



AlexWEST

Traffic Study

ALEXANDRIA, VIRGINIA

Prepared for:

CITY OF ALEXANDRIA

JUNE 2024

Prepared By:

Kimley»»Horn

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EXECUTIVE SUMMARY

STUDY PURPOSE AND BACKGROUND

The City of Alexandria is updating their long-term vision for the 1992 Alexandria West Plan, which will include the integration of the 2012 Beauregard Plan as part of the process. The updated vision will evaluate modifications to the currently proposed land use plan, assess the proposed transportation infrastructure, and engage in public outreach to the community. In support of this planning process, a planning-level transportation study was prepared to evaluate the impacts of both the existing traffic demand and future traffic demand on the surrounding transportation network. Note that this transportation study does not take the place of additional transportation studies for individual development sites as required by the City's [Transportation Planning Administrative Guidelines](#).

The previous land use plans for this area were developed 10-30 years ago. As such, the City seeks to update these plans comprehensively in order to:

- address current community needs and incorporate current City policies and best practices
- address the issue of housing vulnerability and affordability by leveraging housing resources, policies, and funding opportunities to meet this challenge
- develop an approach to guide and shape future development and make expectations clear for the community, City, and developers

In order to assess the impact of the proposed land use and development projections outlined in the updated AlexWest Small Area Plan, this traffic study conducted a sensitivity analysis of the transportation network. The future traffic anticipated to be generated with the AlexWest proposed land use was analyzed and compared against the existing conditions and the future conditions based on forecasted growth.

TRAFFIC STUDY AREA AND ANALYSIS SCENARIOS

This traffic study was prepared to evaluate the impacts of the proposed land use and development projections on the surrounding transportation network. Therefore, the traffic study analyzed the transportation network under the following land use scenarios:

- **2022 Existing Conditions**
- **2045 Base Conditions** (based on forecasted traffic volumes from the Metropolitan Washington Council of Governments (MWCOG) travel demand model)
- **2045 Sensitivity Analysis** (considers a 30% increase in land use density and project area traffic, representative of the proposed AlexWest land use plan)

The existing conditions serve as a baseline comparison scenario for all future conditions. 2045 base conditions with the currently forecasted land use and the 2045 sensitivity analysis provide an understanding of how changes in land use will impact the 2045 planned future transportation network.

The existing street network considered as part of this study extends along the N Beauregard Street and Seminary Road corridors. 13 signalized intersections and two (2) unsignalized intersections represent the existing study area. The study area is generally bound by I-395 to the east, Arlington County to the north, and Fairfax County to the south and west. Major study area corridors include Beauregard Street, Seminary Road, W Braddock Road, Little River Turnpike and King Street.

KEY FINDINGS AND CONCLUSIONS

This traffic study presents the following findings for each traffic analysis scenario:

2022 Existing Conditions

The 2022 existing conditions Synchro traffic analyses are generally consistent with observed field conditions. On the N Beaugard Street corridor, the greatest operational challenges were observed in locations which provide access to I-395, namely, Little River Turnpike, Seminary Road, and King Street. These locations, which experience high demand from both the N Beaugard Street corridor and the connecting streets providing access to I-395, were shown to have significant delays along mainline N Beaugard Street. Relatively few operational challenges were observed on the rest of the N Beaugard Street corridor, except in locations directly adjacent to schools or high-density residential developments. In these locations, mainline turning movements and minor street approaches were subject to greater delays compared to mainline northbound and southbound through movements on N Beaugard Street.

On the Seminary Road corridor, delays were also primarily experienced by mainline turning vehicles and vehicles on minor street approaches to Seminary Road. West of N Beaugard Street, where the land use is primarily low-density residential, the unsignalized intersections operated with little delay, even to minor street approaches. East of N Beaugard Street, delays were also primarily experienced by mainline turning vehicles and vehicles on the minor street approaches to Seminary Road.

Generally, AM peak hour delays were slightly greater than PM peak hour delays, and more significantly so in areas adjacent to schools. PM peak hour delays were greater than AM peak hour delays in areas adjacent to commercial uses, as recorded in field observations and indicated by the traffic analysis.

2045 Base Conditions

Under 2045 base conditions, poor existing conditions operations worsened at the intersections of the major study corridors, including N Beaugard Street at Little River Turnpike and N Beaugard Street/S Walter Reed Drive t King Street. In several locations on N Beaugard Street, including at the intersection of N Beaugard Street and Seminary Road, signal timing optimization was implemented, which improved performance on minor street approaches while increasing delay for mainline turning movements. These delay increases may also be attributed to the increase in volume under 2045 base conditions.

The 2045 base conditions analysis indicates that overall, the study area transportation network can reasonably accommodate future development and land uses based on forecasted growth. Increases in delay that are expected due to the projected traffic increase can be mitigated by minor signal timing adjustments along the major study area corridors. The greatest operational challenges projected under future land use conditions are at turning movements to and/or from minor streets along N Beaugard Street and along corridors that provide connection to I-395.

2045 Sensitivity Analysis

Under 2045 sensitivity analysis conditions, intersection operations are largely similar to 2045 base conditions operations. At the approach and movement level, operations experience some moderate increases in turning movement delay at Little River Turnpike, Sanger Avenue, and King Street. Across the study area, increases in traffic delay, especially in more congested locations, were shown to be slightly greater in the PM peak hour than in the AM peak hour.

AlexWEST

The 2045 sensitivity analysis indicates that the study area transportation network can accommodate the proposed AlexWest land use, with only small changes in operational performance compared to 2045 base conditions. Similar to the 2045 base conditions scenario, the greatest operational challenges projected under the AlexWest land use conditions are at turning movements to and/or from minor streets along N Beauregard Street and along corridors that provide connection to I-395.

The results of this study will be further refined as individual development sites submit site-specific transportation studies, as required by the City's [Transportation Planning Administrative Guidelines](#). Localized transportation impacts will be mitigated as needed as development is introduced to the Alex West area.

DRAFT

1. INTRODUCTION

The City of Alexandria is updating their long-term vision for the 1992 Alexandria West Plan, which will include the integration of the 2012 Beauregard Plan as part of the process. The updated vision will evaluate modifications to the currently proposed land use plan, assess the proposed transportation infrastructure, and engage in public outreach to the community. In support of this planning process, a planning-level transportation study was prepared to evaluate the impacts of the existing and future traffic demand on the surrounding transportation network. Note that this transportation study does not take the place of additional transportation studies for individual development sites as required by the City's [Transportation Planning Administrative Guidelines](#).

1.1 ALEXWEST PLANNING AREA

The study area for the overall Small Area Plan (SAP) encompasses the entire AlexWest Plan Area, shown in **Figure 1-1**, as designated by the City. This study area is generally bound by I-395 to the east, Arlington County to the north, and Fairfax County to the south and west. Major study area corridors include Beauregard Street, Seminary Road, W Braddock Road, Little River Turnpike and King Street. This area is served by numerous local transit routes, which will be enhanced in the future with the planned West End Transitway Bus Rapid Transit line.

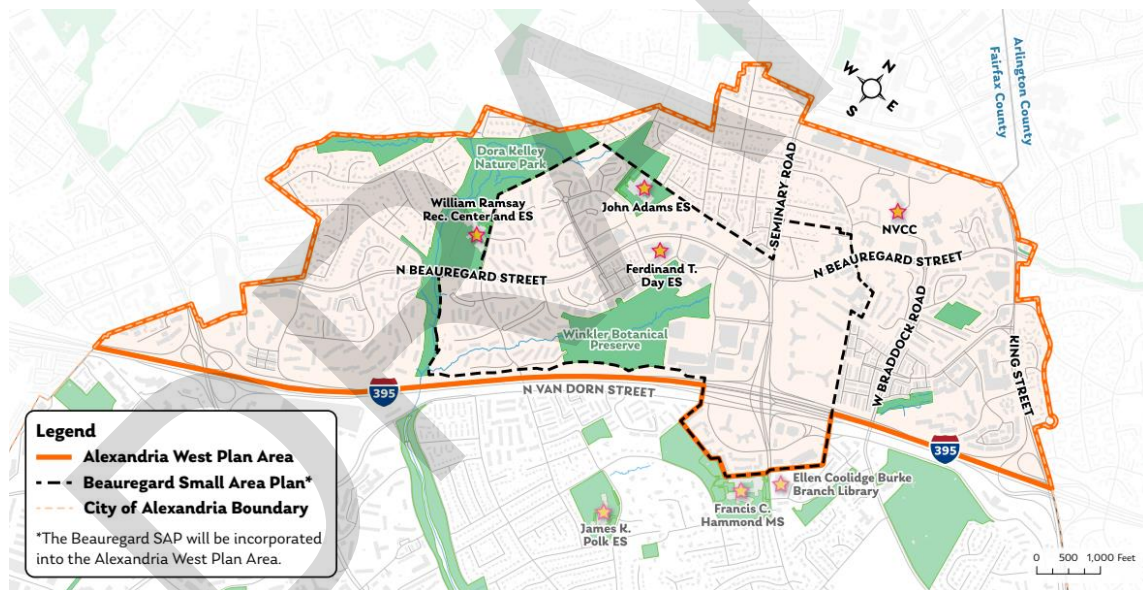


Figure 1-1: AlexWest Planning Area

1.2 ALEXWEST LAND USE

The previous land use plans for this area were developed 10-30 years ago. As such, the City seeks to update these plans comprehensively in order to:

- address current community needs and incorporate current City policies and best practices
- address the issue of housing vulnerability and affordability by leveraging housing resources, policies, and funding opportunities to meet this challenge
- develop an approach to guide and shape future development and make expectations clear for the community, City, and developers

To assess the impact of the proposed land use and development projections outlined in the updated AlexWest Small Area Plan, this traffic study conducted a sensitivity analysis of the transportation network. The future traffic anticipated to be generated with the AlexWest proposed land use was analyzed and compared against the existing conditions and the future conditions based on forecasted growth. The following describes a brief methodology for this process.

1.3 TRAFFIC STUDY SCENARIOS

This traffic study was prepared to evaluate the impacts of the proposed land use and development projections on the surrounding transportation network. Major study area corridors include N Beauregard Street, Seminary Road, Little River Turnpike, W Braddock Road, Sanger Avenue, and King Street. The traffic study analyzed the transportation network under the following land use scenarios:

- **2022 Existing Conditions**
- **2045 Base Conditions** (based on forecasted traffic volumes from the Metropolitan Washington Council of Governments (MWCOC) travel demand model)
- **2045 Sensitivity Analysis** (considers a 30% increase in land use density and project area traffic, representative of the proposed AlexWest land use plan)

The existing conditions serve as a baseline comparison scenario for all future conditions. 2045 base conditions with the currently forecasted land use and the 2045 sensitivity analysis provide an understanding of how changes in land use will impact the 2045 planned future transportation network.

For the purposes of this traffic study, 15 intersections in and around the AlexWest plan boundary were studied, as shown in **Figure 1-2**. Intersection capacity analyses and queuing analyses were performed for each study intersection for each analysis condition. See **Table 2-1** for intersection names.

Detailed descriptions of each analysis scenario and the analysis methodologies are outlined in the subsequent sections of this report.

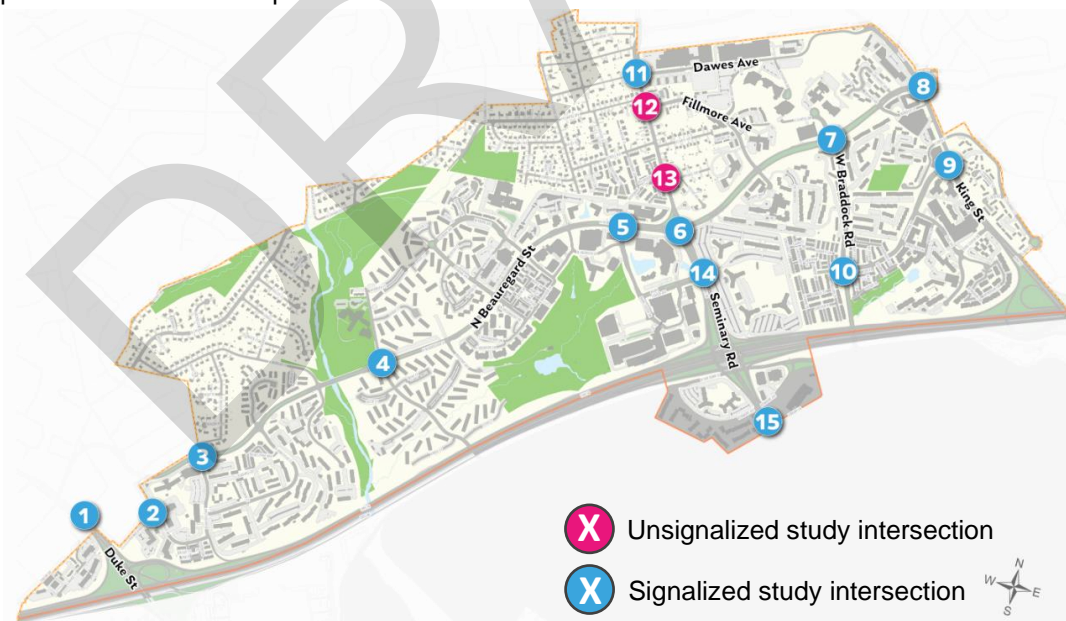


Figure 1-2: Traffic Study Area

2. STUDY AREA TRANSPORTATION NETWORK

2.1 STREET NETWORK

The existing street network considered as part of this study extends along the N Beaugard Street and Seminary Road corridors. 13 signalized intersections and two (2) unsignalized intersections represent the existing study area. The following is a brief description of the surrounding street network, study intersections, and study area observations.

STUDY AREA STREETS

The following is a descriptive listing of each of the roadways within the study area. The roadways are categorized according to their location along the main study area corridors of N Beaugard Street (north-south) and Seminary Road (east-west). All average annual daily traffic (AADT) data reported below are from Virginia Department of Transportation (VDOT) 2021 Traffic Data.

N Beaugard Street Corridor

N Beaugard Street (Route 6622 within the City of Alexandria, Route 713 within Fairfax County) is a north-south road which runs parallel to I-395. N Beaugard Street terminates at Observation Way on the south end. On the north end, the roadway becomes **S Walter Reed Drive** at King Street and continues northbound, terminating at Washington Boulevard. It is a four-lane divided road with additional turn lanes and is separated by a raised median. In the study area vicinity, the AADT ranges from 12,000 vehicles (within the City of Alexandria) to 28,000 vehicles (within Fairfax County). The road has a posted speed limit of 25 mph south of Armistead Drive and 35 mph north of Armistead Drive within the study area.

Little River Turnpike (Route 236) is an east-west road which terminates at I-66 on the west and Strand Street (in the Old Town Alexandria Waterfront) on the east. Note that the roadway is renamed as Main Street to the west and Duke Street to the east. It is a four-lane divided road with additional turn lanes and is separated by a raised median. In the study area vicinity, the AADT is approximately 28,000 vehicles. The road has a posted speed limit of 40 mph. Little River Turnpike outside of the Alexandria city limits is maintained by VDOT and Fairfax County.

Gloucester Road is an east-west two-lane undivided roadway that provides access to roughly a dozen single-family residences and a place of worship. The road connects to N Beaugard Street on the east end and terminates in a dead-end on the west end. The road has no posted speed limit.

Lincolnia Road (Route 8) is an east-west two-lane undivided roadway that provides access to residential and commercial developments south of N Beaugard Street. Between N Breckenridge Place and N Beaugard Street, the AADT is approximately 3,400 vehicles. The road has no posted speed limit.

Quantrell Avenue is an east-west two-lane undivided roadway which terminates at N Beaugard Street on the west end and becomes a westbound-only road for vehicles exiting southbound I-395 on the east end. The road has a posted speed limit of 25 mph.

Sanger Avenue (Route 6702) is an east-west road that provides access to residential neighborhoods to the west and east of N Beaugard Street. It also provides access to William Ramsay Elementary School, which is immediately west of the intersection of Sanger Avenue and N Beaugard Street. West of N

Beauregard Street, it is a two-lane undivided road. East of N Beauregard Street, it is a two-lane undivided road with parking, except during the peak hours of 7AM to 9AM and 4PM to 6PM, during which time it is a four-lane roadway. In the study area vicinity, the 2021 AADT is approximately 12,000 vehicles. The road has a posted speed limit of 25 mph.

Mark Center Drive is an east-west road that provides access to office and residential buildings to the west and east of N Beauregard Street. It also provides connection to the Mark Center Transit Center, which serves numerous DASH, WMATA, Fairfax Connector, and Omniride bus routes. It is a four-lane road with additional turn lanes and is separated by a raised median. Between Highview Lane and Mark Center Avenue, the roadway is undivided. The road has a posted speed limit of 25 mph.

E Campus Drive is an east-west road which connects to N Beauregard Street on the east end and provides access to Northern Virginia Community College - Alexandria Campus on the west end. It is a four-lane median-separated roadway. The road has no posted speed limit.

W Braddock Road (Route 6592) is an east-west road which connects to N Beauregard Street on the west end and terminates at N West Street (near the Braddock Road Metrorail Station) on the east end. Within the study area vicinity, the road is a four-lane road with additional turn lanes and is separated by a raised median. The 2021 AADT along the road in the study area vicinity is approximately 10,000 vehicles. The road has a posted speed limit of 35 mph.

King Street (Route 7) is an east-west road which becomes Leesburg Pike west of Dawes Avenue in Fairfax County, and terminates at Strand Street (in Old Town Alexandria Waterfront) on the east end. Within the study area vicinity, it is a four-lane undivided road with additional turn lanes. The 2021 AADT along the roadway in the study area vicinity is 40,000 vehicles. The road has a posted speed limit of 35 mph within the study area vicinity.

