Clarendon Multimodal Transportation Study

Existing Conditions Report

October 2010

Prepared for: ARLINGTON VIRGINIA

Prepared by: Toole Design Group

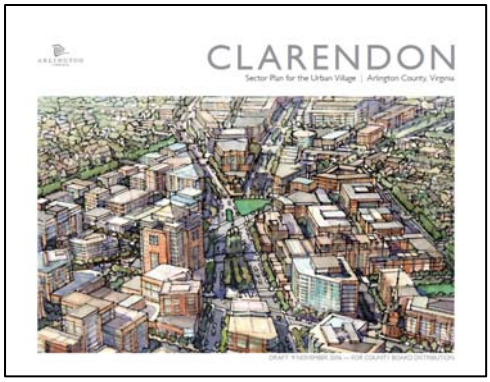
KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

Introduction and Project Background

Toole Design Group (TDG) and Kittelson & Associates, Inc. (KAI) are conducting a small area transportation study for Arlington County that will yield a functional concept transportation plan for Clarendon Circle. The County has initiated a Capital Improvements Project for Clarendon Circle to improve pedestrian and bicycle access, normalize intersection geometry, maintain or improve traffic flow, reduce intersection size and upgrade the traffic signals and lighting in the intersection area. The project extends to nine adjacent intersections surrounding the Washington-Wilson-Clarendon intersection as highlighted in the Study Area section of this report.

This report provides documentation of existing conditions for all modes of transportation that interact with one another in the study area including pedestrians, bicyclists, buses, autos and Metro.

Clarendon Sector Plan



In November 2006, the County Board adopted the Clarendon Sector Plan – Part 2. This document is an extension and clarification of the transportation, parking, urban design and implementation issues from Part 1 of the plan, which was accepted in June of that year. The Clarendon Sector Plan addresses all aspects of the urban form in and around the Clarendon Metro station. The Clarendon Task Force identified dozens of broad and specific recommendations in the Sector Plan that address elements such as building set-backs, sidewalk widths, land use patterns, and public art to name a few. The combination of recommendations was chosen in pursuit of the vision of Clarendon as an urban village and is intended to guide development in the area for the next 15-20 years.

One of the focal points of Clarendon is Clarendon Circle, the intersection of Washington Boulevard, Wilson Boulevard, Clarendon Boulevard, and Irving Street. As described in the Sector Plan, Clarendon Circle serves as a hub in the street network, carries high volumes of traffic, and suffers from skewed approaches, confusing driver orientation and deficient bicycle and pedestrian facilities.

The Section Plan identified the following recommendations for Clarendon Circle in the preferred option:

- Close North Irving Street south of the circle;
- Realign Washington Boulevard west of the intersection to intersect Wilson and Clarendon Boulevards at a right angle; and
- Shift Wilson Street right of a new median to align with Clarendon Boulevard as it travels across Washington Boulevard.

The County Board reviewed other options from the Sector Plan and affirmed they were not desirable, including construction of an underpass design and a roundabout alternative.

There are several points made in the Sector Plan regarding transportation design and operations:

- At Clarendon Circle:
    - Narrow travel lanes and reduce crossing distances
    - Utilize new building frontages on the west side to define the space
- General Transportation Recommendations
    - Improve quality and safety of pedestrian travel
        - Provide sidewalks with sufficient clear zone
        - Minimize crossing distances
        - Allow on-street parking
    - Reduce pavement area for vehicles to minimum required to maintain capacity
    - Improve system connectivity through development of tertiary street network
    - Minimize impact of service access and deliveries on pedestrian vehicle travel – restrict main streets from service access
    - Improve signal timing for intersection operations
    - Provide more bicycle facilities in the form of bike lanes and abundant bike parking in commercial areas
    - Enhance convenience and efficiency of bus service in Clarendon and improve comfort/convenience of Clarendon Metrorail station
    - Ensure all upgrades adhere to historic building preservation and building frontage preservation sites
    - Encourage alternative modes of transportation from the automobile
- Reconstruct the intersections of Clarendon and Wilson Boulevards with Highland Street to accommodate existing traffic volumes and improve pedestrian facilities and on-street parking.
- Realign 13th Street as a T-intersection and provide new green space
- Recommended zoning for Wachovia Bank and currently underutilized parking lot includes densities of 3.0 FAR and up to 110 feet in height with options for increases to be discussed with the county.

Study Area

Clarendon Circle refers to the Washington-Wilson-Clarendon intersection adjacent to the Clarendon Metro Station. The intersection itself is made up of seven roadway approaches, two of which form a couplet (Clarendon and Wilson Boulevards).

The nine signalized intersections whose operations affect the main intersection are:

1. Washington Boulevard and 10th Street North
2. North Highland Street and 10th Street North
3. Wilson Boulevard and 10th Street North
4. Fairfax/Kirkwood Drive. and 10th Street North
5. Washington Boulevard and Kirkwood Road
6. Washington Boulevard and 13th Street North
7. Wilson Boulevard and N Hudson Street
8. Wilson Boulevard and Clarendon Boulevard at North Highland Street
9. Washington Boulevard and North Highland Street

The study area is shown in **Figure 1**.

Figure 1
Existing Conditions Report Study Area

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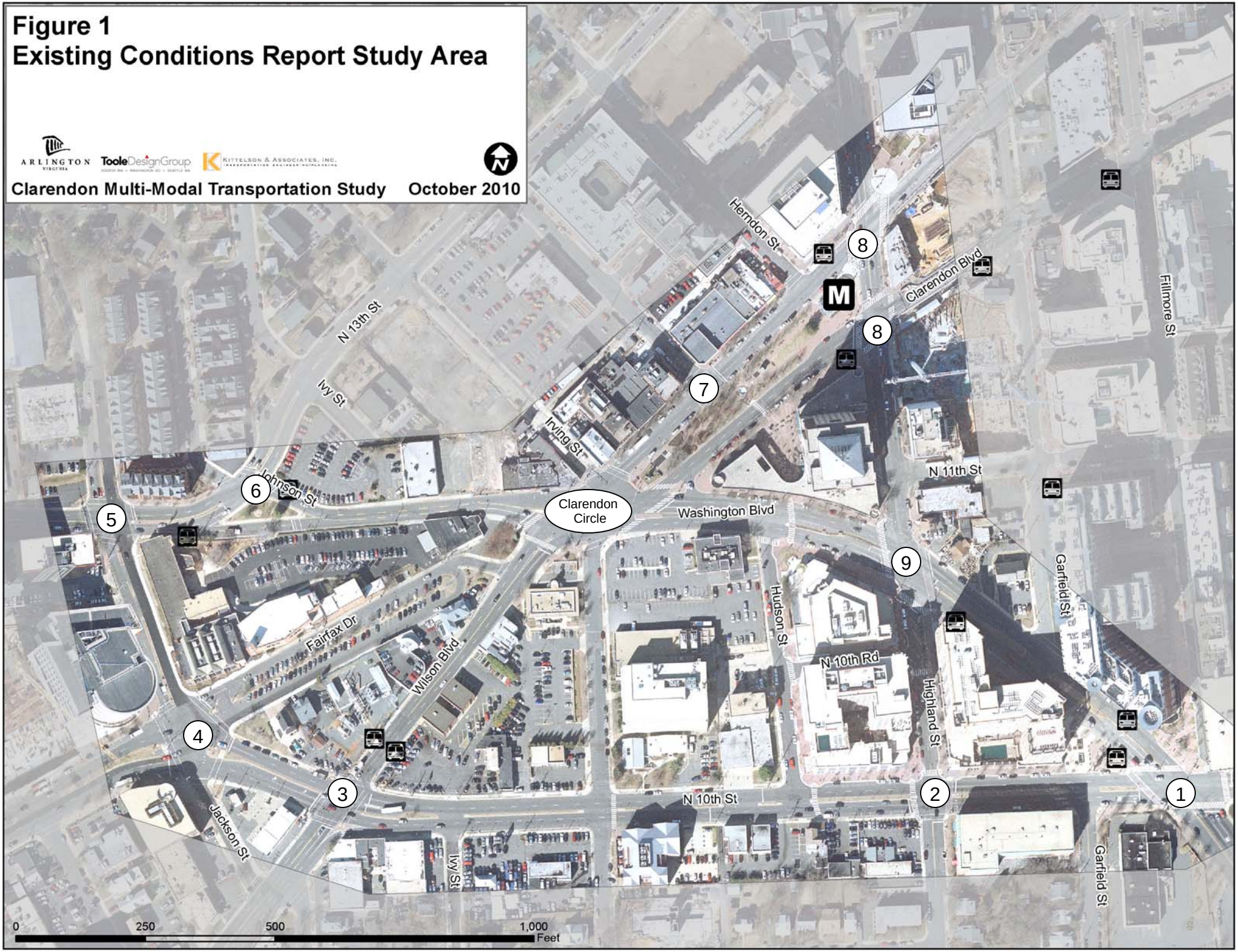

Regional Network Significance

Clarendon Circle sits at the juncture of several important regional routes. Washington Boulevard is an arterial that connects with US-50 and I-395 to the southeast and provides access to the Rosslyn-Ballston Corridor. South of the intersection, Washington Boulevard serves as a major north-south connector. North of the intersection, Washington Boulevard becomes a lower-order street and serves mostly residential neighborhoods.

The Wilson-Clarendon Boulevard couplet operates as an arterial with local access for traffic traversing the Rosslyn-Ballston corridor. The couplet traverses the same general path as the Metro Orange Line and provides an alternative mode of access to each of the built up station areas. Fairfax drive is another east-west street that provides connectivity between Clarendon and Ballston, but effectively terminates in a parking lot adjacent to Clarendon Circle.

Irving Street is bisected by the Washington-Wilson-Clarendon intersection as a one-way inbound street on the south side of the intersection and one-way outbound street on the north side.

A schematic representation of all street directions, lane configurations, and existing typical approach sections are shown in **Figures 2-5**.

The confluence of these roadways at Clarendon Circle results in a concentration of auto, pedestrian, bicycle, and transit activity in one location. Additionally, its proximity and prominence in the roadway network indicate that a relatively high proportion of trips in the region travel through Clarendon Circle.

Figure 2
Lane Configuration and Intersection Control

LEGEND
= SIGNAL
= STOP CONTROL

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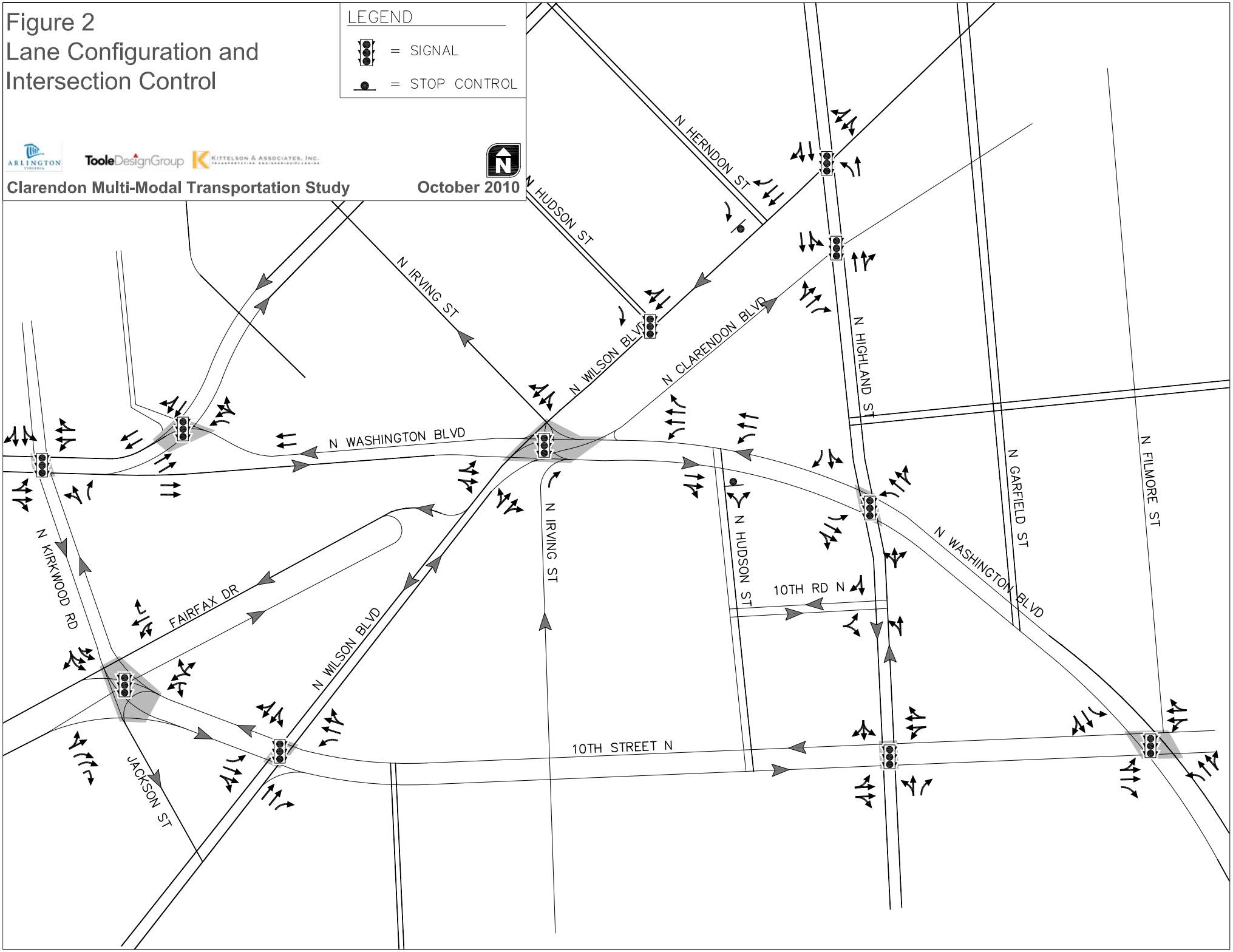

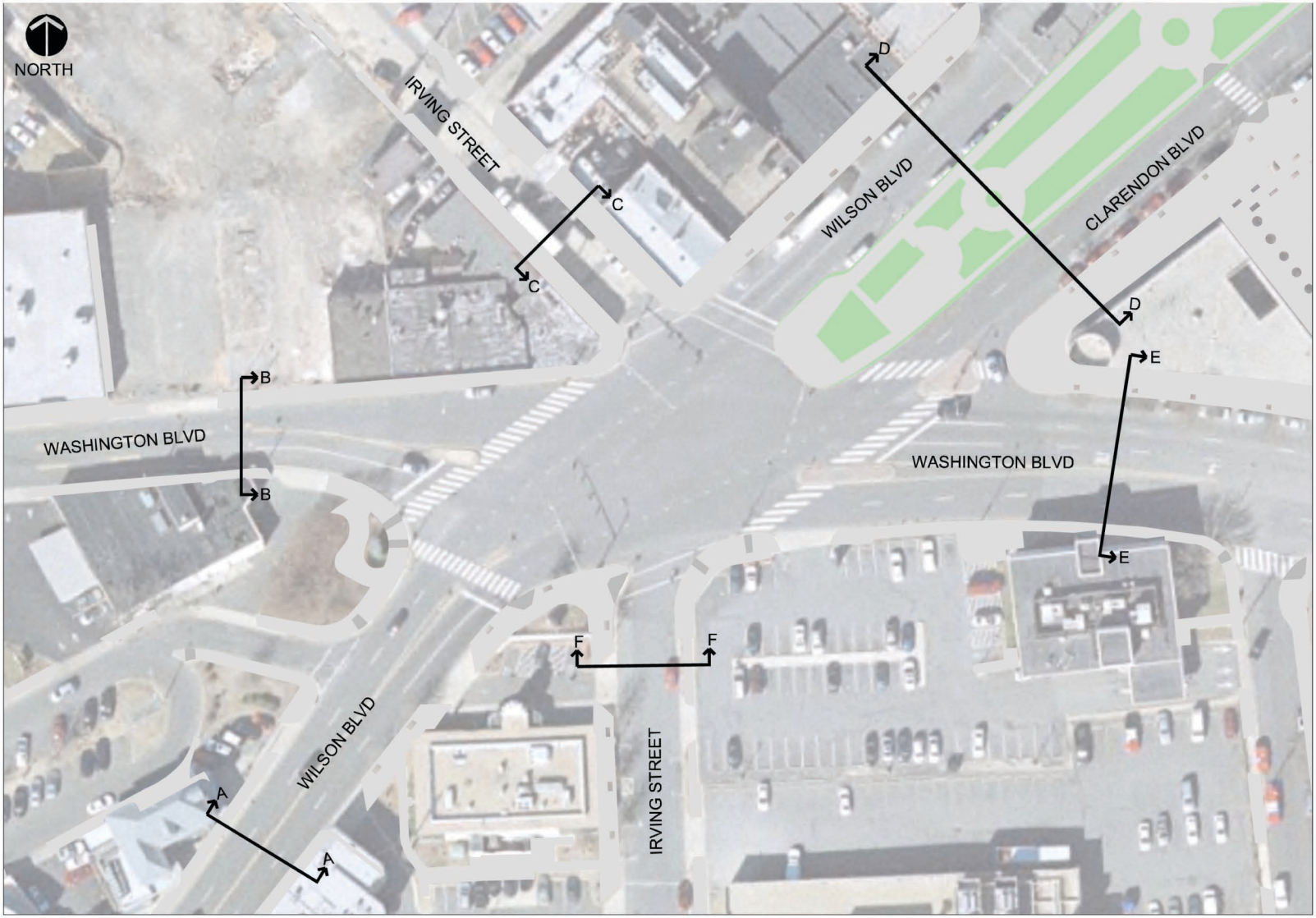

FIGURE 3

EXISTING CROSS SECTION LOCATIONS

CLARENDON MULTI-MODAL TRANSPORTATION STUDY

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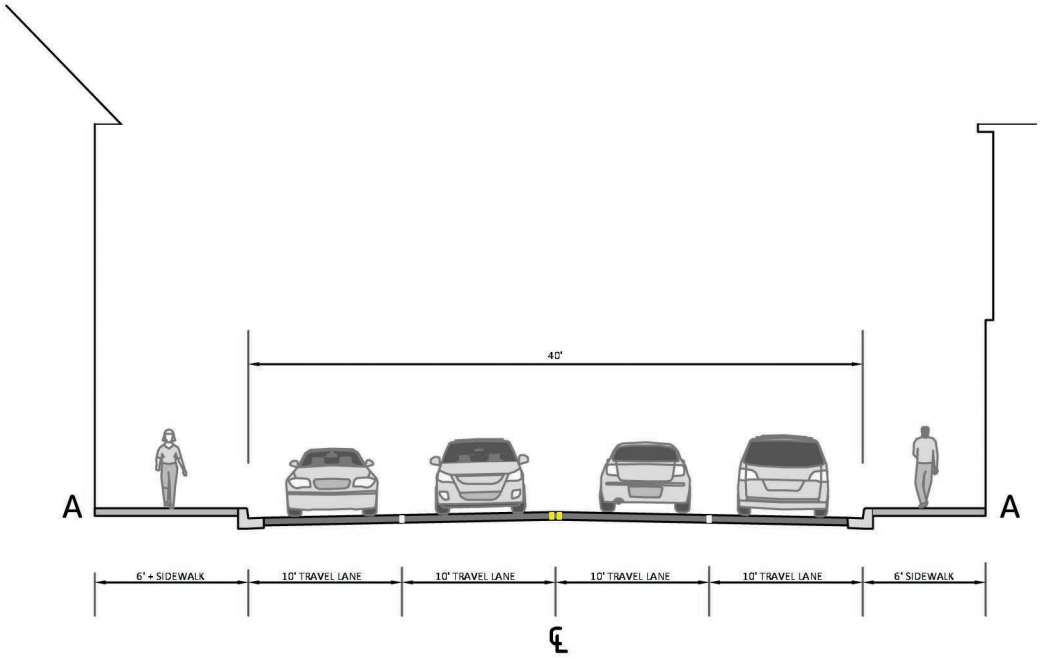
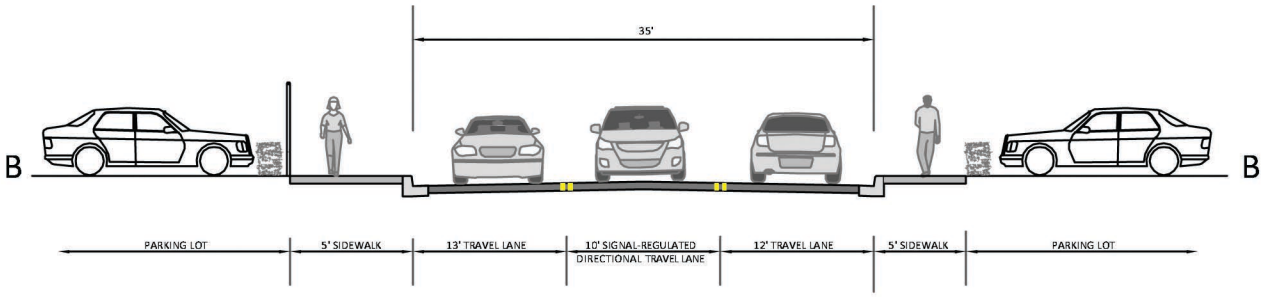
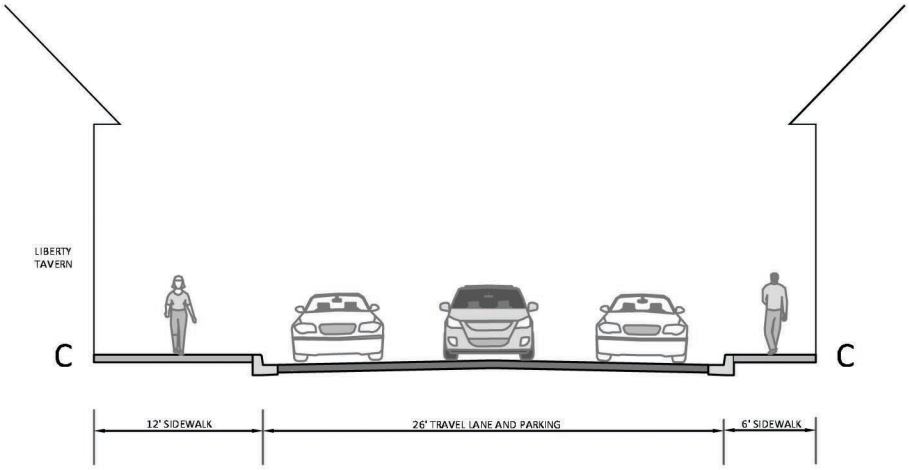


WILSON BOULEVARD



WASHINGTON BOULEVARD



NORTH IRVING STREET

FIGURE 4
EXISTINGCROSS SECTIONS A - C
CLARENDON MULTI-MODAL TRANSPORTATION STUDY

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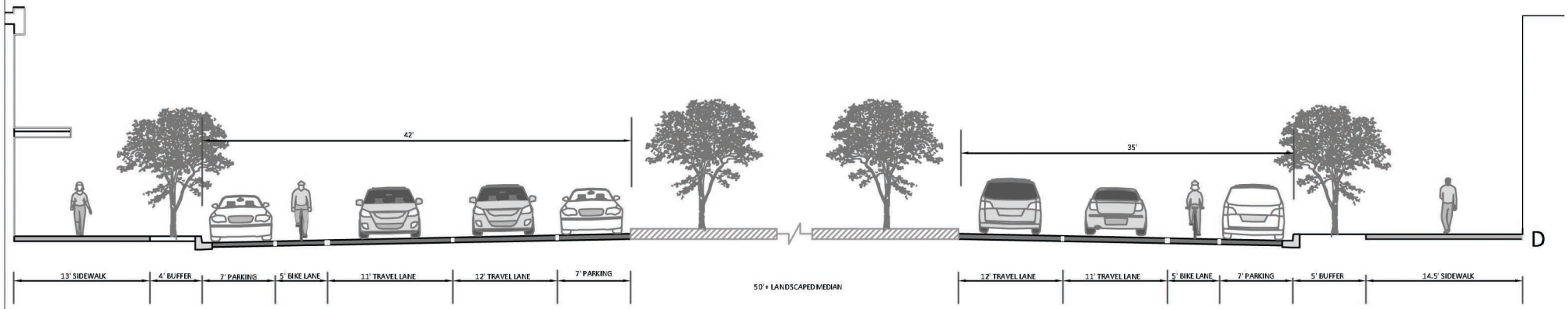
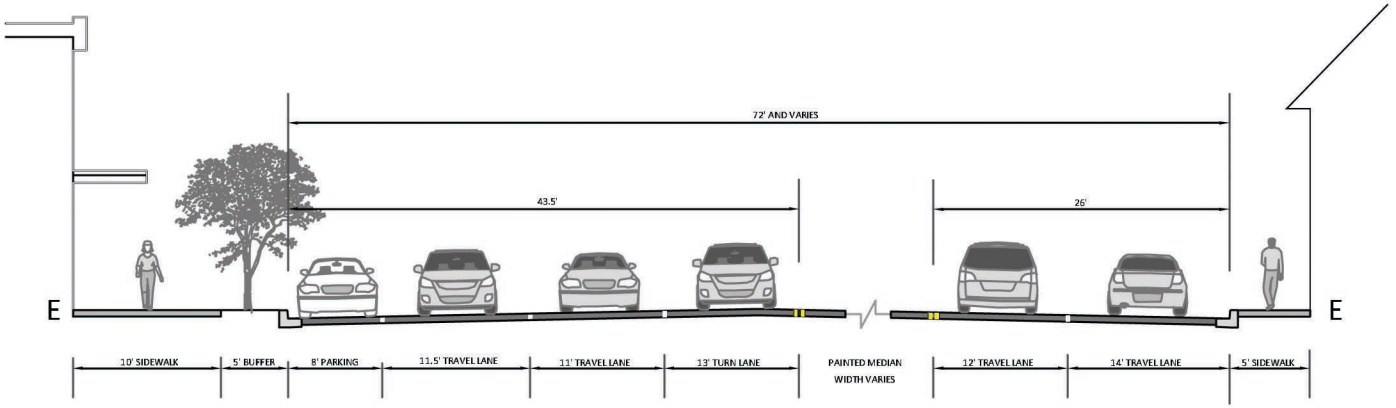
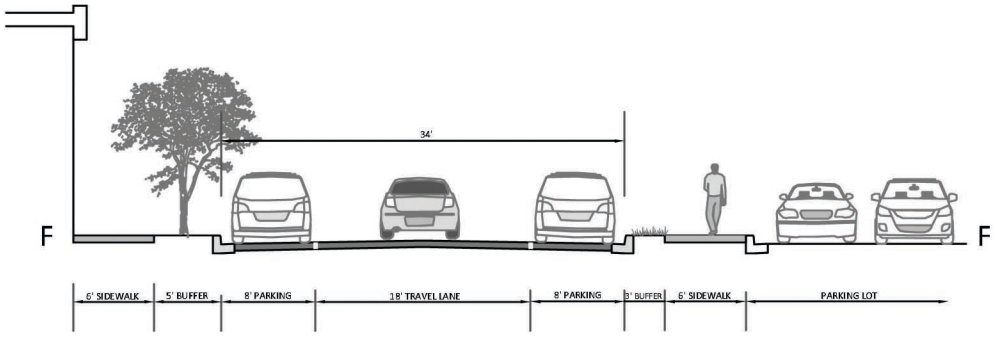


WILSON BOULEVARD

CLARENDON BOULEVARD



WASHINGTON BOULEVARD



NORTH IRVING STREET

FIGURE 5
EXISTING CROSS SECTIONS D - F

CLARENDON MULTI-MODAL TRANSPORTATION STUDY

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Existing Transportation Conditions

The following sections describe existing conditions for automobiles, pedestrians, bicyclists, and transit, respectively.

Automobiles

A traffic operations analysis was performed using the Synchro traffic software analysis tool. Intersection turning movement counts were obtained from the following sources:

- Daniel Consultants (March 2004, June 2009)
- Quality Counts (June 2010, September 2010)

All counts were taken during a typical weekday (Tuesday – Thursday) while school was in session. Based on a review of the count data, the weekday morning and evening peak hours were determined to be 7:30 – 8:30 AM and 5:30 – 6:30 PM, respectively. The peak hour intersection turning movement counts are shown in **Figures 6 and 7** for the weekday AM and PM peak hours, respectively. Note that volumes have been altered to account for traffic growth and imbalance between intersections. The original count sheets are shown in Appendix A.

Signal timing data were obtained from Arlington County and used in the Synchro analysis. The Synchro model provided by the County was reviewed to ensure it reflects the phasing, minimum pedestrian crossing times, green splits, clearance intervals, cycle lengths, and offsets as shown on the timing sheets.

The following performance measures were reported from Synchro using the Highway Capacity Manual procedures: volume-to-capacity ratios, delay and level-of-service calculations. *It should be noted that HCM analysis procedures inherently assume isolated operating conditions and thus do not take into account downstream blockages or upstream "starvation" which can be common in an urban network.* Thus, the results are likely to provide a more optimistic result than experienced in the field. A good example of this is where Clarendon Boulevard and Wilson Boulevard intersect with Highland Street (in front of the Metro entrance); the short queue storage space between them and the interactions of turning vehicles between each intersection are not captured in the HCM methodology and require microsimulation to more accurately model the effects. The purpose of the HCM analysis is to identify critical movements at each intersection and provide a baseline tool that can provide a relative comparison for future build options at the intersections adjacent to Clarendon Circle. The Vissim microsimulation tool will be applied to evaluate design concepts for Clarendon Circle given the complexity of movements and roadway approaches.

