Peds. (#/hr)	210		132	132		210	312		576	576		312
Confl. Bikes (#/hr)			1			1						2
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.0	37.0			22.0			51.0			51.0	
Effective Green, g (s)	37.0	37.0			22.0			51.0			51.0	
Actuated g/C Ratio	0.37	0.37			0.22			0.51			0.51	
Clearance Time (s)	4.0	7.0			7.0			5.0			5.0	
Lane Grp Cap (vph)	353	647			322			2531			2553	
v/s Ratio Prot	0.02	c0.14						c0.35			0.25	
v/s Ratio Perm	0.04				c0.19							
v/c Ratio	0.16	0.37			0.88			0.69			0.50	
Uniform Delay, d1	21.8	23.0			37.8			18.6			16.1	
Progression Factor	1.00	1.00			1.00			0.12			1.00	
Incremental Delay, d2	1.0	1.6			27.6			1.3			0.7	
Delay (s)	22.8	24.6			65.4			3.4			16.8	
Level of Service	C	C			E			A			B	
Approach Delay (s)		24.3			65.4			3.4			16.8	
Approach LOS		C			E			A			B	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	95.0%	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												
Volume (veh/h)	34	198	15	17	167	126	23	93	16	150	103	84
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	208	16	18	176	133	24	98	17	158	108	88
Pedestrians		66			28			26			172	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		6			2			2			14	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		329										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	480			250			793	822	262	824	772	480
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	480			160			741	773	173	775	719	480
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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 %	96			99			82	60	98	0	59	81
cM capacity (veh/h)	927			1295			135	244	776	141	263	474

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	244	16	326	24	115	266	88
Volume Left	36	0	18	24	0	158	0
Volume Right	0	16	133	0	17	0	88
cSH	927	1700	1295	135	272	174	474
Volume to Capacity	0.04	0.01	0.01	0.18	0.42	1.53	0.19
Queue Length 95th (ft)	3	0	1	16	50	433	17
Control Delay (s)	1.7	0.0	0.6	37.5	27.6	314.4	14.3
Lane LOS	A		A	E	D	F	B
Approach Delay (s)	1.6		0.6	29.3		239.6	
Approach LOS				D		F	

Intersection Summary			
Average Delay	83.0		
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Volume (vph)	194	605	31	0	1588	0	0	1109	176	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			12.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		0.99			1.00			0.98			
Flpb, ped/bikes		1.00			1.00			1.00			
Frt		0.99			1.00			0.98			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3402			5085			4905			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3402			5085			4905			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	204	637	33	0	1672	0	0	1167	185	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	874	0	0	1672	0	0	1352	0	0	0
Confl. Peds. (#/hr)	15		104	142		359	359		142	104	
Confl. Bikes (#/hr)			3			9			4		
Turn Type	Split										
Protected Phases	8	8			2 10			6 14			
Permitted Phases											
Actuated Green, G (s)		38.0			52.0			45.0			
Effective Green, g (s)		38.0			50.0			43.0			
Actuated g/C Ratio		0.38			0.50			0.43			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		1293			2543			2109			
v/s Ratio Prot		c0.26			c0.33			0.28			
v/s Ratio Perm											
v/c Ratio		0.68			0.66			0.64			
Uniform Delay, d1		25.9			18.6			22.4			
Progression Factor		1.00			0.15			0.74			
Incremental Delay, d2		2.8			0.8			1.3			
Delay (s)		28.7			3.6			18.0			
Level of Service		C			A			B			
Approach Delay (s)		28.7			3.6			18.0		0.0	
Approach LOS		C			A			B		A	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	128.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	193	0	0	630	152
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	203	0	0	663	160
Pedestrians	192			3	2	
Lane Width (ft)	12.0			0.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	16			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				189	168	
pX, platoon unblocked						
vC, conflicting volume	937	607	1015			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	937	607	1015			
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	45	100			
cM capacity (veh/h)	221	369	570			

Direction, Lane #	EB 1	SB 1	SB 2
Volume Total	203	442	381
Volume Left	0	0	0
Volume Right	203	0	160
cSH	369	1700	1700
Volume to Capacity	0.55	0.26	0.22
Queue Length 95th (ft)	80	0	0
Control Delay (s)	26.0	0.0	0.0
Lane LOS	D		
Approach Delay (s)	26.0	0.0	
Approach LOS	D		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	0	0	763	0	664
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				9.0		10.0
Lane Util. Factor				0.88		0.95
Frt				0.85		1.00
Flt Protected				1.00		1.00
Satd. Flow (prot)				2787		3539
Flt Permitted				1.00		1.00
Satd. Flow (perm)				2787		3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	803	0	699
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	803	0	699
Turn Type				custom		
Protected Phases						4 6 7
Permitted Phases				3		
Actuated Green, G (s)				37.0		67.0
Effective Green, g (s)				37.0		65.0
Actuated g/C Ratio				0.37		0.65
Clearance Time (s)				9.0		
Lane Grp Cap (vph)				1031		2300
v/s Ratio Prot						c0.20
v/s Ratio Perm				c0.29		
v/c Ratio				0.78		0.30
Uniform Delay, d1				27.9		7.6
Progression Factor				0.83		0.52
Incremental Delay, d2				5.5		0.3
Delay (s)				28.7		4.3
Level of Service				C		A
Approach Delay (s)	0.0		28.7			4.3
Approach LOS	A		C			A

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	42.0
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Volume (vph)	188	676	52	0	1454	227	0	1216	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			12.0			5.0			
Lane Util. Factor		0.97			0.91			0.91			
Frpb, ped/bikes		0.99			0.97			1.00			
Flpb, ped/bikes		0.97			1.00			1.00			
Frt		0.99			0.98			1.00			
Flt Protected		0.95			1.00			1.00			
Satd. Flow (prot)		3308			4825			5085			
Flt Permitted		0.95			1.00			1.00			
Satd. Flow (perm)		3308			4825			5085			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	198	712	55	0	1531	239	0	1280	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	965	0	0	1770	0	0	1280	0	0	0
Confl. Peds. (#/hr)	29		77	220		322	322		220	77	
Confl. Bikes (#/hr)			1			4					
Turn Type	Perm										
Protected Phases		4			2 10			6 14			
Permitted Phases	4										
Actuated Green, G (s)		38.0			45.0			52.0			
Effective Green, g (s)		38.0			43.0			50.0			
Actuated g/C Ratio		0.38			0.43			0.50			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		1257			2075			2543			
v/s Ratio Prot					c0.37			0.25			
v/s Ratio Perm		0.29									
v/c Ratio		0.77			0.85			0.50			
Uniform Delay, d1		27.1			25.7			16.7			
Progression Factor		0.29			0.41			0.23			
Incremental Delay, d2		3.5			3.8			0.6			
Delay (s)		11.5			14.2			4.4			
Level of Service		B			B			A			
Approach Delay (s)		11.5			14.2			4.4		0.0	
Approach LOS		B			B			A		A	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	128.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	105	844	38	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	111	888	40	0	0
Pedestrians	31		253			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	3		21			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			166			237
pX, platoon unblocked						
vC, conflicting volume	1192	495			959	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1192	495			959	
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	78			100	
cM capacity (veh/h)	138	507			694	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	111	592	336
Volume Left	0	0	0
Volume Right	111	0	40
cSH	507	1700	1700
Volume to Capacity	0.22	0.35	0.20
Queue Length 95th (ft)	21	0	0
Control Delay (s)	14.1	0.0	0.0
Lane LOS	B		
Approach Delay (s)	14.1	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	111	741	0	0	0	0	0	0	0	603	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0	7.0								9.0	
Lane Util. Factor		1.00	0.88								0.95	
Frpb, ped/bikes		1.00	0.95								1.00	
Flpb, ped/bikes		1.00	1.00								1.00	
Frt		1.00	0.85								1.00	
Flt Protected		1.00	1.00								1.00	
Satd. Flow (prot)		1863	2649								3534	
Flt Permitted		1.00	1.00								1.00	
Satd. Flow (perm)		1863	2649								3534	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	117	780	0	0	0	0	0	0	0	635	5
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	117	780	0	0	0	0	0	0	0	640	0
Confl. Peds. (#/hr)	1		34	34		1	8		1	1		8
Confl. Bikes (#/hr)			1									4
Turn Type			custom									
Protected Phases		1 3 9										
Permitted Phases			1 2 3								2	
Actuated Green, G (s)		47.0	67.0								37.0	
Effective Green, g (s)		35.0	58.0								37.0	
Actuated g/C Ratio		0.35	0.58								0.37	
Clearance Time (s)											9.0	
Lane Grp Cap (vph)		652	1536								1308	
v/s Ratio Prot		c0.06										
v/s Ratio Perm			c0.29								0.18	
v/c Ratio		0.18	0.51								0.49	
Uniform Delay, d1		22.5	12.5								24.2	
Progression Factor		0.93	0.45								1.00	
Incremental Delay, d2		0.4	0.9								1.3	
Delay (s)		21.5	6.6								25.5	
Level of Service		C	A								C	
Approach Delay (s)		8.5			0.0			0.0			25.5	
Approach LOS		A			A			A			C	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	102	96	5	39	40	6	138	686	69	45	1131	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		1.00			0.99			0.99			0.99	
Flt Protected		0.98			0.98			0.99			1.00	
Satd. Flow (prot)		1794			1791			3461			3485	
Flt Permitted		0.80			0.73			0.53			0.88	
Satd. Flow (perm)		1480			1338			1863			3059	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	107	101	5	41	42	6	145	722	73	47	1191	104
RTOR Reduction (vph)	0	1	0	0	3	0	0	6	0	0	6	0
Lane Group Flow (vph)	0	212	0	0	86	0	0	934	0	0	1336	0
Confl. Peds. (#/hr)	11		12	12		11	6		23	23		6
Confl. Bikes (#/hr)			1									1
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		8			4		5	2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		15.0			15.0			75.0			64.0	
Effective Green, g (s)		15.0			15.0			75.0			64.0	
Actuated g/C Ratio		0.15			0.15			0.75			0.64	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		222			201			1493			1958	
v/s Ratio Prot								c0.04				
v/s Ratio Perm		c0.14			0.06			0.43			c0.44	
v/c Ratio		0.96			0.43			0.63			0.68	
Uniform Delay, d1		42.2			38.6			5.9			11.5	
Progression Factor		1.00			1.00			1.00			0.98	
Incremental Delay, d2		49.9			6.6			2.0			0.9	
Delay (s)		92.1			45.2			7.9			12.2	
Level of Service		F			D			A			B	
Approach Delay (s)		92.1			45.2			7.9			12.2	
Approach LOS		F			D			A			B	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	133.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	72	16	32	198	18	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	76	17	34	208	19	68

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	93	242	87
Volume Left (vph)	0	34	19
Volume Right (vph)	17	0	68
Hadj (s)	-0.08	0.06	-0.39
Departure Headway (s)	4.3	4.3	4.2
Degree Utilization, x	0.11	0.29	0.10
Capacity (veh/h)	814	817	785
Control Delay (s)	7.8	9.0	7.7
Approach Delay (s)	7.8	9.0	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	8.5		
HCM Level of Service	A		
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												
Volume (vph)	34	178	4	226	302	2	6	634	119	10	542	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		0.93	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1745	1853		1638	1861			3432			3486	
Flt Permitted	0.40	1.00		0.59	1.00			0.95			0.94	
Satd. Flow (perm)	741	1853		1021	1861			3264			3271	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	36	187	4	238	318	2	6	667	125	11	571	29
RTOR Reduction (vph)	0	1	0	0	0	0	0	15	0	0	3	0
Lane Group Flow (vph)	36	190	0	238	320	0	0	783	0	0	608	0
Confl. Peds. (#/hr)	26		104	104		26	148		55	55		148
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	31.0	31.0		31.0	31.0			57.0			57.0	
Effective Green, g (s)	31.0	31.0		31.0	31.0			57.0			57.0	
Actuated g/C Ratio	0.31	0.31		0.31	0.31			0.57			0.57	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)	230	574		317	577			1860			1864	
v/s Ratio Prot		0.10			0.17							
v/s Ratio Perm	0.05			c0.23				c0.24			0.19	
v/c Ratio	0.16	0.33		0.75	0.55			0.42			0.33	
Uniform Delay, d1	25.0	26.5		31.0	28.7			12.2			11.4	
Progression Factor	1.00	1.00		0.56	0.54			1.40			1.31	
Incremental Delay, d2	1.4	1.5		13.9	3.5			0.6			0.5	
Delay (s)	26.5	28.1		31.3	18.9			17.7			15.4	
Level of Service	C	C		C	B			B			B	
Approach Delay (s)		27.8			24.2			17.7			15.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.9%	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												
Volume (vph)	63	230	91	59	261	100	0	1718	67	63	1113	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.91			0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.99			0.99			1.00	
Flpb, ped/bikes	0.98	1.00		0.97	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.96			0.99			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1741	1748		1719	1762			5029			5020	
Flt Permitted	0.27	1.00		0.33	1.00			1.00			0.72	
Satd. Flow (perm)	490	1748		602	1762			5029			3608	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	66	242	96	62	275	105	0	1808	71	66	1172	44
RTOR Reduction (vph)	0	15	0	0	0	0	0	4	0	0	4	0
Lane Group Flow (vph)	66	323	0	62	380	0	0	1875	0	0	1278	0
Confl. Peds. (#/hr)	33		52	52		33	266		151	151		266
Confl. Bikes (#/hr)			2			1			11			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.0	27.0		27.0	27.0			62.0			62.0	
Effective Green, g (s)	27.0	27.0		27.0	27.0			62.0			62.0	
Actuated g/C Ratio	0.27	0.27		0.27	0.27			0.62			0.62	
Clearance Time (s)	6.0	6.0		6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	132	472		163	476			3118			2237	
v/s Ratio Prot		0.19			c0.22			c0.37				
v/s Ratio Perm	0.13			0.10							0.35	
v/c Ratio	0.50	0.69		0.38	0.80			0.60			0.57	
Uniform Delay, d1	30.8	32.7		29.7	34.0			11.5			11.2	
Progression Factor	0.95	0.96		1.00	1.00			1.10			1.85	
Incremental Delay, d2	12.5	7.6		6.6	13.1			0.8			0.9	
Delay (s)	41.7	39.1		36.3	47.0			13.5			21.7	
Level of Service	D	D		D	D			B			C	
Approach Delay (s)		39.5			45.5			13.5			21.7	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM Average Control Delay	22.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	111.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (veh/h)	35	884	1219	44	42	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	37	931	1283	46	44	20
Pedestrians		23	31		10	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	3		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			856			
pX, platoon unblocked	0.64				0.64	0.64
vC, conflicting volume	1339				1886	698
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	394				1252	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				54	97
cM capacity (veh/h)	734				96	672

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	SW 1
Volume Total	347	620	855	474	64
Volume Left	37	0	0	0	44
Volume Right	0	0	0	46	20
cSH	734	1700	1700	1700	131
Volume to Capacity	0.05	0.36	0.50	0.28	0.49
Queue Length 95th (ft)	4	0	0	0	57
Control Delay (s)	1.6	0.0	0.0	0.0	56.4
Lane LOS	A				F
Approach Delay (s)	0.6		0.0		56.4
Approach LOS					F

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	35	710	95	3	1597	132	85	7	77	14	37	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		0.99			0.99			1.00	0.67		0.99	
Flpb, ped/bikes		1.00			1.00			0.98	1.00		0.94	
Frt		0.98			0.99			1.00	0.85		0.96	
Flt Protected		1.00			1.00			0.96	1.00		0.99	
Satd. Flow (prot)		3449			3474			1747	1062		1650	
Flt Permitted		0.67			0.95			0.69	1.00		0.94	
Satd. Flow (perm)		2320			3315			1267	1062		1574	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	747	100	3	1681	139	89	7	81	15	39	22
RTOR Reduction (vph)	0	10	0	0	6	0	0	0	57	0	12	0
Lane Group Flow (vph)	0	874	0	0	1817	0	0	96	24	0	64	0
Confl. Peds. (#/hr)	43		28	28		43	14		265	265		14
Turn Type	Perm			Perm			Perm		custom	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8		4	4		
Actuated Green, G (s)		58.0			58.0			30.0	30.0		30.0	
Effective Green, g (s)		58.0			58.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.58			0.58			0.30	0.30		0.30	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Grp Cap (vph)		1346			1923			380	319		472	
v/s Ratio Prot												
v/s Ratio Perm		0.38			c0.55			c0.08	0.02		0.04	
v/c Ratio		0.65			0.94			0.25	0.08		0.14	
Uniform Delay, d1		14.2			19.5			26.5	25.1		25.5	
Progression Factor		0.86			1.55			1.00	1.00		1.00	
Incremental Delay, d2		2.2			10.2			1.6	0.5		0.6	
Delay (s)		14.4			40.4			28.1	25.5		26.1	
Level of Service		B			D			C	C		C	
Approach Delay (s)		14.4			40.4			26.9			26.1	
Approach LOS		B			D			C			C	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	1427	0	0	329	0
Sign Control	Yield		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1502	0	0	346	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh)						
Upstream signal (ft)			187			
pX, platoon unblocked						
vC, conflicting volume	346	173	346			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	346	173	346			
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	0	100			
cM capacity (veh/h)	624	840	1209			

Direction, Lane #	EB 1	EB 2	SW 1	SW 2
Volume Total	751	751	173	173
Volume Left	0	0	0	0
Volume Right	751	751	0	0
cSH	840	840	1700	1700
Volume to Capacity	0.89	0.89	0.10	0.10
Queue Length 95th (ft)	303	303	0	0
Control Delay (s)	33.3	33.3	0.0	0.0
Lane LOS	D	D		
Approach Delay (s)	33.3		0.0	
Approach LOS	D			

Intersection Summary			
Average Delay	27.1		
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	SBL	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1147	610	0	850	358	0	1222	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		0.96			1.00	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3382			3539	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3382			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1207	642	0	895	377	0	1286	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1207	642	0	1272	0	0	1286	0
Confl. Peds. (#/hr)	166			166						
Turn Type				Prot						
Protected Phases			4	4		6			6	
Permitted Phases										
Actuated Green, G (s)			51.0	51.0		35.0			35.0	
Effective Green, g (s)			51.0	51.0		35.0			35.0	
Actuated g/C Ratio			0.51	0.51		0.35			0.35	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2545	807		1184			1239	
v/s Ratio Prot			0.24	c0.41		c0.38			0.36	
v/s Ratio Perm										
v/c Ratio			0.47	0.80		1.07			1.04	
Uniform Delay, d1			15.8	20.2		32.5			32.5	
Progression Factor			0.85	0.85		0.95			0.47	
Incremental Delay, d2			0.6	8.0		45.8			20.1	
Delay (s)			14.1	25.2		76.6			35.2	
Level of Service			B	C		E			D	
Approach Delay (s)	0.0		17.9			76.6			35.2	
Approach LOS	A		B			E			D	

Intersection Summary			
HCM Average Control Delay	39.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	169.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (veh/h)	266	0	0	0	0	1418
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	280	0	0	0	0	1493
Pedestrians				18	18	
Lane Width (ft)				0.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				188		
pX, platoon unblocked						
vC, conflicting volume			298		298	176
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			298		298	176
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	0
cM capacity (veh/h)			1241		659	824

Direction, Lane #	NB 1	NB 2	NW 1	NW 2
Volume Total	140	140	746	746
Volume Left	0	0	0	0
Volume Right	0	0	746	746
cSH	1700	1700	824	824
Volume to Capacity	0.08	0.08	0.91	0.91
Queue Length 95th (ft)	0	0	314	314
Control Delay (s)	0.0	0.0	35.4	35.4
Lane LOS			E	E
Approach Delay (s)	0.0		35.4	
Approach LOS			E	

Intersection Summary			
Average Delay	29.8		
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	1491	193	0	819	0	0	1222	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0	7.0		7.0			7.0	
Lane Util. Factor			0.94	1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00			1.00	
Flpb, ped/bikes			1.00	1.00		1.00			1.00	
Frt			1.00	0.85		1.00			0.99	
Flt Protected			0.95	1.00		1.00			1.00	
Satd. Flow (prot)			4990	1583		3539			3505	
Flt Permitted			0.95	1.00		1.00			1.00	
Satd. Flow (perm)			4990	1583		3539			3505	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	1569	203	0	862	0	0	1286	88
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1569	203	0	862	0	0	1374	0
Confl. Peds. (#/hr)	66			66						
Turn Type				Prot						
Protected Phases			8	8		2			2	
Permitted Phases										
Actuated Green, G (s)			51.0	51.0		35.0			35.0	
Effective Green, g (s)			51.0	51.0		35.0			35.0	
Actuated g/C Ratio			0.51	0.51		0.35			0.35	
Clearance Time (s)			7.0	7.0		7.0			7.0	
Lane Grp Cap (vph)			2545	807		1239			1227	
v/s Ratio Prot			c0.31	0.13		0.24			c0.39	
v/s Ratio Perm										
v/c Ratio			0.62	0.25		0.70			1.12	
Uniform Delay, d1			17.5	13.8		27.9			32.5	
Progression Factor			0.92	0.92		0.47			0.86	
Incremental Delay, d2			1.1	0.7		0.3			65.0	
Delay (s)			17.2	13.5		13.4			93.0	
Level of Service			B	B		B			F	
Approach Delay (s)	0.0		16.8			13.4			93.0	
Approach LOS	A		B			B			F	

