

Fort Henry Garden Apartments

Multimodal Transportation Assessment

ARLINGTON, VIRGINIA

Prepared for:



DECEMBER 2020 | VERSION 1

Prepared By:

Kimley»»Horn

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EXECUTIVE SUMMARY

This report presents the results of a transportation study for the proposed Fort Henry Garden Apartments at 2409 South Lowell Street in Arlington, Virginia. The site is located on the northwest corner of 25th Street South and South Lincoln Street. The proposed development consists of the conversion of 82 existing garden style apartments into 300 affordable apartment units. At the time the analysis was performed, the proposed development included 348 units, making the analysis a conservative representation of future conditions.

In accordance with Arlington County's Multimodal Transportation Assessment (MMTA) process, this transportation study was prepared to evaluate traffic conditions at nearby intersections and at the site driveways. This transportation study was prepared in accordance with the signed July 16, 2020 scoping agreement with Arlington County Department of Environmental Services (DES) staff.

Due to the COVID-19 pandemic, many people are teleworking and schools are not in session so traffic data collected now would not be representative of typical traffic conditions. To represent existing traffic conditions at the study intersections during the pandemic, 2019 traffic counts were provided by Arlington County at the signalized intersections of Shirlington Road with South Kenmore Street/24th Road South and Shirlington Road with South Four Mile Run Drive. Arlington County also provided 24-hour counts for South Lowell Street and South Monroe Street from 2019, which were used to estimate existing peak hour volumes at the surrounding unsignalized study intersections. The traffic volumes used in this study include existing traffic volumes, forecast future traffic volumes without development that include an annual traffic growth factor at through movements along Shirlington Road, and future traffic with development that include the removal of the existing residential trips and the addition of the traffic generated by the proposed development.

Based on the trip generation rates in the ITE Trip Generation Manual, 10th Edition and the anticipated mode split reduction of 37%, the proposed development is anticipated to generate 48 vehicle trips during the AM peak hour and 62 vehicle trips during the PM peak hour. Since the analysis was performed, the unit count was reduced to 300, resulting in 38 vehicle trips in the AM peak hour and 49 vehicle trips in the PM peak hour. The peak hour trips generated by the proposed development were assigned to the site driveways and the study area streets based on trip distributions shown in the agreed upon scoping form.

Intersection capacity analyses were conducted for existing, 2024 future without development, and 2024 future with development traffic volumes at the study intersections using the Synchro 10 software package which utilizes methodologies in the Highway Capacity Manual (HCM) for signalized and unsignalized intersections. The intersection capacity analyses show that the increase in delay at all of the intersections due to the Fort Henry Gardens Apartment development is negligible. All of the study intersections operate at an overall level of service of C or better and will remain the same in the future conditions with development. The proposed site entrances will accommodate the site generated trips. The site generated trips will have a negligible effect on all intersection levels of service. Since the unit count for the proposed development has since been decreased by 48 units, the already negligible effect would be even less than that presented in this analysis.

1. INTRODUCTION

1.1 PROJECT DESCRIPTION

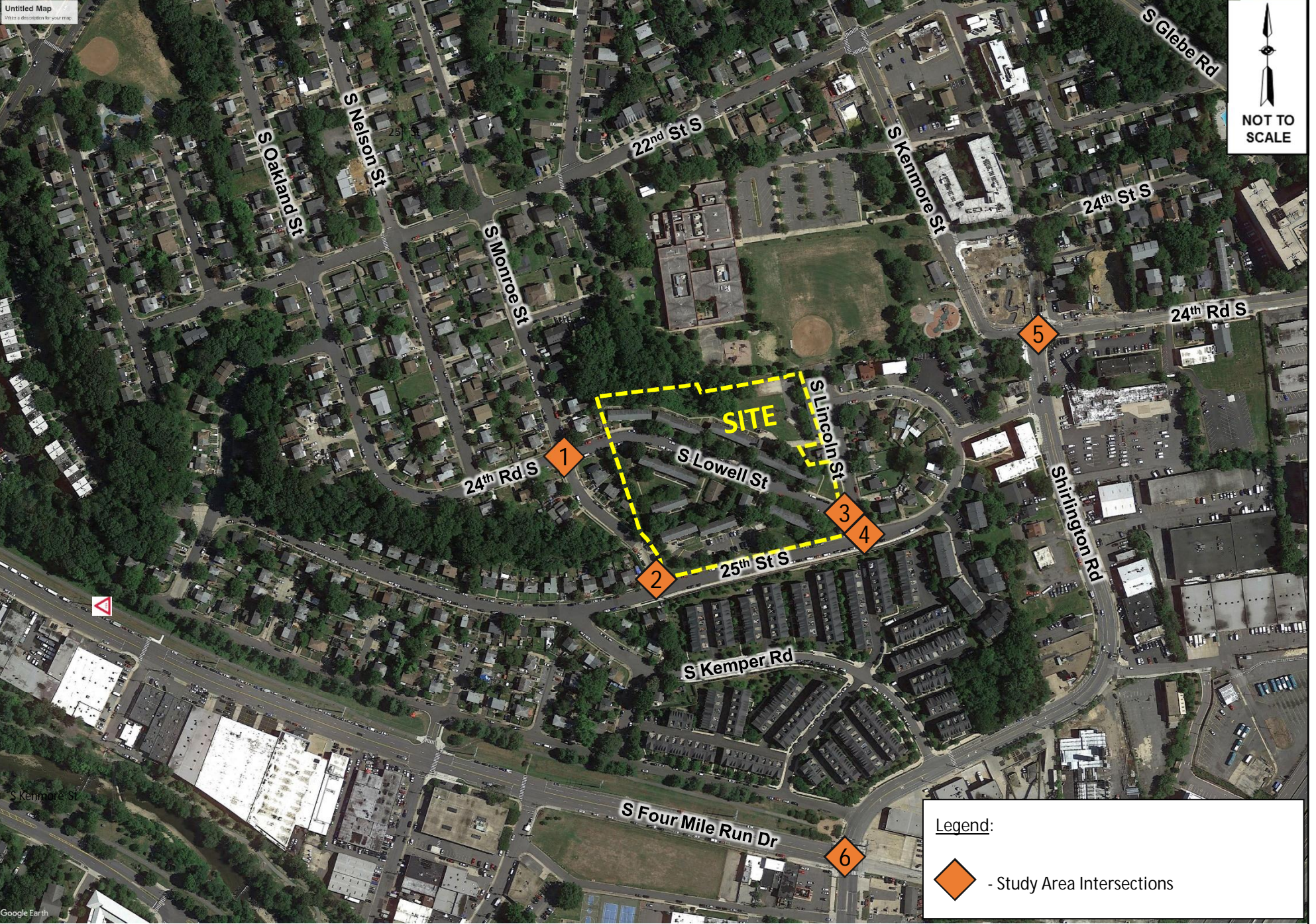
This report presents the results of a multimodal transportation study for the proposed development of the Fort Henry Garden Apartments at 2409 South Lowell Street in Arlington, Virginia. The site is located in the Nauck neighborhood of South Arlington, on the northwest corner of 25th Street South and South Lincoln Street. The proposed development consists of the conversion of 82 existing garden style apartments into 348 affordable apartment units. These apartments are spread amongst four buildings and vary from one to three bedrooms. The site is zoned RA 14-26, an Apartment Dwelling District, and is requesting a rezoning to RA 8-18. The study area, site location, and study intersections are shown on a map in **Figure 1-1** and a site plan graphic is included in the **Appendix A**.

1.2 METHODOLOGY

This multimodal transportation study has been prepared in accordance with Arlington County's Comprehensive and Master Transportation Plans. These policies provide technical procedures to analyze and report the effects of new development on transportation facilities in Arlington County. Per the guidelines, a scoping agreement was prepared with the assistance of the Arlington County DES staff. A copy of the signed scoping agreement form is included in the **Appendix B**.

Per the scoping agreement, the following methodology was used in the preparation of this study:

- Traffic volume forecasts and capacity analyses were conducted for the weekday AM and PM peak hours.
- Intersection capacity analyses were based on the Highway Capacity Manual (using the Synchro 10 software package).
- ITE Trip Generation Manual, 10th edition was used to calculate site generated trips. Land use code 221, mid-rise multifamily housing, was used in these calculations.
- 2024 was identified as the development horizon year.
- A 0.5% annual linear growth rate was agreed upon for through trips on Shirlington Road to grow existing count data to future conditions traffic. All other traffic volumes will remain stagnant.
- Arlington County noted that there are no planned developments or transportation improvements near the site, as well as no external factors that would affect the project.
- Traffic generated by the use of the existing residential units was included in the calculation of the future traffic without development. These trips were removed from the calculation of the future traffic with development.
- Trip distribution was based on surrounding land use, population density, and access to local and regional roadways.
- No pass-by trips were assumed.
- A mode split reduction of 37% was agreed upon, developed using the Multimodal Transportation Assessments (MMTA) Mode Share Assumptions Summary for S Arlington/Shirlington, Arlington Commuter Mode Share Data, transit access in proximity to the site, as well as site walk, bike and transit scores.
- The traffic signal timings were obtained from Arlington County.



2. EXISTING CONDITIONS

2.1 OVERVIEW

This chapter of the report examines the existing multimodal transportation conditions in the project study area. Included are descriptions of the existing transportation network, transit operations, and pedestrian/bicycle amenities.

2.2 STREET NETWORK

The existing street network examined as part of this study includes all roadways within 1/8-mile of the proposed building. Two signalized and four unsignalized intersections represent the existing study area. The following is a brief description of the surrounding street network, study intersections, and intersection operations.

STUDY AREA STREETS

South Kenmore Street is a north-south urban major collector west of Shirlington Road and terminating at South Walter Reed Drive. East of Shirlington Road, South Kenmore Street turns into 24th Road South. The collector is located in the Nauck neighborhood of South Arlington and has a two-lane undivided cross-section with on-street parking on one or more sides. It is designated as an on-street bicycle route by Arlington County and the posted speed limit is 25 miles per hour (mph).

Shirlington Road is a north-south urban major collector that forms the border between Arlington County and the City of Alexandria, connecting South Glebe Road to Interstate 395 (I-395). North of South Kenmore Street, Shirlington Road has a two-lane undivided cross-section with on-street parking on the east side and shared lane markings (“sharrows”) for bicyclists on either side of the street. South of South Kenmore Street, Shirlington Road has a three-lane undivided cross-section with on-street parking on the west side and designated bike lanes on either side of the street. The posted speed limit is 25 mph.

South Four Mile Run Drive (North) is an east-west local roadway that connects Shirlington Road in the east with South Oxford Street in the west. South Four Mile Run Drive has a two-lane undivided cross-section and accommodates on-street parking on one or both sides. It runs directly parallel and to the north of the eastern terminus of the minor arterial also named South Four Mile Run Drive. The posted speed limit is 25 miles per hour (mph).

South Four Mile Run Drive (South) is an east-west urban minor arterial that connects Shirlington Road with Columbia Pike. South Four Mile Run Drive has a four-lane undivided cross-section and accommodates some on-street parking on one or both sides. The posted speed limit is 30 mph.

South Monroe Street is a north-south local roadway north of South Four Mile Run Drive and south of 6th Street South. Alcova Heights and Nauck neighborhoods are connected by South Monroe Street. The local roadway has a two-lane undivided cross-section and accommodates on-street parking on one or both sides. The posted speed limit is 25 mph.

South Kemper Road is an east-west local roadway that connects Shirlington Road in the east with South Oxford Street in the west. South Kemper Road has a two-lane undivided cross-section and accommodates on-street parking on one or both sides. The posted speed limit is 25 mph.

South Lowell Street is a northeast-southwest local roadway west of South Lincoln Street and terminating at South Monroe Street. West of South Monroe Street, South Lowell Street turns into 24th Road South. It has a two-lane undivided cross-section and accommodates on-street parking on one or both sides. The posted speed limit is 25 mph.

South Lincoln Street is a north-south local roadway that connects 25th Street South with the one-way South Kenwood Street in the north. North of South Kenwood Street, South Lincoln Street terminates at the Elementary School field. It has a two-lane undivided cross-section and accommodates on-street parking on one or both sides. The posted speed limit is 25 mph.

24th Road South is an east-west local roadway that connects South Glebe Road in the east with Shirlington Road, splits and connects South Monroe Street to where it turns into South Oakland Street in the west. 24th Road South has a two-lane undivided cross-section and accommodates on-street parking on one or both sides. The posted speed limit is 25 mph.

25th Street South is an east-west local roadway west of South Kenwood Street and terminating at South Kemper Road. West of South Kemper Road, 25th Street South turns into South Kemper Road. It has a two-lane undivided cross-section and accommodates on-street parking on one or both sides. The posted speed limit is 25 mph.

STUDY INTERSECTIONS

The vehicular impacts of the proposed development were studied at the following existing intersections:

1. South Monroe Street and 24th Road South/South Lowell Street
2. South Monroe Street and 25th Street South
3. South Lincoln Street and South Lowell Street
4. South Lincoln Street and 25th Street South
5. Shirlington Road and 24th Road South/South Kenmore Street
6. Shirlington Road and South Four Mile Run Drive

Each of these study intersections are unsignalized, except for the two along Shirlington Road. Where lane use markings or signs are not provided, the lane designations used in this report represent lane designations from Synchro files provided by the County. The existing lane uses at the study intersections are shown on **Figure 2-1**.

2.3 TRANSIT NETWORK

The project study area is directly served by local and express bus services. The study area is also indirectly served by Metrorail and Virginia Railway Express. The existing transit facilities are shown on **Figure 2-2** and described in the following section:

Metrobus

There are Metrobus stops along South Kenmore Street and Shirlington Road, within 1/8-mile of the proposed development. Of the six bus stops in our study area, three have shelters and seating areas provided for passengers. These stops serve routes 10B, 23A, 23B and 23T, which provide service to Metrorail lines and the Virginia Railway Express. A summary of these routes is described below:

Metrobus Route 10B connects passengers from Huntington Point in Alexandria to Ballston Station in Arlington. It provides daily service approximately every 30 minutes between 4:45am and 1:30am,

with limited service on Sundays and holidays. Access to the Orange and Silver Metrorail lines is available at Ballston Station.

The McLean-Crystal City Line (Routes 23A, 23B and 23T) connects passengers from Tysons Corner Shopping Center to Crystal City Station. Line A runs the full route, but only operates during late nights on weekdays and early mornings on weekends. Lines B and T provide daily service approximately every 30 minutes between Ballston Station and Crystal City Station and between Tysons Corner Shopping Center and Shirlington Transit Center, respectively. Access to the Blue and Yellow Metrorail lines, as well as the Virginia Railway Express, is available at Crystal City Station.

Arlington Transit

There are Arlington Transit (ART) bus stops along 22nd Street South, South Kenmore Street, Shirlington Road and South Four Mile Run Drive, within 1/8-mile of the proposed development. Of the 14 bus stops in the study area, three have shelters and seating areas provided for passengers. These stops serve routes 75, 84 and 87, which provide service to Metrorail stations. A summary of these routes is described below:

ART 75 operates between Shirlington Transit Center and Virginia Square Metro Station with stops in Ballston and Columbia Pike. It runs approximately every 30 minutes between 6:00am and 10:00pm on weekdays and does not provide service on weekends or holidays. This route stops at the study intersection of Shirlington Road and South Four Mile Run Drive. Access to the Orange and Silver Metrorail lines is available at Virginia Square Metro Station.

ART 84 operates between the Douglas Park and Nauck neighborhoods and the Pentagon City Metro Station. It runs approximately every 30 minutes between 6:00 and 9:30am and between 3:30 and 7:45pm, during the respective AM and PM rush hours. It does not provide service on weekends or holidays. Access to the Blue and Yellow Metrorail lines is available at the Pentagon City Metro Station.

ART 87 operates between Shirlington Transit Center and the Pentagon City Metro Station. It runs approximately every 30 minutes between 6:00am and 11:30pm on weekdays. It runs every 30 minutes between 7:00am and 12:00am and between 7:00am and 7:00pm on Saturdays and Sundays, respectively. It provides limited service on holidays. Access to the Blue and Yellow Metrorail lines is available at the Pentagon City Metro Station.



Existing Lane Designations

Fort Henry Garden Apartments, 2470 S Lowell St, Arlington, VA 22206



Figure 2-2: Existing Transit Service

2.4 EXISTING PEDESTRIAN AND BICYCLE MOBILITY

There are numerous existing pedestrian and bicycle facilities located in the study area. A summary of these facilities is described below.

PEDESTRIAN NETWORK

Pedestrian facilities include sidewalks, crosswalks, pedestrian signals, and pedestrian push buttons. There are sidewalks along most streets in the study area. **Table 2-1** summarizes the pedestrian amenities at the study area intersections.

Table 2-1: Study Area Pedestrian Facilities

Study Intersection	Sidewalk	Crosswalk	Pedestrian Signals	ADA Pedestrian Push Buttons	ADA Ramps
1. S Monroe St & 24 th Rd S/S Lowell St	All legs	No legs	N/A	N/A	Non-compliant ramps on all corners
2. S Monroe St & 25 th St S	All legs, except along the north side of the East leg and east side of the North leg	No legs	N/A	N/A	Non-compliant ramp on northwest corner and no ramp on northeast corner
3. S Lincoln St & S Lowell St	All legs	No legs	N/A	N/A	All corners
4. S Lincoln St & 25 th St S	All legs, except along the north side of the West leg	No legs	N/A	N/A	All corners
5. Shirlington Rd & 24 th Rd S/S Kenmore St	All legs	All legs	All legs	All legs	All corners
6. Shirlington Rd & S Four Mile Run Dr	All legs, except along the north side of the West leg	All legs	All legs	All legs	All corners

BICYCLE NETWORK

On-street facilities include bike lanes, signed bike routes, and lanes with shared markings (“sharrows”). Off-street facilities include side paths, cycle tracks, and other facilities that follow the alignment of a street and trails that are separated from a street. Within the study area, South Kenmore Street is designated an on-street bicycle route. South of South Kenmore Street, this route connects with designated bike lanes along Shirlington Road in both directions. North of South Kenmore Street, Shirlington Road provides sharrows for bicyclists. Additionally, the Washington and Old Dominion (W&OD) Trail, part of the Arlington Loop, is located to the south of the site. It runs parallel to South Four Mile Run Drive within the study area and provides a paved trail for pedestrians and bicyclists.

There are also two Capital Bikeshare stations located in the study area. The stations are located at the unsignalized intersections of South Four Mile Run Drive with Shirlington Road and South Kenmore Street with 24th Street South.

Pedestrian and bicycle facilities are shown in **Figure 2-3**.

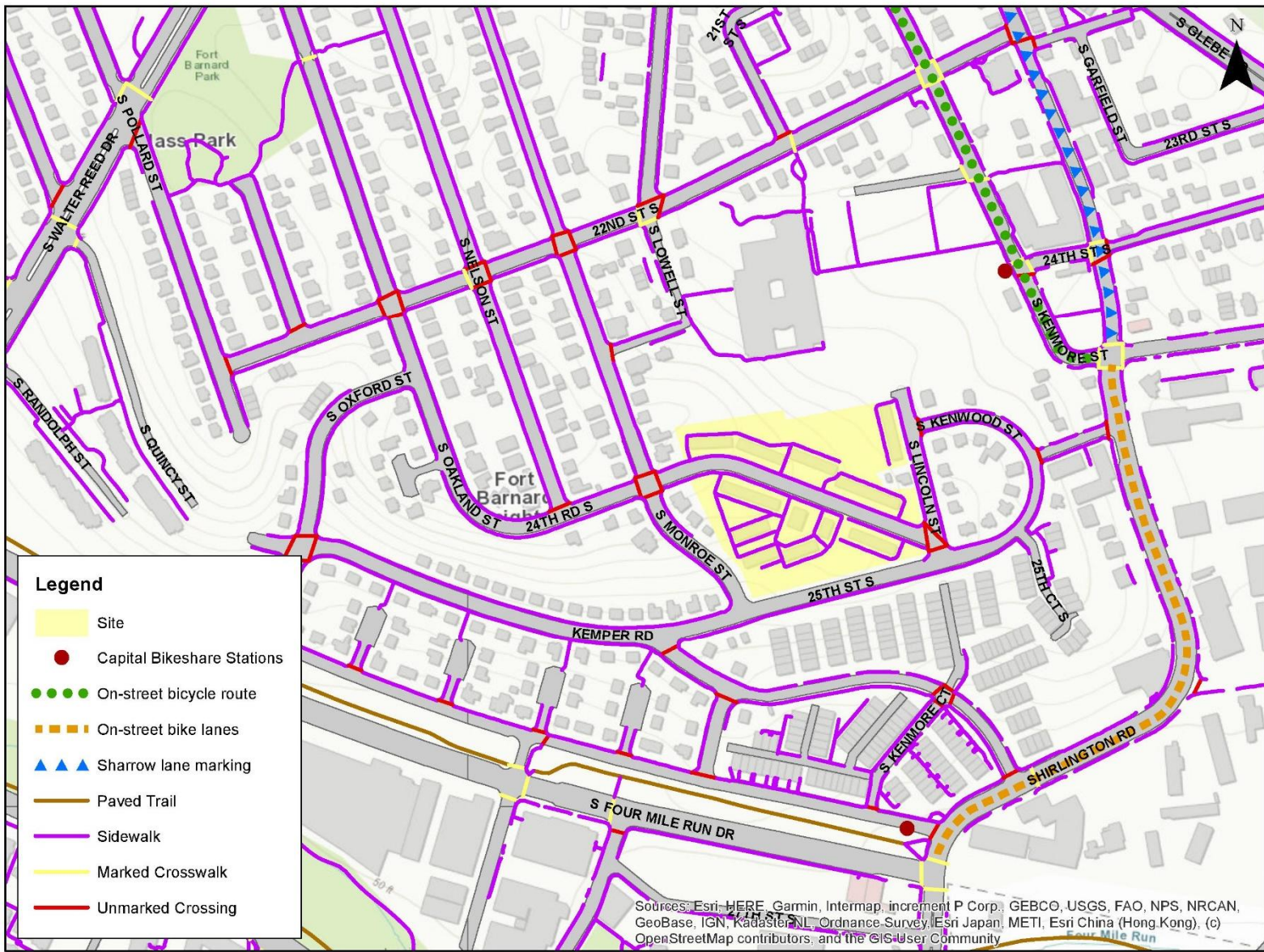


Figure 2-3: Pedestrian and Bicycle Facilities

2.5 EXISTING TRAFFIC VOLUMES

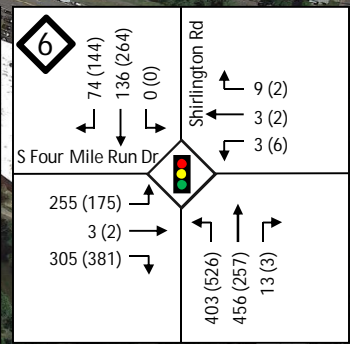
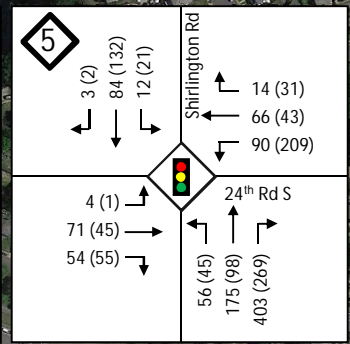
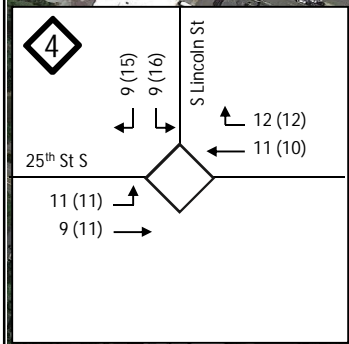
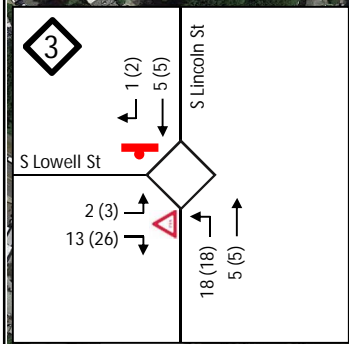
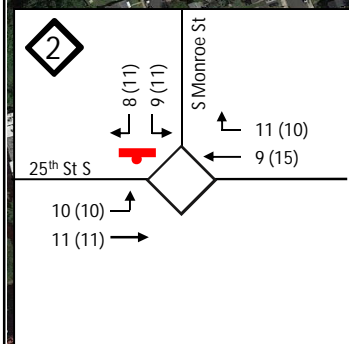
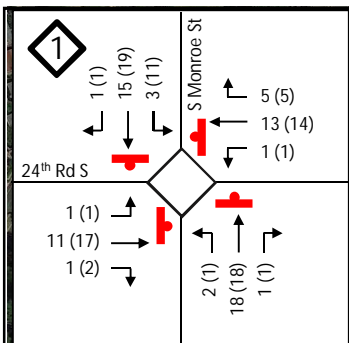
To assess existing traffic conditions at the study intersections during the Covid-19 pandemic, traffic counts were provided by Arlington County at the signalized intersections of Shirlington Road with South Kenmore Street/24th Road South and Shirlington Road with South Four Mile Run Drive. These traffic counts were previously conducted on Tuesday, March 12 and Thursday, March 14, 2019, respectively, between the hours of 6:30 AM to 9:30 AM and 4:30 PM to 7:30 PM. These counts were used to establish a network peak hour by identifying the peak 60 minutes of traffic over the entire study area during the weekday AM and PM peak hours. The network peak hours of the study area were identified as 7:45 AM to 8:45 AM for the AM peak period and 5:30 PM to 6:30 PM for the PM peak period. Arlington County also provided 24-hour counts for South Lowell Street and South Monroe Street. These were used to estimate existing peak hour volumes at the surrounding unsignalized study intersections. Estimated existing traffic volumes were approved by Arlington County staff prior to proceeding with analysis. The weekday AM and PM peak hour turning movement counts are summarized in **Figure 2-4**. The traffic, pedestrian, and bicycle counts are contained in **Appendix C**.

EXISTING INTERSECTION CAPACITY ANALYSIS

Intersection capacity analyses were conducted using the existing AM and PM peak hour turning movement volumes at the study intersections. The capacity analyses were conducted using Synchro and based on methodologies contained in the Highway Capacity Manual, 2000 Edition (HCM) for signalized and unsignalized intersections. According to the HCM, capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a fixed time duration. Operational conditions are described by a level of service (LOS), which is a qualitative measure that describes the operational conditions of an intersection or street and is an indicator of motorist perceptions within a traffic stream. The HCM defines six levels of service, LOS A through F, with A as the best and F as the worst. **Table 2-2** shows the level of service delay per vehicle for signalized and unsignalized intersections. Arlington County does not maintain a minimum LOS standard. In most urban areas, LOS D and E are considered acceptable conditions.

Level of Service (LOS)	Delay per Vehicle (seconds)	
	Signalized intersection	Unsignalized Intersection
A	≤ 10	≤ 10
B	> 10 - 20	> 10 – 15
C	> 20 - 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

Source: Highway Capacity Manual, 2000 Edition



Legend:

XX(X) - AM (PM) Directional Tube Counts

XX(X) - AM(PM) Peak Hour Traffic Volume

The analysis of existing conditions was based on the existing peak hour turning movement volumes, number of lanes, peak hour factors, and traffic control and signal timing at the study intersections. Results of the intersection capacity analyses are summarized in **Table 2-3**. Existing conditions Synchro HCM reports are provided in Appendix D.

Table 2-3: Existing Capacity Analysis

Intersection	Mvmt	AM Peak		PM Peak	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. South Monroe Street at South Lowell Street/24th Road South (Unsignalized)					
Eastbound (24th Rd S)	LTR	9.2	A	9.4	A
Westbound (S Lowell St)	LTR	9.1	A	9.2	A
Northbound (S Monroe St)	LTR	0.6	A	0.3	A
Southbound (S Monroe St)	LTR	1.1	A	2.6	A
Overall Intersection		4.5	A	5.0	A
2. 25th Street South at South Monroe Street (Unsignalized)					
Eastbound (25th St S)	TR	3.5	A	3.5	A
Westbound (25th St S)	LT	0.0	A	0.0	A
Southbound (S Monroe St)	LR	8.6	A	8.7	A
Overall Intersection		3.8	A	3.9	A
3. South Lincoln Street at South Lowell Street (Unsignalized)					
Eastbound (S Lowell St)	LR	6.5	A	6.6	A
Northbound (S Lincoln St)	LT	7.2	A	7.2	A
Southbound (S Lincoln St)	TR	6.9	A	6.8	A
Overall Intersection		6.9	A	6.9	A
4. South Lincoln Street at South Kenwood Street/25th Street South (Unsignalized)					
Eastbound (25th St S)	LT	4.0	A	3.7	A
Westbound (S Kenwood St)	TR	0.0	A	0.0	A
Southbound (S Lincoln St)	LR	8.6	A	8.7	A
Overall Intersection		3.9	A	4.6	A
5. Shirlington Road at South Kenmore Street/24th Road South (Signalized)					
Eastbound (S Kenmore St)	LTR	11.0	B	7.4	A
	<i>Approach</i>	11.0	<i>B</i>	7.4	<i>A</i>
Westbound (24th Rd S)	LTR	13.7	B	11.1	B
	<i>Approach</i>	13.7	<i>B</i>	11.1	<i>B</i>
Northbound (Shirlington Rd)	LT	7.4	A	10.8	B

Intersection	Mvmt	AM Peak		PM Peak	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
	R	7.0	A	9.9	A
	<i>Approach</i>	7.2	A	10.2	B
Southbound (Shirlington Rd)	LTR	6.4	A	10.4	B
	<i>Approach</i>	6.4	A	10.4	B
Overall Intersection		8.7	A	10.2	B
6. Shirlington Road at South Four Mile Run Drive (Signalized)					
Eastbound (S Four Mile Run Dr)	LT	67.4	E	71.3	E
	R	16.0	B	23.5	C
	<i>Approach</i>	39.5	D	38.7	D
Westbound (S Four Mile Run Dr)	LTR	38.2	D	46.3	D
	<i>Approach</i>	38.2	D	46.3	D
Northbound (Shirlington Rd)	L	15.9	B	15.2	B
	TR	14.7	B	7.2	A
	<i>Approach</i>	15.2	B	12.5	B
Southbound (Shirlington Rd)	LTR	40.2	D	35.0	C
	<i>Approach</i>	40.2	D	35.0	C
Overall Intersection		26.8	C	26.2	C

These capacity analysis results show that under existing conditions, all study intersections operate at an overall LOS C or better during the AM and PM peak hours. Approaches at the study area intersections operate at LOS D or better during the AM and PM peak hours, except for the following:

1. Eastbound South Four Mile Run Drive shared left-turn/through approach at Shirlington Road, which operates at LOS E in the AM and PM peaks.

3. FUTURE CONDITIONS WITHOUT DEVELOPMENT

This chapter examines future year conditions without the proposed Fort Henry Garden Apartments redevelopment. Included in this chapter are future traffic volumes and future traffic analysis results without the development. This study analyzes conditions in the year 2024 (the build-out year of the proposed Fort Henry Garden Apartments development). The future roadway and transit networks are not expected to change in 2024.

Future weekday AM and PM peak hour turning movement volumes without development are the traffic volumes that will travel through the study area intersections without the proposed development in 2024. Future traffic volumes without development are anticipated to remain relatively the same within the residential neighborhood, but Arlington County indicated that, due to general regional traffic growth, an annual vehicle growth rate should be applied to through trips along Shirlington Road (0.5% per year). Arlington County also indicated that there are no external factors noted that would affect the proposed development including no other planned developments or transportation improvements in the vicinity of the site.