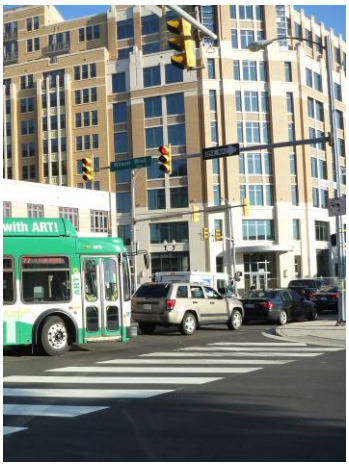

Figure 6
Intersection Turning Movement Counts
AM Peak Hour

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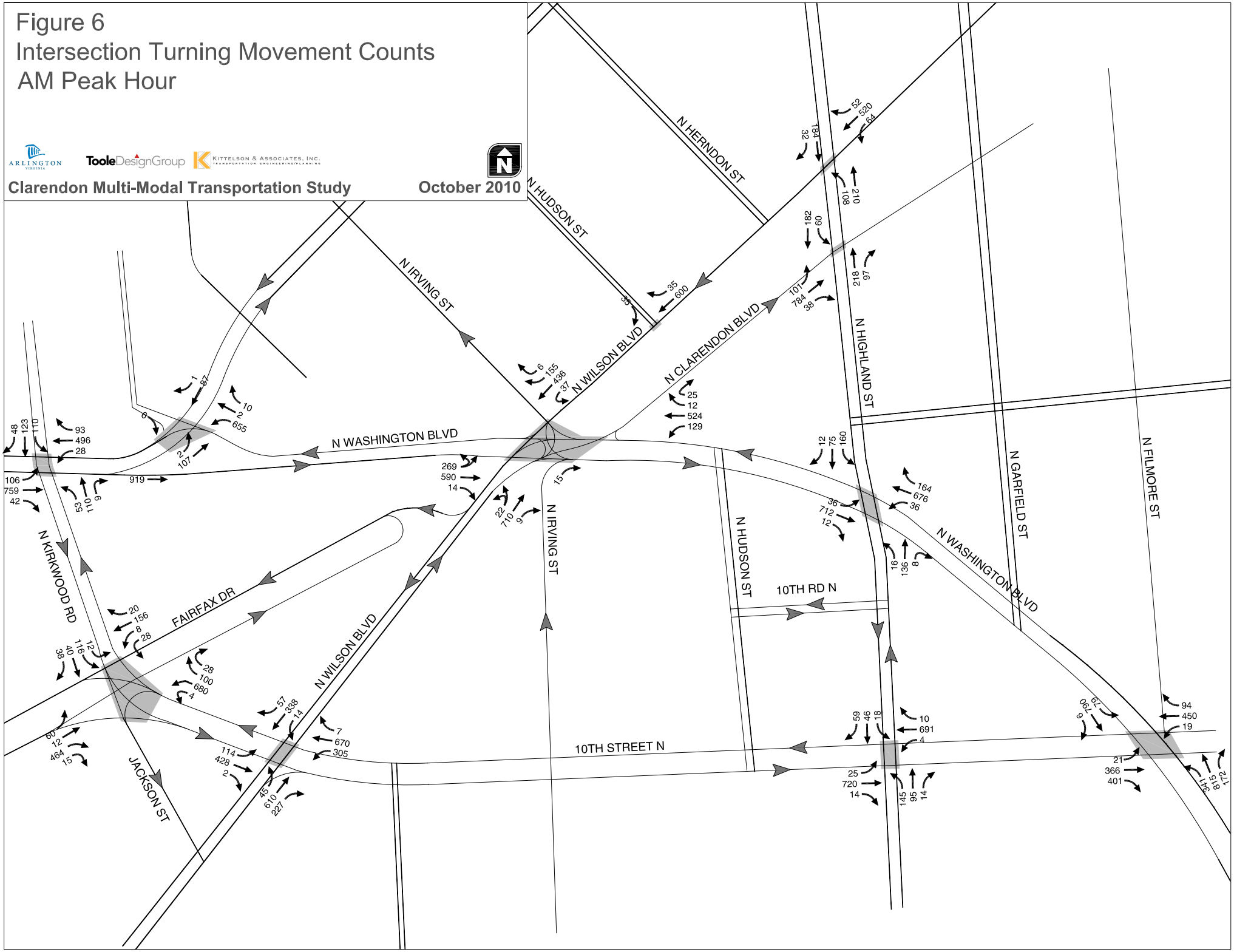

Figure 7
Intersection Turning Movement Counts
PM Peak Hour

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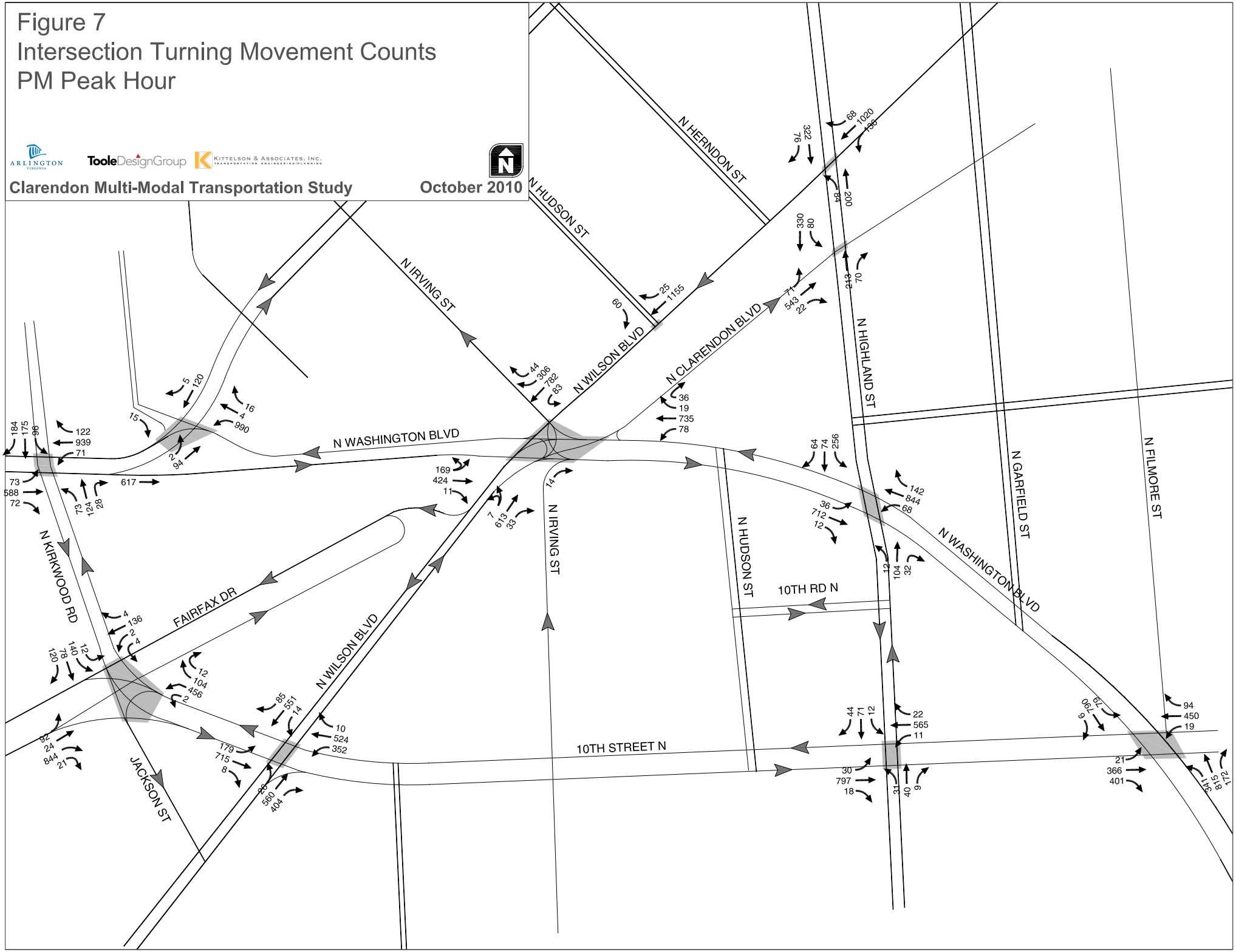

Figure 8
Auto Level Of Service
AM and PM Peak Hour

Legend

PM LOS

AM LOS

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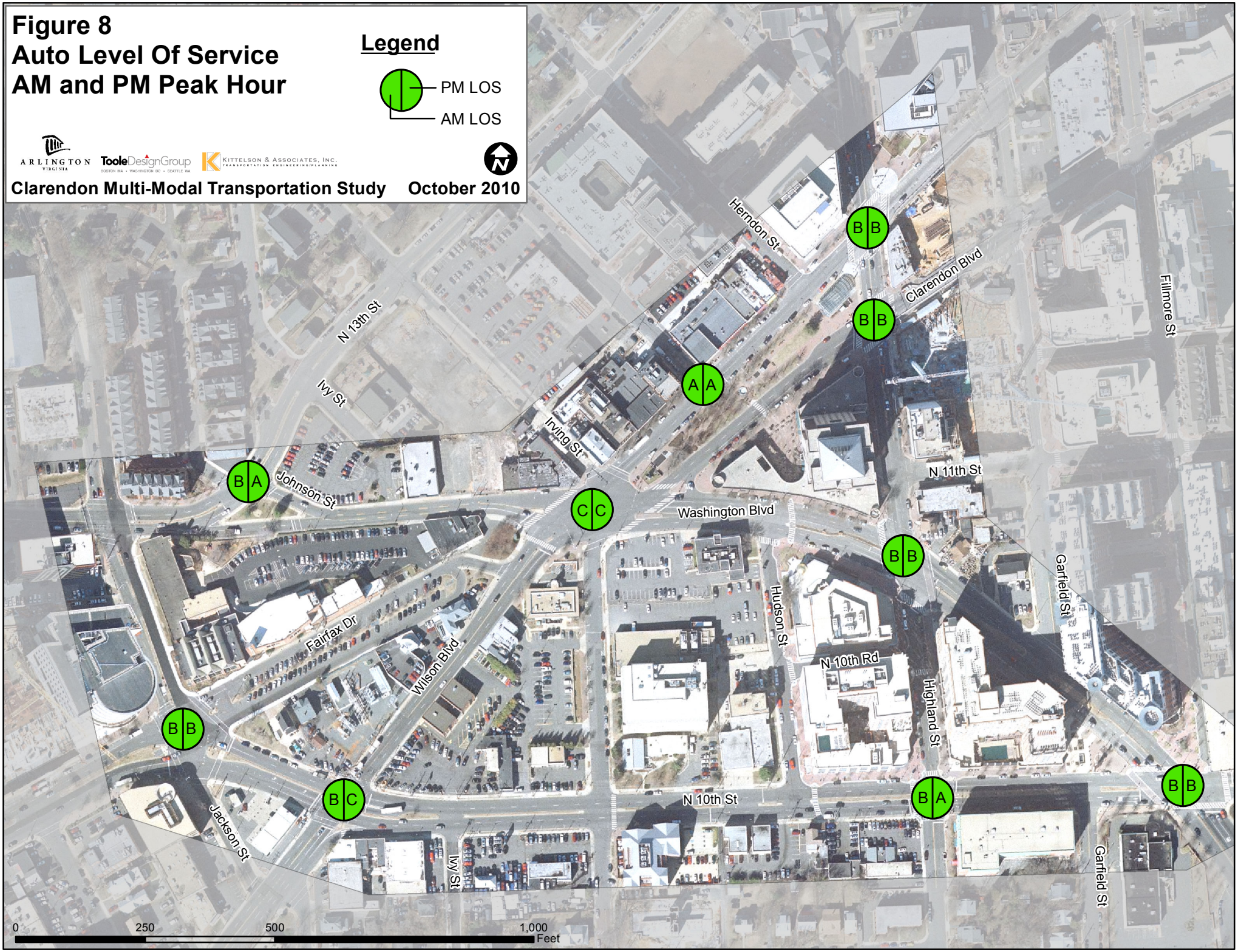


Table 1 summarizes the results of the existing conditions Synchro level of service (LOS) analysis. As shown in **Table 1**, all intersections operate at LOS C or better during both the AM and PM peak hours, although the analysis limitations from the preceding paragraph should be noted. A figure depicting the level of service for traffic operations throughout the network is shown in **Figure 8.**

Table 1: Intersection Operations

Intersection	AM			PM		
	V/C	Delay	LOS	V/C	Delay	LOS
Clarendon Circle	0.72	22.1	C	0.89	30.7	C
Wilson Boulevard / 10th Street N	0.56	18.9	B	0.68	21.3	C
Wilson Boulevard / N Hudson Street.	0.20	5.3	A	0.38	4.9	A
Wilson Boulevard / N Highland Street.	0.33	14.6	B	0.50	10.9	B
N Fairfax Drive / 10th Street N	0.35	13.7	B	0.43	17.9	B
Clarendon Boulevard / N Highland Street.	0.37	14.3	B	0.35	19.7	B
Washington Boulevard / N Kirkwood Street	0.54	15.7	B	0.64	19.2	B
Washington Boulevard / 13th Street N	0.24	10.7	B	0.35	6.0	A
Washington Boulevard / N Highland Street	0.46	11.5	B	0.54	11.4	B
N Highland Street / 10th Street N	0.45	11.5	B	0.35	6.6	A
Washington Boulevard / 10th Street N	0.65	19.4	B	0.68	16.8	B

In addition to the Syncrho operational analysis, a number of site visits during both AM and PM peak hours have yielded a thorough understanding of the intersection and its surrounds that would not necessarily be captured in a traffic analysis. During both morning and evening peak hour field visits, staff observed that Clarendon Circle all approaches were able to clear queues in each cycle. In summary, it was found that the HCM operational results are representative of field operating conditions for automobiles.

The interaction between pedestrians and automobiles is a complex series of movements best evaluated with micro simulation, especially at locations with high pedestrian use like Clarendon Circle and the Highland Street intersections with Wilson Boulevard and Clarendon Boulevard. The Vissim model will capture these interactions in a manner that best emulates actual conditions and conflicts in the field.

While most vehicles passed through Clarendon Circle without experiencing significant delay, there were a number of issues related to the driver's ability to navigate the roadway within the intersection. The following movements were observed to be especially difficult for vehicles as evidenced by hesitant and confused driving behavior:

- Wilson Boulevard: Northbound through movement, southbound left-turn, southbound U-turn
- Washington Boulevard: Eastbound left turn, westbound through movement

The deficiency for all of these movements is largely related to the skewed and misaligned approaches leading into the intersection. The merge area on Washington Boulevard, directly west of the intersection is another cause of driver confusion.

Parking

Parking maneuvers are made frequently within the vicinity. There are approximately 105 on-street spaces on the streets adjacent to Clarendon Circle and 80 parking spaces on Fairfax Drive between 10th Street N and Washington Boulevard. All public parking in the area is full-time with mostly two or four hour restrictions. In addition to the public spaces, there are an additional 400 surface parking spaces in private lots serving restaurants, workplaces, a church and a taxi company. These quantities are approximate but provide a magnitude of availability in the area; it is shown by location in **Figure 9**.

Pedestrians

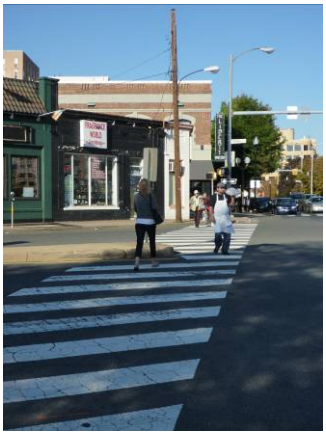
Clarendon is a popular destination for many area residents given its numerous shopping, restaurant and nightlife venues. Many of these locations are oriented to the street with pedestrian scale frontage and entrances. The provision of the median park between Clarendon Circle and Highland Street is an attraction to many, providing a comfortable pedestrian experience in the urban setting. The high level of transit activity (multiple bus routes and the Metro Orange Line) also contributes to high pedestrian usage.

Pedestrian activity is currently higher to the east of Clarendon Circle near the Metro Station entrance. As a comparison, traffic counts showed a total crossing of 495 pedestrians in the PM peak hour at Clarendon Circle, and 1005 pedestrians at the Highland/Clarendon intersection, which is only one block east of the circle but closer to the Metro Station entrance. While the current pedestrian volumes do not draw particular attention to Clarendon Circle, as redevelopment continues to occur around Clarendon Circle it is expected that pedestrian volumes will increase. In particular, the vacant lots and potential development sites are largely located on the west of the Circle, like the Zom development which is planned for construction. The pedestrian crossing volumes at Clarendon Circle are shown in **Figure 10**. Key pedestrian issues highlighted during the field observations are described below.

Long Crossing Distances

Clarendon Circle requires extremely long crossing distances for pedestrians due to the presence of skewed approaches and the pedestrian plaza between Wilson and Clarendon Boulevards. The distance to cross Washington Boulevard is 120-130 feet on either side of the intersection. The Wilson-Clarendon Boulevards crossing requires a multi-stage maneuver: 40 feet to cross Wilson Boulevard, 50 feet to cross the pedestrian plaza, and 80 feet to cross Wilson Boulevard (including the right turn island).

The long crossing distances at Clarendon Circle increase pedestrian exposure to vehicular traffic. This adverse condition is compounded by skewed crossings which orient the pedestrian away from conflicting movements and thus result pedestrians do not always have a clear line-of-sight to view on-coming traffic.



Additionally, the pedestrian island on the west side does not meet ADA standards due to lack of curb ramps, insufficient width, and not being located within a crosswalk. It is an uncomfortable waiting spot for pedestrians who are caught mid-block. While the refuge island on the east side is more formal, it still has an unprotected feel and is alongside fast-moving traffic lanes.

High Speed Right Turns

The northbound right-turn movement from Wilson Boulevard to Washington Boulevard (east), and the southwest-bound right turn movement from Wilson Boulevard to Washington Boulevard (west) present challenges for pedestrians waiting to cross. Because of the shallow angle and large turning radius, vehicles are able to make these movements with high speeds and may not notice pedestrians about to cross Washington Boulevard. The same issue comes up for the southbound left turn from Wilson Boulevard where vehicles align themselves in a manner that allows high speeds exiting the intersection.

The angle created by this intersection also forces pedestrians to turn almost all the way behind them rather than slightly left to ensure safe crossing. The high number of approaches may confuse the pedestrian regarding which approach to look at before attempting to cross Washington Boulevard in either direction.

Figure 9
Parking Map

Legend

Parking Spaces Available

[#] Public/On Street

(#) Private Surface

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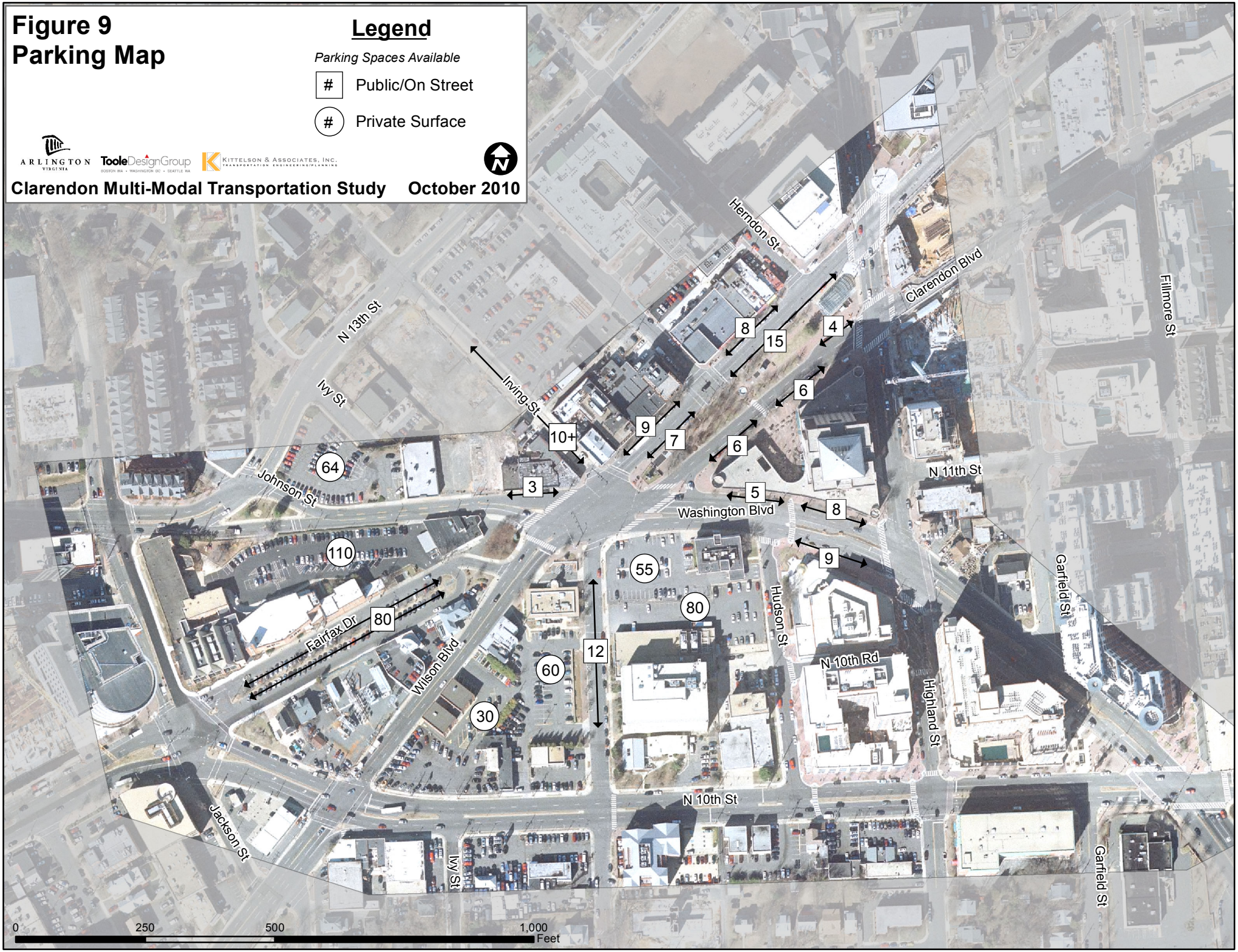

Figure 10
Pedestrian Counts
PM Peak Hour

Legend

\# Pedestrian Crossing Volume

Total Intersection Pedestrian Volume

- <100
- 101 - 300
- 301 - 700
- >700

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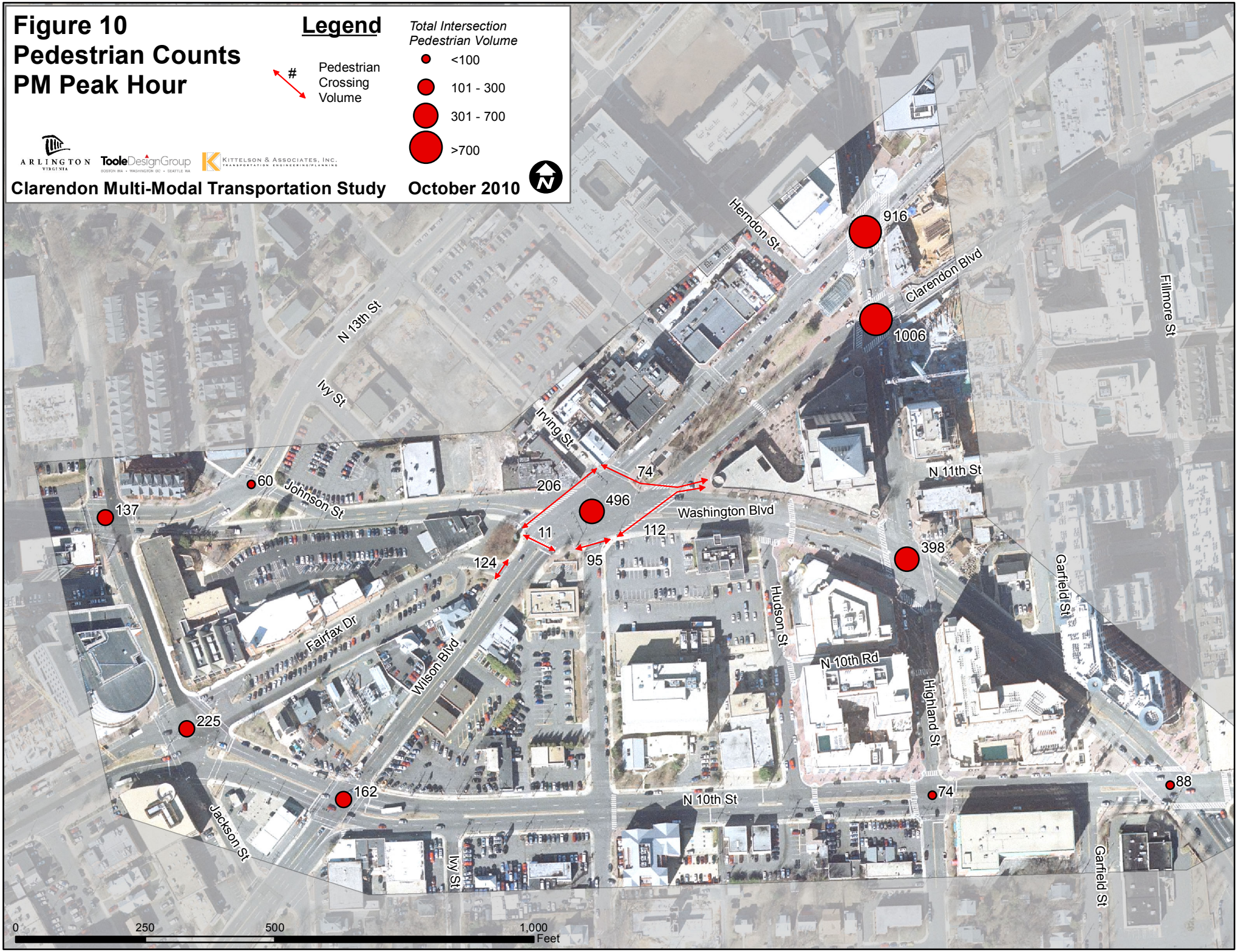

Bicycles

Bicycling is popular in Arlington and especially in the Rosslyn-Ballston corridor – a three mile section containing diverse residential, commercial, retail and office uses. Clarendon Circle sits at the center of the corridor and serves as a similar hub for cyclists as it does for vehicles. The high use is documented in bicycle counts conducted around the intersection which are shown in **Figure 11.** These counts are indicative but not comprehensive of bicycle use in Clarendon Circle. Field visits show that cyclists choose to traverse the intersection in multiple ways: either using their bicycle in the crosswalks, as a vehicle in the travelway, or contraflow against on-coming vehicular traffic. Bicyclists' compliance with the rules of the road are largely driven by design. A summary of observed conditions identified from field observations are discussed here.

Lack of Dedicated Space for Bicyclists Within Intersection

While cyclists can choose to use crosswalks or a travel lane, most choose to traverse the intersection as a vehicle when travelling southbound on Wilson Boulevard. Field visits revealed Fairfax Drive (which terminates as a parking lot accessible from Wilson Boulevard on the southwest side) is a popular bicycle trip generator because it is used to travel en route to destinations further west along the Rossyln-Ballston corridor. Because of that draw, many cyclists use the northwest side of the intersection to travel in both directions, causing contraflow bicycle-vehicle traffic which poses a risk to pedestrians, drivers and cyclists. Without dedicated space at the Fairfax Connector for a shared bike lane or even a wide shoulder, cyclists often revert to using the sidewalk or taking a full lane.

Narrow Street Cross Sections

There are two locations where the roadway width is constrained to little more than the space required for vehicle travel lanes: Washington Boulevard west of Clarendon Circle and Wilson Boulevard south of Clarendon Circle. This forces cyclists to either take a lane, use the sidewalk, or ride in a travel lane very close to the curb. The last scenario is particularly undesirable because drivers may sense there is sufficient space to pass a cyclist and underestimate the available width, thus sandwiching bicyclists between a vehicle and a vertical curb. It also puts cyclists at risk for a right-hook accident where the vehicle either doesn't notice or tries to go around a bicycle before cutting the bike off while making a right turn. If the conflict between cyclists exiting Fairfax Drive to continue northeast on Clarendon Boulevard, this deficiency will be less critical as most cyclists choose Fairfax as their primary route.

Figure 11
Bicycle Counts
PM Peak Hour

Legend

\# Bicycle Approach Volume

Total Intersection Bicycle Volume

- <25
- 25 - 50
- >50

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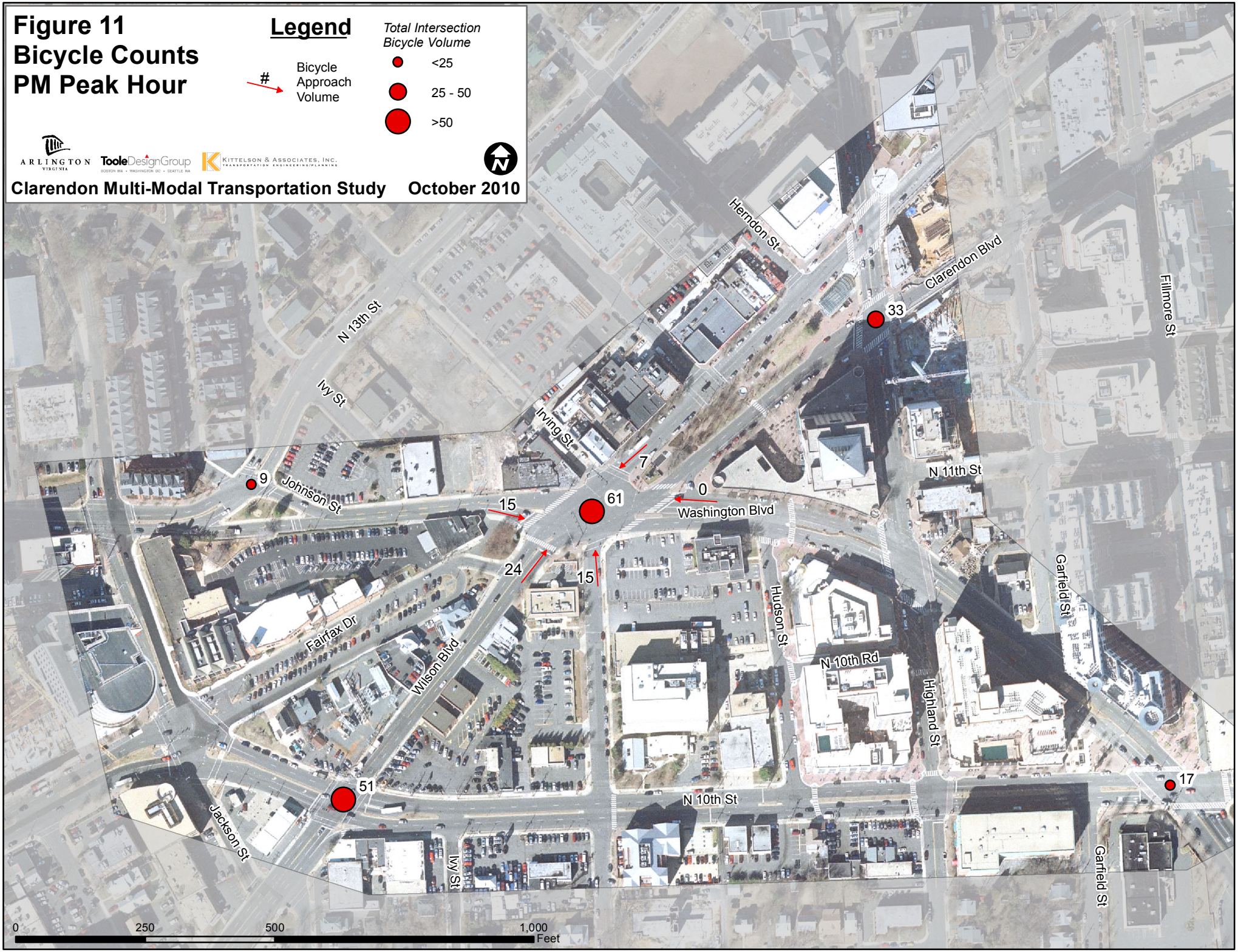

Transit

Clarendon is well-served by both surface transit and Metro. There are three Arlington Transit (ART) bus routes, a MetroBus route and the Metro Orange Line that directly serve Clarendon. These services convey passengers from all over the District and points west. The bus stops for both ART and MetroBus service are located on the west side of Highland Street on Wilson and Clarendon Boulevards. Another stop in both directions is located on Wilson Boulevard just north of 10th Street. The Metro is accessible through the escalators facing Highland Street between Clarendon and Wilson Boulevards, or the elevator which is located 200 feet west along the median park. A map of these stops and the station access can be found in **Figure 12**.