Intersection Summary			
HCM Average Control Delay	42.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	169.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	0	137	80	0	412	0	909	38	450	916	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Util. Factor			1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes			1.00	1.00		1.00		0.99			1.00	
Flpb, ped/bikes			1.00	0.96		1.00		1.00			0.99	
Frt			0.86	1.00		0.85		0.99			0.99	
Flt Protected			1.00	0.95		1.00		1.00			0.98	
Satd. Flow (prot)			1611	1698		1583		3484			3438	
Flt Permitted			1.00	0.95		1.00		1.00			0.51	
Satd. Flow (perm)			1611	1698		1583		3484			1783	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	144	84	0	434	0	957	40	474	964	71
RTOR Reduction (vph)	0	0	124	0	0	25	0	3	0	0	4	0
Lane Group Flow (vph)	0	0	20	84	0	409	0	994	0	0	1505	0
Confl. Peds. (#/hr)				19					199	199		
Turn Type			custom	custom		custom				pm+pt		
Protected Phases						1		2		1	6	
Permitted Phases			4	4		4				6		
Actuated Green, G (s)			14.0	14.0		38.0		44.0			73.0	
Effective Green, g (s)			14.0	14.0		38.0		44.0			73.0	
Actuated g/C Ratio			0.14	0.14		0.38		0.44			0.73	
Clearance Time (s)			5.0	5.0		5.0		5.0			5.0	
Lane Grp Cap (vph)			226	238		681		1533			1699	
v/s Ratio Prot						c0.14		0.29			c0.21	
v/s Ratio Perm			0.01	0.05		0.11					c0.43	
v/c Ratio			0.09	0.35		0.60		0.65			0.89	
Uniform Delay, d1			37.4	38.9		24.9		21.9			10.3	
Progression Factor			1.00	1.00		1.00		1.00			1.34	
Incremental Delay, d2			0.8	4.1		3.9		2.1			2.4	
Delay (s)			38.2	43.0		28.8		24.1			16.3	
Level of Service			D	D		C		C			B	
Approach Delay (s)		38.2			31.1			24.1			16.3	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBR	EBR2	NBL	NBR	NWL2	NWL
Lane Configurations						
Volume (veh/h)	952	12	10	13	13	1398
Sign Control	Free		Stop			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1002	13	11	14	14	1472
Pedestrians	204		6			181
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	17		1			15
Right turn flare (veh)						
Median type	None					None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1982	694	1021	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1982	694	1021	
tC, single (s)			6.8	6.9	4.1	
tC, 2 stage (s)						
tF (s)			3.5	3.3	2.2	
p0 queue free %			76	96	98	
cM capacity (veh/h)			43	325	672	

Direction, Lane #	EB 1	EB 2	NB 1	NW 1	NW 2
Volume Total	668	347	24	504	981
Volume Left	0	0	11	14	0
Volume Right	0	13	14	0	0
cSH	1700	1700	85	672	1700
Volume to Capacity	0.39	0.20	0.28	0.02	0.58
Queue Length 95th (ft)	0	0	26	2	0
Control Delay (s)	0.0	0.0	63.4	0.6	0.0
Lane LOS			F	A	
Approach Delay (s)	0.0		63.4	0.2	
Approach LOS			F		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	NBL2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SEL	SET
Lane Configurations												
Volume (vph)	2	46	0	151	5	7	134	0	42	5	4	479
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0					6.0				6.0
Lane Util. Factor			0.95					0.95				0.95
Frpb, ped/bikes			0.92					0.98				0.99
Flpb, ped/bikes			0.99					0.96				1.00
Frt			0.89					0.96				0.99
Flt Protected			0.99					0.96				1.00
Satd. Flow (prot)			2819					3068				3471
Flt Permitted			0.83					0.67				0.95
Satd. Flow (perm)			2361					2142				3288
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	48	0	159	5	7	141	0	44	5	4	504
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	214	0	0	0	0	197	0	0	0	559
Confl. Peds. (#/hr)	32	27		16	21	16	21		32	27	16	
Confl. Bikes (#/hr)				1						1		
Turn Type	Perm	Perm				Perm	Perm				Perm	
Protected Phases			8					4				2
Permitted Phases	8	8				4	4				2	
Actuated Green, G (s)			23.0					23.0				45.0
Effective Green, g (s)			23.0					23.0				45.0
Actuated g/C Ratio			0.23					0.23				0.45
Clearance Time (s)			6.0					6.0				6.0
Lane Grp Cap (vph)			543					493				1480
v/s Ratio Prot												
v/s Ratio Perm			0.09					c0.09				0.17
v/c Ratio			0.39					0.40				0.38
Uniform Delay, d1			32.6					32.6				18.2
Progression Factor			1.00					1.00				0.87
Incremental Delay, d2			2.1					2.4				0.6
Delay (s)			34.7					35.1				16.4
Level of Service			C					D				B
Approach Delay (s)			34.7					35.1				16.4
Approach LOS			C					D				B

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SER2	NWL	NWT	NWR2
Lane Configurations				
Volume (vph)	48	133	934	34
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)			6.0	
Lane Util. Factor			0.95	
Frpb, ped/bikes			1.00	
Flpb, ped/bikes			1.00	
Frt			1.00	
Flt Protected			0.99	
Satd. Flow (prot)			3493	
Flt Permitted			0.70	
Satd. Flow (perm)			2457	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95
Adj. Flow (vph)	51	140	983	36
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	1159	0
Confl. Peds. (#/hr)	32	32		16
Confl. Bikes (#/hr)				1
Turn Type		pm+pt		
Protected Phases		1	6	
Permitted Phases		6		
Actuated Green, G (s)			65.0	
Effective Green, g (s)			65.0	
Actuated g/C Ratio			0.65	
Clearance Time (s)			6.0	
Lane Grp Cap (vph)			1742	
v/s Ratio Prot			c0.09	
v/s Ratio Perm			c0.34	
v/c Ratio			0.67	
Uniform Delay, d1			10.8	
Progression Factor			0.35	
Incremental Delay, d2			1.8	
Delay (s)			5.6	
Level of Service			A	
Approach Delay (s)			5.6	
Approach LOS			A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	17	0	131	16	48	25	0	515	9	0	1093	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0			5.0			5.0	
Lane Util. Factor	1.00		1.00	1.00	1.00			1.00			0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99			1.00			1.00	
Flpb, ped/bikes	0.98		1.00	0.99	1.00			1.00			1.00	
Frt	1.00		0.85	1.00	0.95			1.00			1.00	
Flt Protected	0.95		1.00	0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1731		1583	1747	1747			1857			3539	
Flt Permitted	0.71		1.00	0.95	1.00			1.00			1.00	
Satd. Flow (perm)	1288		1583	1747	1747			1857			3539	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	18	0	138	17	51	26	0	542	9	0	1151	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	0	138	17	77	0	0	551	0	0	1151	0
Confl. Peds. (#/hr)	21		11	11		21	21		24	24		21
Confl. Bikes (#/hr)						1			3			2
Turn Type	custom		custom	Perm						pm+pt		
Protected Phases			4 5		8			6		5	2	
Permitted Phases	4			8						2		
Actuated Green, G (s)	26.0		36.0	26.0	26.0			53.0			63.0	
Effective Green, g (s)	26.0		36.0	26.0	26.0			53.0			63.0	
Actuated g/C Ratio	0.26		0.36	0.26	0.26			0.53			0.63	
Clearance Time (s)	6.0			6.0	6.0			5.0			5.0	
Lane Grp Cap (vph)	335		570	454	454			984			2230	
v/s Ratio Prot			c0.09		0.04			c0.30			c0.33	
v/s Ratio Perm	0.01			0.01								
v/c Ratio	0.05		0.24	0.04	0.17			0.56			0.52	
Uniform Delay, d1	27.8		22.4	27.6	28.6			15.7			10.1	
Progression Factor	1.00		1.00	0.99	0.99			1.31			0.35	
Incremental Delay, d2	0.3		1.0	0.2	0.8			2.2			0.7	
Delay (s)	28.1		23.4	27.4	29.2			22.7			4.3	
Level of Service	C		C	C	C			C			A	
Approach Delay (s)		24.0			28.9			22.7			4.3	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	0	1527	1151	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				2.0	71.0	
Lane Util. Factor				0.91	0.91	
Frpb, ped/bikes				1.00	0.99	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	0.99	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5085	4995	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5085	4995	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	1607	1212	100
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1607	1312	0
Confl. Peds. (#/hr)	4	1	39			39
Confl. Bikes (#/hr)						2
Turn Type			Perm			
Protected Phases				2	6	
Permitted Phases			2			
Actuated Green, G (s)				100.0	100.0	
Effective Green, g (s)				100.0	100.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				2.0	71.0	
Lane Grp Cap (vph)				5085	4995	
v/s Ratio Prot				c0.32	0.26	
v/s Ratio Perm						
v/c Ratio				0.32	0.26	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.1	0.1	
Delay (s)				0.1	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.1	0.1	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	1067	8	0	1175	0	0	499	162	0	1050	404
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Util. Factor		0.91			0.91			0.95	1.00		0.95	1.00
Frpb, ped/bikes		1.00			1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	1.00
Frt		1.00			1.00			1.00	0.85		1.00	0.85
Flt Protected		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)		5078			5085			3539	1534		3539	1537
Flt Permitted		1.00			1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)		5078			5085			3539	1534		3539	1537
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1123	8	0	1237	0	0	525	171	0	1105	425
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	1	0	0	1
Lane Group Flow (vph)	0	1131	0	0	1237	0	0	525	170	0	1105	424
Confl. Peds. (#/hr)	52		38	38		52	33		38	38		33
Confl. Bikes (#/hr)						1						2
Turn Type							Perm		Perm			Perm
Protected Phases		2			6			4			8	
Permitted Phases							4		4			8
Actuated Green, G (s)		29.0			29.0			59.0	59.0		59.0	59.0
Effective Green, g (s)		29.0			29.0			59.0	59.0		59.0	59.0
Actuated g/C Ratio		0.29			0.29			0.59	0.59		0.59	0.59
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	6.0
Lane Grp Cap (vph)		1473			1475			2088	905		2088	907
v/s Ratio Prot		0.22			c0.24			0.15			c0.31	
v/s Ratio Perm									0.11			0.28
v/c Ratio		0.77			0.84			0.25	0.19		0.53	0.47
Uniform Delay, d1		32.4			33.3			9.9	9.5		12.2	11.6
Progression Factor		1.00			0.88			0.43	0.43		1.00	1.00
Incremental Delay, d2		3.9			5.8			0.3	0.4		1.0	1.7
Delay (s)		36.3			35.2			4.5	4.5		13.2	13.3
Level of Service		D			D			A	A		B	B
Approach Delay (s)		36.3			35.2			4.5			13.2	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	137.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 2030 Out Year Conditions with Alternative A
25: Nebraska Avenue & Driveway

AM Peak Hour

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1054	0	0	1080	3	1	0	1	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1109	0	0	1137	3	1	0	1	0	0	0
Pedestrians					13			26			14	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					1			2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1166			1123			1741	2296	596	1701	2298	582
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1166			1123			1741	2296	596	1701	2298	582
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 %	99			100			98	100	100	100	100	100
cM capacity (veh/h)	582			610			52	37	437	57	37	446

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	559	555	568	572	2	0
Volume Left	4	0	0	0	1	0
Volume Right	0	0	0	3	1	0
cSH	582	1700	610	1700	93	1700
Volume to Capacity	0.01	0.33	0.00	0.34	0.02	0.00
Queue Length 95th (ft)	1	0	0	0	2	0
Control Delay (s)	0.2	0.0	0.0	0.0	44.5	0.0
Lane LOS	A				E	A
Approach Delay (s)	0.1		0.0		44.5	0.0
Approach LOS					E	A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	7	10	1128	126	53	1099
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	7	11	1187	133	56	1157
Pedestrians	36					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	3					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1980	696			1356	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1980	696			1356	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	97			89	
cM capacity (veh/h)	46	373			488	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	18	792	528	441	771
Volume Left	7	0	0	56	0
Volume Right	11	0	133	0	0
cSH	95	1700	1700	488	1700
Volume to Capacity	0.19	0.47	0.31	0.11	0.45
Queue Length 95th (ft)	16	0	0	10	0
Control Delay (s)	51.3	0.0	0.0	3.4	0.0
Lane LOS	F			A	
Approach Delay (s)	51.3	0.0		1.2	
Approach LOS	F				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	7	20	0	1345	711	31
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	7	21	0	1416	748	33
Pedestrians	53				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	4				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1527	444	834			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1527	444	834			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	96	100			
cM capacity (veh/h)	103	537	760			

Direction, Lane #	SB 1	SB 2	SE 1	SE 2	NW 1	NW 2
Volume Total	7	21	472	944	499	282
Volume Left	7	0	0	0	0	0
Volume Right	0	21	0	0	0	33
cSH	103	537	760	1700	1700	1700
Volume to Capacity	0.07	0.04	0.00	0.56	0.29	0.17
Queue Length 95th (ft)	6	3	0	0	0	0
Control Delay (s)	42.5	12.0	0.0	0.0	0.0	0.0
Lane LOS	E	B				
Approach Delay (s)	19.9		0.0		0.0	
Approach LOS	C					

Intersection Summary				
Average Delay		0.3		
Intersection Capacity Utilization		47.2%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis 2030 Out Year Conditions with Alternative A
25: Nebraska Avenue & Driveway

PM Peak Hour

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1062	0	0	1008	0	2	0	3	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1118	0	0	1061	0	2	0	3	0	0	0
Pedestrians					5			52			41	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			4			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1113			1159			1685	2280	583	1701	2280	605
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1113			1159			1685	2280	583	1701	2280	605
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 %	99			100			96	100	99	100	100	100
cM capacity (veh/h)	596			578			55	36	436	53	36	424

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	563	559	531	531	5	0
Volume Left	4	0	0	0	2	0
Volume Right	0	0	0	0	3	0
cSH	596	1700	578	1700	115	1700
Volume to Capacity	0.01	0.33	0.00	0.31	0.05	0.00
Queue Length 95th (ft)	1	0	0	0	4	0
Control Delay (s)	0.2	0.0	0.0	0.0	37.8	0.0
Lane LOS	A				E	A
Approach Delay (s)	0.1		0.0		37.8	0.0
Approach LOS					E	A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	24	40	1109	31	12	1102
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	25	42	1167	33	13	1160
Pedestrians	98					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	8					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1887	698			1298	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1887	698			1298	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	55	88			97	
cM capacity (veh/h)	56	352			486	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	67	778	422	399	773
Volume Left	25	0	0	13	0
Volume Right	42	0	33	0	0
cSH	117	1700	1700	486	1700
Volume to Capacity	0.57	0.46	0.25	0.03	0.45
Queue Length 95th (ft)	70	0	0	2	0
Control Delay (s)	70.7	0.0	0.0	0.8	0.0
Lane LOS	F			A	
Approach Delay (s)	70.7	0.0		0.3	
Approach LOS	F				

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBR	WBR2	SBL	SBR	SEL
Lane Configurations					
Volume (veh/h)	1342	8	23	70	898
Sign Control	Free		Stop		Free
Grade	0%		0%		0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1413	8	24	74	945
Pedestrians			137		
Lane Width (ft)			12.0		
Walking Speed (ft/s)			4.0		
Percent Blockage			11		
Right turn flare (veh)					
Median type	None				None
Median storage veh)					
Upstream signal (ft)					
pX, platoon unblocked					
vC, conflicting volume			2026	848	
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol			2026	848	
tC, single (s)			6.8	6.9	
tC, 2 stage (s)					
tF (s)			3.5	3.3	
p0 queue free %			45	73	
cM capacity (veh/h)			44	270	

Direction, Lane #	WB 1	WB 2	SB 1	SB 2	SE 1	SE 2
Volume Total	942	479	24	74	315	630
Volume Left	0	0	24	0	0	0
Volume Right	0	8	0	74	0	0
cSH	1700	1700	44	270	373	1700
Volume to Capacity	0.55	0.28	0.55	0.27	0.00	0.37
Queue Length 95th (ft)	0	0	50	27	0	0
Control Delay (s)	0.0	0.0	158.6	23.2	0.0	0.0
Lane LOS			F	C		
Approach Delay (s)	0.0		56.7		0.0	
Approach LOS			F			

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1057	141	60	1027	3	1	0	1	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1113	148	63	1081	3	1	0	1	0	0	0
Pedestrians					13			26			14	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					1			2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1110			1275			1813	2518	568	1877	2446	658
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1110			1275			1813	2518	568	1877	2446	658
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 %	99			88			97	100	100	100	100	100
cM capacity (veh/h)	611			534			42	23	456	38	26	398

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	561	705	604	544	2	0
Volume Left	4	0	63	0	1	0
Volume Right	0	148	0	3	1	0
cSH	611	1700	534	1700	77	1700
Volume to Capacity	0.01	0.41	0.12	0.32	0.03	0.00
Queue Length 95th (ft)	1	0	10	0	2	0
Control Delay (s)	0.2	0.0	3.3	0.0	53.3	0.0
Lane LOS	A		A		F	A
Approach Delay (s)	0.1		1.7		53.3	0.0
Approach LOS					F	A

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	4	10	1272	0	0	1099
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	11	1339	0	0	1157
Pedestrians	36					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	3					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1953	705			1375	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1953	705			1375	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	97			100	
cM capacity (veh/h)	54	367			480	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	15	893	446	386	771
Volume Left	4	0	0	0	0
Volume Right	11	0	0	0	0
cSH	139	1700	1700	480	1700
Volume to Capacity	0.11	0.53	0.26	0.00	0.45
Queue Length 95th (ft)	9	0	0	0	0
Control Delay (s)	34.0	0.0	0.0	0.0	0.0
Lane LOS	D				
Approach Delay (s)	34.0	0.0		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	7	28	0	1345	711	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	7	29	0	1416	748	37
Pedestrians	53				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	4				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1529	446	838			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1529	446	838			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	94	100			
cM capacity (veh/h)	103	535	757			

Direction, Lane #	SB 1	SB 2	SE 1	SE 2	NW 1	NW 2
Volume Total	7	29	472	944	499	286
Volume Left	7	0	0	0	0	0
Volume Right	0	29	0	0	0	37
cSH	103	535	757	1700	1700	1700
Volume to Capacity	0.07	0.06	0.00	0.56	0.29	0.17
Queue Length 95th (ft)	6	4	0	0	0	0
Control Delay (s)	42.6	12.1	0.0	0.0	0.0	0.0
Lane LOS	E	B				
Approach Delay (s)	18.2		0.0		0.0	
Approach LOS	C					

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1067	34	14	996	0	2	0	3	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1123	36	15	1048	0	2	0	3	0	0	0
Pedestrians					5			52			41	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			4			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1100			1200			1705	2338	576	1747	2320	625
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1100			1200			1705	2338	576	1747	2320	625
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 %	99			97			96	100	99	100	100	100
cM capacity (veh/h)	603			558			52	32	440	48	33	411

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	566	597	539	524	5	0
Volume Left	4	0	15	0	2	0
Volume Right	0	36	0	0	3	0
cSH	603	1700	558	1700	110	1700
Volume to Capacity	0.01	0.35	0.03	0.31	0.05	0.00
Queue Length 95th (ft)	1	0	2	0	4	0
Control Delay (s)	0.2	0.0	0.8	0.0	39.4	0.0
Lane LOS	A		A		E	A
Approach Delay (s)	0.1		0.4		39.4	0.0
Approach LOS					E	A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	16	33	1155	0	0	1102
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	17	35	1216	0	0	1160
Pedestrians	98					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	8					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1894	706			1314	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1894	706			1314	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	90			100	
cM capacity (veh/h)	56	347			480	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	52	811	405	387	773
Volume Left	17	0	0	0	0
Volume Right	35	0	0	0	0
cSH	130	1700	1700	480	1700
Volume to Capacity	0.40	0.48	0.24	0.00	0.45
Queue Length 95th (ft)	42	0	0	0	0
Control Delay (s)	50.1	0.0	0.0	0.0	0.0
Lane LOS	F				
Approach Delay (s)	50.1	0.0		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBR	WBR2	SBL	SBR	SEL
Lane Configurations					
Volume (veh/h)	1342	9	26	101	898
Sign Control	Free		Stop		Free
Grade	0%		0%		0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1413	9	27	106	945
Pedestrians			137		
Lane Width (ft)			12.0		
Walking Speed (ft/s)			4.0		
Percent Blockage			11		
Right turn flare (veh)					
Median type	None				None
Median storage veh)					
Upstream signal (ft)					
pX, platoon unblocked					
vC, conflicting volume			2027	848	
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol			2027	848	
tC, single (s)			6.8	6.9	
tC, 2 stage (s)					
tF (s)			3.5	3.3	
p0 queue free %			38	61	
cM capacity (veh/h)			44	270	

Direction, Lane #	WB 1	WB 2	SB 1	SB 2	SE 1	SE 2
Volume Total	942	480	27	106	315	630
Volume Left	0	0	27	0	0	0
Volume Right	0	9	0	106	0	0
cSH	1700	1700	44	270	372	1700
Volume to Capacity	0.55	0.28	0.62	0.39	0.00	0.37
Queue Length 95th (ft)	0	0	58	45	0	0
Control Delay (s)	0.0	0.0	173.7	26.7	0.0	0.0
Lane LOS			F	D		
Approach Delay (s)	0.0		56.8		0.0	
Approach LOS			F			

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis 2030 Out Year Conditions with Alternative C
25: Nebraska Avenue & Driveway