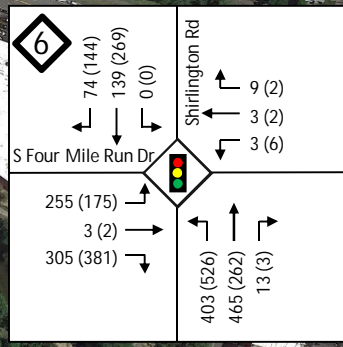
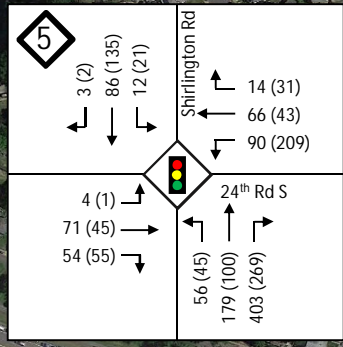
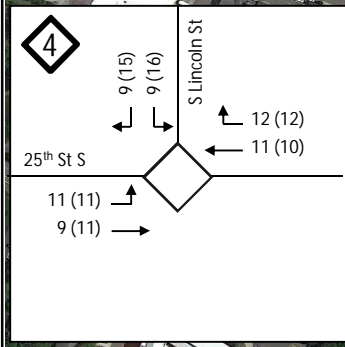
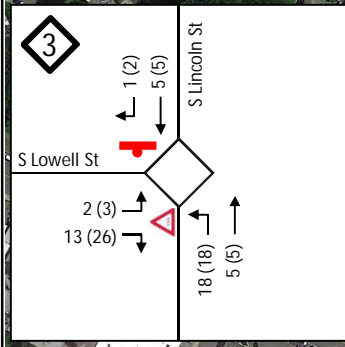
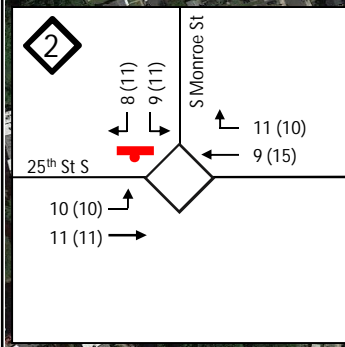
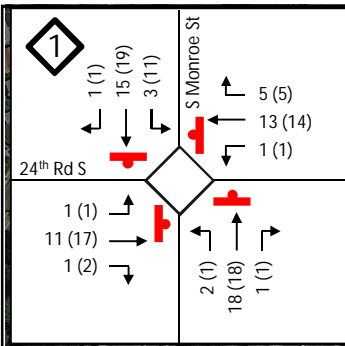
3.1 FUTURE WITHOUT DEVELOPMENT TRAFFIC VOLUMES

The future peak hour turning movement volumes without the Fort Henry Garden Apartments redevelopment were calculated by factoring the existing traffic volumes to the year 2024 using the previously mentioned growth rate of 0.5% on through movements along Shirlington Road. The resulting peak hour turning movement volumes at the study area intersections are shown in **Figure 3-1**.

FUTURE WITHOUT DEVELOPMENT INTERSECTION CAPACITY ANALYSES

The analysis of future conditions without development was based on the future turning movement volumes shown in **Figure 3-1**. Pedestrian and bicycle volumes are the same as those used for the existing conditions analysis. Existing traffic signal operations and timings were assumed, which were received from Arlington County.

Level of service results of this analysis are summarized in **Table 3-1**. The Synchro HCM reports for the future conditions without development are provided in **Appendix D**.



Legend:
 XX(XX) - AM(PM) Peak Hour Traffic Volume

Table 3-1: Future Without Development Capacity Analysis

Intersection	Mvmt	2020 Existing Conditions				2024 Future without Development Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. South Monroe Street at South Lowell Street/24th Road South (Unsignalized)									
Eastbound (24th Rd S)	LTR	9.2	A	9.4	A	9.2	A	9.4	A
Westbound (S Lowell St)	LTR	9.1	A	9.2	A	9.1	A	9.2	A
Northbound (S Monroe St)	LTR	0.6	A	0.3	A	0.6	A	0.3	A
Southbound (S Monroe St)	LTR	1.1	A	2.6	A	1.1	A	2.6	A
Overall Intersection		4.5	A	5.0	A	4.5	A	5.0	A
2. 25th Street South at South Monroe Street (Unsignalized)									
Eastbound (25th St S)	TR	3.5	A	3.5	A	3.5	A	3.5	A
Westbound (25th St S)	LT	0.0	A	0.0	A	0.0	A	0.0	A
Southbound (S Monroe St)	LR	8.6	A	8.7	A	8.6	A	8.7	A
Overall Intersection		3.8	A	3.9	A	3.8	A	3.9	A
3. South Lincoln Street at South Lowell Street (Unsignalized)									
Eastbound (S Lowell St)	LR	6.5	A	6.6	A	6.5	A	6.6	A
Northbound (S Lincoln St)	LT	7.2	A	7.2	A	7.2	A	7.2	A
Southbound (S Lincoln St)	TR	6.9	A	6.8	A	6.9	A	6.8	A
Overall Intersection		6.9	A	6.9	A	6.9	A	6.9	A
4. South Lincoln Street at South Kenwood Street/25th Street South (Unsignalized)									
Eastbound (25th St S)	LT	4.0	A	3.7	A	4.0	A	3.7	A
Westbound (S Kenwood St)	TR	0.0	A	0.0	A	0.0	A	0.0	A
Southbound (S Lincoln St)	LR	8.6	A	8.7	A	8.6	A	8.7	A
Overall Intersection		3.9	A	4.6	A	3.9	A	4.6	A
5. Shirlington Road at South Kenmore Street/24th Road South (Signalized)									
Eastbound (S Kenmore St)	LTR	11.0	B	7.4	A	10.9	B	7.4	A
	Approach	11.0	B	7.4	A	10.9	B	7.4	A
Westbound (24th Rd S)	LTR	13.7	B	11.1	B	13.5	B	10.6	B
	Approach	13.7	B	11.1	B	13.5	B	10.6	B
Northbound (Shirlington Rd)	LT	7.4	A	10.8	B	7.4	A	10.4	B
	R	7.0	A	9.9	A	7.0	A	9.6	A
	Approach	7.2	A	10.2	B	7.1	A	9.9	A

Intersection	Mvmt	2020 Existing Conditions				2024 Future without Development Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Southbound (Shirlington Rd)	LTR	6.4	A	10.4	B	6.3	A	10.1	B
	Approach	6.4	A	10.4	B	6.3	A	10.1	B
Overall Intersection		8.7	A	10.2	B	8.6	A	9.9	A
6. Shirlington Road at South Four Mile Run Drive (Signalized)									
Eastbound (S Four Mile Run Dr)	LT	67.4	E	71.3	E	67.5	E	71.1	E
	R	16.0	B	23.5	C	16.1	B	23.3	C
	Approach	39.5	D	38.7	D	39.6	D	38.4	D
Westbound (S Four Mile Run Dr)	LTR	38.2	D	46.3	D	38.5	D	45.5	D
	Approach	38.2	D	46.3	D	38.5	D	45.5	D
Northbound (Shirlington Rd)	L	15.9	B	15.2	B	15.6	B	17.5	B
	TR	14.7	B	7.2	A	14.6	B	7.7	A
	Approach	15.2	B	12.5	B	15.0	B	14.2	B
Southbound (Shirlington Rd)	LTR	40.2	D	35.0	C	40.0	D	36.2	D
	Approach	40.2	D	35.0	C	40.0	D	36.2	D
Overall Intersection		26.8	C	26.2	C	26.7	C	27.1	C

The capacity analysis of the future conditions with background developments without the site development show that all study intersections continue to operate at an overall LOS C or better during the AM and PM peak hours.

The level of service at most movements remain the same as under existing conditions, with the exception of the following:

1. Southbound left-through-right from Shirlington Road at South Four Mile Run Drive increases in delay from LOS C to LOS D in the PM peak.

4. FUTURE CONDITIONS WITH DEVELOPMENT

This chapter examines future year conditions with the proposed Fort Henry Garden Apartments redevelopment. Included in this chapter are the trip generation, distribution, and assignment for the proposed site, and future traffic volumes and traffic analysis results with the development.

4.1 SITE ACCESS

Site access is proposed to remain at three full-movement driveways along South Monroe Street, South Lowell Street, and South Lincoln Street, which connect to the existing parking/drive aisles within the apartment complex.

4.2 SITE TRIP GENERATION

Trip generation rates for the proposed development were obtained from the Institute of Transportation Engineer's (ITE) publication Trip Generation Manual, 10th Edition. Land use categories and descriptions were reviewed from this manual to determine which category has comparable characteristics and traffic patterns as the proposed Fort Henry Garden Apartments development. After careful review, land use code 221, mid-rise apartments, was selected for trip generation calculations. Trip generation calculations for the 82 existing residential units were completed using land use code 220, low-rise apartments. These trips were removed from the proposed Fort Henry Gardens generated trips in order to show the net change in the number of site generated trips. A mode split of 37% was then applied to account for the proportion of travelers that would use other modes of transportation than driving alone. This included 30 percent using transit, 5 percent biking and 2 percent walking. The total net site generated vehicular trips include the proposed development, credit for the existing site traffic, and the mode split. **Table 4-1** shows the proposed, existing, and net site generated trips.

Table 4-1: Site Trip Generation

ITE Code	Land Use	Density		Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Existing Trip Credit										
220	Multifamily Housing (Low-Rise)	82	d.u.	-579	-9	-31	-40	-31	-19	-50
Proposed Development										
221	Multifamily Housing (Mid-Rise)	348	d.u.	1,895	30	86	116	89	58	147
Net New Site Trips*				1,316	21	55	76	58	39	97
Mode Split										
	<i>Auto (63%)</i>			829	13	35	48	37	25	61
	<i>Transit (30%)</i>			395	6	17	23	17	12	29
	<i>Bike (5%)</i>			66	1	3	4	3	2	5
	<i>Walk (2%)</i>			26	1	0	1	1	0	2
Net New Vehicular Trips				829	13	35	48	37	25	61

* Note: Trip generation was based on ITE Trip Generation 10th Edition for vehicle trips in urban/suburban setting. For this setting in ITE, it is assumed vehicle trips are essentially equal to person trips. The ITE trip generation was then distributed by the proposed mode split to calculate project-specific multimodal trip generation for this location in Arlington County.

Since the development of this trip generation and resulting analysis, the proposed unit count was reduced to 300, resulting in 10 fewer vehicle trips in the AM peak hour and 12 fewer vehicle trips in the PM peak hour.

4.3 TRIP DISTRIBUTION

The AM and PM peak hour auto trips generated by the multi-family housing development were assigned to the study area streets based on surrounding land uses, population density, and access to local and regional roadways. The resulting distribution of site generated auto trips is summarized in **Table 4-2** and are shown in **Figure 4-1**.

Table 4-2: Trip Distribution of Site Generated Traffic

Direction	Percentage Trips
To/From the North on South Oakland Street	10%
To/From the North on South Monroe Street	15%
To/From the North on Shirlington Road	20%
To/From the East on 24 th Road South	25%
To/From the South on Shirlington Road	25%
To/From the West on South Four Mile Run Drive	5%

4.4 TRIP ASSIGNMENT

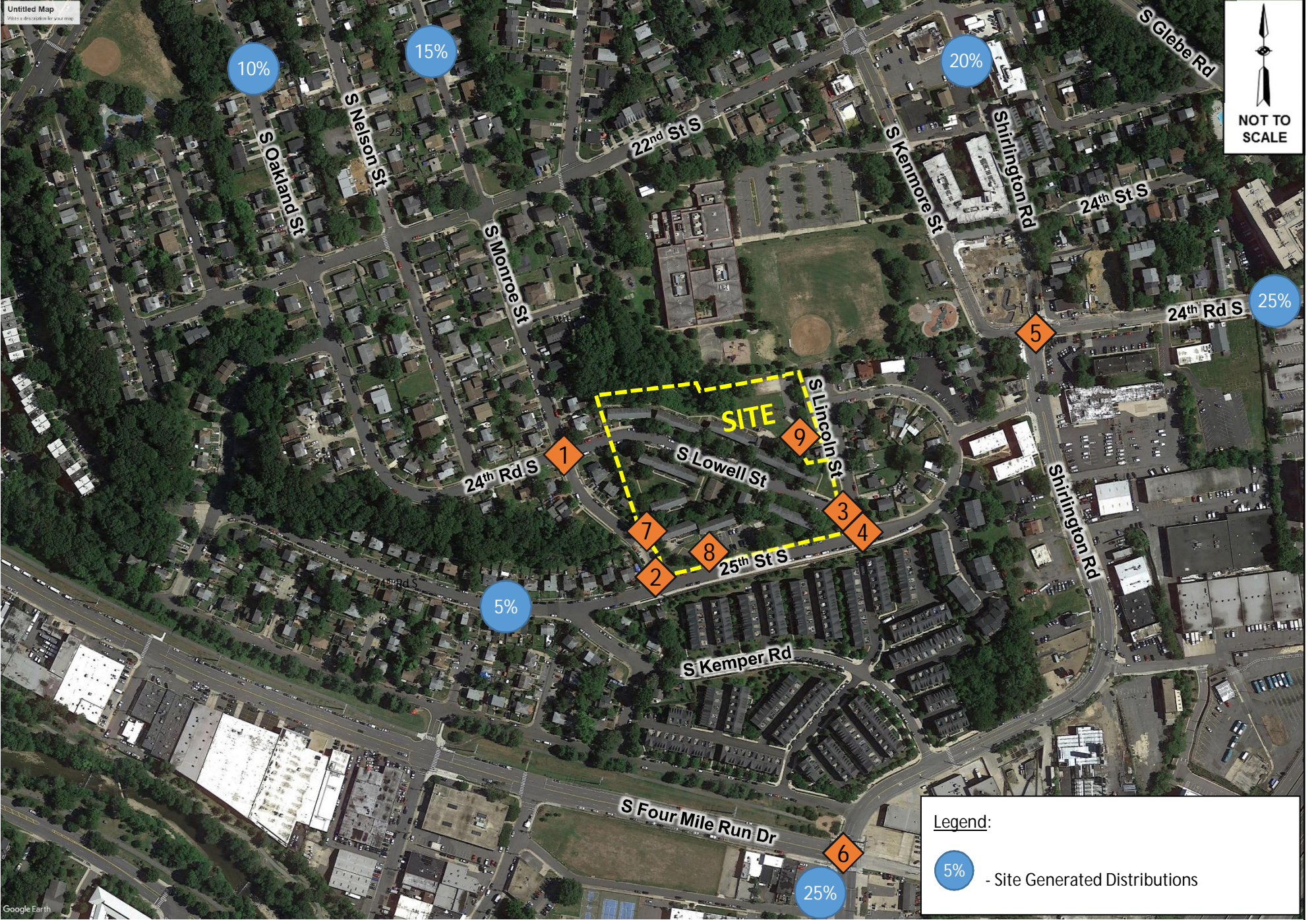
The site generated auto trips for this study were assigned to the study area intersections according to the distributions shown in **Table 4-2** and **Figure 4-1**. The net new site generated peak hour volumes are shown in **Figure 4-2**.

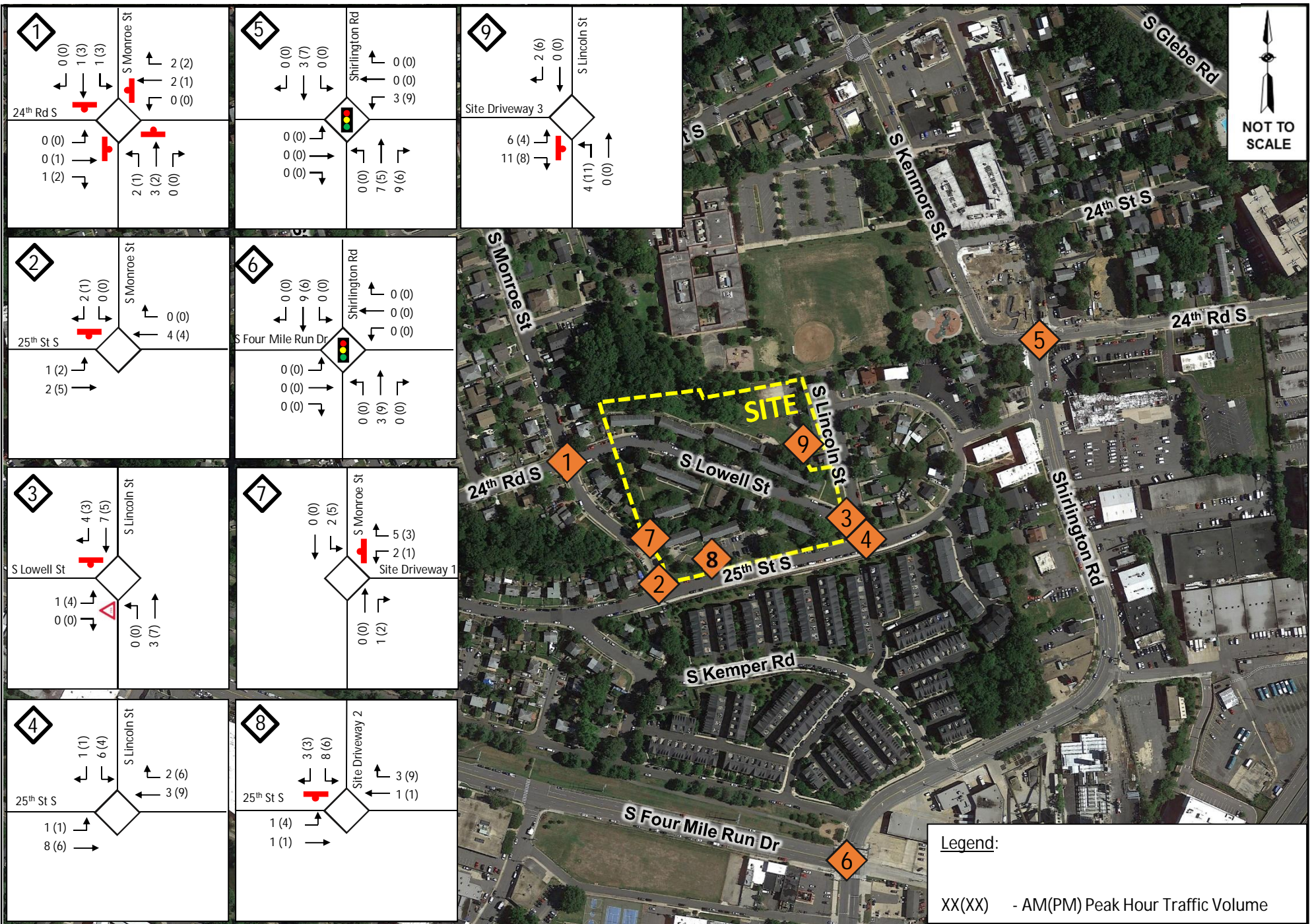
4.5 TOTAL FUTURE WITH DEVELOPMENT TRAFFIC VOLUMES

The total future peak hour traffic volumes with development were calculated by starting with the future volumes without development and adding the net new site generated auto trips. The resulting total future peak hour traffic volumes with development are shown on **Figure 4-3**.

FUTURE WITH DEVELOPMENT INTERSECTION CAPACITY ANALYSES

Capacity analyses were performed for total future traffic volumes with development. The analyses were also based on future geometry, traffic control, and signal timing at the study intersections. Results of the intersection capacity analyses are summarized in **Table 4-3**. Future with Development Conditions Synchro HCM reports are provided in **Appendix D**.





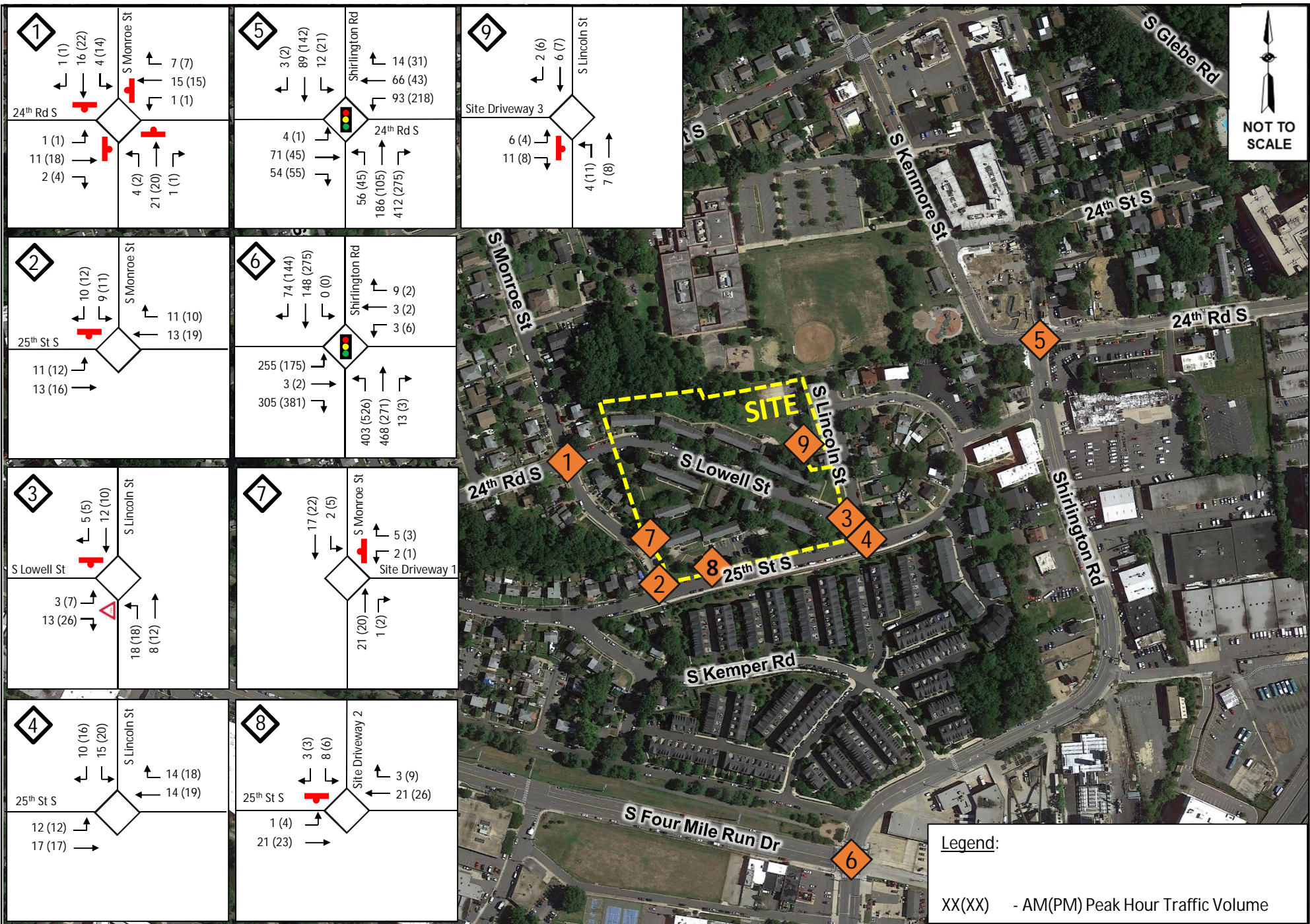


Table 4-3: 2024 Future with Development Conditions Capacity Analysis

Intersection	Mvmt	2020 Existing Conditions				2024 Future without Development Conditions				2024 Future with Development Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. South Monroe Street at South Lowell Street/24th Road South (Unsignalized)													
Eastbound (24th Rd S)	LTR	9.2	A	9.4	A	9.2	A	9.4	A	9.2	A	9.4	A
Westbound (S Lowell St)	LTR	9.1	A	9.2	A	9.1	A	9.2	A	9.1	A	9.2	A
Northbound (S Monroe St)	LTR	0.6	A	0.3	A	0.6	A	0.3	A	1.0	A	0.6	A
Southbound (S Monroe St)	LTR	1.1	A	2.6	A	1.1	A	2.6	A	1.3	A	2.8	A
Overall Intersection		4.5	A	5.0	A	4.5	A	5.0	A	4.7	A	5.1	A
2. 25th Street South at South Monroe Street (Unsignalized)													
Eastbound (25th St S)	TR	3.5	A	3.5	A	3.5	A	3.5	A	3.4	A	3.2	A
Westbound (25th St S)	LT	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Southbound (S Monroe St)	LR	8.6	A	8.7	A	8.6	A	8.7	A	8.7	A	8.7	A
Overall Intersection		3.8	A	3.9	A	3.8	A	3.9	A	3.7	A	3.6	A
3. South Lincoln Street at South Lowell Street (Unsignalized)													
Eastbound (S Lowell St)	LR	6.5	A	6.6	A	6.5	A	6.6	A	6.6	A	6.7	A
Northbound (S Lincoln St)	LT	7.2	A	7.2	A	7.2	A	7.2	A	7.2	A	7.3	A
Southbound (S Lincoln St)	TR	6.9	A	6.8	A	6.9	A	6.8	A	6.9	A	6.9	A
Overall Intersection		6.9	A	6.9	A	6.9	A	6.9	A	7.0	A	7.0	A
4. South Lincoln Street at South Kenwood Street/25th Street South (Unsignalized)													
Eastbound (25th St S)	LT	4.0	A	3.7	A	4.0	A	3.7	A	3.1	A	3.1	A
Westbound (S Kenwood St)	TR	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Southbound (S Lincoln St)	LR	8.6	A	8.7	A	8.6	A	8.7	A	8.8	A	8.8	A
Overall Intersection		3.9	A	4.6	A	3.9	A	4.6	A	3.8	A	4.0	A
5. Shirlington Road at South Kenmore Street/24th Road South (Signalized)													
Eastbound (S Kenmore St)	LTR	11.0	B	7.4	A	10.9	B	7.4	A	11.1	B	7.3	A
	Approach	11.0	B	7.4	A	10.9	B	7.4	A	11.1	B	7.3	A
Westbound (24th Rd S)	LTR	13.7	B	11.1	B	13.5	B	10.6	B	13.9	B	10.8	B
	Approach	13.7	B	11.1	B	13.5	B	10.6	B	13.9	B	10.8	B
Northbound (Shirlington Rd)	LT	7.4	A	10.8	B	7.4	A	10.4	B	7.4	A	10.7	B
	R	7.0	A	9.9	A	7.0	A	9.6	A	7.0	A	9.8	A
	Approach	7.2	A	10.2	B	7.1	A	9.9	A	7.2	A	10.1	B
Southbound (Shirlington Rd)	LTR	6.4	A	10.4	B	6.3	A	10.1	B	6.3	A	10.3	B

Intersection	Mvmt	2020 Existing Conditions				2024 Future without Development Conditions				2024 Future with Development Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
	Approach	6.4	A	10.4	B	6.3	A	10.1	B	6.3	A	10.3	B
Overall Intersection		8.7	A	10.2	B	8.6	A	9.9	A	8.6	A	10.1	B
6. Shirlington Road at South Four Mile Run Drive (Signalized)													
Eastbound (S Four Mile Run Dr)	LT	67.4	E	71.3	E	67.5	E	71.1	E	67.5	E	71.1	E
	R	16.0	B	23.5	C	16.1	B	23.3	C	16.1	B	23.3	C
	Approach	39.5	D	38.7	D	39.6	D	38.4	D	39.6	D	38.4	D
Westbound (S Four Mile Run Dr)	LTR	38.2	D	46.3	D	38.5	D	45.5	D	38.5	D	45.5	D
	Approach	38.2	D	46.3	D	38.5	D	45.5	D	38.5	D	45.5	D
Northbound (Shirlington Rd)	L	15.9	B	15.2	B	15.6	B	17.5	B	15.6	B	17.7	B
	TR	14.7	B	7.2	A	14.6	B	7.7	A	14.7	B	7.7	A
	Approach	15.2	B	12.5	B	15.0	B	14.2	B	15.1	B	14.3	B
Southbound (Shirlington Rd)	LTR	40.2	D	35.0	C	40.0	D	36.2	D	40.3	D	36.4	D
	Approach	40.2	D	35.0	C	40.0	D	36.2	D	40.3	D	36.4	D
Overall Intersection		26.8	C	26.2	C	26.7	C	27.1	C	26.8	C	27.2	C
7. South Monroe Street at Site Driveway 1 (Unsignalized)													
Westbound (Site Driveway 1)	LR	Future with Development Conditions Only				Future with Development Conditions Only				8.4	A	8.5	A
Northbound (S Monroe St)	TR									0.0	A	0.0	A
Southbound (S Monroe St)	LT									0.7	A	1.3	A
Overall Intersection										1.5	A	1.2	A
8. 25th Street South at Site Driveway 2 (Unsignalized)													
Eastbound (S Lowell St)	LT	Future with Development Conditions Only				Future with Development Conditions Only				0.3	A	1.0	A
Westbound (S Lowell St)	TR									0.0	A	0.0	A
Southbound (Site Driveway 2)	LR									8.7	A	8.8	A
Overall Intersection										1.8	A	1.5	A
9. South Lincoln Street at Site Driveway 3 (Unsignalized)													
Eastbound (Site Driveway 3)	LR	Future with Development Conditions Only				Future with Development Conditions Only				8.5	A	8.5	A
Northbound (S Lincoln St)	LT									2.4	A	4.2	A
Southbound (S Lincoln St)	TR									0.0	A	0.0	A
Overall Intersection										4.8	A	4.1	A

The capacity analysis of the future conditions with development show that the increase in delay at all of the intersections due to the Fort Henry Garden Apartments development is negligible. There will be one slight change in overall intersection level of service at the signalized intersection of Shirlington Road with South Kenmore Street/24th Road South, which increases from overall LOS A to LOS B by 0.2 seconds in the PM peak but still operates at acceptable conditions. All study intersections will continue to operate at an overall LOS C or better during the AM and PM peak hours.

The levels of service at all approaches remain the same as in the future conditions without development except for:

- Northbound Shirlington Road approach at South Kenmore Street/24th Road South increases from LOS A to LOS B in the PM peak, with a negligible increase in delay of 0.2 seconds.

The proposed site entrances will be adequate for the site generated trips. The site generated trips will have a negligible effect on the study area intersections. With the revised unit count of 300, or 48 fewer units than analyzed in this study, the impact will be even less than stated herein.

5. QUEUING ANALYSIS

The queuing analyses were conducted using Synchro 10 methodology to determine the 95th percentile queues for each approach. The 95th percentile queues are summarized in **Table 5-1**. The queuing analysis shows that the queue lengths at a few locations along the study area will increase nominally due to the proposed development. These nominal increases occur at the two signalized intersections and are less than 10 feet, or less than half of a car length. Trends are similar for both AM and PM peak hours. Based on these findings, the proposed development will have a negligible impact on the queuing of the study area intersections. With the revised unit count of 300, or 48 fewer units than analyzed in this study, the impact will be even less than stated herein.

Table 5-1: Queuing Analysis Results

95th Percentile Queue (ft)								
Intersection	Mvmt	Storage/ Block Length (ft)	2020 Existing		2024 Future without Development		2024 Future with Development	
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1. South Monroe Street at South Lowell Street/24th Road South (Unsignalized)								
Eastbound (24th Rd S)	LTR		1	2	1	2	1	2
Westbound (S Lowell St)	LTR		2	2	2	2	2	2
Northbound (S Monroe St)	LTR		0	0	0	0	0	0
Southbound (S Monroe St)	LTR		0	1	0	1	0	1
<i>Overall Intersection</i>			-	-	-	-	-	-
2. 25th Street South at South Monroe Street (Unsignalized)								
Eastbound (25th St S)	TR		1	1	1	1	1	1
Westbound (25th St S)	LT		0	0	0	0	0	0
Southbound (S Monroe St)	LR		1	2	1	2	2	2
<i>Overall Intersection</i>			-	-	-	-	-	-
3. South Lincoln Street at South Lowell Street (Unsignalized)								
Eastbound (S Lowell St)	LR		- *	- *	- *	- *	- *	- *
Northbound (S Lincoln St)	LT		- *	- *	- *	- *	- *	- *
Southbound (S Lincoln St)	TR		- *	- *	- *	- *	- *	- *
<i>Overall Intersection</i>			-	-	-	-	-	-
4. South Lincoln Street at South Kenwood Street/25th Street South (Unsignalized)								
Eastbound (25th St S)	LT		1	1	1	1	1	1
Westbound (S Kenwood St)	TR		0	0	0	0	0	0
Southbound (S Lincoln St)	LR		2	3	2	3	2	3
<i>Overall Intersection</i>			-	-	-	-	-	-
5. Shirlington Road at South Kenmore Street/24th Road South (Signalized)								
Eastbound (S Kenmore St)	LTR		50	29	49	30	50	30
Westbound (24th Rd S)	LTR		88	121	86	118	88	123
Northbound (Shirlington Rd)	LT		94	76	93	73	97	77
	R	100	41	39	40	41	41	42
Southbound (Shirlington Rd)	LTR		41	77	41	75	42	79
<i>Overall Intersection</i>			-	-	-	-	-	-
6. Shirlington Road at South Four Mile Run Drive (Signalized)								
	LT		325	231	322	240	322	240

95th Percentile Queue (ft)								
Intersection	Mvmt	Storage/ Block Length (ft)	2020 Existing		2024 Future without Development		2024 Future with Development	
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Eastbound (S Four Mile Run Dr)	R		147	243	147	250	147	250
Westbound (S Four Mile Run Dr)	LTR		21	21	21	23	21	23
Northbound (Shirlington Rd)	L	270	328	355	321	415	321	419
	TR	270	394	142	396	156	401	162
Southbound (Shirlington Rd)	LTR		111	197	113	213	122	219
Overall Intersection			-	-	-	-	-	-
7. South Monroe Street at Site Driveway 1 (Unsignalized)								
Westbound (Site Driveway 1)	LR		Future with Development Only	Future with Development Only	1	0		
Northbound (S Monroe St)	TR				0	0		
Southbound (S Monroe St)	LT				0	0		
Overall Intersection					-	-		
8. 25th Street South at Site Driveway 2 (Unsignalized)								
Eastbound (S Lowell St)	LT		Future with Development Only	Future with Development Only	0	0		
Westbound (S Lowell St)	TR				0	0		
Southbound (Site Driveway 2)	LR				1	1		
Overall Intersection					-	-		
9. South Lincoln Street at Site Driveway 3 (Unsignalized)								
Eastbound (Site Driveway 3)	LR	LR	Future with Development Only	Future with Development Only	1	1		
Northbound (S Lincoln St)	LT	LT			0	1		
Southbound (S Lincoln St)	TR	TR			0	0		
Overall Intersection					-	-		

*Synchro is unable to calculate the queue, likely due to the unique intersection control.