The ART routes generally provide service from 6:30 AM to 11:00 PM. The MetroBus line provides expanded service from 5:15 AM to 2:00 AM, albeit with half hour headways for late night trips. The peak hour service frequency is shown in the table below. While some stops serve different lines, the two highest activity stops at Highland Street on Clarendon and Wilson Boulevards (which serve 41, 42, 38B) have a combined bus frequency of about 11 buses per peak hour.

Table 2: Scheduled Buses per Hour

	AM Peak	PM Peak
ART 41	4	4
ART 42	2.5	2.5
ART 77	2	2
MetroBus 38B	4.5	4.5

The existing stops serve the current development. In the event that more development occurs south and west of Clarendon Circle, an additional stop on Wilson Boulevard just west of the main intersection may be justified.

The bus stops adjacent to the Metro station are complete with a number of amenities including benches, shelters, schedule information, street furniture and NextBus devices. These facilities contribute to the enhanced quality of transit service. Two stops are located on Wilson Boulevard just north of 10th Street North with only a bus stop sign.

WMATA does not provide the scheduled timetables for peak hour MetroRail service but local estimates are 8-12 trains/hour per direction. In the off peak hours, MetroRail service is reduced to three trains per hour.

Figure 12
Transit Service
PM Peak Hour

Legend

Bus Routes

- 38B
- 41
- 42
- 77

Bus Stop Call-out Detail

BUS OPERATOR	(bus/hr)
Bus Route	#
Bus Route	#
Total # bus/hr	

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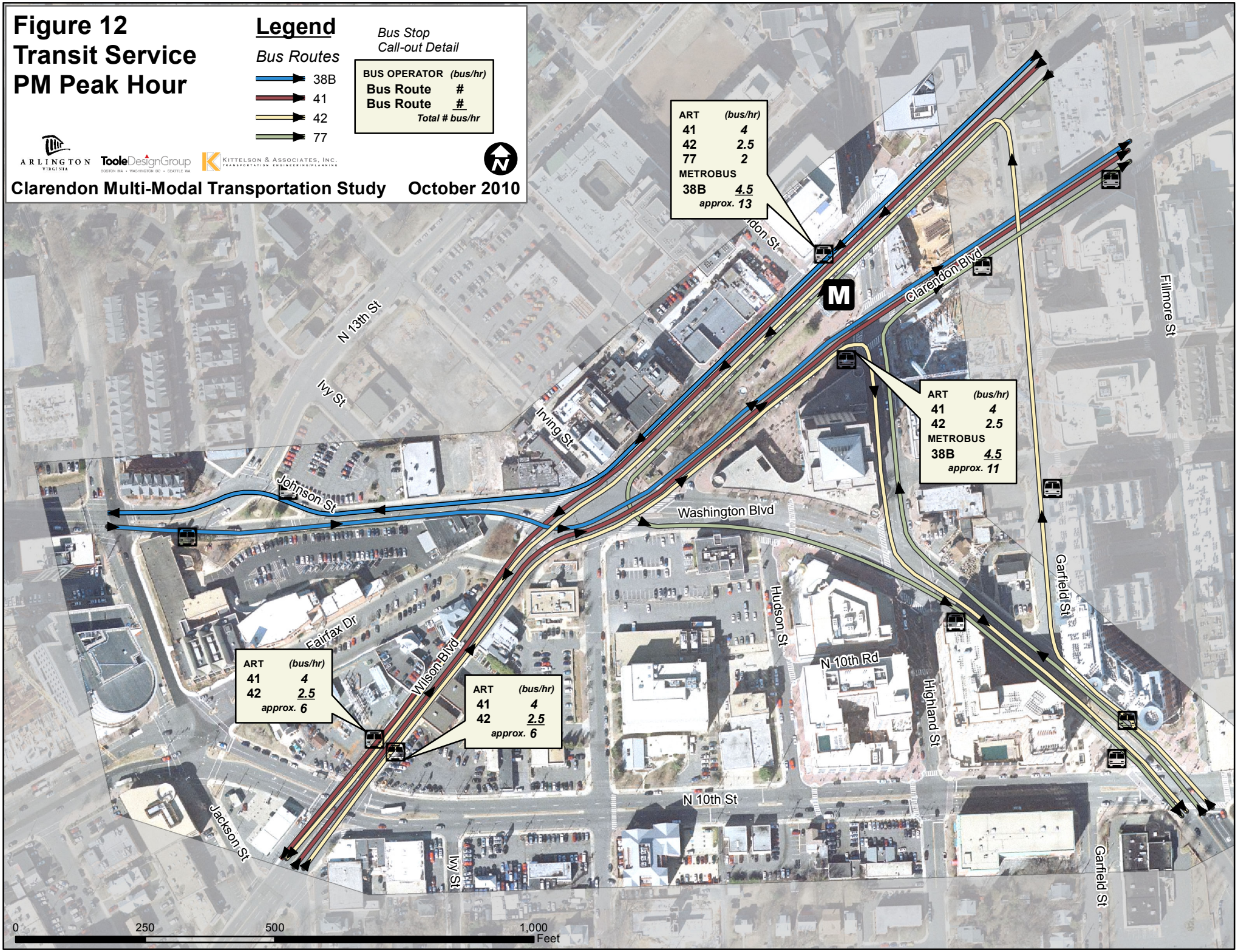


Multimodal Level of Service

Multimodal Level of Service (MMLOS) analysis is an emerging methodology that provides a concurrent evaluation of auto, transit, bicycle and pedestrian levels of service which can then be used in the evaluation of alternatives. It is well suited for standard intersection geometries that have unique characteristics related to lane configuration and width, sidewalk and buffer size, vehicle, pedestrian and bicycle volumes.

The MMLOS methodology, which is documented in NCHRP Report 370, was applied to the Clarendon Circle intersection and its signalized approaches. The existing conditions MMLOS results for the weekday PM peak hour are shown in Table 3.

Table 3: Existing Conditions Multimodal Level of Service Results – Weekday PM Peak Hour

	Auto*		Transit**	Pedestrian		Bicycle	
	Approach	Intersection	Segment	Segment	Intersection	Segment	Intersection
Washington Boulevard - E	D	C	-	A	C	E	C
Wilson Boulevard - SW	A	C	-	C	C	E	E
Washington Boulevard - W	B	C	-	C	D	E	E
Wilson Boulevard – NE	B	C	A	B	B	F	E
Clarendon Boulevard – NE	B	C	A	A	D	D	A

*HCM Methodology calculated using Synchro
** Transit LOS only reported on legs with bus stops.

As shown in **Table 3**, the transit and auto modes achieve the highest levels of service, which is expected. The Synchro analysis revealed minimal delay to vehicles. Transit riders will experience a comfortable waiting environment for a relatively short period of time based on bus frequency. Pedestrians experience less optimal conditions, due in large part to the conflicting vehicular movements (right turns and permitted left turns) and long crossing distances. Bicyclists are reportedly the worst performing mode which is confirmed by the safety and comfort deficiencies discussed earlier. The low levels of service for bicycles are driven largely by the adjacent vehicle traffic and lack of bike lanes on most legs of the intersection.

While the MMLOS provides a reasonable high-level assessment of level of service for each of the four modes, it does not capture the effects of all design and operational factors. **Table 4** presents a list of factors that are considered to influence the performance of the three non-auto modes. The MMLOS results above do not take these into account and are presented here with a positive (+), neutral (○) or negative (—) score for Clarendon Circle.

Table 4: Influential Factors not reflected in MMLOS Analysis

	General Intersection Quality
Pedestrian Level of Service	
Quality of Building Frontage	+
Quality of Streetscape	+
Provision of Pedestrian Plazas	+
ADA Accessible	+/—
Crossing Maneuvers	—
Bicycle Level of Service	
Sharrows/wide curb lanes.	—
Provision of bicycle racks	+
Nearby trail access	○
Transit Level of Service	
Proximity of stops to pedestrian generators	+
Advanced Traveler Information Systems	+
Non-surface Transportation (Metro)	+

Crash History

Safety for all users is an important priority for this project. The first step in assessing safety improvements is to determine the existing levels of safety in the region, part of which is informed by crash history reports. It is important to note, however, that crash history alone does not reflect all safety deficiencies. Crash data may be incomplete, inaccurate, and in some cases unreported. Nonetheless, they provide a useful tool in diagnosing intersection safety.

Crash data were obtained from Arlington County for the period between 2004 and 2008. The data are summarized by type in **Table 5** and by severity in **Table 6**. During the five-year period there were 34 reported crashes in the direct vicinity of Clarendon Circle. This equates to an average of less than 7 crashes per year and a crash rate of 0.57[1] per million entering vehicles. The vast majority, 85 percent, resulted in either non-visible or non-injury incidents. There have been no deaths reported, although in 2005 there was a serious injury involving a bicycle.

Table 5: Accident by Type (2004-2008)

Type	Quantity	Percent
Left Turn/Angle	11	32%
Rear end	8	24%
Fixed Object	6	18%
Side swipe	4	12%
Bicycle	4	12%
Pedestrian	1	3%

Table 6: Accident by Severity (2004-2008)

Severity	Quantity	Percent
Death	0	0%
Severe Visible Injury	2	6%
Minor Visible Injury	3	9%
No Visible Injury, Complaint of Pain	7	21%
Property Damage Only	22	65%

[1] Assumes 3,254 entering vehicles in the PM peak hour, K factor = 0.1 and extended over a 5 year period.

Summary of Key Findings

Clarendon Circle is a vibrant multi-modal hub of activity. Because of this and the anticipation of future development around the Circle, this small area transportation study has been undertaken to develop a functional concept transportation plan for Clarendon Circle. This report summarizes existing conditions and deficiencies within the study area. Based on the facilities and operations discussed in this report, a number of issues have been identified that should be addressed as part of the concept design phase of this study.

Results from the existing traffic operations analysis show that all intersections within the study area operate at LOS C or better during the weekday AM and PM peak hours. Results from a Multimodal Level of Service indicate that autos and transit vehicles experience the best levels of service, followed by pedestrians and then cyclists.

An analysis of crash data show there were 34 reported crashes in the direct vicinity of Clarendon Circle during the five-year period from 2004-2008. This equates to an average of less than 7 crashes per year and a crash rate of 0.57 per million entering vehicles. The vast majority, 85 percent, resulted in either non-visible or non-injury incidents.

A series of site visits were performed to observe and understand the unique operating characteristics of Clarendon Circle. The following lists summarize the primary issues identified from the site visits. These issues are displayed in **Figure 13:**

- Intersection Skew – the skew of the intersection causes wide-radius turning movements which encourage greater speeds for vehicles crossing crosswalks.
- Alignment Along Wilson-Clarendon Boulevard Couplet – as Wilson Boulevard splits into a couplet on the north side of Clarendon Circle to accommodate the pedestrian plaza, northbound vehicles are required to make an S-turn maneuver without striped channelization and few visual cues.
- Pavement Area – Because of the large amount of pavement and lack of channelization or guidance striping, vehicles have difficulty navigating the intersection, especially when queuing for left turns.
- Long Pedestrian Crossing Distances and Multiple Maneuvers – Pedestrians crossing Washington Boulevard on either side of the intersection are presented with crossing distances over 120 feet with inadequate pedestrian refuge islands and fast moving traffic.
- Narrow Streets for Bicyclists – While the Wilson-Clarendon Boulevard couplet provides bicycle lanes, cyclists are at risk further south on Wilson Boulevard or west on Washington Boulevard where neither bike lanes nor wide shoulders are available; cyclists must take a lane to safely travel, a maneuver not all cyclists are comfortable with.
- Fairfax Drive Bicycle Egress (northbound) – Cyclists often use Fairfax Drive as the primary through route when west of Clarendon Circle. When traveling eastbound,

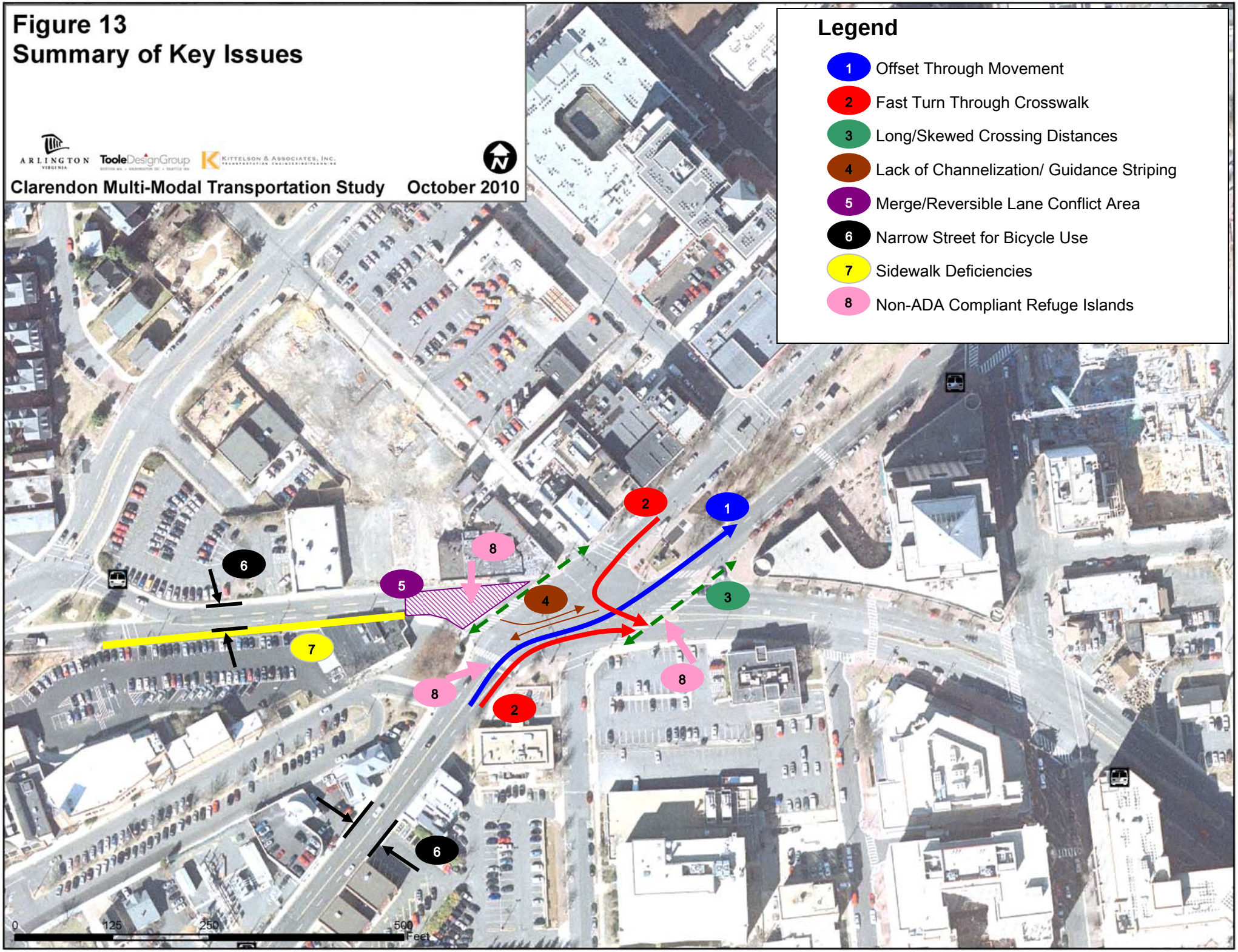
bicyclists find it difficult to enter the traffic stream and must make inconvenient and sometimes unsafe maneuvers.

- Merge Area on Washington Boulevard – the merge area just west of Clarendon Circle on Washington Boulevard is a location where many vehicles were observed making sudden merge movements, even during the PM peak hour when two lanes are available. This has a high potential for side-swipe accidents.
- Sidewalks on Washington Boulevard – the sidewalk is deficient on the south side of Washington Boulevard west of Clarendon Circle, adjacent to the church parking lot.

Figure 13
Summary of Key Issues

ARLINGTON VIRGINIA | Toole Design Group | Kittelson & Associates, Inc.

Clarendon Multi-Modal Transportation Study October 2010



Appendix A:
Turning Movement Count Data

DANIEL CONSULTANTS, INC.

ARLINGTON COUNTY, VIRGINIA TRAFFIC COUNTS
Field Information Sheet

Location: Washington Blvd., Wilson Blvd. & Irving St.

Type of Count: Manual Turning Movement

Captured Event: Weekday Count

Duration: 8 Hours (6:30 AM- 9:00AM; 11:00 AM- 1:00 PM 4:00 PM- 7:30 PM)

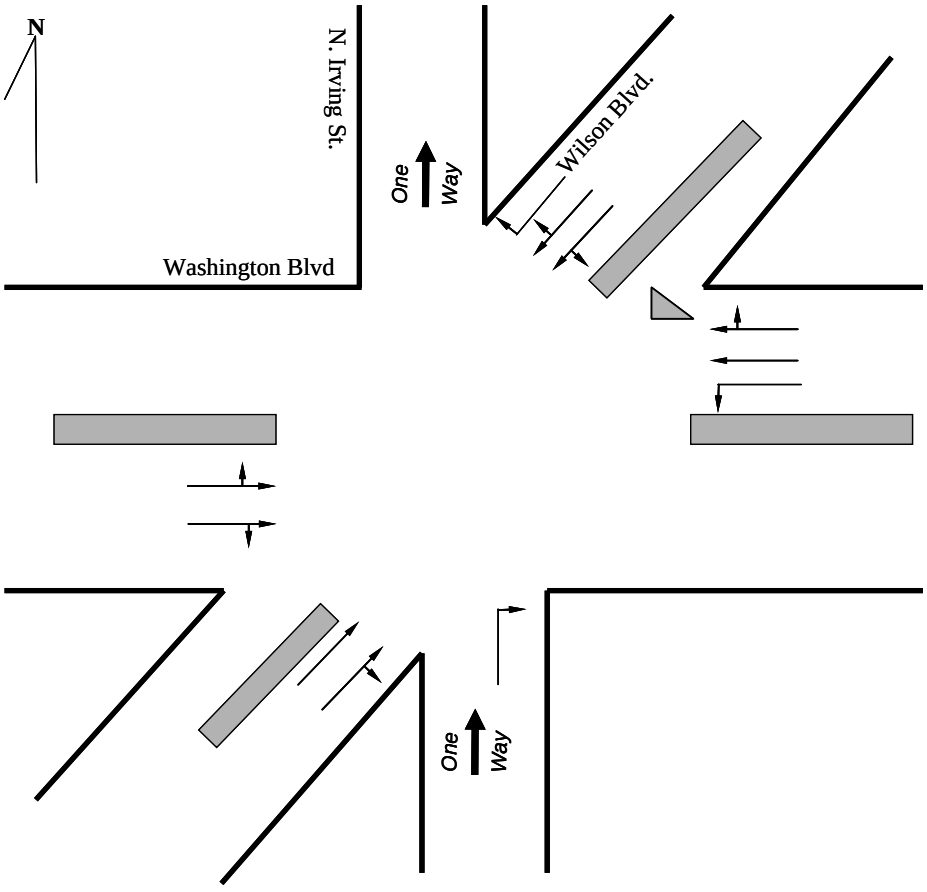
Date/Day of Week: 6-16-09/Thursday

Counters: AM/SK

Signalized: Yes

Weather: Clear

Comments: None



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	IRVING ST. From North		WILSON BLVD. From Northeast						WASHIGTON BLVD. From East						IRVING ST. From South					WILSON BLVD. From Southwest					WASHIGTON BLVD. From West					
Start Time	Peds	App. Total	Hard Left	Thru	Bear Right	Hard Right	Peds	App. Total	Left	Thru	Right	Hard Right	Peds	App. Total	Thru	Bear Right	Right	Peds	App. Total	Bear Left	Thru	Bear Right	Peds	App. Total	Bear Left	Thru	Hard Right	Peds	App. Total	Int. Total
Factor	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	15	15	5	40	18	0	9	72	16	66	2	2	11	97	3	0	1	7	11	0	35	2	1	38	24	50	2	15	91	324
06:45 AM	19	19	9	46	11	0	5	71	14	82	1	2	9	108	0	0	1	7	8	1	61	4	0	66	29	89	3	11	132	404
Total	34	34	14	86	29	0	14	143	30	148	3	4	20	205	3	0	2	14	19	1	96	6	1	104	53	139	5	26	223	728
07:00 AM	17	17	4	56	13	0	8	81	9	68	1	3	10	91	1	0	0	8	9	1	49	0	1	51	22	99	0	13	134	383
07:15 AM	18	18	3	83	29	0	6	121	18	92	2	1	12	125	0	0	1	6	7	0	89	4	0	93	37	103	0	12	152	516
07:30 AM	12	12	10	89	23	3	7	132	25	87	1	6	6	125	0	0	1	11	12	2	105	4	4	115	44	136	1	7	188	584
07:45 AM	18	18	6	106	31	3	6	152	29	134	7	2	17	189	2	0	2	14	18	4	145	3	1	153	56	138	4	13	211	741
Total	65	65	23	334	96	6	27	486	81	381	11	12	45	530	3	0	4	39	46	7	388	11	6	412	159	476	5	45	685	2224
08:00 AM	28	28	9	101	31	0	8	149	31	126	3	15	14	189	0	0	1	8	9	2	144	3	1	150	51	129	3	19	202	727
08:15 AM	30	30	8	97	36	3	7	151	38	139	5	0	24	206	0	0	1	21	22	3	159	4	2	168	69	153	4	17	243	820
08:30 AM	22	22	7	114	41	2	7	171	23	114	1	6	27	171	1	0	4	10	15	3	146	2	0	151	69	131	2	11	213	743
08:45 AM	25	25	13	124	47	1	10	195	37	145	3	4	32	221	0	0	9	18	27	4	161	0	1	166	80	143	5	14	242	876
Total	105	105	37	436	155	6	32	666	129	524	12	25	97	787	1	0	15	57	73	12	610	9	4	635	269	556	14	61	900	3166
BREAK																														
11:00 AM	15	15	10	113	30	8	5	166	22	81	4	7	16	130	3	0	3	8	14	3	87	7	0	97	29	66	2	10	107	529
11:15 AM	28	28	17	120	44	2	8	191	20	87	4	4	4	119	3	0	9	9	21	5	107	5	3	120	32	64	2	15	113	592
11:30 AM	29	29	12	140	35	6	10	203	21	82	0	7	10	120	3	0	4	14	21	1	125	4	2	132	32	84	4	16	136	641
11:45 AM	27	27	17	142	48	5	9	221	19	95	3	9	7	133	3	0	9	6	18	5	102	9	2	118	31	64	0	19	114	631
Total	99	99	56	515	157	21	32	781	82	345	11	27	37	502	12	0	25	37	74	14	421	25	7	467	124	278	8	60	470	2393

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Start Time	Peds	App. Total	Hard Left	Thru	Bear Right	Hard Right	Peds	App. Total	Left	Thru	Right	Hard Right	Peds	App. Total	Thru	Bear Right	Right	Peds	App. Total	Bear Left	Thru	Bear Right	Peds	App. Total	Bear Left	Thru	Hard Right	Peds	App. Total	Int. Total
Factor	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
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12:15 PM	33	33	17	171	45	4	16	253	22	83	2	9	18	134	3	0	2	7	12	2	89	16	4	111	32	71	5	14	122	665
12:30 PM	51	51	24	168	52	1	6	251	24	100	3	5	14	146	3	0	3	11	17	4	138	10	1	153	20	101	3	36	160	778
12:45 PM	46	46	16	125	31	7	13	192	29	98	4	5	15	151	1	0	7	12	20	2	114	5	5	126	36	83	0	41	160	695
Total	168	168	72	610	169	13	40	904	87	363	13	32	70	565	9	0	18	43	70	11	473	46	11	541	122	313	10	119	564	2812
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
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BREAK																														
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04:15 PM	25	25	16	180	53	5	7	261	19	126	6	3	17	171	1	0	3	9	13	2	107	6	1	116	22	95	0	21	138	724
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Total	117	117	52	667	233	11	48	1011	92	592	11	21	71	787	5	0	12	46	63	7	459	23	5	494	113	441	3	86	643	3115
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05:15 PM	38	38	21	203	77	2	12	315	25	175	5	2	23	230	1	0	5	18	24	3	138	9	0	150	36	126	6	42	210	967
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05:45 PM	57	57	13	180	83	9	19	304	20	165	5	7	18	215	1	0	6	16	23	2	146	4	0	152	35	101	5	43	184	935
Total	158	158	54	786	302	17	59	1218	98	693	19	26	84	920	2	0	17	65	84	8	542	32	2	584	125	458	16	143	742	3706

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Total	228	228	83	842	246	44	74	1289	78	635	19	36	112	880	5	0	14	93	112	7	613	33	11	664	169	424	11	206	810	3983
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07:15 PM	55	55	17	147	42	9	17	232	9	99	1	11	16	136	1	0	2	12	15	2	179	4	1	186	47	73	3	38	161	785
Grand Total	1084	1084	446	4593	1497	140	360	7036	693	3867	101	200	575	5436	42	0	113	425	580	73	3929	193	51	4246	1211	3246	76	846	5379	23761
Apprch %	100.0		6.3	65.3	21.3	2.0	5.1		12.7	71.1	1.9	3.7	10.6		7.2	0.0	19.5	73.3		1.7	92.5	4.5	1.2		22.5	60.3	1.4	15.7		
Total %	4.6	4.6	1.9	19.3	6.3	0.6	1.5	29.6	2.9	16.3	0.4	0.8	2.4	22.9	0.2	0.0	0.5	1.8	2.4	0.3	16.5	0.8	0.2	17.9	5.1	13.7	0.3	3.6	22.6	

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Start Time	Peds	App. Total	Hard Left	Thru	Bear Right	Hard Right	Peds	App. Total	Left	Thru	Right	Hard Right	Peds	App. Total	Thru	Bear Right	Right	Peds	App. Total	Bear Left	Thru	Bear Right	Peds	App. Total	Bear Left	Thru	Hard Right	Peds	App. Total	Int. Total
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06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	1	0	3	4	0	2	1	0	3	10
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	1	0	1	2	4
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	0	1	0	4	5	0	3	1	1	5	14
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	3	3	0	2	0	0	2	7
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	3	4	0	4	0	0	4	12
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	2	0	6	8	0	3	0	1	4	15
07:45 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	4	1	0	5	0	3	0	6	9	0	4	1	0	5	20
Total	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	13	1	0	14	0	6	0	18	24	0	13	1	1	15	54
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	1	0	0	1	3
08:15 AM	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	3	4	0	7	0	0	2	3	5	0	3	4	0	7	21
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08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	0	1	0	2	3	0	4	1	0	5	13
Total	0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	10	5	0	15	0	1	2	7	10	0	10	5	0	15	47
BREAK																														
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	2	0	0	1	0	1	4
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	2
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	2	2	0	3	0	0	3	8
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	0	2	0	6	8	0	3	1	0	4	16

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Start Time	Peds	App. Total	Hard Left	Thru	Bear Right	Hard Right	Peds	App. Total	Left	Thru	Right	Hard Right	Peds	App. Total	Thru	Bear Right	Right	Peds	App. Total	Bear Left	Thru	Bear Right	Peds	App. Total	Bear Left	Thru	Hard Right	Peds	App. Total	Int. Total
Factor	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	1	1	0	2	0	0	2	5
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	1	0	0	1	3
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	1	0	0	1	3
BREAK																														
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	3	3	0	4	0	0	4	11
BREAK																														
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
BREAK																														
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
02:45 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3	1	1	5	0	0	0	0	0	0	0	0	0	0	6
Total	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	6	2	1	9	0	0	0	0	0	0	0	0	0	0	10
BREAK																														
03:15 PM	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	4
03:30 PM	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	10
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	6	0	0	0	4	4	10
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	5	9	0	0	1	5	6	15
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	4	0	0	0	1	1	5
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	1	10	22	0	0	1	10	11	33

Daniel Consultants, Inc
8950 Route 108 East, Suite 229
Columbia, Maryland 21045
(410) 995-0090

File Name : bike
Site Code : 00000000
Start Date : 06/16/2009
Page No : 3

Groups Printed- Unshifted

	IRVING ST. (BIKE ONLY) From North		WILSON BLVD. (BIKE ONLY) From Northeast						WASHIGTON BLVD. (BIKE ONLY) From East						IRVING ST. (BIKE ONLY) From South					WILSON BLVD. (BIKE ONLY) From Southwest					WASHIGTON BLVD. (BIKE ONLY) From West					
Start Time	Peds	App. Total	Hard Left	Thru	Bear Right	Hard Right	Peds	App. Total	Left	Thru	Right	Hard Right	Peds	App. Total	Thru	Bear Right	Right	Peds	App. Total	Bear Left	Thru	Bear Right	Peds	App. Total	Bear Left	Thru	Hard Right	Peds	App. Total	Int. Total
Factor	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	5	7	0	0	0	5	5	12
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	5	0	0	0	4	4	9
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	5	0	0	0	4	4	9
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	3	7	0	1	0	3	4	11
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	16	24	0	1	0	16	17	41
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	4	12	0	0	0	4	4	16
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	2	4	0	5	0	2	7	12
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	0	0	0	2	2	5
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	11	0	8	19	0	7	0	8	15	36
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	5	8	0	0	0	5	5	13
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	4	0	0	0	1	1	5
Grand Total	0	0	0	16	0	0	0	16	0	0	0	0	0	0	0	43	12	1	56	0	46	3	78	127	0	41	9	42	92	291
Apprch %	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	76.8	21.4	1.8		0.0	36.2	2.4	61.4		0.0	44.6	9.8	45.7		
Total %	0.0	0.0	0.0	5.5	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8	4.1	0.3	19.2	0.0	15.8	1.0	26.8	43.6	0.0	14.1	3.1	14.4	31.6	

DANIEL CONSULTANTS, INC.