AM Peak Hour

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1057	0	0	1089	3	1	0	1	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1113	0	0	1146	3	1	0	1	0	0	0
Pedestrians					13			26			14	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					1			2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1175			1127			1752	2309	601	1709	2311	583
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1175			1127			1752	2309	601	1709	2311	583
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 %	99			100			98	100	100	100	100	100
cM capacity (veh/h)	577			609			51	36	434	56	36	445

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	561	556	573	576	2	0
Volume Left	4	0	0	0	1	0
Volume Right	0	0	0	3	1	0
cSH	577	1700	609	1700	91	1700
Volume to Capacity	0.01	0.33	0.00	0.34	0.02	0.00
Queue Length 95th (ft)	1	0	0	0	2	0
Control Delay (s)	0.2	0.0	0.0	0.0	45.3	0.0
Lane LOS	A				E	A
Approach Delay (s)	0.1		0.0		45.3	0.0
Approach LOS					E	A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	8	13	1128	151	62	1099
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	14	1187	159	65	1157
Pedestrians	36					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	3					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2012	709			1382	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2012	709			1382	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	96			86	
cM capacity (veh/h)	43	365			477	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	22	792	555	451	771
Volume Left	8	0	0	65	0
Volume Right	14	0	159	0	0
cSH	94	1700	1700	477	1700
Volume to Capacity	0.23	0.47	0.33	0.14	0.45
Queue Length 95th (ft)	21	0	0	12	0
Control Delay (s)	54.4	0.0	0.0	4.1	0.0
Lane LOS	F			A	
Approach Delay (s)	54.4	0.0		1.5	
Approach LOS	F				

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	SBL	SBR	SEL	SET	NWT	NWR
Lane Configurations						
Volume (veh/h)	8	23	0	1345	711	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	24	0	1416	748	40
Pedestrians	53				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	4				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1530	447	841			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1530	447	841			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	95	100			
cM capacity (veh/h)	103	534	755			

Direction, Lane #	SB 1	SB 2	SE 1	SE 2	NW 1	NW 2
Volume Total	8	24	472	944	499	289
Volume Left	8	0	0	0	0	0
Volume Right	0	24	0	0	0	40
cSH	103	534	755	1700	1700	1700
Volume to Capacity	0.08	0.05	0.00	0.56	0.29	0.17
Queue Length 95th (ft)	7	4	0	0	0	0
Control Delay (s)	43.1	12.1	0.0	0.0	0.0	0.0
Lane LOS	E	B				
Approach Delay (s)	20.1		0.0		0.0	
Approach LOS	C					

Intersection Summary				
Average Delay		0.3		
Intersection Capacity Utilization		47.2%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis 2030 Out Year Conditions with Alternative C
25: Nebraska Avenue & Driveway

PM Peak Hour

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	4	1069	0	0	1011	0	2	0	3	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	4	1125	0	0	1064	0	2	0	3	0	0	0
Pedestrians					5			52			41	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			4			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1116			1166			1692	2291	584	1710	2291	609
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1116			1166			1692	2291	584	1710	2291	609
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 %	99			100			96	100	99	100	100	100
cM capacity (veh/h)	595			574			54	35	435	53	35	422

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SE 1	NW 1
Volume Total	567	563	532	532	5	0
Volume Left	4	0	0	0	2	0
Volume Right	0	0	0	0	3	0
cSH	595	1700	574	1700	114	1700
Volume to Capacity	0.01	0.33	0.00	0.31	0.05	0.00
Queue Length 95th (ft)	1	0	0	0	4	0
Control Delay (s)	0.2	0.0	0.0	0.0	38.2	0.0
Lane LOS	A				E	A
Approach Delay (s)	0.1		0.0		38.2	0.0
Approach LOS					E	A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	28	47	1109	37	15	1102
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	29	49	1167	39	16	1160
Pedestrians	98					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	8					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1896	701			1304	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1896	701			1304	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	46	86			97	
cM capacity (veh/h)	54	350			484	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	79	778	428	402	773
Volume Left	29	0	0	16	0
Volume Right	49	0	39	0	0
cSH	116	1700	1700	484	1700
Volume to Capacity	0.68	0.46	0.25	0.03	0.45
Queue Length 95th (ft)	90	0	0	3	0
Control Delay (s)	85.9	0.0	0.0	1.0	0.0
Lane LOS	F			A	
Approach Delay (s)	85.9	0.0		0.3	
Approach LOS	F				

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBR	WBR2	SBL	SBR	SEL
Lane Configurations					
Volume (veh/h)	1342	9	28	84	898
Sign Control	Free		Stop		Free
Grade	0%		0%		0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1413	9	29	88	945
Pedestrians			137		
Lane Width (ft)			12.0		
Walking Speed (ft/s)			4.0		
Percent Blockage			11		
Right turn flare (veh)					
Median type	None				None
Median storage veh)					
Upstream signal (ft)					
pX, platoon unblocked					
vC, conflicting volume			2027	848	
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol			2027	848	
tC, single (s)			6.8	6.9	
tC, 2 stage (s)					
tF (s)			3.5	3.3	
p0 queue free %			33	67	
cM capacity (veh/h)			44	270	

Direction, Lane #	WB 1	WB 2	SB 1	SB 2	SE 1	SE 2
Volume Total	942	480	29	88	315	630
Volume Left	0	0	29	0	0	0
Volume Right	0	9	0	88	0	0
cSH	1700	1700	44	270	372	1700
Volume to Capacity	0.55	0.28	0.67	0.33	0.00	0.37
Queue Length 95th (ft)	0	0	63	34	0	0
Control Delay (s)	0.0	0.0	184.5	24.7	0.0	0.0
Lane LOS			F	C		
Approach Delay (s)	0.0		64.6		0.0	
Approach LOS			F			

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

Appendix G: Approved and Unbuilt Development Trip Generation and Assignment

Trips Generated:

- Vehicular

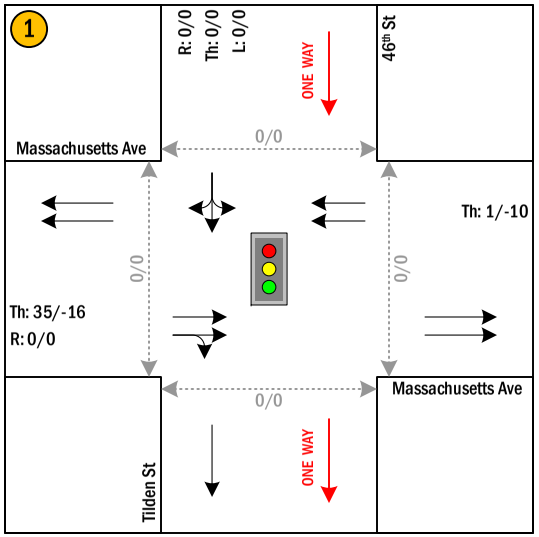
Trips Removed					
Source	**Size**	**AM Peak Hour**		**PM Peak Hour**	
		In	*Out*	*In*	*Out*
Nebraska Avenue Lot	903 Spaces	97	11	200	155
South Campus & Clark Site	100 Spaces	25	5	20	30
Total	**1003 Spaces**	**122**	**16**	**220**	**185**

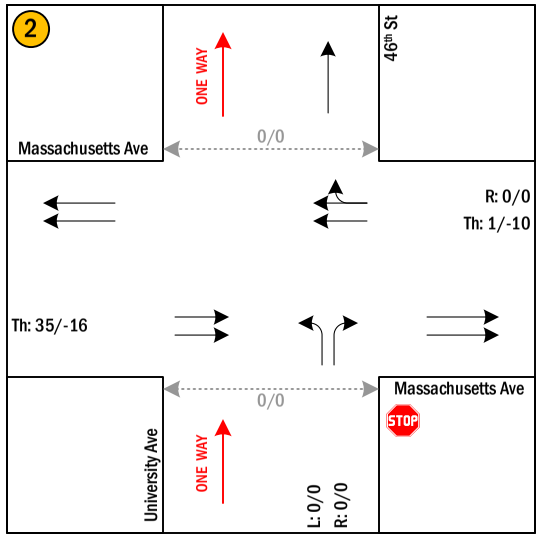
Trips Added					
Source	**Size**	**AM Peak Hour**		**PM Peak Hour**	
		In	*Out*	*In*	*Out*
East Campus	500 Spaces	125	25	100	150
SIS Lot	458 Spaces	115	23	92	137
Total	**958 Spaces**	**240**	**48**	**192**	**287**

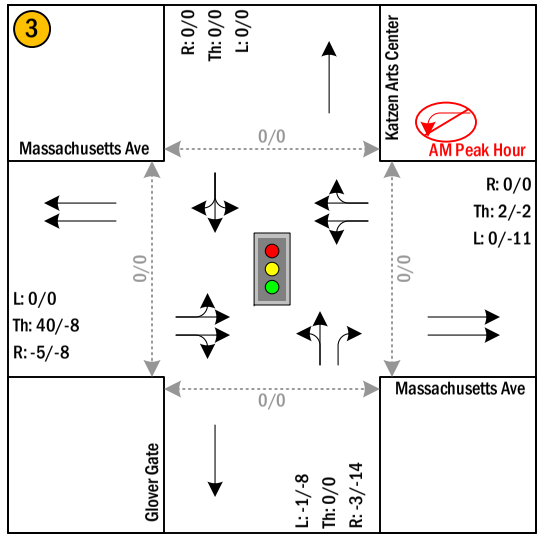
Pedestrian

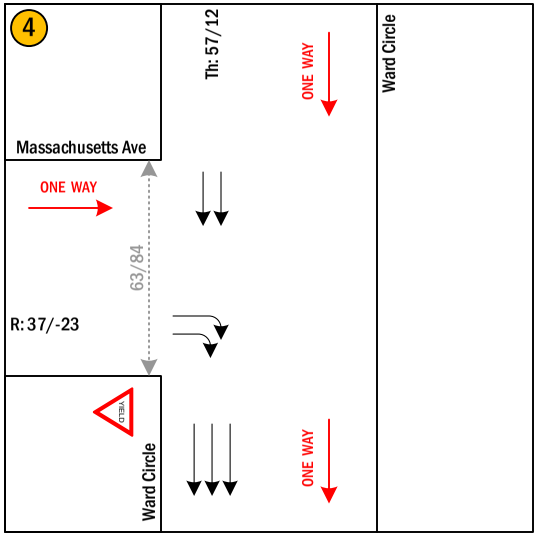
Trips Added to East Campus			
Source	**Size**	**AM Peak Hour**	**PM Peak Hour**
East Campus Residence Hall 1	160 Beds	82	106
East Campus Residence Hall 2	130 Beds	67	89
East Campus Residence Hall 3	280 Beds	141	172
East Campus Residence Hall 4	290 Beds	146	177
Retail	47,000 SF	34	134
(Internal Synergy: 20% reduction during PM)		--	*(27)*
East Campus Parking	330 Spaces	99	165
Total		**569**	**816**
Crossing Nebraska Avenue at New Mexico Avenue		425	615
Crossing Nebraska Avenue at Ward Circle		145	200

Other Pedestrian Trips			
Source	**Size**	**AM Peak Hour**	**PM Peak Hour**
Nebraska Hall	120 Beds	63	84
Total		**63**	**84**
Crossing Massachusetts Avenue at Ward Circle		63	84







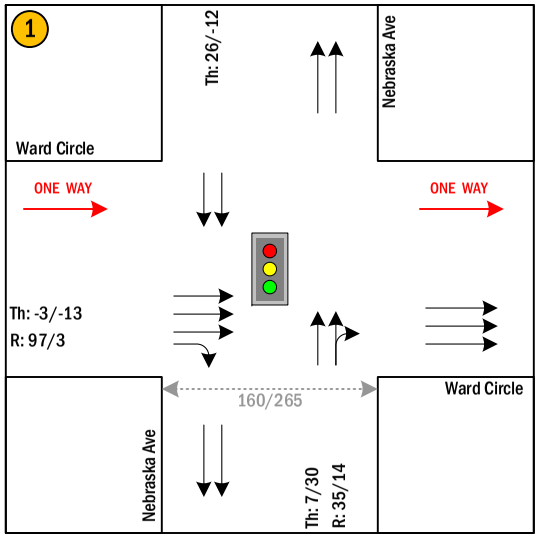


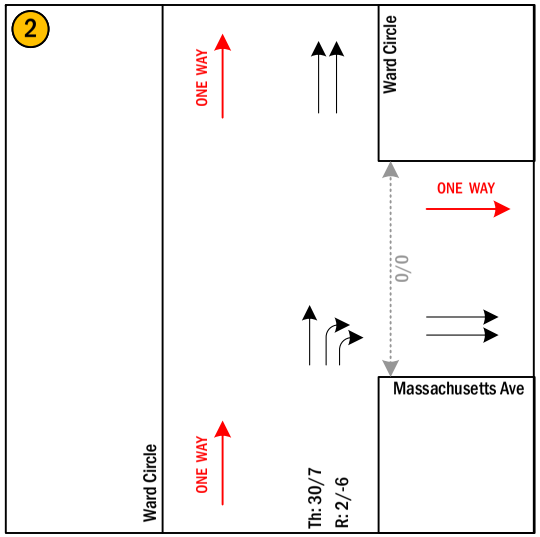
Traffic Controls, Lane Assignments, and Volumes

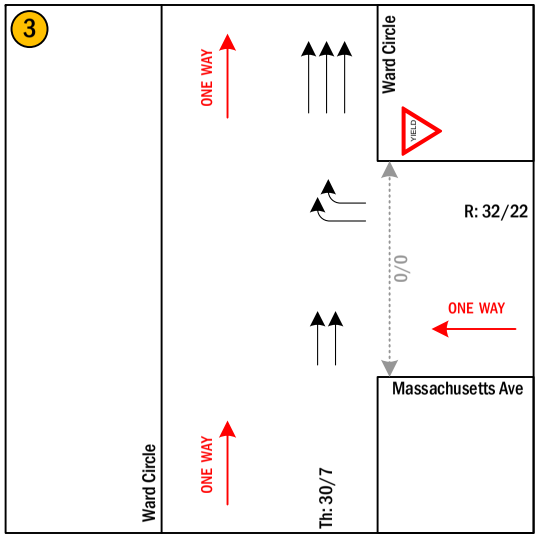
- Represents One Travel Lane
- Represents Crosswalk Location
- Traffic Signal
- Stop Control
- Yield Control

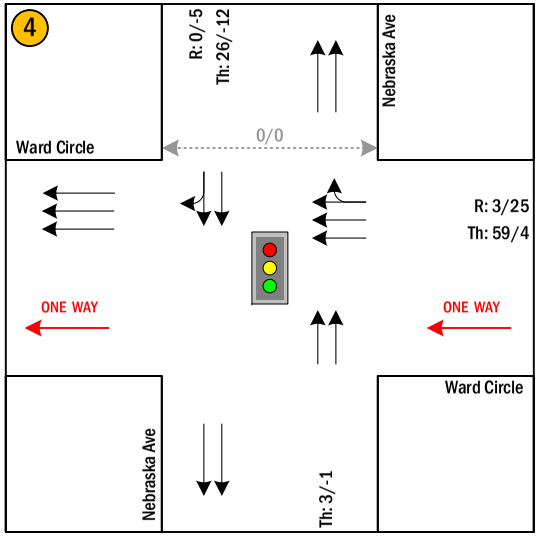
XXX/XXX - AM/PM Peak Hour Traffic Volumes

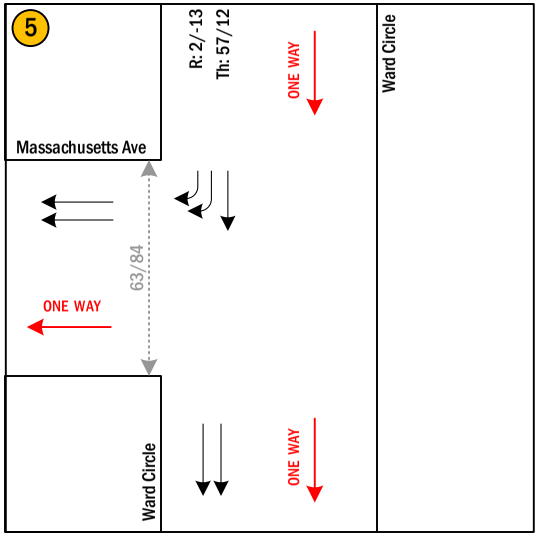
XXX/XXX - AM/PM Peak Hour Pedestrian Volumes

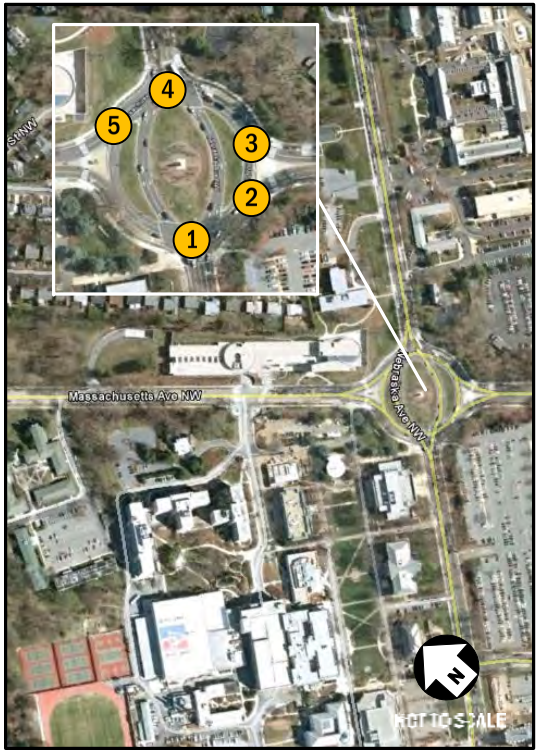






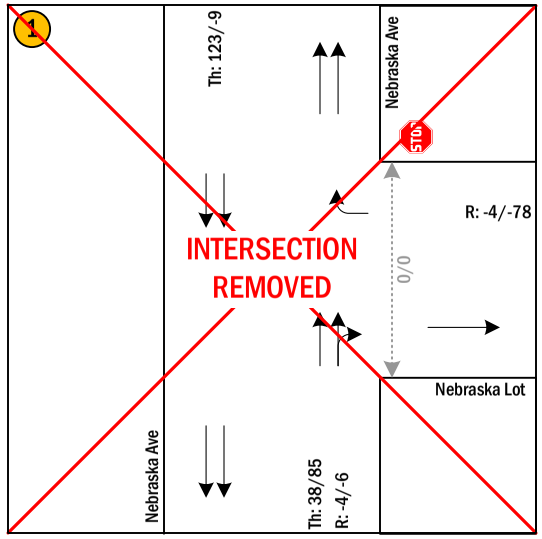


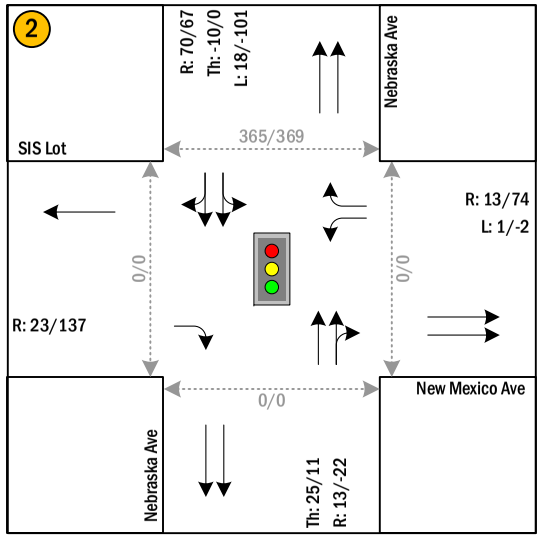


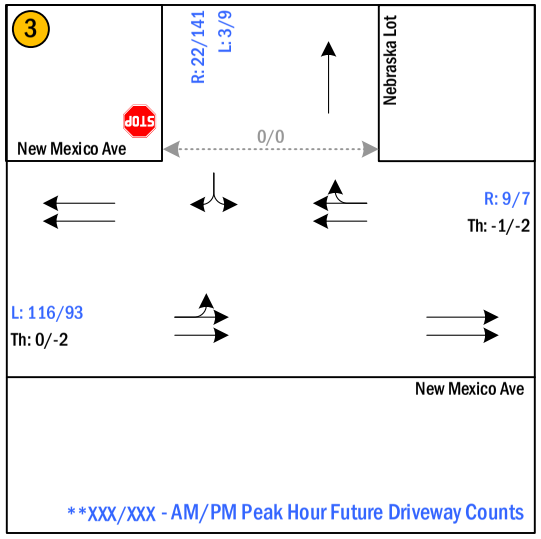


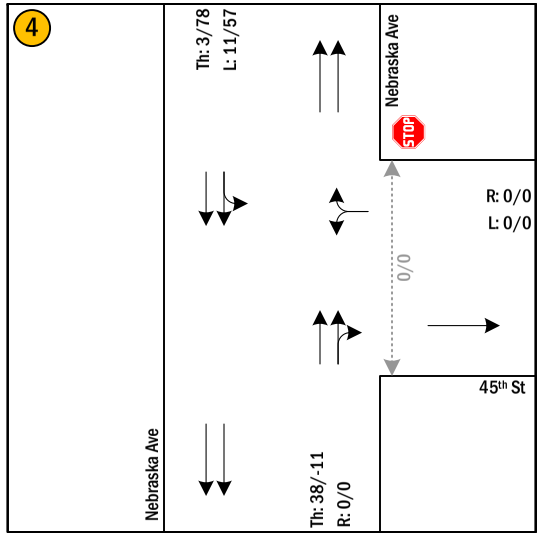
Traffic Controls, Geometrics, and Signalization