N Hampton Drive (Route 6711) is a north-south road that provides access to residential developments south of King Street. It is a two-lane road with additional turn lanes, bike lanes, and parking lanes. It is primarily separated by a raised median, though sections along the roadway are undivided. In the study area vicinity, the 2021 AADT along the roadway is 5,000 vehicles. The road has a posted speed limit of 25 mph.

Seminary Road Corridor

Seminary Road (Route 6706 west of I-395, Route 420 east of I-395) is an east-west road which runs parallel to Route 7 and provides connection to Route 7 on each end. It is primarily a four-lane undivided road with additional turn lanes. Note that between N Beauregard Street and Library Lane, the roadway becomes divided and is separated by a raised median. In the study area vicinity, the 2021 AADT ranges from 14,000 vehicles (east of I-395) to 41,000 vehicles (west of I-395). The road has a posted speed limit of 25 mph.

Dawes Avenue is a north-south road that provides access to residential neighborhoods west of Seminary Road and commercial and office developments and Northern Virginia Community College - Alexandria Campus east of Seminary Road. It is a two-lane undivided road with additional turn lanes. The road has a posted speed limit of 25 mph.

Fillmore Avenue is a north-south two-lane undivided road that provides access to residential neighborhoods north and south of Seminary Road. The road terminates at Seminary Road on the south end and N Beauregard Street on the north end. The road has a posted speed limit of 25 mph.

Fairbanks Avenue is a north-south two-lane undivided road that provides access to residential neighborhoods north and south of Seminary Road. The road has no posted speed limit.

Mark Center Avenue is a north-south road which terminates at Mark Center Drive on the south end and Seminary Road on the north end. It also provides connection to the Mark Center Transit Center, which serves numerous DASH, WMATA, Fairfax Connector, and Omniride bus routes. It is primarily a four-lane road with additional turn lanes and is separated by a raised median. The road has a posted speed limit of 25 mph.

Kenmore Avenue is a north-south two-lane undivided road that provides access to residential developments south of Seminary Road. The road has no posted speed limit.

Library Lane is a north-south two-lane undivided road that provides access to commercial developments and the Ellen Coolidge Burke branch public library north of Seminary Road. The road has no posted speed limit.

STUDY INTERSECTIONS

The vehicular impacts of the proposed land use plan were studied at the study intersections listed in **Table 2-1**. The existing lane designations and traffic control at the study intersections are shown in **Figure 2-1**.

Table 2-1: Existing Study Area Intersections

Study Intersection	Signalization
1. N Beauregard Street and Little River Turnpike	Signalized
2. N Beauregard Street and Gloucester Road/Lincolnia Road	Signalized
3. N Beauregard Street and Quantrell Avenue	Signalized
4. N Beauregard Street and Sanger Avenue	Signalized
5. N Beauregard Street and Mark Center Drive	Signalized
6. N Beauregard Street and Seminary Road	Signalized
7. N Beauregard Street and E Campus Drive/W Braddock Road	Signalized
8. N Beauregard Street/S Walter Reed Drive and King Street	Signalized
9. King Street and N Hampton Drive	Signalized
10. W Braddock Road and N Hampton Drive	Signalized
11. Seminary Road and Dawes Avenue	Signalized
12. Seminary Road and Fillmore Avenue	Unsignalized
13. Seminary Road and Fairbanks Avenue	Unsignalized
14. Seminary Road and Mark Center Avenue	Signalized
15. Seminary Road and Kenmore Avenue/Library Lane	Signalized

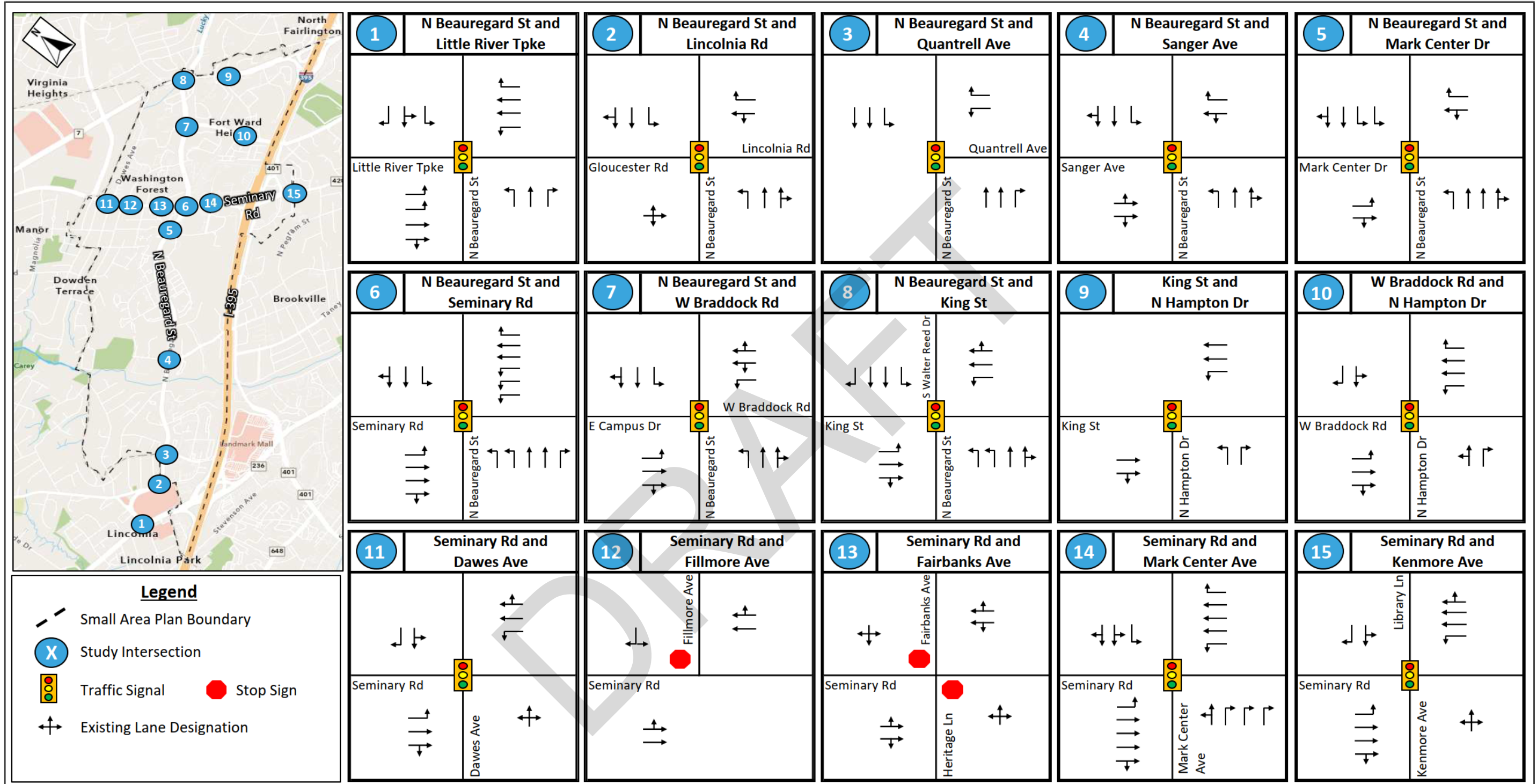


Figure 2-1: Existing Lane Designations and Traffic Control

3. EXISTING TRAFFIC OPERATIONS ANALYSIS

3.1 DATA COLLECTION

Traffic count data was collected at the study area intersections between December 2022 and April 2023. Data was collected at the majority of study intersections on Tuesday, December 13, 2022.

The following intersections had different collection dates due to observed issues on the initial day of collection:

- Seminary Road and Kenmore Avenue/Library Lane – Original data collected at incorrect intersection
- N Bearegard Street and Little River Turnpike – Traffic incident on Little River Turnpike
- N Bearegard Street and Lincolnia Road – Impacts from Traffic incident on Little River Turnpike
- N Bearegard Street and Quantrell Avenue – Impacts from Traffic incident on Little River Turnpike

As a result of these issues, data at the intersections listed above were collected on other dates. A summary of the data collection dates which represent the 2022 existing conditions is provided in **Table 3-1**.

Table 3-1: Traffic Count Data Collection Summary

Study Intersection	Data Collection Date	
	AM Peak Hour	PM Peak Hour
1. N Bearegard Street and Little River Turnpike	Tuesday, December 13, 2022	Thursday, April 27, 2023
2. N Bearegard Street and Gloucester Road/Lincolnia Road	Tuesday, December 13, 2022	Thursday, April 27, 2023
3. N Bearegard Street and Quantrell Avenue	Tuesday, December 13, 2022	Thursday, April 27, 2023
4. N Bearegard Street and Sanger Avenue	Tuesday, December 13, 2022	
5. N Bearegard Street and Mark Center Drive	Tuesday, December 13, 2022	
6. N Bearegard Street and Seminary Road	Tuesday, December 13, 2022	
7. N Bearegard Street and E Campus Drive/W Braddock Road	Tuesday, December 13, 2022	
8. N Bearegard Street/S Walter Reed Drive and King Street	Tuesday, December 13, 2022	
9. King Street and N Hampton Drive	Tuesday, December 13, 2022	
10. W Braddock Road and N Hampton Drive	Tuesday, December 13, 2022	
11. Seminary Road and Dawes Avenue	Tuesday, December 13, 2022	
12. Seminary Road and Fillmore Avenue	Tuesday, December 13, 2022	
13. Seminary Road and Fairbanks Avenue	Tuesday, December 13, 2022	
14. Seminary Road and Mark Center Avenue	Tuesday, December 13, 2022	
15. Seminary Road and Kenmore Avenue/Library Lane	Tuesday, January 31, 2023	

All AM data collection occurred from 6:00 AM to 9:00 AM, and all PM data collection occurred from 3:30 PM to 7:30 PM. See **Appendix A** for full traffic count data and descriptions of observed data collection issues on December 13, 2022.

3.2 FIELD OBSERVATIONS

Field observations were conducted on Tuesday, February 14, 2023 to confirm existing AM and PM traffic signal timing and phasing, observe any abnormalities in existing traffic operations, and make note of any significant gaps in the existing pedestrian, bicycle, and transit networks. The following observations are noted in this report to provide background information which may provide context for apparent abnormalities in the transportation network analysis or public perceptions of unsafe or burdensome locations within the study area.

VIOLATIONS OF PROHIBITED TURNING MOVEMENTS

- While existing signage prohibits U-turns, significant U-turn volumes were observed in the following locations or were captured in the traffic count data:
 - Westbound U-turn at N Beauregard Street and Little River Turnpike (11 U-turns counted in the PM peak hour traffic count data collection)
 - Eastbound U-turn at Seminary Road and Kenmore Avenue/Library Lane (29 U-turns counted in the AM peak hour traffic count data collection)
- Although signage prohibits left turns from Seminary Road onto Heritage Lane on weekdays from 4:00 to 6:00 PM, 9 left turns were captured in this location in the PM peak hour traffic count data collection, the same number of left turns captured in the AM peak hour.

PEDESTRIAN CROSSING OBSERVATIONS

- The following signals were observed to have exclusive pedestrian phases, meaning that when a pedestrian push button is activated at the intersection, all vehicle movements are prohibited during the pedestrian phase:
 - N Beauregard Street and Sanger Avenue
 - Seminary Road and Kenmore Avenue/Library LaneThis is due to the proximity of each intersection to an ACPS school (William Ramsey Elementary School and Francis C. Hammond Middle School, respectively).
- The unsignalized pedestrian crossing of Seminary Road at Fairbanks Avenue was notably difficult to make. Painted stop bars and signage indicate to eastbound and westbound drivers on Seminary Road to stop for pedestrians, but there is little to no observance of this direction, making it difficult to cross.

3.3 TRAFFIC VOLUMES

The analyses contained herein are based on the one AM hour and one PM hour during which the highest volume of traffic is observed in the study area. These hours are known as the “network peak hours” of traffic. For the purposes of this analysis, a network peak hour of traffic was identified based on the cumulative amount of traffic at all study area intersections within a single continuous 60-minute period. The network peak hours of the study area were identified as 7:30 AM to 8:30 AM and 4:45 PM to 5:45 PM. The AM and PM peak hour existing traffic volumes at the study area intersections are summarized in **Figure 3-1**. AM and PM peak hour existing pedestrian volumes at the study area intersections are summarized in **Figure 3-2**. Note that pedestrian volumes recorded at unmarked crossings are marked in red. Complete data collection sheets, including turning movement counts and bicycle and pedestrian data, are provided in **Appendix A**.

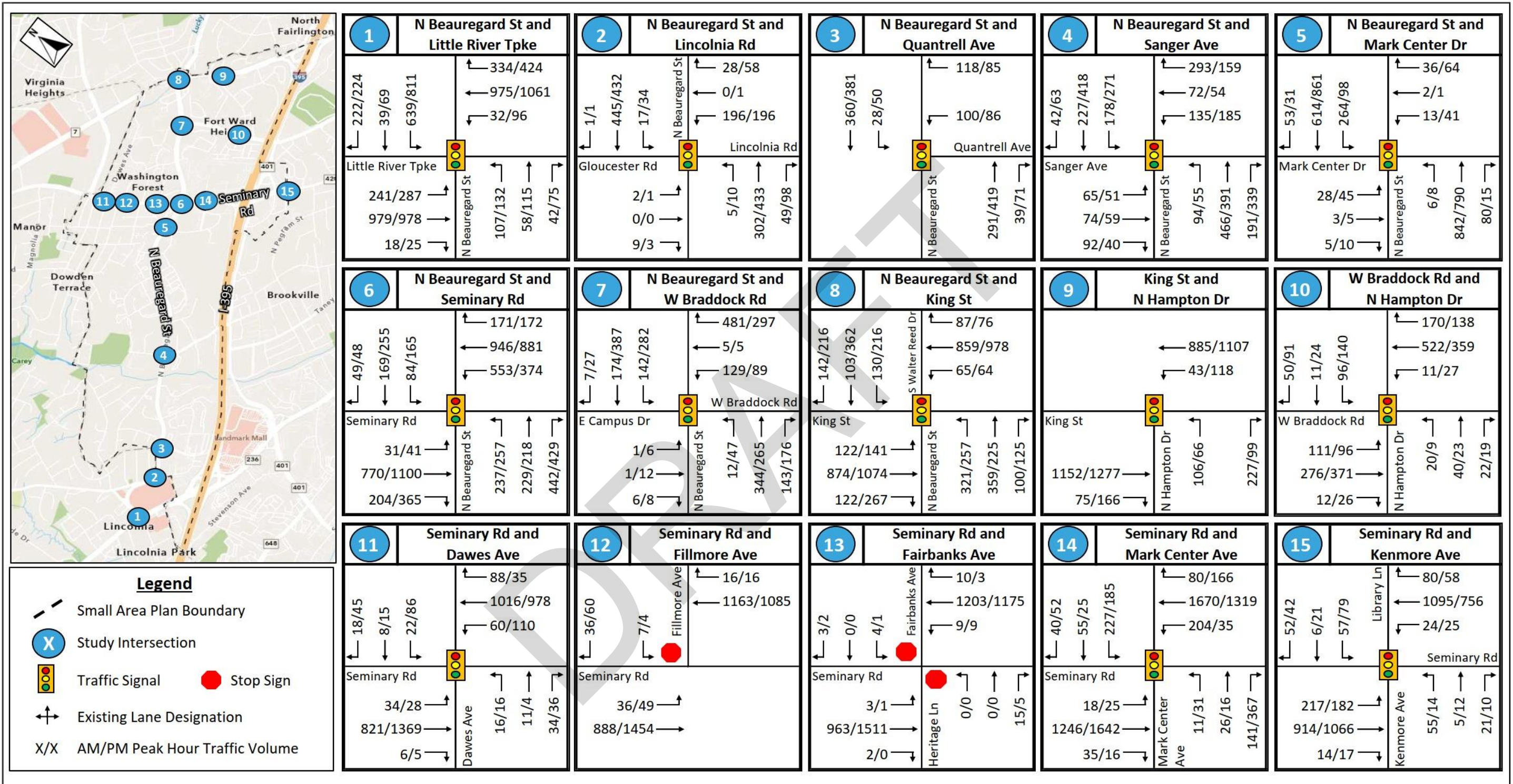


Figure 3-1: Existing 2022 Peak Hour Traffic Volumes

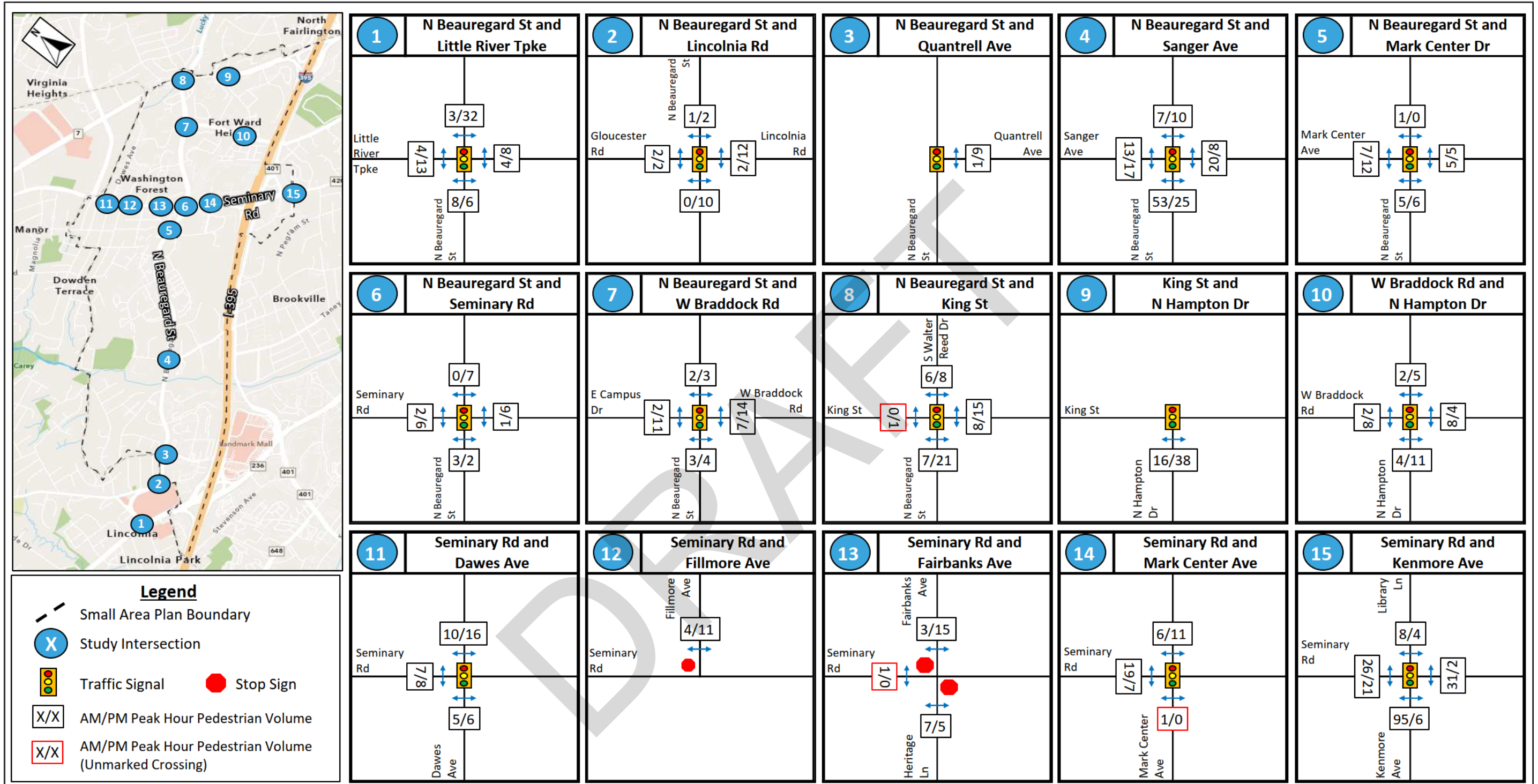


Figure 3-2: Existing 2022 Peak Hour Pedestrian Volumes

3.4 EXISTING INTERSECTION CAPACITY AND QUEUING ANALYSIS

ANALYSIS METHODOLOGY

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 11 software and based on methodologies contained in the Highway Capacity Manual, HCM 2000, for all intersections. HCM 2000 was used due to limitations of the HCM 6th Edition methodology in accommodating unique phasing sequences and specific lane configurations. This analysis methodology was selected to identify high-level impacts between analysis scenarios. Synchro 11-based 95th percentile queuing analysis results were also reported to help validate traffic results.