ARLINGTON COUNTY, VIRGINIA TRAFFIC COUNTS
Field Information Sheet

Location: Wilson Blvd. & 10th St.

Type of Count: Manual Turning Movement

Captured Event: Weekday Count

Duration: 8 Hours (6:30 AM- 9:00AM; 11:00 AM- 1:00 PM 4:00 PM- 7:30 PM)

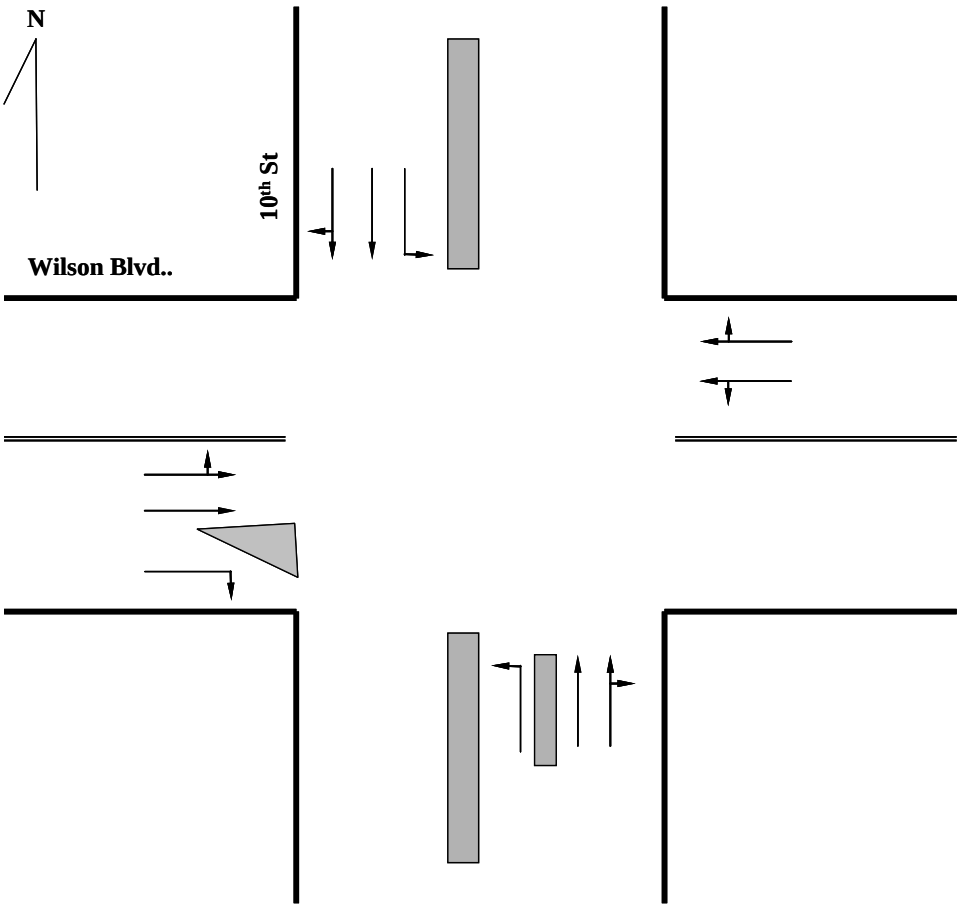
Date/Day of Week: 6-10-09/Wednesday

Counters: AM/DB

Signalized: Yes

Weather: Clear

Comments: None



Daniel Consultants, Inc
8950 Route 108 East, Suite 229
Columbia, Maryland 21045
(410) 995-0090

File Name : WILSON~2
Site Code : 00000000
Start Date : 06/10/2009
Page No : 1

Groups Printed- Unshifted

	10TH ST. From North					WILSON BLVD. From East					10TH ST. From South					WILSON BLVD. From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	10	56	1	4	71	2	27	17	2	48	79	115	0	8	202	2	57	37	0	96	417
06:45 AM	15	58	1	11	85	1	41	12	2	56	65	112	2	5	184	4	61	58	1	124	449
Total	25	114	2	15	156	3	68	29	4	104	144	227	2	13	386	6	118	95	1	220	866
07:00 AM	17	69	1	3	90	0	35	12	5	52	55	114	0	7	176	8	63	58	3	132	450
07:15 AM	24	68	2	2	96	0	57	17	4	78	64	145	2	10	221	12	83	32	2	129	524
07:30 AM	32	92	1	9	134	0	53	12	2	67	76	171	0	4	251	10	101	43	3	157	609
07:45 AM	22	125	0	1	148	1	90	16	0	107	87	181	2	14	284	22	118	74	2	216	755
Total	95	354	4	15	468	1	235	57	11	304	282	611	4	35	932	52	365	207	10	634	2338
08:00 AM	35	111	0	2	148	9	76	17	4	106	74	177	2	7	260	13	152	54	1	220	734
08:15 AM	28	117	1	4	150	1	71	11	5	88	79	181	2	23	285	5	142	53	4	204	727
08:30 AM	26	96	1	6	129	1	90	13	5	109	83	150	1	11	245	18	152	57	4	231	714
08:45 AM	25	104	0	4	133	3	101	16	7	127	69	162	2	7	240	9	164	63	0	236	736
Total	114	428	2	16	560	14	338	57	21	430	305	670	7	48	1030	45	610	227	9	891	2911
BREAK																					
11:00 AM	28	64	0	3	95	6	92	16	2	116	52	59	3	16	130	13	71	51	3	138	479
11:15 AM	44	81	1	2	128	3	95	8	0	106	58	77	1	6	142	8	67	61	4	140	516
11:30 AM	35	82	2	0	119	1	94	25	1	121	63	68	3	4	138	7	87	60	6	160	538
11:45 AM	44	104	2	14	164	6	114	13	5	138	55	68	1	6	130	7	115	64	4	190	622
Total	151	331	5	19	506	16	395	62	8	481	228	272	8	32	540	35	340	236	17	628	2155
12:00 PM	56	146	2	6	210	5	119	29	6	159	59	74	3	7	143	7	112	70	3	192	704
12:15 PM	45	95	1	5	146	2	115	23	1	141	68	81	5	7	161	15	106	72	1	194	642
12:30 PM	43	105	2	4	154	4	97	15	1	117	63	101	3	7	174	3	84	73	3	163	608
12:45 PM	55	87	3	5	150	2	99	18	2	121	56	80	1	4	141	9	108	87	5	209	621
Total	199	433	8	20	660	13	430	85	10	538	246	336	12	25	619	34	410	302	12	758	2575
BREAK																					
04:00 PM	39	168	5	5	217	5	126	15	0	146	62	78	1	7	148	7	80	98	5	190	701
04:15 PM	39	156	3	4	202	2	134	7	1	144	74	99	2	8	183	4	75	85	9	173	702
04:30 PM	20	166	1	2	189	2	117	12	1	132	67	74	4	9	154	9	81	68	3	161	636
04:45 PM	32	178	1	5	216	2	170	17	1	190	96	87	4	4	191	6	122	67	0	195	792
Total	130	668	10	16	824	11	547	51	3	612	299	338	11	28	676	26	358	318	17	719	2831
05:00 PM	40	185	1	8	234	3	143	14	2	162	93	99	7	5	204	14	108	101	7	230	830
05:15 PM	49	188	3	8	248	2	185	11	3	201	79	102	1	4	186	7	140	73	2	222	857
05:30 PM	40	199	1	2	242	5	150	22	1	178	76	117	2	11	206	9	103	102	12	226	852
05:45 PM	51	200	1	10	262	1	180	13	7	201	80	118	2	8	208	10	168	98	7	283	954
Total	180	772	6	28	986	11	658	60	13	742	328	436	12	28	804	40	519	374	28	961	3493
06:00 PM	50	187	3	7	247	3	175	13	3	194	82	115	1	9	207	8	120	124	3	255	903
06:15 PM	41	197	3	7	248	4	182	25	5	216	98	138	3	12	251	7	168	101	10	286	1001
06:30 PM	38	176	2	13	229	5	141	15	9	170	98	152	3	11	264	5	138	98	3	244	907
06:45 PM	50	155	0	36	241	2	153	32	2	189	74	119	3	11	207	6	134	81	4	225	862
Total	179	715	8	63	965	14	651	85	19	769	352	524	10	43	929	26	560	404	20	1010	3673
07:00 PM	40	127	19	6	192	3	144	14	2	163	75	140	7	16	238	5	88	71	5	169	762
07:15 PM	41	142	2	7	192	5	128	36	3	172	61	143	5	18	227	4	135	75	7	221	812
Grand Total	1154	4084	66	205	5509	91	3594	536	94	4315	2320	3697	78	286	6381	273	3503	2309	126	6211	22416
Apprch %	20.9	74.1	1.2	3.7		2.1	83.3	12.4	2.2		36.4	57.9	1.2	4.5		4.4	56.4	37.2	2.0		
Total %	5.1	18.2	0.3	0.9	24.6	0.4	16.0	2.4	0.4	19.2	10.3	16.5	0.3	1.3	28.5	1.2	15.6	10.3	0.6	27.7	

Daniel Consultants, Inc
8950 Route 108 East, Suite 229
Columbia, Maryland 21045
(410) 995-0090

File Name : WILSON~1
Site Code : 00000000
Start Date : 06/10/2009
Page No : 1

Groups Printed- Unshifted

	10TH ST. (BIKE ONLY) From North					WILSON BLVD. (BIKE ONLY) From East					10TH ST. (BIKE ONLY) From South					WILSON BLVD. (BIKE ONLY) From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	1	1	0	0	2	0	0	1	1	2	0	2	0	1	3	0	0	1	0	1	8
06:45 AM	1	1	0	1	3	0	0	0	0	0	0	0	0	1	1	0	1	0	2	3	7
Total	2	2	0	1	5	0	0	1	1	2	0	2	0	2	4	0	1	1	2	4	15
07:00 AM	1	2	0	0	3	0	1	0	0	1	1	0	0	1	2	0	2	1	1	4	10
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	5	0	1	6	8
07:30 AM	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	1	2	0	2	0	0	2	5
Total	3	3	0	0	6	0	1	0	0	1	1	4	0	2	7	0	9	1	2	12	26
08:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	1	1	1	3	5
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	2	5	1	1	0	0	2	7
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	6	1	0	7	9
08:45 AM	0	0	0	0	0	0	2	0	1	3	0	3	0	0	3	0	3	2	0	5	11
Total	0	1	0	0	1	0	3	0	1	4	0	7	0	3	10	1	11	4	1	17	32
BREAK																					
11:00 AM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
11:15 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	4
11:30 AM	1	0	0	2	3	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	6
11:45 AM	1	0	0	0	1	0	1	1	0	2	0	1	0	0	1	0	3	0	0	3	7
Total	2	0	1	2	5	0	4	1	0	5	0	2	0	0	2	0	7	0	0	7	19
12:00 PM	1	3	0	0	4	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	6
12:15 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	1	2	0	2	1	0	3	6
12:30 PM	0	1	0	1	2	0	0	0	1	1	0	0	0	1	1	0	4	1	0	5	9
12:45 PM	0	1	0	0	1	1	1	1	0	3	0	0	0	2	2	0	1	1	0	2	8
Total	1	6	0	1	8	1	1	1	1	4	2	0	0	4	6	0	8	3	0	11	29
BREAK																					
04:00 PM	1	5	0	2	8	0	1	0	0	1	0	2	0	2	4	0	0	4	1	5	18
04:15 PM	2	1	0	1	4	0	3	0	1	4	1	0	0	1	2	0	1	1	0	2	12
04:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
04:45 PM	0	0	0	0	0	0	4	0	0	4	0	3	0	0	3	0	3	0	0	3	10
Total	3	6	0	3	12	0	10	0	1	11	1	5	0	3	9	0	5	5	1	11	43
05:00 PM	2	0	0	2	4	0	0	0	1	1	0	1	0	3	4	0	4	0	0	4	13
05:15 PM	0	1	1	0	2	0	2	0	1	3	0	1	0	0	1	0	1	1	2	4	10
05:30 PM	0	0	1	3	4	0	1	1	0	2	2	1	0	0	3	0	3	2	0	5	14
05:45 PM	3	0	0	0	3	0	6	0	1	7	0	1	0	2	3	0	1	0	0	1	14
Total	5	1	2	5	13	0	9	1	3	13	2	4	0	5	11	0	9	3	2	14	51
06:00 PM	0	1	0	0	1	0	4	1	0	5	2	0	0	0	2	0	0	1	1	2	10
06:15 PM	0	1	0	0	1	0	5	0	0	5	0	2	0	0	2	0	4	0	0	4	12
06:30 PM	1	1	0	0	2	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	8
06:45 PM	1	1	0	0	2	0	4	0	0	4	0	2	0	0	2	0	1	0	0	1	9
Total	2	4	0	0	6	0	19	1	0	20	2	4	0	0	6	0	5	1	1	7	39
07:00 PM	1	0	0	0	1	0	2	1	0	3	0	1	0	0	1	0	2	0	1	3	8
07:15 PM	1	0	0	0	1	0	2	0	2	4	0	0	0	0	0	0	1	0	1	2	7
Grand Total	20	23	3	12	58	1	51	6	9	67	8	29	0	19	56	1	58	18	11	88	269
Apprch %	34.5	39.7	5.2	20.7		1.5	76.1	9.0	13.4		14.3	51.8	0.0	33.9		1.1	65.9	20.5	12.5		
Total %	7.4	8.6	1.1	4.5	21.6	0.4	19.0	2.2	3.3	24.9	3.0	10.8	0.0	7.1	20.8	0.4	21.6	6.7	4.1	32.7	

Type of peak hour being reported: Intersection Peak

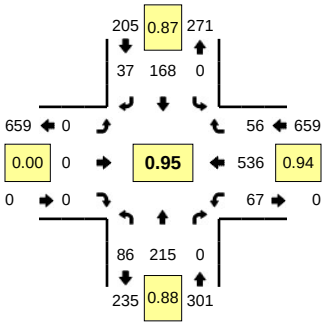
Method for determining peak hour: Total Entering Volume

LOCATION: N Highland St -- Wilson Blvd

QC JOB #: 10514805

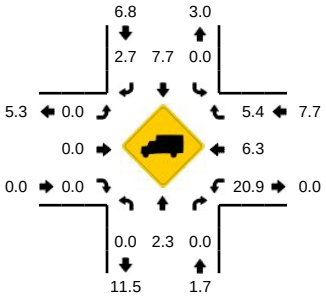
CITY/STATE: Clarendon, VA

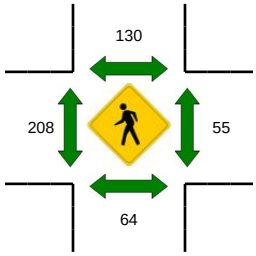
DATE: 6/16/2010

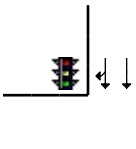


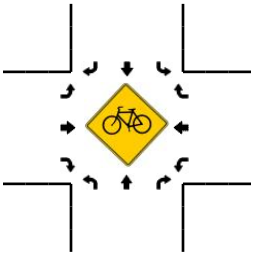
Peak-Hour: 8:00 AM -- 9:00 AM

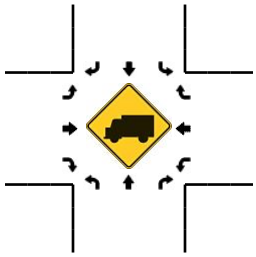
Peak 15-Min: 8:00 AM -- 8:15 AM

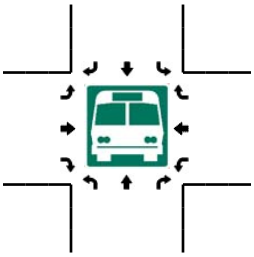












15-Min Count Period Beginning At	N Highland St (Northbound)				N Highland St (Southbound)				Wilson Blvd (Eastbound)				Wilson Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	7	13	0	0	0	11	2	0	0	0	0	0	4	25	4	0	66	
6:15 AM	9	11	0	0	0	8	1	0	0	0	0	0	4	48	3	0	84	
6:30 AM	10	21	0	0	0	9	2	0	0	0	0	0	8	51	5	0	106	
6:45 AM	22	25	0	0	0	15	5	0	0	0	0	0	4	63	3	0	137	393
7:00 AM	16	12	0	0	0	31	5	0	0	0	0	0	9	71	13	0	157	484
7:15 AM	17	35	0	0	0	44	7	0	0	0	0	0	18	81	8	0	210	610
7:30 AM	16	35	0	0	0	40	3	0	0	0	0	0	11	89	10	0	204	708
7:45 AM	30	51	0	0	0	44	8	0	0	0	0	0	12	111	10	0	266	837
8:00 AM	27	61	0	0	0	46	13	0	0	0	0	0	16	130	13	0	306	986
8:15 AM	21	55	0	0	0	36	5	0	0	0	0	0	17	120	19	0	273	1049
8:30 AM	20	46	0	0	0	41	7	0	0	0	0	0	19	149	8	0	290	1135
8:45 AM	18	53	0	0	0	45	12	0	0	0	0	0	15	137	16	0	296	1165

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	108	244	0	0	0	184	52	0	0	0	0	0	64	520	52	0	1224
Heavy Trucks	0	16	0		0	0	4		0	0	0		20	44	0		84
Pedestrians		88				120				232				60			500
Bicycles																	
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/25/2010 9:22 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of peak hour being reported: Intersection Peak

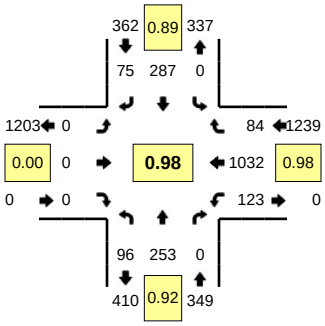
Method for determining peak hour: Total Entering Volume

LOCATION: N Highland St -- Wilson Blvd

QC JOB #: 10514806

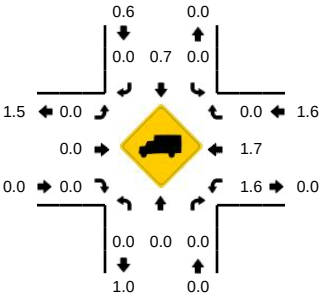
CITY/STATE: Clarendon, VA

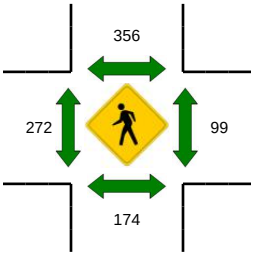
DATE: 6/16/2010

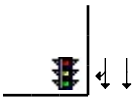


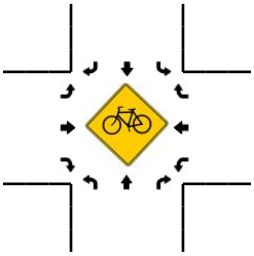
Peak-Hour: 5:30 PM -- 6:30 PM

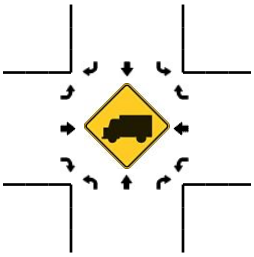
Peak 15-Min: 5:45 PM -- 6:00 PM

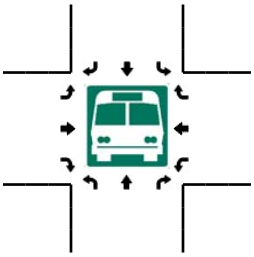












15-Min Count Period Beginning At	N Highland St (Northbound)				N Highland St (Southbound)				Wilson Blvd (Eastbound)				Wilson Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	15	36	0	0	0	62	21	0	0	0	0	0	26	206	10	0	376	
4:45 PM	12	46	0	0	0	59	16	0	0	0	0	0	23	224	15	0	395	
5:00 PM	16	40	0	0	0	92	17	0	0	0	0	0	39	246	11	0	461	
5:15 PM	20	59	0	0	0	71	12	0	0	0	0	0	31	247	20	0	460	1692
5:30 PM	27	56	0	0	0	74	18	0	0	0	0	0	30	267	19	0	491	1807
5:45 PM	21	67	0	0	0	83	19	0	0	0	0	0	34	255	17	0	496	1908
6:00 PM	23	60	0	0	0	64	19	0	0	0	0	0	31	257	20	0	474	1921
6:15 PM	25	70	0	0	0	66	19	0	0	0	0	0	28	253	28	0	489	1950
6:30 PM	24	60	0	0	0	75	19	0	0	0	0	0	25	243	36	0	482	1941
6:45 PM	21	65	0	0	0	67	27	0	0	0	0	0	23	218	32	0	453	1898
7:00 PM	21	64	0	0	0	60	24	0	0	0	0	0	34	193	28	0	424	1848
7:15 PM	24	61	0	0	0	57	22	0	0	0	0	0	29	175	28	0	396	1755

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	84	268	0	0	0	332	76	0	0	0	0	0	136	1020	68	0	1984
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	4	0		8
Pedestrians		212				256				340				108			916
Bicycles																	
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/25/2010 9:22 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

DANIEL CONSULTANTS, INC.

ARLINGTON COUNTY, VIRGINIA TRAFFIC COUNTS
Field Information Sheet

Location: Fairfax Dr. Connector

Type of Count: Manual Turning Movement

Captured Event: Weekday Count

Duration: 8 Hours (6:30 AM- 9:00AM; 11:00 AM- 1:00 PM 4:00 PM- 7:30 PM)

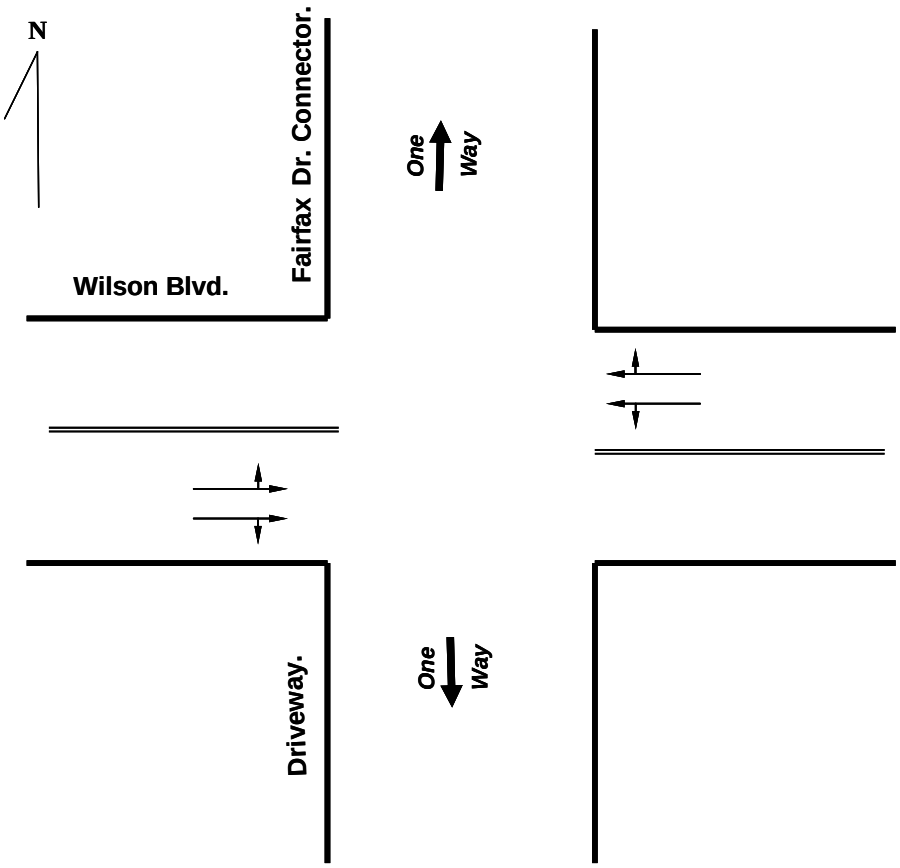
Date/Day of Week: 6-11-09/Thursday

Counters: Dawit/Alganesh

Signalized: No

Weather: Clear

Comments: None



Daniel Consultants, Inc
8950 Route 108 East, Suite 229
Columbia, Maryland 21045
(410) 995-0090

File Name : FAITFA~2
Site Code : 00000000
Start Date : 06/11/2009
Page No : 1

Groups Printed- Unshifted

	FAIRFAX DRIVE CONNECTOR From North					WILS0N BLVD. From East					DRIVE WAY From South					WILS0N BLVD. From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	0	0	0	0	0	59	2	1	62	0	0	0	0	0	0	54	1	1	56	118
06:45 AM	0	0	0	5	5	0	65	3	2	70	0	0	0	0	0	0	62	2	1	65	140
Total	0	0	0	5	5	0	124	5	3	132	0	0	0	0	0	0	116	3	2	121	258
07:00 AM	0	0	0	1	1	0	74	13	1	88	0	0	0	0	0	0	78	1	0	79	168
07:15 AM	0	0	0	1	1	0	86	22	2	110	0	0	0	0	0	1	102	1	0	104	215
07:30 AM	0	0	0	3	3	0	98	17	3	118	0	0	0	0	0	8	116	0	0	124	245
07:45 AM	0	0	0	1	1	0	120	21	2	143	0	0	0	0	0	5	168	1	0	174	318
Total	0	0	0	6	6	0	378	73	8	459	0	0	0	0	0	14	464	3	0	481	946
08:00 AM	0	0	0	2	2	0	134	23	3	160	0	0	0	0	0	0	210	2	0	212	374
08:15 AM	0	0	0	5	5	0	117	20	3	140	0	0	0	0	0	2	191	1	0	194	339
08:30 AM	0	0	0	5	5	0	116	26	1	143	0	0	0	0	0	2	193	2	0	197	345
08:45 AM	0	0	0	10	10	0	123	22	2	147	0	0	0	0	0	3	176	0	0	179	336
Total	0	0	0	22	22	0	490	91	9	590	0	0	0	0	0	7	770	5	0	782	1394
BREAK																					
11:00 AM	0	0	0	5	5	3	131	11	2	147	0	0	0	0	0	0	130	3	0	133	285
11:15 AM	0	0	0	2	2	5	139	23	7	174	0	0	0	0	0	1	141	3	0	145	321
11:30 AM	0	0	0	8	8	1	123	25	6	155	0	0	0	0	0	1	127	0	0	128	291
11:45 AM	0	0	0	6	6	5	142	30	14	191	0	0	0	0	0	1	137	2	0	140	337
Total	0	0	0	21	21	14	535	89	29	667	0	0	0	0	0	3	535	8	0	546	1234
12:00 PM	0	0	0	5	5	4	166	19	13	202	0	0	0	0	0	1	186	1	0	188	395
12:15 PM	0	0	0	13	13	1	132	29	15	177	0	0	0	0	0	0	146	2	0	148	338
12:30 PM	0	0	0	3	3	3	143	30	9	185	0	0	0	0	0	0	164	0	0	164	352
12:45 PM	0	0	0	5	5	2	133	41	5	181	0	0	0	0	0	2	151	0	0	153	339
Total	0	0	0	26	26	10	574	119	42	745	0	0	0	0	0	3	647	3	0	653	1424
BREAK																					
04:00 PM	0	0	0	6	6	2	147	19	1	169	0	0	0	0	0	1	155	1	0	157	332
04:15 PM	0	0	0	1	1	2	154	24	5	185	0	0	0	0	0	1	124	0	0	125	311
04:30 PM	0	0	0	7	7	0	172	24	4	200	0	0	0	0	0	2	121	2	0	125	332
04:45 PM	0	0	0	9	9	7	162	20	3	192	0	0	0	0	0	5	143	0	0	148	349
Total	0	0	0	23	23	11	635	87	13	746	0	0	0	0	0	9	543	3	0	555	1324
05:00 PM	0	0	0	4	4	13	169	29	3	214	0	0	0	0	0	2	153	2	0	157	375
05:15 PM	0	0	0	17	17	6	179	31	6	222	0	0	0	0	0	0	150	3	0	153	392
05:30 PM	0	0	0	13	13	0	182	28	8	218	0	0	0	0	0	1	163	3	0	167	398
05:45 PM	0	0	0	11	11	2	180	30	14	226	0	0	0	0	0	1	158	0	0	159	396
Total	0	0	0	45	45	21	710	118	31	880	0	0	0	0	0	4	624	8	0	636	1561
06:00 PM	0	0	0	13	13	3	177	27	9	216	0	0	0	0	0	1	161	1	0	163	392
06:15 PM	0	0	0	13	13	2	175	37	5	219	0	0	0	0	0	1	155	4	0	160	392
06:30 PM	0	0	0	27	27	1	156	40	12	209	0	0	0	0	0	0	198	1	0	199	435
06:45 PM	0	0	0	29	29	3	170	24	16	213	0	0	0	0	0	5	201	2	0	208	450
Total	0	0	0	82	82	9	678	128	42	857	0	0	0	0	0	7	715	8	0	730	1669
07:00 PM	0	0	0	15	15	5	120	40	11	176	0	0	0	0	0	1	162	2	0	165	356
07:15 PM	0	0	0	17	17	3	126	28	7	164	0	0	0	0	0	1	169	1	0	171	352
Grand Total	0	0	0	262	262	73	4370	778	195	5416	0	0	0	0	0	49	4745	44	2	4840	10518
Apprch %	0.0	0.0	0.0	100.0		1.3	80.7	14.4	3.6		0.0	0.0	0.0	0.0		1.0	98.0	0.9	0.0		

Total %	0.0	0.0	0.0	2.5	2.5	0.7	41.5	7.4	1.9	51.5	0.0	0.0	0.0	0.0	0.0	0.5	45.1	0.4	0.0	46.0

Daniel Consultants, Inc
8950 Route 108 East, Suite 229
Columbia, Maryland 21045
(410) 995-0090