- Represents One Travel Lane
- Represents Crosswalk Location
- Traffic Signal
- Stop Control
- Yield Control
- XXX/XXX - AM/PM Peak Hour Traffic Volumes
- XXX/XXX - AM/PM Peak Hour Pedestrian Volumes







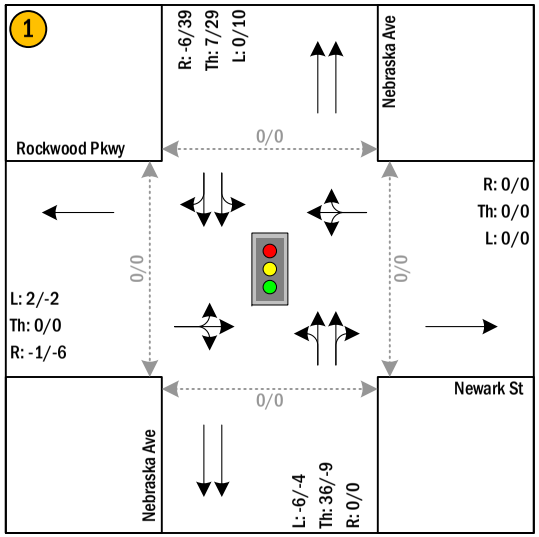


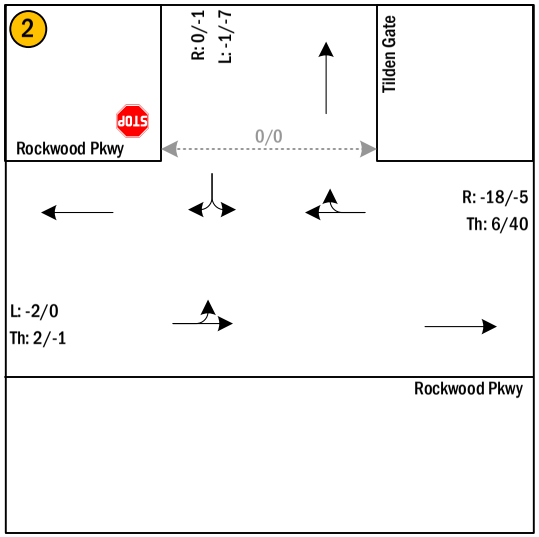
Traffic Controls, Geometrics, and Notes

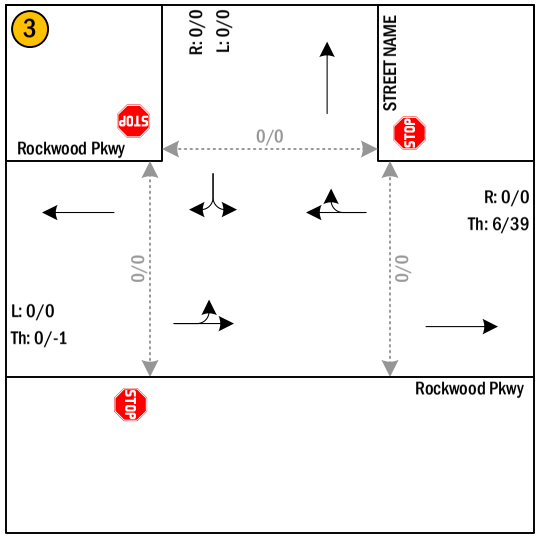
- Represents One Travel Lane
- Represents Crosswalk Location
- Traffic Signal
- Stop Control
- Yield Control

XXX/XXX - AM/PM Peak Hour Traffic Volumes

XXX/XXX - AM/PM Peak Hour Pedestrian Volumes







[illegible]

- Represents One Travel Lane
- Represents Crosswalk Location
- Traffic Signal
- Stop Control
- Yield Control
- XXX/XXX - AM/PM Peak Hour Traffic Volumes
- XXX/XXX - AM/PM Peak Hour Pedestrian Volumes

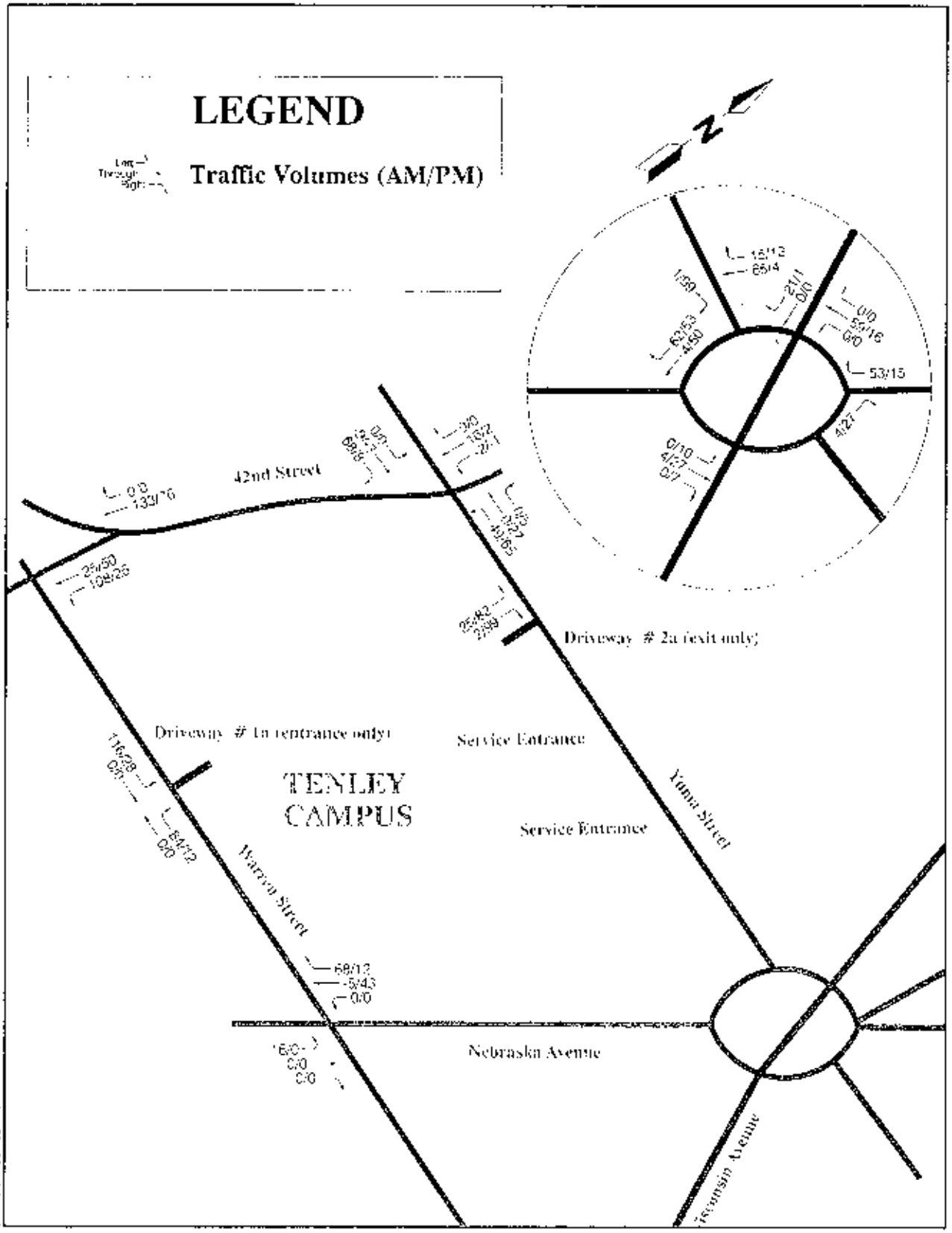


Figure 13b
Tenley Campus
Future 2010 AM/PM Peak Hour Site Volumes

Negative traffic volumes shown on Figures 12, 13a, and 13b indicate that AU site-related traffic will decrease at that location. This is due to the reallocation of parking spaces on campus and thus a redistribution of traffic volumes throughout the roadway network.

Table 5a
Year 2010 Trip Generation - Main Campus

Access Location	AM Commuter Peak		PM Peak	
	In	Out	In	Out
Fletcher Gate	131	39	79	107
Lots D & E	143	48	275	183
Nebraska Lot - N.M.	181	7	223	117
Nebraska Lot - Neb.	6	3	17	118
Nebraska Blng. Lot	31	15	37	25
Methodist Church	7	0	9	0
Glover Gate	110	90	152	216
Katzen Lot service drive*	0	0	0	0
Katzen Lot drive	75	23	97	105
TOTAL	**684**	**225**	**889**	**871**

** The primary access/egress to the new Katzen Arts Center (former Cassell Center) will be across from the Glover Gate intersection. This drive will be located at the existing Cassell drive, and will be used primarily by service traffic during non-peak hours. During special events, the drive may function as an exit/entrance with left-turn restrictions.*

Table 5a shows the future trip generation during the PM peak hour from 5:00-6:00 PM. Fletcher Gate and Glover Gate both exhibit reduced traffic volumes entering and leaving the Main Campus, due to the parking reallocation from the campus interior to the campus perimeter *(see "Future Traffic Volumes")*.

Table 5b summarizes the Tenley Campus trip generation. These numbers represent extremely conservative projections of future traffic volumes near the Tenley Campus.

Figure 5b
Year 2010 Trip Generation - Tenley Campus

Access Location	AM Commuter Peak		PM Peak	
	In	Out	In	Out
Driveway #1	200	0	40	0
Driveway #2	0	30	0	200

Future Traffic Projections

A comparison of Average Daily Traffic Volumes (see Table 6) on Nebraska Avenue and Massachusetts Avenue indicates that traffic volumes have not increased in the vicinity of the

Table 3-2
Wisconsin Avenue Giant
Site-Trip Generation Analysis

Land Use	Size	Units	Land Use Code	AM Peak Hour 7:45 - 8:45 In	Out	Total	PM Peak Hour 5:45 - 6:45 In	Out	Total	Saturday Peak Hour 3:30 PM - 4:30 PM In	Out	Total
Observed												
Supermarket and Retail [1]	114,634	S.F.		186	165	351	249	205	454	225	243	468
				1.62	*1.44*	*3.06*	*2.17*	*1.79*	*3.96*	*1.96*	*2.12*	*4.08*
Estimated (ITE)												
Supermarket [2]	18,478	S.F.	850	37	23	60	125	121	246	142	136	278
Retail [2, 3]	96,156	S.F.	820	179	115	294	173	188	361	249	229	478
	114,634	S.F.		216	138	354	298	309	607	391	365	756
				1.88	*1.21*	*3.09*	*2.60*	*2.69*	*5.30*	*3.41*	*3.19*	*6.59*
Difference (Observed - Estimated)				-30	27	-3	-49	-104	-153	-166	-122	-288
Percent Difference				-14%	19%	-1%	-17%	-34%	-25%	-42%	-33%	-38%
Proposed (May 2008 Plan)												
Supermarket [2]	56,210	S.F.	850	112	71	183	302	290	592	323	311	634
Office/Flex Space [2]	17,320	S.F.	710	40	6	46	17	81	98	5	4	9
Retail [2, 3]	62,954	S.F.	820	118	75	193	113	123	236	163	150	313
Townhome [2]	8	DU's	230	0	1	1	12	6	18	12	11	23
Residential Aprartments [2]	138	DU's	223	7	30	37	32	17	49	20	20	39
Total				277	183	460	476	517	993	523	495	1,018
Difference (Proposed - Existing)				91	18	109	227	312	539	298	252	550
Perecent Difference				49%	11%	31%	91%	152%	119%	133%	104%	118%

Notes: [1] Traffic Counts were taken on Thursday, January 24, 2008 and Saturday, January 26, 2008.
[2] Based on Trip Generation, 7th Edition, Institute of Transportation Engineers.

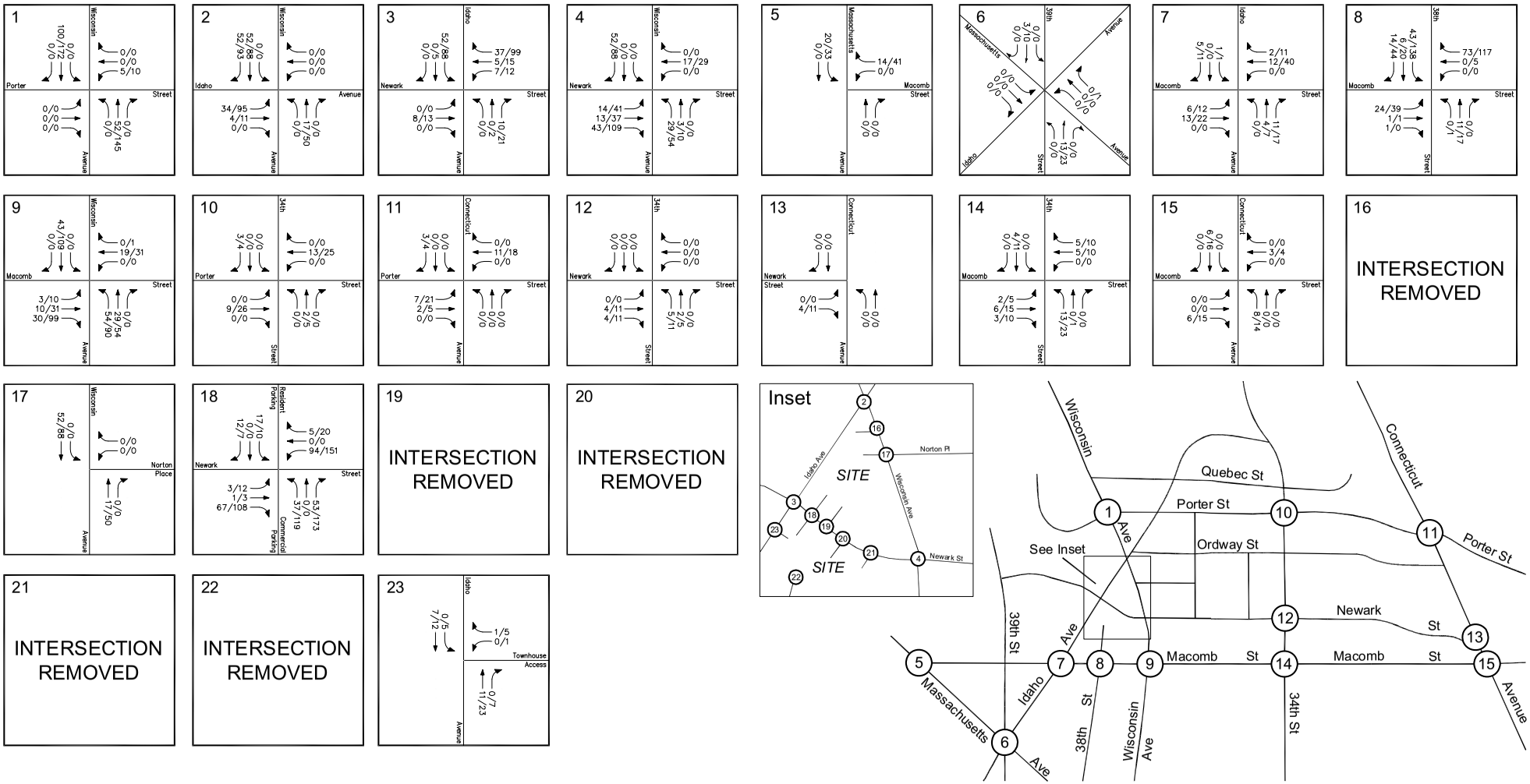


Figure 3–3
Site–Generated Traffic Assignments: Weekday

AM PEAK HOUR
PM PEAK HOUR
000/000

North

O:\PROJECTS\3501–4000\3992 CLEVELAND PARK GIANT (2008)\GRAPHICS\3992 RPT GRAPHICS.DWG

Appendix H: Metropolitan Washington Council of Governments Travel Forecasting Model Data Summary

Nebraska Avenue Complex Master Plan
COG Model Travel Forecast Review - AM and PM Peak Periods

		2010		2020		2030		Total Increase or Decrease from 2020 to 2030		Percent Difference from 2020 to 2030		Total Increase or Decrease from 2010 to 2020		Percent Difference from 2010 to 2020		Total Increase or Decrease from 2010 to 2030		Percent Difference from 2010 to 2030	
Street	Direction	AM Peak Period	PM Peak Period	AM Peak Period	PM Peak Period	AM Peak Period	PM Peak Period	AM Peak Period	PM Peak Period	AM Peak Period	PM Peak Period	AM Peak Period	PM Peak Period	AM Peak Period	PM Peak Period	AM Peak Period	PM Peak Period	AM Peak Period	PM Peak Period
Massachusetts Avenue north of Ward Circle	Northbound	2345	5228	2325	5136	2424	5120	99	-16	4%	0%	-20	-92	-1%	-2%	79	-108	3%	-2%
	Southbound	4163	4395	4124	4406	4108	4439	-16	33	0%	1%	-39	11	-1%	0%	-55	44	-1%	1%
	Total	*6508*	*9623*	*6449*	*9542*	*6532*	*9559*	*83*	*17*	1%	0%	-59	-81	-1%	-1%	24	-64	0%	-1%
Massachusetts Avenue south of Ward Circle	Northbound	1208	4385	1179	4343	1287	4380	108	37	9%	1%	-29	-42	-2%	-1%	79	-5	7%	0%
	Southbound	3500	2903	3401	2839	3507	2946	106	107	3%	4%	-99	-64	-3%	-2%	7	43	0%	1%
	Total	*4708*	*7288*	*4580*	*7182*	*4794*	*7326*	*214*	*144*	5%	2%	-128	-106	-3%	-1%	86	38	2%	1%
Nebraska Avenue west of Ward Circle	Eastbound	4045	4136	4005	4132	3882	4189	-123	57	-3%	1%	-40	-4	-1%	0%	-163	53	-4%	1%
	Westbound	2677	5531	2657	5620	2466	5601	-191	-19	-7%	0%	-20	89	-1%	2%	-211	70	-8%	1%
	Total	*6722*	*9667*	*6662*	*9752*	*6348*	*9790*	*-314*	*38*	-5%	0%	-60	85	-1%	1%	-374	123	-6%	1%
Nebraska Avenue east of Ward Circle	Eastbound	3785	5189	3802	5166	3738	5174	-64	8	-2%	0%	17	-23	0%	0%	-47	-15	-1%	0%
	Westbound	3994	4989	3991	5104	3904	5123	-87	19	-2%	0%	-3	115	0%	2%	-90	134	-2%	3%
	Total	*7779*	*10178*	*7793*	*10270*	*7642*	*10297*	*-151*	*27*	-2%	0%	14	92	0%	1%	-137	119	-2%	1%
Wisconsin Avenue north of Tenley Circle	Northbound	3381	5558	3554	5480	3747	5601	193	121	5%	2%	173	-78	5%	-1%	366	43	11%	1%
	Southbound	4412	5419	4455	5507	4464	5706	9	199	0%	4%	43	88	1%	2%	52	287	1%	5%
	Total	*7793*	*10977*	*8009*	*10987*	*8211*	*11307*	*202*	*320*	3%	3%	216	10	3%	0%	418	330	5%	3%
Wisconsin Avenue south of Tenley Circle	Northbound	4001	7001	4136	6921	4350	6980	214	59	5%	1%	135	-80	3%	-1%	349	-21	9%	0%
	Southbound	5951	6079	5896	6127	5920	6272	24	145	0%	2%	-55	48	-1%	1%	-31	193	-1%	3%
	Total	*9952*	*13080*	*10032*	*13048*	*10270*	*13252*	*238*	*204*	2%	2%	80	-32	1%	0%	318	172	3%	1%
Total - Study Area Streets		**43462**	**60813**	**43525**	**60781**	**43797**	**61531**	**272**	**750**	**1%**	**1%**	**63**	**-32**	**0%**	**0%**	**335**	**718**	**1%**	**1%**

Source: Constrained Long Range Plan Version 2.2 COG Model, 2009

Appendix I: St. Elizabeths Travel Survey Questions

DHS Commuter Survey

Type: Executive Summary Report

Date: 5/21/2007

Total number of responses collected: 5667

1 (Zip code): What is the 5-digit ZIP code of your residence?