According to the HCM, capacity is defined as the maximum number of vehicles that can pass over a road segment or through an 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 3-2** shows the level of service and delay per vehicle for signalized and unsignalized intersections.

Table 3-2: Level of Service and Ranges of Delay

Level of Service (LOS)	Delay per Vehicle (seconds)	
	Signalized Intersections	Unsignalized Intersections
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, HCM 2000

Queue length is an indicator of congestion at both signalized and unsignalized intersections. The analysis of 95th percentile queue lengths represent the queue length with a five percent probability of being exceeded during the analysis.

The analysis of existing conditions was based on the existing peak hour turning movement volumes, lane designations, peak hour factors, and traffic control at the study intersections. HCM-based intersection capacity analysis and Synchro 11-based 95th percentile queuing analysis results are summarized in **Table 3-3**.

Existing conditions Synchro HCM reports are provided in **Appendix B**.

Table 3-3: 2022 Existing Conditions Capacity and Queuing Analysis Results

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions			
			AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
1. N Beauregard Street and Little River Turnpike (Signalized)						
Northbound (N Beauregard St)	L	135	F (101.4)	#210	F (170.9)	#358
	T	-	E (78.9)	120	F (119.9)	#285
	R	-	E (70.8)	83	E (79.6)	149
	Approach	-	F (88.9)		F (131.5)	
Southbound (N Beauregard St)	L	650*	E (74.6)	m367	F (106.1)	m#870
	LT		E (73.7)	m367	F (104.8)	m#877
	R	670*	E (60.4)	m77	E (56.9)	m166
	Approach	-	E (70.7)		F (95.6)	
Eastbound (Little River Tpk)	L	400	F (84.7)	194	F (122.7)	#306
	TR	680*	C (34.6)	577	D (48.0)	693
	Approach	-	D (44.4)		E (64.6)	
Westbound (Little River Tpk)	L	220	F (86.2)	80	F (116.3)	211
	T	335*	D (44.5)	635	D (54.3)	756
	R		B (12.9)	59	B (14.1)	249
	Approach	-	D (37.7)		D (47.3)	
Overall Intersection			D (50.9)		E (71.2)	
2. N Beauregard Street and Gloucester Road/Lincolnia Road (Signalized)						
Northbound (N Beauregard St)	L	210	B (10.0)	5	A (9.9)	9
	TR	850*	B (11.9)	83	B (13.5)	141
	Approach	-	B (11.8)		B (13.4)	
Southbound (N Beauregard St)	L	200	B (10.0)	11	B (10.2)	20
	TR	820*	B (12.2)	106	B (12.0)	113
	Approach	-	B (12.1)		B (11.9)	
Eastbound (Gloucester Rd)	LTR	-	B (11.4)	0	B (13.0)	0
	Approach	-	B (11.4)		B (13.0)	
Westbound (Lincolnia Rd)	LT	-	B (14.6)	113	B (17.1)	133
	R	60	B (11.4)	5	B (13.2)	21
	Approach	-	B (14.2)		B (16.2)	
Overall Intersection			B (12.4)		B (13.4)	
3. N Beauregard Street and Quantrell Avenue (Signalized)						
Northbound (N Beauregard St)	T	835*	A (3.2)	36	A (2.9)	52
	R	110	A (3.0)	8	A (2.6)	11
	Approach	-	A (3.2)		A (2.9)	
Southbound (N Beauregard St)	L	120	A (1.9)	9	A (3.6)	21
	T	835*	A (2.0)	33	A (3.7)	53
	Approach	-	A (2.0)		A (3.7)	
Westbound (Quantrell Ave)	L	-	D (35.5)	98	D (38.8)	89
	R	35	C (32.1)	46	C (34.1)	40
	Approach	-	C (33.6)		D (36.5)	
Overall Intersection			A (9.8)		A (8.4)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions			
			AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
4. N Beauregard Street and Sanger Ave (Signalized)						
Northbound (N Beauregard St)	L	190	C (24.5)	109	C (25.6)	59
	TR	870*	C (34.2)	403	D (41.9)	515
	Approach	-	C (33.0)		D (40.8)	
Southbound (N Beauregard St)	L	185	B (19.0)	177	D (50.1)	335
	TR	880*	C (24.5)	151	C (28.7)	267
	Approach	-	C (22.3)		D (36.4)	
Eastbound (Sanger Ave)	LTR	-	F (82.1)	190	E (73.7)	135
	Approach	-	F (82.1)		E (73.7)	
Westbound (Sanger Ave)	LT	-	F (157.1)	#458	F (92.2)	#502
	TR	-	F (99.6)	#556	D (36.1)	199
	Approach	-	F (123.4)		E (69.7)	
Overall Intersection			E (59.9)		D (47.1)	
5. N Beauregard Street and Mark Center Drive (Signalized)						
Northbound (N Beauregard St)	L	175	D (47.1)	18	E (65.8)	m27
	TR	675*	B (16.9)	323	A (4.5)	103
	Approach	-	B (17.1)		A (5.1)	
Southbound (N Beauregard St)	L	390	C (24.9)	114	F (85.5)	m80
	TR	645*	A (1.4)	78	A (4.2)	184
	Approach	-	A (8.0)		B (12.2)	
Eastbound (Mark Center Dr)	L	-	E (58.0)	53	D (54.7)	75
	TR	-	E (56.5)	19	D (52.6)	25
	Approach	-	E (57.7)		D (54.2)	
Westbound (Mark Center Dr)	LT	-	E (57.5)	34	D (54.8)	72
	R	-	C (28.2)	12	D (44.9)	34
	Approach	-	D (36.6)		D (48.9)	
Overall Intersection			B (14.0)		B (12.6)	
6. N Beauregard Street and Seminary Road (Signalized)						
Northbound (N Beauregard St)	L	190	E (69.1)	175	D (48.0)	145
	T	655*	F (82.5)	169	D (49.4)	124
	R	585	F (81.2)	515	D (40.5)	168
	Approach	-	E (78.4)		D (44.8)	
Southbound (N Beauregard St)	L	245	E (63.8)	138	E (59.3)	238
	TR	1240*	E (78.5)	152	E (58.6)	196
	Approach	-	E (74.4)		E (58.8)	
Eastbound (Seminary Rd)	L	125	D (53.2)	56	E (71.0)	m69
	TR	555*	C (29.7)	278	B (13.6)	109
	Approach	-	C (30.4)		B (15.1)	
Westbound (Seminary Rd)	L	350	C (30.8)	189	D (44.6)	158
	T	610*	A (6.0)	64	A (7.0)	57
	R	355	A (2.5)	0	A (2.7)	1
	Approach	-	B (13.8)		B (16.3)	
Overall Intersection			D (37.9)		C (26.5)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions			
			AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
7. N Beauregard Street and E Campus Drive/W Braddock Road (Signalized)						
Northbound (N Beauregard St)	L	85	E (65.5)	25	E (67.1)	93
	TR	1030*	B (14.7)	281	B (17.2)	254
	Approach	-	B (15.9)		C (22.0)	
Southbound (N Beauregard St)	L	200	D (51.5)	162	D (53.4)	215
	TR	700*	A (8.0)	77	A (7.1)	126
	Approach	-	C (27.1)		C (25.9)	
Eastbound (E Campus Dr)	L	125	E (63.4)	6	E (62.6)	20
	TR	-	E (63.4)	0	E (62.6)	18
	Approach	-	E (63.4)		E (62.6)	
Westbound (W Braddock Rd)	L	200	E (65.6)	174	E (62.2)	132
	LTR	-	E (55.5)	57	E (56.8)	50
	Approach	-	E (57.4)		E (57.9)	
Overall Intersection			D (36.3)		C (33.1)	
8. N Beauregard Street/S Walter Reed Drive and King Street (Signalized)						
Northbound (N Beauregard St)	L	420	E (75.7)	222	E (73.5)	178
	TR	530*	D (44.8)	233	E (58.7)	163
	Approach	-	E (57.5)		E (65.0)	
Southbound (S Walter Reed Dr)	L	205	E (55.6)	139	D (48.6)	226
	T	900*	D (46.4)	73	D (51.6)	217
	R	205	D (46.0)	52	D (49.0)	136
Approach	-	D (49.5)		D (50.1)		
Eastbound (King St)	L	290	C (33.9)	95	C (31.5)	114
	TR	520*	D (36.2)	505	D (45.8)	#731
	Approach	-	D (35.9)		D (44.5)	
Westbound (King St)	L	435	C (29.9)	57	D (38.0)	67
	TR	685*	C (34.8)	470	D (38.2)	530
	Approach	-	C (34.4)		D (38.1)	
Overall Intersection			D (42.1)		D (46.9)	
9. N Hampton Drive and King Street (Signalized)						
Northbound (N Hampton Dr)	L	300	E (58.9)	147	D (54.6)	95
	R	765*	D (48.8)	76	D (50.4)	52
	Approach	-	D (52.0)		D (52.1)	
Eastbound (King St)	TR	305*	A (8.9)	318	A (9.4)	392
	Approach	-	A (8.9)		A (9.4)	
Westbound (King St)	L	295	A (4.9)	15	A (6.6)	30
	T	440*	A (4.0)	132	A (3.5)	150
	Approach	-	A (4.0)		A (3.8)	
Overall Intersection			B (12.9)		A (9.5)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions			
			AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
10. N Hampton Drive and W Braddock Road (Signalized)						
Northbound (N Hampton Dr)	LT	-	D (36.5)	67	C (31.1)	43
	R	-	C (34.9)	0	C (30.5)	0
	Approach	-	D (36.1)		C (30.9)	
Southbound (N Hampton Dr)	LT	-	D (47.2)	112	D (48.6)	170
	R	40	D (35.0)	0	C (30.8)	32
	Approach	-	D (43.3)		D (42.2)	
Eastbound (W Braddock Rd)	L	185	A (4.4)	41	A (6.6)	40
	TR	-	A (6.6)	67	A (9.7)	101
	Approach	-	A (6.0)		A (9.1)	
Westbound (W Braddock Rd)	L	185	A (7.7)	8	A (8.2)	15
	T	-	A (9.8)	133	B (10.7)	98
	R	185	A (8.9)	33	B (10.1)	30
	Approach	-	A (9.6)		B (10.4)	
Overall Intersection			B (14.1)		B (16.8)	
11. Seminary Road and Dawes Avenue (Signalized)						
Northbound (Dawes Ave)	LTR	-	E (60.9)	62	D (54.8)	55
	Approach	-	E (60.9)		D (54.8)	
Southbound (Dawes Ave)	LT	-	E (61.4)	53	E (64.9)	144
	R	-	E (59.5)	0	D (54.1)	7
	Approach	-	E (60.7)		E (61.6)	
Eastbound (Seminary Rd)	L	280	A (4.3)	21	A (6.6)	18
	TR	570*	A (6.1)	256	B (13.2)	581
	Approach	-	A (6.1)		B (13.1)	
Westbound (Seminary Rd)	L	105	A (0.6)	6	C (23.6)	118
	TR	425*	A (1.2)	37	A (6.3)	324
	Approach	-	A (1.2)		A (8.0)	
Overall Intersection			A (6.2)		B (14.5)	
12. Seminary Road and Fillmore Avenue (Unsignalized)						
Southbound (Fillmore Ave)	LR	-	B (14.9)	9	B (12.3)	10
	Approach	-	B (14.9)		B (12.3)	
Eastbound (Seminary Rd)	LT	440*	A (0.9)	6	A (0.8)	7
	Approach	-	A (0.9)		A (0.8)	
Westbound (Seminary Rd)	TR	445*	A (0.0)	0	A (0.0)	0
	Approach	-	A (0.0)		A (0.0)	
13. Seminary Road and Fairbanks Avenue (Unsignalized)						
Northbound (Heritage Ln)	LTR	-	B (10.2)	2	A (9.6)	0
	Approach	-	B (10.2)		A (9.6)	
Southbound (Fairbanks Ave)	LTR	-	C (24.2)	3	C (18.3)	1
	Approach	-	C (24.2)		C (18.3)	
Eastbound (Seminary Rd)	LTR	445*	A (0.1)	0	A (0.0)	0
	Approach	-	A (0.1)		A (0.0)	
Westbound (Seminary Rd)	LTR	560*	A (0.2)	1	A (0.3)	2
	Approach	-	A (0.2)		A (0.3)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions			
			AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
14. Seminary Road and Mark Center Avenue (Signalized)						
Northbound (Mark Center Ave)	LT	230*	E (60.6)	70	E (59.9)	84
	R		D (39.1)	60	D (51.0)	173
	Approach	-	D (43.6)		D (52.0)	
Southbound (Mark Center Ave)	L	100	D (49.4)	149	D (54.0)	135
	LTR	-	D (48.3)	110	D (52.3)	89
	Approach	-	D (48.7)		D (52.9)	
Eastbound (Seminary Rd)	L	205	F (80.9)	m35	E (72.0)	m42
	TR	615*	C (24.0)	396	B (14.6)	356
	Approach	-	C (24.8)		B (15.5)	
Westbound (Seminary Rd)	L	1055*	D (52.0)	262	E (57.2)	68
	T	975*	C (25.0)	578	B (14.5)	395
	R	255	B (12.8)	m23	B (14.2)	64
	Approach	-	C (27.3)		B (15.5)	
Overall Intersection			C (29.1)		C (21.9)	
15. Seminary Road and Kenmore Avenue/Library Lane (Signalized)						
Northbound (Kenmore Ave)	LTR	-	F (81.1)	131	D (44.1)	48
	Approach	-	F (81.1)		D (44.1)	
Southbound (Library Ln)	LT	-	E (71.8)	115	E (55.0)	127
	R	70	E (61.3)	95	D (44.9)	62
	Approach	-	E (67.1)		D (52.0)	
Eastbound (Seminary Rd)	L	215	B (16.8)	222	A (3.8)	59
	TR	230*	B (12.8)	363	A (7.0)	164
	Approach	-	B (13.6)		A (6.5)	
Westbound (Seminary Rd)	L	60	A (7.8)	10	A (7.0)	12
	TR	405*	B (12.2)	267	A (9.9)	154
	Approach	-	B (12.1)		A (9.8)	
Overall Intersection			B (17.5)		B (11.2)	

95th percentile volume exceeds capacity, queue may be longer. Queue shown in maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

2022 EXISTING CONDITIONS INTERSECTION CAPACITY ANALYSIS RESULTS

A graphical summary of the existing conditions intersection capacity analysis results is shown in **Figure 3-3**. The AADT of each study area roadway and the delay at each study area intersection were assigned to respective color scales to provide a high-level graphical depiction of the existing conditions within the study area. Note that HCM methodology precludes unsignalized intersections from delay analysis at the overall intersection level. As such, while the locations of the two unsignalized intersections are identified in **Figure 3-3**, the overall average delay at these intersections is not indicated.