File Name : FAITFA~1
Site Code : 00000000
Start Date : 06/11/2009
Page No : 1

Groups Printed- Unshifted

	FAIRFAX DRIVE. CONNECTOR (BIKE ONLY) From North					WILSON BLVD. (BIKE ONLY) From East					DRIVE WAY (BIKE ONLY) From South					WILSON BLVD. (BIKE ONLY) From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	2
06:45 AM	0	0	0	0	0	0	3	0	1	4	0	0	0	0	0	0	0	0	0	0	4
Total	0	0	0	0	0	0	4	0	2	6	0	0	0	0	0	0	0	0	0	0	6
07:00 AM	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	1	0	0	1	3
07:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	1	1	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	1	1	0	0	0	0	0	5
07:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	8	0	1	9	0	0	0	2	2	0	1	0	0	1	12
08:00 AM	0	0	0	0	0	0	3	0	1	4	0	0	0	1	1	0	1	0	0	1	6
08:15 AM	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	2	0	0	2	7
08:45 AM	0	0	0	2	2	0	0	4	1	5	0	0	0	0	0	0	2	0	0	2	9
Total	0	0	0	2	2	0	7	6	3	16	0	0	0	1	1	0	5	0	0	5	24
BREAK																					
11:00 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	3
11:15 AM	0	0	0	1	1	0	1	0	2	3	0	0	0	0	0	0	1	0	0	1	5
11:30 AM	0	0	0	3	3	0	3	0	3	6	0	0	0	0	0	0	1	0	0	1	10
11:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	4	4	0	6	1	5	12	0	0	0	0	0	0	4	0	0	4	20
12:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
12:15 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	5
BREAK																					
Total	0	0	0	1	1	0	5	1	0	6	0	0	0	0	0	0	2	0	0	2	9
BREAK																					
04:00 PM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	7
04:15 PM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	1	0	0	1	4
04:30 PM	0	0	0	2	2	0	3	2	1	6	0	0	0	0	0	0	6	0	0	6	14
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	2	2	0	10	4	1	15	0	0	0	0	0	0	9	0	0	9	26
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	11	0	0	11	12
05:15 PM	0	0	0	0	0	0	4	3	1	8	0	0	0	1	1	0	5	0	0	5	14
05:30 PM	0	0	0	2	2	0	1	1	0	2	0	0	0	0	0	0	4	0	0	4	8
05:45 PM	0	0	0	3	3	0	1	3	1	5	0	0	0	0	0	0	1	0	0	1	9
Total	0	0	0	5	5	0	6	8	2	16	0	0	0	1	1	0	21	0	0	21	43
06:00 PM	0	0	0	0	0	0	1	6	0	7	0	0	0	0	0	0	5	0	0	5	12
06:15 PM	0	0	0	0	0	0	4	2	0	6	0	0	0	0	0	0	2	0	0	2	8
06:30 PM	0	0	0	0	0	0	4	3	0	7	0	0	0	0	0	0	2	0	0	2	9
06:45 PM	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	0	0	0	0	12	13	0	25	0	0	0	0	0	0	9	0	0	9	34

Daniel Consultants, Inc
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Columbia, Maryland 21045
(410) 995-0090

File Name : FAITFA~1
Site Code : 00000000
Start Date : 06/11/2009

Groups Printed- Unshifted

	FAIRFAX DRIVE. CONNECTOR (BIKE ONLY) From North					WILS0N BLVD. (BIKE ONLY) From East					DRIVE WAY (BIKE ONLY) From South					WILS0N BLVD. (BIKE ONLY) From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 PM	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	0	1	0	0	1	5
07:15 PM	0	0	0	0	0	0	4	2	1	7	0	0	0	0	0	0	1	0	0	1	8
Grand Total	0	0	0	14	14	0	63	38	15	116	0	0	0	4	4	0	53	0	0	53	187
Apprch %	0.0	0.0	0.0	100.0		0.0	54.3	32.8	12.9		0.0	0.0	0.0	100.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	7.5	7.5	0.0	33.7	20.3	8.0	62.0	0.0	0.0	0.0	2.1	2.1	0.0	28.3	0.0	0.0	28.3	

Type of peak hour being reported: Intersection Peak

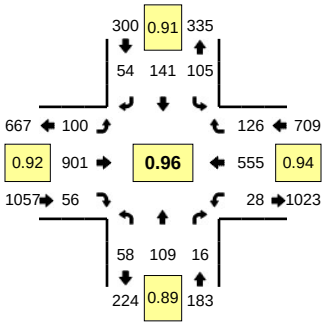
Method for determining peak hour: Total Entering Volume

LOCATION: N Kirkwood Rd -- Washington Blvd

QC JOB #: 10514803

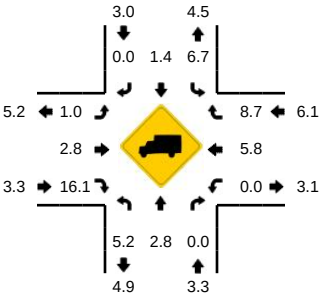
CITY/STATE: Clarendon, VA

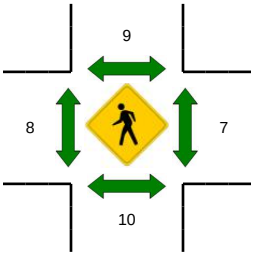
DATE: 6/16/2010

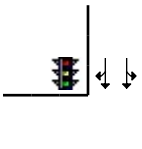


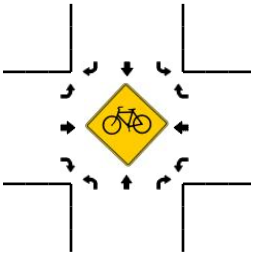
Peak-Hour: 7:45 AM -- 8:45 AM

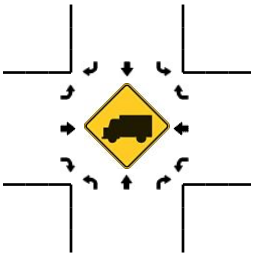
Peak 15-Min: 8:30 AM -- 8:45 AM

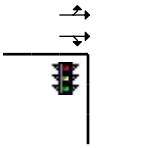


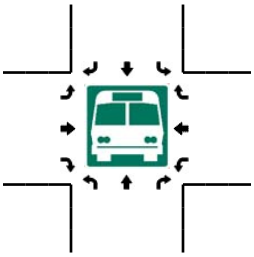












15-Min Count Period Beginning At	N Kirkwood Rd (Northbound)				N Kirkwood Rd (Southbound)				Washington Blvd (Eastbound)				Washington Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	1	7	1	0	4	3	5	0	4	33	2	0	4	42	15	1	122	
6:15 AM	1	5	0	0	2	3	8	0	4	44	1	0	3	48	8	0	127	
6:30 AM	5	10	2	0	13	8	7	0	11	85	0	0	2	64	9	0	216	
6:45 AM	1	13	3	0	5	10	9	0	14	96	6	0	1	99	8	0	265	730
7:00 AM	6	19	1	0	14	17	11	0	16	112	8	0	3	89	16	0	312	920
7:15 AM	7	25	4	0	17	19	8	0	19	151	8	0	5	112	16	1	392	1185
7:30 AM	9	31	1	0	25	29	12	0	29	181	10	0	7	123	15	0	472	1441
7:45 AM	11	21	6	0	19	37	14	0	34	223	13	0	8	154	22	0	562	1738
8:00 AM	16	28	3	0	35	36	13	0	28	210	19	0	4	144	33	0	569	1995
8:15 AM	17	25	4	0	27	42	16	0	19	212	13	0	3	121	31	0	530	2133
8:30 AM	14	35	3	0	24	26	11	0	19	256	11	0	12	136	40	1	588	2249
8:45 AM	5	30	6	0	34	40	7	0	22	184	6	0	3	127	39	1	504	2191

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	56	140	12	0	96	104	44	0	76	1024	44	0	48	544	160	4	2352
Heavy Trucks	4	4	0		8	0	0		0	36	12		0	24	20		108
Pedestrians		12				4				8				12			36
Bicycles																	
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/25/2010 9:22 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of peak hour being reported: Intersection Peak

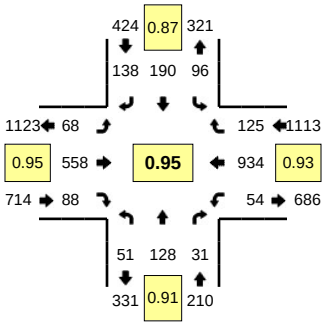
Method for determining peak hour: Total Entering Volume

LOCATION: N Kirkwood Rd -- Washington Blvd

QC JOB #: 10514804

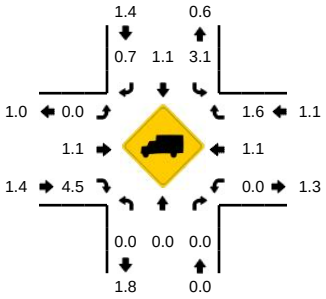
CITY/STATE: Clarendon, VA

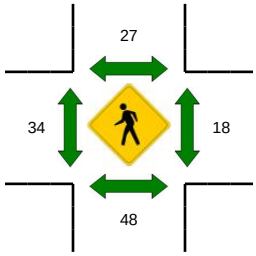
DATE: 6/16/2010

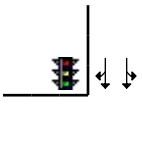


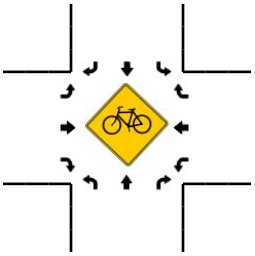
Peak-Hour: 5:30 PM -- 6:30 PM

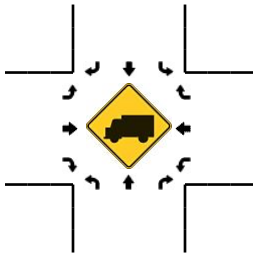
Peak 15-Min: 5:45 PM -- 6:00 PM

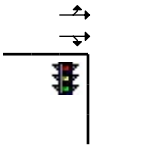


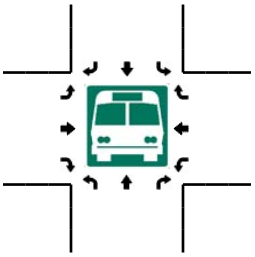












15-Min Count Period Beginning At	N Kirkwood Rd (Northbound)				N Kirkwood Rd (Southbound)				Washington Blvd (Eastbound)				Washington Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	12	29	3	0	20	27	18	1	16	133	22	0	6	221	25	3	536	
4:45 PM	20	16	12	0	25	35	22	0	20	127	24	0	6	210	25	1	543	
5:00 PM	12	24	5	0	21	34	30	0	19	140	27	0	7	205	31	0	555	
5:15 PM	11	21	5	0	17	36	23	1	16	145	24	0	5	198	24	1	527	2161
5:30 PM	10	35	6	0	30	36	29	0	14	131	19	0	10	262	28	0	610	2235
5:45 PM	11	28	9	0	22	60	40	0	20	141	18	0	6	250	43	1	649	2341
6:00 PM	16	27	10	0	28	54	35	0	17	148	29	0	22	230	27	0	643	2429
6:15 PM	14	38	6	0	16	40	34	0	17	138	22	0	15	192	27	0	559	2461
6:30 PM	15	23	10	0	17	46	26	0	13	154	17	0	18	218	27	0	584	2435
6:45 PM	11	18	8	0	21	45	27	0	8	140	16	0	11	214	14	0	533	2319
7:00 PM	8	18	8	0	21	33	9	0	17	117	17	0	12	166	12	1	439	2115
7:15 PM	7	19	4	0	15	35	24	0	10	122	15	0	7	173	18	0	449	2005

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	44	112	36	0	88	240	160	0	80	564	72	0	24	1000	172	4	2596
Heavy Trucks	0	0	0		0	4	4		0	8	4		0	4	0		24
Pedestrians		52				20				52				28			152
Bicycles																	
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/25/2010 9:22 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

DANIEL CONSULTANTS, INC.

ARLINGTON COUNTY, VIRGINIA TRAFFIC COUNTS
Field Information Sheet

Location: 13th St. & Washington Blvd.

Type of Count: Manual Turning Movement

Captured Event: Weekday Count

Duration: 8 Hours (6:30 AM- 9:00AM; 11:00 AM- 1:00 PM 4:00 PM- 7:30 PM)

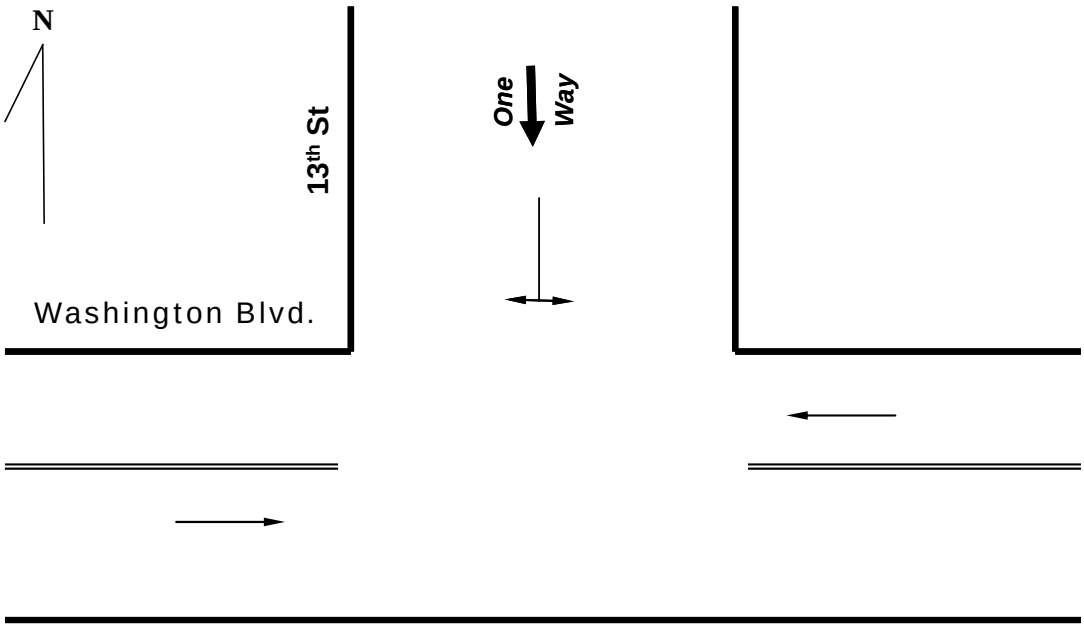
Date/Day of Week: 6-11-09/Thursday

Counters: AM/SK

Signalized: No

Weather: Clear

Comments: None



Daniel Consultants, Inc
8950 Route 108 East, Suite 229
Columbia, Maryland 21045
(410) 995-0090

File Name : Wash-13
Site Code : 00000000
Start Date : 06/11/2009
Page No : 1

Groups Printed- Unshifted

	13TH ST. From North					WASHINGTON BLVD. From East					13TH ST. From South					WASHINGTON BLVD. From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	1	0	1	1	3	0	27	0	0	27	0	0	0	2	2	0	93	0	1	94	126
06:45 AM	0	0	0	0	0	0	48	0	0	48	0	0	0	1	1	0	116	0	0	116	165
Total	1	0	1	1	3	0	75	0	0	75	0	0	0	3	3	0	209	0	1	210	291
07:00 AM	1	0	5	1	7	0	59	0	0	59	0	0	0	1	1	0	145	0	0	145	212
07:15 AM	1	0	3	4	8	0	84	0	0	84	0	0	0	0	0	0	207	0	0	207	299
07:30 AM	2	0	6	2	10	0	82	0	0	82	0	0	0	0	0	0	205	0	0	205	297
07:45 AM	2	0	2	3	7	0	76	0	0	76	0	0	0	0	0	0	232	0	0	232	315
Total	6	0	16	10	32	0	301	0	0	301	0	0	0	1	1	0	789	0	0	789	1123
08:00 AM	0	0	4	2	6	0	93	0	0	93	0	0	0	1	1	0	236	0	0	236	336
08:15 AM	2	0	0	0	2	0	81	0	0	81	0	0	0	1	1	0	224	0	1	225	309
08:30 AM	0	0	2	0	2	0	82	0	0	82	0	0	0	0	0	0	226	0	0	226	310
08:45 AM	1	0	1	2	4	0	87	0	0	87	0	0	0	1	1	0	252	0	1	253	345
Total	3	0	7	4	14	0	343	0	0	343	0	0	0	3	3	0	938	0	2	940	1300
BREAK																					
11:00 AM	0	0	0	0	0	0	97	0	0	97	0	0	0	0	0	0	112	0	0	112	209
11:15 AM	2	0	2	0	4	0	96	0	0	96	0	0	0	0	0	0	110	0	0	110	210
11:30 AM	2	0	1	0	3	0	94	0	0	94	0	0	0	1	1	0	118	0	0	118	216
11:45 AM	1	0	1	0	2	0	112	0	0	112	0	0	0	1	1	0	105	0	1	106	221
Total	5	0	4	0	9	0	399	0	0	399	0	0	0	2	2	0	445	0	1	446	856
12:00 PM	1	0	4	0	5	0	96	0	1	97	0	0	0	1	1	0	110	0	0	110	213
12:15 PM	1	0	2	1	4	0	115	0	0	115	0	0	0	0	0	0	104	0	0	104	223
12:30 PM	0	0	0	0	0	0	100	0	0	100	0	0	0	2	2	0	108	0	0	108	210
12:45 PM	2	0	4	0	6	0	85	0	0	85	0	0	0	0	0	0	111	0	0	111	202
Total	4	0	10	1	15	0	396	0	1	397	0	0	0	3	3	0	433	0	0	433	848
BREAK																					
04:00 PM	4	0	1	0	5	0	215	0	0	215	0	0	0	2	2	0	102	0	0	102	324
04:15 PM	2	0	1	1	4	0	224	0	0	224	0	0	0	1	1	0	142	0	0	142	371
04:30 PM	1	0	2	1	4	0	233	0	0	233	0	0	0	1	1	0	122	0	0	122	360
04:45 PM	0	0	4	0	4	0	206	0	0	206	0	0	0	0	0	0	131	0	0	131	341
Total	7	0	8	2	17	0	878	0	0	878	0	0	0	4	4	0	497	0	0	497	1396
05:00 PM	2	0	2	1	5	0	243	0	0	243	0	0	0	2	2	0	116	0	0	116	366
05:15 PM	0	0	1	1	2	0	247	0	0	247	0	0	0	1	1	0	141	0	0	141	391
05:30 PM	0	0	6	0	6	0	264	0	0	264	0	0	0	2	2	0	146	0	0	146	418
05:45 PM	1	0	2	0	3	0	315	0	0	315	0	0	0	0	0	0	149	0	0	149	467
Total	3	0	11	2	16	0	1069	0	0	1069	0	0	0	5	5	0	552	0	0	552	1642
06:00 PM	0	0	1	1	2	0	302	0	0	302	0	0	0	0	0	0	142	0	0	142	446
06:15 PM	1	0	5	1	7	0	252	0	0	252	0	0	0	1	1	0	151	0	0	151	411
06:30 PM	2	0	2	1	5	0	219	0	0	219	0	0	0	0	0	0	137	0	0	137	361
06:45 PM	2	0	2	0	4	0	219	0	0	219	0	0	0	3	3	0	133	0	0	133	359
Total	5	0	10	3	18	0	992	0	0	992	0	0	0	4	4	0	563	0	0	563	1577
07:00 PM	0	0	1	0	1	0	182	0	0	182	0	0	0	0	0	0	122	0	0	122	305
07:15 PM	0	0	4	0	4	0	147	0	0	147	0	0	0	3	3	0	92	0	0	92	246
Grand Total	34	0	72	23	129	0	4782	0	1	4783	0	0	0	28	28	0	4640	0	4	4644	9584
Apprch %	26.4	0.0	55.8	17.8		0.0	100.0	0.0	0.0		0.0	0.0	0.0	100.0		0.0	99.9	0.0	0.1		

Total %	0.4	0.0	0.8	0.2	1.3	0.0	49.9	0.0	0.0	49.9	0.0	0.0	0.0	0.3	0.3	0.0	48.4	0.0	0.0	48.5

Daniel Consultants, Inc
8950 Route 108 East, Suite 229
Columbia, Maryland 21045
(410) 995-0090

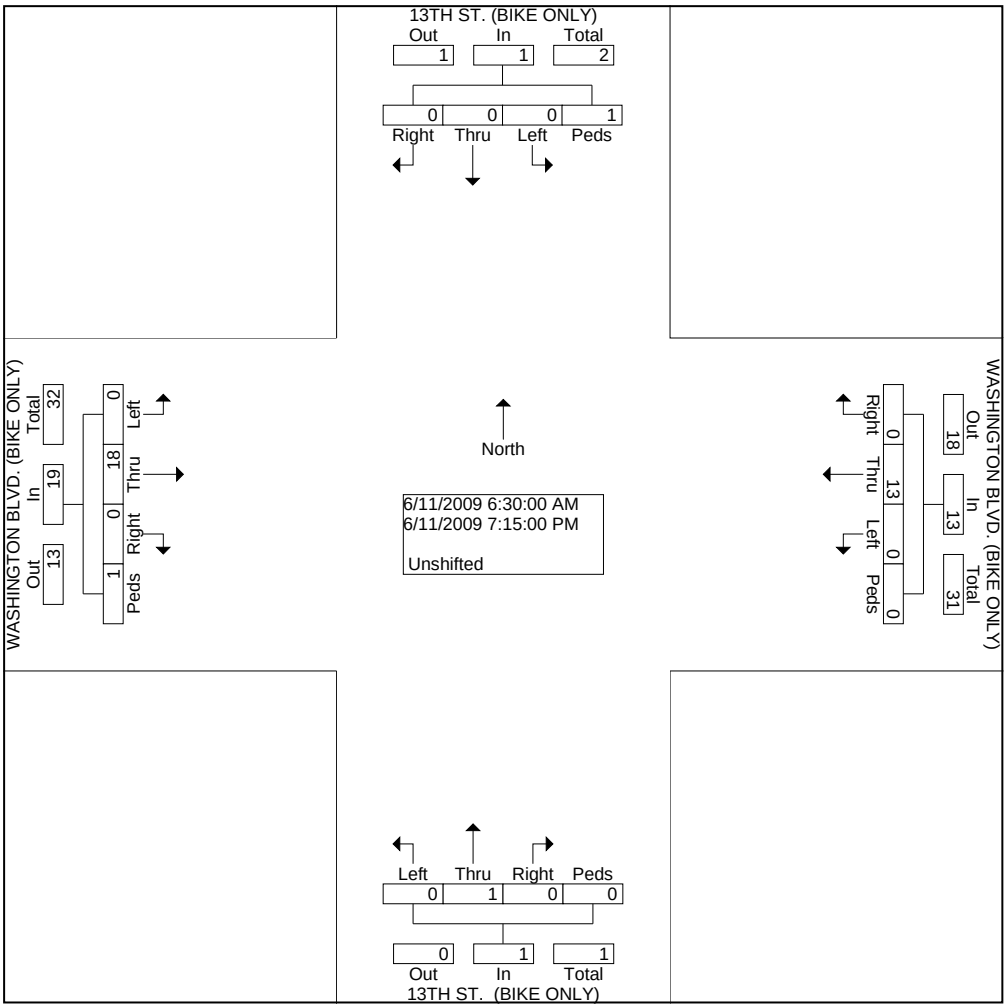
File Name : WASH-1~1
Site Code : 00000000
Start Date : 06/11/2009
Page No : 1

Groups Printed- Unshifted

	13TH ST. (BIKE ONLY) From North					WASHINGTON BLVD. (BIKE ONLY) From East					13TH ST. (BIKE ONLY) From South					WASHINGTON BLVD. (BIKE ONLY) From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
BREAK																					
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
BREAK																					
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
BREAK																					
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4
BREAK																					
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
BREAK																					
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
BREAK																					
11:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
BREAK																					
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
BREAK																					
12:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
BREAK																					
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
BREAK																					
04:00 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	4	0	0	4	6
05:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
05:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
06:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
BREAK																					
06:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	1	2	5
07:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	1	1	0	13	0	0	13	0	1	0	0	1	0	18	0	1	19	34
Apprch %	0.0	0.0	0.0	100.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	94.7	0.0	5.3		
Total %	0.0	0.0	0.0	2.9	2.9	0.0	38.2	0.0	0.0	38.2	0.0	2.9	0.0	0.0	2.9	0.0	52.9	0.0	2.9	55.9	

Daniel Consultants, Inc
8950 Route 108 East, Suite 229
Columbia, Maryland 21045
(410) 995-0090

File Name : WASH-1~1
Site Code : 00000000
Start Date : 06/11/2009
Page No : 2



Type of peak hour being reported: Intersection Peak

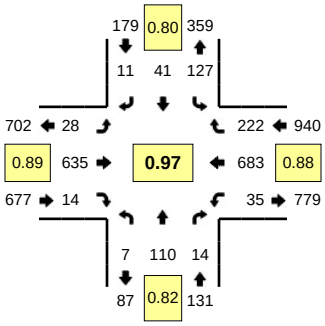
Method for determining peak hour: Total Entering Volume

LOCATION: N Highland St -- Washington Blvd

QC JOB #: 10514807

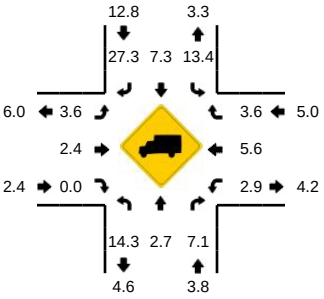
CITY/STATE: Clarendon, VA

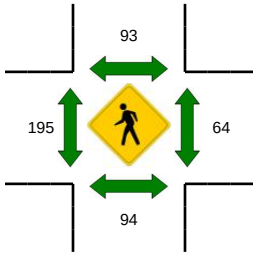
DATE: 6/16/2010

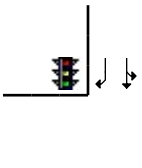


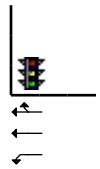
Peak-Hour: 7:45 AM -- 8:45 AM

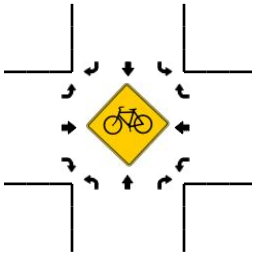
Peak 15-Min: 8:30 AM -- 8:45 AM

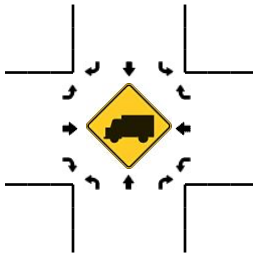


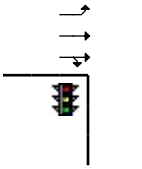


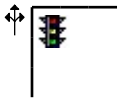


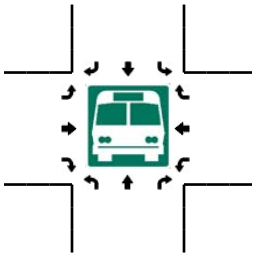












15-Min Count Period Beginning At	N Highland St (Northbound)				N Highland St (Southbound)				Washington Blvd (Eastbound)				Washington Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	9	3	0	9	2	3	0	4	31	3	1	2	55	33	0	155	
6:15 AM	1	3	2	0	9	3	0	0	3	37	1	0	3	59	28	1	150	
6:30 AM	3	7	1	0	15	3	3	0	1	73	0	1	2	91	37	3	240	
6:45 AM	2	13	4	0	14	4	3	0	2	82	4	0	5	107	45	0	285	830
7:00 AM	3	11	5	0	26	4	2	0	4	94	2	0	11	114	30	0	306	981
7:15 AM	2	23	3	0	48	8	3	0	2	130	4	0	12	142	44	1	422	1253
7:30 AM	0	18	5	0	32	12	2	0	7	154	2	0	12	160	40	1	445	1458
7:45 AM	3	24	5	0	32	10	1	0	5	141	3	0	8	190	67	2	491	1664
8:00 AM	0	25	2	0	28	10	2	0	6	176	7	0	8	168	65	1	498	1856
8:15 AM	0	27	5	0	27	10	5	0	7	140	1	0	12	156	49	0	439	1873
8:30 AM	4	34	2	0	40	11	3	0	9	178	3	1	4	169	41	0	499	1927
8:45 AM	1	21	4	0	27	12	0	0	2	134	10	1	15	132	56	0	415	1851

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	136	8	0	160	44	12	0	36	712	12	4	16	676	164	0	1996
Heavy Trucks	4	0	0		28	0	4		4	16	0		0	36	0		92
Pedestrians		104				132				240				104			580
Bicycles																	
Railroad																	
Stopped Buses																	

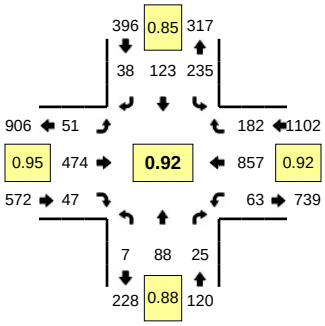
Comments:

Report generated on 6/25/2010 9:22 AM

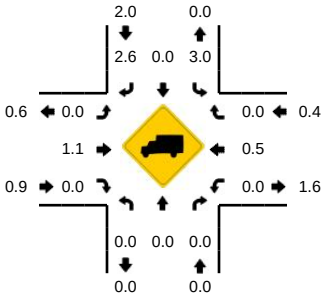
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

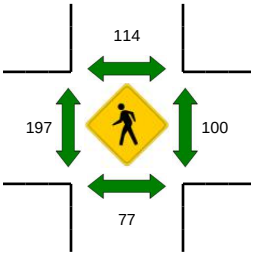
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

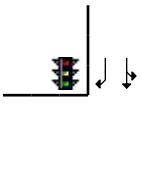
LOCATION: N Highland St -- Washington Blvd | **QC JOB #:** 10514808
CITY/STATE: Clarendon, VA | **DATE:** 6/16/2010

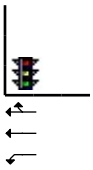


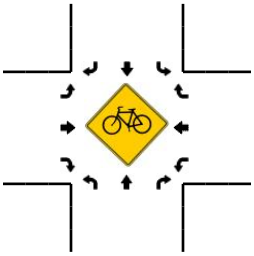
Peak-Hour: 5:30 PM -- 6:30 PM
Peak 15-Min: 5:45 PM -- 6:00 PM

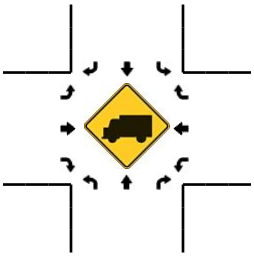


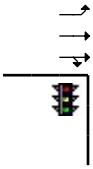


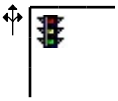


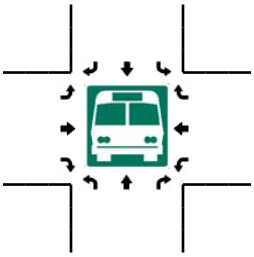












15-Min Count Period Beginning At	N Highland St (Northbound)				N Highland St (Southbound)				Washington Blvd (Eastbound)				Washington Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	0	13	2	0	65	28	6	0	9	137	5	0	9	195	35	0	504	
4:45 PM	2	14	5	0	57	22	7	0	16	124	10	1	10	186	32	0	486	
5:00 PM	4	21	3	0	83	34	7	0	10	111	6	1	15	191	34	0	520	
5:15 PM	4	23	7	0	57	22	10	0	8	120	14	2	8	169	46	3	493	2003
5:30 PM	2	18	4	0	60	34	5	0	9	122	10	1	10	224	43	2	544	2043
5:45 PM	3	26	8	0	64	31	16	0	12	124	10	0	17	236	48	0	595	2152
6:00 PM	1	26	8	0	48	33	6	0	12	114	10	1	14	203	41	2	519	2151
6:15 PM	1	18	5	0	63	25	11	0	14	114	17	2	17	194	50	1	532	2190
6:30 PM	1	23	3	0	59	25	13	0	11	117	13	3	11	201	44	0	524	2170
6:45 PM	1	29	5	0	45	25	17	0	14	96	20	1	12	177	42	2	486	2061
7:00 PM	2	21	6	0	51	26	14	0	6	106	10	1	12	167	47	3	472	2014
7:15 PM	1	22	7	0	46	17	12	0	10	98	18	0	10	166	57	1	465	1947

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	104	32	0	256	124	64	0	48	496	40	0	68	944	192	0	2380
Heavy Trucks	0	0	0		12	0	0		0	4	0		0	4	0		20
Pedestrians		96				128				208				96			528
Bicycles																	
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/25/2010 9:22 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

DANIEL CONSULTANTS, INC.