(Respondents were limited to brief text responses)

Response	Chart	Frequency	Count
		5.1%	270
08330		0.0%	2
08360		0.0%	2
10031		0.0%	2
11422		0.0%	2
17268		0.0%	2
17307		0.0%	2
17327		0.0%	2
17349		0.0%	2
20001		0.7%	36
20002		0.9%	48
20003		0.6%	32
20004		0.2%	9

20005		0.4%	20
20007		0.3%	18
20008		0.8%	44
20009		0.8%	43
20010		0.4%	20
20011		0.6%	31
20012		0.3%	16
20015		0.2%	13
20016		0.6%	33
20017		0.2%	8
20018		0.1%	7
20019		0.5%	25
20020		0.4%	22
20024		0.5%	24
20032		0.2%	12
20036		0.2%	11
20037		0.2%	12
20105		0.1%	7
20106		0.0%	2
20109		0.2%	11
20110		0.4%	19

20111		0.5%	24
20112		0.6%	33
20120		0.6%	33
20121		0.5%	27
20124		0.4%	22
20132		0.2%	10
20136		0.4%	20
20141		0.1%	4
20147		0.4%	22
20148		0.2%	10
20151		0.1%	4
20152		0.3%	17
20155		0.3%	14
20164		0.2%	12
20165		0.5%	29
20166		0.1%	3
20169		0.2%	11
20170		0.3%	15
20171		1.0%	51
20175		0.2%	11
20176		0.3%	17

20180		0.1%	4
20181		0.1%	5
20186		0.1%	4
20187		0.2%	10
20190		0.3%	14
20191		0.3%	17
20194		0.2%	12
20229		0.0%	2
20472		0.1%	4
20528		0.0%	2
20536		0.2%	8
20601		0.5%	29
20602		0.3%	16
20603		0.8%	44
20607		0.5%	27
20608		0.0%	2
20613		0.2%	9
20616		0.2%	10
20622		0.0%	2
20623		0.1%	3
20637		0.1%	5

20639		0.1%	7
20640		0.1%	6
20646		0.3%	15
20650		0.1%	3
20657		0.1%	5
20659		0.2%	11
20662		0.1%	3
20675		0.1%	3
20677		0.0%	2
20678		0.1%	7
20688		0.0%	2
20689		0.0%	2
20695		0.2%	12
20705		0.2%	8
20706		0.4%	21
20707		0.2%	13
20708		0.2%	12
20710		0.1%	3
20711		0.1%	5
20714		0.1%	7
20715		0.5%	24

20716		0.5%	25
20720		0.4%	21
20721		0.6%	31
20722		0.0%	2
20723		0.3%	17
20724		0.2%	12
20732		0.1%	5
20735		0.7%	39
20736		0.4%	21
20737		0.1%	4
20740		0.2%	12
20743		0.3%	16
20744		1.2%	65
20745		0.4%	21
20746		0.4%	23
20747		0.2%	13
20748		0.8%	40
20749		0.1%	3
20750		0.0%	2
20751		0.1%	4
20754		0.1%	7

20755		0.0%	2
20765		0.0%	2
20769		0.1%	7
20770		0.3%	16
20772		1.1%	61
20774		1.0%	51
20778		0.0%	2
20779		0.0%	2
20781		0.2%	9
20782		0.2%	12
20783		0.1%	5
20784		0.2%	13
20785		0.3%	14
20794		0.1%	4
20814		0.4%	19
20815		0.4%	21
20816		0.1%	6
20817		0.2%	8
20832		0.2%	10
20833		0.1%	5
20837		0.1%	5

20841		0.1%	4
20850		0.8%	40
20851		0.1%	4
20852		0.3%	14
20853		0.2%	11
20854		0.4%	23
20855		0.1%	6
20861		0.0%	2
20866		0.0%	2
20871		0.0%	2
20872		0.0%	2
20874		0.3%	16
20876		0.1%	5
20877		0.2%	12
20878		0.6%	31
20879		0.3%	14
20882		0.1%	6
20886		0.4%	19
20895		0.3%	16
20901		0.3%	18
20902		0.3%	15

20903		0.0%	2
20904		0.4%	22
20905		0.1%	7
20906		0.5%	24
20910		0.5%	24
20912		0.2%	12
21001		0.0%	2
21009		0.1%	3
21012		0.3%	16
21015		0.1%	4
21029		0.1%	4
21032		0.1%	4
21035		0.1%	7
21037		0.2%	11
21042		0.2%	9
21043		0.2%	10
21044		0.2%	12
21045		0.2%	9
21046		0.1%	3
21048		0.0%	2
21050		0.1%	4

21054		0.3%	14
21060		0.0%	2
21061		0.1%	7
21075		0.2%	8
21076		0.1%	5
21085		0.0%	2
21108		0.1%	6
21113		0.6%	30
21114		0.7%	37
21117		0.0%	2
21122		0.2%	13
21133		0.1%	7
21136		0.1%	3
21140		0.1%	5
21144		0.2%	11
21146		0.1%	7
21157		0.1%	4
21201		0.0%	2
21206		0.0%	2
21207		0.0%	2
21208		0.1%	3

21210		0.1%	4
21212		0.1%	3
21220		0.1%	4
21222		0.0%	2
21224		0.1%	3
21227		0.1%	3
21228		0.1%	6
21229		0.1%	3
21230		0.0%	2
21237		0.0%	2
21244		0.1%	3
21401		0.4%	21
21403		0.3%	16
21409		0.2%	8
21617		0.1%	4
21638		0.0%	2
21666		0.1%	4
21701		0.1%	6
21702		0.1%	6
21703		0.1%	5
21704		0.0%	2

21716		0.1%	3
21742		0.1%	4
21754		0.1%	3
21758		0.0%	2
21769		0.0%	2
21770		0.0%	2
21771		0.1%	3
21774		0.1%	7
21784		0.1%	4
21797		0.0%	2
22003		0.9%	48
22015		1.2%	66
22025		0.4%	19
22026		0.4%	23
22030		0.8%	44
22031		0.6%	32
22032		0.8%	41
22033		0.8%	40
22039		0.5%	24
22041		0.5%	26
22042		0.3%	15

22043		0.6%	31
22044		0.2%	9
22046		0.3%	18
22060		0.1%	6
22066		0.1%	6
22079		0.6%	33
22101		0.5%	25
22102		0.2%	12
22116		0.0%	2
22124		0.3%	17
22125		0.0%	2
22150		0.4%	22
22151		0.3%	16
22152		0.9%	48
22153		1.0%	54
22172		0.0%	2
22180		0.4%	19
22181		0.3%	18
22182		0.3%	14
22191		0.7%	38
22192		1.5%	80

22193		1.1%	57
22201		1.4%	76
22202		1.5%	81
22203		0.8%	41
22204		1.1%	61
22205		0.5%	29
22206		0.8%	42
22207		0.9%	49
22209		0.5%	26
22213		0.1%	3
22301		0.3%	17
22302		0.5%	26
22303		0.4%	20
22304		1.3%	68
22305		0.2%	13
22306		0.6%	30
22307		0.2%	13
22308		0.3%	17
22309		0.4%	22
22310		0.6%	31
22311		0.4%	22

22312		0.5%	27
22314		1.3%	67
22315		1.2%	64
22401		0.1%	4
22405		0.7%	37
22406		0.4%	21
22407		0.6%	34
22408		0.5%	25
22485		0.1%	7
22508		0.2%	8
22553		0.2%	13
22554		1.2%	63
22556		0.5%	24
22601		0.1%	3
22602		0.1%	5
22630		0.1%	3
22655		0.0%	2
22657		0.0%	2
22701		0.1%	4
22960		0.1%	3
23832		0.1%	3

25401		0.1%	5
25404		0.0%	2
25405		0.0%	2
25414		0.2%	13
25419		0.1%	3
25420		0.1%	3
25425		0.2%	10
25428		0.1%	5
25430		0.0%	2
25443		0.1%	3
48174		0.0%	2
75232		0.0%	2
Other Responses		4.2%	222
	Valid Responses		5308
	Total Responses		5308

2: What is your employment status?

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Military/Civilian		78.8%	3963
Contractor		21.2%	1064
Not Answered			281
	Mean		1.212
	Standard Deviation		0.409
	Valid Responses		5027
	Total Responses		5308

3: What is your Shift Schedule?

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Standard /Daytime Shift		98.4%	4950
Evening Shift		1.3%	64
Graveyard Shift		0.4%	18
Not Answered			276
	Mean		1.020
	Standard Deviation		0.163
	Valid Responses		5032
	Total Responses		5308

4: What Office/Component do you work for?

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Office of the Secretary		0.9%	47
Assistant Secretary for Legislative & Governmental Affairs		0.4%	20
Assistant Secretary for Public Affairs		0.2%	10
Assistant Secretary for Policy		1.1%	53
Chief Privacy Officer		0.5%	24
Domestic Nuclear Detection Office		2.2%	109
Federal Emergency Management Agency		20.4%	1032
Federal Law Enforcement Training Center		0.1%	3
Officer for Civil Rights & Civil Liberties		0.4%	18
Office of Counternarcotics Enforcement		0.1%	7
Office of the General Counsel		1.9%	94
Office of the Inspector General		1.4%	70
Office of Health Affairs		0.6%	29
Office of Intelligence & Analysis		3.2%	164
Office of Operations Coordination		1.1%	53
Office of Regulations		0.0%	2
Ombudsman, Citizenship & Immigration Services		0.2%	10

Transportation Security Administration		13.8%	694
Under Secretary for Management		9.6%	483
Under Secretary for Preparedness (to be reorganized iaw Post-Katrina Emergency Management Act into the National Protections & Programs Directorate)		3.1%	154
Under Secretary for Science & Technology		1.7%	84
US Customs and Border Protection		7.5%	380
US Citizenship & Immigration Services		5.5%	280
US Immigration & Customs Enforcement		7.1%	359
US Secret Service		0.1%	5
US Coast Guard		10.1%	510
US VISIT(to be reorganized iaw Post-Katrina Emergency Management Act under the National Protections & Programs Directorate)		4.1%	206
Other:		2.9%	147
Not Answered			261
	Mean		17.262
	Standard Deviation		7.429
	Valid Responses		5047
	Total Responses		5308

5: Where is your place of employment?

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
New Executive Office Building		0.0%	0
US Secret Service Headquarters		0.1%	3
Logan Building		0.0%	1
The Webster School Building		0.0%	0
Jemal Riverside		3.9%	192
Transpoint		5.8%	285
Union Labor Life		1.6%	81
Casimir Pulaski		1.1%	56
Vermont Avenue		4.2%	208
GSA * ROB		8.1%	398
New York Avenue Building		0.9%	44
National Press Building		0.1%	7
Nebraska Avenue Complex		10.2%	502
15th Street, NW		2.4%	116
C Street, SW		11.7%	576
School Street, SW		0.1%	6
Washington Design Center		1.0%	49
Patriot Plaza		2.8%	140

Judiciary Square		0.1%	7
National Place Building		0.2%	12
L Street NW		0.9%	43
Ronald Reagan Building		5.3%	259
Techworld Plaza		2.2%	106
North Capital Street, NW		0.7%	33
Chester Arthur Building		4.9%	243
Lincoln Square		0.0%	0
9th Street		1.2%	60
Wilson Boulevard		0.6%	32
17th Street		0.2%	12
Ballston Plaza II		0.9%	46
Crystal Mall		4.3%	211
Roslyn Metro Center		0.7%	35
Pentagon City		11.5%	568
North Myer Dr		3.4%	168
North Fairfax Street		0.3%	15
Court House Road		0.2%	9
Alexandria Tech Center		0.0%	2
Eisenhower Industrial Center		0.0%	1
Mark Center		0.0%	0

Metro Place		0.1%	3
Park Center Road		0.0%	2
EDS Drive		0.9%	45
Oracle Way		1.0%	47
VA 95 Business Park		0.1%	7
Springfield Place		0.0%	0
Fullerton Rd		0.2%	9
National Records Center		0.0%	0
Other:		5.8%	288
Not Answered			240
	Mean		20.827
	Standard Deviation		11.937
	Valid Responses		4927
	Total Responses		5167

6: Approximately what time did you arrive to work on Tuesday, April 17, 2007? (in 15 minute increments) (Please leave blank if you did not work on-site.)

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Before 5:00 AM		0.7%	31
5:00 AM		0.3%	16
5:15 AM		0.3%	13

5:30 AM		1.2%	57
5:45 AM		1.5%	73
6:00 AM		4.0%	190
6:15 AM		3.6%	172
6:30 AM		6.4%	305
6:45 AM		6.7%	317
7:00 AM		12.2%	579
7:15 AM		6.2%	293
7:30 AM		11.8%	557
7:45 AM		6.0%	285
8:00 AM		11.9%	564
8:15 AM		4.7%	221
8:30 AM		9.2%	434
8:45 AM		3.0%	142
9:00 AM		5.6%	266
9:15 AM		1.3%	62
9:30 AM		1.3%	61
9:45 AM		0.4%	20
10:00 AM		0.4%	17
10:15 AM		0.1%	5
10:30 AM		0.1%	6

10:45 AM		0.0%	1
11:00 AM		0.1%	3
11:15 AM		0.0%	0
11:30 AM		0.0%	1
11:45 AM		0.0%	1
12:00 PM		0.1%	4
12:15 PM		0.0%	0
12:30 PM		0.0%	0
12:45 PM		0.0%	1
1:00 PM		0.0%	2
1:15 PM		0.0%	0
1:30 PM		0.0%	2
1:45 PM		0.0%	0
2:00 PM		0.0%	1
2:15 PM		0.0%	0
2:30 PM		0.0%	2
2:45 PM		0.0%	0
3:00 PM		0.1%	6
3:15 PM		0.0%	1
3:30 PM		0.1%	5
3:45 PM		0.0%	0

4:00 PM		0.0%	2
4:15 PM		0.0%	1
4:30 PM		0.0%	2
4:45 PM		0.0%	1
5:00 PM		0.0%	1
5:15 PM		0.0%	0
5:30 PM		0.1%	3
5:45 PM		0.0%	1
6:00 PM		0.1%	3
6:15 PM		0.0%	0
6:30 PM		0.1%	3
6:45 PM		0.0%	1
7:00 PM		0.0%	1
After 7:00 PM		0.1%	5
Not Answered			319
	Mean		12.428
	Standard Deviation		5.261
	Valid Responses		4740
	Total Responses		5059

7: Approximately what time did you leave work on Tuesday, April 17, 2007? (In 15 minute increments) (Please leave blank if you did not work on-site)

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Before 5:00 AM		0.4%	17
5:00 AM		0.5%	24
5:15 AM		0.7%	33
5:30 AM		1.2%	56
5:45 AM		0.7%	31
6:00 AM		1.0%	47
6:15 AM		0.6%	26
6:30 AM		0.6%	29
6:45 AM		0.6%	28
7:00 AM		0.4%	20
7:15 AM		0.2%	9
7:30 AM		0.3%	12
7:45 AM		0.1%	7
8:00 AM		0.1%	4
8:15 AM		0.1%	3
8:30 AM		0.1%	6
8:45 AM		0.1%	4
9:00 AM		0.0%	1

9:15 AM		0.1%	3
9:30 AM		0.1%	3
9:45 AM		0.0%	1
10:00 AM		0.0%	0
10:15 AM		0.0%	0
10:30 AM		0.0%	1
10:45 AM		0.0%	1
11:00 AM		0.0%	1
11:15 AM		0.0%	0
11:30 AM		0.0%	0
11:45 AM		0.0%	1
12:00 PM		0.0%	1
12:15 PM		0.0%	1
12:30 PM		0.1%	3
12:45 PM		0.0%	1
1:00 PM		0.1%	5
1:15 PM		0.0%	1
1:30 PM		0.1%	3
1:45 PM		0.0%	1
2:00 PM		0.5%	23
2:15 PM		0.2%	9

2:30 PM		0.6%	30
2:45 PM		0.3%	13
3:00 PM		1.6%	76
3:15 PM		1.1%	53
3:30 PM		5.1%	241
3:45 PM		2.4%	112
4:00 PM		10.4%	489
4:15 PM		3.8%	179
4:30 PM		11.8%	554
4:45 PM		4.1%	195
5:00 PM		11.1%	523
5:15 PM		5.2%	245
5:30 PM		9.0%	421
5:45 PM		3.4%	160
6:00 PM		7.1%	332
6:15 PM		2.1%	98
6:30 PM		4.2%	196
6:45 PM		1.4%	65
7:00 PM		2.1%	101
After 7:00 PM		4.3%	201
Not Answered			359

	Mean	46.585
	Standard Deviation	12.403
	Valid Responses	4700
	Total Responses	5059

8: How many miles do you travel to work (one day one way)? (in 5 mile increments)

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
< 5 miles		9.5%	451
5-10 miles		16.1%	764
11-15 miles		12.1%	577
16-20 miles		11.1%	530
21-25 miles		11.1%	528
26-30 miles		10.0%	475
31-35 miles		8.0%	382
36-40 miles		5.8%	277
41-45 miles		3.7%	177
46-50 miles		3.3%	157
51-55 miles		2.6%	122
56-60 miles		1.7%	80
61-65 miles		1.3%	62

66-70 miles		0.9%	45
71-75 miles		0.8%	37
76-80 miles		0.5%	24
81-85 miles		0.3%	13
86-90 miles		0.2%	11
91-95 miles		0.3%	16
96-100 miles		0.1%	7
> 100 miles		0.4%	19
Not Answered			305
	Mean		5.324
	Standard Deviation		3.656
	Valid Responses		4754
	Total Responses		5059

9: How many minutes does it usually take you to get to work? (in 5 minute increments)

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
< 5 mins		0.5%	25
5-10 mins		1.7%	81
11-15 mins		3.1%	148

16-20 mins		4.0%	195
21-25 mins		4.9%	238
26-30 mins		7.1%	342
31-35 mins		6.1%	295
36-40 mins		6.9%	334
41-45 mins		9.9%	477
46-50 mins		8.7%	419
51-55 mins		4.7%	229
56-60 mins		10.6%	513
61-65 mins		6.1%	295
66-70 mins		4.7%	225
71-75 mins		4.3%	209
76-80 mins		2.8%	137
81-85 mins		1.2%	59
86-90 mins		3.4%	162
91-95 mins		2.1%	103
96-100 mins		1.2%	59
101 - 105 mins		0.7%	36
106 - 110 mins		0.5%	26
111 - 115 mins		0.4%	20
116 - 120 mins		1.7%	83

> 120 mins		2.4%	114
Not Answered			235
	Mean		10.893
	Standard Deviation		5.254
	Valid Responses		4824
	Total Responses		5059

10: How did you travel to work on Monday, April 16, 2007?

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Worked off-site (i.e. Telecommute or out-of-town work		1.9%	92
Drove alone the entire trip		29.5%	1403
Motorcycle		0.3%	16
Dropped off by non-DHS employee (i.e. dropped off by slug, spouse, or taxi driver)		2.2%	106
Carpool with non-DHS employee (select this option if you arrived to work alone in your car but you traveled with someone else like a spouse or child during a portion of your commute)		3.2%	153
Carpool with 1 DHS employee		2.5%	118
Carpool with 2 DHS employees		1.0%	47
Carpool with 3 DHS employees		0.6%	27

Carpool with 4 or more DHS employees		0.1%	3
Vanpool		1.8%	85
Metrorail and walk from station to work (mode of access from home to Metrorail station not pertinent)		29.2%	1389
Metrorail and agency shuttle from station to work (mode of access from home to Metrorail station not pertinent)		3.1%	147
Metrorail and metrobus from station to work (mode of access from home to Metrorail station not pertinent)		3.0%	142
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work (mode of access from home to commuter rail station not pertinent)		1.1%	50
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work (mode of access from home to commuter rail station not pertinent)		4.8%	230
Commuter Rail (i.e. VRE/MARC) and bus from station to work (mode of access from home to commuter rail station not pertinent)		0.6%	30
Express bus/ Commuter bus from home to work		3.8%	179
Metrobus from home to work		1.3%	62
Walk from home to work		1.2%	56
Bicycle from home to work		0.6%	27
Other		8.2%	389
Not Answered			205

	Mean	9.201
	Standard Deviation	6.207
	Valid Responses	4751
	Total Responses	4956

12: How did you travel to work on Tuesday, April 17, 2007?

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Did not work today (i.e. personal leave or compressed work schedule)		1.2%	55
Worked off-site (i.e. Telecommute or out-of-town work)		1.7%	79
Drove alone the entire trip		30.2%	1426
Motorcycle		0.4%	18
Dropped off by non-DHS employee (i.e. dropped off by slug, spouse, or taxi driver)		2.3%	111
Carpool with non-DHS employee (select this option if you arrived to work alone in your car but you traveled with someone else like a spouse or child during a portion of your commute)		3.3%	155
Carpool with 1 DHS employee		2.4%	114
Carpool with 2 DHS employees		0.9%	44

Carpool with 3 DHS employees		0.5%	25
Carpool with 4 or more DHS employees		0.1%	4
Vanpool		1.8%	86
Metrorail and walk from station to work (mode of access from home to Metrorail station not pertinent)		29.0%	1371
Metrorail and agency shuttle from station to work (mode of access from home to Metrorail station not pertinent)		3.2%	150
Metrorail and metrobus from station to work (mode of access from home to Metrorail station not pertinent)		3.2%	149
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work (mode of access from home to commuter rail station not pertinent)		1.1%	50
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work (mode of access from home to commuter rail station not pertinent)		4.9%	231
Commuter Rail (i.e. VRE/MARC) and bus from station to work (mode of access from home to commuter rail station not pertinent)		0.7%	35

Express bus/ Commuter bus from home to work		3.6%	169
Metrobus from home to work		1.2%	59
Walk from home to work		1.2%	58
Bicycle from home to work		0.6%	26
Other		6.6%	312
Not Answered			229
	Mean		9.873
	Standard Deviation		6.111
	Valid Responses		4727
	Total Responses		4956

13: How did you travel to work on Wednesday, April 18, 2007?