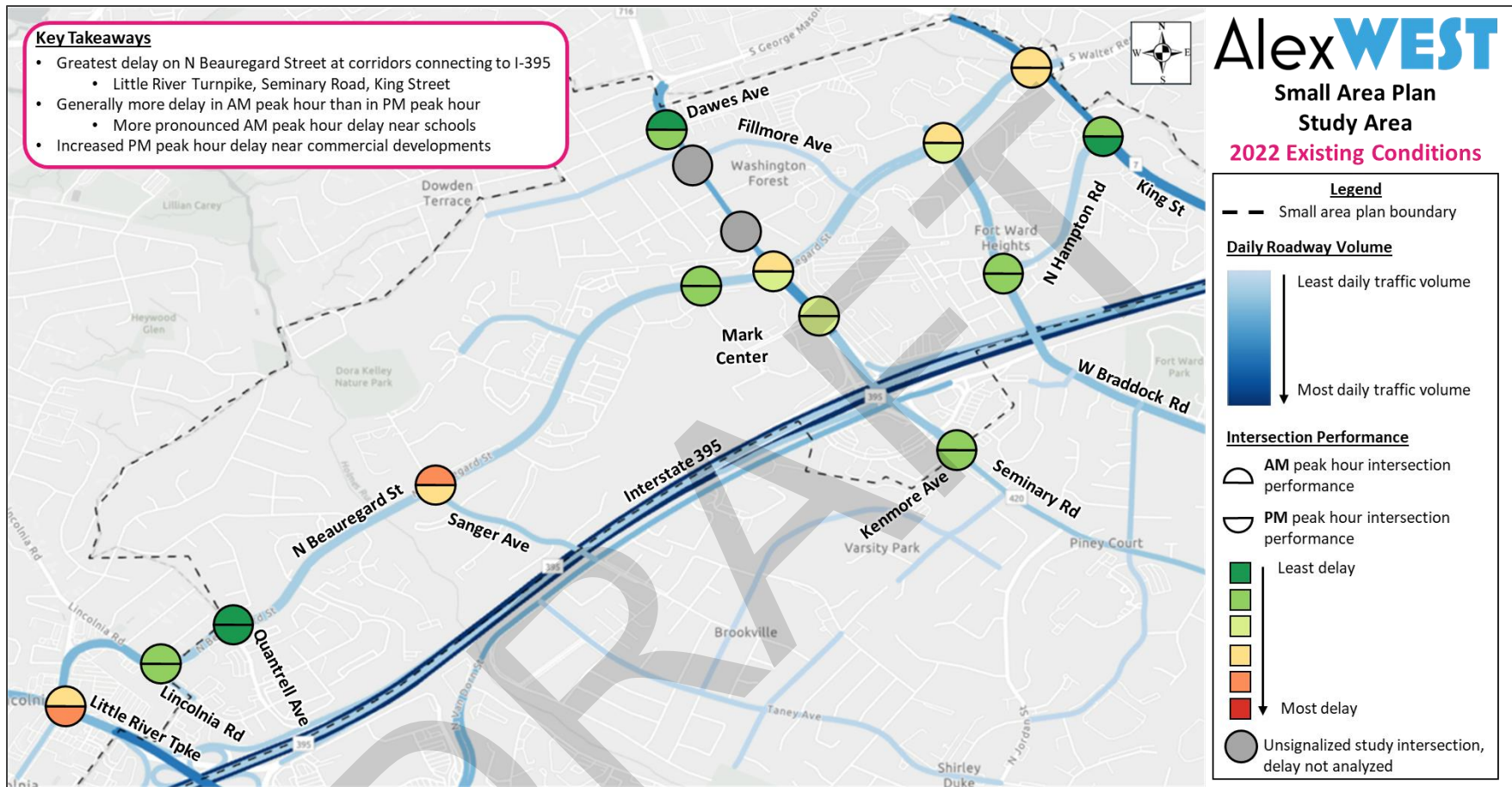


Figure 3-3: Existing Conditions Summary Graphic

The capacity analysis results show that under 2022 existing conditions, most signalized intersections are anticipated to operate at overall intersection LOS D or better in the AM and PM peak hours, with the following exceptions:

- N Beauregard Street and Little River Turnpike (LOS E in the PM peak hour)
- N Beauregard Street and Sanger Avenue (LOS E in the AM peak hour)

Most intersection approaches operate at LOS D or better in the AM and PM peak hours, except the following:

- N Beauregard Street and Little River Turnpike
 - Northbound approach (LOS F in the AM and PM peak hours)
 - Southbound approach (LOS E in the AM peak hour, LOS F in the PM peak hour)
 - Eastbound approach (LOS E in the PM peak hour)
- N Beauregard Street and Sanger Avenue
 - Eastbound approach (LOS F in the AM peak hour, LOS E in the PM peak hour)
 - Westbound approach (LOS F in the AM peak hour, LOS E in the PM peak hour)
- N Beauregard Street and Mark Center Drive
 - Eastbound approach (LOS E in the AM peak hour)
- N Beauregard Street and Seminary Road
 - Northbound approach (LOS E in the AM peak hour)
 - Southbound approach (LOS E in the AM and PM peak hours)
- N Beauregard Street and E Campus Drive/W Braddock Road
 - Eastbound approach (LOS E in the AM and PM peak hour)
 - Westbound approach (LOS E in the AM and PM peak hour)
- N Beauregard Street/S Walter Reed Drive and King Street
 - Northbound approach (LOS E in the AM and PM peak hours)
- Seminary Road and Dawes Avenue
 - Northbound approach (LOS E in the AM peak hour)
 - Southbound approach (LOS E in the AM and PM peak hours)
- Seminary Road and Kenmore Avenue/Library Lane
 - Northbound approach (LOS F in the AM peak hour)
 - Southbound approach (LOS E in the AM peak hour)

Most movements operate at LOS D or better in the AM and PM peak hours, except the following:

- N Beauregard Street and Little River Turnpike
 - Northbound left (LOS F in the AM and PM peak hours)
 - Northbound through (LOS E in the AM peak hour, LOS F in the PM peak hour)
 - Northbound right (LOS E in the AM and PM peak hours)
 - Southbound left (LOS E in the AM peak hour, LOS F in the PM peak hour)
 - Southbound left-through (LOS E in the AM peak hour, LOS F in the PM peak hour)
 - Southbound right (LOS E in the AM and PM peak hours)
 - Eastbound left (LOS F in the AM and PM peak hours)
 - Westbound left (LOS F in the AM and PM peak hours)
- N Beauregard Street and Sanger Avenue
 - Eastbound left-through-right (LOS F in the AM peak hour, LOS E in the PM peak hour)
 - Westbound left-through (LOS F in the AM and PM peak hours)
 - Westbound through-right (LOS F in the AM peak hour)

- N Beauregard Street and Mark Center Drive
 - Northbound left (LOS E in the PM peak hour)
 - Southbound left (LOS F in the PM peak hour)
 - Eastbound left (LOS E in the AM peak hour)
 - Eastbound through-right (LOS E in the AM peak hour)
 - Westbound left-through (LOS E in the AM peak hour)
- N Beauregard Street and Seminary Road
 - Northbound left (LOS E in the AM peak hour)
 - Northbound through (LOS F in the AM peak hour)
 - Northbound right (LOS F in the AM peak hour)
 - Southbound left (LOS E in the AM and PM peak hours)
 - Southbound through-right (LOS E in the AM and PM peak hours)
 - Eastbound left (LOS E in the PM peak hour)
- N Beauregard Street and E Campus Drive/W Braddock Road
 - Northbound left (LOS E in the AM and PM peak hours)
 - Eastbound left (LOS E in the AM and PM peak hours)
 - Eastbound through-right (LOS E in the AM and PM peak hours)
 - Westbound left (LOS E in the AM and PM peak hours)
 - Westbound left-through-right (LOS E in the AM and PM peak hours)
- N Beauregard Street/S Walter Reed Drive and King Street
 - Northbound left (LOS E in the AM and PM peak hours)
 - Northbound through-right (LOS E in the PM peak hour)
 - Southbound left (LOS E in the AM peak hour)
- N Hampton Drive and King Street
 - Northbound left (LOS E in the AM peak hour)
- Seminary Road and Dawes Avenue
 - Northbound left-through-right (LOS E in the AM peak hour)
 - Southbound left-through (LOS E in the AM and PM peak hours)
 - Southbound right (LOS E in the AM peak hour)
- Seminary Road and Mark Center Avenue
 - Northbound left-through (LOS E in the AM and PM peak hours)
 - Eastbound left (LOS E in the AM and PM peak hours)
 - Westbound left (LOS E in the PM peak hour)
- Seminary Road and Kenmore Avenue/Library Lane
 - Northbound left-through-right (LOS F in the AM peak hour)
 - Southbound left-through (LOS E in the AM and PM peak hours)
 - Southbound right (LOS E in the AM peak hour)

2022 EXISTING CONDITIONS QUEUEING ANALYSIS RESULTS

Queueing analyses were conducted using Synchro methodology to determine the 95th percentile queues for each vehicle movement. The 95th percentile queues are summarized in **Table 3-3**. 95th percentile queue lengths that exceed their available storage capacity under 2022 existing conditions include the following:

- N Beauregard Street and Little River Turnpike
 - Northbound left (storage length exceeded in the AM and PM peak hours)

- N Beauregard Street and Quantrell Avenue
 - Westbound right (storage length exceeded in the AM and PM peak hours)
- N Beauregard Street and Sanger Avenue
 - Southbound left (storage length exceeded in the PM peak hour)
- N Beauregard Street and E Campus Drive/W Braddock Road
 - Northbound left (storage length exceeded in the PM peak hour)
 - Southbound left (storage length exceeded in the PM peak hour)
- N Beauregard Street/S Walter Reed Drive and King Street
 - Southbound left (storage length exceeded in the PM peak hour)
- Seminary Road and Dawes Avenue
 - Westbound left (storage length exceeded in the PM peak hour)
- Seminary Road and Mark Center Avenue
 - Southbound left (storage length exceeded in the AM and PM peak hours)
- Seminary Road and Kenmore Avenue
 - Southbound right (storage length exceeded in the AM peak hour)
 - Eastbound left (storage length exceeded in the AM peak hour)

The following movements have 95th percentile queue lengths that exceed the effective storage length of adjacent turn lanes under 2022 existing conditions, effectively blocking access of turning vehicles during queueing conditions:

- N Beauregard Street and Little River Turnpike
 - Northbound through (blocks access to left turn lane in the PM peak hour)
 - Southbound left-through (blocks access to right turn lane in the PM peak hour)
 - Eastbound through-right (blocks access to left turn lane in the AM and PM peak hours)
 - Westbound through (blocks access to left turn lane in the AM and PM peak hours)
- N Beauregard Street and Gloucester Road/Lincolnia Road
 - Westbound left-through (blocks access to right turn lane in the AM and PM peak hours)
- N Beauregard Street and Quantrell Avenue
 - Westbound left (blocks access to right turn lane in the AM and PM peak hours)
- N Beauregard Street and Sanger Avenue
 - Northbound through-right (blocks access to left turn lane in the AM and PM peak hours)
 - Southbound through-right (blocks access to left turn lane in the PM peak hour)
- N Beauregard Street and Mark Center Drive
 - Northbound through-right (blocks access to left turn lane in the AM peak hour)
- N Beauregard Street and Seminary Road
 - Eastbound through-right (blocks access to left turn lane in the AM peak hour)
- N Beauregard Street and E Campus Drive/W Braddock Road
 - Northbound through-right (blocks access to left turn lane in the AM and PM peak hours)
- N Beauregard Street/S Walter Reed Drive and King Street
 - Southbound through (blocks access to left and right turn lanes in the PM peak hour)
 - Eastbound through-right (blocks access to left turn lane in the AM and PM peak hours)
 - Westbound through-right (blocks access to left turn lane in the AM and PM peak hours)
- N Hampton Drive and W Braddock Road
 - Southbound left-through (blocks access to right turn lane in the AM and PM peak hours)
- Seminary Road and Dawes Avenue
 - Eastbound through-right (blocks access to left turn lane in the PM peak hour)
 - Westbound through-right (blocks access to left turn lane in the PM peak hour)

- Seminary Road and Mark Center Avenue
 - Southbound left-through-right (blocks access to left turn lane in the AM peak hour)
 - Eastbound through-right (blocks access to left turn lane in the AM and PM peak hours)
 - Westbound through (blocks access to right turn lane in the AM and PM peak hours)
- Seminary Road and Kenmore Avenue/Library Lane
 - Southbound left-through (blocks access to right turn lane in the AM and PM peak hours)
 - Eastbound through-right (blocks access to left turn lane in the AM peak hour)
 - Westbound through-right (blocks access to left turn lane in the AM and PM peak hours)

The following movements have 95th percentile queue lengths which extend beyond the available “block length,” the distance to the next upstream intersection, under 2022 existing conditions:

- N Beauregard Street and Little River Turnpike
 - Southbound left (block length exceeded in the PM peak hour)
 - Southbound left-through (block length exceeded in the PM peak hour)
 - Eastbound through-right (block length exceeded in the PM peak hour)
 - Westbound through (block length exceeded in the AM and PM peak hours)
- N Beauregard Street/S Walter Reed Drive and King Street
 - Eastbound through-right (block length exceeded in the PM peak hour)
- N Hampton Drive and King Street
 - Eastbound through-right (block length exceeded in the AM and PM peak hours)
- Seminary Road and Dawes Avenue
 - Eastbound through-right (block length exceeded in the PM peak hour)
- Seminary Road and Kenmore Avenue/Library Lane
 - Eastbound through-right (block length exceeded in the AM peak hour)

3.5 EXISTING TRAFFIC OPERATIONS SUMMARY

The Synchro traffic analyses are generally consistent with observed field conditions. On the N Beauregard Street corridor, the greatest operational challenges were observed in locations which provide access to I-395, namely, Little River Turnpike, Seminary Road, and King Street. These locations, which experience high demand from both the N Beauregard Street corridor and the connecting streets providing access to I-395, were shown to have significant delays along mainline northbound and southbound N Beauregard Street. Relatively few operational challenges were observed on the rest of the N Beauregard Street corridor, except in locations directly adjacent to schools or high-density residential developments. In these locations, mainline turning movements and minor street approaches were subject to greater delays compared to mainline northbound and southbound through movements on N Beauregard Street.

On the Seminary Road corridor, delays were also primarily experienced by mainline turning vehicles and vehicles on minor street approaches to Seminary Road. West of N Beauregard Street, where the land use is primarily low-density residential, the unsignalized intersections operated with little delay, even the minor street approaches. The signalized intersection of Seminary Road and Dawes Avenue, which is adjacent to commercial and industrial uses, experienced moderate minor street delays. East of N Beauregard Street, delays were also primarily experienced by mainline turning vehicles and vehicles on the minor street approaches to Seminary Road.

Generally, AM peak hour delays were slightly greater than PM peak hour delays, and more significantly so in areas adjacent to schools. PM peak hour delays were greater than AM peak hour delays in areas adjacent to commercial uses, as recorded in field observations and indicated by traffic analysis.

4. 2045 BASE CONDITIONS TRAFFIC OPERATIONS ANALYSIS

The 2045 base conditions scenario evaluates the transportation network under the future development conditions forecasted using the MWCOG travel demand model. The following chapter outlines the methodology used to model and analyze this future base condition and the results of the analysis.

4.1 VOLUME FORECASTING METHODOLOGY

2045 base traffic forecasts were developed separately for the AM and PM peak hour turning movement volumes throughout the study area, starting from the existing 2022 turning movement counts, and increased based on forecasted future growth within the City and surrounding areas.

The forecasting process used the latest Metropolitan Washington Council of Governments (MWCOG) travel demand forecasting model (Gen2/Version 2.4), including updated 10.0 land use forecasts for Arlington County, City of Alexandria, and Fairfax County (within the Capital Beltway) as provided by the City. This model reflects the future land uses in and around the study area, and subsequently provides an estimation of the future traffic volumes and patterns within the study area.

Using the outputs from the travel demand model “existing” year (2019) and future year (2045) scenarios, annual growth rates were developed. These growth rates were then applied to the 2022 existing conditions traffic analysis volumes to develop the 2045 base traffic analysis volumes. The relationship between the travel demand model years and traffic analysis years is shown in **Figure 4-1**.