6. MULTIMODAL SITE IMPROVEMENTS

The proposed development will enhance the pedestrian network of the site by providing new 6-foot sidewalks along the frontage of the property to connect the site to the surrounding facilities. These sidewalks along the property will also include a 5-foot grass strip to further separate pedestrians from vehicular traffic. Additionally, a raised pedestrian mid-block crossing is proposed on South Lowell Street to connect buildings 1 and 2 on the south side of the site to buildings 3 and 4 on the north side of the site. A newly striped crosswalk is also proposed to cross South Lincoln Street at 25th Street South. Bike racks are proposed at the main entry of each building.

7. TRANSPORTATION MANAGEMENT PLAN

This section presents a Transportation Management Plan (TMP) for the proposed development at Fort Henry Garden Apartments. In accordance with Arlington County's Master Transportation Plan (MTP), this TMP is required to implement strategies to persuade residents of Fort Henry Garden Apartments to take public transportation, walk, bike, or share a ride as opposed to driving alone. The specifics of the TMP will be determined in coordination with Arlington County staff.

TMP STRATEGIES

The following is a description of potential strategies that may be implemented to produce a successful TMP. Due to the presence of 15 bus stops within a 1/8-mile walk of the proposed site development, encouraging transit use will be the major emphasis of this TMP.

TMP COORDINATOR

The developer will designate a TMP Coordinator. This person will be the point of contact with the County's Transportation Planning Division. The TMP Coordinator will be a member of the building management team. The Coordinator will work with the County staff and will have the authority, knowledge, and capability to implement the TMP. The duties of the TMP Coordinator include maintaining updated contact information with the Transportation Planning Division, distributing annual electronic surveys, managing and accounting the TMP fund, submitting reports to the County, and administering the program.

PROGRAM MARKETING

The TMP may provide marketing and promotional materials to encourage non-SOV travel that may include, but not be limited to, the following:

- Display and distribute current marketing material associated with transit, buses, and rideshare. The material can be distributed by way of websites, newsletters, in the building lobby, at promotional events, and in nearby bus shelters.
- Promote the Guaranteed Ride Home Program as part of the transit and ridesharing marketing efforts.
- Provide and promote on-site business center as an opportunity for residents to telework
- Participate in regional events that encourage non-SOV travel, such as Bike to Work Day, Car Free Day, Earth Day, etc.

The TMP may include language in the lease documents for apartment tenants that describe the TMP and its benefits and conditions.

TRANSIT AND BICYCLE INFRASTRUCTURE AND SUBSIDIES

Transit and bicycle infrastructure improvements might include, but are not limited to, the following items:

- Transit information display screens in building lobby
- Maintenance or upgrades to bus shelters on site to enhance transit usage
- Provide discounted transit fare media to residents and employees
- Provide bike storage within the proposed development in accordance with City of Alexandria requirements.

OTHER COMPONENTS

The TMP will comply with reporting requirements as called for in the Zoning Ordinance, and as formally agreed to in an executed TMP agreement with Arlington County.

The mode split goal for the proposed development is 37 percent non-drivers. Mode split reductions were developed using the following data sets:

- Multimodal Transportation Assessments (MMTA) Mode Share Assumptions Summary for S Arlington/Shirlington
- Arlington Commuter Mode Share Data (2007-2013)
- Transit access in proximity to the site
- Site walk, bike and transit scores (Walkscore.com)

Transit Mode Share

The transit mode reduction was proposed at slightly less than that of S Arlington/Shirlington (41%), as outlined in the MMTA mode share assumptions. The site is primarily serviced by 3 different bus routes, which is less than other neighborhoods in that area of Arlington. However, the income-restricted housing component would suggest lesser likelihood of vehicular ownership. Proximity to metro was not a factor in the comparison, as there isn't direct metro access in any of the S Arlington/Shirlington areas.

Bike/Walk Share

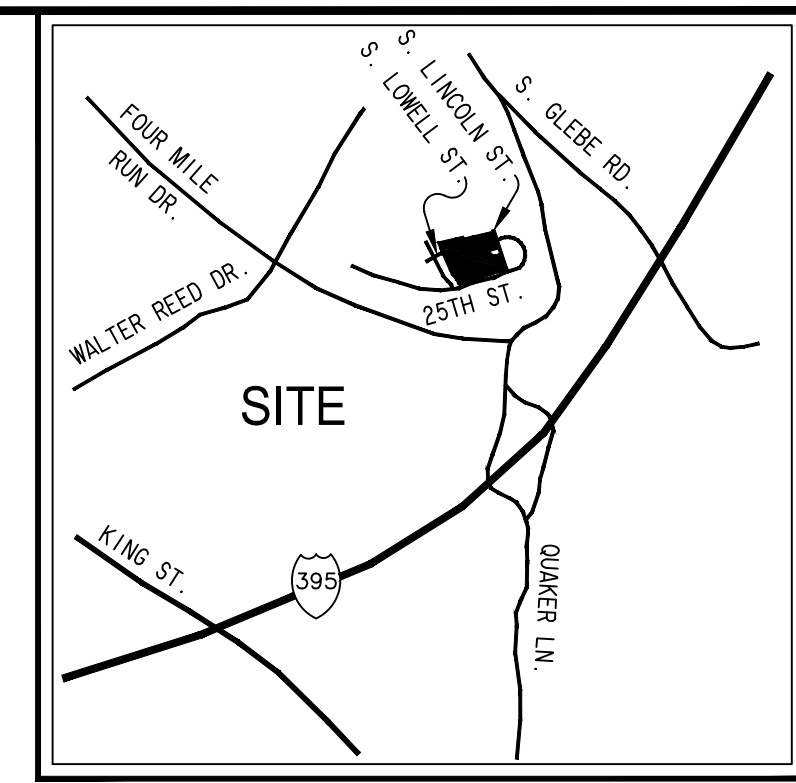
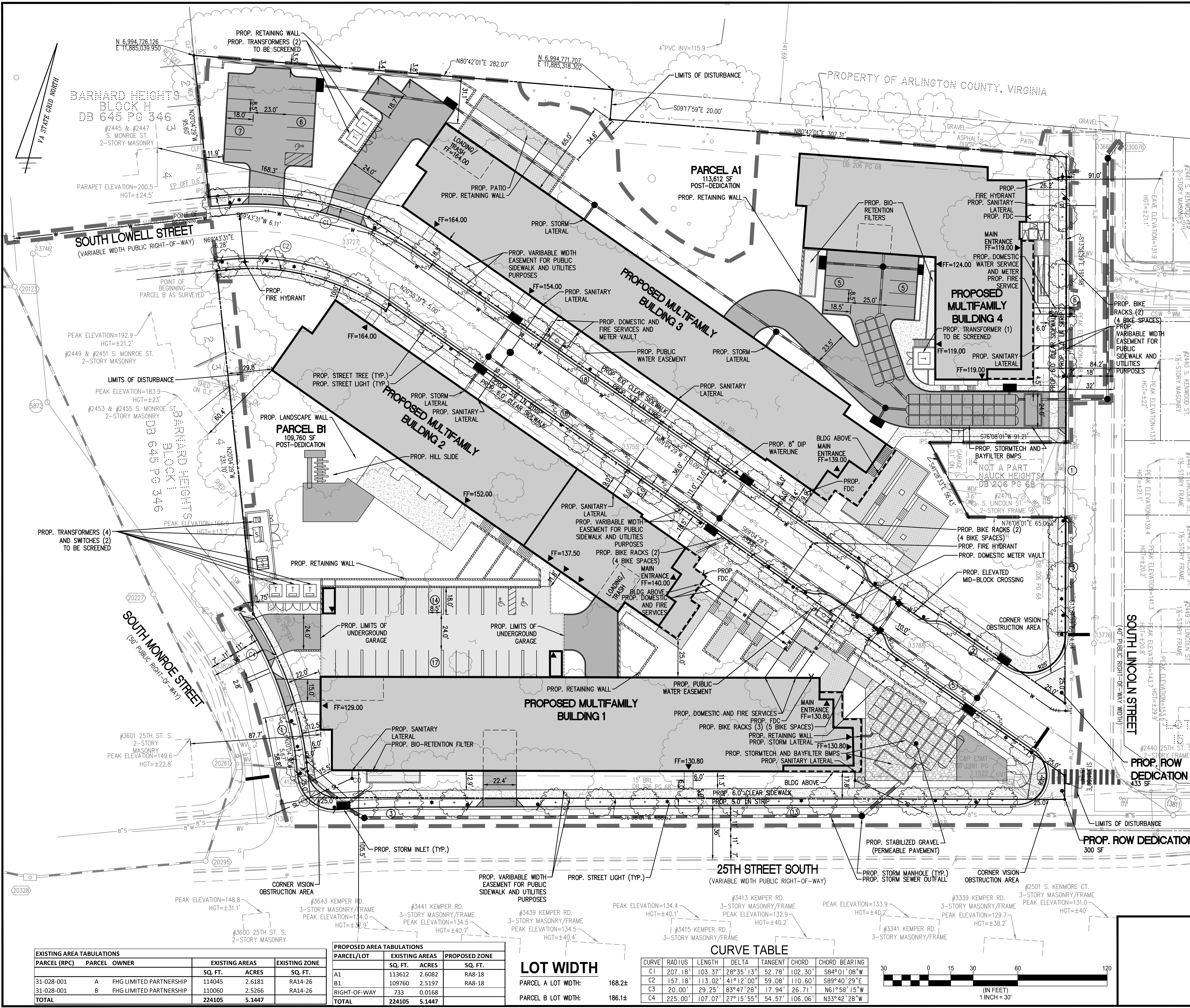
The bike/walk mode share is consistent with both the MMTA mode share assumptions and the Arlington commuter mode share data. This site is walkable to some commercial uses and is less than 1/4 mile from the W&OD Trail and Four Mile Run Trail. As such, no modifications were made from the sources provided.

8. CONCLUSIONS

This transportation study shows that the proposed Fort Henry Garden Apartments development at 2409 South Lowell Street in Arlington, Virginia will have a minimal impact on the study area intersections. All intersections are forecast to operate at a level of service (LOS) of C or better in all conditions. The proposed residential development will not affect the levels of service or queuing at the study area intersections. All site entrances will operate in a safe and efficient manner. With the revised unit count of 300, or 48 fewer units than analyzed in this study, the impact will be even less than stated herein.

Appendix A

Concept Site Plan



VICINITY MAP SCALE: 1"=2000'

LEGEND

PROPOSED	DESCRIPTION	EXISTING
CG-2	CURB & CUTTER	CG-2
CG-6R	TRANSITION FROM CG-6 TO CG-6R	CG-6R
S	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
SS	STORM SEWER	SS
W	WATER MAIN	W
F	FIRE HYDRANT	F
P	PLUG	P
OW	OVERHEAD WIRES	OW
UP	UTILITY POLE	UP
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
TR	TRANSFORMER	TR
HC	HANDICAP RAMP (CG-12)	HC
GR	GUARDRAIL	GR
F	FENCE	F
TF	TRAFFIC FLOW	TF
L	LIGHT	L
D	DOOR	D
T	TREES	T
260	CONTOURS	260
264	CONTOURS	264
+264.50	SPOT ELEVATION	+264.50
TC	DRAINAGE FLOW DIRECTION	TC
BC	TOP OF CURB	BC
TW	BOTTOM OF CURB	TW
BW	TOP OF WALL	BW
HP	BOTTOM OF WALL	HP
HP	HIGH POINT	HP
TP	TEST PIT	TP
---	LIMITS OF CLEARING AND GRADING	---

LOT COVERAGE

PARCEL AREA:	113,612 SF
BUILDING AREA:	40,127 SF
VEHICULAR AREA:	16,789 SF
TOTAL:	56,916 SF
	50.1% COVERAGE PARCEL A
PARCEL B AREA:	109,780 SF
BUILDING AREA:	52,246 SF
VEHICULAR AREA:	3,028 SF
TOTAL:	55,274 SF
	50.4% COVERAGE PARCEL B
TOTAL AREA:	223,372 SF
TOTAL BUILDING AREA:	92,373 SF
TOTAL VEHICULAR AREA:	19,817 SF
TOTAL:	112,190 SF
	50.2% COVERAGE TOTAL SITE
AVERAGE SITE ELEVATIONS:	139.3 FT (PARCEL A)
	141.0 FT (PARCEL B)

- NOTES:**
- SEE SHEET C-0306 FOR THE PRELIMINARY SUBDIVISION PLAT.
 - THERE ARE NO HISTORIC DISTRICTS AND/OR STRUCTURES ON THE SITE.
 - THERE ARE NO RESOURCE PROTECTION AREAS ON SITE PER ARLINGTON COUNTY RECORD INFORMATION.
 - SEE SHEET C-0407 FOR PROPOSED ON-STREET PARKING TABULATIONS.
 - PROPOSED WATER METERS TO BE INSTALLED BY THE DEVELOPER.

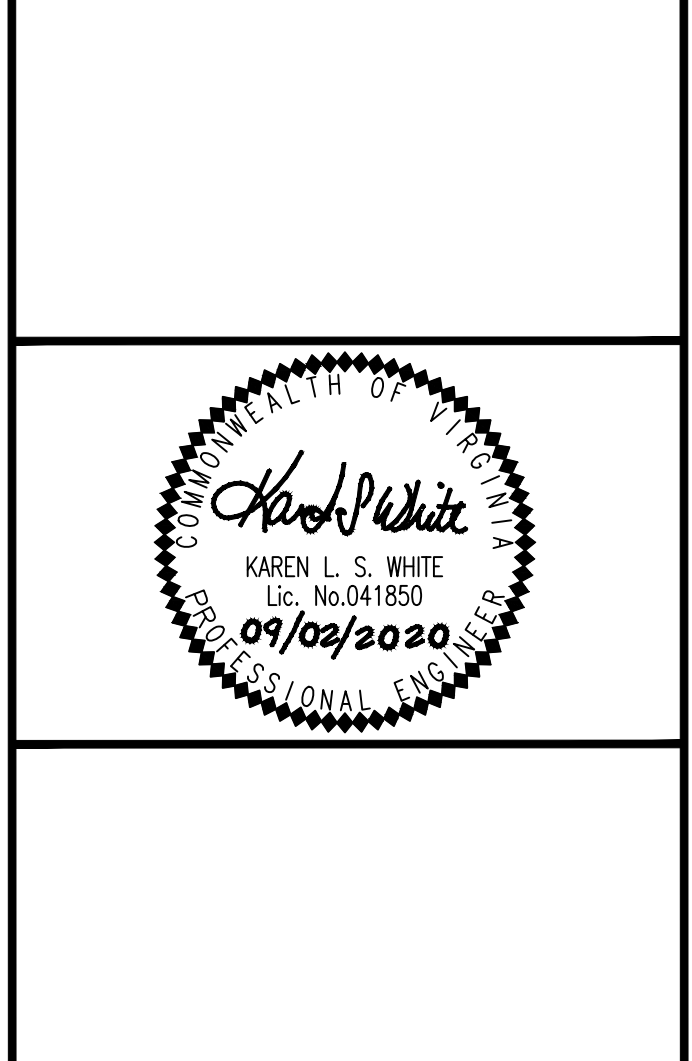
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DRAWN: TB
CHECKED: KW
DATE: 05/19/2020

FORT HENRY GARDENS
2409 SOUTH LOWELL STREET
4.1 SITE PLAN
ARLINGTON COUNTY, VIRGINIA



SUBMISSIONS

NO.	DESCRIPTION	DATE
1	1ST PRELIMINARY SUBMISSION	05/15/2020
2	4.1 SITE PLAN RE-SUBMISSION	09/02/2020

SCALE: 1" = 30'
SHEET TITLE:
PRESENTATION PLAN
SHEET #:
C-0403

EXISTING AREA TABULATIONS

PARCEL (RPC)	PARCEL OWNER	EXISTING AREAS	EXISTING ZONE
31-028-001	A FHG LIMITED PARTNERSHIP	114045 2.6181	RA14-26
31-028-001	B FHG LIMITED PARTNERSHIP	110060 2.5266	RA14-26
TOTAL		224105 5.1447	

PROPOSED AREA TABULATIONS

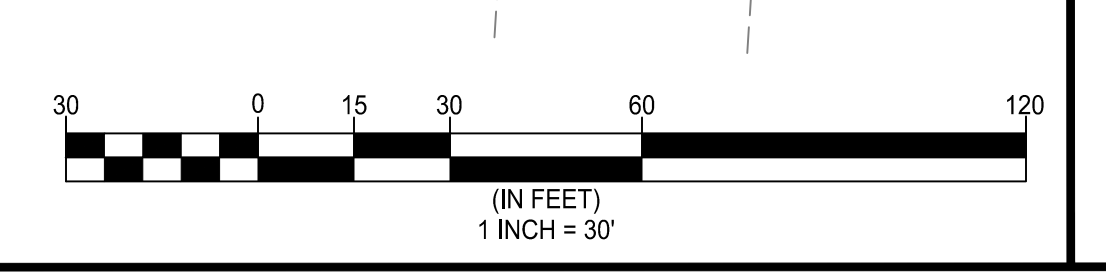
PARCEL/LOT	EXISTING AREAS	PROPOSED ZONE
A1	113612 2.6082	RA8-18
B1	109760 2.5197	RA8-18
RIGHT-OF-WAY	733 0.0168	
TOTAL	224105 5.1447	

LOT WIDTH

PARCEL A LOT WIDTH: 168.2±
PARCEL B LOT WIDTH: 186.1±

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	207.18'	103.37'	28°35'13"	52.78'	102.30'	S84°01'08"W
C2	157.18'	113.02'	41°12'00"	59.08'	110.60'	S89°40'29"E
C3	20.00'	29.25'	83°47'28"	17.94'	26.71'	N61°58'15"W
C4	225.00'	107.07'	27°15'55"	54.57'	106.06'	N33°42'28"W



Appendix B

Scoping Form

PRE-SCOPE OF WORK MEETING FORM

Information on the Project Traffic Impact Analysis Base Assumptions

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

Contact Information				
Consultant Name: Tele: E-mail:	Sarah Knox, Andy Smith (Kimley-Horn) 703-674-1327, 703-674-1385 sarah.knox@kimley-horn.com, andy.smith@kimley-horn.com			
Developer/Owner Name: Tele: E-mail:	David Brotman (AHC Inc) 703-486-0626 x 1108 david.brotman@ahcinc.org			
Project Information				
Project Name:	Fort Henry Garden Apartments	Locality/County:	Arlington	
Project Location: (Attach regional and site specific location map)	The project is located in the Nauck neighborhood of South Arlington, on the northwest corner of 25th St S. and S Lincoln St. Study location map is attached.			
Submission Type	Comp Plan <input type="checkbox"/>	Rezoning <input type="checkbox"/>	Site Plan <input checked="" type="checkbox"/>	Subd Plat <input type="checkbox"/>
Project Description: (Including details on the land use, acreage, phasing, access location, etc. Attach additional sheet if necessary)	The project will redevelop 82 existing garden style apartments into 348 new affordable apartment units. These apartments are spread amongst four buildings and vary from one to three bedrooms. The site is zoned RA 14-26, an Apartment Dwelling District, and is zoned appropriately for the proposed development.			
Proposed Use(s): (Check all that apply; attach additional pages as necessary)	Residential <input checked="" type="checkbox"/>	Commercial <input type="checkbox"/>	Mixed Use <input type="checkbox"/>	Other <input type="checkbox"/>
	Residential Uses(s) Number of Units: <u>348</u> ITE LU Code(s): <u>221</u> _____ _____ Commercial Use(s) ITE LU Code(s): _____ _____ _____ Square Ft or Other Variable: _____		Other Use(s) ITE LU Code(s): _____ _____ _____ Independent Variable(s): _____ _____ _____	
Total Peak Hour Trip Projection:	Less than 100 <input checked="" type="checkbox"/>	100 – 499 <input type="checkbox"/>	500 – 999 <input type="checkbox"/>	1,000 or more <input type="checkbox"/>

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

Traffic Impact Analysis Assumptions

Study Period	Existing Year: 2020	Build-out Year: 2024	Design Year:
Study Area Boundaries (Attach map)	North: Charles Drew Community Center	South: 25th Street S	
	East: S Lincoln Street	West: S Monroe Street	
External Factors That Could Affect Project (Planned road improvements, other nearby developments)	There are not any external factors noted that would affect the project. There are not planned developments or transportation improvements near the site.		
Consistency With Comprehensive Plan (Land use, transportation plan)	The proposed development is consistent with the County's comprehensive and transportation plans.		
Available Traffic Data (Historical, forecasts)	The County provided turning movement counts for the signalized intersections at Shirlington Rd at 24th Rd S and at Four Mile Run Dr, and 24 hours counts for S Lowell St and S Monroe street. These counts will be used to estimate existing peak hour volumes at the unsignalized intersections.		
Trip Distribution (Attach sketch)	Road Name: S Monroe St (15%)	Road Name: 24th Rd (10% west, 25% east)	
	Road Name: Four Mile Run (5%)	Road Name: Shirlington Rd (25% south, 20% north)	
Annual Vehicle Trip Growth Rate:	0.5% for thru trips on Shirlington Rd	Peak Period for Study (check all that apply)	<input checked="" type="checkbox"/> AM <input checked="" type="checkbox"/> PM <input type="checkbox"/> SAT
		Peak Hour of the Generator	
Study Intersections and/or Road Segments (Attach additional sheets as necessary)	1. S Lincoln St/S Lowell S	6.	
	2. S Monroe St/ 24th Rd S	7.	
	3. S Monroe St/ S Lowell S	8.	
	4. Shirlington Rd/ 24th Rd S	9.	
	5. Shirlington Rd/ Four Mile Run Dr	10.	
Trip Adjustment Factors	Internal allowance: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Reduction: _____% trips	Pass-by allowance: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Reduction: _____% trips	
	Software Methodology <input checked="" type="checkbox"/> Synchro <input type="checkbox"/> HCS (v.2000/+) <input type="checkbox"/> aaSIDRA <input type="checkbox"/> CORSIM <input type="checkbox"/> Other _____		
Traffic Signal Proposed or Affected (Analysis software to be used, progression speed, cycle length)	The signalized intersections of Shirlington Rd/24th Rd S and Shirlington Rd/ Four Mile Run Dr will be analyzed in this transportation analysis using Synchro 10 analysis software.		

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

Improvement(s) Assumed or to be Considered	No transportation improvements were identified within the study area limits
Background Traffic Studies Considered	No background traffic studies were identified by County staff for inclusion in this application.
Plan Submission	<input type="checkbox"/> Master Development Plan (MDP) <input type="checkbox"/> Generalized Development Plan (GDP) <input type="checkbox"/> Preliminary/Sketch Plan <input checked="" type="checkbox"/> Other Plan type (Final Site, Subd. Plan)
Additional Issues to be Addressed	<input checked="" type="checkbox"/> Queuing analysis <input type="checkbox"/> Actuation/Coordination <input type="checkbox"/> Weaving analysis <input type="checkbox"/> Merge analysis <input checked="" type="checkbox"/> Bike/Ped Accommodations <input type="checkbox"/> Intersection(s) <input checked="" type="checkbox"/> TDM Measures <input type="checkbox"/> Other _____

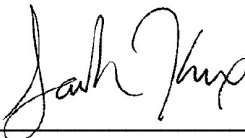
NOTES on ASSUMPTIONS: Pedestrian, bike, transit study area will cover 1/8 of a mile from property lines, to include all of the study intersections and at least as far south as S Kemper Rd and S Shirlington Rd. The study will identify existing and proposed bike, pedestrian, and transit facilities and routes within the multimodal study area. Utilization and capacity of these facilities will not be assessed.

- 95th percentile queues will be reported from Synchro

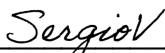
Attached:

- Study Area Figure with site Trip Distributions

- Additional traffic analysis Assumptions (including trip generation and mode split)

SIGNED:  DATE: 6/15/20
Applicant or Consultant

PRINT NAME: Sarah Knox, Kimley-Horn
Applicant or Consultant

SIGNED:  DATE: 07/16/2020
Arlington County

PRINT NAME: Sergio Viricochea
Arlington County

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



Legend

- 1 Study Area Intersection
- Site Location
- ↔ Site Trip Distribution
- Multimodal Transportation Study Area

Multimodal Traffic Analysis Assumptions

The following expands upon the multimodal traffic analysis (MMTA) assumptions noted in the scoping form.

TRIP GENERATION CALCULATIONS

For the purposes of Fort Henry Gardens, land use code 221 is the most appropriate and representative of similar development conditions. The estimated site generated trips are shown in Table 1. See the attached trip generation memorandum for additional information.

Table 1: Trip Generation Comparison

Site Trip Generation										
ITE Code	Land Use	Density		Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Existing Trip Credit										
220	Multifamily Housing (Low-Rise)	82	d.u.	-579	-9	-31	-40	-31	-19	-50
Proposed Development										
221	Multifamily Housing (Mid-Rise)	348	d.u.	1,895	30	86	116	89	58	147
Net New Site Trips*				1,316	21	55	76	58	39	97
<i>Proposed Mode Split</i>										
	<i>Auto (63%)</i>			829	13	35	48	37	25	61
	<i>Transit (30%)</i>			395	6	17	23	17	12	29
	<i>Bike (5%)</i>			66	1	3	4	3	2	5
	<i>Walk (2%)</i>			26	1	0	1	1	0	2

Note: Trip generation was based on ITE Trip Generation 10th Edition for vehicle trips in urban/suburban setting. For this setting in ITE, it is assumed vehicle trips are essentially equal to person trips. The ITE trip generation was then distributed by the proposed mode split to calculate project-specific multimodal trip generation for this location in Arlington County.

Mode Split Assumptions

Mode split reductions were developed using the following data sets:

- Multimodal Transportation Assessments (MMTA) Mode Share Assumptions Summary for S Arlington/Shirlington
- Arlington Commuter Mode Share Data (2007-2013)
- Transit access in proximity to the site
- Site walk, bike and transit scores (Walkscore.com)

Transit Mode Share

The transit mode reduction was proposed at slightly less than that of S Arlington/Shirlington (41%), as outlined in the MMTA mode share assumptions. The site is primarily serviced by 3 different bus

routes, which is less than other neighborhoods in that area of Arlington. However, the income-restricted housing component would suggest lesser likelihood of vehicular ownership. Proximity to metro was not a factor in the comparison, as there isn't direct metro access in any of the S Arlington/Shirlington areas.

Bike/Walk Share

The bike/walk mode share is consistent with both the MMTA mode share assumptions and the Arlington commuter mode share data. This site is walkable to some commercial uses and is less than 1/4 mile from the W&OD Trail and Four Mile Run Trail. As such, no modifications were made from the sources provided.

DATA COLLECTION AND VOLUME DEVELOPMENT

New existing turning movement count data cannot be collected due to the COVID-19 pandemic. As many people are teleworking and schools are not in session, the traffic data that would be collected would not be representative of typical traffic conditions. The County has provided turning movement counts for the signalized intersections at Shirlington Road at 24th Road S and Shirlington Road at Four Mile Run Drive. 24-hour count data was also provided for South Lowell St and S Monroe Street which will be used to estimate the turning movements at the other study intersections. Base existing traffic count data will be reviewed and approved by the County before proceeding with additional analysis. Depending on the date that each data set was collected, the counts will be adjusted to the existing year using an annual growth rate. Historic data, summarized in **Table 2**, shows that since 2016, traffic in the study area has been steady or declining. As such, data will not be grown to account for existing conditions. For the future buildout year, an annual growth rate of 0.5% will be applied to thru trips on Shirlington Road only. It is not anticipated that growth will occur on the other study area streets.

Table 2: VDOT AADT Data (2015-2019)

Year	Link ID	Route Alias	Start Label	End Label	AADT
Shirlington Rd					
2019	700047	Shirlington Rd	00-6714 Four Mile Run Dr	Kenmore St	8200
2018	700047	Shirlington Rd	00-6714 Four Mile Run Dr	Kenmore St	8400
2017	700047	Shirlington Rd	00-6714 Four Mile Run Dr	Kenmore St	8600
2016	700047	Shirlington Rd	00-6714 Four Mile Run Dr	Kenmore St	8500
2015	700047	Shirlington Rd	00-6714 Four Mile Run Dr	Kenmore St	7700
24th Rd S					
2019	700046	24th Rd	00-6721 Shirlington Rd	SR 120 , S Glebe Rd	7200
2018	700046	24th Rd	00-6721 Shirlington Rd	SR 120 , S Glebe Rd	7300
2017	700046	24th Rd	00-6721 Shirlington Rd	SR 120 , S Glebe Rd	7500
2016	700046	24th Rd	00-6721 Shirlington Rd	SR 120 , S Glebe Rd	7400
2015	700046	24th Rd	00-6721 Shirlington Rd	SR 120 , S Glebe Rd	6800
Monroe St S					
2019	700094	Monroe St	Walter Reed Dr	SR 244 Columbia Pike	2700
2018	700094	Monroe St	Walter Reed Dr	SR 244 Columbia Pike	2800
2017	700094	Monroe St	Walter Reed Dr	SR 244 Columbia Pike	2800
2016	700094	Monroe St	Walter Reed Dr	SR 244 Columbia Pike	2800
2015	700094	Monroe St	Walter Reed Dr	SR 244 Columbia Pike	2900

ADDITIONAL STUDY ASSUMPTIONS

The traffic analysis will also incorporate the following assumptions:

- Signal timings will be obtained from Arlington County.
- The scenarios to be included in the study are Existing (2020), Future without Development (2024) and Future with Development (2024).
- Existing peak hour factors in the range of 0.85 to 1.00 will be used for existing scenarios. The default peak hour factor of 0.92 will be used for all future scenarios.
- Default heavy vehicle percentage of 2% will be used for all movements, unless the traffic data collected shows a higher percentage for the studied street.
- For any movement, LOS E or better would be considered as desirable/acceptable traffic operation condition. We will recommend mitigations if any intersection or movement experiences a degradation to LOS F in the future scenario where LOS F does not exist in the background scenario, or if any intersection or movement operating at LOS F in the background scenario experiences an increase in delay greater than 10 percent.
- All locations where the 95th percentile queues exceed the length of storage will be highlighted. We will note where the proposed project causes the 95th percentile queue length to exceed the available capacity of an approach or turn lane when it does not in the background scenario. We will recommend mitigations when the proposed project causes any 95th percentile queue lengths that exceed the available capacity to experience an increase in queue of 150 feet or more due to the proposed development.
- Signal timing adjustments would be considered as an acceptable mitigation measure.
- Will provide both 95th and 50th percentile queues.
- Level of service calculations for existing and future conditions without and with development shall be in accordance with the Highway Capacity Manual (HCM) 2000 methodologies, as computed by Synchro 10.0 software. Typical Synchro parameters to be utilized in this analysis will be consistent with those values provided in VDOT's TOSAM and Arlington County standards.
- A multimodal analysis will be provided in the study which will include the following information:
 - a. Multimodal trip generation
 - b. Curbside management information
 - c. Transit Facilities
 - d. Transit Ridership (As available, to be provided by Arlington County)
 - e. Bike/pedestrian facilities
 - f. Multimodal Initiatives
 - g. Bus services within the study area
 - h. Pedestrian pathways to major generators and destinations of pedestrian activity