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Worked off-site (i.e. Telecommute or out-of-town work)		2.2%	104
Drove alone the entire trip		29.6%	1398
Motorcycle		0.3%	15
Dropped off by non-DHS employee (i.e. dropped off by slug, spouse, or taxi driver)		2.5%	119
Carpool with non-DHS employee (select this option if you arrived to work alone in		3.1%	145

your car but you traveled with someone else like a spouse or child during a portion of your commute)			
Carpool with 1 DHS employee		2.4%	112
Carpool with 2 DHS employees		1.0%	46
Carpool with 3 DHS employees		0.6%	27
Carpool with 4 or more DHS employees		0.1%	3
Vanpool		1.8%	86
Metrorail and walk from station to work (mode of access from home to Metrorail station not pertinent)		29.7%	1403
Metrorail and agency shuttle from station to work (mode of access from home to Metrorail station not pertinent)		3.0%	140
Metrorail and metrobus from station to work (mode of access from home to Metrorail station not pertinent)		3.0%	140
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work (mode of access from home to commuter rail station not pertinent)		1.1%	51
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work (mode of access from home		4.8%	225

to commuter rail station not pertinent)			
Commuter Rail (i.e. VRE/MARC) and bus from station to work (mode of access from home to commuter rail station not pertinent)		0.7%	34
Express bus/ Commuter bus from home to work		3.7%	176
Metrobus from home to work		1.4%	64
Walk from home to work		1.3%	61
Bicycle from home to work		0.6%	29
Other		7.3%	343
Not Answered			235
	Mean		9.086
	Standard Deviation		6.139
	Valid Responses		4721
	Total Responses		4956

14: How did you travel to work on Thursday, April 19, 2007?

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Worked off-site (i.e. Telecommute or out-of-town work)		2.2%	102
Drove alone the entire trip		29.2%	1381
Motorcycle		0.4%	21
Dropped off by non-DHS employee (i.e. dropped off by slug, spouse, or taxi driver)		2.2%	103
Carpool with non-DHS employee (select this option if you arrived to work alone in your car but you traveled with someone else like a spouse or child during a portion of your commute)		3.1%	148
Carpool with 1 DHS employee		2.7%	126
Carpool with 2 DHS employees		0.9%	44
Carpool with 3 DHS employees		0.6%	26
Carpool with 4 or more DHS employees		0.1%	3
Vanpool		1.8%	83
Metrorail and walk from station to work (mode of access from home to Metrorail station not pertinent)		29.4%	1389
Metrorail and agency shuttle from station to work (mode of access from home to Metrorail station not pertinent)		3.0%	141
Metrorail and metrobus from station to work (mode of access from home to Metrorail station not pertinent)		3.0%	144
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station		1.1%	51

to work (mode of access from home to commuter rail station not pertinent)			
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work (mode of access from home to commuter rail station not pertinent)		4.9%	230
Commuter Rail (i.e. VRE/MARC) and bus from station to work (mode of access from home to commuter rail station not pertinent)		0.7%	32
Express bus/ Commuter bus from home to work		3.5%	166
Metrobus from home to work		1.4%	67
Walk from home to work		1.3%	62
Bicycle from home to work		0.5%	25
Other		8.0%	378
Not Answered			234
	Mean		9.185
	Standard Deviation		6.194
	Valid Responses		4722
	Total Responses		4956

15: How did you travel to work on Friday, April 20, 2007?

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Worked off-site (i.e. Telecommute or out-of-town work)		3.7%	172
Drove alone the entire trip		28.7%	1345

Motorcycle		0.4%	18
Dropped off by non-DHS employee (i.e. dropped off by slug, spouse, or taxi driver)		2.4%	112
Carpool with non-DHS employee (select this option if you arrived to work alone in your car but you traveled with someone else like a spouse or child during a portion of your commute)		2.9%	137
Carpool with 1 DHS employee		2.3%	109
Carpool with 2 DHS employees		0.9%	41
Carpool with 3 DHS employees		0.4%	20
Carpool with 4 or more DHS employees		0.1%	5
Vanpool		1.7%	78
Metrorail and walk from station to work (mode of access from home to Metrorail station not pertinent)		27.7%	1302
Metrorail and agency shuttle from station to work (mode of access from home to Metrorail station not pertinent)		2.6%	123
Metrorail and metrobus from station to work (mode of access from home to Metrorail station not pertinent)		2.8%	131
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to		1.0%	48

work (mode of access from home to commuter rail station not pertinent)			
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work (mode of access from home to commuter rail station not pertinent)		4.4%	207
Commuter Rail (i.e. VRE/MARC) and bus from station to work (mode of access from home to commuter rail station not pertinent)		0.7%	34
Express bus/ Commuter bus from home to work		3.2%	151
Metrobus from home to work		1.3%	62
Walk from home to work		1.3%	61
Bicycle from home to work		0.5%	22
Other		11.0%	515
Not Answered			263
	Mean		9.353
	Standard Deviation		6.521
	Valid Responses		4693
	Total Responses		4956

16: How many travel transfers does it typically take you to get to work? (Example 1 - Drive to a Metrorail station (1), take red line to Metro Center (2), transfer to the orange line (3) - the answer would be 3) (Example 2 - Drive to work and park (1) - the answer would be 1)

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
1 transfer		50.7%	2163
2 transfers		25.5%	1089
3 transfers		18.6%	795
4 transfers		4.5%	192
5 transfers		0.6%	24
6 transfers		0.0%	0
7 transfers		0.0%	1
8 transfers		0.0%	0
> 8 transfers		0.0%	2
Not Answered			690
	Mean		1.791
	Standard Deviation		0.954
	Valid Responses		4266
	Total Responses		4956

17: When the Department of Homeland Security Headquarters is consolidated and relocated to St. Elizabeths West Campus, will the move affect your decision on where to reside?
(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Yes, I expect to move to a different place of residence		7.4%	347
No, I will live at my current place of residence		92.6%	4355
Not Answered			154
	Mean		1.926
	Standard Deviation		0.261
	Valid Responses		4702
	Total Responses		4856

18: Do you expect to use the same mode of travel to get to work in the future (i.e. transit, carpool, and private)?
(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Yes, I expect to use the same mode of travel that I use today		71.7%	2952
No, I expect to use a different mode of travel to get to work		28.3%	1165
Not Answered			400
	Mean		1.283
	Standard Deviation		0.450
	Valid Responses		4117
	Total Responses		4517

19: How many miles will you have to travel to get to work at St. Elizabeths in the future? (one day one way)(in 5 mile increments)
NOTE: www.mapquest.com may be helpful in determining this information. St. Elizabeths is located at 2700 Martin Luther King, Jr. Avenue, SE, Washington, DC 20032.

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
< 5 miles		3.1%	132
5-10 miles		12.6%	544
11-15 miles		13.0%	560
16-20 miles		11.9%	513
21-25 miles		10.0%	432
26-30 miles		9.5%	408
31-35 miles		9.2%	396
36-40 miles		7.9%	341
41-45 miles		4.7%	203
46-50 miles		3.7%	159
51-55 miles		2.7%	116
56-60 miles		2.4%	102
61-65 miles		2.1%	91
66-70 miles		1.7%	72
71-75 miles		1.1%	47
76-80 miles		0.8%	36

81-85 miles		0.8%	36
86-90 miles		0.5%	22
91-95 miles		0.4%	16
96-100 miles		0.6%	24
> 100 miles		1.3%	56
Not Answered			211
	Mean		6.367
	Standard Deviation		4.192
	Valid Responses		4306
	Total Responses		4517

20: Please select your expected mode of travel to work on Monday.

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Worked off-site (i.e. Telecommute or out-of-town work)		1.2%	50
Drove alone the entire trip		37.0%	1561
Motorcycle		0.4%	18
Dropped off by non-DHS employee (i.e. dropped off by SLUG, spouse, or taxi driver)		1.1%	46
Carpool with non-DHS employee (select this option if you arrived to work alone in your car but you		2.4%	103

traveled with someone else like a spouse or child during a portion of your commute)			
Carpool with 1 DHS employee		2.4%	102
Carpool with 2 DHS employees		1.1%	47
Carpool with 3 DHS employees		0.5%	23
Carpool with 4 or more DHS employees		0.0%	2
Vanpool		1.6%	66
Metrorail and walk from station to work (mode of access from home to Metrorail station not pertinent)		7.9%	332
Metrorail and proposed Anacostia Street Car (mode of access from home to Metrorail station not pertinent)		4.0%	167
Metrorail and agency shuttle from station to work (mode of access from home to Metrorail station not pertinent)		18.4%	779
Metrorail and Metrobus from station to work (mode of access from home to Metrorail station not pertinent)		2.2%	94
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work (mode of access from home to commuter rail station not pertinent)		3.8%	160
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work (mode of access from home to commuter rail station not pertinent)		1.2%	51

Commuter Rail (i.e. VRE/MARC) to Metrorail and Anacostia Street Car from station to work (mode of access from home to commuter rail station not pertinent)		1.6%	68
Commuter Rail (i.e. VRE/MARC) and Metrobus from station to work (mode of access from home to commuter rail station not pertinent)		0.2%	10
Express bus/ Commuter bus from home to work		1.6%	67
Metrobus from home to work		0.6%	26
Walk from home to work		0.2%	9
Bicycle from home to work		0.3%	12
Other		1.7%	71
Don't know		8.5%	359
Not Answered			151
	Mean		9.442
	Standard Deviation		7.258
	Valid Responses		4223
	Total Responses		4374

21: Please select your expected mode of travel to work on Tuesday.

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Worked off-site (i.e. Telecommute or out-of-town work)		0.8%	33
Drove alone the entire trip		36.2%	1525
Motorcycle		0.5%	22
Dropped off by non-DHS employee (i.e. dropped off by SLUG, spouse, or taxi driver)		1.2%	51
Carpool with non-DHS employee (select this option if you arrived to work alone in your car but you traveled with someone else like a spouse or child during a portion of your commute)		2.4%	100
Carpool with 1 DHS employee		2.5%	104
Carpool with 2 DHS employees		1.2%	49
Carpool with 3 DHS employees		0.6%	25
Carpool with 4 or more DHS employees		0.0%	2
Vanpool		1.5%	64
Metrorail and walk from station to work (mode of access from home to Metrorail station not pertinent)		8.7%	366
Metrorail and proposed Anacostia Street Car (mode of		4.3%	183

access from home to Metrorail station not pertinent)			
Metrorail and agency shuttle from station to work (mode of access from home to Metrorail station not pertinent)		17.9%	756
Metrorail and Metrobus from station to work (mode of access from home to Metrorail station not pertinent)		2.2%	92
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work (mode of access from home to commuter rail station not pertinent)		3.9%	165
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work (mode of access from home to commuter rail station not pertinent)		1.2%	49
Commuter Rail (i.e. VRE/MARC) to Metrorail and Anacostia Street Car from station to work (mode of access from home to commuter rail station not pertinent)		1.6%	68
Commuter Rail (i.e. VRE/MARC) and Metrobus from station to work (mode of access from home to		0.3%	11

commuter rail station not pertinent)			
Express bus/ Commuter bus from home to work		1.6%	66
Metrobus from home to work		0.8%	32
Walk from home to work		0.2%	10
Bicycle from home to work		0.4%	15
Other		1.6%	67
Don't know		8.5%	357
Not Answered			162
	Mean		9.538
	Standard Deviation		7.220
	Valid Responses		4212
	Total Responses		4374

22: Please select your expected mode of travel to work on Wednesday.

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Worked off-site (i.e. Telecommute or out-of-town work)		1.0%	44
Drove alone the entire trip		36.3%	1527
Motorcycle		0.4%	18
Dropped off by non-DHS employee (i.e. dropped off by		1.2%	49

SLUG, spouse, or taxi driver)			
Carpool with non-DHS employee (select this option if you arrived to work alone in your car but you traveled with someone else like a spouse or child during a portion of your commute)		2.4%	101
Carpool with 1 DHS employee		2.4%	99
Carpool with 2 DHS employees		1.2%	50
Carpool with 3 DHS employees		0.5%	23
Carpool with 4 or more DHS employees		0.0%	2
Vanpool		1.5%	64
Metrorail and walk from station to work (mode of access from home to Metrorail station not pertinent)		8.5%	359
Metrorail and proposed Anacostia Street Car (mode of access from home to Metrorail station not pertinent)		3.9%	165
Metrorail and agency shuttle from station to work (mode of access from home to Metrorail station not pertinent)		18.4%	773
Metrorail and Metrobus from station to work (mode of access from home to Metrorail station not pertinent)		2.1%	89

Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work (mode of access from home to commuter rail station not pertinent)		3.9%	165
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work (mode of access from home to commuter rail station not pertinent)		1.1%	46
Commuter Rail (i.e. VRE/MARC) to Metrorail and Anacostia Street Car from station to work (mode of access from home to commuter rail station not pertinent)		1.5%	65
Commuter Rail (i.e. VRE/MARC) and Metrobus from station to work (mode of access from home to commuter rail station not pertinent)		0.3%	13
Express bus/ Commuter bus from home to work		1.6%	66
Metrobus from home to work		0.8%	32
Walk from home to work		0.3%	11
Bicycle from home to work		0.4%	15
Other		1.7%	71
Don't know		8.4%	354
Not Answered			173

	Mean	9.521
	Standard Deviation	7.241
	Valid Responses	4201
	Total Responses	4374

23: Please select your expected mode of travel to work on Thursday.

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Worked off-site (i.e. Telecommute or out-of-town work)		1.1%	45
Drove alone the entire trip		36.7%	1546
Motorcycle		0.5%	19
Dropped off by non-DHS employee (i.e. dropped off by SLUG, spouse, or taxi driver)		1.2%	49
Carpool with non-DHS employee (select this option if you arrived to work alone in your car but you traveled with someone else like a spouse or child during a portion of your commute)		2.4%	100
Carpool with 1 DHS employee		2.4%	100
Carpool with 2 DHS employees		1.2%	50
Carpool with 3 DHS employees		0.5%	21
Carpool with 4 or more DHS employees		0.0%	2

Vanpool		1.5%	65
Metrorail and walk from station to work (mode of access from home to Metrorail station not pertinent)		8.5%	358
Metrorail and proposed Anacostia Street Car (mode of access from home to Metrorail station not pertinent)		4.1%	171
Metrorail and agency shuttle from station to work (mode of access from home to Metrorail station not pertinent)		18.1%	762
Metrorail and Metrobus from station to work (mode of access from home to Metrorail station not pertinent)		2.2%	92
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work (mode of access from home to commuter rail station not pertinent)		3.6%	151
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work (mode of access from home to commuter rail station not pertinent)		1.1%	47
Commuter Rail (i.e. VRE/MARC) to Metrorail and Anacostia Street Car from station to work (mode of access from home to		1.5%	65

commuter rail station not pertinent)			
Commuter Rail (i.e. VRE/MARC) and Metrobus from station to work (mode of access from home to commuter rail station not pertinent)		0.3%	12
Express bus/ Commuter bus from home to work		1.5%	64
Metrobus from home to work		0.8%	33
Walk from home to work		0.2%	10
Bicycle from home to work		0.4%	16
Other		1.7%	70
Don't know		8.6%	361
Not Answered			165
	Mean		9.482
	Standard Deviation		7.266
	Valid Responses		4209
	Total Responses		4374

24: Please select your expected mode of travel to work on Friday.

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
Worked off-site (i.e. Telecommute or out-of-town work)		2.5%	106
Drove alone the entire trip		36.3%	1527
Motorcycle		0.5%	22
Dropped off by non-DHS employee (i.e. dropped off by SLUG, spouse, or taxi driver)		1.2%	51
Carpool with non-DHS employee (select this option if you arrived to work alone in your car but you traveled with someone else like a spouse or child during a portion of your commute)		2.3%	95
Carpool with 1 DHS employee		2.2%	91
Carpool with 2 DHS employees		1.2%	49
Carpool with 3 DHS employees		0.5%	19
Carpool with 4 or more DHS employees		0.0%	2
Vanpool		1.5%	63
Metrorail and walk from station to work (mode of access from home to Metrorail station not pertinent)		8.3%	347
Metrorail and proposed Anacostia Street Car (mode of access from home to		4.2%	178

Metrorail station not pertinent)			
Metrorail and agency shuttle from station to work (mode of access from home to Metrorail station not pertinent)		17.5%	735
Metrorail and Metrobus from station to work (mode of access from home to Metrorail station not pertinent)		2.1%	90
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work (mode of access from home to commuter rail station not pertinent)		3.5%	146
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work (mode of access from home to commuter rail station not pertinent)		1.1%	46
Commuter Rail (i.e. VRE/MARC) to Metrorail and Anacostia Street Car from station to work (mode of access from home to commuter rail station not pertinent)		1.5%	65
Commuter Rail (i.e. VRE/MARC) and Metrobus from station to work (mode of access from home to commuter rail station not pertinent)		0.2%	10
Express bus/ Commuter bus from home to work		1.5%	64

Metrobus from home to work		0.6%	26
Walk from home to work		0.2%	10
Bicycle from home to work		0.5%	19
Other		1.9%	80
Don't know		8.6%	361
Not Answered			172
	Mean		9.386
	Standard Deviation		7.339
	Valid Responses		4202
	Total Responses		4374

25: How many minutes do you expect to travel to get to work at St. Elizabeths in the future? (in 5 minute increments)

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
< 5 mins		0.4%	18
5-10 mins		0.8%	35
11-15 mins		1.7%	70
16-20 mins		2.2%	91
21-25 mins		3.0%	127
26-30 mins		4.1%	173

31-35 mins		3.8%	161
36-40 mins		5.8%	245
41-45 mins		7.9%	331
46-50 mins		6.2%	261
51-55 mins		3.4%	144
56-60 mins		10.6%	444
61-65 mins		6.4%	267
66-70 mins		6.4%	270
71-75 mins		6.5%	275
76-80 mins		3.9%	164
81-85 mins		2.5%	105
86-90 mins		5.9%	247
91-95 mins		2.9%	121
96-100 mins		3.5%	147
101 - 105 mins		1.4%	57
106 - 110 mins		1.2%	50
111 - 115 mins		1.0%	41
116 - 120 mins		2.6%	109
> 120 mins		5.9%	246
Not Answered			175
	Mean		13.193

	Standard Deviation	5.793
	Valid Responses	4199
	Total Responses	4374

26: How many travel transfers do you expect to take to get to work at St. Elizabeths (Example 1 - Drive to a Metrorail station (1), take red line to Metro Center (2), transfer to the orange line (3) - the answer would be 3) (Example 2 - Drive to work and park (1) - the answer would be 1)?

(Respondents could only choose a single response)

Response	Chart	Frequency	Count
1 transfer		41.7%	1594
2 transfers		13.0%	497
3 transfers		19.9%	759
4 transfers		17.5%	668
5 transfers		5.9%	226
6 transfers		1.4%	53
7 transfers		0.3%	11
8 transfers		0.1%	3
> 8 transfers		0.3%	12
Not Answered			551

	Mean	2.405
	Standard Deviation	1.469
	Valid Responses	3823
	Total Responses	4374

27: If you currently plan to drive alone to work in the future, what would encourage you to share a ride in the future? (Select up to three choices).
NOTE: Some incentives mentioned below may not be currently authorized by law.

(Respondents were allowed to choose multiple responses)

Response	Chart	Frequency	Count
I do not plan to drive alone		20.8%	1181
Increased HOV lane incentives or opportunities on major arterials into the District		8.4%	477
Help finding people with whom I can share the ride		14.5%	819
Guaranteed ride home in case of emergencies and unscheduled overtime		12.4%	702
More flexible hours (Flextime)		16.7%	948
More predictable work schedule (i.e. reduced irregular work hours)		8.2%	463
Easier access to services for personal errands during the day		7.3%	412
Prizes, contest, and drawings for ride sharers		0.8%	46
Parking fees or increased fees for those driving alone		3.9%	221

Child care facilities at or near my work site		2.3%	131
Improved neighborhood security		11.2%	637
Other		4.6%	262
I do not wish to carpool or vanpool to work at this time		20.0%	1132
	Valid Responses		4374
	Total Responses		4374

28: If you do not plan to telecommute at least one day per week in the future, what would encourage you to telecommute? (Select all that apply)

(Respondents were allowed to choose multiple responses)

Response	Chart	Frequency	Count
I already plan to telecommute at least one day per week		8.0%	454
Supervisor consent		43.4%	2461
Providing reasonably appropriate technology to work at home or from telework centers		23.9%	1356
Other (telecommuting assistance or incentives)		4.3%	241
I will not be able to telecommute because my job requires me to be on-site		16.4%	927
I will not be able to telecommute for other reasons		4.0%	224
	Valid Responses		4374
	Total Responses		4374

29: If you currently plan to drive alone in the future, what would encourage you to use public transit? (Select up to three choices).
NOTE: Some incentives mentioned below may not be currently authorized by law.