ARLINGTON COUNTY, VIRGINIA TRAFFIC COUNTS
Field Information Sheet

Location: 10th St. & Washington Blvd.

Type of Count: Manual Turning Movement

Captured Event: Weekday Count

Duration: 8 Hours (6:30 AM- 9:00AM; 11:00 AM- 1:00 PM 4:00 PM- 7:30 PM)

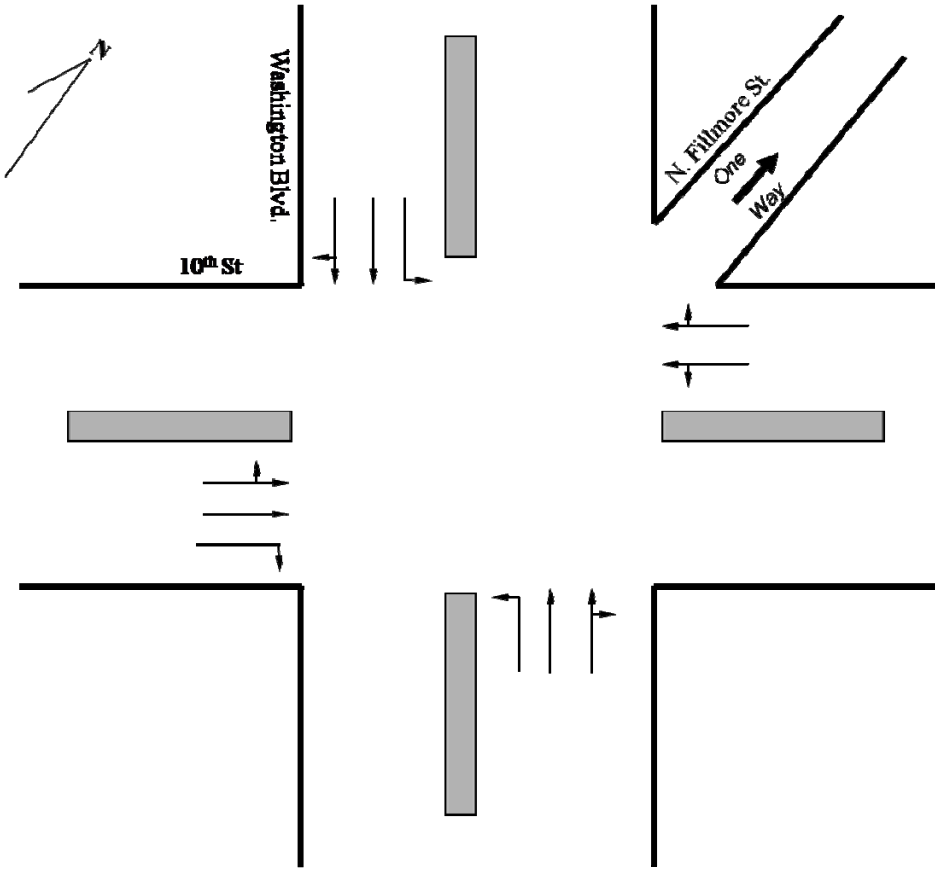
Date/Day of Week: 6-17-09/Wenesday

Counters: AM/BH

Signalized: Yes

Weather: Clear

Comments: None



Daniel Consultants, Inc
8950 Route 108 East, Suite 229
Columbia, Maryland 21045
(410) 995-0090

File Name : WASHIN~2
Site Code : 00000000
Start Date : 06/17/2009
Page No : 1

Groups Printed- 1 - Unshifted

	WASHINGTON BLVD From North						10TH ST From East						WASHINGTON BLVD From South						10TH ST From West						
Start Time	Hard Left	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Hard Right	Peds	App. Total	Left	Thru	Bear Right	Right	Peds	App. Total	Left	Bear Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0		
06:30 AM	0	5	72	2	1	80	2	56	19	3	23	103	110	120	20	1	1	252	1	1	27	40	9	78	513
06:45 AM	1	12	103	3	1	120	2	75	14	1	14	106	101	147	16	2	0	266	0	0	45	63	5	113	605
Total	1	17	175	5	2	200	4	131	33	4	37	209	211	267	36	3	1	518	1	1	72	103	14	191	1118
07:00 AM	0	8	151	0	4	163	7	88	13	2	3	113	92	111	32	8	6	249	1	0	62	103	7	173	698
07:15 AM	0	16	162	2	0	180	0	86	19	0	3	108	100	132	21	1	2	256	0	1	67	63	5	136	680
07:30 AM	0	27	191	2	4	224	9	85	10	4	1	109	84	166	25	1	1	277	0	0	70	78	33	181	791
07:45 AM	0	10	183	1	1	195	17	118	16	6	8	165	101	222	38	3	0	364	0	0	91	90	7	188	912
Total	0	61	687	5	9	762	33	377	58	12	15	495	377	631	116	13	9	1146	1	1	290	334	52	678	3081
08:00 AM	0	22	194	1	1	218	8	116	20	5	9	158	90	217	36	3	1	347	17	0	92	96	10	215	938
08:15 AM	0	18	207	2	0	227	2	95	12	4	5	118	85	189	22	1	2	299	1	1	95	93	14	204	848
08:30 AM	0	24	206	1	0	231	2	121	7	2	7	139	70	184	32	4	3	293	0	1	92	123	16	232	895
08:45 AM	0	15	183	2	0	200	7	118	16	28	5	174	96	225	68	6	1	396	0	1	87	89	5	182	952
Total	0	79	790	6	1	876	19	450	55	39	26	589	341	815	158	14	7	1335	18	3	366	401	45	833	3633
BREAK																									
11:00 AM	0	22	109	3	1	135	2	61	12	9	1	85	58	119	31	5	0	213	0	3	62	66	6	137	570
11:15 AM	0	7	114	2	0	123	6	46	22	4	2	80	73	135	27	0	2	237	1	0	54	78	2	135	575
11:30 AM	0	20	113	15	0	148	5	63	12	6	3	89	58	135	37	6	2	238	0	0	71	74	2	147	622
11:45 AM	1	14	114	5	0	134	1	59	8	5	10	83	61	154	46	3	1	265	4	19	66	81	2	172	654
Total	1	63	450	25	1	540	14	229	54	24	16	337	250	543	141	14	5	953	5	22	253	299	12	591	2421
12:00 PM	0	23	129	5	3	160	5	68	12	3	0	88	47	105	24	2	0	178	3	8	47	86	8	152	578
12:15 PM	0	28	141	10	2	181	5	58	2	6	4	75	65	92	18	5	1	181	5	1	63	82	1	152	589
12:30 PM	0	14	144	4	0	162	3	59	17	9	1	89	69	133	29	3	0	234	4	2	53	89	1	149	634
12:45 PM	0	21	136	4	1	162	4	68	13	14	6	105	63	122	21	4	0	210	4	1	64	84	1	154	631
Total	0	86	550	23	6	665	17	253	44	32	11	357	244	452	92	14	1	803	16	12	227	341	11	607	2432
BREAK																									
04:00 PM	0	26	170	14	0	210	0	94	10	17	2	123	53	169	32	2	6	262	6	0	143	147	8	304	899
04:15 PM	0	23	161	4	0	188	0	86	24	10	3	123	62	228	36	2	0	328	2	0	89	153	8	252	891
04:30 PM	0	17	155	2	1	175	0	89	25	11	11	136	59	182	43	3	1	288	3	2	129	158	8	300	899
04:45 PM	0	23	155	6	1	185	1	104	21	11	10	147	87	221	47	7	0	362	1	5	118	152	7	283	977
Total	0	89	641	26	2	758	1	373	80	49	26	529	261	800	158	14	7	1240	12	7	479	610	31	1139	3666
05:00 PM	0	27	208	3	0	238	3	131	35	15	5	189	44	222	47	12	2	327	10	4	137	181	5	337	1091
05:15 PM	0	21	205	5	0	231	0	129	29	13	4	175	69	268	37	10	4	388	14	0	121	169	9	313	1107
05:30 PM	0	19	188	1	2	210	0	154	22	13	14	203	73	271	51	13	1	409	2	0	143	146	8	299	1121
05:45 PM	0	14	177	4	2	197	1	135	34	13	15	198	67	244	38	8	6	363	3	1	167	202	11	384	1142
Total	0	81	778	13	4	876	4	549	120	54	38	765	253	1005	173	43	13	1487	29	5	568	698	33	1333	4461
06:00 PM	0	18	205	3	4	230	5	116	29	24	24	198	61	261	49	11	7	389	2	0	113	178	19	312	1129
06:15 PM	0	18	192	2	1	213	7	143	33	19	18	220	73	260	46	3	5	387	1	0	124	165	15	305	1125
06:30 PM	0	24	213	6	0	243	4	136	33	17	19	209	57	278	72	10	1	418	11	3	116	133	9	272	1142
06:45 PM	0	16	139	23	5	183	3	125	21	24	9	182	69	239	41	5	7	361	9	6	116	145	19	295	1021
Total	0	76	749	34	10	869	19	520	116	84	70	809	260	1038	208	29	20	1555	23	9	469	621	62	1184	4417

Daniel Consultants, Inc
8950 Route 108 East, Suite 229
Columbia, Maryland 21045
(410) 995-0090

File Name : WASHIN~2
Site Code : 00000000
Start Date : 06/17/2009

Groups Printed- 1 - Unshifted

	WASHINGTON BLVD From North						10TH ST From East						WASHINGTON BLVD From South						10TH ST From West						
Start Time	Hard Left	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Hard Right	Peds	App. Total	Left	Thru	Bear Right	Right	Peds	App. Total	Left	Bear Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0		
07:00 PM	0	16	158	7	2	183	3	100	27	16	23	169	67	173	50	9	3	302	7	2	71	156	11	247	901
07:15 PM	0	15	159	3	0	177	7	88	30	24	12	161	81	184	39	6	2	312	7	1	81	136	7	232	882
Grand Total	2	583	5137	147	37	5906	121	3070	617	338	274	4420	2345	5908	1171	159	68	9651	119	63	2876	3699	278	7035	27012
Apprch %	0.0	9.9	87.0	2.5	0.6		2.7	69.5	14.0	7.6	6.2		24.3	61.2	12.1	1.6	0.7		1.7	0.9	40.9	52.6	4.0		
Total %	0.0	2.2	19.0	0.5	0.1	21.9	0.4	11.4	2.3	1.3	1.0	16.4	8.7	21.9	4.3	0.6	0.3	35.7	0.4	0.2	10.6	13.7	1.0	26.0	

Daniel Consultants, Inc
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File Name : WASHIN~1
Site Code : 00000000
Start Date : 06/17/2009
Page No : 1

Groups Printed- 1 - Unshifted

	WASHINGTON BLVD. (BIIKE ONLY) From North					10TH ST. (BIIKE ONLY) From East					WASHINGTON BLVD. (BIIKE ONLY) From South					10TH ST. (BIIKE ONLY) From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
06:45 AM	0	0	0	0	0	0	0	0	1	1	0	1	0	0	1	0	0	0	1	1	3
Total	0	0	0	0	0	0	0	0	1	1	0	2	0	0	2	0	1	0	1	2	5
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2
BREAK																					
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
BREAK																					
Total	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
08:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	3	0	2	5	7
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	3
Total	0	1	0	0	1	0	1	0	0	1	0	1	1	0	2	0	5	1	3	9	13
BREAK																					
11:00 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	1	2	4
11:15 AM	0	1	0	0	1	0	2	0	1	3	0	1	0	0	1	0	0	0	0	0	5
11:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	2	0	3	0	2	5	0	2	0	0	2	0	1	0	1	2	11
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	3
12:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	2
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	1	3	0	1	0	0	1	0	1	1	1	3	7
BREAK																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	3	0	2	5	8
04:15 PM	2	1	0	0	3	0	0	0	0	0	1	0	0	1	2	0	1	0	0	1	6
04:30 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	1	3	4
04:45 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	2	0	0	0	0	0	3
Total	2	1	0	0	3	0	0	0	2	2	2	4	0	1	7	0	6	0	3	9	21
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	1	2	0	3	0	1	1	1	3	0	0	0	0	0	6
05:30 PM	0	1	0	0	1	0	0	1	0	1	0	2	1	1	4	0	2	0	0	2	8
05:45 PM	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	1	0	0	1	0	1	4	1	6	0	3	2	2	7	0	2	1	0	3	17
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
06:15 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
06:30 PM	0	2	1	0	3	0	0	0	1	1	0	1	0	1	2	0	0	0	1	1	7
BREAK																					
Total	0	2	2	0	4	0	1	0	1	2	0	1	0	1	2	0	0	1	1	2	10

Daniel Consultants, Inc
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(410) 995-0090

File Name : WASHIN~1
Site Code : 00000000
Start Date : 06/17/2009
Page No : 2

Groups Printed- 1 - Unshifted

	WASHINGTON BLVD. (BIIKE ONLY) From North					10TH ST. (BIIKE ONLY) From East					WASHINGTON BLVD. (BIIKE ONLY) From South					10TH ST. (BIIKE ONLY) From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
07:15 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	1	1	3
Grand Total	2	6	2	1	11	0	10	5	8	23	2	16	3	4	25	0	17	5	11	33	92
Apprch %	18.2	54.5	18.2	9.1		0.0	43.5	21.7	34.8		8.0	64.0	12.0	16.0		0.0	51.5	15.2	33.3		
Total %	2.2	6.5	2.2	1.1	12.0	0.0	10.9	5.4	8.7	25.0	2.2	17.4	3.3	4.3	27.2	0.0	18.5	5.4	12.0	35.9	

Type of peak hour being reported: Intersection Peak

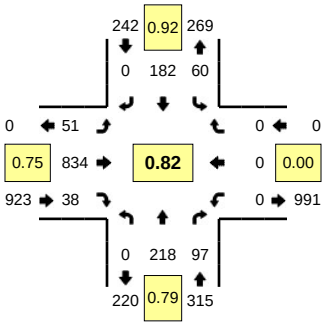
Method for determining peak hour: Total Entering Volume

LOCATION: N Highland St -- Clarendon Blvd

QC JOB #: 10529403

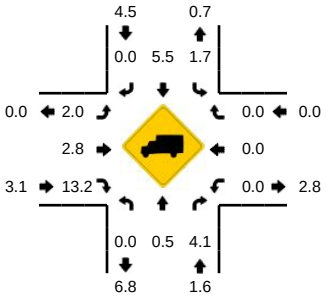
CITY/STATE: Arlington, VA

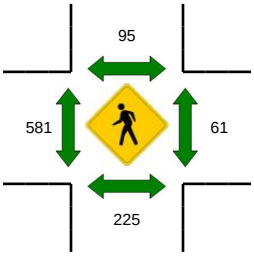
DATE: 9/22/2010

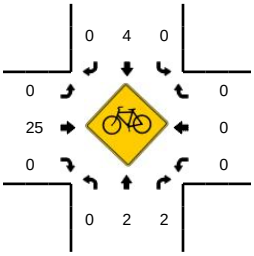


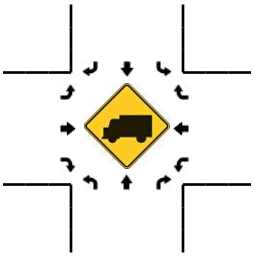
Peak-Hour: 8:00 AM -- 9:00 AM

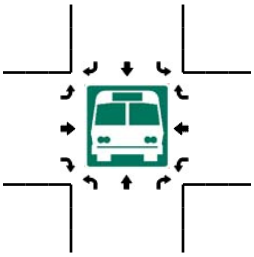
Peak 15-Min: 8:45 AM -- 9:00 AM











15-Min Count Period Beginning At	N Highland St (Northbound)				N Highland St (Southbound)				Clarendon Blvd (Eastbound)				Clarendon Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	25	14	0	8	27	0	0	8	88	2	0	0	0	0	0	172	
7:15 AM	0	28	5	0	7	22	0	0	6	106	6	0	0	0	0	0	180	
7:30 AM	0	36	16	0	7	35	0	0	6	154	6	0	0	0	0	0	260	
7:45 AM	0	46	9	0	11	31	0	0	12	176	7	0	0	0	0	0	292	904
8:00 AM	0	51	14	0	13	39	0	0	9	206	7	0	0	0	0	0	339	1071
8:15 AM	0	54	16	0	10	50	0	0	13	201	10	0	0	0	0	0	354	1245
8:30 AM	0	67	33	0	17	49	0	0	17	137	14	0	0	0	0	0	334	1319
8:45 AM	0	46	34	0	20	44	0	0	12	290	7	0	0	0	0	0	453	1480

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	184	136	0	80	176	0	0	48	1160	28	0	0	0	0	0	1812
Heavy Trucks	0	0	0		0	8	0		4	32	4		0	0	0		48
Pedestrians		248				120				496				56			920
Bicycles	0	0	2		0	2	0		0	6	0		0	0	0		10
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/28/2010 9:03 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of peak hour being reported: Intersection Peak

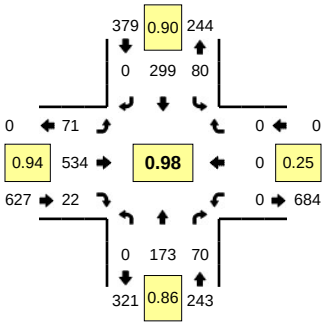
Method for determining peak hour: Total Entering Volume

LOCATION: N Highland St -- Clarendon Blvd

QC JOB #: 10529404

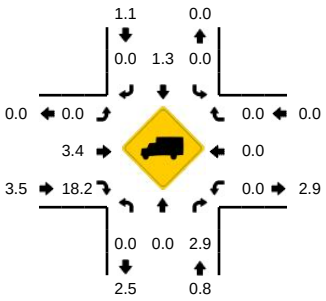
CITY/STATE: Arlington, VA

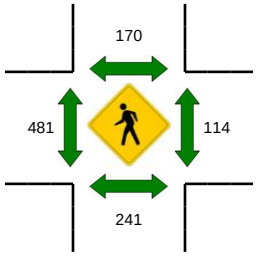
DATE: 9/22/2010

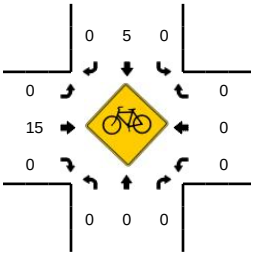


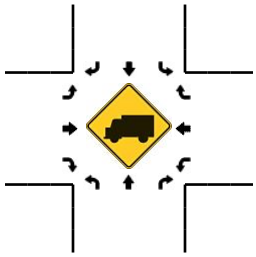
Peak-Hour: 5:00 PM -- 6:00 PM

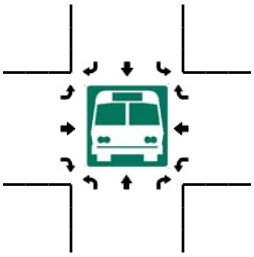
Peak 15-Min: 5:15 PM -- 5:30 PM











15-Min Count Period Beginning At	N Highland St (Northbound)				N Highland St (Southbound)				Clarendon Blvd (Eastbound)				Clarendon Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	31	17	0	11	50	0	0	9	110	8	0	0	0	1	0	237	
4:15 PM	0	37	22	0	20	42	0	0	14	123	3	0	0	0	0	0	261	
4:30 PM	0	40	20	0	16	63	0	0	9	124	6	0	0	0	0	0	278	
4:45 PM	0	54	19	0	25	65	0	0	19	124	7	0	0	0	0	0	313	1089
5:00 PM	0	37	17	0	22	84	0	0	15	122	5	0	0	0	0	0	302	1154
5:15 PM	0	41	20	0	12	90	0	0	12	142	3	0	0	0	0	0	320	1213
5:30 PM	0	46	16	0	22	63	0	0	23	130	9	0	0	0	0	0	309	1244
5:45 PM	0	49	17	0	24	62	0	0	21	140	5	0	0	0	0	0	318	1249

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	164	80	0	48	360	0	0	48	568	12	0	0	0	0	0	1280
Heavy Trucks	0	0	4		0	4	0		0	16	0		0	0	0		24
Pedestrians		168				152				352				108			780
Bicycles	0	0	0		0	2	0		0	1	0		0	0	0		3
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/28/2010 9:03 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Arlington County Traffic Counts
Performed By: Daniel Consultants, Inc

File Name : WI784B~1
Site Code : 00000000
Start Date : 04/03/2004
Page No : 1

Groups Printed- Unshifted

	Hudson Southbound					Wilson Westbound					Hudson Northbound					Wilson Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:30 AM	0	0	5	10	15	0	107	4	0	111	0	0	0	0	0	0	0	0	2	2	128
11:45 AM	0	0	10	12	22	0	219	5	2	226	0	0	0	0	0	0	0	0	0	0	248
Total	0	0	15	22	37	0	326	9	2	337	0	0	0	0	0	0	0	0	2	2	376
12:00 PM	0	0	10	26	36	0	237	9	6	252	0	0	0	0	0	0	0	0	2	2	290
12:15 PM	0	0	9	25	34	0	219	30	6	255	0	0	0	0	0	0	0	0	2	2	291
12:30 PM	0	0	9	15	24	0	222	5	2	229	0	0	0	0	0	0	0	0	12	12	265
12:45 PM	0	0	8	35	43	0	233	15	0	248	0	0	0	0	0	0	0	0	2	2	293
Total	0	0	36	101	137	0	911	59	14	984	0	0	0	0	0	0	0	0	18	18	1139
01:00 PM	0	0	6	19	25	0	241	8	1	250	0	0	0	0	0	0	0	0	2	2	277
01:15 PM	0	0	19	43	62	0	244	15	2	261	0	0	0	0	0	0	0	0	1	1	324
01:30 PM	0	0	9	28	37	0	243	6	0	249	0	0	0	0	0	0	0	0	0	0	286
01:45 PM	0	0	11	22	33	0	211	7	0	218	0	0	0	0	0	0	0	0	0	0	251
Total	0	0	45	112	157	0	939	36	3	978	0	0	0	0	0	0	0	0	3	3	1138
02:00 PM	0	0	10	26	36	0	205	9	0	214	0	0	0	0	0	0	0	0	0	0	250
02:15 PM	0	0	15	27	42	0	225	10	4	239	0	0	0	0	0	0	0	0	4	4	285
02:30 PM	0	0	17	33	50	0	205	9	2	216	0	0	0	0	0	0	0	0	2	2	268
02:45 PM	0	0	13	19	32	0	167	13	2	182	0	0	0	0	0	0	0	0	2	2	216
Total	0	0	55	105	160	0	802	41	8	851	0	0	0	0	0	0	0	0	8	8	1019
03:00 PM	0	0	9	21	30	0	202	7	2	211	0	0	0	0	0	0	0	0	2	2	243
03:15 PM	0	0	17	30	47	0	196	15	2	213	0	0	0	0	0	0	0	0	1	1	261
03:30 PM	0	0	14	23	37	0	213	10	4	227	0	0	0	0	0	0	0	0	11	11	275
03:45 PM	0	0	13	13	26	0	186	12	11	209	0	0	0	0	0	0	0	0	9	9	244
Total	0	0	53	87	140	0	797	44	19	860	0	0	0	0	0	0	0	0	23	23	1023
04:00 PM	0	0	5	6	11	0	223	1	1	225	0	0	0	0	0	0	0	0	1	1	237
04:15 PM	0	0	7	10	17	0	166	5	3	174	0	0	0	0	0	0	0	0	3	3	194
Grand Total	0	0	216	443	659	0	4164	195	50	4409	0	0	0	0	0	0	0	0	58	58	5126
Apprch %	0.0	0.0	32.8	67.2		0.0	94.4	4.4	1.1		0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0		
Total %	0.0	0.0	4.2	8.6	12.9	0.0	81.2	3.8	1.0	86.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	

Type of peak hour being reported: Intersection Peak

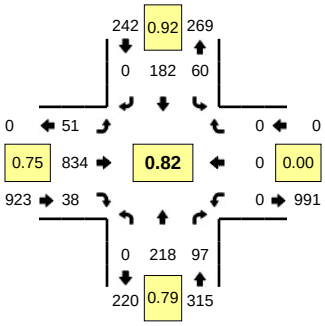
Method for determining peak hour: Total Entering Volume

LOCATION: N Highland St -- Clarendon Blvd

QC JOB #: 10529403

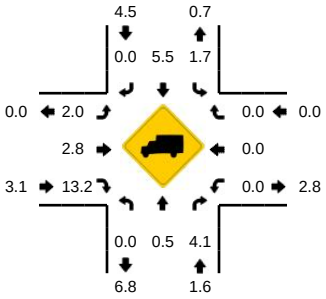
CITY/STATE: Arlington, VA

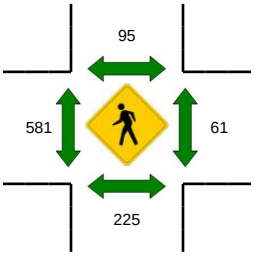
DATE: 9/22/2010

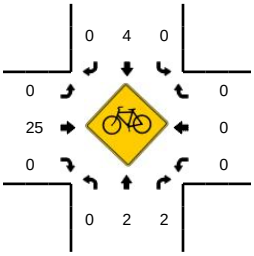


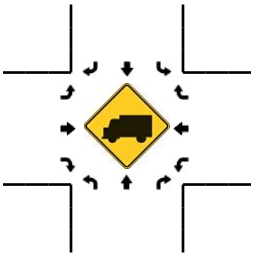
Peak-Hour: 8:00 AM -- 9:00 AM

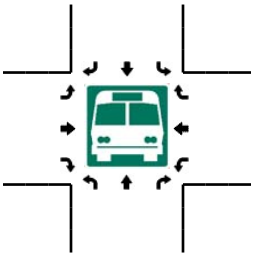
Peak 15-Min: 8:45 AM -- 9:00 AM











15-Min Count Period Beginning At	N Highland St (Northbound)				N Highland St (Southbound)				Clarendon Blvd (Eastbound)				Clarendon Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	25	14	0	8	27	0	0	8	88	2	0	0	0	0	0	172	
7:15 AM	0	28	5	0	7	22	0	0	6	106	6	0	0	0	0	0	180	
7:30 AM	0	36	16	0	7	35	0	0	6	154	6	0	0	0	0	0	260	
7:45 AM	0	46	9	0	11	31	0	0	12	176	7	0	0	0	0	0	292	904
8:00 AM	0	51	14	0	13	39	0	0	9	206	7	0	0	0	0	0	339	1071
8:15 AM	0	54	16	0	10	50	0	0	13	201	10	0	0	0	0	0	354	1245
8:30 AM	0	67	33	0	17	49	0	0	17	137	14	0	0	0	0	0	334	1319
8:45 AM	0	46	34	0	20	44	0	0	12	290	7	0	0	0	0	0	453	1480

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	184	136	0	80	176	0	0	48	1160	28	0	0	0	0	0	1812
Heavy Trucks	0	0	0		0	8	0		4	32	4		0	0	0		48
Pedestrians		248				120				496				56			920
Bicycles	0	0	2		0	2	0		0	6	0		0	0	0		10
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/28/2010 9:03 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of peak hour being reported: Intersection Peak

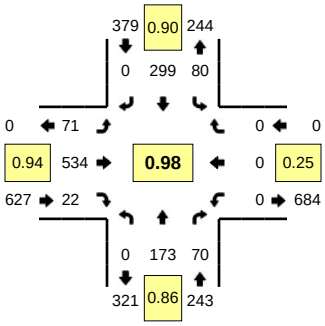
Method for determining peak hour: Total Entering Volume

LOCATION: N Highland St -- Clarendon Blvd

QC JOB #: 10529404

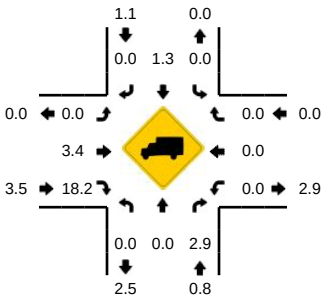
CITY/STATE: Arlington, VA

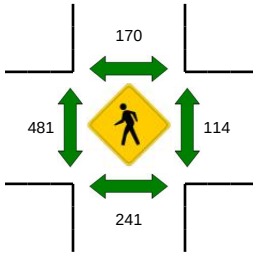
DATE: 9/22/2010

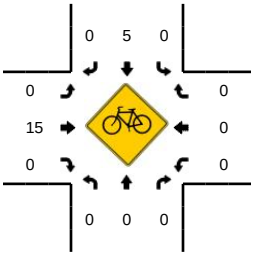


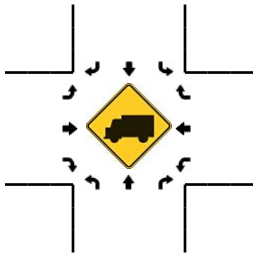
Peak-Hour: 5:00 PM -- 6:00 PM

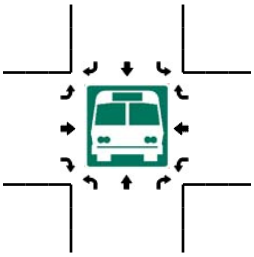
Peak 15-Min: 5:15 PM -- 5:30 PM











15-Min Count Period Beginning At	N Highland St (Northbound)				N Highland St (Southbound)				Clarendon Blvd (Eastbound)				Clarendon Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	31	17	0	11	50	0	0	9	110	8	0	0	0	1	0	237	
4:15 PM	0	37	22	0	20	42	0	0	14	123	3	0	0	0	0	0	261	
4:30 PM	0	40	20	0	16	63	0	0	9	124	6	0	0	0	0	0	278	
4:45 PM	0	54	19	0	25	65	0	0	19	124	7	0	0	0	0	0	313	1089
5:00 PM	0	37	17	0	22	84	0	0	15	122	5	0	0	0	0	0	302	1154
5:15 PM	0	41	20	0	12	90	0	0	12	142	3	0	0	0	0	0	320	1213
5:30 PM	0	46	16	0	22	63	0	0	23	130	9	0	0	0	0	0	309	1244
5:45 PM	0	49	17	0	24	62	0	0	21	140	5	0	0	0	0	0	318	1249