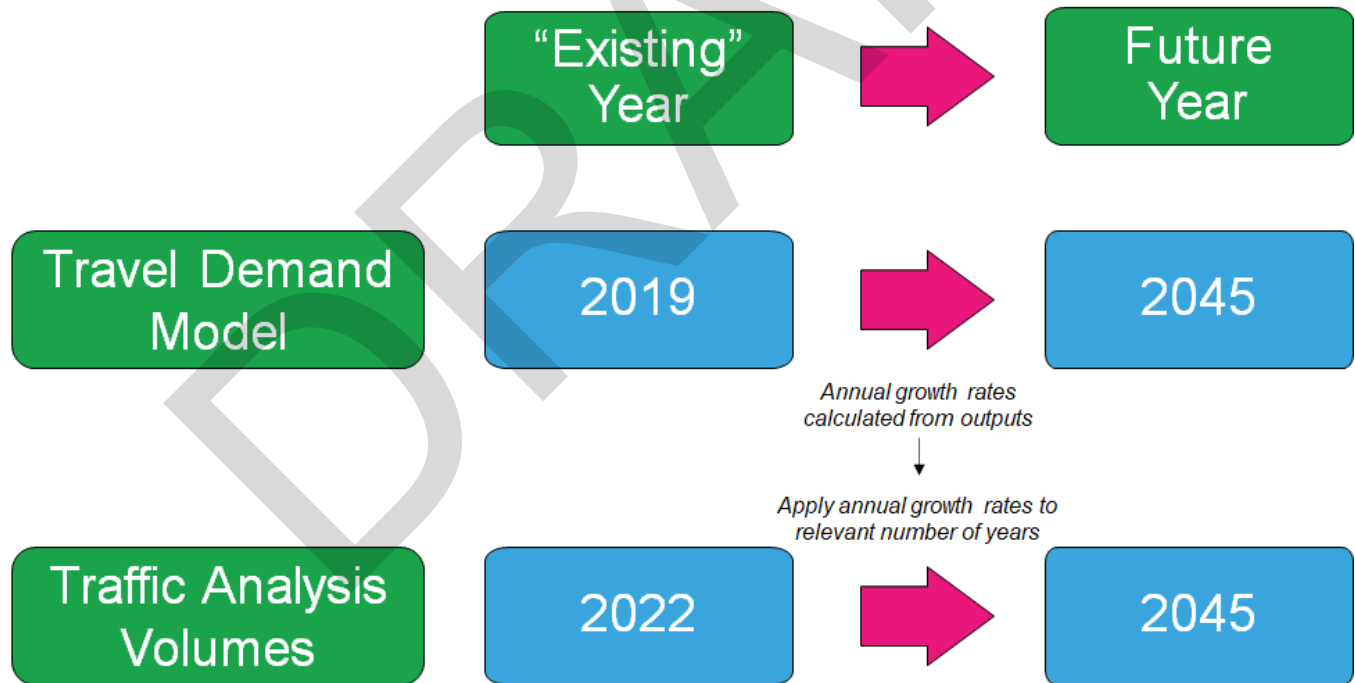


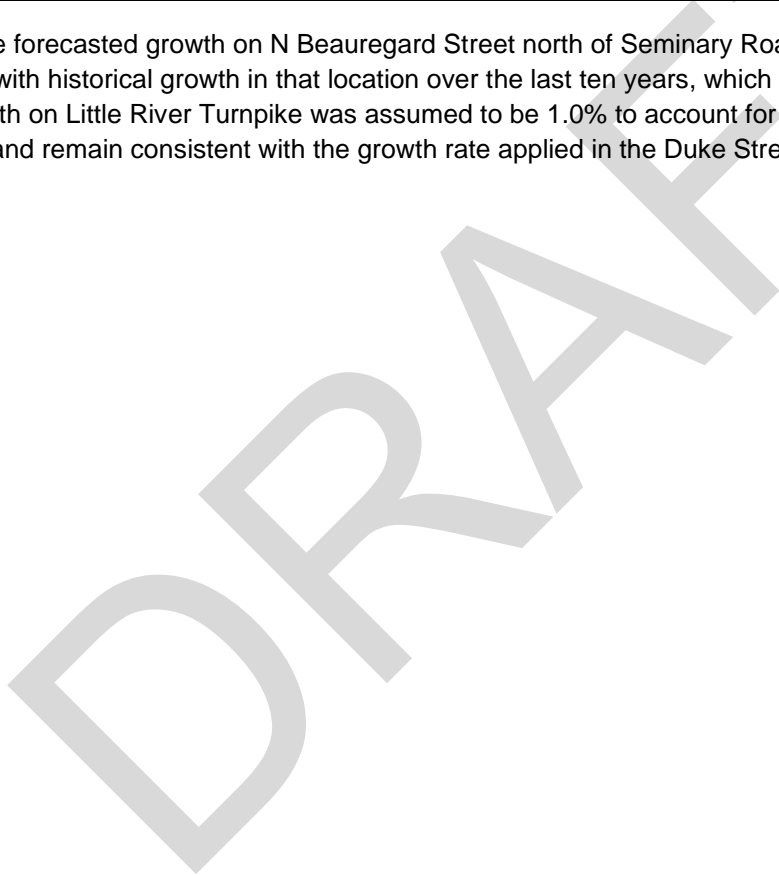
Figure 4-1: AlexWest Traffic Forecast Model and Analysis Years

In some instances, the growth rates developed using MWCOG were adjusted based on the last 10 years of historical data, as determined by AADT data published by VDOT. The resulting annual linear growth rates applied to the 2022 existing turning movements counts are summarized in **Table 4-1** and shown graphically in **Figure 4-2** and **Figure 4-3**. Study area streets not listed in **Table 4-1** are not included in the MWCOG network.

Table 4-1: MWCOG-Forecasted Growth Rates and Applied Growth Rates

Location		MWCOG Forecasted Growth Rate		Applied Growth Rate	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
N Beauregard St	South of Seminary Rd	0.29%	0.18%	0.30%	0.20%
	North of Seminary Rd	0.82%	0.93%	0.50%	0.50%
Seminary Rd	West of N Beauregard St	0.39%	0.35%	0.40%	0.40%
	East of N Beauregard St	0.32%	0.30%	0.40%	0.30%
Little River Tpke		1.34%	1.42%	1.00%	1.00%
Sanger Ave	East of N Beauregard St	0.48%	0.33%	0.50%	0.40%
Braddock Rd	East of N Beauregard St	0.26%	0.48%	0.30%	0.50%
King St		0.49%	0.37%	0.50%	0.40%
Hampton Dr		0.63%	0.77%	0.70%	0.80%

Note that the forecasted growth on N Beauregard Street north of Seminary Road was reduced to 0.5% annually to better align with historical growth in that location over the last ten years, which shows little to no growth. The annual growth on Little River Turnpike was assumed to be 1.0% to account for future roadway capacity constraints and remain consistent with the growth rate applied in the Duke Street in Motion traffic study.



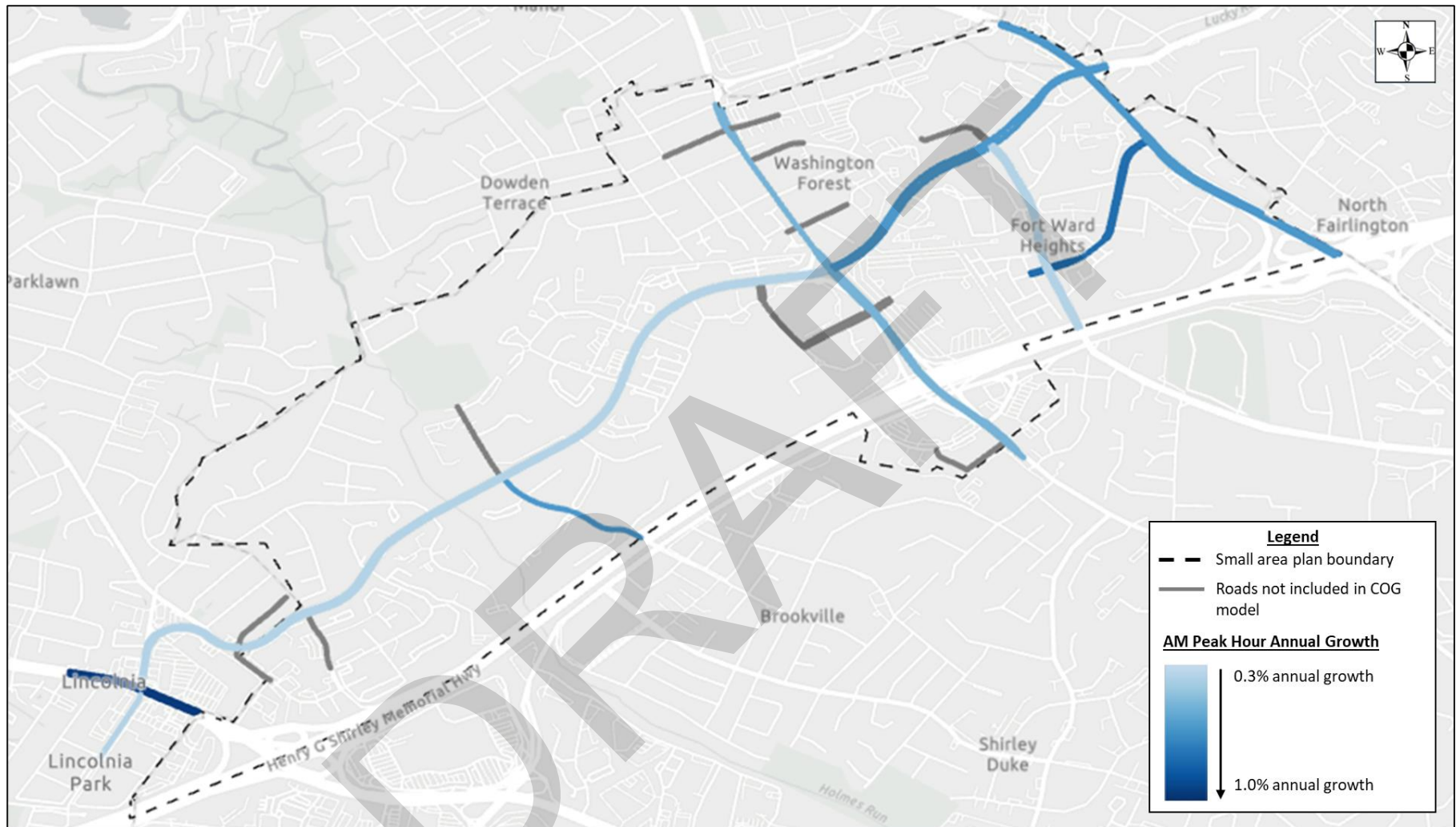


Figure 4-2: Applied Annual Growth Rates – AM Peak Hour

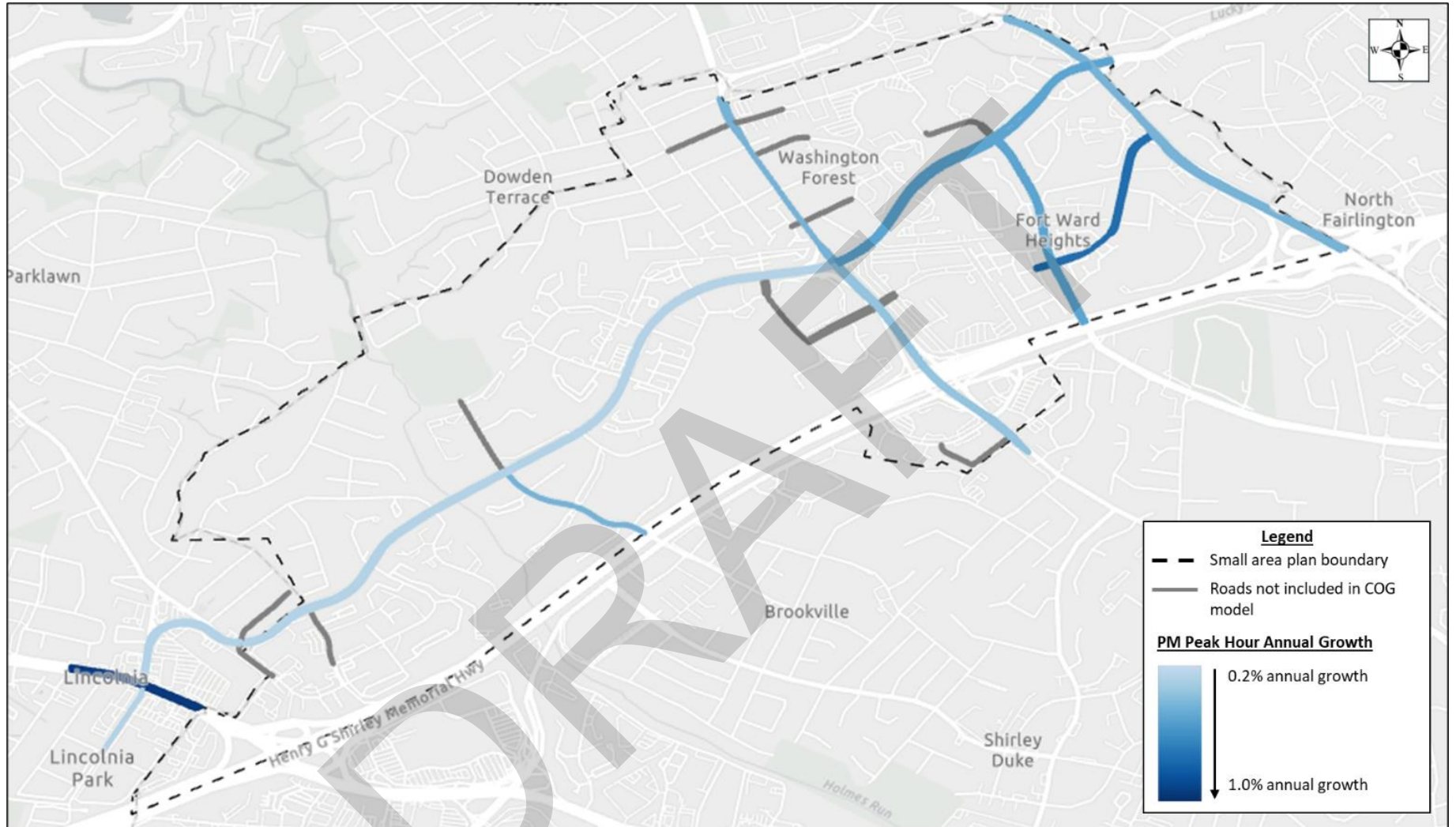


Figure 4-3: Applied Annual Growth Rates – PM Peak Hour

4.2 LAND USE

Land use data within the City of Alexandria and the surrounding areas in the MWCOG model was modified to reflect the most up-to-date demographic and economic development forecasts. City of Alexandria staff provided the project team with land use inputs on August 4, 2023, updated for the MWCOG Round 10.0 forecasts. The updated file included the latest employment and household projections in 5-year increments for the City of Alexandria, Arlington County, and Fairfax County (within the Capital Beltway), broken out by traffic analysis zone (TAZ). Note that while the land use projections in the model were updated compared to the MWCOG Round 9.2 forecasts, the TAZ boundaries remained the same, so the information was updated without having to manipulate the TAZ structure.

4.3 CURRENT AND FUTURE TRAVEL PATTERNS

An analysis of the AlexWest study area travel patterns was conducted using Replica¹, a vendor of transportation analytics using mobile device-based (cell phone) data. The analysis was used to estimate the existing mode split patterns for trips within and through the AlexWest study area. For all trips originating, ending, or passing through the study area, Replica was used to determine the primary mode of travel. **Table 4-2** summarizes the findings of the Replica analysis for non-auto trips.

Table 4-2: Existing AlexWest Mode Split Data

Primary Mode	Percentage of All AlexWest Study Area Trips
Walking	10%
Biking	2%
Transit	3%
Other	1%

Consideration was given to adjusting these mode splits in the 2045 analysis year to account for the West End Transitway, a future bus rapid transit (BRT) corridor planned for implementation within the AlexWest study area. The proposed path of the West End Transitway is shown in **Figure 3-1**.

Evaluation of mode split output data from the MWCOG 2045 forecast indicate significant increases in transit use on Sanger Avenue and Beauregard Street north of Sanger Avenue compared to the 2019 base year outputs. This indicates that the West End Transitway is accounted for in the 2045 MWCOG forecasts, and subsequently the increased mode split is accounted for in the 2045 projections used to develop the traffic growth rates. As such, no further adjustments were made to either the projected growth rates or traffic volumes to account for future changes in mode split for the 2045 base conditions scenario. Link-level summaries of the percentage change in transit use projected in the MWCOG model can be found in **Appendix C**.

¹ <https://studio.replicahq.com/>

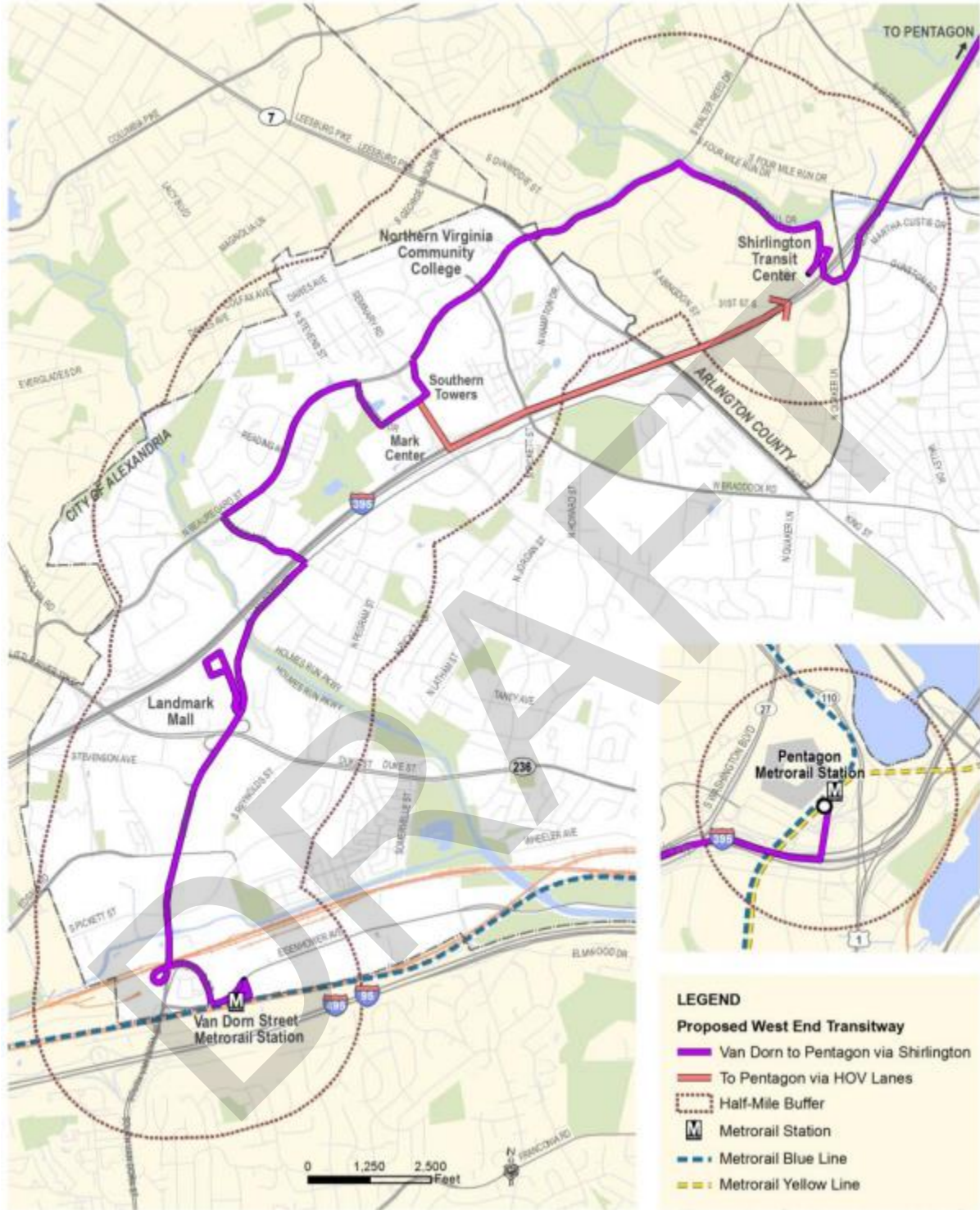


Figure 4-4: Proposed West End Transitway Route

4.4 2045 BASE PEAK HOUR TRAFFIC VOLUMES

The 2045 base turning movement volumes were calculated by applying the growth rates listed in **Table 4-1** to the 2022 existing turning movement counts. Adjustments were made to balance the volumes between intersections where appropriate. Given that there are many intersections and driveways in between the AlexWest study intersections, neither the 2022 existing traffic volumes nor the 2045 base traffic volumes are shown to be exactly balanced between intersections. Rather, specific adjustments were made to ensure that imbalances between study area intersections in the 2045 base traffic volumes are logical and consistent with those in the 2022 existing traffic volumes.