(Respondents were allowed to choose multiple responses)

Response	Chart	Frequency	Count
I do not plan to drive alone in the future		23.1%	1310
Help finding bus or rail service to meet my schedule		6.5%	371
Improved personal safety in Anacostia neighborhood		21.5%	1218
Improved personal safety at other Metrorail stations		9.5%	540
Express bus from your area of residence to work		14.6%	829
Guaranteed ride home in case of emergencies and unscheduled overtime		9.0%	508
More flexible hours (Flextime)		9.3%	529
Easier access to services for personal errands during the day		5.5%	312
Prizes, contest, and drawings for transit users		0.7%	42
Parking fees for those driving alone		2.6%	147
Child care facilities at or near my work site		1.4%	80
Extended day care hours		1.1%	63
Bicycle lockers at transit stations		1.4%	79

More frequent service or more convenient stops		9.7%	547
More parking at Metrorail or transit stations		7.7%	436
Distribution of transit passes at your work site		6.6%	376
Other		5.6%	319
I do not wish to use public transit at this time		10.4%	590
	Valid Responses		4374
	Total Responses		4374

30: If you currently do not plan to walk or ride a bicycle to work in the future, what would encourage you to walk or ride a bicycle? (Select up to three choices)

(Respondents were allowed to choose multiple responses)

Response	Chart	Frequency	Count
Improved bicycle routes and trails to work		11.4%	646
Improved personal safety along bicycle trails and/or in Anacostia neighborhood		14.1%	801
Guaranteed ride home in case of emergencies or unscheduled overtime		6.5%	366
Secure, convenient bicycle parking racks or lockers at work		8.0%	455
Seminars on riding safely in traffic		0.8%	47
Showers and clothing lockers		12.1%	684
More flexible hours		5.1%	290

Easier access to services for personal errands during the day		2.6%	145
Bicycle and safety equipment provided by DHS		2.4%	134
Prizes, contest, and drawings for bicyclists		0.9%	51
Parking fees for those driving alone		1.3%	74
Other		3.7%	211
I do not wish to ride a bicycle or walk to work at this time		47.8%	2706
	Valid Responses		4374
	Total Responses		4374

USCG Comuter Survey Summary

Civilian	42%
Contractor	13%
Military	45%
Total	100%

4. Approximately what time did you arrive to St Elizabeth West Campus on Wednesday October 26?

	Civialian	**Contractor**	**Military**	**TOTAL**
Before 5:00AM	0%	<1%	1%	**1%**
5:00 AM	<1%	1%	1%	**1%**
5:15 AM	<1%	1%	1%	**1%**
5:30 AM	2%	2%	2%	**2%**
5:45 AM	2%	1%	2%	**2%**
6:00 AM	5%	5%	7%	**6%**
6:15 AM	8%	4%	7%	**7%**
6:30 AM	17%	7%	17%	**15%**
6:45 AM	11%	11%	8%	**10%**
7:00 AM	16%	7%	17%	**15%**
7:15 AM	7%	10%	6%	**7%**
7:30 AM	8%	15%	9%	**10%**
7:45 AM	4%	5%	4%	**4%**
8:00 AM	5%	6%	4%	**5%**
8:15 AM	2%	2%	2%	**2%**
8:30 AM	2%	5%	3%	**3%**
8:45 AM	<1%	0%	1%	**1%**
9:00 AM	2%	1%	1%	**1%**
9:15 AM	<1%	<1%	1%	**<1%**
9:30 AM	<1%	1%	0%	**<1%**
9:45 AM	0%	0%	<1%	**<1%**
11:15 AM	<1%	<1%	0%	**<1%**
11:45 AM	0%	<1%	0%	**<1%**
12:00 PM	<1%	1%	0%	**<1%**
12:30 PM	<1%	0%	0%	**<1%**
1:00 PM	<1%	0%	0%	**<1%**
1:15 PM	<1%	0%	0%	**<1%**
1:30 PM	<1%	0%	0%	**<1%**
6:30 PM	<1%	<1%	0%	**<1%**
After 7:00 Pm	<1%	<1%	<1%	**<1%**
Did Not Work	6%	10%	6%	**6%**
Total	100%	100%	100%	**100%**

5. Approximately what time did you leave St Elizabeth West Campus on Wednesday October 26?

	Civialian	Contractor	Military	TOTAL
Before 5:00AM	1%	0%	2%	**1%**
5:00 AM	3%	0%	0%	**1%**
5:15 AM	2%	0%	0%	**1%**
5:30 AM	3%	0%	0%	**1%**
5:45 AM	2%	0%	0%	**1%**
6:00 AM	2%	0%	0%	**1%**
6:15 AM	1%	0%	0%	**1%**
6:30 AM	1%	0%	0%	**<1%**
6:45 AM	1%	0%	0%	**<1%**
7:00 AM	1%	0%	0%	**<1%**
7:30 AM	<1%	0%	0%	**<1%**
7:45 AM	<1%	0%	0%	**<1%**
8:00 AM	<1%	0%	0%	**<1%**
9:30 AM	<1%	0%	0%	**<1%**
10:15 AM	<1%	0%	0%	**<1%**
11:15 AM	<1%	0%	0%	**<1%**
12:30 PM	<1%	0%	0%	**<1%**
1:15 PM	<1%	0%	0%	**<1%**
1:45 PM	<1%	0%	0%	**<1%**
2:00 PM	1%	0%	0%	**<1%**
2:15 PM	<1%	0%	0%	**<1%**
2:30 PM	2%	0%	0%	**1%**
2:45 PM	<1%	0%	0%	**<1%**
3:00 PM	5%	<1%	<1%	**2%**
3:15 PM	4%	2%	<1%	**2%**
3:30 PM	16%	<1%	<1%	**7%**
3:45 PM	9%	0%	0%	**4%**
4:00 PM	34%	27%	2%	**18%**
4:15 PM	8%	13%	4%	**6%**
4:30 PM	3%	45%	12%	**13%**
4:45 PM	<1%	5%	7%	**4%**
5:00 PM	<1%	5%	16%	**8%**
5:15 PM	0%	0%	7%	**3%**
5:30 PM	0%	1%	10%	**5%**
5:45 PM	0%	0%	5%	**2%**
6:00 PM	0%	0%	6%	**3%**
6:15 PM	0%	0%	3%	**1%**
6:30 PM	<1%	0%	4%	**2%**
6:45 PM	0%	0%	1%	**1%**
7:00 PM	0%	0%	2%	**1%**
After 7:00 Pm	0%	0%	4%	**2%**
Did Not Work	0%	0%	15%	**7%**
Total	100%	100%	100%	**100%**

6. How many mile do you travel to work (one day one way)?

	Civialian	Contractor	Military	TOTAL
Less the 5 Miles	0%	0%	8%	**4%**
5- 10 Miles	0%	1%	28%	**13%**
11- 15 Miles	30%	2%	0%	**13%**
16- 20 Miles	28%	<1%	0%	**12%**
21- 25 Miles	26%	0%	0%	**11%**
26- 30 Miles	13%	40%	4%	**12%**
31- 35 Miles	3%	45%	7%	**10%**
36 - 40 Miles	<1%	9%	15%	**8%**
41- 45 Miles	0%	1%	12%	**5%**
46- 50 Miles	0%	0%	7%	**3%**
51- 55 Miles	<1%	0%	7%	**3%**
56- 60 Miles	0%	0%	4%	**2%**
61- 65 Miles	0%	0%	3%	**1%**
66- 70 Miles	0%	0%	2%	**1%**
71- 75 Miles	0%	0%	2%	**1%**
76- 80 Miles	0%	0%	1%	**<1%**
81- 85 Miles	0%	0%	<1%	**<1%**
86- 90 Miles	0%	0%	1%	**<1%**
91- 95 Miles	0%	0%	<1%	**<1%**
96- 100 Miles	0%	0%	1%	**<1%**
Greater than 100 Miles	0%	0%	1%	**<1%**
Total	100%	100%	100%	**100%**

7. How many minutes does it usually take you to get to work?

	Civialian	Contractor	Military	TOTAL
11- 15 Minutes	2%	1%	3%	**3%**
16- 20 Minutes	3%	4%	4%	**3%**
21- 25 Minutes	4%	8%	5%	**5%**
26- 30 Minutes	5%	9%	6%	**6%**
31- 35 Minutes	6%	9%	7%	**11%**
36 - 40 Minutes	8%	5%	8%	**8%**
41- 45 Minutes	9%	10%	12%	**10%**
46- 50 Minutes	10%	10%	9%	**10%**
51- 55 Minutes	7%	6%	7%	**7%**
56- 60 Minutes	12%	7%	10%	**10%**
61- 65 Minutes	5%	5%	6%	**6%**
66- 70 Minutes	4%	5%	4%	**4%**
71- 75 Minutes	5%	4%	5%	**5%**
76- 80 Minutes	2%	3%	2%	**2%**
81- 85 Minutes	2%	1%	1%	**2%**
86- 90 Minutes	5%	5%	4%	**5%**
91- 95 Minutes	2%	2%	1%	**2%**
96- 100 Minutes	1%	<1%	1%	**1%**
100- 105 Minutes	1%	<1%	<1%	**<1%**
106- 110 Minutes	<1%	<1%	1%	**<1%**
111- 115 Minutes	1%	<1%	<1%	**<1%**
116- 120 Minutes	1%	1%	1%	**<1%**
Greater than 120 Minutes	2%	2%	2%	**2%**
Total	100%	100%	100%	**100%**

8. How did you travel to work each day during the week of October 24-28, 2005?

	Civialian	Contractor	Military	TOTAL
Bicycle from Home to Work	1%	3%	1%	**1%**
Carpool with 1 Coast Guard employee	5%	2%	4%	**4%**
Carpool with 2 Coast Guard employees	5%	6%	4%	**5%**
Carpool with 3 Coast Guard employees	2%	2%	3%	**3%**
Carpool with 4 Coast Guard employees	<1%	<1%	1%	**0%**
Carpool with non-Coast Guard	5%	7%	5%	**5%**
Commuter Bus / Express Bus from location near home	2%	3%	2%	**2%**
Commuter Rail (i.e. VRE/MARC) and bus from station to work	3%	4%	5%	**4%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work	2%	3%	2%	**2%**
Did not work today	8%	8%	9%	**8%**
Taxicab/Spouse	2%	1%	1%	**1%**
Drove alone the entire trip	31%	31%	34%	**33%**
Metrobus from home to work	1%	0%	2%	**1%**
Metrorail and bus from station to work	13%	14%	12%	**13%**
Metrorail and walk from station to work	5%	4%	3%	**4%**
Motorcycle	1%	0%	1%	**1%**
Other	1%	1%	1%	**1%**
Vanpool	8%	6%	7%	**7%**
Walk from home to work	<1%	<1%	<1%	**<1%**
Worked Offsite	5%	2%	4%	**4%**
Total	100%	100%	100%	**100%**

How did you travel to work each day during the week of October 24-28, 2005?

	Civialian	Contractor	Military	TOTAL
Bicycle from Home to Work	1%	3%	1%	**1%**
Carpool with 1 Coast Guard employee	5%	2%	4%	**4%**
Carpool with 2 Coast Guard employees	5%	6%	4%	**5%**
Carpool with 3 Coast Guard employees	1%	2%	3%	**3%**
Carpool with 4 Coast Guard employees	4%	0%	0%	**<1%**
Carpool with non-Coast Guard	5%	9%	5%	**6%**
Commuter Bus / Express Bus from location near home	3%	5%	2%	**3%**
Commuter Rail (i.e. VRE/MARC) and bus from station to work	2%	3%	7%	**4%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work	5%	0%	0%	**2%**
Did not work today	3%	8%	3%	**3%**
Taxicab/Spouse	0%	0%	3%	**1%**
Drove alone the entire trip	33%	32%	33%	**33%**
Metrobus from home to work	0%	0%	2%	**1%**
Metrorail and bus from station to work	14%	14%	13%	**13%**
Metrorail and walk from station to work	5%	4%	4%	**4%**
Motorcycle	0%	0%	2%	**1%**
Other	1%	0%	2%	**1%**
Vanpool	9%	8%	6%	**8%**
Walk from home to work	0%	0%	<1%	**<1%**
Worked Offsite	5%	2%	6%	**5%**
Total	100%	100%	100%	**100%**

How did you travel to work each day during the week of October 24-28, 2005?

WEDNESDAY OCTOBER 26, 2005	Civialian	Contractor	Military	TOTAL
Bicycle from Home to Work	1%	3%	1%	**1%**
Carpool with 1 Coast Guard employee	6%	2%	3%	**4%**
Carpool with 2 Coast Guard employees	4%	6%	4%	**4%**
Carpool with 3 Coast Guard employees	3%	2%	3%	**3%**
Carpool with 4 Coast Guard employees	0%	0%	0%	**<1%**
Carpool with non-Coast Guard	5%	9%	5%	**6%**
Commuter Bus / Express Bus from location near home	3%	5%	2%	**3%**
Commuter Rail (i.e. VRE/MARC) and bus from station to work	2%	3%	7%	**4%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work	5%	0%	0%	**2%**
Did not work today	2%	8%	3%	**3%**
Taxicab/Spouse	1%	0%	2%	**1%**
Drove alone the entire trip	32%	32%	35%	**34%**
Metrobus from home to work	2%	0%	<1%	**1%**
Metrorail and bus from station to work	14%	14%	13%	**13%**
Metrorail and walk from station to work	2%	4%	6%	**4%**
Motorcycle	1%	0%	2%	**1%**
Other	1%	0%	1%	**1%**
Vanpool	8%	8%	7%	**8%**
Walk from home to work	1%	0%	0%	**<1%**
Worked Offsite	4%	2%	6%	**5%**
Total	100%	100%	100%	**100%**

How did you travel to work each day during the week of October 24-28, 2005?

	Civialian	Contractor	Military	TOTAL
Bicycle from Home to Work	2%	3%	1%	**2%**
Carpool with 1 Coast Guard employee	6%	2%	2%	**4%**
Carpool with 2 Coast Guard employees	4%	6%	4%	**4%**
Carpool with 3 Coast Guard employees	3%	2%	2%	**3%**
Carpool with 4 Coast Guard employees	0%	0%	1%	**<1%**
Carpool with non-Coast Guard	6%	9%	6%	**6%**
Commuter Bus / Express Bus from location near home	3%	5%	2%	**3%**
Commuter Rail (i.e. VRE/MARC) and bus from station to work	2%	3%	7%	**4%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work	3%	0%	1%	**2%**
Did not work today	4%	8%	3%	**4%**
Taxicab/Spouse	1%	0%	1%	**1%**
Drove alone the entire trip	32%	32%	36%	**34%**
Metrobus from home to work	1%	0%	1%	**1%**
Metrorail and bus from station to work	15%	14%	11%	**13%**
Metrorail and walk from station to work	2%	4%	6%	**4%**
Motorcycle	0%	0%	2%	**1%**
Other	2%	0%	1%	**1%**
Vanpool	9%	8%	6%	**8%**
Walk from home to work	0%	0%	1%	**<1%**
Worked Offsite	6%	2%	7%	**5%**
Total	100%	100%	100%	**100%**

How did you travel to work each day during the week of October 24-28, 2005?

	Civialian	Contractor	Military	TOTAL
Bicycle from Home to Work	1%	2%	1%	**1%**
Carpool with 1 Coast Guard employee	3%	1%	4%	**3%**
Carpool with 2 Coast Guard employees	4%	3%	3%	**3%**
Carpool with 3 Coast Guard employees	1%	2%	2%	**2%**
Carpool with 4 Coast Guard employees	0%	0%	0%	**<1%**
Carpool with non-Coast Guard	7%	4%	4%	**6%**
Commuter Bus / Express Bus from location near home	2%	3%	2%	**2%**
Commuter Rail (i.e. VRE/MARC) and bus from station to work	4%	4%	4%	**4%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work	1%	1%	1%	**1%**
Did not work today	16%	12%	17%	**16%**
Taxicab/Spouse	1%	1%	1%	**1%**
Drove alone the entire trip	30%	33%	31%	**31%**
Metrobus from home to work	0%	1%	1%	**1%**
Metrorail and bus from station to work	12%	14%	11%	**12%**
Metrorail and walk from station to work	2%	4%	4%	**3%**
Motorcycle	1%	1%	1%	**1%**
Other	1%	1%	1%	**1%**
Vanpool	6%	6%	5%	**5%**
Walk from home to work	0%	0%	0%	**<1%**
Worked Offsite	7%	4%	6%	**6%**
Total	100%	100%	100%	**100%**

9. How many travel transfers does it typically take you to get to work?

	Civialian	Contractor	Military	TOTAL
1 transfer	70%	68%	47%	**59%**
2 transfer	12%	1%	25%	**17%**
3 transfer	10%	27%	20%	**17%**
4 transfer	8%	4%	4%	**6%**
5 transfer	0%	0%	3%	**1%**
6 transfer	0%	0%	<1%	**0%**
7 transfer	0%	0%	<1%	**0%**
8 transfer	0%	0%	<1%	**0%**
Greater than 8 transfers	0%	0%	<1%	**0%**
Total	100%	100%	100%	**100%**

10. When the U.S. Coast Guard is consolidated and relocated to St. Elizabeths West Campus do you expect to move to a new or different place of residence?

	Civialian	Contractor	Military	TOTAL
YES	96%	93%	94%	**95%**
NO.	4%	7%	6%	**5%**
Total	100%	100%	100%	**100%**

11.Do you expect to use the same mode of travel to get to work in the future?

	Civialian	Contractor	Military	TOTAL
YES	86%	84%	85%	**85%**
NO.	14%	16%	15%	**15%**
Total	100%	100%	100%	**100%**

12. How many miles will you have to travel to get to work at St. Elizabeths in the future?

	Civialian	Contractor	Military	TOTAL
Less the 5 Miles	2%	1%	2%	**2%**
5- 10 Miles	7%	10%	8%	**8%**
11- 15 Miles	12%	14%	11%	**12%**
16- 20 Miles	12%	8%	10%	**10%**
21- 25 Miles	10%	11%	12%	**11%**
26- 30 Miles	10%	8%	8%	**9%**
31- 35 Miles	13%	8%	11%	**12%**
36 - 40 Miles	9%	9%	10%	**9%**
41- 45 Miles	4%	7%	8%	**6%**
46- 50 Miles	5%	7%	6%	**6%**
51- 55 Miles	3%	2%	4%	**3%**
56- 60 Miles	4%	3%	2%	**3%**
61- 65 Miles	2%	4%	2%	**3%**
66- 70 Miles	2%	3%	2%	**2%**
71- 75 Miles	1%	1%	1%	**1%**
76- 80 Miles	1%	0%	1%	**0%**
81- 85 Miles	1%	1%	1%	**1%**
86- 90 Miles	0%	0%	0%	**0%**
91- 95 Miles	0%	0%	0%	**0%**
96- 100 Miles	0%	0%	0%	**0%**
Greater than 100 Miles	1%	2%	1%	**1%**
Total	100%	100%	100%	**100%**

13. Expected mode of travel to work each day during a typical week?

MONDAY	Civialian	Contractor	Military	TOTAL
Bicycle from Home to Work	1%	0%	1%	**1%**
Carpool with 1 Coast Guard employee	4%	3%	5%	**4%**
Carpool with 2 Coast Guard employees	5%	3%	4%	**4%**
Carpool with 3 Coast Guard employees	5%	1%	3%	**4%**
Carpool with 4 Coast Guard employees	0%	0%	0%	**0%**
Carpool with non-Coast Guard	3%	5%	7%	**5%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work	6%	5%	4%	**5%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and Anacostia Street Car from station to work	0%	0%	1%	**1%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work	0%	0%	1%	**0%**
Don't Know	4%	4%	3%	**3%**
Taxicab/Spouse	1%	0%	0%	**0%**
Drove alone the entire trip	33%	39%	37%	**36%**
Express bus / Commuter bus from park & ride location (near your home) to work	3%	2%	2%	**3%**
Metrobus from home to work	1%	0%	1%	**1%**
Metrorail and agency shuttle from Anacostia station to work	15%	16%	14%	**15%**
Metrorail and Metrobus from station to work	2%	2%	2%	**2%**
Metrorail and proposed Anacostia Street Car	1%	1%	1%	**1%**
Metrorail and walk from station to work	1%	2%	2%	**2%**
Motorcycle	1%	1%	1%	**1%**
Other	0%	1%	1%	**1%**
Vanpool	9%	6%	7%	**8%**
Walk from home to work	0%	0%	0%	**0%**
Worked Offsite	4%	3%	4%	**4%**
Total	100%	100%	100%	**100%**

13. Expected mode of travel to work each day during a typical week?

TUESDAY	Civialian	Contractor	Military	TOTAL
Bicycle from Home to Work	1%	0%	1%	**1%**
Carpool with 1 Coast Guard employee	5%	5%	4%	**4%**
Carpool with 2 Coast Guard employees	5%	4%	4%	**4%**
Carpool with 3 Coast Guard employees	4%	5%	3%	**4%**
Carpool with 4 Coast Guard employees	0%	0%	0%	**0%**
Carpool with non-Coast Guard	5%	5%	5%	**5%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work	6%	5%	5%	**5%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and Anacostia Street Car from station to work	1%	1%	1%	**1%**
Commuter Rail (i.e. VRE/MARC) to Metrorail an	0%	1%	0%	**0%**
Don't Know	4%	2%	3%	**3%**
Drove alone the entire trip	34%	38%	36%	**35%**
Taxicab/Spouse	0%	0%	1%	**0%**
Express bus / Commuter bus from park & ride location (near your home) to work	2%	4%	2%	**3%**
Metrobus from home to work	0%	2%	1%	**1%**
Metrorail and agency shuttle from Anacostia station to work	15%	15%	15%	**15%**
Metrorail and Metrobus from station to work	2%	1%	2%	**2%**
Metrorail and proposed Anacostia Street Car	1%	0%	1%	**1%**
Metrorail and walk from station to work	1%	1%	2%	**2%**
Motorcycle	1%	1%	1%	**1%**
Other	0%	1%	1%	**1%**
Vanpool	9%	6%	8%	**8%**
Walk from home to work	0%	0%	0%	**0%**
Worked Offsite	1%	3%	2%	**2%**
Total	100%	100%	100%	**100%**