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	164	80	0	48	360	0	0	48	568	12	0	0	0	0	0	1280
Heavy Trucks	0	0	4		0	4	0		0	16	0		0	0	0		24
Pedestrians		168				152				352				108			780
Bicycles	0	0	0		0	2	0		0	1	0		0	0	0		3
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/28/2010 9:03 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of peak hour being reported: Intersection Peak

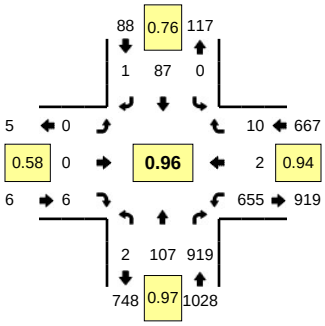
Method for determining peak hour: Total Entering Volume

LOCATION: 13th Street N -- N Washington Blvd

QC JOB #: 10529401

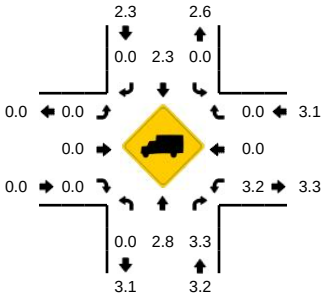
CITY/STATE: Arlington, VA

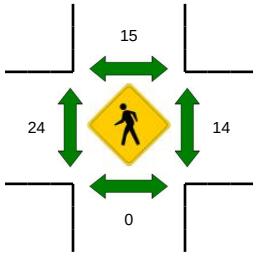
DATE: 9/22/2010

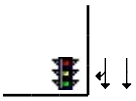


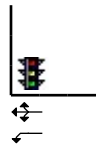
Peak-Hour: 8:00 AM -- 9:00 AM

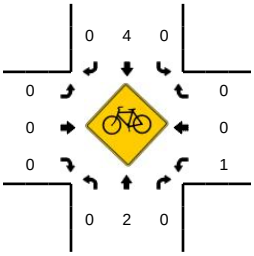
Peak 15-Min: 8:15 AM -- 8:30 AM

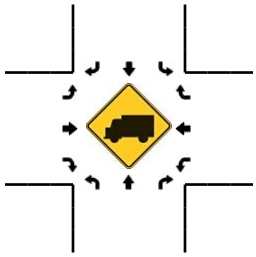


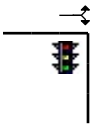


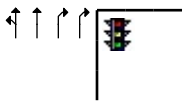


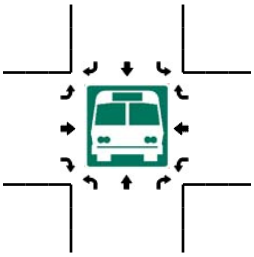












15-Min Count Period Beginning At	13th Street N (Northbound)				13th Street N (Southbound)				N Washington Blvd (Eastbound)				N Washington Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	5	138	0	0	5	0	0	0	0	2	0	114	1	4	0	269	
7:15 AM	0	8	179	0	0	10	0	0	0	0	3	0	126	1	1	0	328	
7:30 AM	0	12	216	0	0	17	0	0	0	0	1	0	149	1	3	0	399	
7:45 AM	0	13	230	0	0	10	0	0	0	0	0	0	179	0	1	0	433	1429
8:00 AM	0	18	239	0	0	23	0	0	0	0	3	0	179	1	3	0	466	1626
8:15 AM	1	17	246	0	0	15	0	0	0	0	2	0	185	0	2	0	468	1766
8:30 AM	0	38	214	0	0	20	1	0	0	0	1	0	119	0	5	0	398	1765
8:45 AM	1	34	220	0	0	29	0	0	0	0	0	0	172	1	0	0	457	1789

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	68	984	0	0	60	0	0	0	0	8	0	740	0	8	0	1872
Heavy Trucks	0	0	28		0	0	0		0	0	0		24	0	0		52
Pedestrians		0				24				28				20			72
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/28/2010 9:03 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of peak hour being reported: Intersection Peak

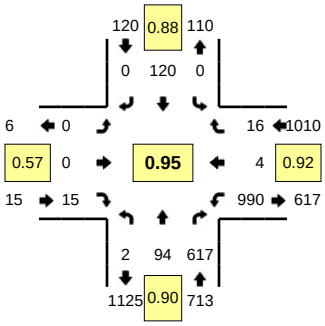
Method for determining peak hour: Total Entering Volume

LOCATION: 13th Street N -- N Washington Blvd

QC JOB #: 10529402

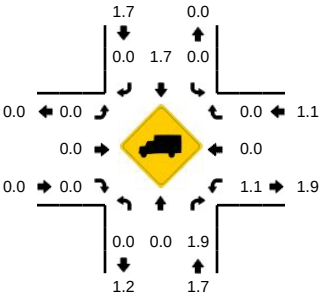
CITY/STATE: Arlington, VA

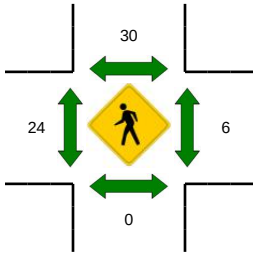
DATE: 9/22/2010

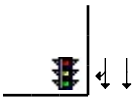


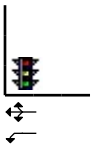
Peak-Hour: 5:00 PM -- 6:00 PM

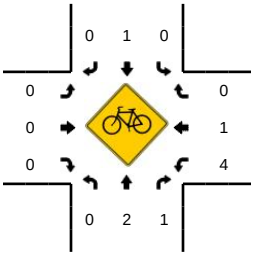
Peak 15-Min: 5:45 PM -- 6:00 PM

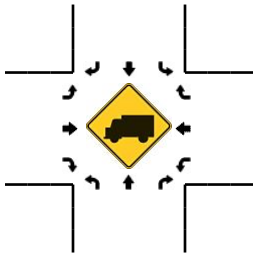


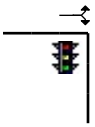


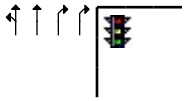


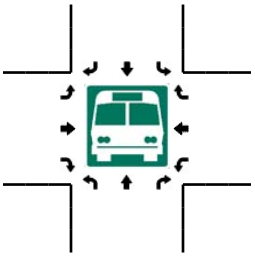












15-Min Count Period Beginning At	13th Street N (Northbound)				13th Street N (Southbound)				N Washington Blvd (Eastbound)				N Washington Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	16	126	0	0	19	1	0	0	0	2	0	192	1	3	0	360	
4:15 PM	0	11	114	0	0	26	0	0	0	0	0	0	213	2	4	0	370	
4:30 PM	2	17	146	0	0	26	0	0	0	0	1	0	202	3	3	0	400	
4:45 PM	1	24	158	0	0	22	0	0	0	0	2	0	209	2	2	0	420	1550
5:00 PM	1	26	150	0	0	34	0	0	0	0	3	0	202	0	2	0	418	1608
5:15 PM	0	14	167	0	0	29	0	0	0	0	4	0	256	3	9	0	482	1720
5:30 PM	0	25	133	0	0	29	0	0	0	0	7	0	274	0	1	0	469	1789
5:45 PM	1	29	167	0	0	28	0	0	0	0	1	0	258	1	4	0	489	1858

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	116	668	0	0	112	0	0	0	0	4	0	1032	4	16	0	1956
Heavy Trucks	0	0	8		0	0	0		0	0	0		4	0	0		12
Pedestrians		0				32				32				8			72
Bicycles	0	0	1		0	1	0		0	0	0		2	1	0		5
Railroad																	
Stopped Buses																	

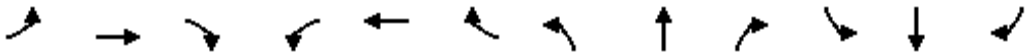
Comments:

Report generated on 9/28/2010 9:03 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

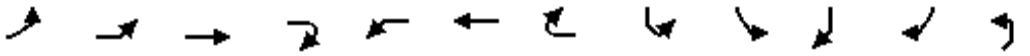
Appendix B:

Synchro Analysis Sheets - HCM Signalized Intersections



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	428	2	305	670	7	45	610	227	14	338	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-2%			0%			0%	
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95	1.00		0.95	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		1.00	
Satd. Flow (prot)	1743	3484		1787	3569			3527	1583		3459	
Flt Permitted	0.39	1.00		0.33	1.00			0.90	1.00		0.93	
Satd. Flow (perm)	723	3484		629	3569			3173	1583		3212	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	114	428	2	305	670	7	45	610	227	14	338	57
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	124	0	0	0
Lane Group Flow (vph)	114	430	0	305	676	0	0	655	103	0	409	0
Turn Type	Perm			pm+pt			Perm		Perm	Perm		
Protected Phases		8		7	4			2			2	
Permitted Phases	8			4			2		2	2		
Actuated Green, G (s)	22.5	22.5		38.5	38.5			39.0	39.0		39.0	
Effective Green, g (s)	25.0	25.0		40.0	41.0			41.0	41.0		41.0	
Actuated g/C Ratio	0.28	0.28		0.44	0.46			0.46	0.46		0.46	
Clearance Time (s)	6.5	6.5		5.5	6.5			6.0	6.0		6.0	
Lane Grp Cap (vph)	201	968		434	1626			1445	721		1463	
v/s Ratio Prot		0.12		c0.09	0.19							
v/s Ratio Perm	0.16			c0.22				c0.21	0.07		0.13	
v/c Ratio	0.57	0.44		0.70	0.42			0.45	0.14		0.28	
Uniform Delay, d1	27.9	26.8		17.5	16.5			16.8	14.3		15.3	
Progression Factor	0.88	0.89		1.30	0.91			1.00	1.00		0.54	
Incremental Delay, d2	10.9	1.4		8.9	0.8			1.0	0.4		0.4	
Delay (s)	35.5	25.3		31.5	15.7			17.8	14.7		8.7	
Level of Service	D	C		C	B			B	B		A	
Approach Delay (s)		27.4			20.6			17.0			8.7	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR2	SBL2	SBL	SBR	SBR2	NEL2
Lane Configurations												
Volume (vph)	5	264	590	14	129	524	25	37	436	155	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			-2%			2%			0%			
Total Lost time (s)			4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor			0.95		1.00	0.95	1.00		1.00	0.95	1.00	
Frt			1.00		1.00	1.00	0.85		1.00	0.85	0.85	
Flt Protected			0.98		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (prot)			3512		1752	3504	1567		1768	1504	1583	
Flt Permitted			0.57		0.33	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (perm)			2030		599	3504	1567		1768	1504	1583	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	264	590	14	129	524	25	37	436	155	5	5
RTOR Reduction (vph)	0	0	1	0	0	0	11	0	0	0	0	0
Lane Group Flow (vph)	0	0	872	0	129	524	14	0	489	139	5	0
Turn Type		pm+pt			Perm		Perm			custom	custom	
Protected Phases		7	4			8				2		
Permitted Phases		4			8		8		2		2	
Actuated Green, G (s)			35.0		17.0	17.0	17.0		37.0	37.0	37.0	
Effective Green, g (s)			40.0		22.0	22.0	22.0		42.0	42.0	42.0	
Actuated g/C Ratio			0.44		0.24	0.24	0.24		0.47	0.47	0.47	
Clearance Time (s)			9.0		9.0	9.0	9.0		9.0	9.0	9.0	
Lane Grp Cap (vph)			1166		146	857	383		825	702	739	
v/s Ratio Prot			c0.13			0.15				0.09		
v/s Ratio Perm			0.20		c0.22		0.01		c0.28		0.00	
v/c Ratio			0.75		0.88	0.61	0.04		0.59	0.20	0.01	
Uniform Delay, d1			20.8		32.8	30.2	25.9		17.7	14.1	12.8	
Progression Factor			0.56		1.37	1.40	1.77		0.58	0.43	0.35	
Incremental Delay, d2			4.3		45.1	2.9	0.2		3.1	0.6	0.0	
Delay (s)			15.8		90.0	45.1	46.0		13.3	6.7	4.6	
Level of Service			B		F	D	D		B	A	A	
Approach Delay (s)			15.8			53.7			11.8			
Approach LOS			B			D			B			

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		

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

Movement	NEL	NET	NER
Lane Configurations			
Volume (vph)	15	705	9
Ideal Flow (vphpl)	1900	1900	1900
Grade (%)		0%	
Total Lost time (s)		4.0	
Lane Util. Factor		0.95	
Frt		1.00	
Flt Protected		1.00	
Satd. Flow (prot)		3528	
Flt Permitted		1.00	
Satd. Flow (perm)		3528	
Peak-hour factor, PHF	1.00	1.00	1.00
Adj. Flow (vph)	15	705	9
RTOR Reduction (vph)	0	1	0
Lane Group Flow (vph)	0	733	0
Turn Type			
Protected Phases		2	
Permitted Phases			
Actuated Green, G (s)		37.0	
Effective Green, g (s)		42.0	
Actuated g/C Ratio		0.47	
Clearance Time (s)		9.0	
Lane Grp Cap (vph)		1646	
v/s Ratio Prot			
v/s Ratio Perm		0.21	
v/c Ratio		10.00dl	
Uniform Delay, d1		16.2	
Progression Factor		0.44	
Incremental Delay, d2		0.8	
Delay (s)		7.9	
Level of Service		A	
Approach Delay (s)		7.9	
Approach LOS		A	
Intersection Summary			

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	35	0	0	600	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		1.00			0.95	
Frt		0.86			0.99	
Flt Protected		1.00			1.00	
Satd. Flow (prot)		1611			3510	
Flt Permitted		1.00			1.00	
Satd. Flow (perm)		1611			3510	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	35	0	0	600	35
RTOR Reduction (vph)	0	26	0	0	5	0
Lane Group Flow (vph)	0	9	0	0	630	0
Turn Type		custom				
Protected Phases		4			2	
Permitted Phases						
Actuated Green, G (s)		22.0			57.5	
Effective Green, g (s)		23.0			59.0	
Actuated g/C Ratio		0.26			0.66	
Clearance Time (s)		5.0			5.5	
Lane Grp Cap (vph)		412			2301	
v/s Ratio Prot		c0.01			c0.18	
v/s Ratio Perm						
v/c Ratio		0.02			0.27	
Uniform Delay, d1		25.1			6.5	
Progression Factor		1.00			0.60	
Incremental Delay, d2		0.1			0.3	
Delay (s)		25.2			4.2	
Level of Service		C			A	
Approach Delay (s)	25.2			0.0	4.2	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	5.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	28.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	108	210	0	0	184	32	0	0	0	64	520	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		0.95			0.95						0.95	
Frt		1.00			0.98						0.99	
Flt Protected		0.98			1.00						0.99	
Satd. Flow (prot)		3480			3461						3478	
Flt Permitted		0.77			1.00						0.99	
Satd. Flow (perm)		2725			3461						3478	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	108	210	0	0	184	32	0	0	0	64	520	52
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	318	0	0	201	0	0	0	0	0	629	0
Turn Type	Perm									Perm		
Protected Phases		4			4						2	
Permitted Phases	4									2		
Actuated Green, G (s)		27.5			27.5						50.0	
Effective Green, g (s)		30.0			30.0						52.0	
Actuated g/C Ratio		0.33			0.33						0.58	
Clearance Time (s)		6.5			6.5						6.0	
Lane Grp Cap (vph)		908			1154						2010	
v/s Ratio Prot					0.06							
v/s Ratio Perm		c0.12									0.18	
v/c Ratio		0.35			0.17						0.31	
Uniform Delay, d1		22.6			21.2						9.8	
Progression Factor		0.90			1.00						0.87	
Incremental Delay, d2		1.0			0.3						0.4	
Delay (s)		21.5			21.6						8.9	
Level of Service		C			C						A	
Approach Delay (s)		21.5			21.6			0.0			8.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

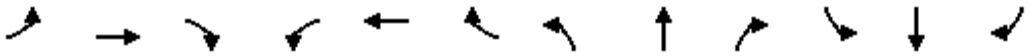
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	24	24	0	0	16	20	0	0	0	36	702	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		1.00			1.00						0.95	
Frt		1.00			0.92						1.00	
Flt Protected		0.98			1.00						1.00	
Satd. Flow (prot)		1799			1723						3529	
Flt Permitted		0.88			1.00						1.00	
Satd. Flow (perm)		1629			1723						3529	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	24	0	0	16	20	0	0	0	36	702	2
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	48	0	0	22	0	0	0	0	0	740	0
Turn Type	Perm									Perm		
Protected Phases		4			4						2	
Permitted Phases	4									2		
Actuated Green, G (s)		24.0			24.0						53.5	
Effective Green, g (s)		26.0			26.0						56.0	
Actuated g/C Ratio		0.29			0.29						0.62	
Clearance Time (s)		6.0			6.0						6.5	
Lane Grp Cap (vph)		471			498						2196	
v/s Ratio Prot					0.01							
v/s Ratio Perm		c0.03									0.21	
v/c Ratio		0.10			0.04						0.34	
Uniform Delay, d1		23.4			23.0						8.1	
Progression Factor		1.07			1.00						1.00	
Incremental Delay, d2		0.4			0.2						0.4	
Delay (s)		25.5			23.2						8.5	
Level of Service		C			C						A	
Approach Delay (s)		25.5			23.2			0.0			8.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	36.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	WBT	WBR	WBR2	SBL2	SBL	SBR	SWL	SWR	SWR2
Lane Configurations												
Volume (vph)	60	12	480	622	10	10	12	156	38	40	170	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			-3%	-3%				3%		0%		
Total Lost time (s)		4.0	4.0	4.0				4.0		4.0	4.0	
Lane Util. Factor		1.00	0.95	0.95				0.97		1.00	0.95	
Frt		1.00	1.00	1.00				0.97		0.90	0.85	
Flt Protected		0.95	1.00	1.00				0.96		0.98	1.00	
Satd. Flow (prot)		1796	3592	3576				3325		1652	1504	
Flt Permitted		0.37	1.00	1.00				0.96		0.98	1.00	
Satd. Flow (perm)		701	3592	3576				3325		1652	1504	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	12	480	622	10	10	12	156	38	40	170	16
RTOR Reduction (vph)	0	0	0	1	0	0	0	24	0	0	8	0
Lane Group Flow (vph)	0	72	480	641	0	0	0	182	0	115	103	0
Turn Type	Perm	Perm					Split				Prot	
Protected Phases			1	1			3	3		2	2	
Permitted Phases	1	1										
Actuated Green, G (s)		49.2	49.2	49.2				9.5		10.8	10.8	
Effective Green, g (s)		52.2	52.2	52.2				12.5		13.3	13.3	
Actuated g/C Ratio		0.58	0.58	0.58				0.14		0.15	0.15	
Clearance Time (s)		7.0	7.0	7.0				7.0		6.5	6.5	
Vehicle Extension (s)		0.2	0.2	0.2				2.0		2.0	2.0	
Lane Grp Cap (vph)		407	2083	2074				462		244	222	
v/s Ratio Prot			0.13	c0.18				c0.05		c0.07	0.07	
v/s Ratio Perm		0.10										
v/c Ratio		0.18	0.23	0.31				0.39		0.47	0.47	
Uniform Delay, d1		8.8	9.2	9.7				35.3		35.1	35.1	
Progression Factor		1.00	1.00	0.30				0.95		1.00	1.00	
Incremental Delay, d2		0.9	0.3	0.4				0.2		0.5	0.6	
Delay (s)		9.8	9.4	3.2				33.9		35.7	35.7	
Level of Service		A	A	A				C		D	D	
Approach Delay (s)			9.5	3.2				33.9		35.7		
Approach LOS			A	A				C		D		

Intersection Summary			
HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
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)	101	784	38	0	0	0	0	218	97	60	182	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	6.0					4.0			4.0	
Lane Util. Factor		0.95	1.00					0.95			0.95	
Frt		1.00	0.85					0.95			1.00	
Flt Protected		0.99	1.00					1.00			0.99	
Satd. Flow (prot)		3519	1583					3376			3496	
Flt Permitted		0.99	1.00					1.00			0.80	
Satd. Flow (perm)		3519	1583					3376			2842	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	101	784	38	0	0	0	0	218	97	60	182	0
RTOR Reduction (vph)	0	0	10	0	0	0	0	56	0	0	0	0
Lane Group Flow (vph)	0	885	28	0	0	0	0	259	0	0	242	0
Turn Type	Perm		Perm							Perm		
Protected Phases		2						4			4	
Permitted Phases	2		2							4		
Actuated Green, G (s)		50.0	50.0					27.5			27.5	
Effective Green, g (s)		52.0	50.0					30.0			30.0	
Actuated g/C Ratio		0.58	0.56					0.33			0.33	
Clearance Time (s)		6.0	6.0					6.5			6.5	
Lane Grp Cap (vph)		2033	879					1125			947	
v/s Ratio Prot								0.08				
v/s Ratio Perm		0.25	0.02								c0.09	
v/c Ratio		0.44	0.03					0.23			0.26	
Uniform Delay, d1		10.7	9.1					21.7			21.9	
Progression Factor		1.20	0.98					0.95			0.51	
Incremental Delay, d2		0.3	0.0					0.5			0.6	
Delay (s)		13.2	8.9					21.0			11.9	
Level of Service		B	A					C			B	
Approach Delay (s)		13.0			0.0			21.0			11.9	
Approach LOS		B			A			C			B	

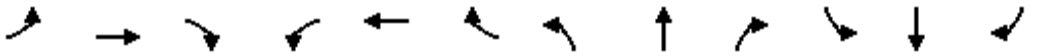
Intersection Summary					
HCM Average Control Delay	14.5	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.37				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	50.5%	ICU Level of Service		A	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	1250	20	0	0	0	0	25	10	35	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frt		1.00						0.96			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		3528						1791			1800	
Flt Permitted		1.00						1.00			0.83	
Satd. Flow (perm)		3528						1791			1540	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	1250	20	0	0	0	0	25	10	35	15	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	1294	0	0	0	0	0	28	0	0	50	0
Turn Type	Perm									Perm		
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		54.5						22.5			22.5	
Effective Green, g (s)		57.0						25.0			25.0	
Actuated g/C Ratio		0.63						0.28			0.28	
Clearance Time (s)		6.5						6.5			6.5	
Lane Grp Cap (vph)		2234						498			428	
v/s Ratio Prot								0.02				
v/s Ratio Perm		0.37									c0.03	
v/c Ratio		0.58						0.06			0.12	
Uniform Delay, d1		9.6						23.8			24.3	
Progression Factor		0.59						1.00			0.92	
Incremental Delay, d2		1.1						0.2			0.5	
Delay (s)		6.7						24.1			22.9	
Level of Service		A						C			C	
Approach Delay (s)		6.7			0.0			24.1			22.9	
Approach LOS		A			A			C			C	

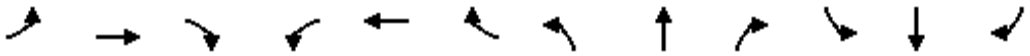
Intersection Summary			
HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	1212	58	0	0	0	0	50	232	26	22	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			-4%			0%	
Total Lost time (s)		4.0						4.0		4.0	4.0	
Lane Util. Factor		0.95						1.00		1.00	1.00	
Frt		0.99						0.89		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3548						1689		1770	1863	
Flt Permitted		1.00						1.00		0.42	1.00	
Satd. Flow (perm)		3548						1689		781	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	22	1212	58	0	0	0	0	50	232	26	22	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	55	0	0	0	0
Lane Group Flow (vph)	0	1288	0	0	0	0	0	227	0	26	22	0
Turn Type	Perm									Perm		
Protected Phases		2						4			4	
Permitted Phases	2									4		
Actuated Green, G (s)		53.0						25.0		25.0	25.0	
Effective Green, g (s)		55.0						27.0		27.0	27.0	
Actuated g/C Ratio		0.61						0.30		0.30	0.30	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		2168						507		234	559	
v/s Ratio Prot								c0.13			0.01	
v/s Ratio Perm		0.36								0.03		
v/c Ratio		0.59						0.45		0.11	0.04	
Uniform Delay, d1		10.7						25.5		22.8	22.3	
Progression Factor		0.14						1.00		1.00	1.00	
Incremental Delay, d2		1.0						2.9		1.0	0.1	
Delay (s)		2.5						28.3		23.8	22.4	
Level of Service		A						C		C	C	
Approach Delay (s)		2.5			0.0			28.3			23.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



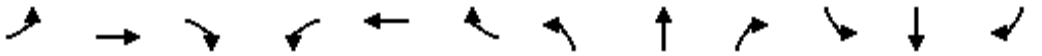
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	759	42	28	496	93	53	110	9	110	123	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			-5%			4%			2%	
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00			0.95	
Frt		0.99			0.98		1.00	0.99			0.97	
Flt Protected		0.99			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		3424			3538		1734	1805			3349	
Flt Permitted		0.79			0.90		0.55	1.00			0.79	
Satd. Flow (perm)		2705			3184		999	1805			2685	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	106	759	42	28	496	93	53	110	9	110	123	48
RTOR Reduction (vph)	0	0	0	0	16	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	907	0	0	601	0	53	116	0	0	281	0
Turn Type	Perm			pm+pt			Perm			Perm		
Protected Phases		6		5	2			4			4	
Permitted Phases	6			2			4			4		
Actuated Green, G (s)		40.5			51.5		25.5	25.5			25.5	
Effective Green, g (s)		43.0			54.0		28.0	28.0			28.0	
Actuated g/C Ratio		0.48			0.60		0.31	0.31			0.31	
Clearance Time (s)		6.5			6.5		6.5	6.5			6.5	
Lane Grp Cap (vph)		1292			1942		311	562			835	
v/s Ratio Prot					c0.03			0.06				
v/s Ratio Perm		c0.34			0.16		0.05				c0.10	
v/c Ratio		0.70			0.31		0.17	0.21			0.34	
Uniform Delay, d1		18.5			8.8		22.6	22.8			23.9	
Progression Factor		1.00			0.15		0.81	0.82			1.00	
Incremental Delay, d2		3.2			0.4		1.2	0.8			1.1	
Delay (s)		21.7			1.7		19.4	19.4			24.9	
Level of Service		C			A		B	B			C	
Approach Delay (s)		21.7			1.7			19.4			24.9	
Approach LOS		C			A			B			C	

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	655	10	107	0	0	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-4%		4%			-2%
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	0.97		0.95			0.95
Frt	1.00		1.00			1.00
Flt Protected	0.95		1.00			1.00
Satd. Flow (prot)	3505		3468			3575
Flt Permitted	0.95		1.00			1.00
Satd. Flow (perm)	3505		3468			3575
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	655	10	107	0	0	87
RTOR Reduction (vph)	1	0	0	0	0	0
Lane Group Flow (vph)	664	0	107	0	0	87
Turn Type						
Protected Phases	1 2		3			3
Permitted Phases						
Actuated Green, G (s)	68.3		8.7			8.7
Effective Green, g (s)	70.8		11.2			11.2
Actuated g/C Ratio	0.79		0.12			0.12
Clearance Time (s)			6.5			6.5
Vehicle Extension (s)			2.0			2.0
Lane Grp Cap (vph)	2757		432			445
v/s Ratio Prot	c0.19		c0.03			0.02
v/s Ratio Perm						
v/c Ratio	0.24		0.25			0.20
Uniform Delay, d1	2.5		35.6			35.4
Progression Factor	0.85		1.23			1.00
Incremental Delay, d2	0.0		0.1			0.1
Delay (s)	2.2		43.9			35.4
Level of Service	A		D			D
Approach Delay (s)	2.2		43.9			35.4
Approach LOS	A		D			D

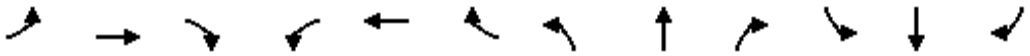
Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



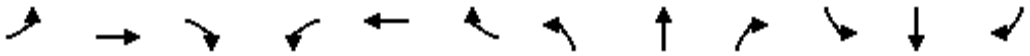
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	712	12	36	676	164	16	136	8	160	75	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-2%	
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	7.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.97			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.97	1.00
Satd. Flow (prot)	1770	3530		1770	3436			1841			1819	1599
Flt Permitted	0.26	1.00		0.31	1.00			0.96			0.70	1.00
Satd. Flow (perm)	478	3530		575	3436			1779			1313	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	36	712	12	36	676	164	16	136	8	160	75	12
RTOR Reduction (vph)	0	2	0	0	24	0	0	2	0	0	0	7
Lane Group Flow (vph)	36	723	0	36	817	0	0	158	0	0	235	5
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	42.5	42.5		42.5	42.5			34.0			34.0	34.0
Effective Green, g (s)	45.0	45.0		45.0	45.0			37.0			37.0	34.0
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.41			0.41	0.38
Clearance Time (s)	6.5	6.5		6.5	6.5			7.0			7.0	7.0
Lane Grp Cap (vph)	239	1765		288	1718			731			540	604
v/s Ratio Prot		0.20			c0.24							
v/s Ratio Perm	0.08			0.06				0.09			c0.18	0.00
v/c Ratio	0.15	0.41		0.12	0.48			0.22			0.44	0.01
Uniform Delay, d1	12.2	14.1		12.0	14.8			17.1			19.0	17.5
Progression Factor	1.04	1.08		0.68	0.60			0.44			0.39	0.03
Incremental Delay, d2	1.0	0.5		0.8	0.9			0.6			2.5	0.0
Delay (s)	13.6	15.8		9.0	9.7			8.2			10.0	0.6
Level of Service	B	B		A	A			A			B	A
Approach Delay (s)		15.7			9.7			8.2			9.6	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
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)	21	366	401	4	450	94	341	815	162	79	790	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.97		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00	1.00		1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3530	1583		3412		1770	3539	1583	1770	3535	
Flt Permitted		0.91	1.00		0.95		0.15	1.00	1.00	0.34	1.00	
Satd. Flow (perm)		3215	1583		3250		275	3539	1583	641	3535	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	21	366	401	4	450	94	341	815	162	79	790	6
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	42	0	1	0
Lane Group Flow (vph)	0	387	401	0	548	0	341	815	120	79	795	0
Turn Type	Perm		pm+ov	Perm			pm+pt		Perm	Perm		
Protected Phases		4	5		4		5	2			6	
Permitted Phases	4		4	4			2		2	6		
Actuated Green, G (s)		30.0	44.0		30.0		46.5	46.5	46.5	25.5	25.5	
Effective Green, g (s)		33.0	50.0		33.0		49.5	49.0	49.0	28.0	28.0	
Actuated g/C Ratio		0.37	0.56		0.37		0.55	0.54	0.54	0.31	0.31	
Clearance Time (s)		7.0	7.0		7.0		7.0	6.5	6.5	6.5	6.5	
Lane Grp Cap (vph)		1179	950		1192		434	1927	862	199	1100	
v/s Ratio Prot			0.08				c0.15	0.23			0.22	
v/s Ratio Perm		0.12	0.17		c0.17		c0.28		0.08	0.12		
v/c Ratio		0.33	0.42		0.46		0.79	0.42	0.14	0.40	0.72	
Uniform Delay, d1		20.5	11.6		21.7		18.7	12.1	10.1	24.4	27.6	
Progression Factor		1.24	1.55		1.00		1.00	1.00	1.00	0.46	0.48	
Incremental Delay, d2		0.7	1.3		1.3		13.4	0.7	0.3	5.4	3.8	
Delay (s)		26.1	19.3		23.0		32.1	12.8	10.4	16.7	17.1	
Level of Service		C	B		C		C	B	B	B	B	
Approach Delay (s)		22.7			23.0			17.5			17.1	
Approach LOS		C			C			B			B	

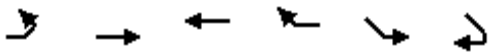
Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	720	14	4	691	10	145	95	14	18	46	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frt		1.00			1.00			1.00	0.85		0.94	
Flt Protected		1.00			1.00			0.97	1.00		0.99	
Satd. Flow (prot)		3524			3531			1808	1583		1729	
Flt Permitted		0.92			0.95			0.71	1.00		0.93	
Satd. Flow (perm)		3242			3362			1331	1583		1627	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	720	14	4	691	10	145	95	14	18	46	59
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	9	0	41	0
Lane Group Flow (vph)	0	758	0	0	704	0	0	240	5	0	82	0
Parking (#/hr)						0						
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2		2	2		
Actuated Green, G (s)		58.0			58.0			19.5	19.5		19.5	
Effective Green, g (s)		60.0			60.0			22.0	22.0		22.0	
Actuated g/C Ratio		0.67			0.67			0.24	0.24		0.24	
Clearance Time (s)		6.0			6.0			6.5	6.5		6.5	
Vehicle Extension (s)		0.2			0.2			2.0	2.0		2.0	
Lane Grp Cap (vph)		2161			2241			325	387		398	
v/s Ratio Prot												
v/s Ratio Perm		c0.23			0.21			c0.18	0.00		0.05	
v/c Ratio		0.35			0.31			0.74	0.01		0.21	
Uniform Delay, d1		6.5			6.3			31.3	25.8		27.1	
Progression Factor		0.61			0.72			1.00	1.00		1.60	
Incremental Delay, d2		0.4			0.3			7.4	0.0		0.1	
Delay (s)		4.4			4.8			38.7	25.8		43.4	
Level of Service		A			A			D	C		D	
Approach Delay (s)		4.4			4.8			38.0			43.4	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	986	0	659	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		4%	-4%		0%	
Total Lost time (s)		4.0		4.0		
Lane Util. Factor		0.95		0.88		
Frt		1.00		0.85		
Flt Protected		1.00		1.00		
Satd. Flow (prot)		3468		2842		
Flt Permitted		1.00		1.00		
Satd. Flow (perm)		3468		2842		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	986	0	659	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	986	0	659	0	0
Turn Type				Free		
Protected Phases		1 3				
Permitted Phases				Free		
Actuated Green, G (s)		74.2		90.0		
Effective Green, g (s)		76.7		90.0		
Actuated g/C Ratio		0.85		1.00		
Clearance Time (s)						
Vehicle Extension (s)						
Lane Grp Cap (vph)		2956		2842		
v/s Ratio Prot		c0.28				
v/s Ratio Perm				c0.23		
v/c Ratio		0.33		0.23		
Uniform Delay, d1		1.4		0.0		
Progression Factor		0.85		1.00		
Incremental Delay, d2		0.0		0.2		
Delay (s)		1.2		0.2		
Level of Service		A		A		
Approach Delay (s)		1.2	0.2		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM Average Control Delay	0.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	30.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
62: 10th St. N. & Wilson Blvd.