Appendix C

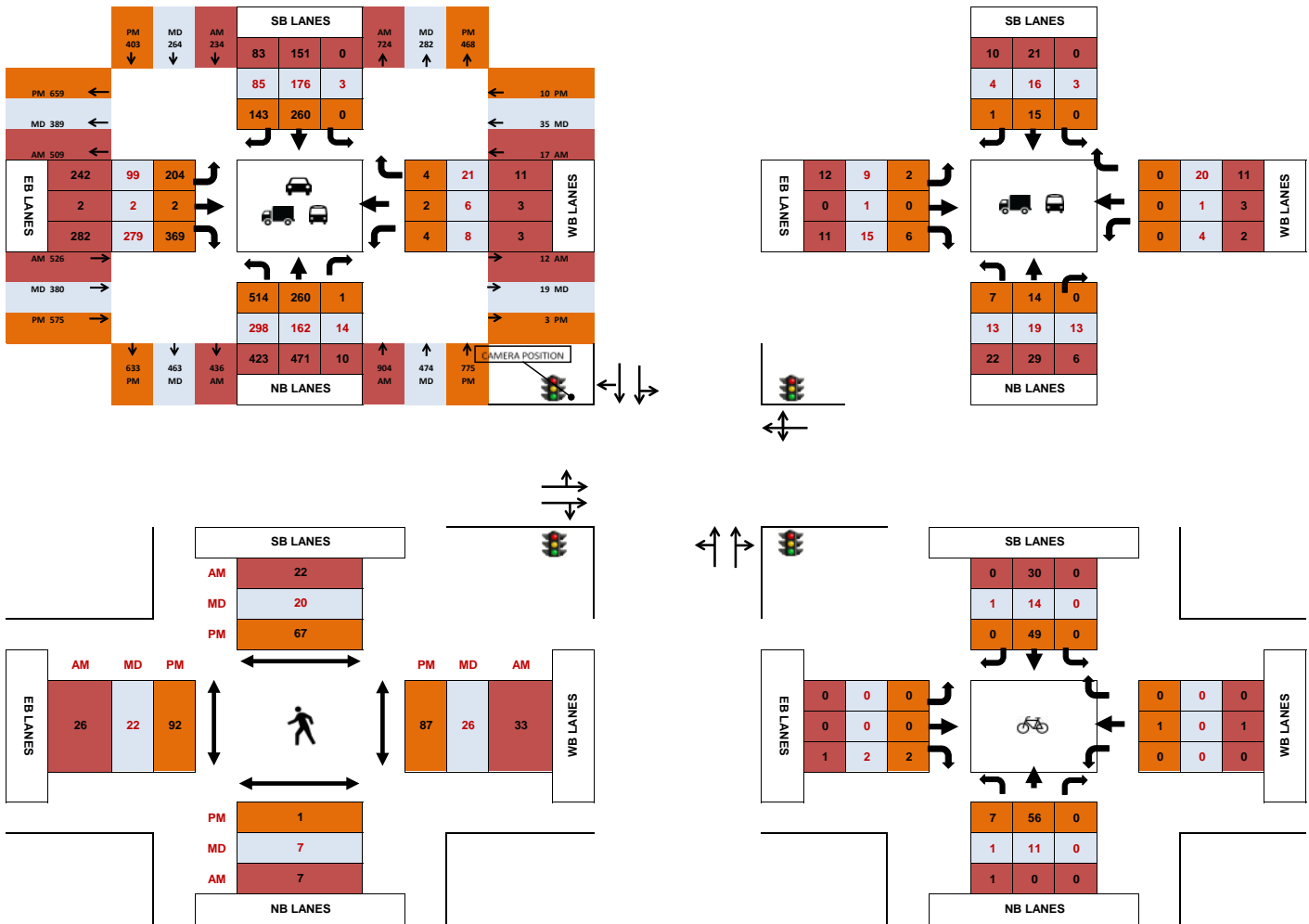
Existing Traffic Counts



SUMMARY PAGE

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR

LOCATION#:	301	QTD PROJ#:	2018204	AM PEAK HOUR:	730 AM - 830 AM
NORTH / SOUTH:	Shirlington Rd - MAJOR	COUNT DATE:	Thursday, March 14, 2019	MD PEAK HOUR:	1230 PM - 1330 PM
EAST / WEST:	Four Mile Run Dr - MINOR	VICINITY:	VA	PM PEAK HOUR:	545 PM - 645 PM
WEATHER:	NORMAL / CLEAR	AM TOTAL PHF:	0.918	AM PEAK 15-Min:	745 AM - 800 AM
		MD TOTAL PHF:	0.991	MD PEAK 15-Min:	1245 PM - 100 PM
		PM TOTAL PHF:	0.957	PM PEAK 15-Min:	615 PM - 630 PM



COMMENTS:

AM COUNT	6:30 AM	TO	9:30 AM
MD COUNT	11:30 AM	TO	1:30 PM
PM COUNT	4:30 PM	TO	7:30 PM

VEHICLE TURNING MOVEMENT COUNT

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - AM PEAK

LOCATION#: 301	QTD PROJ#: 2018204
NORTH / SOUTH: Shirlington Rd - MAJOR	DATE: Thursday, March 14, 2019
EAST / WEST: Four Mile Run Dr - MINOR	VICINITY: VA

DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0	2	0	0	0	2	0	0	0	2	0	0	0	1	0	0	
6:30 AM	55	24	3	0	0	25	3	0	22	1	53	0	0	0	0	0	186
6:45 AM	57	27	3	0	0	22	9	0	16	1	50	0	0	0	0	0	185
7:00 AM	56	46	1	0	0	18	12	0	23	0	52	0	0	0	1	0	209
7:15 AM	59	87	0	0	0	25	11	0	59	0	76	0	0	0	0	0	317
7:30 AM	103	113	0	0	0	37	25	0	48	1	54	0	1	0	0	0	382
7:45 AM	119	105	1	0	0	43	21	0	64	1	69	0	0	0	0	0	423
8:00 AM	97	100	1	0	0	26	11	0	55	0	78	0	0	0	0	0	368
8:15 AM	82	124	2	0	0	24	16	0	63	0	70	0	0	0	0	0	381
8:30 AM	86	100	2	0	0	22	15	0	64	1	79	0	0	0	0	0	369
8:45 AM	84	82	2	0	0	43	27	0	37	0	82	0	0	0	0	0	357
9:00 AM	95	66	6	0	0	32	21	0	43	0	86	0	0	0	0	0	349
9:15 AM	98	54	0	0	0	34	21	0	24	0	64	0	0	0	0	0	295

VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
TOTAL:	991	928	21	0	0	351	192	0	518	5	813	0	1	0	1	0	3821
P.H.V.:	401	442	4	0	0	130	73	0	230	2	271	0	1	0	0	0	1554
P.H.F.:	0.941				0.793				0.938				0.250				0.918

- (1) Peak Hour Volume (Peak Hour - 730 AM - 830 AM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 745 AM - 800 AM

VEHICLE TURNING MOVEMENT COUNT

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - MD PEAK

LOCATION#: 301	QTD PROJ#: 2018204
NORTH / SOUTH: Shirlington Rd - MAJOR	DATE: Thursday, March 14, 2019
EAST / WEST: Four Mile Run Dr - MINOR	VICINITY: VA

DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0	2	0	0	0	2	0	0	0	2	0	0	0	1	0	0	
11:30 AM	53	25	0	0	0	32	26	0	30	0	46	0	0	1	1	0	214
11:45 AM	60	44	0	0	0	31	19	0	30	0	39	0	3	1	0	0	227
12:00 PM	71	30	1	0	0	41	26	0	35	0	52	0	2	0	0	0	258
12:15 PM	66	31	1	0	0	36	15	0	27	0	67	0	0	0	0	0	243
12:30 PM	67	35	0	0	0	50	16	0	21	1	68	0	0	1	0	0	259
12:45 PM	72	44	1	0	0	33	18	0	25	0	65	0	0	1	1	1	261
1:00 PM	76	27	0	0	0	35	23	0	28	0	65	0	3	3	0	0	260
1:15 PM	70	37	0	0	0	42	24	0	16	0	66	0	0	0	0	0	255

VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
TOTAL:	535	273	3	0	0	300	167	0	212	1	468	0	8	7	2	1	1977
P.H.V.:	285	143	1	0	0	160	81	0	90	1	264	0	3	5	1	1	1035
P.H.F.:	0.917				0.913				0.954				0.417				0.991

- (1) Peak Hour Volume (Peak Hour - 1230 PM - 1330 PM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 1245 PM - 100 PM

VEHICLE TURNING MOVEMENT COUNT

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - PM PEAK

LOCATION#: 301	QTD PROJ#: 2018204
NORTH / SOUTH: Shirlington Rd - MAJOR	DATE: Thursday, March 14, 2019
EAST / WEST: Four Mile Run Dr - MINOR	VICINITY: VA

DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0	2	0	0	0	2	0	0	0	2	0	0	0	1	0	0	
4:30 PM	95	55	1	0	1	56	43	0	33	0	81	0	0	0	1	0	366
4:45 PM	107	67	0	0	0	40	41	0	43	0	96	0	3	1	2	0	400
5:00 PM	117	58	0	0	0	71	34	0	46	0	83	0	0	1	0	0	410
5:15 PM	111	67	0	0	0	46	42	0	43	0	114	0	3	1	0	0	427
5:30 PM	142	66	0	0	0	63	30	0	33	0	87	0	3	0	1	0	425
5:45 PM	110	65	0	0	0	57	39	0	36	0	96	0	1	1	0	0	405
6:00 PM	135	57	0	1	0	65	35	0	50	0	94	0	1	0	0	0	438
6:15 PM	131	55	1	0	0	65	39	0	56	2	97	0	1	1	1	0	449
6:30 PM	130	69	0	0	0	58	29	0	60	0	76	0	1	0	3	0	426
6:45 PM	106	62	0	0	0	47	27	0	31	0	83	0	1	0	0	0	357
7:00 PM	96	48	1	0	0	45	18	0	36	0	87	0	0	0	0	0	331
7:15 PM	120	37	0	0	0	41	31	0	19	0	62	0	0	0	0	0	310

VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
TOTAL:	1400	706	3	1	1	654	408	0	486	2	1056	0	14	5	8	0	4744
P.H.V.:	506	246	1	1	0	245	142	0	202	2	363	0	4	2	4	0	1718
P.H.F.:	0.947				0.930				0.915				0.625				0.957

- (1) Peak Hour Volume (Peak Hour - 545 PM - 645 PM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 615 PM - 630 PM



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Phone: 877-852-4355 Fax: 877-877-3698 Info@QualityTrafficData.com

HEAVY TRUCKS & BUSES TURNING MOVEMENT COUNT

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - AM PEAK

LOCATION#:	301																QTD PROJ#:	2018204
NORTH / SOUTH:	Shirlington Rd - MAJOR																DATE:	Thursday, March 14, 2019
EAST / WEST:	Four Mile Run Dr - MINOR																VICINITY:	VA
DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS	
LANES:	0	2	0	0	0	2	0	0	0	2	0	0	0	1	0	0		
6:30 AM	4	5	0	0	0	2	2	0	0	0	3	0	0	0	0	0	16	
6:45 AM	5	8	0	0	0	4	0	0	0	0	3	0	0	0	1	0	21	
7:00 AM	5	7	1	0	0	9	1	0	0	0	0	0	0	0	2	0	25	
7:15 AM	4	4	1	0	0	3	2	0	3	0	4	0	1	0	2	0	24	
7:30 AM	6	8	1	0	0	6	0	0	3	0	3	0	0	0	5	0	32	
7:45 AM	6	7	2	0	0	5	7	0	4	0	1	0	1	1	3	0	37	
8:00 AM	5	5	0	0	0	5	1	0	2	0	5	0	1	1	2	0	27	
8:15 AM	5	9	3	0	0	5	2	0	3	0	2	0	0	1	1	0	31	
8:30 AM	3	6	2	0	0	6	1	0	0	1	1	0	1	0	3	0	24	
8:45 AM	6	7	2	0	0	8	0	0	3	0	2	0	1	0	3	0	32	
9:00 AM	7	9	0	0	0	4	2	0	2	0	2	0	0	0	3	0	29	
9:15 AM	2	7	3	0	0	4	0	0	0	0	2	0	0	1	5	0	24	
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS	
TOTAL:	58	82	15	0	0	61	18	0	20	1	28	0	5	4	30	0	322	
P.H.V.: 1	22	29	6	0	0	21	10	0	12	0	11	0	2	3	11	0	127	
P.H.F.: 2	0.838																0.858	

- (1) Peak Hour Volume (Peak Hour - 730 AM - 830 AM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 745 AM - 800 AM

HEAVY TRUCKS & BUSES TURNING MOVEMENT COUNT

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - MD PEAK

LOCATION#:	301																QTD PROJ#:	2018204
NORTH / SOUTH:	Shirlington Rd - MAJOR																DATE:	Thursday, March 14, 2019
EAST / WEST:	Four Mile Run Dr - MINOR																VICINITY:	VA
DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS	
LANES:	0	2	0	0	0	2	0	0	0	2	0	0	0	1	0	0		
11:30 AM	4	5	1	0	0	2	2	0	0	1	0	0	1	0	3	0	19	
11:45 AM	4	3	0	0	0	8	1	0	4	1	1	0	3	0	2	0	27	
12:00 PM	3	2	2	0	0	2	1	0	1	1	4	0	0	0	5	0	21	
12:15 PM	3	6	3	0	0	3	0	0	3	1	3	0	0	0	6	0	28	
12:30 PM	1	3	3	0	1	6	1	0	3	1	4	0	0	0	7	0	30	
12:45 PM	1	5	3	0	0	3	1	0	1	0	2	0	1	0	5	0	22	
1:00 PM	5	4	1	0	2	2	1	0	4	0	4	0	1	1	3	0	28	
1:15 PM	6	7	6	0	0	5	1	0	1	0	5	0	2	0	5	0	38	
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS	
TOTAL:	27	35	19	0	3	31	8	0	17	5	23	0	8	1	36	0	213	
P.H.V.: 1	13	19	13	0	3	16	4	0	9	1	15	0	4	1	20	0	118	
P.H.F.: 2	0.592																0.776	

- (1) Peak Hour Volume (Peak Hour - 1230 PM - 1330 PM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 1245 PM - 100 PM

HEAVY TRUCKS & BUSES TURNING MOVEMENT COUNT

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - PM PEAK

LOCATION#:	301																QTD PROJ#:	2018204
NORTH / SOUTH:	Shirlington Rd - MAJOR																DATE:	Thursday, March 14, 2019
EAST / WEST:	Four Mile Run Dr - MINOR																VICINITY:	VA
DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS	
LANES:	0	2	0	0	0	2	0	0	0	2	0	0	0	1	0	0		
4:30 PM	1	4	2	0	0	6	2	0	1	1	0	0	1	0	1	0	19	
4:45 PM	2	7	1	0	0	5	0	0	2	2	1	0	1	0	0	0	21	
5:00 PM	2	3	0	0	0	3	0	0	2	0	1	0	0	0	0	0	11	
5:15 PM	4	5	1	0	0	3	1	0	1	1	1	0	0	0	0	0	17	
5:30 PM	1	3	2	0	0	3	0	0	0	0	1	0	0	0	0	0	10	
5:45 PM	1	3	0	0	0	4	0	0	0	0	3	0	0	0	0	0	11	
6:00 PM	2	3	0	0	0	2	1	0	0	0	1	0	0	0	0	0	9	
6:15 PM	3	5	0	0	0	5	0	0	0	0	2	0	0	0	0	0	15	
6:30 PM	1	3	0	0	0	4	0	0	2	0	0	0	0	0	0	0	10	
6:45 PM	1	4	2	0	0	3	0	0	0	0	3	0	0	0	0	0	13	
7:00 PM	2	3	0	0	0	4	0	0	1	0	2	0	0	0	1	0	13	
7:15 PM	1	5	0	0	0	1	1	0	1	0	1	0	0	0	0	0	10	
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS	
TOTAL:	21	48	8	0	0	43	5	0	10	4	16	0	2	0	2	0	159	
P.H.V.: 1	9	19	4	0	0	17	3	0	6	4	3	0	2	0	1	0	68	
P.H.F.: 2	0.800																0.810	

- (1) Peak Hour Volume (Peak Hour - 545 PM - 645 PM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 615 PM - 630 PM

PEDESTRIAN CROSSWALK COUNTS

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - AM PEAK

LOCATION#: 301	QTD PROJ#: 2018204
NORTH / SOUTH: Shirlington Rd - MAJOR	DATE: Thursday, March 14, 2019
EAST / WEST: Four Mile Run Dr - MINOR	VICINITY: VA

DIRECTION:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
6:30 AM	2	4	0	0	6
6:45 AM	5	6	0	0	11
7:00 AM	4	8	2	3	17
7:15 AM	7	7	5	4	23
7:30 AM	7	8	1	0	16
7:45 AM	9	9	5	5	28
8:00 AM	8	3	0	6	17
8:15 AM	9	6	1	11	27
8:30 AM	8	5	0	4	17
8:45 AM	0	6	0	0	6
9:00 AM	5	3	0	3	11
9:15 AM	1	3	0	3	7

VOLUME STATS:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
TOTAL:	65	68	14	39	186
P.H.V: 1	34	23	6	26	89
P.H.F: 2	0.944	0.639	0.300	0.591	0.795

- (1) Peak Hour Volume (Peak Hour - 730 AM - 830 AM)
 (2) Peak Hour Factor
 (3) Peak 15m: 745 AM - 800 AM

PEDESTRIAN CROSSWALK COUNTS

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - MD PEAK

LOCATION#: 301	QTD PROJ#: 2018204
NORTH / SOUTH: Shirlington Rd - MAJOR	DATE: Thursday, March 14, 2019
EAST / WEST: Four Mile Run Dr - MINOR	VICINITY: VA

DIRECTION:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
11:30 AM	3	6	0	1	10
11:45 AM	5	4	1	4	14
12:00 PM	7	8	0	1	16
12:15 PM	11	2	0	4	17
12:30 PM	6	9	4	5	24
12:45 PM	3	8	3	4	18
1:00 PM	9	2	0	4	15
1:15 PM	8	3	0	7	18

VOLUME STATS:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
TOTAL:	52	42	8	30	132
P.H.V: 1	26	22	7	20	75
P.H.F: 2	0.722	0.611	0.438	0.714	0.781

- (1) Peak Hour Volume (Peak Hour - 1230 PM - 1330 PM)
 (2) Peak Hour Factor
 (3) Peak 15m: 1245 PM - 100 PM

PEDESTRIAN CROSSWALK COUNTS

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - PM PEAK

LOCATION#: 301	QTD PROJ#: 2018204
NORTH / SOUTH: Shirlington Rd - MAJOR	DATE: Thursday, March 14, 2019
EAST / WEST: Four Mile Run Dr - MINOR	VICINITY: VA

DIRECTION:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
4:30 PM	20	13	0	15	48
4:45 PM	19	17	1	19	56
5:00 PM	23	13	0	12	48
5:15 PM	15	14	0	10	39
5:30 PM	17	20	0	14	51
5:45 PM	34	23	0	27	84
6:00 PM	26	29	1	17	73
6:15 PM	8	20	0	6	34
6:30 PM	19	20	0	17	56
6:45 PM	7	29	0	8	44
7:00 PM	16	20	3	12	51
7:15 PM	5	28	1	3	37

VOLUME STATS:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
TOTAL:	209	246	6	160	621
P.H.V: 1	92	86	1	68	247
P.H.F: 2	0.676	0.741	0.250	0.630	1.286

- (1) Peak Hour Volume (Peak Hour - 545 PM - 645 PM)
 (2) Peak Hour Factor
 (3) Peak 15m: 615 PM - 630 PM



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BICYCLE TURNING MOVEMENT COUNT

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - AM PEAK

LOCATION#: 301 NORTH / SOUTH: Shirlington Rd - MAJOR EAST / WEST: Four Mile Run Dr - MINOR	QTD PROJ#: 2018204 DATE: Thursday, March 14, 2019 VICINITY: VA
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DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0	2	0	0	0	2	0	0	0	2	0	0	0	1	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	2	0	0	0	2	0	0	0	0	1	0	0	0	0	0	5
7:00 AM	1	0	0	0	0	4	0	0	0	0	1	0	0	0	0	0	6
7:15 AM	0	0	0	0	0	5	0	0	0	0	2	0	0	0	0	0	7
7:30 AM	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	10
7:45 AM	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6
8:00 AM	1	0	0	0	0	9	0	0	0	0	0	0	1	0	0	0	11
8:15 AM	0	0	0	0	0	5	0	0	0	0	1	0	0	0	0	0	6
8:30 AM	0	1	0	0	0	10	0	0	0	0	2	0	0	0	0	0	13
8:45 AM	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	4
9:00 AM	0	3	0	0	0	3	0	0	0	0	1	0	0	0	0	0	7
9:15 AM	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
9:30 AM																	
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	
TOTAL:	4	6	1	0	0	57	0	0	0	0	9	0	0	1	0	0	78
P.H.V.:	1	1	0	0	0	30	0	0	0	0	3	0	0	1	0	0	36
P.H.F.:	0.500				0.750				0.375				0.250				0.692

- (1) Peak Hour Volume (Peak Hour - 730 AM - 830 AM)
- (2) Peak Hour Factor (directional aggregate)

BICYCLE TURNING MOVEMENT COUNT

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - MD PEAK

LOCATION#: 301 NORTH / SOUTH: Shirlington Rd - MAJOR EAST / WEST: Four Mile Run Dr - MINOR	QTD PROJ#: 2018204 DATE: Thursday, March 14, 2019 VICINITY: VA
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DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0	2	0	0	0	2	0	0	0	2	0	0	0	1	0	0	
11:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	2	4	0	0	0	1	0	0	1	0	0	0	0	0	0	0	8
12:00 PM	0	4	0	0	0	5	0	0	0	0	0	0	0	0	0	0	9
12:15 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
12:30 PM	0	3	0	0	0	2	1	0	0	0	0	0	0	0	0	0	6
12:45 PM	0	1	0	0	0	5	0	0	0	0	2	0	0	0	0	0	8
1:00 PM	1	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	8
1:15 PM	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	7
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	
TOTAL:	3	21	0	0	0	23	1	0	1	0	2	0	0	0	0	0	51
P.H.V.:	1	11	0	0	0	14	1	0	0	0	2	0	0	0	0	0	29
P.H.F.:	0.600				0.750				0.250				0.000				0.906

- (1) Peak Hour Volume (Peak Hour - 1230 PM - 1330 PM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 1245 PM - 100 PM

BICYCLE TURNING MOVEMENT COUNT

#301 Shirlington Rd - MAJOR & Four Mile Run Dr - MINOR - PM PEAK

LOCATION#: 301 NORTH / SOUTH: Shirlington Rd - MAJOR EAST / WEST: Four Mile Run Dr - MINOR	QTD PROJ#: 2018204 DATE: Thursday, March 14, 2019 VICINITY: VA
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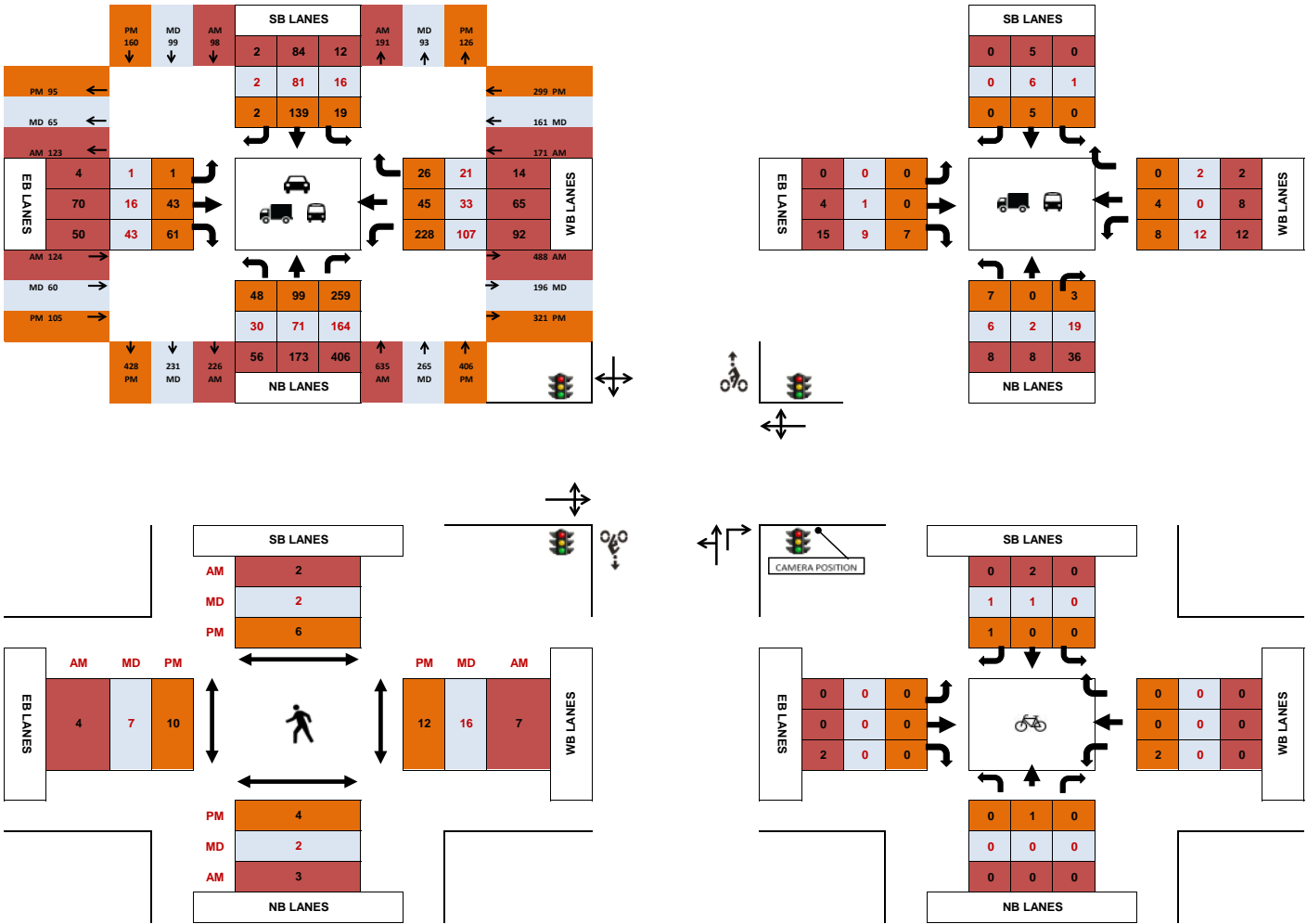
DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0	2	0	0	0	2	0	0	0	2	0	0	0	1	0	0	
4:30 PM	1	13	0	0	0	8	0	0	0	0	1	0	1	1	0	0	25
4:45 PM	0	10	0	0	0	12	0	0	0	0	0	0	1	0	0	0	23
5:00 PM	2	10	0	0	0	13	0	0	0	0	1	0	0	0	0	0	26
5:15 PM	1	10	0	0	0	5	0	0	0	0	0	0	0	1	0	0	17
5:30 PM	1	13	0	0	0	9	0	0	0	0	0	0	0	0	0	0	23
5:45 PM	2	18	0	0	0	20	0	0	0	0	1	0	0	1	0	0	42
6:00 PM	3	12	0	0	0	14	0	0	0	0	1	0	0	0	0	0	30
6:15 PM	0	12	0	0	0	7	0	0	0	0	0	0	0	0	0	0	19
6:30 PM	2	14	0	0	0	8	0	0	0	0	0	0	0	0	0	0	24
6:45 PM	0	7	0	0	0	4	0	0	0	0	0	0	0	0	0	0	11
7:00 PM	0	9	0	0	0	6	0	0	0	0	0	0	0	1	0	0	16
7:15 PM	1	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	
TOTAL:	13	131	0	0	0	109	0	0	0	0	4	0	2	4	0	0	263
P.H.V.:	7	56	0	0	0	49	0	0	0	0	2	0	0	1	0	0	115
P.H.F.:	0.788				0.613				0.500				0.250				0.685

- (1) Peak Hour Volume (Peak Hour - 545 PM - 645 PM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 615 PM - 630 PM

SUMMARY PAGE

#302 Shirlington Rd - MAJOR & 24th St S - MINOR

LOCATION#:	302	QTD PROJ#:	2018204	AM PEAK HOUR:	745 AM - 845 AM
NORTH / SOUTH:	Shirlington Rd - MAJOR	COUNT DATE:	Tuesday, March 12, 2019	MD PEAK HOUR:	1230 PM - 1330 PM
EAST / WEST:	24th St S - MINOR	VICINITY:	VA	PM PEAK HOUR:	515 PM - 615 PM
WEATHER:	NORMAL / CLEAR	AM TOTAL PHF:	0.901	AM PEAK 15-Min:	815 AM - 830 AM
		MD TOTAL PHF:	0.850	MD PEAK 15-Min:	100 PM - 115 PM
		PM TOTAL PHF:	0.883	PM PEAK 15-Min:	545 PM - 600 PM



COMMENTS:

AM COUNT	6:30 AM TO 9:30 AM
MD COUNT	11:30 AM TO 1:30 PM
PM COUNT	4:30 PM TO 7:30 PM

VEHICLE TURNING MOVEMENT COUNT

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - AM PEAK

LOCATION#: 302 NORTH / SOUTH: Shirlington Rd - MAJOR EAST / WEST: 24th St S - MINOR	QTD PROJ#: 2018204 DATE: Tuesday, March 12, 2019 VICINITY: VA
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DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0.5	0.5	1	0	0	1	0	0	0	1	0	0	0.33	0.33	0.33	0	
6:30 AM	2	11	34	0	4	6	1	0	1	6	5	0	11	4	3	0	88
6:45 AM	1	19	28	0	2	3	0	0	0	4	4	0	10	5	2	0	78
7:00 AM	3	21	43	0	3	13	0	0	0	12	5	0	18	2	2	0	122
7:15 AM	7	19	60	0	3	15	0	0	0	16	4	0	24	6	5	0	159
7:30 AM	3	24	78	0	4	18	0	1	0	16	6	0	28	10	5	0	193
7:45 AM	8	31	83	0	3	29	1	0	2	15	11	0	31	12	1	0	227
8:00 AM	10	22	101	0	2	13	1	0	0	16	9	0	21	9	4	0	208
8:15 AM	13	53	107	0	3	17	0	0	0	17	7	0	17	20	4	0	258
8:30 AM	17	59	79	0	4	20	0	0	2	18	8	0	11	16	3	0	237
8:45 AM	23	30	75	0	2	15	0	0	1	23	19	0	22	9	1	0	220
9:00 AM	14	39	49	0	4	18	0	0	1	12	21	0	19	13	2	0	192
9:15 AM	7	24	57	0	1	6	2	0	0	10	9	0	16	6	3	1	142
VOLUME STATS:																	
TOTAL:	108	352	794	0	35	173	5	1	7	165	108	0	228	112	35	1	2124
P.H.V.:	48	165	370	0	12	79	2	0	4	66	35	0	80	57	12	0	930
P.H.F.:		0.842				0.705				0.938				0.847			0.901

- (1) Peak Hour Volume (Peak Hour - 745 AM - 845 AM)
 (2) Peak Hour Factor (directional aggregate)
 (3) Peak 15m: 815 AM - 830 AM

VEHICLE TURNING MOVEMENT COUNT

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - MD PEAK

LOCATION#: 302 NORTH / SOUTH: Shirlington Rd - MAJOR EAST / WEST: 24th St S - MINOR	QTD PROJ#: 2018204 DATE: Tuesday, March 12, 2019 VICINITY: VA
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DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0.5	0.5	1	0	0	1	0	0	0	1	0	0	0.33	0.33	0.33	0	
11:30 AM	3	15	25	0	3	23	0	0	1	8	4	0	24	3	3	0	112
11:45 AM	7	22	25	0	4	15	1	0	2	6	4	0	21	4	4	0	115
12:00 PM	6	17	34	0	2	14	0	0	0	4	9	0	22	5	5	0	118
12:15 PM	4	17	30	0	3	16	0	0	0	5	7	0	18	5	6	0	111
12:30 PM	2	18	34	0	4	19	1	0	1	3	4	0	28	9	5	0	128
12:45 PM	7	19	32	0	1	16	0	0	0	5	7	0	20	1	5	0	113
1:00 PM	6	16	44	0	8	24	1	0	0	2	13	0	25	11	5	0	155
1:15 PM	9	16	35	0	2	16	0	0	0	5	10	0	22	12	4	0	131
VOLUME STATS:																	
TOTAL:	44	140	259	0	27	143	3	0	4	38	58	0	180	50	37	0	983
P.H.V.:	24	69	145	0	15	75	2	0	1	15	34	0	95	33	19	0	527
P.H.F.:		0.902				0.697				0.833				0.875			0.850

- (1) Peak Hour Volume (Peak Hour - 1230 PM - 1330 PM)
 (2) Peak Hour Factor (directional aggregate)
 (3) Peak 15m: 100 PM - 115 PM

VEHICLE TURNING MOVEMENT COUNT

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - PM PEAK

LOCATION#: 302 NORTH / SOUTH: Shirlington Rd - MAJOR EAST / WEST: 24th St S - MINOR	QTD PROJ#: 2018204 DATE: Tuesday, March 12, 2019 VICINITY: VA
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DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0.5	0.5	1	0	0	1	0	0	0	1	0	0	0.33	0.33	0.33	0	
4:30 PM	10	20	50	0	2	31	0	0	1	9	10	0	33	7	10	0	183
4:45 PM	7	20	59	0	10	37	0	0	1	9	12	0	53	10	8	0	226
5:00 PM	9	32	50	0	4	38	0	0	3	12	9	0	44	7	5	0	213
5:15 PM	12	25	50	0	6	31	0	0	0	6	13	0	56	12	4	0	215
5:30 PM	7	25	68	0	5	27	0	0	0	10	14	0	49	10	3	0	218
5:45 PM	12	27	67	0	4	40	1	0	1	17	19	0	65	6	6	0	265
6:00 PM	10	22	71	0	4	36	1	0	0	10	8	0	50	13	13	0	238
6:15 PM	9	24	58	0	8	26	0	0	0	8	6	0	39	12	9	0	199
6:30 PM	10	30	37	0	12	27	0	0	0	8	13	0	40	8	3	0	188
6:45 PM	8	19	64	0	2	19	1	0	1	3	6	0	37	21	5	0	186
7:00 PM	6	20	50	0	5	23	0	0	0	15	5	0	26	9	9	0	168
7:15 PM	5	18	32	0	6	13	0	0	0	9	9	0	25	5	5	0	127
VOLUME STATS:																	
TOTAL:	105	282	656	0	68	348	3	0	7	116	124	0	517	120	80	0	2426
P.H.V.:	41	99	256	0	19	134	2	0	1	43	54	0	220	41	26	0	936
P.H.F.:		0.934				0.861				0.662				0.932			0.883