The 2022 existing turning movement volumes at the study area intersections are shown in **Figure 3-1**. The trips generated by regional growth between 2022 and 2045 are shown in **Figure 4-5**. The resulting 2045 base turning movement volumes (the sum of those shown in **Figure 3-1** and **Figure 4-5**) are shown in **Figure 4-6**.

4.5 BACKGROUND TRANSPORTATION IMPROVEMENTS

Background transportation improvements were introduced to the 2045 base conditions analysis to represent changes to the transportation network or infrastructure that are planned for implementation by 2045. Traffic signal timings within the study area network were updated from 2022 existing conditions and optimized for 2045 base conditions analysis, to adapt to the duration of land use growth and changes in regional and local travel patterns. Additionally, the signal phasing was updated at the intersection of N Beauregard Street and King Street in accordance with the King Street/Beauregard Street Improvement Project, which is currently under construction to improve operations and safety along King Street in locations including and surrounding the intersection.

The Upland Park development, located in the northwest quadrant of the intersection of N Beauregard Street and Seminary Road, is a proposed future development that will replace the existing single-family homes with townhouses. Primary site access will be provided via Fairbanks Avenue and an additional right-in only driveway along Seminary Road. The trips generated by this development that are proposed to enter and exit the site at the intersection of Seminary Road and Fairbanks Avenue were included in the 2045 base turning movement volumes.

4.6 2045 BASE INTERSECTION CAPACITY AND QUEUING ANALYSIS

The 2045 base conditions analyses were based on total 2045 base peak hour traffic volumes and the existing lane configurations and traffic control shown **Figure 2-1**, including the signal timing modifications described in **Section 4.5**. Peak hour factors for 2045 base conditions were adjusted to a minimum of 0.92, per VDOT *Traffic Operations and Safety Analysis Manual (TOSAM)* guidance.

HCM-based intersection capacity and 95th percentile queueing analysis results are summarized in **Table 4-3**. The Synchro HCM reports for the 2045 base conditions are provided in **Appendix D**.

Note that in **Table 4-3**, red text indicates LOS E or F, and/or queue lengths which exceed available turn lane or block length storage capacity, or restrict access to adjacent turn lanes.

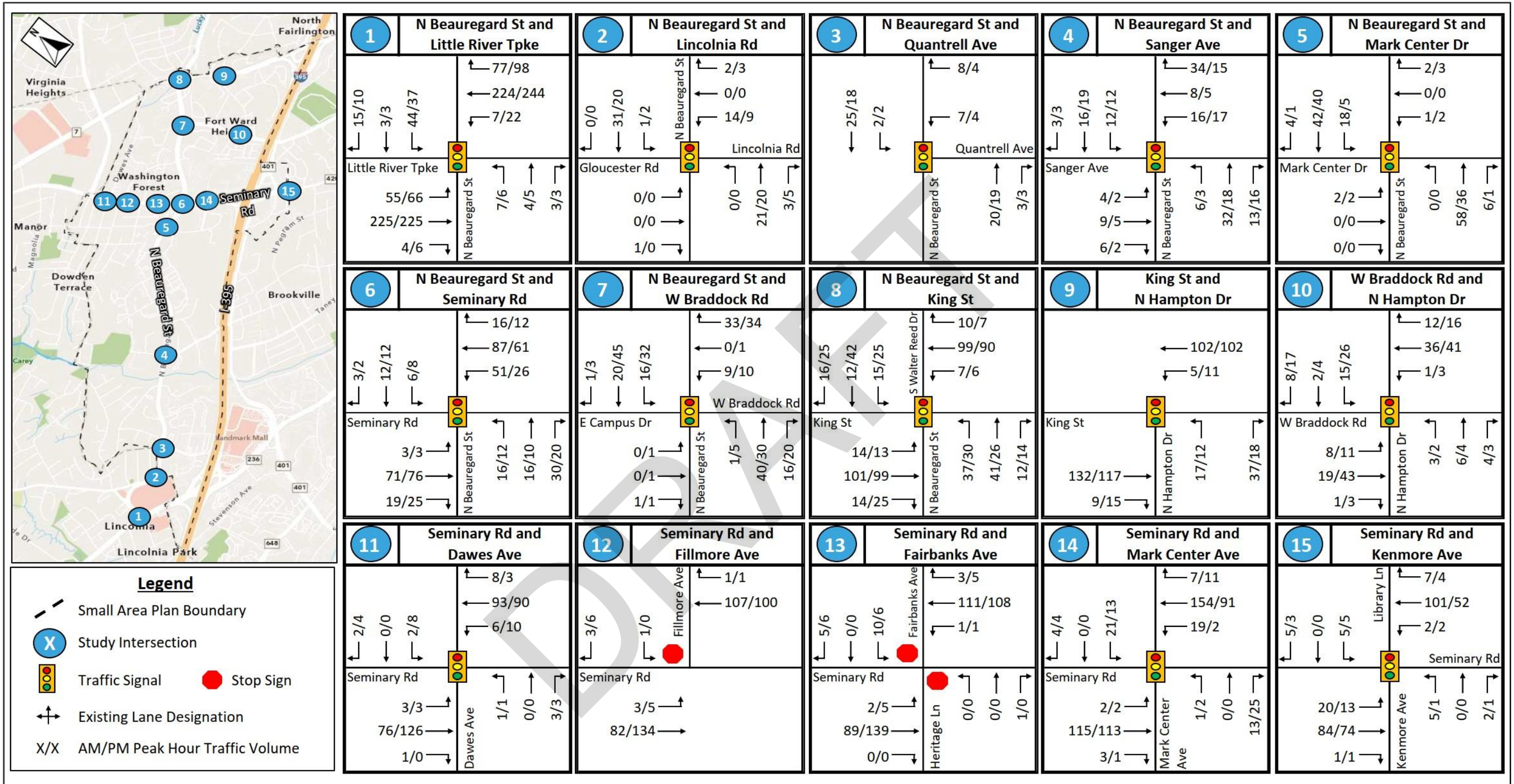


Figure 4-5: Total Peak Hour Trips Generated by Regional Traffic Growth between 2022 and 2045

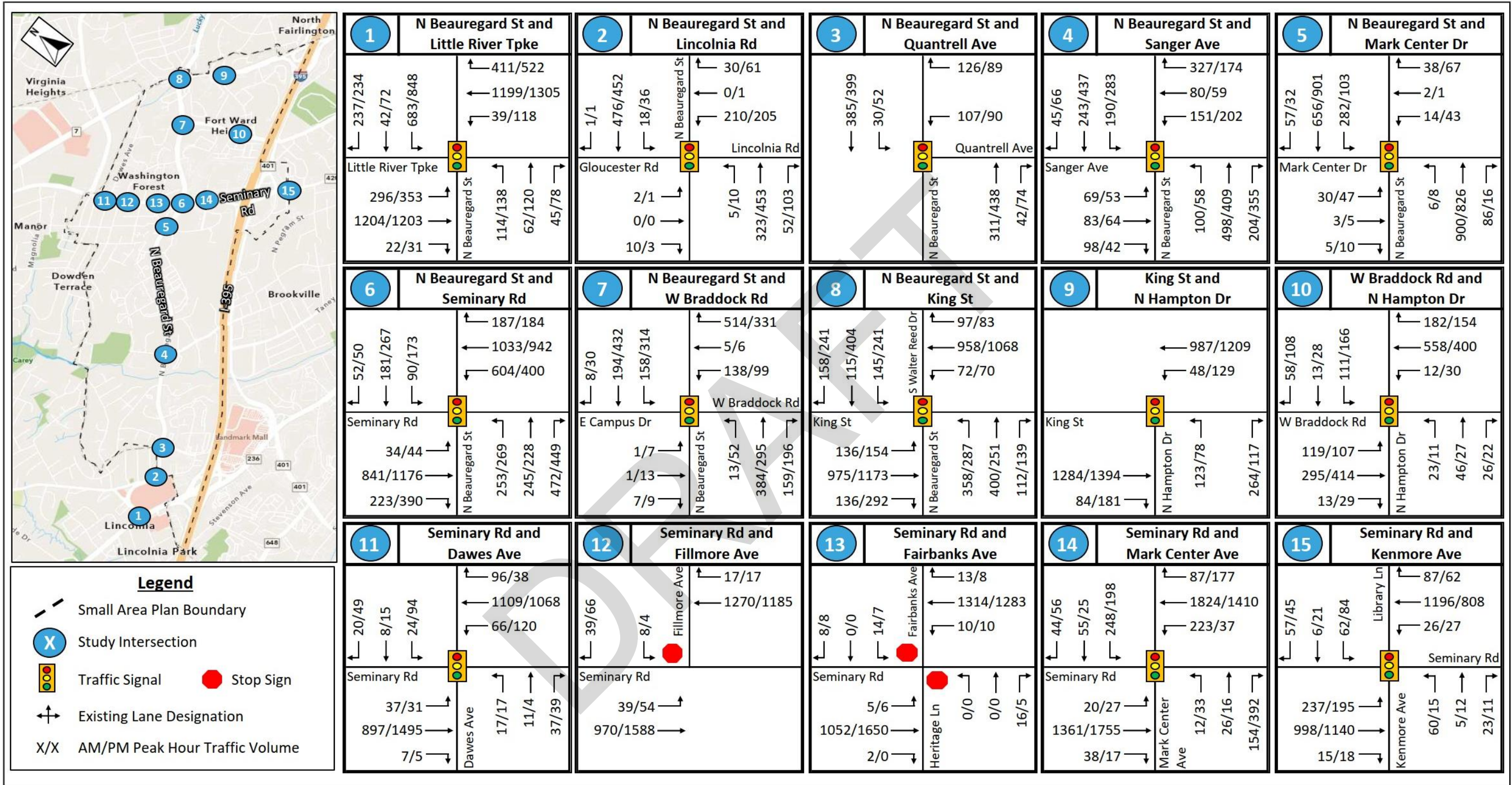


Figure 4-6: 2045 Base Peak Hour Traffic Volume

Table 4-3: 2045 Base Conditions Intersection Capacity and Queuing Analysis Results