13. Expected mode of travel to work each day during a typical week?

WEDNESDAY	Civialian	Contractor	Military	TOTAL
Bicycle from Home to Work	1%	0%	1%	**1%**
Carpool with 1 Coast Guard employee	5%	2%	5%	**4%**
Carpool with 2 Coast Guard employees	5%	2%	5%	**5%**
Carpool with 3 Coast Guard employees	4%	6%	2%	**3%**
Carpool with 4 Coast Guard employees	0%	0%	0%	**0%**
Carpool with non-Coast Guard	5%	5%	5%	**5%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work	5%	5%	5%	**5%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and Anacostia Street Car from station to work	0%	1%	1%	**1%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work	0%	0%	0%	**0%**
Don't Know	3%	2%	4%	**3%**
Drove alone the entire trip	35%	36%	36%	**36%**
Taxicab/Spouse	0%	1%	1%	**1%**
Express bus / Commuter bus from park & ride location (near your home) to work	3%	2%	2%	**3%**
Metrobus from home to work	1%	1%	1%	**1%**
Metrorail and agency shuttle from Anacostia station to work	16%	18%	14%	**15%**
Metrorail and Metrobus from station to work	3%	1%	2%	**2%**
Metrorail and proposed Anacostia Street Car	1%	1%	1%	**1%**
Metrorail and walk from station to work	1%	1%	2%	**2%**
Motorcycle	1%	1%	2%	**1%**
Other	0%	1%	1%	**1%**
Vanpool	8%	8%	8%	**8%**
Walk from home to work	0%	0%	0%	**0%**
Worked Offsite	2%	3%	3%	**2%**
Total	100%	100%	100%	**100%**

13. Expected mode of travel to work each day during a typical week?

THURSDAY	Civialian	Contractor	Military	TOTAL
Bicycle from Home to Work	1%	1%	1%	**1%**
Carpool with 1 Coast Guard employee	5%	3%	4%	**4%**
Carpool with 2 Coast Guard employees	4%	4%	4%	**4%**
Carpool with 3 Coast Guard employees	4%	5%	3%	**4%**
Carpool with 4 Coast Guard employees	0%	0%	0%	**0%**
Carpool with non-Coast Guard	5%	4%	5%	**5%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work	6%	7%	5%	**6%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and Anacostia Street Car from station to work	0%	1%	1%	**1%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work	0%	1%	0%	**0%**
Don't Know	3%	2%	4%	**3%**
Drove alone the entire trip	35%	35%	36%	**35%**
Taxicab/Spouse	0%	1%	1%	**1%**
Express bus / Commuter bus from park & ride location (near your home) to work	3%	2%	3%	**3%**
Metrobus from home to work	1%	1%	1%	**1%**
Metrorail and agency shuttle from Anacostia station to work	17%	17%	14%	**15%**
Metrorail and Metrobus from station to work	2%	0%	2%	**2%**
Metrorail and proposed Anacostia Street Car	1%	1%	1%	**1%**
Metrorail and walk from station to work	1%	0%	2%	**2%**
Motorcycle	1%	1%	1%	**1%**
Other	1%	1%	1%	**1%**
Vanpool	8%	6%	8%	**8%**
Walk from home to work	0%	0%	0%	**0%**
Worked Offsite	1%	4%	3%	**2%**
Total	100%	100%	100%	**100%**

13. Expected mode of travel to work each day during a typical week?

FRIDAY	Civialian	Contractor	Military	TOTAL
Bicycle from Home to Work	1%	1%	0%	**1%**
Carpool with 1 Coast Guard employee	5%	3%	3%	**4%**
Carpool with 2 Coast Guard employees	4%	4%	4%	**4%**
Carpool with 3 Coast Guard employees	4%	4%	2%	**3%**
Carpool with 4 Coast Guard employees	0%	1%	0%	**0%**
Carpool with non-Coast Guard	5%	4%	5%	**5%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and agency shuttle from station to work	6%	7%	4%	**5%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and Anacostia Street Car from station to work	0%	0%	1%	**1%**
Commuter Rail (i.e. VRE/MARC) to Metrorail and walk from station to work	0%	0%	1%	**0%**
Don't Know	3%	5%	3%	**3%**
Drove alone the entire trip	35%	35%	36%	**35%**
Taxicab/Spouse	0%	0%	1%	**0%**
Express bus / Commuter bus from park & ride location (near your home) to work	1%	1%	3%	**2%**
Metrobus from home to work	1%	0%	0%	**1%**
Metrorail and agency shuttle from Anacostia station to work	18%	20%	9%	**14%**
Metrorail and Metrobus from station to work	0%	0%	5%	**2%**
Metrorail and proposed Anacostia Street Car	0%	0%	2%	**1%**
Metrorail and walk from station to work	2%	0%	0%	**1%**
Motorcycle	1%	0%	2%	**1%**
Other	0%	1%	1%	**1%**
Vanpool	11%	3%	4%	**7%**
Walk from home to work	0%	0%	0%	**0%**
Worked Offsite	1%	10%	11%	**7%**
Total	100%	100%	100%	**100%**

14. How many minutes do you expect to tavel to get to work at St. Elizabeths in the future?

	Civialian	Contractor	Military	TOTAL
Less the 5 Miles	0%	0%	0%	**0%**
5- 10 Minutes	1%	1%	1%	**1%**
11- 15 Minutes	1%	1%	1%	**1%**
16- 20 Minutes	2%	3%	3%	**3%**
21- 25 Minutes	3%	2%	4%	**4%**
26- 30 Minutes	6%	5%	7%	**6%**
31- 35 Minutes	6%	3%	5%	**5%**
36 - 40 Minutes	7%	6%	6%	**7%**
41- 45 Minutes	9%	11%	10%	**10%**
46- 50 Minutes	9%	10%	9%	**9%**
51- 55 Minutes	5%	6%	3%	**4%**
56- 60 Minutes	11%	10%	10%	**10%**
61- 65 Minutes	7%	8%	7%	**7%**
66- 70 Minutes	6%	7%	6%	**6%**
71- 75 Minutes	5%	5%	6%	**5%**
76- 80 Minutes	3%	3%	3%	**3%**
81- 85 Minutes	2%	1%	2%	**2%**
86- 90 Minutes	5%	4%	4%	**5%**
91- 95 Minutes	2%	2%	3%	**2%**
96- 100 Minutes	2%	4%	2%	**2%**
100- 105 Minutes	0%	0%	0%	**0%**
106- 110 Minutes	0%	0%	0%	**0%**
111- 115 Minutes	0%	0%	0%	**0%**
116- 120 Minutes	3%	2%	1%	**2%**
Greater than 120 Minutes	3%	4%	3%	**3%**
don't know	2%	1%	2%	**2%**
Total	100%	100%	100%	**100%**

15. How many travel transfers do you expect to take you to get to work in the future?

	Civialian	Contractor	Military	TOTAL
1 transfer	58%	60%	56%	**57%**
2 transfer	13%	12%	14%	**13%**
3 transfer	12%	15%	13%	**13%**
4 transfer	13%	10%	12%	**12%**
5 transfer	4%	3%	4%	**4%**
6 transfer	0%	0%	<1%	**0%**
7 transfer	0%	0%	<1%	**0%**
8 transfer	0%	0%	<1%	**0%**
Greater than 8 transfers	0%	0%	<1%	**0%**
Total	100%	100%	100%	**100%**

16. If you currently plan to drive alone to wirk in the future, what would encourage you to share a ride in the future?

	Civialian	Contractor	Military	TOTAL
I do not plan to drive alone	43%	39%	40%	**41%**
Increased HOV lane incentives or opportunities on major arterials into the District	7%	11%	8%	**8%**
Help finding people with whom I can share the ride	10%	12%	12%	**11%**
Guaranteed ride home in case of emergencies and unscheduled overtime	6%	7%	7%	**7%**
More flexible hours (Flextime)	6%	4%	7%	**6%**
More predictable work schedule (i.e. reduced irregular work hours)	2%	0%	2%	**2%**
Easier access to services for personal errands during the day	2%	2%	2%	**2%**
Prizes, contest, and drawings for ride sharers	0%	0%	0%	**0%**
Parking fees for those driving alone	1%	1%	1%	**1%**
Child care facilities at or near my work site	0%	1%	0%	**0%**
Improved neighborhood security	1%	0%	0%	**1%**
Other	1%	2%	1%	**1%**
I do not wish to carpool or vanpool to work at this time	19%	18%	19%	**19%**
TOTAL	100%	100%	100%	**100%**

16. If you currently plan to drive alone to work in the future, what would encourage you to share a ride in the future (2nd Choice) ?

	Civialian	Contractor	Military	TOTAL
I do not plan to drive alone	0%	0%	0%	**0%**
Increased HOV lane incentives or opportunities on major arterials into the District	0%	1%	2%	**1%**
Help finding people with whom I can share the ride	3%	2%	3%	**3%**
Guaranteed ride home in case of emergencies and unscheduled overtime	7%	8%	6%	**7%**
More flexible hours (Flextime)	6%	6%	7%	**6%**
More predictable work schedule (i.e. reduced irregular work hours)	5%	7%	5%	**5%**
Easier access to services for personal errands during the day	4%	3%	5%	**4%**
Prizes, contest, and drawings for ride sharers	0%	1%	0%	**0%**
Parking fees for those driving alone	2%	2%	2%	**2%**
Child care facilities at or near my work site	1%	0%	1%	**1%**
Improved neighborhood security	3%	3%	3%	**3%**
Other	0%	1%	1%	**1%**
I do not wish to carpool or vanpool to work at this time	1%	1%	2%	**1%**
Did not Respond	66%	62%	65%	**65%**
TOTAL	100%	100%	100%	**100%**

16. If you currently plan to drive alone to work in the future, what would encourage you to share a ride in the future (3rd choice)?

	Civialian	Contractor	Military	TOTAL
I do not plan to drive alone	0%	0%	0%	**0%**
Increased HOV lane incentives or opportunities on major arterials into the District	0%	0%	0%	**0%**
Help finding people with whom I can share the ride	0%	0%	0%	**0%**
Guaranteed ride home in case of emergencies and unscheduled overtime	1%	1%	1%	**1%**
More flexible hours (Flextime)	3%	2%	3%	**3%**
More predictable work schedule (i.e. reduced irregular work hours)	2%	1%	3%	**2%**
Easier access to services for personal errands during the day	4%	4%	3%	**4%**
Prizes, contest, and drawings for ride sharers	0%	0%	1%	**1%**
Parking fees for those driving alone	2%	3%	2%	**3%**
Child care facilities at or near my work site	1%	0%	1%	**1%**
Improved neighborhood security	6%	11%	6%	**7%**
Other	2%	1%	1%	**1%**
I do not wish to carpool or vanpool to work at this time	3%	4%	4%	**3%**
Did not Respond	77%	73%	74%	**75%**
TOTAL	100%	100%	100%	**100%**

17. If you do not plan to telecommute at least one day per week in the future, what would encourage you to telecommute?

	Civialian	Contractor	Military	TOTAL
I already plan to telecommute at least one day p	15%	19%	19%	**17%**
Supervisor consent	53%	49%	48%	**50%**
Providing reasonably appropriate technology to	6%	6%	6%	**6%**
Other (telecommuting assistance or incentives)	0%	0%	1%	**1%**
I will not be able to telecommute because my jo	17%	18%	19%	**18%**
I will not be able to telecommute for other reaso	9%	7%	7%	**8%**
TOTAL	100%	100%	100%	100%

17. If you do not plan to telecommute at least one day per week in the future, what would encourage you to telecommute (2nd choice)?

	Civialian	Contractor	Military	TOTAL
I already plan to telecommute at least one day per week	0%	0%	0%	**0%**
Supervisor consent	2%	3%	3%	**3%**
Providing reasonably appropriate technology to work at home or from telework centers	0%	0%	1%	**1%**
Other (telecommuting assistance or incentives)	1%	0%	1%	**1%**
I will not be able to telecommute because my job requires me to be on-site	2%	3%	2%	**2%**
I will not be able to telecommute for other reasons	19%	15%	17%	**18%**
No Response	75%	78%	76%	**76%**
TOTAL	100%	100%	100%	100%

17. If you do not plan to telecommute at least one day per week in the future, what would encourage you to telecommute (3rd choice)?

	Civialian	Contractor	Military	TOTAL
I already plan to telecommute at least one day p	0%	0%	0%	**0%**
Supervisor consent	0%	0%	0%	**0%**
Providing reasonably appropriate technology to	0%	0%	0%	**0%**
Other (telecommuting assistance or incentives)	2%	0%	1%	**1%**
I will not be able to telecommute because my jo	1%	1%	1%	**1%**
I will not be able to telecommute for other reaso	1%	1%	1%	**1%**
No Response	97%	98%	96%	**96%**
TOTAL	100%	100%	100%	100%

18. If you currently plan to drive alone in the future, what would encourage you to use public transit?

	Civialian	Contractor	Military	TOTAL
Do not plan to drive alone in the future	43%	46%	37%	**40%**
Help finding bus or rail service to meet my schedule	5%	8%	6%	**6%**
Improved personal safety in Anacostia neighborhood	18%	17%	16%	**17%**
Improved personal safety at other Metrorail stations	1%	0%	1%	**1%**
Express bus/Commuter bus from your area of residence to work	9%	10%	9%	**9%**
Guaranteed ride home in case of emergencies and unscheduled overtime	3%	2%	2%	**2%**
More flexible hours (Flextime)	2%	1%	4%	**3%**
Easier access to services for personal errands during the day	0%	0%	1%	**1%**
Prizes, contest, and drawings for transit users	0%	0%	0%	**0%**
Parking fees for those driving alone	1%	0%	0%	**1%**
Child care facilities at or near my work site	0%	0%	0%	**0%**
Extended day care hours	0%	0%	0%	**0%**
Bicycle lockers at transit stations	0%	1%	0%	**0%**
More frequent service or more convenient stops	2%	0%	1%	**1%**
More parking at Metrorail or transit stations	0%	0%	1%	**0%**
Distribution of transit passes at your work site	1%	0%	1%	**1%**
Other	1%	2%	2%	**1%**
I do not wish to use public transit at this time	12%	12%	18%	**15%**
TOTAL	100%	100%	100%	100%

18. If you currently plan to drive alone in the future, what would encourage you to use public transit (2nd Choice)?

	Civialian	Contractor	Military	TOTAL
Do not plan to drive alone in the future	0%	0%	0%	**0%**
Help finding bus or rail service to meet my schedule	0%	0%	0%	**0%**
Improved personal safety in Anacostia neighborhood	2%	3%	3%	**3%**
Improved personal safety at other Metrorail stations	4%	2%	5%	**4%**
Express bus/Commuter bus from your area of residence to work	8%	12%	6%	**8%**
Guaranteed ride home in case of emergencies and unscheduled overtime	7%	5%	7%	**7%**
More flexible hours (Flextime)	4%	2%	4%	**4%**
Easier access to services for personal errands during the day	2%	5%	2%	**2%**
Prizes, contest, and drawings for transit users	0%	1%	0%	**0%**
Parking fees for those driving alone	1%	1%	1%	**1%**
Child care facilities at or near my work site	1%	0%	0%	**0%**
Extended day care hours	0%	0%	0%	**0%**
Bicycle lockers at transit stations	0%	2%	0%	**0%**
More frequent service or more convenient stops	3%	3%	3%	**3%**
More parking at Metrorail or transit stations	2%	2%	2%	**2%**
Distribution of transit passes at your work site	1%	0%	1%	**1%**
Other	1%	1%	1%	**1%**
I do not wish to use public transit at this time	0%	1%	1%	**1%**
No Response	62%	57%	64%	**62%**
TOTAL	100%	100%	100%	100%

18. If you currently plan to drive alone in the future, what would encourage you to use public transit (3rd Choice)?

	Civialian	Contractor	Military	TOTAL
Do not plan to drive alone in the future	0%	0%	0%	**0%**
Help finding bus or rail service to meet my schedule	0%	0%	0%	**0%**
Improved personal safety in Anacostia neighborhood	0%	0%	0%	**0%**
Improved personal safety at other Metrorail stations	0%	1%	1%	**1%**
Express bus/Commuter bus from your area of residence to work	2%	3%	2%	**2%**
Guaranteed ride home in case of emergencies and unscheduled overtime	3%	3%	3%	**3%**
More flexible hours (Flextime)	3%	4%	3%	**3%**
Easier access to services for personal errands during the day	3%	1%	3%	**3%**
Prizes, contest, and drawings for transit users	0%	0%	0%	**0%**
Parking fees for those driving alone	1%	1%	1%	**1%**
Child care facilities at or near my work site	1%	1%	0%	**1%**
Extended day care hours	0%	0%	0%	**0%**
Bicycle lockers at transit stations	1%	1%	1%	**1%**
More frequent service or more convenient stops	2%	1%	4%	**3%**
More parking at Metrorail or transit stations	4%	2%	4%	**3%**
Distribution of transit passes at your work site	5%	5%	5%	**5%**
Other	1%	0%	1%	**1%**
I do not wish to use public transit at this time	2%	0%	1%	**1%**
No Response	71%	76%	70%	**71%**
TOTAL	100%	100%	100%	100%

19. If you currently do not plan to walk or ride a bicycle to work in the future, what would encourage you to ride a bicycle?

	Civialian	Contractor	Military	TOTAL
Improved bicycle routes and trails to work	21%	13%	18%	**19%**
Improved personal safety along bicycle trails and/or in Anacostia neighborhood	6%	8%	5%	**6%**
Guaranteed ride home in case of emergencies or unscheduled overtime	1%	0%	2%	**1%**
Secure, convenient bicycle parking racks or lockers at work	1%	1%	1%	**1%**
Seminars on riding safely in traffic	0%	0%	0%	**0%**
Showers and clothing lockers	1%	0%	1%	**1%**
More flexible hours	1%	1%	1%	**1%**
Easier access to services for personal errands during the day	0%	0%	0%	**0%**
Bicycle and safety equipment provided by U.S. Coast Guard	0%	0%	0%	**0%**
Prizes, contest, and drawings for bicyclists	0%	0%	0%	**0%**
Parking fees for those driving along	0%	0%	0%	**0%**
Other	3%	2%	2%	**3%**
I do not wish to ride a bicycle or walk to work at this time	64%	74%	68%	**67%**
TOTAL	100%	100%	100%	100%

19. If you currently do not plan to walk or ride a bicycle to work in the future, what would encourage you to walk or ride a bicylce (2nd choice)?

	Civialian	Contractor	Military	TOTAL
Improved bicycle routes and trails to work	0%	0%	0%	**0%**
Improved personal safety along bicycle trails and/or in Anacostia neighborhood	12%	11%	10%	**11%**
Guaranteed ride home in case of emergencies or unscheduled overtime	3%	3%	4%	**3%**
Secure, convenient bicycle parking racks or lockers at work	6%	3%	5%	**5%**
Seminars on riding safely in traffic	0%	0%	0%	**0%**
Showers and clothing lockers	3%	1%	3%	**3%**
More flexible hours	1%	2%	1%	**1%**
Easier access to services for personal errands during the day	0%	1%	1%	**0%**
Bicycle and safety equipment provided by U.S. Coast Guard	0%	0%	0%	**0%**
Prizes, contest, and drawings for bicyclists	0%	0%	0%	**0%**
Parking fees for those driving along	0%	0%	0%	**0%**
Other	0%	0%	0%	**0%**
I do not wish to ride a bicycle or walk to work at this time	0%	0%	1%	**1%**
No Response	73%	78%	75%	**74%**
TOTAL	100%	100%	100%	100%

19. If you currently do not plan to walk or ride a bicycle to work in the future, what would encourage you to walk or ride a bicylce (3rd choice)?

what would encourage you to walk or ride a	Civialian	Contractor	Military	TOTAL
Improved bicycle routes and trails to work	0%	0%	0%	**0%**
Improved personal safety along bicycle trails and/or in Anacostia neighborhood	0%	0%	0%	**0%**
Guaranteed ride home in case of emergencies or unscheduled overtime	1%	3%	2%	**2%**
Secure, convenient bicycle parking racks or lockers at work	5%	2%	3%	**4%**
Seminars on riding safely in traffic	0%	0%	0%	**0%**
Showers and clothing lockers	11%	11%	8%	**10%**
More flexible hours	1%	1%	2%	**1%**
Easier access to services for personal errands during the day	1%	2%	1%	**1%**
Bicycle and safety equipment provided by U.S. Coast Guard	1%	0%	1%	**1%**
Prizes, contest, and drawings for bicyclists	0%	0%	0%	**0%**
Parking fees for those driving along	0%	0%	0%	**0%**
Other	1%	0%	1%	**1%**
I do not wish to ride a bicycle or walk to work at this time	1%	0%	2%	**1%**
No Response	77%	80%	79%	**79%**
TOTAL	100%	100%	100%	100%

22 What would be your optmal solution for commuting to St. Elizabeths campus in the future?

	Civialian	Contractor	Military	TOTAL
Change jobs or Retire	4%	4%	3%	**4%**
Biking, Walking, Utilize Trail	1%	2%	1%	**1%**
Safety Issues	1%	0%	0%	**0%**
CarPooling, VanPooling	6%	8%	6%	**7%**
Rail Stop at St Elizabeths	9%	7%	6%	**7%**
Commuter Bus from Various Locations	4%	5%	6%	**5%**
Shuttle Bus from various Metro stops	7%	4%	4%	**6%**
Parking related issues	8%	9%	9%	**9%**
No Response	45%	51%	49%	**47%**
Other	14%	10%	15%	**14%**
TOTAL	**100%**	**100%**	**100%**	**100%**