- (1) Peak Hour Volume (Peak Hour - 515 PM - 615 PM)
 (2) Peak Hour Factor (directional aggregate)
 (3) Peak 15m: 545 PM - 600 PM



HEAVY TRUCKS & BUSES TURNING MOVEMENT COUNT

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - AM PEAK

LOCATION#:	302	QTD PROJ#:	2018204
NORTH / SOUTH:	Shirlington Rd - MAJOR	DATE:	Tuesday, March 12, 2019
EAST / WEST:	24th St S - MINOR	VICINITY:	VA

DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0.5	0.5	1	0	0	1	0	0	0	1	0	0	0.33	0.33	0.33	0	
6:30 AM	1	0	3	0	0	0	0	0	0	2	0	0	0	1	0	0	9
6:45 AM	2	0	9	0	1	2	0	0	0	1	2	0	2	1	0	0	20
7:00 AM	1	0	6	0	0	2	0	0	0	3	1	0	2	2	0	0	17
7:15 AM	3	4	6	0	0	2	0	0	0	2	0	0	1	0	0	0	18
7:30 AM	2	1	8	0	0	1	0	0	1	1	3	0	0	1	1	0	19
7:45 AM	2	1	7	0	0	1	0	0	0	1	4	0	5	1	0	0	22
8:00 AM	1	2	6	0	0	2	0	0	0	1	1	0	1	1	0	0	15
8:15 AM	3	3	12	0	0	2	0	0	0	1	4	0	4	1	1	0	31
8:30 AM	2	2	11	0	0	0	0	0	0	1	6	0	2	5	1	0	30
8:45 AM	2	1	4	0	0	2	1	0	0	1	8	0	1	2	0	0	22
9:00 AM	1	4	6	0	0	1	0	0	0	2	1	0	3	1	0	0	19
9:15 AM	2	0	6	0	0	1	0	0	0	1	2	0	3	0	1	0	16
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
TOTAL:	22	18	84	0	1	16	1	0	1	15	36	0	24	16	4	0	238
P.H.V.:	8	10	33	0	0	5	1	0	0	5	19	0	10	9	2	0	102
P.H.F.:		0.708				0.500				0.667				0.656			0.823

- (1) Peak Hour Volume (Peak Hour - 745 AM - 845 AM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 815 AM - 830 AM

HEAVY TRUCKS & BUSES TURNING MOVEMENT COUNT

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - MD PEAK

LOCATION#:	302	QTD PROJ#:	2018204
NORTH / SOUTH:	Shirlington Rd - MAJOR	DATE:	Tuesday, March 12, 2019
EAST / WEST:	24th St S - MINOR	VICINITY:	VA

DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0.5	0.5	1	0	0	1	0	0	0	1	0	0	0.33	0.33	0.33	0	
11:30 AM	0	1	3	0	0	0	0	0	0	0	2	0	1	0	0	0	7
11:45 AM	3	0	4	0	0	1	0	0	0	0	2	0	0	0	1	0	11
12:00 PM	1	0	5	0	0	2	0	0	0	0	1	0	1	0	1	0	11
12:15 PM	2	1	5	0	0	0	0	0	0	0	3	0	3	0	1	0	15
12:30 PM	1	0	2	0	0	2	0	0	0	0	1	0	2	0	0	0	8
12:45 PM	2	1	7	0	0	0	0	0	0	0	3	0	4	0	1	0	18
1:00 PM	0	1	5	0	1	0	0	0	0	1	2	0	4	0	1	0	15
1:15 PM	3	0	5	0	0	4	0	0	0	0	3	0	2	0	0	0	17
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
TOTAL:	12	4	36	0	1	9	0	0	0	1	17	0	17	0	5	0	102
P.H.V.:	6	2	19	0	1	6	0	0	0	1	9	0	12	0	2	0	58
P.H.F.:		0.675				0.438				0.833				0.700			0.806

- (1) Peak Hour Volume (Peak Hour - 1230 PM - 1330 PM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 100 PM - 115 PM

HEAVY TRUCKS & BUSES TURNING MOVEMENT COUNT

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - PM PEAK

LOCATION#:	302	QTD PROJ#:	2018204
NORTH / SOUTH:	Shirlington Rd - MAJOR	DATE:	Tuesday, March 12, 2019
EAST / WEST:	24th St S - MINOR	VICINITY:	VA

DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0.5	0.5	1	0	0	1	0	0	0	1	0	0	0.33	0.33	0.33	0	
4:30 PM	2	0	3	0	0	3	0	0	0	0	4	0	4	2	1	0	19
4:45 PM	5	1	2	0	0	2	0	0	0	1	3	0	1	0	0	0	15
5:00 PM	1	0	3	0	0	2	0	0	0	1	3	0	3	1	0	0	14
5:15 PM	2	0	1	0	0	2	0	0	0	0	2	0	3	2	0	0	12
5:30 PM	2	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0	6
5:45 PM	1	0	1	0	0	2	0	0	0	0	4	0	2	1	0	0	11
6:00 PM	2	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	5
6:15 PM	2	0	3	0	0	0	0	0	0	0	3	0	1	0	0	0	9
6:30 PM	2	2	3	0	0	0	0	0	0	0	2	0	3	1	0	0	13
6:45 PM	1	1	5	0	0	0	0	0	0	0	2	0	1	1	0	0	11
7:00 PM	2	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	5
7:15 PM	2	0	2	0	0	0	0	0	0	0	1	0	1	1	0	0	7
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
TOTAL:	24	4	24	0	0	12	0	0	0	2	26	0	24	10	1	0	127
P.H.V.:	10	1	9	0	0	9	0	0	0	2	12	0	11	5	1	0	60
P.H.F.:		0.625				0.750				0.875				0.607			0.789

- (1) Peak Hour Volume (Peak Hour - 515 PM - 615 PM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 545 PM - 600 PM



PEDESTRIAN CROSSWALK COUNTS

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - AM PEAK

LOCATION#: 302	QTD PROJ#: 2018204
NORTH / SOUTH: Shirlington Rd - MAJOR	DATE: Tuesday, March 12, 2019
EAST / WEST: 24th St S - MINOR	VICINITY: VA

DIRECTION:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
6:30 AM	1	1	0	0	2
6:45 AM	1	1	1	2	5
7:00 AM	6	1	3	0	10
7:15 AM	10	3	0	0	13
7:30 AM	2	2	0	1	5
7:45 AM	2	1	1	0	4
8:00 AM	1	0	0	0	1
8:15 AM	3	1	0	0	4
8:30 AM	1	2	2	2	7
8:45 AM	4	1	5	2	12
9:00 AM	2	1	0	1	4
9:15 AM	0	1	1	0	2

VOLUME STATS:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
TOTAL:	33	15	13	8	69
P.H.V. 1	19	7	4	3	33
P.H.F. 2	0.475	0.583	0.333	0.375	0.635

- (1) Peak Hour Volume (Peak Hour - 745 AM - 845 AM)
 (2) Peak Hour Factor
 (3) Peak 15m: 815 AM - 830 AM

PEDESTRIAN CROSSWALK COUNTS

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - MD PEAK

LOCATION#: 302	QTD PROJ#: 2018204
NORTH / SOUTH: Shirlington Rd - MAJOR	DATE: Tuesday, March 12, 2019
EAST / WEST: 24th St S - MINOR	VICINITY: VA

DIRECTION:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
11:30 AM	3	2	2	0	7
11:45 AM	2	1	0	0	3
12:00 PM	0	2	0	0	2
12:15 PM	1	1	0	1	3
12:30 PM	4	1	1	0	6
12:45 PM	5	2	0	1	8
1:00 PM	5	3	1	1	10
1:15 PM	2	1	0	0	3

VOLUME STATS:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
TOTAL:	22	13	4	3	42
P.H.V. 1	16	7	2	2	27
P.H.F. 2	0.800	0.583	0.500	0.500	0.675

- (1) Peak Hour Volume (Peak Hour - 1230 PM - 1330 PM)
 (2) Peak Hour Factor
 (3) Peak 15m: 100 PM - 115 PM

PEDESTRIAN CROSSWALK COUNTS

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - PM PEAK

LOCATION#: 302	QTD PROJ#: 2018204
NORTH / SOUTH: Shirlington Rd - MAJOR	DATE: Tuesday, March 12, 2019
EAST / WEST: 24th St S - MINOR	VICINITY: VA

DIRECTION:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
4:30 PM	0	4	0	1	5
4:45 PM	2	1	3	0	6
5:00 PM	5	0	2	0	7
5:15 PM	3	2	2	1	8
5:30 PM	2	1	0	0	3
5:45 PM	3	3	2	5	13
6:00 PM	4	4	0	0	8
6:15 PM	1	4	0	0	5
6:30 PM	5	10	0	1	16
6:45 PM	1	5	0	1	7
7:00 PM	1	1	0	0	2
7:15 PM	4	2	0	1	7

VOLUME STATS:	EASTERN CROSSWALK	WESTERN CROSSWALK	SOUTHERN CROSSWALK	NORTHERN CROSSWALK	TOTALS
TOTAL:	31	37	9	10	87
P.H.V. 1	12	10	4	6	32
P.H.F. 2	0.750	0.625	0.500	0.300	1.192

- (1) Peak Hour Volume (Peak Hour - 515 PM - 615 PM)
 (2) Peak Hour Factor
 (3) Peak 15m: 545 PM - 600 PM



QUALITY TRAFFIC DATA, LLC

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BICYCLE TURNING MOVEMENT COUNT

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - AM PEAK

LOCATION#:	302	QTD PROJ#:	2018204
NORTH / SOUTH:	Shirlington Rd - MAJOR	DATE:	Tuesday, March 12, 2019
EAST / WEST:	24th St S - MINOR	VICINITY:	VA

DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0.5	0.5	1	0	0	1	0	0	0	1	0	0	0.33	0.33	0.33	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM																	
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	
TOTAL:	1	0	0	0	0	3	0	0	0	1	3	0	0	0	0	0	8
P.H.V.:	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	4
P.H.F.:			0.000			0.500				0.250				0.000			0.333

- (1) Peak Hour Volume (Peak Hour - 745 AM - 845 AM)
- (2) Peak Hour Factor (directional aggregate)

BICYCLE TURNING MOVEMENT COUNT

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - MD PEAK

LOCATION#:	302	QTD PROJ#:	2018204
NORTH / SOUTH:	Shirlington Rd - MAJOR	DATE:	Tuesday, March 12, 2019
EAST / WEST:	24th St S - MINOR	VICINITY:	VA

DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0.5	0.5	1	0	0	1	0	0	0	1	0	0	0.33	0.33	0.33	0	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	
TOTAL:	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
P.H.V.:	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
P.H.F.:			0.000			0.500				0.000				0.000			0.500

- (1) Peak Hour Volume (Peak Hour - 1230 PM - 1330 PM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 100 PM - 115 PM

BICYCLE TURNING MOVEMENT COUNT

#302 Shirlington Rd - MAJOR & 24th St S - MINOR - PM PEAK

LOCATION#:	302	QTD PROJ#:	2018204
NORTH / SOUTH:	Shirlington Rd - MAJOR	DATE:	Tuesday, March 12, 2019
EAST / WEST:	24th St S - MINOR	VICINITY:	VA

DIRECTION:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	TOTALS
LANES:	0.5	0.5	1	0	0	1	0	0	0	1	0	0	0.33	0.33	0.33	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
6:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3
6:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
6:30 PM	0	1	0	0	0	3	0	0	0	0	2	0	0	0	0	0	6
6:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
VOLUME STATS:	NL	NT	NR	U	SL	ST	SR	U	EL	ET	ER	U	WL	WT	WR	U	
TOTAL:	2	3	0	0	0	4	1	0	0	0	2	0	2	1	0	0	15
P.H.V.:	1	3	0	0	0	3	0	0	0	0	2	0	2	1	0	0	12
P.H.F.:			1.000			0.250				0.250				0.375			0.500

- (1) Peak Hour Volume (Peak Hour - 515 PM - 615 PM)
- (2) Peak Hour Factor (directional aggregate)
- (3) Peak 15m: 545 PM - 600 PM



Average Daily Traffic Volumes Quality Traffic Data, LLC

QTD PROJ/LOC #:	2018232 - 005	WEATHER:	Normal
ON STREET:	S Lowell St	START DATE:	Tuesday, October 02, 2018
CROSS STREETS:	between S Monroe St & S Lincoln St	VICINITY:	Arlington

AM COUNTS					PM COUNTS				
NB	SB	EB	WB		NB	SB	EB	WB	
00:00		3	2		12:00		2	5	
00:15		1	1		12:15		1	2	
00:30		0	2		12:30		0	5	
00:45		1	5	0	12:45		3	6	1
01:00		1	0		13:00		1	4	
01:15		0	1		13:15		6	2	
01:30		0	0		13:30		5	2	
01:45		0	7	1	13:45		2	14	1
02:00		0	0		14:00		4	4	
02:15		0	0		14:15		5	2	
02:30		0	0		14:30		3	6	
02:45		1	7	0	14:45		5	17	6
03:00		0	2		15:00		2	3	
03:15		0	0		15:15		10	5	
03:30		0	0		15:30		7	9	
03:45		0	0	2	15:45		2	21	9
04:00		1	0		16:00		7	9	
04:15		0	2		16:15		4	6	
04:30		0	2		16:30		2	2	
04:45		0	7	2	16:45		6	19	5
05:00		0	3		17:00		8	6	
05:15		2	0		17:15		6	6	
05:30		2	0		17:30		7	1	
05:45		1	5	1	17:45		7	28	5
06:00		0	1		18:00		3	4	
06:15		2	3		18:15		3	9	
06:30		1	2		18:30		4	8	
06:45		3	6	2	18:45		0	10	3
07:00		4	2		19:00		2	3	
07:15		0	3		19:15		3	3	
07:30		5	4		19:30		1	2	
07:45		4	13	6	19:45		4	10	4
08:00		1	2		20:00		4	4	
08:15		2	4		20:15		4	5	
08:30		2	4		20:30		3	1	
08:45		2	7	4	20:45		3	14	0
09:00		5	2		21:00		5	2	
09:15		2	4		21:15		1	3	
09:30		2	2		21:30		5	2	
09:45		1	10	2	21:45		3	14	5
10:00		2	1		22:00		3	2	
10:15		3	3		22:15		0	1	
10:30		2	1		22:30		5	2	
10:45		1	8	3	22:45		2	10	0
11:00		3	1		23:00		1	1	
11:15		2	1		23:15		1	3	
11:30		2	2		23:30		1	0	
11:45		3	10	1	23:45		2	5	0
TOTALS:		67	79	146	TOTALS:		168	173	341

SPLIT	45.9%	54.1%	30.0%	SPLIT	49.3%	50.7%	70.0%
PEAK HOUR	07:00	07:30	07:00	PEAK HOUR	17:00	15:30	15:15
PH VOLUME	13	16	28	PH VOLUME	28	33	58
PHF	0.65	0.67	0.70	PHF	0.88	0.92	0.91

DAY'S TOTAL				
NB	SB	EB	WB	TOTAL
		235	252	487



Average Daily Traffic Volumes

Quality Traffic Data, LLC

QTD PROJ/LOC #:	2018232 - 005	WEATHER:	Normal
ON STREET:	S Lowell St	START DATE:	Wednesday, October 03, 2018
CROSS STREETS:	between S Monroe St & S Lincoln St	VICINITY:	Arlington

AM COUNTS					PM COUNTS						
NB	SB	EB	WB	TOTAL	NB	SB	EB	WB	TOTAL		
00:00		2	2		12:00		2	4			
00:15		2	0		12:15		4	4			
00:30		1	0		12:30		5	3			
00:45		0	5	2	12:45		5	16	3	14	30
01:00		1	0		13:00		4	2			
01:15		0	0		13:15		3	3			
01:30		0	1		13:30		3	4			
01:45		0	1	0	13:45		2	12	3	12	24
02:00		0	0		14:00		1	6			
02:15		0	0		14:15		4	3			
02:30		0	0		14:30		3	4			
02:45		0	0	0	14:45		3	11	4	17	28
03:00		0	0		15:00		2	6			
03:15		0	0		15:15		6	6			
03:30		0	0		15:30		4	4			
03:45		0	0	1	15:45		4	16	7	23	39
04:00		0	0		16:00		1	3			
04:15		0	1		16:15		6	9			
04:30		2	0		16:30		2	5			
04:45		1	3	0	16:45		5	14	9	26	40
05:00		0	0		17:00		7	4			
05:15		2	1		17:15		8	8			
05:30		3	2		17:30		10	5			
05:45		1	6	0	17:45		5	30	4	21	51
06:00		4	0		18:00		2	3			
06:15		2	0		18:15		4	5			
06:30		4	0		18:30		2	11			
06:45		4	14	1	18:45		2	10	7	26	36
07:00		3	7		19:00		1	6			
07:15		5	3		19:15		4	4			
07:30		3	1		19:30		2	6			
07:45		6	17	11	19:45		3	10	3	19	29
08:00		5	6		20:00		5	5			
08:15		2	1		20:15		1	2			
08:30		4	2		20:30		1	3			
08:45		2	13	0	20:45		4	11	3	13	24
09:00		2	0		21:00		5	5			
09:15		1	1		21:15		2	3			
09:30		2	1		21:30		2	4			
09:45		6	11	6	21:45		4	13	4	16	29
10:00		0	4		22:00		5	2			
10:15		7	3		22:15		2	1			
10:30		4	2		22:30		2	2			
10:45		1	12	1	22:45		1	10	1	6	16
11:00		6	1		23:00		3	0			
11:15		5	4		23:15		4	0			
11:30		3	0		23:30		1	0			
11:45		3	17	4	23:45		2	10	1	1	11
TOTALS:		99	69	168	TOTALS:		163	194	357		

SPLIT	58.9%	41.1%	32.0%	SPLIT	45.7%	54.3%	68.0%
PEAK HOUR	07:15	07:00	07:15	PEAK HOUR	16:45	18:15	16:45
PH VOLUME	19	22	40	PH VOLUME	30	29	56
PHF	0.79	0.50	0.59	PHF	0.75	0.66	0.88

DAY'S TOTAL				
NB	SB	EB	WB	TOTAL
		262	263	525



QUALITY TRAFFIC DATA, LLC

Phone: 877-852-4355 Fax: 877-877-3698 Info@QualityTrafficData.com

Average Daily Traffic Volumes Quality Traffic Data, LLC

QTD PROJ/LOC #:	2018232 - 005	WEATHER:	Normal
ON STREET:	S Lowell St		
CROSS STREETS:	between S Monroe St & S Lincoln St	VICINITY:	Arlington

AM COUNTS						PM COUNTS					
	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
00:00	0	0	5	5	10	12:00	0	0	11	14	25
01:00	0	0	1	2	3	13:00	0	0	13	11	24
02:00	0	0	1	0	1	14:00	0	0	14	18	32
03:00	0	0	0	2	2	15:00	0	0	19	25	43
04:00	0	0	2	4	6	16:00	0	0	17	24	41
05:00	0	0	6	4	9	17:00	0	0	29	20	49
06:00	0	0	10	5	15	18:00	0	0	10	25	35
07:00	0	0	15	19	34	19:00	0	0	10	16	26
08:00	0	0	10	12	22	20:00	0	0	13	12	24
09:00	0	0	11	9	20	21:00	0	0	14	14	28
10:00	0	0	10	9	19	22:00	0	0	10	6	16
11:00	0	0	14	7	21	23:00	0	0	8	3	10
TOTALS:			83	74	157	TOTALS:			166	184	349

SPLIT	52.9%	47.1%	31.0%	SPLIT	47.4%	52.6%	69.0%
PEAK HOUR	07:00	07:00	07:00	PEAK HOUR	17:00	18:00	17:00
PH VOLUME	15	19	34	PH VOLUME	29	25	49
PHF	0.25	0.25	0.25	PHF	0.25	0.25	0.25

DAY'S TOTAL					
	NB	SB	EB	WB	TOTAL
			249	258	506



QUALITY TRAFFIC DATA, LLC

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SPEED PROFILE

S Monroe St - between 24th Rd S & 25th St S (NORTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Tuesday, October 02, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200	Total
0:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
1:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
2:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
6:00	1	2	2	0	0	0	0	0	0	0	0	0	0	5
7:00	2	9	6	1	0	0	0	0	0	0	0	0	0	18
8:00	4	9	8	0	0	0	0	0	0	0	0	0	0	21
9:00	1	9	5	1	0	0	0	0	0	0	0	0	0	16
10:00	2	1	5	1	0	0	0	0	0	0	0	0	0	9
11:00	2	5	4	0	0	0	0	0	0	0	0	0	0	11
12:00	1	2	2	1	0	0	0	0	0	0	0	0	0	6
13:00	4	7	4	0	0	0	0	0	0	0	0	0	0	15
14:00	2	10	4	1	0	0	0	0	0	0	0	0	0	17
15:00	3	15	4	1	0	0	0	0	0	0	0	0	0	23
16:00	1	12	5	2	0	0	0	0	0	0	0	0	0	20
17:00	8	11	5	0	0	0	0	0	0	0	0	0	0	24
18:00	0	8	8	1	0	0	0	0	0	0	0	0	0	17
19:00	6	8	6	0	0	0	0	0	0	0	0	0	0	20
20:00	0	3	3	1	0	0	0	0	0	0	0	0	0	7
21:00	2	6	6	0	0	0	0	0	0	0	0	0	0	14
22:00	2	5	1	0	0	0	0	0	0	0	0	0	0	8
23:00	1	2	0	1	0	0	0	0	0	0	0	0	0	4
Total	44	129	81	11	0	0	0	0	0	0	0	0	0	265
% of Total	17%	49%	31%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

PERCENTILE SPEEDS:	85% 23.2 mph
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10 MPH PACE:	SPEED 15 - 25 MPH
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MEAN	MEDIAN	MODE
17.70	18.43	17.00



QUALITY TRAFFIC DATA, LLC

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SPEED PROFILE

S Monroe St - between 24th Rd S & 25th St S (SOUTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Tuesday, October 02, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200	Total
0:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
1:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
2:00	0	0	1	2	0	0	0	0	0	0	0	0	0	3
3:00	0	0	2	1	0	0	0	0	0	0	0	0	0	3
4:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:00	1	3	2	1	0	0	0	0	0	0	0	0	0	7
6:00	2	6	1	2	0	0	0	0	0	0	0	0	0	11
7:00	1	1	4	0	0	0	0	0	0	0	0	0	0	6
8:00	0	8	10	1	0	0	0	0	0	0	0	0	0	19
9:00	5	6	6	1	0	0	0	0	0	0	0	0	0	18
10:00	1	6	7	0	0	0	0	0	0	0	0	0	0	14
11:00	1	4	3	0	0	0	0	0	0	0	0	0	0	8
12:00	3	6	0	1	0	0	0	0	0	0	0	0	0	10
13:00	1	6	4	3	0	0	0	0	0	0	0	0	0	14
14:00	0	12	5	0	0	0	0	0	0	0	0	0	0	17
15:00	3	7	10	1	0	0	0	0	0	0	0	0	0	21
16:00	4	10	6	1	0	0	0	0	0	0	0	0	0	21
17:00	8	5	5	0	0	0	0	0	0	0	0	0	0	18
18:00	6	6	8	0	0	0	0	0	0	0	0	0	0	20
19:00	8	8	4	0	0	0	0	0	0	0	0	0	0	20
20:00	5	5	8	2	0	0	0	0	0	0	0	0	0	20
21:00	1	5	8	1	0	0	0	0	0	0	0	0	0	15
22:00	0	4	6	0	0	0	0	0	0	0	0	0	0	10
23:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	50	115	105	17	0	0	0	0	0	0	0	0	0	287
% of Total	17%	40%	37%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

PERCENTILE SPEEDS:	85% 23.8 mph
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10 MPH PACE:	SPEED 15 - 25 MPH
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MEAN	MEDIAN	MODE
18.11	19.07	17.00



QUALITY TRAFFIC DATA, LLC

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SPEED PROFILE

S Monroe St - between 24th Rd S & 25th St S (COMBINED)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Tuesday, October 02, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200	Total
0:00	1	4	1	0	0	0	0	0	0	0	0	0	0	6
1:00	1	3	2	0	0	0	0	0	0	0	0	0	0	6
2:00	0	1	2	2	0	0	0	0	0	0	0	0	0	5
3:00	0	1	2	1	0	0	0	0	0	0	0	0	0	4
4:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
5:00	1	4	4	1	0	0	0	0	0	0	0	0	0	10
6:00	3	8	3	2	0	0	0	0	0	0	0	0	0	16
7:00	3	10	10	1	0	0	0	0	0	0	0	0	0	24
8:00	4	17	18	1	0	0	0	0	0	0	0	0	0	40
9:00	6	15	11	2	0	0	0	0	0	0	0	0	0	34
10:00	3	7	12	1	0	0	0	0	0	0	0	0	0	23
11:00	3	9	7	0	0	0	0	0	0	0	0	0	0	19
12:00	4	8	2	2	0	0	0	0	0	0	0	0	0	16
13:00	5	13	8	3	0	0	0	0	0	0	0	0	0	29
14:00	2	22	9	1	0	0	0	0	0	0	0	0	0	34
15:00	6	22	14	2	0	0	0	0	0	0	0	0	0	44
16:00	5	22	11	3	0	0	0	0	0	0	0	0	0	41
17:00	16	16	10	0	0	0	0	0	0	0	0	0	0	42
18:00	6	14	16	1	0	0	0	0	0	0	0	0	0	37
19:00	14	16	10	0	0	0	0	0	0	0	0	0	0	40
20:00	5	8	11	3	0	0	0	0	0	0	0	0	0	27
21:00	3	11	14	1	0	0	0	0	0	0	0	0	0	29
22:00	2	9	7	0	0	0	0	0	0	0	0	0	0	18
23:00	1	2	2	1	0	0	0	0	0	0	0	0	0	6
Total	94	244	186	28	0	0	0	0	0	0	0	0	0	552
% of Total	17%	44%	34%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

PERCENTILE SPEEDS:	85% 23.5 mph
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10 MPH PACE:	SPEED 15 - 25 MPH
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MEAN 17.91	MEDIAN 18.73	MODE 17.00
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QUALITY TRAFFIC DATA, LLC

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SPEED PROFILE

S Monroe St - between 24th Rd S & 25th St S (NORTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Wednesday, October 03, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200	Total
0:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:00	1	2	0	0	0	0	0	0	0	0	0	0	0	3
5:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
6:00	2	1	3	0	0	0	0	0	0	0	0	0	0	6
7:00	2	10	5	1	0	0	0	0	0	0	0	0	0	18
8:00	3	8	6	3	0	0	0	0	0	0	0	0	0	20
9:00	4	4	9	1	0	0	0	0	0	0	0	0	0	18
10:00	4	9	4	1	0	0	0	0	0	0	0	0	0	18
11:00	2	7	5	1	0	0	0	0	0	0	0	0	0	15
12:00	1	6	7	0	0	0	0	0	0	0	0	0	0	14
13:00	1	5	5	0	0	0	0	0	0	0	0	0	0	11
14:00	6	8	5	0	0	0	0	0	0	0	0	0	0	19
15:00	3	10	7	1	0	0	0	0	0	0	0	0	0	21
16:00	4	11	9	0	1	0	0	0	0	0	0	0	0	25
17:00	3	13	5	0	0	0	0	0	0	0	0	0	0	21
18:00	4	9	9	0	0	0	0	0	0	0	0	0	0	22
19:00	4	7	2	0	0	0	0	0	0	0	0	0	0	13
20:00	6	5	4	0	0	0	0	0	0	0	0	0	0	15
21:00	1	2	0	0	0	0	0	0	0	0	0	0	0	3
22:00	2	1	1	0	0	0	0	0	0	0	0	0	0	4
23:00	3	5	0	0	0	0	0	0	0	0	0	0	0	8
Total	56	126	89	8	1	0	0	0	0	0	0	0	0	280
% of Total	20%	45%	32%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

PERCENTILE SPEEDS:	85% 23.1 mph
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10 MPH PACE:	SPEED 15 - 25 MPH
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MEAN 17.43	MEDIAN 18.33	MODE 17.00
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QUALITY TRAFFIC DATA, LLC

Phone: 877-852-4355 Fax: 877-877-3698 Info@QualityTrafficData.com

SPEED PROFILE

S Monroe St - between 24th Rd S & 25th St S (SOUTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Wednesday, October 03, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200	Total
0:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	1	1	1	0	0	0	0	0	0	0	0	0	0	3
5:00	2	6	3	0	0	0	0	0	0	0	0	0	0	11
6:00	3	4	4	0	0	0	0	0	0	0	0	0	0	11
7:00	2	6	4	1	0	0	0	0	0	0	0	0	0	13
8:00	3	4	4	3	0	0	0	0	0	0	0	0	0	14
9:00	2	6	4	2	0	0	0	0	0	0	0	0	0	14
10:00	1	6	0	1	0	0	0	0	0	0	0	0	0	8
11:00	2	7	4	0	0	0	0	0	0	0	0	0	0	13
12:00	2	4	4	0	0	0	0	0	0	0	0	0	0	10
13:00	6	7	15	1	0	0	0	0	0	0	0	0	0	29
14:00	7	8	4	2	0	0	0	0	0	0	0	0	0	21
15:00	2	10	13	2	1	0	0	0	0	0	0	0	0	28
16:00	4	5	7	1	0	0	0	0	0	0	0	0	0	17
17:00	4	10	4	2	0	0	0	0	0	0	0	0	0	20
18:00	7	7	9	0	0	0	0	0	0	0	0	0	0	23
19:00	4	12	2	2	0	0	0	0	0	0	0	0	0	20
20:00	3	9	8	0	0	0	0	0	0	0	0	0	0	20
21:00	2	7	1	1	0	0	0	0	0	0	0	0	0	11
22:00	3	5	2	0	0	0	0	0	0	0	0	0	0	10
23:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
Total	61	126	93	18	1	0	0	0	0	0	0	0	0	299
% of Total	20%	42%	31%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

PERCENTILE SPEEDS:	85% 23.6 mph
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10 MPH PACE:	SPEED 15 - 25 MPH
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MEAN 17.68	MEDIAN 18.51	MODE 17.00
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QUALITY TRAFFIC DATA, LLC

Phone: 877-852-4355 Fax: 877-877-3698 Info@QualityTrafficData.com

SPEED PROFILE

S Monroe St - between 24th Rd S & 25th St S (COMBINED)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Wednesday, October 03, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200	Total
0:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:00	2	3	1	0	0	0	0	0	0	0	0	0	0	6
5:00	2	8	4	0	0	0	0	0	0	0	0	0	0	14
6:00	5	5	7	0	0	0	0	0	0	0	0	0	0	17
7:00	4	16	9	2	0	0	0	0	0	0	0	0	0	31
8:00	6	12	10	6	0	0	0	0	0	0	0	0	0	34
9:00	6	10	13	3	0	0	0	0	0	0	0	0	0	32
10:00	5	15	4	2	0	0	0	0	0	0	0	0	0	26
11:00	4	14	9	1	0	0	0	0	0	0	0	0	0	28
12:00	3	10	11	0	0	0	0	0	0	0	0	0	0	24
13:00	7	12	20	1	0	0	0	0	0	0	0	0	0	40
14:00	13	16	9	2	0	0	0	0	0	0	0	0	0	40
15:00	5	20	20	3	1	0	0	0	0	0	0	0	0	49
16:00	8	16	16	1	1	0	0	0	0	0	0	0	0	42
17:00	7	23	9	2	0	0	0	0	0	0	0	0	0	41
18:00	11	16	18	0	0	0	0	0	0	0	0	0	0	45
19:00	8	19	4	2	0	0	0	0	0	0	0	0	0	33
20:00	9	14	12	0	0	0	0	0	0	0	0	0	0	35
21:00	3	9	1	1	0	0	0	0	0	0	0	0	0	14
22:00	5	6	3	0	0	0	0	0	0	0	0	0	0	14
23:00	4	6	0	0	0	0	0	0	0	0	0	0	0	10
Total	117	252	182	26	2	0	0	0	0	0	0	0	0	579
% of Total	20%	44%	31%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

PERCENTILE SPEEDS:	85% 23.4 mph
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10 MPH PACE:	SPEED 15 - 25 MPH
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MEAN 17.56	MEDIAN 18.42	MODE 17.00
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QUALITY TRAFFIC DATA, LLC