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
1. N Beauregard Street and Little River Turnpike (Signalized)										
Northbound (N Beauregard St)	L	135	F (101.4)	#210	F (170.9)	#358	F (125.4)	#265	F (163.6)	#367
	T	-	E (78.9)	120	F (119.9)	#285	F (80.8)	128	F (116.9)	#289
	R	-	E (70.8)	83	E (79.6)	149	E (72.5)	91	E (78.6)	157
	Approach	-	F (88.9)		F (131.5)		F (102.1)		F (127.2)	
Southbound (N Beauregard St)	L	650*	E (74.6)	m367	F (106.1)	m#870	E (64.9)	m430	F (94.3)	m#853
	LT		E (73.7)	m367	F (104.8)	m#877	E (64.8)	m431	F (92.7)	m#858
	R	670*	E (60.4)	m77	E (56.9)	m166	E (65.7)	m102	E (59.8)	m186
	Approach	-	E (70.7)		F (95.6)		E (65.1)		F (86.7)	
Eastbound (Little River Tpke)	L	400	F (84.7)	194	F (122.7)	#306	F (92.2)	239	F (129.6)	#377
	TR	680*	C (34.6)	577	D (48.0)	693	D (42.9)	804	E (63.2)	956
	Approach	-	D (44.4)		E (64.6)		D (52.5)		E (77.9)	
Westbound (Little River Tpke)	L	220	F (86.2)	80	F (116.3)	211	F (93.3)	94	F (151.3)	#313
	T	335*	D (44.5)	635	D (54.3)	756	E (59.3)	#928	F (90.5)	#1158
	R		B (12.9)	59	B (14.1)	249	B (14.2)	160	B (17.6)	347
	Approach	-	D (37.7)		D (47.3)		D (48.9)		E (74.6)	
Overall Intersection			D (50.9)		E (71.2)		E (56.4)		F (82.0)	
2. N Beauregard Street and Gloucester Road/Lincolnia Road (Signalized)										
Northbound (N Beauregard St)	L	210	B (10.0)	5	A (9.9)	9	B (10.3)	6	B (10.2)	9
	TR	850*	B (11.9)	83	B (13.5)	141	B (12.4)	93	B (14.1)	152
	Approach	-	B (11.8)		B (13.4)		B (12.4)		B (14.0)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
2. N Beauregard Street and Gloucester Road/Lincolnia Road (Signalized)										
Southbound (N Beauregard St)	L	200	B (10.0)	11	B (10.2)	20	B (10.5)	12	B (10.6)	21
	TR	820*	B (12.2)	106	B (12.0)	113	B (12.8)	118	B (12.5)	122
	<i>Approach</i>	-	<i>B (12.1)</i>		<i>B (11.9)</i>		<i>B (12.8)</i>		<i>B (12.3)</i>	
Eastbound (Gloucester Rd)	LTR	-	B (11.4)	0	B (13.0)	0	B (11.1)	0	B (13.1)	0
	<i>Approach</i>	-	<i>B (11.4)</i>		<i>B (13.0)</i>		<i>B (11.1)</i>		<i>B (13.1)</i>	
Westbound (Lincolnia Rd)	LT	-	B (14.6)	113	B (17.1)	133	B (14.5)	122	B (17.3)	142
	R	60	B (11.4)	5	B (13.2)	21	B (11.1)	6	B (13.3)	23
	<i>Approach</i>	-	<i>B (14.2)</i>		<i>B (16.2)</i>		<i>B (14.1)</i>		<i>B (16.4)</i>	
Overall Intersection			B (12.4)		B (13.4)		B (12.9)		B (13.9)	
3. N Beauregard Street and Quantrell Avenue (Signalized)										
Northbound (N Beauregard St)	T	835*	A (3.2)	36	A (2.9)	52	A (4.2)	37	A (3.4)	52
	R	110	A (3.0)	8	A (2.6)	11	A (3.8)	9	A (2.9)	12
	<i>Approach</i>	-	<i>A (3.2)</i>		<i>A (2.9)</i>		<i>A (4.1)</i>		<i>A (3.3)</i>	
Southbound (N Beauregard St)	L	120	A (1.9)	9	A (3.6)	21	A (2.3)	9	A (4.2)	22
	T	835*	A (2.0)	33	A (3.7)	53	A (2.5)	32	A (4.3)	54
	<i>Approach</i>	-	<i>A (2.0)</i>		<i>A (3.7)</i>		<i>A (2.4)</i>		<i>A (4.3)</i>	
Westbound (Quantrell Ave)	L	-	D (35.5)	98	D (38.8)	89	C (22.7)	74	C (30.2)	77
	R	35	C (32.1)	46	C (34.1)	40	C (20.7)	38	C (26.9)	36
	<i>Approach</i>	-	<i>C (33.6)</i>		<i>D (36.5)</i>		<i>C (21.6)</i>		<i>C (28.5)</i>	
Overall Intersection			A (9.8)		A (8.4)		A (7.5)		A (7.7)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
4. N Beauregard Street and Sanger Ave (Signalized)										
Northbound (N Beauregard St)	L	190	C (24.5)	109	C (25.6)	59	C (33.1)	126	C (28.8)	63
	TR	870*	C (34.2)	403	D (41.9)	515	D (47.1)	489	D (45.4)	546
	Approach	-	C (33.0)		D (40.8)		D (45.3)		D (44.3)	
Southbound (N Beauregard St)	L	185	B (19.0)	177	D (50.1)	335	C (28.4)	212	E (63.8)	#404
	TR	880*	C (24.5)	151	C (28.7)	267	C (32.7)	177	C (28.2)	274
	Approach	-	C (22.3)		D (36.4)		C (31.0)		D (41.0)	
Eastbound (Sanger Ave)	LTR	-	F (82.1)	190	E (73.7)	135	F (89.2)	210	F (85.4)	#167
	Approach	-	F (82.1)		E (73.7)		F (89.2)		F (85.4)	
Westbound (Sanger Ave)	LT	-	F (157.1)	#458	F (92.2)	#502	E (72.7)	370	F (87.2)	#457
	TR	-	F (99.6)	#556	D (36.1)	199	E (60.1)	481	C (34.2)	203
	Approach	-	F (123.4)		E (69.7)		E (65.3)		E (66.0)	
Overall Intersection			E (59.9)		D (47.1)		D (52.6)		D (50.4)	
5. N Beauregard Street and Mark Center Drive (Signalized)										
Northbound (N Beauregard St)	L	175	D (47.1)	18	E (65.8)	m27	F (81.2)	25	E (73.2)	m28
	TR	675*	B (16.9)	323	A (4.5)	103	B (13.3)	198	A (5.2)	100
	Approach	-	B (17.1)		A (5.1)		B (13.7)		A (5.8)	
Southbound (N Beauregard St)	L	390	C (24.9)	114	F (85.5)	m80	D (40.1)	178	F (90.2)	m88
	TR	645*	A (1.4)	78	A (4.2)	184	A (2.4)	251	A (9.2)	423
	Approach	-	A (8.0)		B (12.2)		B (13.1)		B (17.3)	
Eastbound (Mark Center Dr)	L	-	E (58.0)	53	D (54.7)	75	E (58.0)	56	D (54.8)	77
	TR	-	E (56.5)	19	D (52.6)	25	E (56.4)	18	D (52.6)	25
	Approach	-	E (57.7)		D (54.2)		E (57.7)		D (54.3)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
5. N Beauregard Street and Mark Center Drive (Signalized)										
Westbound (Mark Center Dr)	LT	-	E (57.5)	34	D (54.8)	72	E (57.5)	35	E (55.0)	75
	R	-	C (28.2)	12	D (44.9)	34	C (28.1)	12	D (44.7)	35
	<i>Approach</i>	-	D (36.6)		D (48.9)		D (36.7)		D (48.8)	
Overall Intersection			B (14.0)		B (12.6)		B (14.8)		B (15.4)	
6. N Beauregard Street and Seminary Road (Signalized)										
Northbound (N Beauregard St)	L	190	E (69.1)	175	D (48.0)	145	D (51.1)	186	E (57.9)	139
	T	655*	F (82.5)	169	D (49.4)	124	C (33.0)	121	D (36.5)	88
	R	585	F (81.2)	515	D (40.5)	168	D (51.5)	221	D (49.5)	190
	<i>Approach</i>	-	E (78.4)		D (44.8)		D (46.7)		D (48.7)	
Southbound (N Beauregard St)	L	245	E (63.8)	138	E (59.3)	238	E (79.3)	157	E (57.4)	#244
	TR	1240*	E (78.5)	152	E (58.6)	196	D (50.7)	152	E (57.1)	186
	<i>Approach</i>	-	E (74.4)		E (58.8)		E (58.7)		E (57.2)	
Eastbound (Seminary Rd)	L	125	D (53.2)	56	E (71.0)	m69	E (66.3)	51	D (54.5)	m51
	TR	555*	C (29.7)	278	B (13.6)	109	C (21.6)	214	C (21.1)	401
	<i>Approach</i>	-	C (30.4)		B (15.1)		C (23.0)		C (22.0)	
Westbound (Seminary Rd)	L	350	C (30.8)	189	D (44.6)	158	C (24.6)	180	D (35.6)	124
	T	610*	A (6.0)	64	A (7.0)	57	A (4.1)	30	A (8.0)	76
	R	355	A (2.5)	0	A (2.7)	1	A (2.4)	1	A (2.1)	3
	<i>Approach</i>	-	B (13.8)		B (16.3)		B (10.7)		B (14.5)	
Overall Intersection			D (37.9)		C (26.5)		C (25.9)		C (28.8)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
7. N Beauregard Street and E Campus Drive/W Braddock Road (Signalized)										
Northbound (N Beauregard St)	L	85	E (65.5)	25	E (67.1)	93	E (64.4)	28	E (71.5)	102
	TR	1030*	B (14.7)	281	B (17.2)	254	B (13.4)	263	B (16.3)	281
	Approach	-	B (15.9)		C (22.0)		B (14.5)		C (21.7)	
Southbound (N Beauregard St)	L	200	D (51.5)	162	D (53.4)	215	E (64.7)	214	D (53.8)	246
	TR	700*	A (8.0)	77	A (7.1)	126	A (7.1)	97	B (10.6)	217
	Approach	-	C (27.1)		C (25.9)		C (32.4)		C (28.1)	
Eastbound (E Campus Dr)	L	125	E (63.4)	6	E (62.6)	20	E (63.4)	6	E (62.1)	22
	TR	-	E (63.4)	0	E (62.6)	18	E (63.4)	0	E (62.0)	18
	Approach	-	E (63.4)		E (62.6)		E (63.4)		E (62.0)	
Westbound (W Braddock Rd)	L	200	E (65.6)	174	E (62.2)	132	E (67.2)	185	E (63.5)	145
	LTR	-	E (55.5)	57	E (56.8)	50	E (55.2)	59	E (56.3)	52
	Approach	-	E (57.4)		E (57.9)		E (57.4)		E (57.8)	
Overall Intersection			D (36.3)		C (33.1)		D (36.7)		C (33.9)	
8. N Beauregard Street/S Walter Reed Drive and King Street (Signalized)										
Northbound (N Beauregard St)	L	420	E (75.7)	222	E (73.5)	178	F (81.5)	#278	F (94.1)	#231
	TR	530*	D (44.8)	233	E (58.7)	163	D (49.4)	306	E (56.4)	146
	Approach	-	E (57.5)		E (65.0)		E (62.6)		E (72.4)	
Southbound (S Walter Reed Dr)	L	205	E (55.6)	139	D (48.6)	226	E (69.6)	#234	F (112.0)	#449
	T	900*	D (46.4)	73	D (51.6)	217	D (46.1)	74	D (54.2)	249
	R	205	D (46.0)	52	D (49.0)	136	D (46.1)	79	D (48.8)	115
	Approach	-	D (49.5)		D (50.1)		D (54.3)		E (68.5)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
8. N Beauregard Street/S Walter Reed Drive and King Street (Signalized)										
Eastbound (King St)	L	290	C (33.9)	95	C (31.5)	114	F (115.3)	#273	F (110.6)	#290
	TR	520*	D (36.2)	505	D (45.8)	#731	D (45.4)	#737	E (56.3)	#885
	Approach	-	D (35.9)		D (44.5)		D (53.0)		E (61.5)	
Westbound (King St)	L	435	C (29.9)	57	D (38.0)	67	F (117.1)	#174	F (108.9)	#161
	TR	685*	C (34.8)	470	D (38.2)	530	D (48.9)	#722	D (42.0)	604
	Approach	-	C (34.4)		D (38.1)		D (53.2)		D (45.9)	
Overall Intersection			D (42.1)		D (46.9)		E (55.5)		E (60.2)	
9. N Hampton Drive and King Street (Signalized)										
Northbound (N Hampton Dr)	L	300	E (58.9)	147	D (54.6)	95	D (48.9)	148	E (55.0)	109
	R	765*	D (48.8)	76	D (50.4)	52	E (59.3)	210	D (49.8)	54
	Approach	-	D (52.0)		D (52.1)		E (56.0)		D (51.9)	
Eastbound (King St)	TR	305*	A (8.9)	318	A (9.4)	392	B (13.2)	520	B (12.2)	530
	Approach	-	A (8.9)		A (9.4)		B (13.2)		B (12.2)	
Westbound (King St)	L	295	A (4.9)	15	A (6.6)	30	A (8.7)	25	B (10.7)	51
	T	440*	A (4.0)	132	A (3.5)	150	A (6.1)	235	A (3.9)	183
	Approach	-	A (4.0)		A (3.8)		A (6.2)		A (4.6)	
Overall Intersection			B (12.9)		A (9.5)		B (16.5)		B (11.4)	
10. N Hampton Drive and W Braddock Road (Signalized)										
Northbound (N Hampton Dr)	LT	-	D (36.5)	67	C (31.1)	43	D (35.5)	74	C (31.4)	47
	R	-	C (34.9)	0	C (30.5)	0	C (33.7)	0	C (30.6)	0
	Approach	-	D (36.1)		C (30.9)		D (35.0)		C (31.1)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
10. N Hampton Drive and W Braddock Road (Signalized)										
Southbound (N Hampton Dr)	LT	-	D (47.2)	112	D (48.6)	170	D (49.0)	127	E (55.7)	#220
	R	40	D (35.0)	0	C (30.8)	32	C (33.9)	5	C (31.0)	44
	<i>Approach</i>	-	<i>D (43.3)</i>		<i>D (42.2)</i>		<i>D (44.2)</i>		<i>D (46.9)</i>	
Eastbound (W Braddock Rd)	L	185	A (4.4)	41	A (6.6)	40	A (4.9)	47	A (6.7)	44
	TR	-	A (6.6)	67	A (9.7)	101	A (7.2)	74	B (10.5)	111
	<i>Approach</i>	-	<i>A (6.0)</i>		<i>A (9.1)</i>		<i>A (6.5)</i>		<i>A (9.7)</i>	
Westbound (W Braddock Rd)	L	185	A (7.7)	8	A (8.2)	15	A (8.3)	9	A (9.1)	16
	T	-	A (9.8)	133	B (10.7)	98	B (10.7)	149	B (12.1)	108
	R	185	A (8.9)	33	B (10.1)	30	A (9.6)	35	B (11.3)	33
	<i>Approach</i>	-	<i>A (9.6)</i>		<i>B (10.4)</i>		<i>B (10.4)</i>		<i>B (11.8)</i>	
Overall Intersection			B (14.1)		B (16.8)		B (15.1)		B (18.9)	
11. Seminary Road and Dawes Avenue (Signalized)										
Northbound (Dawes Ave)	LTR	-	E (60.9)	62	D (54.8)	55	E (60.8)	64	D (54.2)	57
	<i>Approach</i>	-	<i>E (60.9)</i>		<i>D (54.8)</i>		<i>E (60.8)</i>		<i>D (54.2)</i>	
Southbound (Dawes Ave)	LT	-	E (61.4)	53	E (64.9)	144	E (61.6)	56	E (67.2)	154
	R	-	E (59.5)	0	D (54.1)	7	E (59.5)	0	D (53.5)	12
	<i>Approach</i>	-	<i>E (60.7)</i>		<i>E (61.6)</i>		<i>E (60.8)</i>		<i>E (62.9)</i>	
Eastbound (Seminary Rd)	L	280	A (4.3)	21	A (6.6)	18	A (4.7)	23	A (7.2)	19
	TR	570*	A (6.1)	256	B (13.2)	581	A (6.5)	288	B (15.0)	658
	<i>Approach</i>	-	<i>A (6.1)</i>		<i>B (13.1)</i>		<i>A (6.4)</i>		<i>B (14.8)</i>	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
11. Seminary Road and Dawes Avenue (Signalized)										
Westbound (Seminary Rd)	L	105	A (0.6)	6	C (23.6)	118	A (0.3)	2	D (45.6)	126
	TR	425*	A (1.2)	37	A (6.3)	324	A (1.2)	14	A (3.6)	140
	Approach	-	A (1.2)		A (8.0)		A (1.1)		A (7.7)	
Overall Intersection			A (6.2)		B (14.5)		A (6.2)		B (15.2)	
12. Seminary Road and Fillmore Avenue (Unsignalized)										
Southbound (Fillmore Ave)	LR		B (14.9)	9	B (12.3)	10	C (15.5)	11	B (11.8)	10
	Approach	-	B (14.9)		B (12.3)		C (15.5)		B (11.8)	
Eastbound (Seminary Rd)	LT	440*	A (0.9)	6	A (0.8)	7	A (1.0)	7	A (0.9)	8
	Approach	-	A (0.9)		A (0.8)		A (1.0)		A (0.9)	
Westbound (Seminary Rd)	TR	446*	A (0.0)	0	A (0.0)	0	A (0.0)	0	A (0.0)	0
	Approach	-	A (0.0)		A (0.0)		A (0.0)		A (0.0)	
13. Seminary Road and Fairbanks Avenue (Unsignalized)										
Northbound (Heritage Ln)	LTR		B (10.2)	2	A (9.6)	0	A (9.9)	2	B (10.4)	1
	Approach	-	B (10.2)		A (9.6)		A (9.9)		B (10.4)	
Southbound (Fairbanks Ave)	LTR		C (24.2)	3	C (18.3)	1	D (27.6)	11	C (22.4)	6
	Approach	-	C (24.2)		C (18.3)		D (27.6)		C (22.4)	
Eastbound (Seminary Rd)	LTR	445*	A (0.1)	0	A (0.0)	0	A (0.1)	1	A (0.2)	1
	Approach	-	A (0.1)		A (0.0)		A (0.1)		A (0.2)	
Westbound (Seminary Rd)	LTR	560*	A (0.2)	1	A (0.3)	2	A (0.2)	1	A (0.4)	2
	Approach	-	A (0.2)		A (0.3)		A (0.2)		A (0.4)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
14. Seminary Road and Mark Center Avenue (Signalized)										
Northbound (Mark Center Ave)	LT	230*	E (60.6)	70	E (59.9)	84	E (60.6)	72	E (60.0)	87
	R		D (39.1)	60	D (51.0)	173	D (38.2)	64	D (51.7)	185
	Approach	-	D (43.6)		D (52.0)		D (42.6)		D (52.6)	
Southbound (Mark Center Ave)	L	100	D (49.4)	149	D (54.0)	135	D (49.4)	162	D (53.7)	140
	LTR	-	D (48.3)	110	D (52.3)	89	D (48.0)	118	D (51.7)	90
	Approach	-	D (48.7)		D (52.9)		D (48.5)		D (52.4)	
Eastbound (Seminary Rd)	L	205	F (80.9)	m35	E (72.0)	m42	E (78.8)	m34	E (79.8)	m41
	TR	615*	C (24.0)	396	B (14.6)	356	C (21.2)	401	B (11.1)	477
	Approach	-	C (24.8)		B (15.5)		C (22.0)		B (12.1)	
Westbound (Seminary Rd)	L	1055*	D (52.0)	262	E (57.2)	68	E (65.9)	299	E (57.1)	70
	T	975*	C (25.0)	578	B (14.5)	395	B (15.0)	348	B (15.4)	442
	R	255	B (12.8)	m23	B (14.2)	64	A (0.4)	m0	B (14.7)	70
	Approach	-	C (27.3)		B (15.5)		B (19.7)		B (16.3)	
Overall Intersection			C (29.1)		C (21.9)		C (24.0)		C (20.8)	
15. Seminary Road and Kenmore Avenue/Library Lane (Signalized)										
Northbound (Kenmore Ave)	LTR	-	F (81.1)	131	D (44.1)	48	F (86.4)	#152	D (44.3)	51
	Approach	-	F (81.1)		D (44.1)		F (86.4)		D (44.3)	
Southbound (Library Ln)	LT	-	E (71.8)	115	E (55.0)	127	E (74.2)	121	E (58.7)	136
	R	70	E (61.3)	95	D (44.9)	62	E (61.6)	103	D (45.1)	67
	Approach	-	E (67.1)		D (52.0)		E (68.5)		D (54.7)	
Eastbound (Seminary Rd)	L	215	B (16.8)	222	A (3.8)	59	C (20.2)	140	A (4.0)	58
	TR	230*	B (12.8)	363	A (7.0)	164	A (4.2)	9	A (7.1)	167
	Approach	-	B (13.6)		A (6.5)		A (7.3)		A (6.6)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
15. Seminary Road and Kenmore Avenue/Library Lane (Signalized)										
Westbound (Seminary Rd)	L	60	A (7.8)	10	A (7.0)	12	A (7.9)	10	A (7.4)	11
	TR	405*	B (12.2)	267	A (9.9)	154	B (12.6)	303	B (10.5)	165
	<i>Approach</i>	-	B (12.1)		A (9.8)		B (12.6)		B (10.5)	
Overall Intersection			B (17.5)		B (11.2)		B (15.0)		B (11.6)	

* Listed storage length is "block length," the distance to the nearest intersection.

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

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

2045 BASE CONDITIONS INTERSECTION CAPACITY ANALYSIS RESULTS

As a result of the volume growth across the network, and traffic signal timings optimization to account for the change in demand under 2045 base conditions, operations within the study area improved in some locations and worsened in others between 2022 existing conditions and 2045 base conditions. The following is a summary of notable changes in LOS and delay between 2022 existing conditions and 2045 base conditions.

The capacity analysis results indicate the following notable **increases in overall intersection delay** between 2022 existing conditions and 2045 base conditions. Note that delay increases less than five seconds were considered nominal.

- N Beauregard Street and Little River Turnpike
 - Overall intersection worsens from LOS D to LOS E in the AM peak hour, with a 5.5-second increase in delay
 - Overall intersection worsens from LOS E to LOS F in the PM peak hour, with a 10.8-second increase in delay
- N Beauregard Street/S Walter Reed Drive and King Street
 - Overall intersection worsens from LOS D to LOS E in the AM and PM peak hours, with a 13.4-second increase in delay in the AM peak hour and a 13.3-second increase in delay in the PM peak hour

The capacity analysis results indicate the following notable **decreases in overall intersection delay** between 2022 existing conditions and 2045 base conditions. Note that delay decreases less than five seconds were considered nominal.

- N Beauregard Street and Sanger Avenue
 - Overall intersection improves from LOS E to LOS D during the AM peak hour, with a 7.3-second decrease in delay

The capacity analysis results indicate the following notable **increases in approach delay** between 2022 existing conditions and 2045 base conditions. The following is a summary of approaches operating at LOS E or LOS F under 2045 background conditions, with notable (greater than five seconds) increases in delay compared to 2022 existing conditions.

- N Beauregard Street and Little River Turnpike
 - The northbound approach remains at LOS F in the AM peak hour, with a 13.2-second increase in delay
 - The eastbound approach remains at LOS E in the PM peak hour, with a 13.3-second increase in delay
 - The westbound approach worsens from LOS D to LOS E in the PM peak hour, with a 27.3-second increase in delay
- N Beauregard Street and Sanger Avenue
 - The eastbound approach remains at LOS F in the AM peak hour, with a 7.1-second increase in delay, and worsens from LOS E to LOS F in the PM peak hour, with a 11.7-second increase in delay
- N Beauregard Street/S Walter Reed Drive and King Street
 - The northbound approach remains at LOS E in the AM and PM peak hours, with a 5.1-second and 7.4-second increase in delay, respectively

- The southbound approach worsens from LOS D to LOS E in the PM peak hour, with an 18.4-second increase in delay
- The eastbound approach worsens from LOS D to LOS E in the PM peak hour, with a 17.0-second increase in delay
- Seminary Road and Kenmore Avenue/Library Lane
 - The northbound approach remains at LOS F in the AM peak hour, with a 5.3-second increase in delay

The capacity analysis results indicate the following notable **decreases in approach delay** between 2022 existing conditions and 2045 base conditions. The following is a summary of approaches operating with notable (greater than five seconds) decreases in delay compared to 2022 existing conditions.