10/8/2010

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	179	715	8	352	524	10	26	560	404	14	551	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-2%			0%			0%	
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95	1.00		0.95	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		1.00	
Satd. Flow (prot)	1743	3480		1787	3565			3531	1583		3466	
Flt Permitted	0.45	1.00		0.17	1.00			0.91	1.00		0.94	
Satd. Flow (perm)	832	3480		329	3565			3207	1583		3253	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	179	715	8	352	524	10	26	560	404	14	551	85
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	231	0	0	0
Lane Group Flow (vph)	179	723	0	352	533	0	0	586	173	0	650	0
Turn Type	Perm			pm+pt			Perm		Perm	Perm		
Protected Phases		8		7	4			2			2	
Permitted Phases	8			4			2		2	2		
Actuated Green, G (s)	25.5	25.5		45.5	45.5			32.0	32.0		32.0	
Effective Green, g (s)	28.0	28.0		47.0	48.0			34.0	34.0		34.0	
Actuated g/C Ratio	0.31	0.31		0.52	0.53			0.38	0.38		0.38	
Clearance Time (s)	6.5	6.5		5.5	6.5			6.0	6.0		6.0	
Lane Grp Cap (vph)	259	1083		431	1901			1212	598		1229	
v/s Ratio Prot		0.21		c0.15	0.15							
v/s Ratio Perm	0.22			c0.28				0.18	0.11		c0.20	
v/c Ratio	0.69	0.67		0.82	0.28			0.48	0.29		0.53	
Uniform Delay, d1	27.2	27.0		17.0	11.5			21.3	19.6		21.8	
Progression Factor	0.77	0.79		0.99	0.76			1.00	1.00		0.83	
Incremental Delay, d2	13.1	3.0		15.5	0.4			1.4	1.2		1.6	
Delay (s)	34.0	24.2		32.3	9.1			22.7	20.8		19.7	
Level of Service	C	C		C	A			C	C		B	
Approach Delay (s)		26.1			18.3			21.9			19.7	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	SBL2	SBL	SBR	SBR2
Lane Configurations												
Volume (vph)	5	164	424	11	78	735	19	36	83	782	306	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			-2%			2%				0%		
Total Lost time (s)			4.0		4.0	4.0		4.0		4.0	4.0	4.0
Lane Util. Factor			0.95		1.00	0.95		1.00		1.00	0.95	1.00
Frt			1.00		1.00	1.00		0.85		0.99	0.85	0.85
Flt Protected			0.99		0.95	1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)			3516		1752	3491		1567		1768	1504	1583
Flt Permitted			0.56		0.33	1.00		1.00		0.95	1.00	1.00
Satd. Flow (perm)			1997		616	3491		1567		1768	1504	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	164	424	11	78	735	19	36	83	782	306	44
RTOR Reduction (vph)	0	0	1	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	603	0	78	754	0	25	0	896	275	44
Turn Type		Perm			Perm			Perm			custom	custom
Protected Phases			4			8					2	
Permitted Phases		4			8			8		2		2
Actuated Green, G (s)			31.0		31.0	31.0		31.0		41.0	41.0	41.0
Effective Green, g (s)			36.0		36.0	36.0		36.0		46.0	46.0	46.0
Actuated g/C Ratio			0.40		0.40	0.40		0.40		0.51	0.51	0.51
Clearance Time (s)			9.0		9.0	9.0		9.0		9.0	9.0	9.0
Lane Grp Cap (vph)			799		246	1396		627		904	769	809
v/s Ratio Prot						0.22					0.18	
v/s Ratio Perm			c0.30		0.13			0.02		c0.51		0.03
v/c Ratio			0.89dl		0.32	0.54		0.04		0.99	0.36	0.05
Uniform Delay, d1			23.2		18.6	20.7		16.5		21.8	13.2	11.1
Progression Factor			0.97		1.73	1.74		2.19		0.47	0.22	0.20
Incremental Delay, d2			6.5		2.9	1.3		0.1		26.1	1.1	0.1
Delay (s)			29.0		34.9	37.3		36.1		36.4	4.0	2.3
Level of Service			C		C	D		D		D	A	A
Approach Delay (s)			29.0			37.1				27.9		
Approach LOS			C			D				C		

Intersection Summary			
HCM Average Control Delay	30.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
Analysis Period (min)	15		

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

c Critical Lane Group

Movement	NEL2	NET	NER
Lane Configurations			
Volume (vph)	10	615	33
Ideal Flow (vphpl)	1900	1900	1900
Grade (%)		0%	
Total Lost time (s)	4.0	4.0	
Lane Util. Factor	1.00	0.95	
Frt	1.00	0.99	
Flt Protected	0.95	1.00	
Satd. Flow (prot)	1770	3512	
Flt Permitted	0.95	1.00	
Satd. Flow (perm)	1770	3512	
Peak-hour factor, PHF	1.00	1.00	1.00
Adj. Flow (vph)	10	615	33
RTOR Reduction (vph)	0	4	0
Lane Group Flow (vph)	10	644	0
Turn Type	Perm		
Protected Phases		2	
Permitted Phases	2		
Actuated Green, G (s)	41.0	41.0	
Effective Green, g (s)	46.0	46.0	
Actuated g/C Ratio	0.51	0.51	
Clearance Time (s)	9.0	9.0	
Lane Grp Cap (vph)	905	1795	
v/s Ratio Prot		0.18	
v/s Ratio Perm	0.01		
v/c Ratio	0.01	0.36	
Uniform Delay, d1	10.8	13.2	
Progression Factor	2.26	2.26	
Incremental Delay, d2	0.0	0.5	
Delay (s)	24.5	30.3	
Level of Service	C	C	
Approach Delay (s)		30.2	
Approach LOS		C	

Intersection Summary

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	0	60	0	0	1155	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		1.00			0.95	
Frt		0.86			1.00	
Flt Protected		1.00			1.00	
Satd. Flow (prot)		1611			3528	
Flt Permitted		1.00			1.00	
Satd. Flow (perm)		1611			3528	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	60	0	0	1155	25
RTOR Reduction (vph)	0	45	0	0	2	0
Lane Group Flow (vph)	0	15	0	0	1178	0
Turn Type		custom				
Protected Phases		4			2	
Permitted Phases						
Actuated Green, G (s)		22.0			57.5	
Effective Green, g (s)		23.0			59.0	
Actuated g/C Ratio		0.26			0.66	
Clearance Time (s)		5.0			5.5	
Lane Grp Cap (vph)		412			2313	
v/s Ratio Prot		c0.01			c0.33	
v/s Ratio Perm						
v/c Ratio		0.04			0.51	
Uniform Delay, d1		25.2			8.0	
Progression Factor		1.00			0.40	
Incremental Delay, d2		0.2			0.7	
Delay (s)		25.3			3.9	
Level of Service		C			A	
Approach Delay (s)	25.3			0.0	3.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	4.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	84	200	0	0	322	76	0	0	0	136	1020	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		0.95			0.95						0.95	
Frt		1.00			0.97						0.99	
Flt Protected		0.99			1.00						0.99	
Satd. Flow (prot)		3488			3438						3490	
Flt Permitted		0.73			1.00						0.99	
Satd. Flow (perm)		2597			3438						3490	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	84	200	0	0	322	76	0	0	0	136	1020	68
RTOR Reduction (vph)	0	0	0	0	23	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	284	0	0	375	0	0	0	0	0	1219	0
Turn Type	Perm									Perm		
Protected Phases		4			4						2	
Permitted Phases	4									2		
Actuated Green, G (s)		29.5			29.5						48.0	
Effective Green, g (s)		32.0			32.0						50.0	
Actuated g/C Ratio		0.36			0.36						0.56	
Clearance Time (s)		6.5			6.5						6.0	
Lane Grp Cap (vph)		923			1222						1939	
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.11									0.35	
v/c Ratio		0.31			0.31						0.63	
Uniform Delay, d1		21.0			21.0						13.7	
Progression Factor		0.86			1.00						0.31	
Incremental Delay, d2		0.8			0.7						1.2	
Delay (s)		18.9			21.6						5.5	
Level of Service		B			C						A	
Approach Delay (s)		18.9			21.6			0.0			5.5	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	30	12	0	0	24	26	0	0	0	102	1260	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		1.00			1.00						0.95	
Frt		1.00			0.93						1.00	
Flt Protected		0.97			1.00						1.00	
Satd. Flow (prot)		1781			1732						3511	
Flt Permitted		0.83			1.00						1.00	
Satd. Flow (perm)		1528			1732						3511	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	12	0	0	24	26	0	0	0	102	1260	42
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	42	0	0	32	0	0	0	0	0	1402	0
Turn Type	Perm									Perm		
Protected Phases		4			4						2	
Permitted Phases	4									2		
Actuated Green, G (s)		24.0			24.0						53.5	
Effective Green, g (s)		26.0			26.0						56.0	
Actuated g/C Ratio		0.29			0.29						0.62	
Clearance Time (s)		6.0			6.0						6.5	
Lane Grp Cap (vph)		441			500						2185	
v/s Ratio Prot					0.02							
v/s Ratio Perm		c0.03									0.40	
v/c Ratio		0.10			0.06						0.64	
Uniform Delay, d1		23.4			23.2						10.7	
Progression Factor		0.98			1.00						1.00	
Incremental Delay, d2		0.4			0.2						1.5	
Delay (s)		23.4			23.4						12.1	
Level of Service		C			C						B	
Approach Delay (s)		23.4			23.4			0.0			12.1	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL2	EBL	EBT	WBT	WBR	WBR2	SBL2	SBL	SBR	SWL	SWR	SWR2
Lane Configurations												
Volume (vph)	92	24	865	458	104	12	12	218	120	6	136	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			-3%	-3%				3%		0%		
Total Lost time (s)		4.0	4.0	4.0				4.0		4.0	4.0	
Lane Util. Factor		1.00	0.95	0.95				0.97		1.00	0.95	
Frt		1.00	1.00	0.97				0.95		0.86	0.85	
Flt Protected		0.95	1.00	1.00				0.97		1.00	1.00	
Satd. Flow (prot)		1796	3592	3483				3269		1600	1504	
Flt Permitted		0.40	1.00	1.00				0.97		1.00	1.00	
Satd. Flow (perm)		764	3592	3483				3269		1600	1504	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	92	24	865	458	104	12	12	218	120	6	136	4
RTOR Reduction (vph)	0	0	0	1	0	0	0	84	0	0	3	0
Lane Group Flow (vph)	0	116	865	573	0	0	0	266	0	74	69	0
Turn Type	Perm	Perm					Split				Prot	
Protected Phases			1	1			3	3		2	2	
Permitted Phases	1	1										
Actuated Green, G (s)		48.5	48.5	48.5				11.5		9.5	9.5	
Effective Green, g (s)		51.5	51.5	51.5				14.5		12.0	12.0	
Actuated g/C Ratio		0.57	0.57	0.57				0.16		0.13	0.13	
Clearance Time (s)		7.0	7.0	7.0				7.0		6.5	6.5	
Vehicle Extension (s)		0.2	0.2	0.2				2.0		2.0	2.0	
Lane Grp Cap (vph)		437	2055	1993				527		213	201	
v/s Ratio Prot			c0.24	0.16				c0.08		c0.05	0.05	
v/s Ratio Perm		0.15										
v/c Ratio		0.27	0.42	0.29				0.50		0.35	0.35	
Uniform Delay, d1		9.7	10.8	9.9				34.5		35.4	35.4	
Progression Factor		1.00	1.00	0.47				1.43		1.00	1.00	
Incremental Delay, d2		1.5	0.6	0.4				0.2		0.4	0.4	
Delay (s)		11.2	11.5	5.0				49.5		35.8	35.8	
Level of Service		B	B	A				D		D	D	
Approach Delay (s)			11.4	5.0				49.5		35.8		
Approach LOS			B	A				D		D		

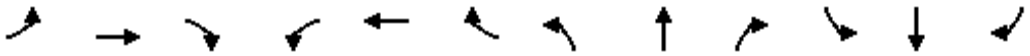
Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	543	22	0	0	0	0	213	70	80	330	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0					4.0			4.0	
Lane Util. Factor		0.95	1.00					0.95			0.95	
Frt		1.00	0.85					0.96			1.00	
Flt Protected		0.99	1.00					1.00			0.99	
Satd. Flow (prot)		3519	1583					3408			3505	
Flt Permitted		0.99	1.00					1.00			0.82	
Satd. Flow (perm)		3519	1583					3408			2910	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	543	22	0	0	0	0	213	70	80	330	0
RTOR Reduction (vph)	0	0	22	0	0	0	0	35	0	0	0	0
Lane Group Flow (vph)	0	614	0	0	0	0	0	248	0	0	410	0
Turn Type	Perm		NA							Perm		
Protected Phases		2						4			4	
Permitted Phases	2									4		
Actuated Green, G (s)		48.0	0.0					29.5			29.5	
Effective Green, g (s)		50.0	0.0					32.0			32.0	
Actuated g/C Ratio		0.56	0.00					0.36			0.36	
Clearance Time (s)		6.0						6.5			6.5	
Lane Grp Cap (vph)		1955	0					1212			1035	
v/s Ratio Prot								0.07				
v/s Ratio Perm		0.17									c0.14	
v/c Ratio		0.31	0.00					0.20			0.40	
Uniform Delay, d1		10.8	45.0					20.2			21.8	
Progression Factor		2.38	1.00					0.57			0.62	
Incremental Delay, d2		0.4	0.0					0.4			1.1	
Delay (s)		26.0	45.0					11.8			14.6	
Level of Service		C	D					B			B	
Approach Delay (s)		26.7			0.0			11.8			14.6	
Approach LOS		C			A			B			B	

Intersection Summary				
HCM Average Control Delay	19.8	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.35			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	46.6%	ICU Level of Service	A	
Analysis Period (min)	15			

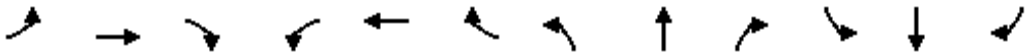
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	945	40	0	0	0	0	25	10	80	40	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frt		0.99						0.96			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		3514						1791			1803	
Flt Permitted		1.00						1.00			0.80	
Satd. Flow (perm)		3514						1791			1482	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	945	40	0	0	0	0	25	10	80	40	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	1007	0	0	0	0	0	28	0	0	120	0
Turn Type	Perm									Perm		
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		54.5						22.5			22.5	
Effective Green, g (s)		57.0						25.0			25.0	
Actuated g/C Ratio		0.63						0.28			0.28	
Clearance Time (s)		6.5						6.5			6.5	
Lane Grp Cap (vph)		2226						498			412	
v/s Ratio Prot								0.02				
v/s Ratio Perm		0.29									c0.08	
v/c Ratio		0.45						0.06			0.29	
Uniform Delay, d1		8.5						23.8			25.5	
Progression Factor		0.59						1.00			1.13	
Incremental Delay, d2		0.7						0.2			1.5	
Delay (s)		5.7						24.1			30.5	
Level of Service		A						C			C	
Approach Delay (s)		5.7			0.0			24.1			30.5	
Approach LOS		A			A			C			C	

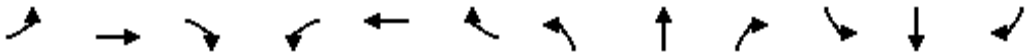
Intersection Summary			
HCM Average Control Delay	8.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	806	110	0	0	0	0	140	188	62	76	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			-4%			0%	
Total Lost time (s)		4.0						4.0		4.0	4.0	
Lane Util. Factor		0.95						1.00		1.00	1.00	
Frt		0.98						0.92		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3501						1753		1770	1863	
Flt Permitted		1.00						1.00		0.35	1.00	
Satd. Flow (perm)		3501						1753		658	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	88	806	110	0	0	0	0	140	188	62	76	0
RTOR Reduction (vph)	0	11	0	0	0	0	0	54	0	0	0	0
Lane Group Flow (vph)	0	994	0	0	0	0	0	274	0	62	76	0
Turn Type	Perm									Perm		
Protected Phases		2						4			4	
Permitted Phases	2									4		
Actuated Green, G (s)		53.0						25.0		25.0	25.0	
Effective Green, g (s)		55.0						27.0		27.0	27.0	
Actuated g/C Ratio		0.61						0.30		0.30	0.30	
Clearance Time (s)		6.0						6.0		6.0	6.0	
Lane Grp Cap (vph)		2140						526		197	559	
v/s Ratio Prot								c0.16			0.04	
v/s Ratio Perm		0.28								0.09		
v/c Ratio		0.46						0.52		0.31	0.14	
Uniform Delay, d1		9.5						26.1		24.3	23.0	
Progression Factor		0.26						1.00		1.00	1.00	
Incremental Delay, d2		0.7						3.7		4.1	0.5	
Delay (s)		3.2						29.8		28.5	23.5	
Level of Service		A						C		C	C	
Approach Delay (s)		3.2			0.0			29.8			25.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



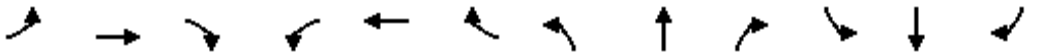
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	588	72	71	939	122	73	124	28	96	175	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			-5%			4%			2%	
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00			0.95	
Frt		0.99			0.98		1.00	0.97			0.94	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		3400			3558		1734	1775			3257	
Flt Permitted		0.72			0.82		0.39	1.00			0.83	
Satd. Flow (perm)		2476			2932		718	1775			2738	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	73	588	72	71	939	122	73	124	28	96	175	184
RTOR Reduction (vph)	0	0	0	0	10	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	733	0	0	1122	0	73	143	0	0	455	0
Turn Type	Perm			pm+pt			Perm			Perm		
Protected Phases		6		5	2			4			4	
Permitted Phases	6			2			4			4		
Actuated Green, G (s)		34.5			51.5		25.5	25.5			25.5	
Effective Green, g (s)		37.0			54.0		28.0	28.0			28.0	
Actuated g/C Ratio		0.41			0.60		0.31	0.31			0.31	
Clearance Time (s)		6.5			6.5		6.5	6.5			6.5	
Lane Grp Cap (vph)		1018			1857		223	552			852	
v/s Ratio Prot					c0.09			0.08				
v/s Ratio Perm		c0.30			0.27		0.10				c0.17	
v/c Ratio		0.72			0.60		0.33	0.26			0.53	
Uniform Delay, d1		22.2			11.3		23.8	23.2			25.6	
Progression Factor		1.00			0.51		1.46	1.49			1.00	
Incremental Delay, d2		4.4			1.4		3.8	1.1			2.4	
Delay (s)		26.6			7.2		38.5	35.8			28.0	
Level of Service		C			A		D	D			C	
Approach Delay (s)		26.6			7.2			36.7			28.0	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	990	21	96	0	0	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-4%		4%			-2%
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	0.97		0.95			0.95
Frt	1.00		1.00			1.00
Flt Protected	0.95		1.00			1.00
Satd. Flow (prot)	3503		3468			3575
Flt Permitted	0.95		1.00			1.00
Satd. Flow (perm)	3503		3468			3575
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	990	21	96	0	0	125
RTOR Reduction (vph)	1	0	0	0	0	0
Lane Group Flow (vph)	1010	0	96	0	0	125
Turn Type						
Protected Phases	1 2		3			3
Permitted Phases						
Actuated Green, G (s)	68.0		9.0			9.0
Effective Green, g (s)	70.5		11.5			11.5
Actuated g/C Ratio	0.78		0.13			0.13
Clearance Time (s)			6.5			6.5
Vehicle Extension (s)			2.0			2.0
Lane Grp Cap (vph)	2744		443			457
v/s Ratio Prot	c0.29		0.03			c0.03
v/s Ratio Perm						
v/c Ratio	0.37		0.22			0.27
Uniform Delay, d1	3.0		35.2			35.5
Progression Factor	0.25		0.66			1.00
Incremental Delay, d2	0.0		0.1			0.1
Delay (s)	0.8		23.2			35.6
Level of Service	A		C			D
Approach Delay (s)	0.8		23.2			35.6
Approach LOS	A		C			D

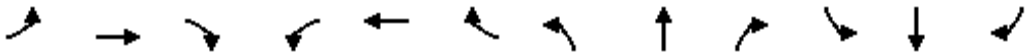
Intersection Summary			
HCM Average Control Delay	6.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



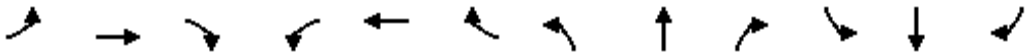
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	712	12	68	844	142	12	104	32	256	74	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-2%	
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98			0.97		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	3530		1770	3463			1801		1787	1750	
Flt Permitted	0.20	1.00		0.31	1.00			0.98		0.65	1.00	
Satd. Flow (perm)	370	3530		575	3463			1767		1230	1750	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	36	712	12	68	844	142	12	104	32	256	74	64
RTOR Reduction (vph)	0	2	0	0	15	0	0	11	0	0	35	0
Lane Group Flow (vph)	36	723	0	68	971	0	0	137	0	256	103	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	42.5	42.5		42.5	42.5			34.0		34.0	34.0	
Effective Green, g (s)	45.0	45.0		45.0	45.0			37.0		37.0	37.0	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.41		0.41	0.41	
Clearance Time (s)	6.5	6.5		6.5	6.5			7.0		7.0	7.0	
Lane Grp Cap (vph)	185	1765		288	1732			726		506	719	
v/s Ratio Prot		0.20			c0.28						0.06	
v/s Ratio Perm	0.10			0.12				0.08		c0.21		
v/c Ratio	0.19	0.41		0.24	0.56			0.19		0.51	0.14	
Uniform Delay, d1	12.5	14.1		12.8	15.6			16.9		19.7	16.6	
Progression Factor	1.21	1.22		0.54	0.48			1.11		0.18	0.00	
Incremental Delay, d2	1.0	0.3		1.5	1.0			0.6		3.4	0.4	
Delay (s)	16.0	17.6		8.4	8.5			19.3		7.0	0.4	
Level of Service	B	B		A	A			B		A	A	
Approach Delay (s)		17.5			8.5			19.3			4.7	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
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)	32	469	621	4	549	174	260	1038	237	81	778	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			2%			0%			0%	
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00	1.00		1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3528	1583		3377		1770	3539	1583	1770	3530	
Flt Permitted		0.86	1.00		0.95		0.16	1.00	1.00	0.28	1.00	
Satd. Flow (perm)		3033	1583		3217		297	3539	1583	514	3530	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	469	621	4	549	174	260	1038	237	81	778	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	49	0	1	0
Lane Group Flow (vph)	0	501	621	0	727	0	260	1038	188	81	790	0
Turn Type	Perm		pm+ov				pm+pt		Perm	Perm		
Protected Phases		4	5		4		5	2			6	
Permitted Phases	4		4				2		2	6		
Actuated Green, G (s)		30.0	43.0		30.0		46.5	46.5	46.5	26.5	26.5	
Effective Green, g (s)		33.0	49.0		33.0		49.5	49.0	49.0	29.0	29.0	
Actuated g/C Ratio		0.37	0.54		0.37		0.55	0.54	0.54	0.32	0.32	
Clearance Time (s)		7.0	7.0		7.0		7.0	6.5	6.5	6.5	6.5	
Lane Grp Cap (vph)		1112	932		1180		425	1927	862	166	1137	
v/s Ratio Prot			c0.12				0.11	0.29			c0.22	
v/s Ratio Perm		0.17	0.27		0.23		0.23		0.12	0.16		
v/c Ratio		0.45	0.67		0.62		0.61	0.54	0.22	0.49	0.69	
Uniform Delay, d1		21.6	14.7		23.3		13.8	13.2	10.6	24.5	26.6	
Progression Factor		0.52	0.55		1.00		1.00	1.00	1.00	0.58	0.57	
Incremental Delay, d2		1.3	3.7		2.4		6.4	1.1	0.6	9.1	3.2	
Delay (s)		12.5	11.8		25.7		20.2	14.3	11.2	23.3	18.4	
Level of Service		B	B		C		C	B	B	C	B	
Approach Delay (s)		12.1			25.7			14.8			18.8	
Approach LOS		B			C			B			B	

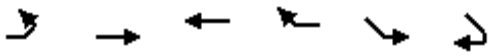
Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	797	18	11	565	22	31	40	9	12	71	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frt		1.00			0.99			1.00	0.85		0.95	
Flt Protected		1.00			1.00			0.98	1.00		1.00	
Satd. Flow (prot)		3522			3516			1823	1583		1767	
Flt Permitted		0.92			0.94			0.86	1.00		0.97	
Satd. Flow (perm)		3242			3301			1611	1583		1728	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	797	18	11	565	22	31	40	9	12	71	44
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	7	0	24	0
Lane Group Flow (vph)	0	844	0	0	596	0	0	71	2	0	103	0
Parking (#/hr)						0						
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2		2	2		
Actuated Green, G (s)		60.0			60.0			17.5	17.5		17.5	
Effective Green, g (s)		62.0			62.0			20.0	20.0		20.0	
Actuated g/C Ratio		0.69			0.69			0.22	0.22		0.22	
Clearance Time (s)		6.0			6.0			6.5	6.5		6.5	
Vehicle Extension (s)		0.2			0.2			2.0	2.0		2.0	
Lane Grp Cap (vph)		2233			2274			358	352		384	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.18			0.04	0.00		c0.06	
v/c Ratio		0.38			0.26			0.20	0.01		0.27	
Uniform Delay, d1		5.9			5.3			28.5	27.3		28.9	
Progression Factor		0.27			0.78			1.00	1.00		1.06	
Incremental Delay, d2		0.4			0.0			0.1	0.0		0.1	
Delay (s)		2.0			4.2			28.6	27.3		30.9	
Level of Service		A			A			C	C		C	
Approach Delay (s)		2.0			4.2			28.4			30.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	0	617	0	1011	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		4%	-4%		0%	
Total Lost time (s)		4.0		4.0		
Lane Util. Factor		0.95		0.88		
Frt		1.00		0.85		
Flt Protected		1.00		1.00		
Satd. Flow (prot)		3468		2842		
Flt Permitted		1.00		1.00		
Satd. Flow (perm)		3468		2842		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	617	0	1011	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	617	0	1011	0	0
Turn Type				Free		
Protected Phases		1 3				
Permitted Phases				Free		
Actuated Green, G (s)		74.2		90.0		
Effective Green, g (s)		76.7		90.0		
Actuated g/C Ratio		0.85		1.00		
Clearance Time (s)						
Vehicle Extension (s)						
Lane Grp Cap (vph)		2956		2842		
v/s Ratio Prot		0.18				
v/s Ratio Perm				c0.36		
v/c Ratio		0.21		0.36		
Uniform Delay, d1		1.2		0.0		
Progression Factor		2.28		1.00		
Incremental Delay, d2		0.0		0.3		
Delay (s)		2.7		0.3		
Level of Service		A		A		
Approach Delay (s)		2.7	0.3		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM Average Control Delay	1.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group