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AVERAGE - SPEED PROFILE

S Monroe St - between 24th Rd S & 25th St S (NORTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St		
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200	Total
0:00	1	1	1	0	0	0	0	0	0	0	0	0	0	2
1:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
2:00	0	1	1	0	0	0	0	0	0	0	0	0	0	1
3:00	0	1	1	0	0	0	0	0	0	0	0	0	0	1
4:00	1	2	0	0	0	0	0	0	0	0	0	0	0	2
5:00	0	2	2	0	0	0	0	0	0	0	0	0	0	3
6:00	2	2	3	0	0	0	0	0	0	0	0	0	0	6
7:00	2	10	6	1	0	0	0	0	0	0	0	0	0	18
8:00	4	9	7	2	0	0	0	0	0	0	0	0	0	21
9:00	3	7	7	1	0	0	0	0	0	0	0	0	0	17
10:00	3	5	5	1	0	0	0	0	0	0	0	0	0	14
11:00	2	6	5	1	0	0	0	0	0	0	0	0	0	13
12:00	1	4	5	1	0	0	0	0	0	0	0	0	0	10
13:00	3	6	5	0	0	0	0	0	0	0	0	0	0	13
14:00	4	9	5	1	0	0	0	0	0	0	0	0	0	18
15:00	3	13	6	1	0	0	0	0	0	0	0	0	0	22
16:00	3	12	7	1	1	0	0	0	0	0	0	0	0	23
17:00	6	12	5	0	0	0	0	0	0	0	0	0	0	23
18:00	2	9	9	1	0	0	0	0	0	0	0	0	0	20
19:00	5	8	4	0	0	0	0	0	0	0	0	0	0	17
20:00	3	4	4	1	0	0	0	0	0	0	0	0	0	11
21:00	2	4	3	0	0	0	0	0	0	0	0	0	0	9
22:00	2	3	1	0	0	0	0	0	0	0	0	0	0	6
23:00	2	4	0	1	0	0	0	0	0	0	0	0	0	6
Total	50	128	85	10	1	0	0	0	0	0	0	0	0	273
% of Total	18%	47%	31%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

PERCENTILE SPEEDS:	85% 23.4 mph
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10 MPH PACE:	SPEED 15 - 25 MPH
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MEAN 17.65	MEDIAN 18.45	MODE 17.00
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QUALITY TRAFFIC DATA, LLC

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AVERAGE - SPEED PROFILE

S Monroe St - between 24th Rd S & 25th St S (SOUTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St		
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200	Total
0:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
1:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
2:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
3:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
4:00	1	1	1	0	0	0	0	0	0	0	0	0	0	2
5:00	2	5	3	1	0	0	0	0	0	0	0	0	0	9
6:00	3	5	3	1	0	0	0	0	0	0	0	0	0	11
7:00	2	4	4	1	0	0	0	0	0	0	0	0	0	10
8:00	2	6	7	2	0	0	0	0	0	0	0	0	0	17
9:00	4	6	5	2	0	0	0	0	0	0	0	0	0	16
10:00	1	6	4	1	0	0	0	0	0	0	0	0	0	11
11:00	2	6	4	0	0	0	0	0	0	0	0	0	0	11
12:00	3	5	2	1	0	0	0	0	0	0	0	0	0	10
13:00	4	7	10	2	0	0	0	0	0	0	0	0	0	22
14:00	4	10	5	1	0	0	0	0	0	0	0	0	0	19
15:00	3	9	12	2	1	0	0	0	0	0	0	0	0	25
16:00	4	8	7	1	0	0	0	0	0	0	0	0	0	19
17:00	6	8	5	1	0	0	0	0	0	0	0	0	0	19
18:00	7	7	9	0	0	0	0	0	0	0	0	0	0	22
19:00	6	10	3	1	0	0	0	0	0	0	0	0	0	20
20:00	4	7	8	1	0	0	0	0	0	0	0	0	0	20
21:00	2	6	5	1	0	0	0	0	0	0	0	0	0	13
22:00	2	5	4	0	0	0	0	0	0	0	0	0	0	10
23:00	1	1	1	0	0	0	0	0	0	0	0	0	0	2
Total	56	121	99	18	1	0	0	0	0	0	0	0	0	293
% of Total	19%	41%	34%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

PERCENTILE SPEEDS:	85% 23.8 mph
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10 MPH PACE:	SPEED 15 - 25 MPH
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MEAN 17.89	MEDIAN 18.79	MODE 17.00
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QUALITY TRAFFIC DATA, LLC

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AVERAGE - SPEED PROFILE

S Monroe St - between 24th Rd S & 25th St S (COMBINED)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St		
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200	Total
0:00	1	3	1	0	0	0	0	0	0	0	0	0	0	5
1:00	1	2	1	0	0	0	0	0	0	0	0	0	0	3
2:00	0	1	1	1	0	0	0	0	0	0	0	0	0	3
3:00	0	1	2	1	0	0	0	0	0	0	0	0	0	3
4:00	1	3	1	0	0	0	0	0	0	0	0	0	0	4
5:00	2	6	4	1	0	0	0	0	0	0	0	0	0	12
6:00	4	7	5	1	0	0	0	0	0	0	0	0	0	17
7:00	4	13	10	2	0	0	0	0	0	0	0	0	0	28
8:00	5	15	14	4	0	0	0	0	0	0	0	0	0	37
9:00	6	13	12	3	0	0	0	0	0	0	0	0	0	33
10:00	4	11	8	2	0	0	0	0	0	0	0	0	0	25
11:00	4	12	8	1	0	0	0	0	0	0	0	0	0	24
12:00	4	9	7	1	0	0	0	0	0	0	0	0	0	20
13:00	6	13	14	2	0	0	0	0	0	0	0	0	0	35
14:00	8	19	9	2	0	0	0	0	0	0	0	0	0	37
15:00	6	21	17	3	1	0	0	0	0	0	0	0	0	47
16:00	7	19	14	2	1	0	0	0	0	0	0	0	0	42
17:00	12	20	10	1	0	0	0	0	0	0	0	0	0	42
18:00	9	15	17	1	0	0	0	0	0	0	0	0	0	41
19:00	11	18	7	1	0	0	0	0	0	0	0	0	0	37
20:00	7	11	12	2	0	0	0	0	0	0	0	0	0	31
21:00	3	10	8	1	0	0	0	0	0	0	0	0	0	22
22:00	4	8	5	0	0	0	0	0	0	0	0	0	0	16
23:00	3	4	1	1	0	0	0	0	0	0	0	0	0	8
Total	106	248	184	27	1	0	0	0	0	0	0	0	0	566
% of Total	19%	44%	33%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

PERCENTILE SPEEDS:	85% 23.6 mph
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10 MPH PACE:	SPEED 15 - 25 MPH
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MEAN 17.78	MEDIAN 18.59	MODE 17.00
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QUALITY TRAFFIC DATA, LLC

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VEHICLE CLASSIFICATIONS

S Monroe St - between 24th Rd S & 25th St S (NORTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Tuesday, October 02, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
0:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
6:00	0	2	2	0	0	0	0	1	0	0	0	0	0	5
7:00	0	16	1	1	0	0	0	0	0	0	0	0	0	18
8:00	0	17	2	0	1	0	0	1	0	0	0	0	0	21
9:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16
10:00	0	6	3	0	0	0	0	0	0	0	0	0	0	9
11:00	0	9	1	0	0	0	0	1	0	0	0	0	0	11
12:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
13:00	1	12	2	0	0	0	0	0	0	0	0	0	0	15
14:00	0	12	5	0	0	0	0	0	0	0	0	0	0	17
15:00	0	17	3	1	1	1	0	0	0	0	0	0	0	23
16:00	1	16	1	0	1	1	0	0	0	0	0	0	0	20
17:00	1	20	3	0	0	0	0	0	0	0	0	0	0	24
18:00	0	15	2	0	0	0	0	0	0	0	0	0	0	17
19:00	2	14	2	0	0	0	1	0	1	0	0	0	0	20
20:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
21:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
22:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
23:00	0	2	1	0	0	1	0	0	0	0	0	0	0	4
TOTAL	5	216	31	2	3	3	1	3	1	0	0	0	0	265
% of Total:	2%	82%	12%	1%	1%	1%	0%	1%	0%	0%	0%	0%	0%	

7 - 9 AM Peak Total
39

12 - 2 PM Peak Total
21

4 - 6 PM Peak Total
44

FHWA Vehicle Classification Scheme

- | | | | | | |
|---|------------------------|---|-----------------------------------|----|-----------------------------------|
| 1 | MOTORCYCLES | 5 | TWO AXLE, SIX TIRE SINGLE UNIT | 9 | FIVE-AXLE SINGLE TRAILER |
| 2 | PASSENGER CARS | 6 | THREE AXLE, SINGLE UNIT | 10 | SIX OR MORE AXLE, SINGLE TRAILER |
| 3 | FOUR TIRE, SINGLE UNIT | 7 | FOUR OR MORE AXLE, SINGLE UNIT | 11 | FIVE OR LESS AXLE, MULTI TRAILER |
| 4 | BUSES | 8 | FOUR OR LESS AXLE, SINGLE TRAILER | 12 | SIX AXLE, MULTI TRAILER |
| | | | | 13 | SEVEN OR MORE AXLE, MULTI-TRAILER |



VEHICLE CLASSIFICATIONS

S Monroe St - between 24th Rd S & 25th St S (SOUTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Tuesday, October 02, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
0:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
1:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
2:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
3:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
4:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00	1	4	0	0	0	1	1	0	0	0	0	0	0	7
6:00	0	6	2	1	1	1	0	0	0	0	0	0	0	11
7:00	0	4	1	1	0	0	0	0	0	0	0	0	0	6
8:00	0	15	2	2	0	0	0	0	0	0	0	0	0	19
9:00	4	12	0	0	1	1	0	0	0	0	0	0	0	18
10:00	3	10	1	0	0	0	0	0	0	0	0	0	0	14
11:00	0	5	1	0	1	1	0	0	0	0	0	0	0	8
12:00	2	4	4	0	0	0	0	0	0	0	0	0	0	10
13:00	0	12	2	0	0	0	0	0	0	0	0	0	0	14
14:00	0	11	5	0	0	1	0	0	0	0	0	0	0	17
15:00	0	17	1	1	1	0	0	1	0	0	0	0	0	21
16:00	0	17	3	0	0	0	0	0	0	0	0	0	1	21
17:00	0	15	1	0	1	1	0	0	0	0	0	0	0	18
18:00	0	15	4	0	0	1	0	0	0	0	0	0	0	20
19:00	5	12	1	0	0	2	0	0	0	0	0	0	0	20
20:00	2	14	0	0	0	3	0	0	1	0	0	0	0	20
21:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
22:00	2	8	0	0	0	0	0	0	0	0	0	0	0	10
23:00	0	1	0	0	0	0	0	1	0	0	0	0	0	2
TOTAL	19	211	29	5	5	12	1	2	2	0	0	0	1	287
% of Total:	7%	74%	10%	2%	2%	4%	0%	1%	1%	0%	0%	0%	0%	

7 - 9 AM Peak Total
25

12 - 2 PM Peak Total
24

4 - 6 PM Peak Total
39

FHWA Vehicle Classification Scheme

- | | | | | | |
|---|------------------------|---|-----------------------------------|----|-----------------------------------|
| 1 | MOTORCYCLES | 5 | TWO AXLE, SIX TIRE SINGLE UNIT | 9 | FIVE-AXLE SINGLE TRAILER |
| 2 | PASSENGER CARS | 6 | THREE AXLE, SINGLE UNIT | 10 | SIX OR MORE AXLE, SINGLE TRAILER |
| 3 | FOUR TIRE, SINGLE UNIT | 7 | FOUR OR MORE AXLE, SINGLE UNIT | 11 | FIVE OR LESS AXLE, MULTI TRAILER |
| 4 | BUSES | 8 | FOUR OR LESS AXLE, SINGLE TRAILER | 12 | SIX AXLE, MULTI TRAILER |
| | | | | 13 | SEVEN OR MORE AXLE, MULTI-TRAILER |



QUALITY TRAFFIC DATA, LLC

Phone: 877-852-4355 Fax: 877-877-3698 Info@QualityTrafficData.com

VEHICLE CLASSIFICATIONS

S Monroe St - between 24th Rd S & 25th St S (COMBINED)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Tuesday, October 02, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
0:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
1:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
2:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
4:00	0	1	0	0	0	0	0	0	1	0	0	0	0	2
5:00	1	7	0	0	0	1	1	0	0	0	0	0	0	10
6:00	0	8	4	1	1	1	0	1	0	0	0	0	0	16
7:00	0	20	2	2	0	0	0	0	0	0	0	0	0	24
8:00	0	32	4	2	1	0	0	1	0	0	0	0	0	40
9:00	4	26	2	0	1	1	0	0	0	0	0	0	0	34
10:00	3	16	4	0	0	0	0	0	0	0	0	0	0	23
11:00	0	14	2	0	1	1	0	1	0	0	0	0	0	19
12:00	2	10	4	0	0	0	0	0	0	0	0	0	0	16
13:00	1	24	4	0	0	0	0	0	0	0	0	0	0	29
14:00	0	23	10	0	0	1	0	0	0	0	0	0	0	34
15:00	0	34	4	2	2	1	0	1	0	0	0	0	0	44
16:00	1	33	4	0	1	1	0	0	0	0	0	0	1	41
17:00	1	35	4	0	1	1	0	0	0	0	0	0	0	42
18:00	0	30	6	0	0	1	0	0	0	0	0	0	0	37
19:00	7	26	3	0	0	2	1	0	1	0	0	0	0	40
20:00	2	21	0	0	0	3	0	0	1	0	0	0	0	27
21:00	0	27	2	0	0	0	0	0	0	0	0	0	0	29
22:00	2	16	0	0	0	0	0	0	0	0	0	0	0	18
23:00	0	3	1	0	0	1	0	1	0	0	0	0	0	6
TOTAL	24	427	60	7	8	15	2	5	3	0	0	0	1	552
% of Total:	4%	77%	11%	1%	1%	3%	0%	1%	1%	0%	0%	0%	0%	

7 - 9 AM Peak Total
64

12 - 2 PM Peak Total
45

4 - 6 PM Peak Total
83

FHWA Vehicle Classification Scheme

- | | | | | | |
|---|------------------------|---|-----------------------------------|----|-----------------------------------|
| 1 | MOTORCYCLES | 5 | TWO AXLE, SIX TIRE SINGLE UNIT | 9 | FIVE-AXLE SINGLE TRAILER |
| 2 | PASSENGER CARS | 6 | THREE AXLE, SINGLE UNIT | 10 | SIX OR MORE AXLE, SINGLE TRAILER |
| 3 | FOUR TIRE, SINGLE UNIT | 7 | FOUR OR MORE AXLE, SINGLE UNIT | 11 | FIVE OR LESS AXLE, MULTI TRAILER |
| 4 | BUSES | 8 | FOUR OR LESS AXLE, SINGLE TRAILER | 12 | SIX AXLE, MULTI TRAILER |
| | | | | 13 | SEVEN OR MORE AXLE, MULTI-TRAILER |



VEHICLE CLASSIFICATIONS

S Monroe St - between 24th Rd S & 25th St S (NORTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Wednesday, October 03, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
0:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	1	0	0	0	0	0	1
4:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
5:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
6:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
7:00	0	12	5	1	0	0	0	0	0	0	0	0	0	18
8:00	0	15	3	0	2	0	0	0	0	0	0	0	0	20
9:00	0	18	0	0	0	0	0	0	0	0	0	0	0	18
10:00	0	15	2	0	0	1	0	0	0	0	0	0	0	18
11:00	0	15	0	0	0	0	0	0	0	0	0	0	0	15
12:00	1	11	1	0	1	0	0	0	0	0	0	0	0	14
13:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
14:00	0	15	3	0	0	0	0	1	0	0	0	0	0	19
15:00	2	14	2	1	2	0	0	0	0	0	0	0	0	21
16:00	0	21	2	0	2	0	0	0	0	0	0	0	0	25
17:00	0	20	1	0	0	0	0	0	0	0	0	0	0	21
18:00	1	18	3	0	0	0	0	0	0	0	0	0	0	22
19:00	0	10	3	0	0	0	0	0	0	0	0	0	0	13
20:00	2	12	1	0	0	0	0	0	0	0	0	0	0	15
21:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
22:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
23:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
TOTAL	6	229	33	2	7	1	0	2	0	0	0	0	0	280
% of Total:	2%	82%	12%	1%	3%	0%	0%	1%	0%	0%	0%	0%	0%	

7 - 9 AM Peak Total
38

12 - 2 PM Peak Total
25

4 - 6 PM Peak Total
46

FHWA Vehicle Classification Scheme

- | | | | | | |
|---|------------------------|---|-----------------------------------|----|-----------------------------------|
| 1 | MOTORCYCLES | 5 | TWO AXLE, SIX TIRE SINGLE UNIT | 9 | FIVE-AXLE SINGLE TRAILER |
| 2 | PASSENGER CARS | 6 | THREE AXLE, SINGLE UNIT | 10 | SIX OR MORE AXLE, SINGLE TRAILER |
| 3 | FOUR TIRE, SINGLE UNIT | 7 | FOUR OR MORE AXLE, SINGLE UNIT | 11 | FIVE OR LESS AXLE, MULTI TRAILER |
| 4 | BUSES | 8 | FOUR OR LESS AXLE, SINGLE TRAILER | 12 | SIX AXLE, MULTI TRAILER |
| | | | | 13 | SEVEN OR MORE AXLE, MULTI-TRAILER |



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VEHICLE CLASSIFICATIONS

S Monroe St - between 24th Rd S & 25th St S (SOUTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Wednesday, October 03, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
0:00	0	0	0	0	0	0	0	0	0	1	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
5:00	0	9	0	0	2	0	0	0	0	0	0	0	0	11
6:00	0	7	2	1	0	0	0	0	1	0	0	0	0	11
7:00	2	9	1	1	0	0	0	0	0	0	0	0	0	13
8:00	0	11	1	0	0	1	0	0	1	0	0	0	0	14
9:00	0	13	0	1	0	0	0	0	0	0	0	0	0	14
10:00	0	7	0	1	0	0	0	0	0	0	0	0	0	8
11:00	2	8	2	0	1	0	0	0	0	0	0	0	0	13
12:00	2	7	0	0	1	0	0	0	0	0	0	0	0	10
13:00	0	27	1	0	0	0	0	0	0	1	0	0	0	29
14:00	0	15	4	0	0	1	0	1	0	0	0	0	0	21
15:00	6	17	1	2	1	1	0	0	0	0	0	0	0	28
16:00	4	13	0	0	0	0	0	0	0	0	0	0	0	17
17:00	4	14	1	0	0	1	0	0	0	0	0	0	0	20
18:00	3	14	4	0	0	1	0	1	0	0	0	0	0	23
19:00	0	18	0	0	0	1	0	1	0	0	0	0	0	20
20:00	6	11	2	0	0	0	0	0	1	0	0	0	0	20
21:00	4	5	1	0	0	0	0	0	1	0	0	0	0	11
22:00	3	7	0	0	0	0	0	0	0	0	0	0	0	10
23:00	0	1	0	0	0	1	0	0	0	0	0	0	0	2
TOTAL	38	214	20	6	5	7	0	3	4	2	0	0	0	299
% of Total:	13%	72%	7%	2%	2%	2%	0%	1%	1%	1%	0%	0%	0%	

7 - 9 AM Peak Total
27

12 - 2 PM Peak Total
39

4 - 6 PM Peak Total
37

FHWA Vehicle Classification Scheme

- | | | | | | |
|---|------------------------|---|-----------------------------------|----|-----------------------------------|
| 1 | MOTORCYCLES | 5 | TWO AXLE, SIX TIRE SINGLE UNIT | 9 | FIVE-AXLE SINGLE TRAILER |
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| 3 | FOUR TIRE, SINGLE UNIT | 7 | FOUR OR MORE AXLE, SINGLE UNIT | 11 | FIVE OR LESS AXLE, MULTI TRAILER |
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VEHICLE CLASSIFICATIONS

S Monroe St - between 24th Rd S & 25th St S (COMBINED)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Wednesday, October 03, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
0:00	0	2	0	0	0	0	0	0	0	1	0	0	0	3
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	1	0	0	0	0	0	1
4:00	2	4	0	0	0	0	0	0	0	0	0	0	0	6
5:00	0	11	1	0	2	0	0	0	0	0	0	0	0	14
6:00	0	13	2	1	0	0	0	0	1	0	0	0	0	17
7:00	2	21	6	2	0	0	0	0	0	0	0	0	0	31
8:00	0	26	4	0	2	1	0	0	1	0	0	0	0	34
9:00	0	31	0	1	0	0	0	0	0	0	0	0	0	32
10:00	0	22	2	1	0	1	0	0	0	0	0	0	0	26
11:00	2	23	2	0	1	0	0	0	0	0	0	0	0	28
12:00	3	18	1	0	2	0	0	0	0	0	0	0	0	24
13:00	0	36	3	0	0	0	0	0	0	1	0	0	0	40
14:00	0	30	7	0	0	1	0	2	0	0	0	0	0	40
15:00	8	31	3	3	3	1	0	0	0	0	0	0	0	49
16:00	4	34	2	0	2	0	0	0	0	0	0	0	0	42
17:00	4	34	2	0	0	1	0	0	0	0	0	0	0	41
18:00	4	32	7	0	0	1	0	1	0	0	0	0	0	45
19:00	0	28	3	0	0	1	0	1	0	0	0	0	0	33
20:00	8	23	3	0	0	0	0	0	1	0	0	0	0	35
21:00	4	7	2	0	0	0	0	0	1	0	0	0	0	14
22:00	3	9	2	0	0	0	0	0	0	0	0	0	0	14
23:00	0	8	1	0	0	1	0	0	0	0	0	0	0	10
TOTAL	44	443	53	8	12	8	0	5	4	2	0	0	0	579
% of Total:	8%	77%	9%	1%	2%	1%	0%	1%	1%	0%	0%	0%	0%	

7 - 9 AM Peak Total
65

12 - 2 PM Peak Total
64

4 - 6 PM Peak Total
83

FHWA Vehicle Classification Scheme

- | | | | | | |
|---|------------------------|---|-----------------------------------|----|-----------------------------------|
| 1 | MOTORCYCLES | 5 | TWO AXLE, SIX TIRE SINGLE UNIT | 9 | FIVE-AXLE SINGLE TRAILER |
| 2 | PASSENGER CARS | 6 | THREE AXLE, SINGLE UNIT | 10 | SIX OR MORE AXLE, SINGLE TRAILER |
| 3 | FOUR TIRE, SINGLE UNIT | 7 | FOUR OR MORE AXLE, SINGLE UNIT | 11 | FIVE OR LESS AXLE, MULTI TRAILER |
| 4 | BUSES | 8 | FOUR OR LESS AXLE, SINGLE TRAILER | 12 | SIX AXLE, MULTI TRAILER |
| | | | | 13 | SEVEN OR MORE AXLE, MULTI-TRAILER |



AVERAGE VEHICLE CLASSIFICATIONS

S Monroe St - between 24th Rd S & 25th St S (NORTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Wednesday, October 03, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
0:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:00	0	1	0	0	0	0	0	1	0	0	0	0	0	1
4:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
5:00	0	3	1	0	0	0	0	0	0	0	0	0	0	3
6:00	0	4	1	0	0	0	0	1	0	0	0	0	0	6
7:00	0	14	3	1	0	0	0	0	0	0	0	0	0	18
8:00	0	16	3	0	2	0	0	1	0	0	0	0	0	21
9:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
10:00	0	11	3	0	0	1	0	0	0	0	0	0	0	14
11:00	0	12	1	0	0	0	0	1	0	0	0	0	0	13
12:00	1	9	1	0	1	0	0	0	0	0	0	0	0	10
13:00	1	11	2	0	0	0	0	0	0	0	0	0	0	13
14:00	0	14	4	0	0	0	0	1	0	0	0	0	0	18
15:00	1	16	3	1	2	1	0	0	0	0	0	0	0	22
16:00	1	19	2	0	2	1	0	0	0	0	0	0	0	23
17:00	1	20	2	0	0	0	0	0	0	0	0	0	0	23
18:00	1	17	3	0	0	0	0	0	0	0	0	0	0	20
19:00	1	12	3	0	0	0	1	0	1	0	0	0	0	17
20:00	1	10	1	0	0	0	0	0	0	0	0	0	0	11
21:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
22:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
23:00	0	5	1	0	0	1	0	0	0	0	0	0	0	6
TOTAL	5.5	222.5	32	2	5	2	0.5	2.5	0.5	0	0	0	0	273
% of Total:	2%	82%	12%	1%	2%	1%	0%	1%	0%	0%	0%	0%	0%	

7 - 9 AM Peak Total
38.5

12 - 2 PM Peak Total
23

4 - 6 PM Peak Total
45

FHWA Vehicle Classification Scheme

- | | | | | | |
|---|------------------------|---|-----------------------------------|----|-----------------------------------|
| 1 | MOTORCYCLES | 5 | TWO AXLE, SIX TIRE SINGLE UNIT | 9 | FIVE-AXLE SINGLE TRAILER |
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AVERAGE VEHICLE CLASSIFICATIONS

S Monroe St - between 24th Rd S & 25th St S (SOUTH BOUND)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Wednesday, October 03, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
0:00	0	2	0	0	0	0	0	0	0	1	0	0	0	3
1:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
2:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:00	1	1	0	0	0	0	0	0	1	0	0	0	0	2
5:00	1	7	0	0	1	1	1	0	0	0	0	0	0	9
6:00	0	7	2	1	1	1	0	0	1	0	0	0	0	11
7:00	1	7	1	1	0	0	0	0	0	0	0	0	0	10
8:00	0	13	2	1	0	1	0	0	1	0	0	0	0	17
9:00	2	13	0	1	1	1	0	0	0	0	0	0	0	16
10:00	2	9	1	1	0	0	0	0	0	0	0	0	0	11
11:00	1	7	2	0	1	1	0	0	0	0	0	0	0	11
12:00	2	6	2	0	1	0	0	0	0	0	0	0	0	10
13:00	0	20	2	0	0	0	0	0	0	1	0	0	0	22
14:00	0	13	5	0	0	1	0	1	0	0	0	0	0	19
15:00	3	17	1	2	1	1	0	1	0	0	0	0	0	25
16:00	2	15	2	0	0	0	0	0	0	0	0	0	1	19
17:00	2	15	1	0	1	1	0	0	0	0	0	0	0	19
18:00	2	15	4	0	0	1	0	1	0	0	0	0	0	22
19:00	3	15	1	0	0	2	0	1	0	0	0	0	0	20
20:00	4	13	1	0	0	2	0	0	1	0	0	0	0	20
21:00	2	10	1	0	0	0	0	0	1	0	0	0	0	13
22:00	3	8	0	0	0	0	0	0	0	0	0	0	0	10
23:00	0	1	0	0	0	1	0	1	0	0	0	0	0	2
TOTAL	28.5	212.5	24.5	5.5	5	9.5	0.5	2.5	3	1	0	0	0.5	293
% of Total:	10%	73%	8%	2%	2%	3%	0%	1%	1%	0%	0%	0%	0%	

7 - 9 AM Peak Total
26

12 - 2 PM Peak Total
31.5

4 - 6 PM Peak Total
38

FHWA Vehicle Classification Scheme

- | | | | | | |
|---|------------------------|---|-----------------------------------|----|-----------------------------------|
| 1 | MOTORCYCLES | 5 | TWO AXLE, SIX TIRE SINGLE UNIT | 9 | FIVE-AXLE SINGLE TRAILER |
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AVERAGE VEHICLE CLASSIFICATIONS

S Monroe St - between 24th Rd S & 25th St S (COMBINED)

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Wednesday, October 03, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	VA

Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total
0:00	0	4	0	0	0	0	0	0	0	1	0	0	0	5
1:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
2:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
3:00	0	2	0	0	0	0	0	1	0	0	0	0	0	3
4:00	1	3	0	0	0	0	0	0	1	0	0	0	0	4
5:00	1	9	1	0	1	1	1	0	0	0	0	0	0	12
6:00	0	11	3	1	1	1	0	1	1	0	0	0	0	17
7:00	1	21	4	2	0	0	0	0	0	0	0	0	0	28
8:00	0	29	4	1	2	1	0	1	1	0	0	0	0	37
9:00	2	29	1	1	1	1	0	0	0	0	0	0	0	33
10:00	2	19	3	1	0	1	0	0	0	0	0	0	0	25
11:00	1	19	2	0	1	1	0	1	0	0	0	0	0	24
12:00	3	14	3	0	1	0	0	0	0	0	0	0	0	20
13:00	1	30	4	0	0	0	0	0	0	1	0	0	0	35
14:00	0	27	9	0	0	1	0	1	0	0	0	0	0	37
15:00	4	33	4	3	3	1	0	1	0	0	0	0	0	47
16:00	3	34	3	0	2	1	0	0	0	0	0	0	1	42
17:00	3	35	3	0	1	1	0	0	0	0	0	0	0	42
18:00	2	31	7	0	0	1	0	1	0	0	0	0	0	41
19:00	4	27	3	0	0	2	1	1	1	0	0	0	0	37
20:00	5	22	2	0	0	2	0	0	1	0	0	0	0	31
21:00	2	17	2	0	0	0	0	0	1	0	0	0	0	22
22:00	3	13	1	0	0	0	0	0	0	0	0	0	0	16
23:00	0	6	1	0	0	1	0	1	0	0	0	0	0	8
TOTAL	34	435	57	8	10	12	1	5	4	1	0	0	1	566
% of Total:	6%	77%	10%	1%	2%	2%	0%	1%	1%	0%	0%	0%	0%	

7 - 9 AM Peak Total
64.5

12 - 2 PM Peak Total
54.5

4 - 6 PM Peak Total
83

FHWA Vehicle Classification Scheme

- | | | | | | |
|---|------------------------|---|-----------------------------------|----|-----------------------------------|
| 1 | MOTORCYCLES | 5 | TWO AXLE, SIX TIRE SINGLE UNIT | 9 | FIVE-AXLE SINGLE TRAILER |
| 2 | PASSENGER CARS | 6 | THREE AXLE, SINGLE UNIT | 10 | SIX OR MORE AXLE, SINGLE TRAILER |
| 3 | FOUR TIRE, SINGLE UNIT | 7 | FOUR OR MORE AXLE, SINGLE UNIT | 11 | FIVE OR LESS AXLE, MULTI TRAILER |
| 4 | BUSES | 8 | FOUR OR LESS AXLE, SINGLE TRAILER | 12 | SIX AXLE, MULTI TRAILER |
| | | | | 13 | SEVEN OR MORE AXLE, MULTI-TRAILER |



QUALITY TRAFFIC DATA, LLC

Phone: 877-852-4355 Fax: 877-877-3698 Info@QualityTrafficData.com

Average Daily Traffic Volumes Quality Traffic Data, LLC

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Tuesday, October 02, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	Arlington

AM COUNTS					PM COUNTS				
	NB	SB	EB	WB		NB	SB	EB	WB
00:00	0	0			12:00	2	3		
00:15	2	3			12:15	2	1		
00:30	0	0			12:30	1	4		
00:45	0	2	1	4	12:45	1	6	2	10
01:00	0	1			13:00	6	0		
01:15	0	2			13:15	4	5		
01:30	1	1			13:30	4	5		
01:45	0	1	1	5	13:45	1	15	4	14
02:00	1	1			14:00	4	4		
02:15	0	0			14:15	1	2		
02:30	1	0			14:30	6	6		
02:45	0	2	2	3	14:45	6	17	5	17
03:00	0	1			15:00	3	5		
03:15	0	0			15:15	6	4		
03:30	0	1			15:30	9	4		
03:45	1	1	1	3	15:45	5	23	8	21
04:00	0	1			16:00	5	4		
04:15	0	0			16:15	3	4		
04:30	0	0			16:30	5	5		
04:45	1	1	0	1	16:45	7	20	8	21
05:00	1	2			17:00	8	4		
05:15	2	3			17:15	6	2		
05:30	0	1			17:30	5	9		
05:45	0	3	1	7	17:45	5	24	3	18
06:00	2	2			18:00	2	4		
06:15	1	2			18:15	5	4		
06:30	1	3			18:30	10	7		
06:45	1	5	4	11	18:45	0	17	5	20
07:00	7	2			19:00	6	8		
07:15	2	0			19:15	2	3		
07:30	3	3			19:30	5	4		
07:45	6	18	1	6	19:45	7	20	5	20
08:00	4	5			20:00	2	2		
08:15	7	4			20:15	2	5		
08:30	7	6			20:30	2	5		
08:45	3	21	4	19	20:45	1	7	8	20
09:00	8	3			21:00	4	6		
09:15	1	7			21:15	6	3		
09:30	3	4			21:30	2	3		
09:45	4	16	4	18	21:45	2	14	3	15
10:00	0	5			22:00	4	5		
10:15	2	0			22:15	0	2		
10:30	4	5			22:30	3	1		
10:45	3	9	4	14	22:45	1	8	2	10
11:00	0	2			23:00	2	1		
11:15	5	0			23:15	2	1		
11:30	3	2			23:30	0	0		
11:45	3	11	4	8	23:45	0	4	0	2
TOTALS:	90	99		189	TOTALS:	175	188		363

SPLIT	47.6%	52.4%	34.2%	SPLIT	48.2%	51.8%	65.8%
PEAK HOUR	08:15	08:30	08:15	PEAK HOUR	16:30	18:15	16:45
PH VOLUME	25	20	42	PH VOLUME	26	24	49
PHF	0.78	0.71	0.81	PHF	0.88	0.75	0.82

DAY'S TOTAL				
NB	SB	EB	WB	TOTAL
265	287			552



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Average Daily Traffic Volumes

Quality Traffic Data, LLC

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St	START DATE:	Wednesday, October 03, 2018
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	Arlington

AM COUNTS					PM COUNTS				
	NB	SB	EB	WB		NB	SB	EB	WB
00:00	0	0			12:00	2	0		
00:15	1	0			12:15	2	4		
00:30	1	0			12:30	6	2		
00:45	0	2	1	1	12:45	4	14	4	10
01:00	0	0			13:00	3	4		
01:15	0	0			13:15	1	7		
01:30	0	0			13:30	2	7		
01:45	0	0	0	0	13:45	5	11	11	29
02:00	0	0			14:00	0	7		
02:15	0	0			14:15	7	4		
02:30	0	0			14:30	4	3		
02:45	0	0	0	0	14:45	8	19	7	21
03:00	0	0			15:00	4	6		
03:15	0	0			15:15	4	4		
03:30	1	0			15:30	3	6		
03:45	0	1	0	0	15:45	10	21	12	28
04:00	1	0			16:00	5	3		
04:15	0	0			16:15	7	5		
04:30	0	2			16:30	9	4		
04:45	2	3	1	3	16:45	4	25	5	17
05:00	0	4			17:00	3	7		
05:15	0	2			17:15	7	4		
05:30	0	3			17:30	5	6		
05:45	3	3	2	11	17:45	6	21	3	20
06:00	1	2			18:00	3	6		
06:15	0	2			18:15	6	10		
06:30	1	0			18:30	5	2		
06:45	4	6	7	11	18:45	8	22	5	23
07:00	8	5			19:00	4	4		
07:15	3	4			19:15	4	9		
07:30	3	2			19:30	2	3		
07:45	4	18	2	13	19:45	3	13	4	20
08:00	5	4			20:00	5	4		
08:15	5	4			20:15	2	8		
08:30	6	3			20:30	2	5		
08:45	4	20	3	14	20:45	6	15	3	20
09:00	8	2			21:00	2	2		
09:15	3	2			21:15	1	5		
09:30	3	4			21:30	0	2		
09:45	4	18	6	14	21:45	0	3	2	11
10:00	8	3			22:00	2	3		
10:15	2	0			22:15	1	4		
10:30	4	4			22:30	1	1		
10:45	4	18	1	8	22:45	0	4	2	10
11:00	3	1			23:00	4	1		
11:15	5	5			23:15	3	0		
11:30	2	3			23:30	1	0		
11:45	5	15	4	13	23:45	0	8	1	2
TOTALS:	104	88		192	TOTALS:	176	211		387

SPLIT	54.2%	45.8%	33.2%	SPLIT	45.5%	54.5%	66.8%
PEAK HOUR	08:15	06:45	06:45	PEAK HOUR	15:45	13:15	15:45
PH VOLUME	23	18	36	PH VOLUME	31	32	55
PHF	0.72	0.64	0.69	PHF	0.73	0.73	0.63

DAY'S TOTAL				
NB	SB	EB	WB	TOTAL
280	299			579



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Average Daily Traffic Volumes Quality Traffic Data, LLC

QTD PROJ/LOC #:	2018232 - 002	WEATHER:	Normal
ON STREET:	S Monroe St		
CROSS STREETS:	between 24th Rd S & 25th St S	VICINITY:	Arlington

AM COUNTS						PM COUNTS					
	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
00:00	2	3	0	0	5	12:00	10	10	0	0	20
01:00	1	3	0	0	3	13:00	13	22	0	0	35
02:00	1	2	0	0	3	14:00	18	19	0	0	37
03:00	1	2	0	0	3	15:00	22	25	0	0	47
04:00	2	2	0	0	4	16:00	23	19	0	0	42
05:00	3	9	0	0	12	17:00	23	19	0	0	42
06:00	6	11	0	0	17	18:00	20	22	0	0	41
07:00	18	10	0	0	28	19:00	17	20	0	0	37
08:00	21	17	0	0	37	20:00	11	20	0	0	31
09:00	17	16	0	0	33	21:00	9	13	0	0	22
10:00	14	11	0	0	25	22:00	6	10	0	0	16
11:00	13	11	0	0	24	23:00	6	2	0	0	8
TOTALS:	97	94			191	TOTALS:	176	200			375

SPLIT	50.9%	49.1%	33.7%	SPLIT	46.8%	53.2%	66.3%
PEAK HOUR	08:00	08:00	08:00	PEAK HOUR	16:00	15:00	15:00
PH VOLUME	21	17	37	PH VOLUME	23	25	47
PHF	0.25	0.25	0.25	PHF	0.25	0.25	0.25

DAY'S TOTAL					
	NB	SB	EB	WB	TOTAL
	273	293			566



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Appendix D

Traffic Analysis HCM Reports

HCM Unsignalized Intersection Capacity Analysis

1: S Monroe St & 24th Rd S/S Lowell St

Existing
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	1	11	1	1	13	5	2	18	1	3	15	1
Future Volume (Veh/h)	1	11	1	1	13	5	2	18	1	3	15	1
Sign Control		Stop			Stop			Free			Free	
Grade		-5%			4%			13%			1%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	12	1	1	14	5	2	20	1	3	16	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	59	48	16	54	48	20	17			21		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	59	48	16	54	48	20	17			21		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	100	98	100	100			100		
cM capacity (veh/h)	924	845	1068	936	845	1063	1613			1608		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	14	20	23	20								
Volume Left	1	1	2	3								
Volume Right	1	5	1	1								
cSH	864	895	1613	1608								
Volume to Capacity	0.02	0.02	0.00	0.00								
Queue Length 95th (ft)	1	2	0	0								
Control Delay (s)	9.2	9.1	0.6	1.1								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.2	9.1	0.6	1.1								
Approach LOS	A	A										
Intersection Summary												
Average Delay			4.5									
Intersection Capacity Utilization			13.3%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: 25th St S & S Monroe St

Existing
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	10	11	9	11	9	8
Future Volume (Veh/h)	10	11	9	11	9	8
Sign Control		Free	Free		Stop	
Grade		6%	-4%		-14%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	12	10	12	10	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	22			50	16	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	22			50	16	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	99			99	99	
cM capacity (veh/h)	1607			958	1069	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	23	22	19			
Volume Left	11	0	10			
Volume Right	0	12	9			
cSH	1607	1700	1008			
Volume to Capacity	0.01	0.01	0.02			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	3.5	0.0	8.6			
Lane LOS	A		A			
Approach Delay (s)	3.5	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			3.8			
Intersection Capacity Utilization			17.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: S Lincoln St & S Lowell St

Existing
 Timing Plan: AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Yield			Stop	Stop	
Traffic Volume (vph)	2	13	18	5	5	1
Future Volume (vph)	2	13	18	5	5	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	14	20	5	5	1
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	16	25	6			
Volume Left (vph)	2	20	0			
Volume Right (vph)	14	0	1			
Hadj (s)	-0.50	0.16	-0.10			
Departure Headway (s)	3.5	4.1	3.9			
Degree Utilization, x	0.02	0.03	0.01			
Capacity (veh/h)	1022	863	924			
Control Delay (s)	6.5	7.2	6.9			
Approach Delay (s)	6.5	7.2	6.9			
Approach LOS	A	A	A			
Intersection Summary						
Delay			6.9			
Level of Service			A			
Intersection Capacity Utilization			17.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 4: 25th St S/S Kenwood St & S Lincoln St

Existing
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	11	9	11	12	9	9
Future Volume (Veh/h)	11	9	11	12	9	9
Sign Control		Free	Free		Stop	
Grade		-3%	2%		5%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	10	12	13	10	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	25			52	18	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	25			52	18	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	99			99	99	
cM capacity (veh/h)	1603			954	1066	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	22	25	20			
Volume Left	12	0	10			
Volume Right	0	13	10			
cSH	1603	1700	1007			
Volume to Capacity	0.01	0.01	0.02			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	4.0	0.0	8.6			
Lane LOS	A		A			
Approach Delay (s)	4.0	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			17.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

5: Shirlington Rd & S Kenmore St/24th Rd S

Existing
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↔		↔	
Traffic Volume (vph)	4	71	54	90	66	14	56	175	403	12	84	3
Future Volume (vph)	4	71	54	90	66	14	56	175	403	12	84	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	12	14	12	12	12	13	12	14	12
Grade (%)		-3%			-3%			0%			-3%	
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frbp, ped/bikes		0.99			1.00			1.00	0.96		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.94			0.99			1.00	0.85		1.00	
Flt Protected		1.00			0.97			0.99	1.00		0.99	
Satd. Flow (prot)		1617			1757			1737	1488		1917	
Flt Permitted		0.98			0.76			0.90	1.00		0.95	
Satd. Flow (perm)		1593			1368			1577	1488		1823	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	79	60	100	73	16	62	194	448	13	93	3
RTOR Reduction (vph)	0	46	0	0	6	0	0	0	263	0	2	0
Lane Group Flow (vph)	0	97	0	0	183	0	0	256	185	0	107	0
Confl. Peds. (#/hr)	3		4	4		3	7		19	19		7
Confl. Bikes (#/hr)			2									2
Heavy Vehicles (%)	0%	7%	35%	11%	14%	14%	14%	6%	8%	0%	6%	33%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		8.1			8.1			14.1	14.1		14.1	
Effective Green, g (s)		8.1			8.1			14.1	14.1		14.1	
Actuated g/C Ratio		0.24			0.24			0.41	0.41		0.41	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		377			324			650	613		751	
v/s Ratio Prot												
v/s Ratio Perm		0.06			0.13			0.16	0.12		0.06	
v/c Ratio		0.26			0.56			0.39	0.30		0.14	
Uniform Delay, d1		10.6			11.5			7.1	6.7		6.3	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.4			2.2			0.4	0.3		0.1	
Delay (s)		11.0			13.7			7.4	7.0		6.4	
Level of Service		B			B			A	A		A	
Approach Delay (s)		11.0			13.7			7.2			6.4	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			8.7									A
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			34.2							12.0		
Intersection Capacity Utilization			58.1%									B
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
 5: Shirlington Rd & S Kenmore St/24th Rd S

Existing
 Timing Plan: AM Peak Hour



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	143	189	256	448	109
v/c Ratio	0.26	0.41	0.32	0.46	0.12
Control Delay	8.8	14.4	10.0	3.1	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	14.4	10.0	3.1	8.3
Queue Length 50th (ft)	11	27	34	0	12
Queue Length 95th (ft)	50	88	94	41	41
Internal Link Dist (ft)	425	287	103		221
Turn Bay Length (ft)				100	
Base Capacity (vph)	1146	972	1284	1277	1484
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.19	0.20	0.35	0.07
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

6: Shirlington Rd & S Four Mile Run Dr

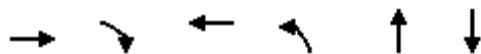
Existing
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕	↗		↕		↖	↖			↕	↕	
Traffic Volume (vph)	255	3	305	3	3	9	403	456	13	0	136	74	
Future Volume (vph)	255	3	305	3	3	9	403	456	13	0	136	74	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	12	12	12	12	12	12	12	11	12	12	11	
Grade (%)		-1%			1%			8%				-1%	
Total Lost time (s)		6.5	7.0		6.5		7.0	7.0			7.0		
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00			0.95		
Frbp, ped/bikes		1.00	0.99		0.96		1.00	1.00			0.96		
Flpb, ped/bikes		0.95	1.00		1.00		0.98	1.00			1.00		
Frt		1.00	0.85		0.92		1.00	1.00			0.95		
Flt Protected		0.95	1.00		0.99		0.95	1.00			1.00		
Satd. Flow (prot)		1664	1559		825		1618	1688			2861		
Flt Permitted		0.72	1.00		0.95		0.51	1.00			1.00		
Satd. Flow (perm)		1252	1559		790		869	1688			2861		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.25	0.91	0.91	
Adj. Flow (vph)	280	3	335	3	3	10	443	501	14	0	149	81	
RTOR Reduction (vph)	0	0	0	0	7	0	0	1	0	0	46	0	
Lane Group Flow (vph)	0	283	335	0	9	0	443	514	0	0	184	0	
Confl. Peds. (#/hr)	26		6	6		26	23		34	34		23	
Confl. Bikes (#/hr)			3			1			1			30	
Heavy Vehicles (%)	4%	33%	3%	100%	100%	100%	5%	6%	54%	0%	15%	15%	
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA				NA	
Protected Phases		4	5		8		5	2				6	
Permitted Phases	4		4	8			2			6			
Actuated Green, G (s)		37.2	81.2		37.2		89.3	89.3				38.3	
Effective Green, g (s)		37.2	81.2		37.2		89.3	89.3				38.3	
Actuated g/C Ratio		0.27	0.58		0.27		0.64	0.64				0.27	
Clearance Time (s)		6.5	7.0		6.5		7.0	7.0				7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0				3.0	
Lane Grp Cap (vph)		332	904		209		789	1076				782	
v/s Ratio Prot			0.12				c0.18	0.30				0.06	
v/s Ratio Perm		c0.23	0.10		0.01		c0.18						
v/c Ratio		0.85	0.37		0.04		0.56	0.48				0.23	
Uniform Delay, d1		48.8	15.7		38.2		13.0	13.2				39.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00				1.00	
Incremental Delay, d2		18.6	0.3		0.1		2.9	1.5				0.7	
Delay (s)		67.4	16.0		38.2		15.9	14.7				40.2	
Level of Service		E	B		D		B	B				D	
Approach Delay (s)		39.5			38.2			15.2				40.2	
Approach LOS		D			D			B				D	
Intersection Summary													
HCM 2000 Control Delay			26.8									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.67										
Actuated Cycle Length (s)			140.0									Sum of lost time (s)	20.5
Intersection Capacity Utilization			83.7%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings
6: Shirlington Rd & S Four Mile Run Dr

Existing
Timing Plan: AM Peak Hour



















Lane Group	EBT	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	283	335	16	443	515	230
v/c Ratio	0.85	0.37	0.07	0.56	0.48	0.28
Control Delay	70.8	13.2	20.8	17.2	16.5	31.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.8	13.2	20.8	17.2	16.5	31.6
Queue Length 50th (ft)	245	136	4	189	231	62
Queue Length 95th (ft)	325	147	21	328	394	111
Internal Link Dist (ft)	718		66		229	277
Turn Bay Length (ft)						
Base Capacity (vph)	442	898	285	793	1077	823
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.37	0.06	0.56	0.48	0.28
Intersection Summary						

HCM Unsignalized Intersection Capacity Analysis

1: S Monroe St & 24th Rd S/S Lowell St

Existing
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	17	2	1	14	5	1	18	1	11	19	1
Future Volume (Veh/h)	1	17	2	1	14	5	1	18	1	11	19	1
Sign Control		Stop			Stop			Free			Free	
Grade		-5%			4%			13%			1%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	18	2	1	15	5	1	20	1	12	21	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	80	68	22	79	68	20	22			21		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	80	68	22	79	68	20	22			21		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	100	100	98	100	100			99		
cM capacity (veh/h)	890	819	1062	892	819	1063	1607			1608		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	21	21	22	34								
Volume Left	1	1	1	12								
Volume Right	2	5	1	1								
cSH	841	870	1607	1608								
Volume to Capacity	0.02	0.02	0.00	0.01								
Queue Length 95th (ft)	2	2	0	1								
Control Delay (s)	9.4	9.2	0.3	2.6								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.4	9.2	0.3	2.6								
Approach LOS	A	A										
Intersection Summary												
Average Delay			5.0									
Intersection Capacity Utilization			15.7%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: 25th St S & S Monroe St

Existing
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	10	11	15	10	11	11
Future Volume (Veh/h)	10	11	15	10	11	11
Sign Control		Free	Free		Stop	
Grade		6%	-4%		-14%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	12	16	11	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	27				56	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	27				56	22
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1600				951	1062
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	23	27	24			
Volume Left	11	0	12			
Volume Right	0	11	12			
cSH	1600	1700	1003			
Volume to Capacity	0.01	0.02	0.02			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	3.5	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	3.5	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			17.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: S Lincoln St & S Lowell St

Existing
 Timing Plan: PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Yield			Stop	Stop	
Traffic Volume (vph)	3	26	18	5	5	2
Future Volume (vph)	3	26	18	5	5	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	28	20	5	5	2
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	31	25	7			
Volume Left (vph)	3	20	0			
Volume Right (vph)	28	0	2			
Hadj (s)	-0.52	0.16	-0.17			
Departure Headway (s)	3.4	4.1	3.8			
Degree Utilization, x	0.03	0.03	0.01			
Capacity (veh/h)	1028	854	931			
Control Delay (s)	6.6	7.2	6.8			
Approach Delay (s)	6.6	7.2	6.8			
Approach LOS	A	A	A			
Intersection Summary						
Delay			6.9			
Level of Service			A			
Intersection Capacity Utilization			17.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 4: 25th St S/S Kenwood St & S Lincoln St

Existing
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Traffic Volume (veh/h)	11	11	10	12	16	15
Future Volume (Veh/h)	11	11	10	12	16	15
Sign Control		Free	Free		Stop	
Grade		-3%	2%		5%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	12	11	13	17	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	24				54	18
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	24				54	18
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1604				952	1067
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	24	24	33			
Volume Left	12	0	17			
Volume Right	0	13	16			
cSH	1604	1700	1005			
Volume to Capacity	0.01	0.01	0.03			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	3.7	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	3.7	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			4.6			
Intersection Capacity Utilization			17.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

5: Shirlington Rd & S Kenmore St/24th Rd S

Existing
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔			↔	↔		↔		
Traffic Volume (vph)	1	45	55	209	43	31	45	98	269	21	132	2	
Future Volume (vph)	1	45	55	209	43	31	45	98	269	21	132	2	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	12	14	12	12	14	12	12	12	13	12	14	12	
Grade (%)		-3%			-3%			0%				-3%	
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0		
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00		
Frbp, ped/bikes		0.99			1.00			1.00	0.97		1.00		
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00		
Frt		0.93			0.99			1.00	0.85		1.00		
Flt Protected		1.00			0.96			0.98	1.00		0.99		
Satd. Flow (prot)		1741			1891			1776	1584		2003		
Flt Permitted		1.00			0.71			0.83	1.00		0.93		
Satd. Flow (perm)		1735			1390			1493	1584		1879		
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	
Adj. Flow (vph)	1	52	63	240	49	36	52	113	309	24	152	2	
RTOR Reduction (vph)	0	39	0	0	7	0	0	0	219	0	1	0	
Lane Group Flow (vph)	0	77	0	0	318	0	0	165	90	0	177	0	
Confl. Peds. (#/hr)	5		2	2			5	12		10	10	12	
Confl. Bikes (#/hr)						1			2			1	
Heavy Vehicles (%)	0%	0%	15%	3%	5%	0%	16%	0%	2%	0%	2%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4			8			2		6		6	
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)		13.8			13.8			10.6	10.6		10.6		
Effective Green, g (s)		13.8			13.8			10.6	10.6		10.6		
Actuated g/C Ratio		0.38			0.38			0.29	0.29		0.29		
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0		
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		657			526			434	461		547		
v/s Ratio Prot													
v/s Ratio Perm		0.04			0.23			0.11	0.06		0.09		
v/c Ratio		0.12			0.60			0.38	0.20		0.32		
Uniform Delay, d1		7.3			9.1			10.3	9.7		10.1		
Progression Factor		1.00			1.00			1.00	1.00		1.00		
Incremental Delay, d2		0.1			2.0			0.6	0.2		0.3		
Delay (s)		7.4			11.1			10.8	9.9		10.4		
Level of Service		A			B			B	A		B		
Approach Delay (s)		7.4			11.1			10.2			10.4		
Approach LOS		A			B			B			B		
Intersection Summary													
HCM 2000 Control Delay			10.2									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.51										
Actuated Cycle Length (s)			36.4									Sum of lost time (s)	12.0
Intersection Capacity Utilization			50.1%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings
 5: Shirlington Rd & S Kenmore St/24th Rd S

Existing
 Timing Plan: PM Peak Hour



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	116	325	165	309	178
v/c Ratio	0.17	0.62	0.39	0.46	0.33
Control Delay	5.3	15.6	14.8	4.6	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	15.6	14.8	4.6	13.3
Queue Length 50th (ft)	6	46	25	0	26
Queue Length 95th (ft)	29	121	76	39	77
Internal Link Dist (ft)	425	287	103		221
Turn Bay Length (ft)				100	
Base Capacity (vph)	1208	955	1200	1327	1512
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.34	0.14	0.23	0.12

Intersection Summary

HCM Signalized Intersection Capacity Analysis

6: Shirlington Rd & S Four Mile Run Dr

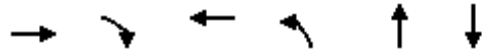
Existing
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕	↗		↕		↖	↖			↕	↕	
Traffic Volume (vph)	175	2	381	6	2	2	526	257	3	0	264	144	
Future Volume (vph)	175	2	381	6	2	2	526	257	3	0	264	144	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	12	12	12	12	12	12	12	11	12	12	11	
Grade (%)		-1%			1%			8%				-1%	
Total Lost time (s)		6.5	7.0		6.5		7.0	7.0				7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00				0.95	
Frbp, ped/bikes		1.00	0.99		0.97		1.00	1.00				0.89	
Flpb, ped/bikes		0.89	1.00		1.00		0.96	1.00				1.00	
Frt		1.00	0.85		0.97		1.00	1.00				0.95	
Flt Protected		0.95	1.00		0.97		0.95	1.00				1.00	
Satd. Flow (prot)		1612	1582		1739		1651	1718				2952	
Flt Permitted		0.72	1.00		0.85		0.39	1.00				1.00	
Satd. Flow (perm)		1221	1582		1516		674	1718				2952	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	182	2	397	6	2	2	548	268	3	0	275	150	
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	44	0	
Lane Group Flow (vph)	0	184	397	0	8	0	548	271	0	0	381	0	
Confl. Peds. (#/hr)	64		1	1		64	92		85	85		92	
Confl. Bikes (#/hr)			2			1			55			50	
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	1%	5%	67%	0%	5%	1%	
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA				NA	
Protected Phases		4	5		8		5	2				6	
Permitted Phases	4		4	8			2			6			
Actuated Green, G (s)		26.5	70.5		26.5		100.0	100.0				49.0	
Effective Green, g (s)		26.5	70.5		26.5		100.0	100.0				49.0	
Actuated g/C Ratio		0.19	0.50		0.19		0.71	0.71				0.35	
Clearance Time (s)		6.5	7.0		6.5		7.0	7.0				7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0				3.0	
Lane Grp Cap (vph)		231	796		286		788	1227				1033	
v/s Ratio Prot			0.16				c0.22	0.16				0.13	
v/s Ratio Perm		c0.15	0.09		0.01		c0.28						
v/c Ratio		0.80	0.50		0.03		0.70	0.22				0.37	
Uniform Delay, d1		54.2	23.0		46.3		10.1	6.8				34.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00				1.00	
Incremental Delay, d2		17.1	0.5		0.0		5.0	0.4				1.0	
Delay (s)		71.3	23.5		46.3		15.2	7.2				35.0	
Level of Service		E	C		D		B	A				C	
Approach Delay (s)		38.7			46.3			12.5				35.0	
Approach LOS		D			D			B				C	
Intersection Summary													
HCM 2000 Control Delay			26.2									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.74										
Actuated Cycle Length (s)			140.0									Sum of lost time (s)	20.5
Intersection Capacity Utilization			84.7%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings
6: Shirlington Rd & S Four Mile Run Dr

Existing
Timing Plan: PM Peak Hour



Lane Group	EBT	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	184	397	10	548	271	425
v/c Ratio	0.80	0.50	0.03	0.69	0.22	0.40
Control Delay	77.1	20.9	36.1	15.5	8.2	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.1	20.9	36.1	15.5	8.2	31.2
Queue Length 50th (ft)	162	209	6	191	76	127
Queue Length 95th (ft)	231	243	21	355	142	197
Internal Link Dist (ft)	718		66		229	277
Turn Bay Length (ft)						
Base Capacity (vph)	370	791	461	791	1226	1068
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.50	0.02	0.69	0.22	0.40
Intersection Summary						

HCM Unsignalized Intersection Capacity Analysis

No-Build

1: S Monroe St & 24th Rd S/S Lowell St

Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	1	11	1	1	13	5	2	18	1	3	15	1
Future Volume (Veh/h)	1	11	1	1	13	5	2	18	1	3	15	1
Sign Control		Stop			Stop			Free			Free	
Grade		-5%			4%			13%			1%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	12	1	1	14	5	2	20	1	3	16	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	59	48	16	54	48	20	17			21		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	59	48	16	54	48	20	17			21		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	100	98	100	100			100		
cM capacity (veh/h)	924	845	1068	936	845	1063	1613			1608		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	14	20	23	20								
Volume Left	1	1	2	3								
Volume Right	1	5	1	1								
cSH	864	895	1613	1608								
Volume to Capacity	0.02	0.02	0.00	0.00								
Queue Length 95th (ft)	1	2	0	0								
Control Delay (s)	9.2	9.1	0.6	1.1								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.2	9.1	0.6	1.1								
Approach LOS	A	A										
Intersection Summary												
Average Delay			4.5									
Intersection Capacity Utilization			13.3%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 2: 25th St S & S Monroe St

No-Build
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	10	11	9	11	9	8
Future Volume (Veh/h)	10	11	9	11	9	8
Sign Control		Free	Free		Stop	
Grade		6%	-4%		-14%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	12	10	12	10	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	22				50	16
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	22				50	16
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1607				958	1069
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	23	22	19			
Volume Left	11	0	10			
Volume Right	0	12	9			
cSH	1607	1700	1008			
Volume to Capacity	0.01	0.01	0.02			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	3.5	0.0	8.6			
Lane LOS	A		A			
Approach Delay (s)	3.5	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			3.8			
Intersection Capacity Utilization		17.8%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: S Lincoln St & S Lowell St

No-Build
 Timing Plan: AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Yield			Stop	Stop	
Traffic Volume (vph)	2	13	18	5	5	1
Future Volume (vph)	2	13	18	5	5	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	14	20	5	5	1
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	16	25	6			
Volume Left (vph)	2	20	0			
Volume Right (vph)	14	0	1			
Hadj (s)	-0.50	0.16	-0.10			
Departure Headway (s)	3.5	4.1	3.9			
Degree Utilization, x	0.02	0.03	0.01			
Capacity (veh/h)	1022	863	924			
Control Delay (s)	6.5	7.2	6.9			
Approach Delay (s)	6.5	7.2	6.9			
Approach LOS	A	A	A			
Intersection Summary						
Delay			6.9			
Level of Service			A			
Intersection Capacity Utilization			17.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 4: 25th St S/S Kenwood St & S Lincoln St

No-Build
 Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	11	9	11	12	9	9
Future Volume (Veh/h)	11	9	11	12	9	9
Sign Control		Free	Free		Stop	
Grade		-3%	2%		5%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	10	12	13	10	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	25				52	18
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	25				52	18
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1603				954	1066
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	22	25	20			
Volume Left	12	0	10			
Volume Right	0	13	10			
cSH	1603	1700	1007			
Volume to Capacity	0.01	0.01	0.02			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	4.0	0.0	8.6			
Lane LOS	A		A			
Approach Delay (s)	4.0	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			17.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

No-Build

5: Shirlington Rd & S Kenmore St/24th Rd S

Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↔		↔	
Traffic Volume (vph)	4	71	54	90	66	14	56	179	403	12	86	3
Future Volume (vph)	4	71	54	90	66	14	56	179	403	12	86	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	12	14	12	12	12	13	12	14	12
Grade (%)		-3%			-3%			0%			-3%	
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frbp, ped/bikes		0.99			1.00			1.00	0.96		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.94			0.99			1.00	0.85		1.00	
Flt Protected		1.00			0.97			0.99	1.00		0.99	
Satd. Flow (prot)		1615			1758			1738	1489		1917	
Flt Permitted		0.98			0.76			0.90	1.00		0.94	
Satd. Flow (perm)		1591			1372			1579	1489		1821	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	77	59	98	72	15	61	195	438	13	93	3
RTOR Reduction (vph)	0	45	0	0	6	0	0	0	259	0	2	0
Lane Group Flow (vph)	0	95	0	0	179	0	0	256	179	0	107	0
Confl. Peds. (#/hr)	3		4	4		3	7		19	19		7
Confl. Bikes (#/hr)			2									2
Heavy Vehicles (%)	0%	7%	35%	11%	14%	14%	14%	6%	8%	0%	6%	33%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		7.9			7.9			13.8	13.8		13.8	
Effective Green, g (s)		7.9			7.9			13.8	13.8		13.8	
Actuated g/C Ratio		0.23			0.23			0.41	0.41		0.41	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		372			321			646	609		745	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.13			c0.16	0.12		0.06	
v/c Ratio		0.25			0.56			0.40	0.29		0.14	
Uniform Delay, d1		10.5			11.4			7.0	6.7		6.2	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.4			2.1			0.4	0.3		0.1	
Delay (s)		10.9			13.5			7.4	7.0		6.3	
Level of Service		B			B			A	A		A	
Approach Delay (s)		10.9			13.5			7.1			6.3	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			8.6									A
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			33.7							12.0		
Intersection Capacity Utilization			58.1%									B
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
 5: Shirlington Rd & S Kenmore St/24th Rd S

No-Build
 Timing Plan: AM Peak Hour



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	140	185	256	438	109
v/c Ratio	0.25	0.40	0.32	0.46	0.12
Control Delay	8.7	14.4	10.0	3.0	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.7	14.4	10.0	3.0	8.2
Queue Length 50th (ft)	11	26	34	0	12
Queue Length 95th (ft)	49	86	93	40	41
Internal Link Dist (ft)	425	287	103		221
Turn Bay Length (ft)				100	
Base Capacity (vph)	1149	977	1291	1279	1489
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.19	0.20	0.34	0.07
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

6: Shirlington Rd & S Four Mile Run Dr

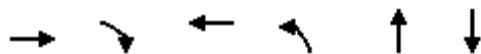
No-Build
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↖	↗		↔		↖	↗			↖↗		
Traffic Volume (vph)	255	3	305	3	3	9	403	465	13	0	139	74	
Future Volume (vph)	255	3	305	3	3	9	403	465	13	0	139	74	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	12	12	12	12	12	12	12	11	12	12	11	
Grade (%)		-1%			1%			8%				-1%	
Total Lost time (s)		6.5	7.0		6.5		7.0	7.0				7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00				0.95	
Frbp, ped/bikes		1.00	0.99		0.96		1.00	1.00				0.96	
Flpb, ped/bikes		0.95	1.00		1.00		0.98	1.00				1.00	
Frt		1.00	0.85		0.92		1.00	1.00				0.95	
Flt Protected		0.95	1.00		0.99		0.95	1.00				1.00	
Satd. Flow (prot)		1664	1559		825		1618	1688				2866	
Flt Permitted		0.72	1.00		0.95		0.51	1.00				1.00	
Satd. Flow (perm)		1252	1559		790		869	1688				2866	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.25	0.92	0.92	
Adj. Flow (vph)	277	3	332	3	3	10	438	505	14	0	151	80	
RTOR Reduction (vph)	0	0	0	0	7	0	0	1	0	0	43	0	
Lane Group Flow (vph)	0	280	332	0	9	0	438	518	0	0	188	0	
Confl. Peds. (#/hr)	26		6	6		26	23		34	34		23	
Confl. Bikes (#/hr)			3			1			1			30	
Heavy Vehicles (%)	4%	33%	3%	100%	100%	100%	5%	6%	54%	0%	15%	15%	
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA				NA	
Protected Phases		4	5		8		5	2				6	
Permitted Phases	4		4	8			2			6			
Actuated Green, G (s)		36.9	80.9		36.9		89.6	89.6				38.6	
Effective Green, g (s)		36.9	80.9		36.9		89.6	89.6				38.6	
Actuated g/C Ratio		0.26	0.58		0.26		0.64	0.64				0.28	
Clearance Time (s)		6.5	7.0		6.5		7.0	7.0				7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0				3.0	
Lane Grp Cap (vph)		329	900		208		791	1080				790	
v/s Ratio Prot			0.12				c0.17	0.31				0.07	
v/s Ratio Perm		c0.22	0.10		0.01		c0.18						
v/c Ratio		0.85	0.37		0.04		0.55	0.48				0.24	
Uniform Delay, d1		48.9	15.9		38.4		12.8	13.1				39.3	
Progression Factor		1.00	1.00		1.00		1.00	1.00				1.00	
Incremental Delay, d2		18.6	0.3		0.1		2.8	1.5				0.7	
Delay (s)		67.5	16.1		38.5		15.6	14.6				40.0	
Level of Service		E	B		D		B	B				D	
Approach Delay (s)		39.6			38.5			15.0				40.0	
Approach LOS		D			D			B				D	
Intersection Summary													
HCM 2000 Control Delay			26.7									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.67										
Actuated Cycle Length (s)			140.0									Sum of lost time (s)	20.5
Intersection Capacity Utilization			84.2%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings
 6: Shirlington Rd & S Four Mile Run Dr

















No-Build
 Timing Plan: AM Peak Hour



Lane Group	EBT	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	280	332	16	438	519	231
v/c Ratio	0.85	0.37	0.07	0.55	0.48	0.28
Control Delay	70.9	13.3	20.9	16.8	16.4	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	13.3	20.9	16.8	16.4	32.2
Queue Length 50th (ft)	243	135	4	185	232	63
Queue Length 95th (ft)	322	147	21	321	396	113
Internal Link Dist (ft)	718		66		229	277
Turn Bay Length (ft)						
Base Capacity (vph)	442	895	285	795	1080	827
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.37	0.06	0.55	0.48	0.28
Intersection Summary						

HCM Unsignalized Intersection Capacity Analysis
 1: S Monroe St & 24th Rd S/S Lowell St

No-Build
 Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	17	2	1	14	5	1	18	1	11	19	1
Future Volume (Veh/h)	1	17	2	1	14	5	1	18	1	11	19	1
Sign Control		Stop			Stop			Free			Free	
Grade		-5%			4%			13%			1%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	18	2	1	15	5	1	20	1	12	21	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	80	68	22	79	68	20	22			21		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	80	68	22	79	68	20	22			21		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	100	100	98	100	100			99		
cM capacity (veh/h)	890	819	1062	892	819	1063	1607			1608		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	21	21	22	34								
Volume Left	1	1	1	12								
Volume Right	2	5	1	1								
cSH	841	870	1607	1608								
Volume to Capacity	0.02	0.02	0.00	0.01								
Queue Length 95th (ft)	2	2	0	1								
Control Delay (s)	9.4	9.2	0.3	2.6								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.4	9.2	0.3	2.6								
Approach LOS	A	A										
Intersection Summary												
Average Delay			5.0									
Intersection Capacity Utilization			15.7%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 2: 25th St S & S Monroe St

No-Build
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	11	15	10	11	11
Future Volume (Veh/h)	10	11	15	10	11	11
Sign Control		Free	Free		Stop	
Grade		6%	-4%		-14%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	12	16	11	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	27			56	22	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	27			56	22	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	99			99	99	
cM capacity (veh/h)	1600			951	1062	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	23	27	24			
Volume Left	11	0	12			
Volume Right	0	11	12			
cSH	1600	1700	1003			
Volume to Capacity	0.01	0.02	0.02			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	3.5	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	3.5	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			17.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: S Lincoln St & S Lowell St

No-Build
 Timing Plan: PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Yield			Stop	Stop	
Traffic Volume (vph)	3	26	18	5	5	2
Future Volume (vph)	3	26	18	5	5	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	28	20	5	5	2
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	31	25	7			
Volume Left (vph)	3	20	0			
Volume Right (vph)	28	0	2			
Hadj (s)	-0.52	0.16	-0.17			
Departure Headway (s)	3.4	4.1	3.8			
Degree Utilization, x	0.03	0.03	0.01			
Capacity (veh/h)	1028	854	931			
Control Delay (s)	6.6	7.2	6.8			
Approach Delay (s)	6.6	7.2	6.8			
Approach LOS	A	A	A			
Intersection Summary						
Delay			6.9			
Level of Service			A			
Intersection Capacity Utilization			17.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 4: 25th St S/S Kenwood St & S Lincoln St

No-Build
 Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	11	11	10	12	16	15
Future Volume (Veh/h)	11	11	10	12	16	15
Sign Control		Free	Free		Stop	
Grade		-3%	2%		5%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	12	11	13	17	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	24			54	18	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	24			54	18	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	99			98	99	
cM capacity (veh/h)	1604			952	1067	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	24	24	33			
Volume Left	12	0	17			
Volume Right	0	13	16			
cSH	1604	1700	1005			
Volume to Capacity	0.01	0.01	0.03			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	3.7	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	3.7	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			4.6			
Intersection Capacity Utilization			17.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

5: Shirlington Rd & S Kenmore St/24th Rd S

No-Build
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↔		↔	
Traffic Volume (vph)	1	45	55	209	43	31	45	100	269	21	135	2
Future Volume (vph)	1	45	55	209	43	31	45	100	269	21	135	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	12	14	12	12	12	13	12	14	12
Grade (%)		-3%			-3%			0%			-3%	
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frbp, ped/bikes		0.99			1.00			1.00	0.97		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.93			0.99			1.00	0.85		1.00	
Flt Protected		1.00			0.96			0.98	1.00		0.99	
Satd. Flow (prot)		1740			1891			1778	1584		2003	
Flt Permitted		1.00			0.71			0.83	1.00		0.93	
Satd. Flow (perm)		1734			1398			1503	1584		1880	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	49	60	227	47	34	49	109	292	23	147	2
RTOR Reduction (vph)	0	38	0	0	7	0	0	0	207	0	1	0
Lane Group Flow (vph)	0	72	0	0	301	0	0	158	85	0	171	0
Confl. Peds. (#/hr)	5		2	2			5	12		10	10	12
Confl. Bikes (#/hr)						1			2			1
Heavy Vehicles (%)	0%	0%	15%	3%	5%	0%	16%	0%	2%	0%	2%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		13.0			13.0			10.2	10.2		10.2	
Effective Green, g (s)		13.0			13.0			10.2	10.2		10.2	
Actuated g/C Ratio		0.37			0.37			0.29	0.29		0.29	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		640			516			435	459		544	
v/s Ratio Prot												
v/s Ratio Perm		0.04			0.22			0.11	0.05		0.09	
v/c Ratio		0.11			0.58			0.36	0.18		0.31	
Uniform Delay, d1		7.3			8.9			9.9	9.4		9.8	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.1			1.7			0.5	0.2		0.3	
Delay (s)		7.4			10.6			10.4	9.6		10.1	
Level of Service		A			B			B	A		B	
Approach Delay (s)		7.4			10.6			9.9			10.1	
Approach LOS		A			B			A			B	
Intersection Summary												
HCM 2000 Control Delay			9.9									A
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			35.2								12.0	
Intersection Capacity Utilization			50.2%									A
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
 5: Shirlington Rd & S Kenmore St/24th Rd S

No-Build
 Timing Plan: PM Peak Hour



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	110	308	158	292	172
v/c Ratio	0.16	0.60	0.37	0.45	0.32
Control Delay	5.3	14.8	14.2	4.5	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	14.8	14.2	4.5	12.8
Queue Length 50th (ft)	6	42	23	0	24
Queue Length 95th (ft)	30	118	73	41	75
Internal Link Dist (ft)	425	287	103		221
Turn Bay Length (ft)				100	
Base Capacity (vph)	1241	989	1241	1352	1556
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.31	0.13	0.22	0.11
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

6: Shirlington Rd & S Four Mile Run Dr

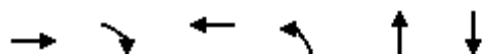
No-Build
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↖	↗		↔		↖	↗			↖↗		
Traffic Volume (vph)	175	2	381	6	2	2	526	262	3	0	269	144	
Future Volume (vph)	175	2	381	6	2	2	526	262	3	0	269	144	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	12	12	12	12	12	12	12	11	12	12	11	
Grade (%)		-1%			1%			8%				-1%	
Total Lost time (s)		6.5	7.0		6.5		7.0	7.0			7.0		
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00			0.95		
Frbp, ped/bikes		1.00	0.99		0.98		1.00	1.00			0.89		
Flpb, ped/bikes		0.89	1.00		1.00		0.97	1.00			1.00		
Frt		1.00	0.85		0.98		1.00	1.00			0.95		
Flt Protected		0.95	1.00		0.97		0.95	1.00			1.00		
Satd. Flow (prot)		1612	1582		1744		1658	1719			2956		
Flt Permitted		0.72	1.00		0.83		0.37	1.00			1.00		
Satd. Flow (perm)		1220	1582		1499		642	1719			2956		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	190	2	414	7	2	2	572	285	3	0	292	157	
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	44	0	
Lane Group Flow (vph)	0	192	414	0	9	0	572	288	0	0	405	0	
Confl. Peds. (#/hr)	64		1	1		64	92		85	85		92	
Confl. Bikes (#/hr)			2			1			55			50	
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	1%	5%	67%	0%	5%	1%	
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA				NA	
Protected Phases		4	5		8		5	2				6	
Permitted Phases	4		4	8			2			6			
Actuated Green, G (s)		27.5	71.5		27.5		99.0	99.0				48.0	
Effective Green, g (s)		27.5	71.5		27.5		99.0	99.0				48.0	
Actuated g/C Ratio		0.20	0.51		0.20		0.71	0.71				0.34	
Clearance Time (s)		6.5	7.0		6.5		7.0	7.0				7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0				3.0	
Lane Grp Cap (vph)		239	807		294		773	1215				1013	
v/s Ratio Prot			0.16				c0.23	0.17				0.14	
v/s Ratio Perm		c0.16	0.10		0.01		c0.29						
v/c Ratio		0.80	0.51		0.03		0.74	0.24				0.40	
Uniform Delay, d1		53.7	22.7		45.5		11.2	7.2				35.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00				1.00	
Incremental Delay, d2		17.5	0.6		0.0		6.3	0.5				1.2	
Delay (s)		71.1	23.3		45.5		17.5	7.7				36.2	
Level of Service		E	C		D		B	A				D	
Approach Delay (s)		38.4			45.5			14.2				36.2	
Approach LOS		D			D			B				D	
Intersection Summary													
HCM 2000 Control Delay			27.1									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.78										
Actuated Cycle Length (s)			140.0									Sum of lost time (s)	20.5
Intersection Capacity Utilization			84.7%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings
6: Shirlington Rd & S Four Mile Run Dr

No-Build
Timing Plan: PM Peak Hour



Lane Group	EBT	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	192	414	11	572	288	449
v/c Ratio	0.80	0.52	0.04	0.74	0.24	0.43
Control Delay	76.6	20.7	35.9	18.5	8.7	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	20.7	35.9	18.5	8.7	32.7
Queue Length 50th (ft)	168	217	7	209	84	140
Queue Length 95th (ft)	240	250	23	415	156	213
Internal Link Dist (ft)	718		66		229	277
Turn Bay Length (ft)						
Base Capacity (vph)	370	802	456	776	1215	1050
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.52	0.02	0.74	0.24	0.43
Intersection Summary						

HCM Unsignalized Intersection Capacity Analysis

Build

1: S Monroe St & 24th Rd S/S Lowell St

Timing Plan: AM Peak Hour

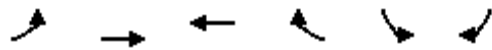


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	1	11	2	1	15	7	4	21	1	4	16	1
Future Volume (Veh/h)	1	11	2	1	15	7	4	21	1	4	16	1
Sign Control		Stop			Stop			Free			Free	
Grade		-5%			4%			13%			1%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	12	2	1	16	8	4	23	1	4	17	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	73	58	18	65	58	24	18			24		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	73	58	18	65	58	24	18			24		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	100	98	99	100			100		
cM capacity (veh/h)	899	833	1067	918	833	1059	1612			1604		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	25	28	22								
Volume Left	1	1	4	4								
Volume Right	2	8	1	1								
cSH	863	898	1612	1604								
Volume to Capacity	0.02	0.03	0.00	0.00								
Queue Length 95th (ft)	1	2	0	0								
Control Delay (s)	9.2	9.1	1.0	1.3								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.2	9.1	1.0	1.3								
Approach LOS	A	A										
Intersection Summary												
Average Delay			4.7									
Intersection Capacity Utilization			13.3%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: 25th St S & S Monroe St

Build
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Volume (veh/h)	11	13	13	11	9	10
Future Volume (Veh/h)	11	13	13	11	9	10
Sign Control		Free	Free		Stop	
Grade		6%	-4%		-14%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	14	14	12	10	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	26				58	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	26				58	20
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1601				947	1064
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	26	26	21			
Volume Left	12	0	10			
Volume Right	0	12	11			
cSH	1601	1700	1005			
Volume to Capacity	0.01	0.02	0.02			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	3.4	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	3.4	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization		18.0%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: S Lincoln St & S Lowell St

Build
 Timing Plan: AM Peak Hour

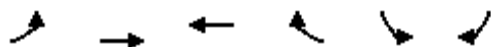


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Yield			Stop	Stop	
Traffic Volume (vph)	3	13	18	8	12	5
Future Volume (vph)	3	13	18	8	12	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	14	20	9	13	5
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	17	29	18			
Volume Left (vph)	3	20	0			
Volume Right (vph)	14	0	5			
Hadj (s)	-0.46	0.14	-0.17			
Departure Headway (s)	3.5	4.1	3.8			
Degree Utilization, x	0.02	0.03	0.02			
Capacity (veh/h)	997	864	938			
Control Delay (s)	6.6	7.2	6.9			
Approach Delay (s)	6.6	7.2	6.9			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.0			
Level of Service			A			
Intersection Capacity Utilization			18.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: 25th St S/S Kenwood St & S Lincoln St

Build
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	17	14	14	15	10
Future Volume (Veh/h)	12	17	14	14	15	10
Sign Control		Free	Free		Stop	
Grade		-3%	2%		5%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	18	15	15	16	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	30				66	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	30				66	22
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1596				936	1060
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	31	30	27			
Volume Left	13	0	16			
Volume Right	0	15	11			
cSH	1596	1700	983			
Volume to Capacity	0.01	0.02	0.03			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	3.1	0.0	8.8			
Lane LOS	A		A			
Approach Delay (s)	3.1	0.0	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			3.8			
Intersection Capacity Utilization		18.2%		ICU Level of Service		A
Analysis Period (min)		15				

Queues

Build

5: Shirlington Rd & S Kenmore St/24th Rd S

Timing Plan: AM Peak Hour



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	140	188	263	448	113
v/c Ratio	0.25	0.41	0.33	0.46	0.12
Control Delay	8.8	14.5	10.1	3.0	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	14.5	10.1	3.0	8.3
Queue Length 50th (ft)	11	27	35	0	13
Queue Length 95th (ft)	50	88	97	41	42
Internal Link Dist (ft)	425	287	103		221
Turn Bay Length (ft)				100	
Base Capacity (vph)	1202	1022	1286	1274	1481
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.18	0.20	0.35	0.08

Intersection Summary

HCM Signalized Intersection Capacity Analysis

5: Shirlington Rd & S Kenmore St/24th Rd S

Build
Timing Plan: AM Peak Hour



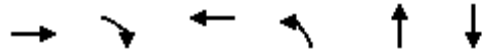
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Volume (vph)	4	71	54	93	66	14	56	186	412	12	89	3
Future Volume (vph)	4	71	54	93	66	14	56	186	412	12	89	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	12	14	12	12	12	13	12	14	12
Grade (%)		-3%			-3%			0%			-3%	
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frbp, ped/bikes		0.99			1.00			1.00	0.96		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.94			0.99			1.00	0.85		1.00	
Flt Protected		1.00			0.97			0.99	1.00		0.99	
Satd. Flow (prot)		1615			1758			1739	1488		1918	
Flt Permitted		0.98			0.76			0.90	1.00		0.95	
Satd. Flow (perm)		1592			1367			1584	1488		1826	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	77	59	101	72	15	61	202	448	13	97	3
RTOR Reduction (vph)	0	45	0	0	6	0	0	0	262	0	2	0
Lane Group Flow (vph)	0	95	0	0	182	0	0	263	186	0	111	0
Confl. Peds. (#/hr)	3		4	4		3	7		19	19		7
Confl. Bikes (#/hr)			2									2
Heavy Vehicles (%)	0%	7%	35%	11%	14%	14%	14%	6%	8%	0%	6%	33%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		8.1			8.1			14.3	14.3		14.3	
Effective Green, g (s)		8.1			8.1			14.3	14.3		14.3	
Actuated g/C Ratio		0.24			0.24			0.42	0.42		0.42	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		374			321			658	618		759	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.13			c0.17	0.13		0.06	
v/c Ratio		0.25			0.57			0.40	0.30		0.15	
Uniform Delay, d1		10.7			11.6			7.0	6.7		6.3	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.4			2.3			0.4	0.3		0.1	
Delay (s)		11.1			13.9			7.4	7.0		6.3	
Level of Service		B			B			A	A		A	
Approach Delay (s)		11.1			13.9			7.2			6.3	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			8.6									A
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			34.4							12.0		
Intersection Capacity Utilization			58.8%									B
Analysis Period (min)			15									
c Critical Lane Group												

Queues

Build

6: Shirlington Rd & S Four Mile Run Dr

Timing Plan: AM Peak Hour



Lane Group	EBT	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	280	332	16	438	523	241
v/c Ratio	0.85	0.37	0.07	0.55	0.48	0.29
Control Delay	70.9	13.3	20.9	16.9	16.5	33.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	13.3	20.9	16.9	16.5	33.9
Queue Length 50th (ft)	243	135	4	185	234	70
Queue Length 95th (ft)	322	147	21	321	401	122
Internal Link Dist (ft)	718		66		229	277
Turn Bay Length (ft)						
Base Capacity (vph)	442	895	285	791	1080	826
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.37	0.06	0.55	0.48	0.29

Intersection Summary

HCM Signalized Intersection Capacity Analysis

6: Shirlington Rd & S Four Mile Run Dr

Build
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↗			↖↗	
Traffic Volume (vph)	255	3	305	3	3	9	403	468	13	0	148	74
Future Volume (vph)	255	3	305	3	3	9	403	468	13	0	148	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	12	12	12	12	12	12	11	12	12	11
Grade (%)		-1%			1%			8%				-1%
Total Lost time (s)		6.5	7.0		6.5		7.0	7.0			7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00			0.95	
Frbp, ped/bikes		1.00	0.99		0.96		1.00	1.00			0.96	
Flpb, ped/bikes		0.95	1.00		1.00		0.98	1.00			1.00	
Frt		1.00	0.85		0.92		1.00	1.00			0.95	
Flt Protected		0.95	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		1664	1559		825		1620	1688			2878	
Flt Permitted		0.72	1.00		0.95		0.50	1.00			1.00	
Satd. Flow (perm)		1252	1559		790		853	1688			2878	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.25	0.92	0.92
Adj. Flow (vph)	277	3	332	3	3	10	438	509	14	0	161	80
RTOR Reduction (vph)	0	0	0	0	7	0	0	1	0	0	39	0
Lane Group Flow (vph)	0	280	332	0	9	0	438	522	0	0	202	0
Confl. Peds. (#/hr)	26		6	6		26	23		34	34		23
Confl. Bikes (#/hr)			3			1			1			30
Heavy Vehicles (%)	4%	33%	3%	100%	100%	100%	5%	6%	54%	0%	15%	15%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA				NA
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2		6			
Actuated Green, G (s)		36.9	80.9		36.9		89.6	89.6			38.6	
Effective Green, g (s)		36.9	80.9		36.9		89.6	89.6			38.6	
Actuated g/C Ratio		0.26	0.58		0.26		0.64	0.64			0.28	
Clearance Time (s)		6.5	7.0		6.5		7.0	7.0			7.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		329	900		208		786	1080			793	
v/s Ratio Prot			0.12				c0.17	0.31			0.07	
v/s Ratio Perm		c0.22	0.10		0.01		c0.18					
v/c Ratio		0.85	0.37		0.04		0.56	0.48			0.25	
Uniform Delay, d1		48.9	15.9		38.4		12.8	13.1			39.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	
Incremental Delay, d2		18.6	0.3		0.1		2.8	1.6			0.8	
Delay (s)		67.5	16.1		38.5		15.6	14.7			40.3	
Level of Service		E	B		D		B	B			D	
Approach Delay (s)		39.6			38.5			15.1			40.3	
Approach LOS		D			D			B			D	










Intersection Summary

HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

7: S Monroe St & Driveway 1

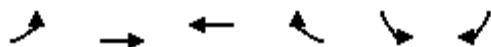
Build
Timing Plan: AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	5	21	1	2	17
Future Volume (Veh/h)	2	5	21	1	2	17
Sign Control	Stop		Free		Free	
Grade	0%		13%		-14%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	5	23	1	2	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	46	24			24	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	46	24			24	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	963	1053			1591	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	7	24	20			
Volume Left	2	0	2			
Volume Right	5	1	0			
cSH	1026	1700	1591			
Volume to Capacity	0.01	0.01	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.5	0.0	0.7			
Lane LOS	A		A			
Approach Delay (s)	8.5	0.0	0.7			
Approach LOS	A					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: 25th St S & Driveway 2

Build
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	21	21	3	8	3
Future Volume (Veh/h)	1	21	21	3	8	3
Sign Control		Free	Free		Stop	
Grade		-3%	-4%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	23	23	3	9	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	26				50	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	26				50	24
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1588				959	1052
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	24	26	12			
Volume Left	1	0	9			
Volume Right	0	3	3			
cSH	1588	1700	981			
Volume to Capacity	0.00	0.02	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.3	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	0.3	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

9: S Lincoln St & Driveway 3

Build
Timing Plan: AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	11	4	7	6	2
Future Volume (Veh/h)	6	11	4	7	6	2
Sign Control	Stop			Free	Free	
Grade	0%			-5%	6%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	12	4	8	7	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	24	8	9			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	24	8	9			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	990	1074	1611			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	19	12	9			
Volume Left	7	4	0			
Volume Right	12	0	2			
cSH	1041	1611	1700			
Volume to Capacity	0.02	0.00	0.01			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.5	2.4	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.5	2.4	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.8			
Intersection Capacity Utilization		13.9%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Build

1: S Monroe St & 24th Rd S/S Lowell St

Timing Plan: PM Peak Hour

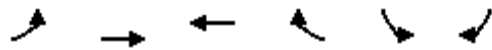


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	1	18	4	1	15	7	2	20	1	14	22	1
Future Volume (Veh/h)	1	18	4	1	15	7	2	20	1	14	22	1
Sign Control		Stop			Stop			Free			Free	
Grade		-5%			4%			13%			1%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	20	4	1	16	8	2	22	1	15	24	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	97	82	24	95	82	22	25			23		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	97	82	24	95	82	22	25			23		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	100	100	98	99	100			99		
cM capacity (veh/h)	863	804	1058	865	804	1060	1603			1605		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	25	25	25	40								
Volume Left	1	1	2	15								
Volume Right	4	8	1	1								
cSH	839	874	1603	1605								
Volume to Capacity	0.03	0.03	0.00	0.01								
Queue Length 95th (ft)	2	2	0	1								
Control Delay (s)	9.4	9.2	0.6	2.8								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.4	9.2	0.6	2.8								
Approach LOS	A	A										
Intersection Summary												
Average Delay			5.1									
Intersection Capacity Utilization			15.5%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: 25th St S & S Monroe St

Build
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Volume (veh/h)	12	16	19	10	11	12
Future Volume (Veh/h)	12	16	19	10	11	12
Sign Control		Free	Free		Stop	
Grade		6%	-4%		-14%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	17	21	11	12	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	32				70	26
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	32				70	26
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1593				933	1055
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	30	32	25			
Volume Left	13	0	12			
Volume Right	0	11	13			
cSH	1593	1700	993			
Volume to Capacity	0.01	0.02	0.03			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	3.2	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	3.2	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization		18.2%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: S Lincoln St & S Lowell St

Build
 Timing Plan: PM Peak Hour

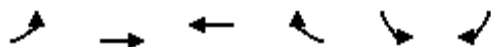


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Yield			Stop	Stop	
Traffic Volume (vph)	7	26	18	12	10	5
Future Volume (vph)	7	26	18	12	10	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	28	20	13	11	5
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	36	33	16			
Volume Left (vph)	8	20	0			
Volume Right (vph)	28	0	5			
Hadj (s)	-0.42	0.12	-0.19			
Departure Headway (s)	3.6	4.1	3.8			
Degree Utilization, x	0.04	0.04	0.02			
Capacity (veh/h)	985	857	928			
Control Delay (s)	6.7	7.3	6.9			
Approach Delay (s)	6.7	7.3	6.9			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.0			
Level of Service			A			
Intersection Capacity Utilization			18.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: 25th St S/S Kenwood St & S Lincoln St

Build
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	12	17	19	18	20	16
Future Volume (Veh/h)	12	17	19	18	20	16
Sign Control		Free	Free		Stop	
Grade		-3%	2%		5%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	18	21	20	22	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	41				75	31
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	41				75	31
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	98
cM capacity (veh/h)	1581				926	1049
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	31	41	39			
Volume Left	13	0	22			
Volume Right	0	20	17			
cSH	1581	1700	976			
Volume to Capacity	0.01	0.02	0.04			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	3.1	0.0	8.8			
Lane LOS	A		A			
Approach Delay (s)	3.1	0.0	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			4.0			
Intersection Capacity Utilization		18.2%		ICU Level of Service		A
Analysis Period (min)			15			

5: Shirlington Rd & S Kenmore St/24th Rd S

Timing Plan: PM Peak Hour



Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	110	318	163	299	179
v/c Ratio	0.16	0.61	0.38	0.45	0.34
Control Delay	5.2	15.1	14.5	4.6	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	15.1	14.5	4.6	13.2
Queue Length 50th (ft)	6	44	24	0	26
Queue Length 95th (ft)	30	123	77	42	79
Internal Link Dist (ft)	425	287	103		221
Turn Bay Length (ft)				100	
Base Capacity (vph)	1225	974	1231	1341	1539
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.33	0.13	0.22	0.12

Intersection Summary

HCM Signalized Intersection Capacity Analysis

5: Shirlington Rd & S Kenmore St/24th Rd S

Build
Timing Plan: PM Peak Hour



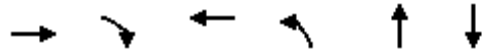
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↗		↕	
Traffic Volume (vph)	1	45	55	218	43	31	45	105	275	21	142	2
Future Volume (vph)	1	45	55	218	43	31	45	105	275	21	142	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	12	14	12	12	12	13	12	14	12
Grade (%)		-3%			-3%			0%				-3%
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frbp, ped/bikes		0.99			1.00			1.00	0.97		1.00	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.93			0.99			1.00	0.85		1.00	
Flt Protected		1.00			0.96			0.99	1.00		0.99	
Satd. Flow (prot)		1740			1891			1781	1584		2004	
Flt Permitted		1.00			0.71			0.83	1.00		0.93	
Satd. Flow (perm)		1734			1394			1508	1584		1884	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	49	60	237	47	34	49	114	299	23	154	2
RTOR Reduction (vph)	0	37	0	0	7	0	0	0	213	0	1	0
Lane Group Flow (vph)	0	73	0	0	311	0	0	163	86	0	178	0
Confl. Peds. (#/hr)	5		2	2			5	12		10	10	12
Confl. Bikes (#/hr)							1		2			1
Heavy Vehicles (%)	0%	0%	15%	3%	5%	0%	16%	0%	2%	0%	2%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		13.4			13.4			10.3	10.3		10.3	
Effective Green, g (s)		13.4			13.4			10.3	10.3		10.3	
Actuated g/C Ratio		0.38			0.38			0.29	0.29		0.29	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		650			523			435	457		543	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.22			c0.11	0.05		0.09	
v/c Ratio		0.11			0.59			0.37	0.19		0.33	
Uniform Delay, d1		7.3			9.0			10.1	9.6		10.0	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.1			1.8			0.5	0.2		0.4	
Delay (s)		7.3			10.8			10.7	9.8		10.3	
Level of Service		A			B			B	A		B	
Approach Delay (s)		7.3			10.8			10.1			10.3	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			10.1									B
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			35.7								12.0	
Intersection Capacity Utilization			50.9%									A
Analysis Period (min)			15									
c Critical Lane Group												

Queues

Build

6: Shirlington Rd & S Four Mile Run Dr

Timing Plan: PM Peak Hour



Lane Group	EBT	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	192	414	11	572	298	456
v/c Ratio	0.80	0.52	0.04	0.74	0.25	0.43
Control Delay	76.6	20.7	35.9	18.9	8.8	33.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	20.7	35.9	18.9	8.8	33.2
Queue Length 50th (ft)	168	217	7	209	88	144
Queue Length 95th (ft)	240	250	23	419	162	219
Internal Link Dist (ft)	718		66		229	277
Turn Bay Length (ft)						
Base Capacity (vph)	370	802	456	773	1216	1050
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.52	0.02	0.74	0.25	0.43

Intersection Summary

HCM Signalized Intersection Capacity Analysis

6: Shirlington Rd & S Four Mile Run Dr

Build
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↗			↖↗	
Traffic Volume (vph)	175	2	381	6	2	2	526	271	3	0	275	144
Future Volume (vph)	175	2	381	6	2	2	526	271	3	0	275	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	12	12	12	12	12	12	11	12	12	11
Grade (%)		-1%			1%			8%				-1%
Total Lost time (s)		6.5	7.0		6.5		7.0	7.0			7.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00			0.95	
Frbp, ped/bikes		1.00	0.99		0.98		1.00	1.00			0.89	
Flpb, ped/bikes		0.89	1.00		1.00		0.97	1.00			1.00	
Frt		1.00	0.85		0.98		1.00	1.00			0.95	
Flt Protected		0.95	1.00		0.97		0.95	1.00			1.00	
Satd. Flow (prot)		1612	1582		1744		1660	1719			2963	
Flt Permitted		0.72	1.00		0.83		0.36	1.00			1.00	
Satd. Flow (perm)		1220	1582		1499		635	1719			2963	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	2	414	7	2	2	572	295	3	0	299	157
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	42	0
Lane Group Flow (vph)	0	192	414	0	9	0	572	298	0	0	414	0
Confl. Peds. (#/hr)	64		1	1		64	92		85	85		92
Confl. Bikes (#/hr)			2			1			55			50
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	1%	5%	67%	0%	5%	1%
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA				NA
Protected Phases		4	5		8		5	2				6
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		27.5	71.5		27.5		99.0	99.0				48.0
Effective Green, g (s)		27.5	71.5		27.5		99.0	99.0				48.0
Actuated g/C Ratio		0.20	0.51		0.20		0.71	0.71				0.34
Clearance Time (s)		6.5	7.0		6.5		7.0	7.0				7.0
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		239	807		294		771	1215				1015
v/s Ratio Prot			0.16				c0.23	0.17				0.14
v/s Ratio Perm		c0.16	0.10		0.01		c0.29					
v/c Ratio		0.80	0.51		0.03		0.74	0.25				0.41
Uniform Delay, d1		53.7	22.7		45.5		11.3	7.3				35.1
Progression Factor		1.00	1.00		1.00		1.00	1.00				1.00
Incremental Delay, d2		17.5	0.6		0.0		6.4	0.5				1.2
Delay (s)		71.1	23.3		45.5		17.7	7.7				36.4
Level of Service		E	C		D		B	A				D
Approach Delay (s)		38.4			45.5			14.3				36.4
Approach LOS		D			D			B				D

Intersection Summary		
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.78	C
Actuated Cycle Length (s)	140.0	Sum of lost time (s)
Intersection Capacity Utilization	84.7%	20.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		E

HCM Unsignalized Intersection Capacity Analysis
 7: S Monroe St & Driveway 1

Build
 Timing Plan: PM Peak Hour

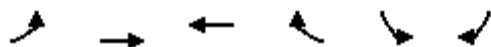


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	3	20	2	5	22
Future Volume (Veh/h)	1	3	20	2	5	22
Sign Control	Stop		Free		Free	
Grade	0%		13%		-14%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	3	22	2	5	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	57	23			24	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	57	23			24	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	947	1054			1591	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	4	24	29			
Volume Left	1	0	5			
Volume Right	3	2	0			
cSH	1025	1700	1591			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	8.5	0.0	1.3			
Lane LOS	A		A			
Approach Delay (s)	8.5	0.0	1.3			
Approach LOS	A					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization		15.5%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: 25th St S & Driveway 2

Build
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	4	23	26	9	6	3
Future Volume (Veh/h)	4	23	26	9	6	3
Sign Control		Free	Free		Stop	
Grade		-3%	-4%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	25	28	10	7	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	38				66	33
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	38				66	33
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1572				937	1041
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	29	38	10			
Volume Left	4	0	7			
Volume Right	0	10	3			
cSH	1572	1700	966			
Volume to Capacity	0.00	0.02	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	1.0	0.0	8.8			
Lane LOS	A		A			
Approach Delay (s)	1.0	0.0	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization		14.6%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

9: S Lincoln St & Driveway 3

Build
Timing Plan: PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	8	11	8	7	6
Future Volume (Veh/h)	4	8	11	8	7	6
Sign Control	Stop			Free	Free	
Grade	0%			-5%	6%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	9	12	9	8	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	44	12	15			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44	12	15			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	959	1069	1603			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	13	21	15			
Volume Left	4	12	0			
Volume Right	9	0	7			
cSH	1033	1603	1700			
Volume to Capacity	0.01	0.01	0.01			
Queue Length 95th (ft)	1	1	0			
Control Delay (s)	8.5	4.2	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.5	4.2	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization			17.7%	ICU Level of Service	A	
Analysis Period (min)			15			