- N Beauregard Street and Little River Turnpike
 - The southbound approach remains at LOS E in the AM peak hour and at LOS F in the PM peak hour, with 5.6-second and 8.9-second decreases in delay, respectively
- N Beauregard Street and Sanger Avenue
 - The westbound approach improves from LOS F to LOS E in the AM peak hour, with a 58.1-second decrease in delay
- N Beauregard Street and Seminary Road
 - The northbound approach improves from LOS E to LOS D in the AM peak hour, with a 31.7-second decrease in delay
 - The southbound approach remains at LOS E in the AM peak hour, with a 15.7-second decrease in delay

The capacity analysis results indicate the following notable **increases in movement delay** between 2022 existing conditions and 2045 base conditions. The following is a summary of movements operating at LOS E or LOS F under 2045 background conditions, with notable (greater than five seconds) increases in delay compared to 2022 existing conditions.

N Beauregard Street and Little River Turnpike

- The northbound left-turn movement remains at LOS F in the AM peak hour, with a 24.0-second increase in delay
- The southbound right-turn movement remains at LOS E in the AM peak hour, with a 5.3-second increase in delay
- The eastbound left-turn movement remains at LOS F in the AM and PM peak hours, with 7.5-second and 6.9-second increases in delay, respectively
- The eastbound through-right movement worsens from LOS D to LOS E in the PM peak hour, with a 15.2-second increase in delay
- The westbound left-turn remains at LOS F in the AM and PM peak hours, with 7.1-second and 35.0-second increases in delay, respectively
- The westbound through movement worsens from LOS D to LOS E in the AM peak hour and LOS D to LOS F in the PM peak hour, with 14.8-second and 36.2-second increases in delay, respectively
- N Beauregard Street and Sanger Avenue
 - The southbound left-turn movement worsens from LOS D to LOS E in the PM peak hour, with a 13.7-second increase in delay

- The eastbound left-through-right movement remains at LOS F in the AM peak hour, with a 7.1-second increase in delay, and worsens from LOS E to LOS F in the PM peak hour, with an 11.7-second increase in delay
- N Beauregard Street and Mark Center Drive
 - The northbound left-turn movement worsens from LOS D to LOS F in the AM peak hour, with a 34.1-second increase in delay, and remains at LOS E in the PM peak hour, with a 7.4-second increase in delay
- N Beauregard Street and Seminary Road
 - The northbound left-turn movement worsens from LOS D to LOS E in the PM peak hour, with a 9.9-second increase in delay
 - The southbound left-turn movement remains at LOS E in the AM peak hour, with a 15.5-second increase in delay
 - The eastbound left-turn movement worsens from LOS D to LOS E in the AM peak hour, with a 13.1-second increase in delay
- N Beauregard Street and E Campus Drive/W Braddock Road
 - The southbound left-turn movement worsens from LOS D to LOS E in the AM peak hour, with a 13.2-second increase in delay
- N Beauregard Street/S Walter Reed Drive and King Street
 - The northbound left-turn movement worsens from LOS E to LOS F in the AM and PM peak hours, with 5.8-second and 20.6-second increases in delay, respectively
 - The southbound left-turn movement remains at LOS E in the AM peak hour, with a 14.0-second increase in delay, and worsens from LOS D to LOS F in the PM peak hour, with a 63.4-second increase in delay
 - The eastbound left-turn movement worsens from LOS C to LOS F in the AM and PM peak hours, with 81.4-second and 79.1-second increases in delay, respectively
 - The eastbound through-right movement worsens from LOS D to LOS E in the PM peak hour, with a 10.5-second increase in delay
 - The westbound left-turn movement worsens from LOS C to LOS F in the AM peak hour and from LOS D to LOS F in the PM peak hour with 87.2-second and 70.9-second increases in delay, respectively
- N Hampton Drive and King Street
 - The northbound right-turn movement worsens from LOS D to LOS E in the AM peak hour, with a 10.5-second increase in delay
- N Hampton Drive and W Braddock Road
 - The southbound left-through movement worsens from LOS D to LOS E in the PM peak hour, with a 7.1-second increase in delay
- Seminary Road and Mark Center Avenue
 - The eastbound left-turn movement remains at LOS E in the PM peak hour, with a 7.8-second increase in delay
 - The westbound left-turn movement worsens from LOS D to LOS E in the AM peak hour, with a 13.9-second increase in delay
- Seminary Road and Kenmore Avenue/Library Lane
 - The northbound left-through-right movement remains at LOS F in the AM peak hour, with a 5.3-second increase in delay

The capacity analysis results indicate the following notable **decreases in movement delay** between 2022 existing conditions and 2045 base conditions. The following is a summary of movements operating with notable (greater than five seconds) decreases in delay compared to 2022 existing conditions.

- N Beaugard Street and Little River Turnpike
 - The northbound left-turn movement remains at LOS F in the PM peak hour, with a 7.3-second decrease in delay
 - The southbound left-turn movement remains at LOS E in the AM peak hour and at LOS F in the PM peak hour, with 9.7-second and 11.8-second decreases in delay, respectively
 - The southbound left-through movement remains at LOS E in the AM peak hour and at LOS F in the PM peak hour, with 8.9-second and 12.1-second decreases in delay, respectively
- N Beaugard Street and Sanger Avenue
 - The westbound left-through movement improves from LOS F to LOS E in the AM peak hour, with an 84.4-second decrease in delay
 - The westbound through-right movement improves from LOS F to LOS E in the AM peak hour, with a 39.5-second decrease in delay
- N Beaugard Street and Seminary Road
 - The northbound left-turn movement improves from LOS E to LOS D in the AM peak hour, with an 18.0-second decrease in delay
 - The northbound through movement improves from LOS F to LOS C in the AM peak hour, with a 49.5-second decrease in delay
 - The northbound right-turn movement improves from LOS F to LOS D in the AM peak hour, with a 29.7-second decrease in delay
 - The southbound through-right movement improves from LOS E to LOS D in the AM peak hour, with a 27.8-second decrease in delay
 - The eastbound left-turn movement improves from LOS E to LOS D in the PM peak hour, with a 16.5-second decrease in delay
- N Hampton Drive and King Street
 - The northbound left-turn movement improves from LOS E to LOS D in the AM peak hour, with a 10.0-second decrease in delay

2045 BASE CONDITIONS QUEUEING ANALYSIS RESULTS

Queueing analyses were conducted using Synchro methodology to determine the 95th percentile queues for each vehicle movement. The 95th percentile queues are summarized in **Table 4-3**. As a result of the increased traffic volumes, and traffic signal timings optimization to account for the change in demand under 2045 base conditions, queuing within the study area improved in some locations and worsened in others between 2022 existing conditions and 2045 base conditions. The following is a summary of notable changes in queuing between 2022 existing conditions and 2045 base conditions. Note that changes in queue length less than 50 feet (approximately two vehicle lengths) were considered nominal.

The following movements have 95th percentile queue lengths that were accommodated within available storage capacity under 2022 existing conditions and **increase to exceed the effective length of turn lanes** under 2045 base conditions:

- N Beaugard Street and Little River Turnpike
 - The westbound left-turn movement queue increases to exceed the left-turn lane storage length in the PM peak hour

- N Beaugard Street and E Campus Drive/W Braddock Rd
 - The southbound left-turn movement queue increases to exceed the left-turn lane storage length in the AM peak hour
- N Beaugard Street/S Walter Reed Drive and King Street
 - The southbound left-turn movement queue increases to exceed the left-turn lane storage length in the AM peak hour
 - The eastbound left-turn movement queue increases to exceed the left-turn lane storage length in the PM peak hour

The following movements have 95th percentile queue lengths that exceeded available storage capacity under 2022 existing conditions and **decrease to be accommodated within the effective length of turn lanes** under 2045 base conditions:

- Seminary Road and Kenmore Avenue/Library Lane
 - The eastbound left-turn movement decreases to be accommodated within the left-turn lane storage capacity in the AM peak hour

The following movements have 95th percentile queue lengths that were accommodated under 2022 existing conditions, and under 2045 base conditions, **increase to exceed the effective length of adjacent turn lanes**, effectively blocking access of turning vehicles during queuing conditions:

- N Beaugard Street and Mark Center Drive
 - The southbound through-right movement queue increases to restrict access to the left-turn lane in the PM peak hour
- N Beaugard Street and Seminary Road
 - The eastbound through-right movement queue increases to restrict access the left-turn lane in the PM peak hour
- N Beaugard Street and E Campus Drive/W Braddock Road
 - The southbound through-right movement queue increases to restrict access to the left-turn lane in the PM peak hour

The following movements have 95th percentile queue lengths that exceeded the effective length of adjacent turn lanes under 2022 existing conditions, effectively blocking access of turning vehicles, and **decrease to be accommodated without blocking adjacent turn lanes** under 2045 base conditions:

- Seminary Road and Kenmore Avenue/Library Lane
 - The eastbound through-right movement decreases to allow access to the left-turn lane in the AM peak hour

The following movements have 95th percentile queue lengths that were accommodated under 2022 existing conditions, and under 2045 base conditions, **increase to extend back to the next upstream intersection (exceed the available block length)**:

- N Beaugard Street and Little River Turnpike
 - The eastbound through-right movement increases to exceed the eastbound approach block length in the AM peak hour
 - The westbound right-turn movement increases to exceed the westbound approach block length in the PM peak hour
- N Beaugard Street/S Walter Reed Drive and King Street

- The eastbound through-right movement increases to exceed the eastbound approach block length in the AM peak hour
- The westbound through-right movement increases to exceed the westbound approach block length in the AM peak hour

The following movements have 95th percentile queue lengths that extended back to the next upstream intersection (exceeded the available block length) under 2022 existing conditions, and under 2045 base conditions, **decrease to be accommodated within the available block length**:

- Seminary Road and Kenmore Avenue/Library Lane
 - The eastbound through-right movement queue decreases to be accommodated within the eastbound approach block length in the AM peak hour

4.7 2045 BASE CONDITIONS OPERATIONS SUMMARY

As a result of the increased traffic volumes, and traffic signal timings optimization to account for the change in demand under 2045 base conditions, operations and queueing within the study area improved in some locations and worsened in others between 2022 existing conditions and 2045 base conditions.

Poor existing conditions operations at the intersections of *N Beauregard Street and Little River Turnpike* and *N Beauregard Street/S Walter Reed Drive and King Street* were shown to worsen under 2045 base conditions.

- At the intersection of *N Beauregard Street and Little River Turnpike*, this is primarily due to a heavy increase in traffic growth relative to the rest of the study area, although signal timing optimization was able to provide slight improvements to the southbound approach compared to existing conditions.
- At the intersection of *N Beauregard Street/S Walter Reed Drive and King Street*, signal phasing modifications associated with the King Street/Beauregard Street Improvement Project removed all permissive left-turns at the intersection to allow for safer pedestrian crossings, which worsened the vehicular operations at the intersection.

In several locations on N Beauregard Street, including at the intersection of *N Beauregard Street and Seminary Road*, signal timing optimization improved performance on minor street approaches while increasing delay for mainline turning movements, though these delay increases may also be due to the increase in volume under 2045 base conditions.

The 2045 base conditions analysis indicates that overall, the study area transportation network can reasonably accommodate future development and land uses based on forecasted growth. Increases in delay that are expected due to the projected traffic increase can be mitigated by minor signal timing adjustments along the major study area corridors. The greatest operational challenges projected under future land use conditions are at turning movements to and/or from minor streets along N Beauregard Street and along corridors that provide connection to I-395.

The results of this study will be further refined as individual development sites submit site-specific transportation studies, as required by the City's [Transportation Planning Administrative Guidelines](#). Localized transportation impacts will be mitigated as needed as development is introduced to the Alex West area.

5. 2045 SENSITIVITY ANALYSIS TRAFFIC OPERATIONS ANALYSIS

5.1 SENSITIVITY ANALYSIS VOLUME FORECASTING METHODOLOGY

A sensitivity analysis was conducted to assess the impact of the land use and development projections outlined in the updated AlexWest Small Area Plan. The proposed AlexWest land use plan is an approximately 30% increase in development square footage compared to 2045 base conditions. As such, the traffic growth rates previously determined using the travel demand model were increased by 30% along key corridors in the study area, namely:

- N Beaugard Street
- Seminary Road
- King Street

These corridors are major through corridors within the study area and provide access to areas where development is projected to increase. Multiple side street approaches that intersect these corridors were also grown to reflect the areas within the study area that are anticipated for increased development density. These are generally consistent with the focus areas designated in the land use plan, as depicted in **Figure 5-1**. Traffic volumes on select study area streets were not increased by 30%, as they are not in areas conducive to increased development density. The traffic growth on these streets under 2045 sensitivity analysis conditions was assumed to be the same as under 2045 base conditions. A summary of which study area turning movements were grown by 30% for the sensitivity analysis are summarized in **Figure 5-2**.

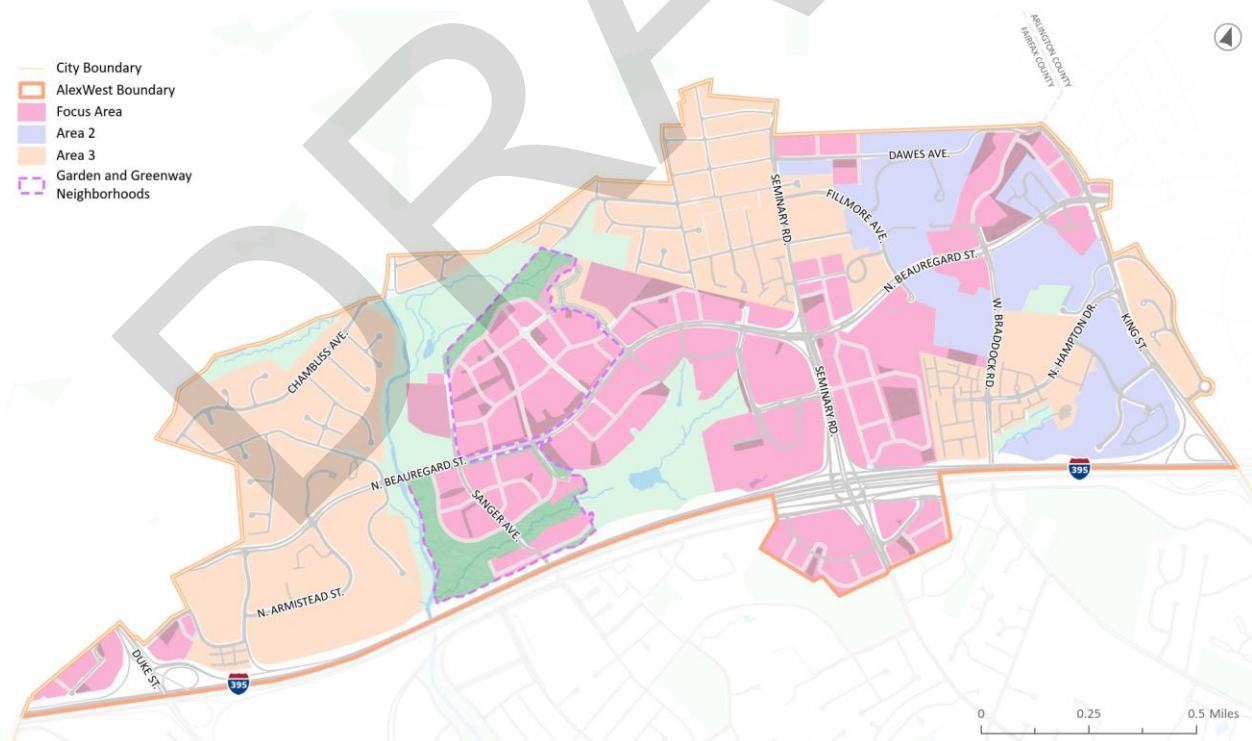


Figure 5-1: Land Use Plan Focus Areas

The resulting annual growth rates used to develop traffic volume projections on the key project corridors for the 2045 sensitivity analysis are shown in **Table 5-1**. These are shown in comparison with the growth rates used to develop traffic volumes for the 2045 base conditions analysis. Similar to the methodology used for that analysis, the 2045 sensitivity analysis annual linear growth rates were applied to the 2022 existing turning movement volumes to produce the 2045 sensitivity analysis traffic volumes.

Note that the 30% growth rate increase applies to all through movements along the selected roadways, as well as all turning movements to and from select areas in which increased development is likely and/or which provide access to and from I-395. In all other cases, as explained above, the growth rate applied to develop the 2045 sensitivity analysis volumes are the same as those used to develop the 2045 base conditions volumes.

Table 5-1: 2045 Base Conditions and 2045 Sensitivity Analysis Applied Growth Rates

Location		2045 Base Conditions Applied Growth Rate		2045 Sensitivity Analysis Applied Growth Rate	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
N Beauregard St	South of Seminary Rd	0.30%	0.20%	0.39%	0.26%
	North of Seminary Rd	0.50%	0.50%	0.65%	0.65%
Seminary Rd	West of N Beauregard St	0.40%	0.40%	0.52%	0.52%
	East of N Beauregard St	0.40%	0.30%	0.52%	0.39%
Little River Tpke		1.00%	1.00%	1.00%	1.00%
Sanger Ave	East of N Beauregard St	0.50%	0.40%	0.65%	0.52%
Braddock Rd	East of N Beauregard St	0.30%	0.50%	0.39%	0.65%
King St		0.50%	0.40%	0.65%	0.52%
Hampton Dr (approaching King Street and N Beauregard St)		0.70%	0.80%	0.91%	1.04%

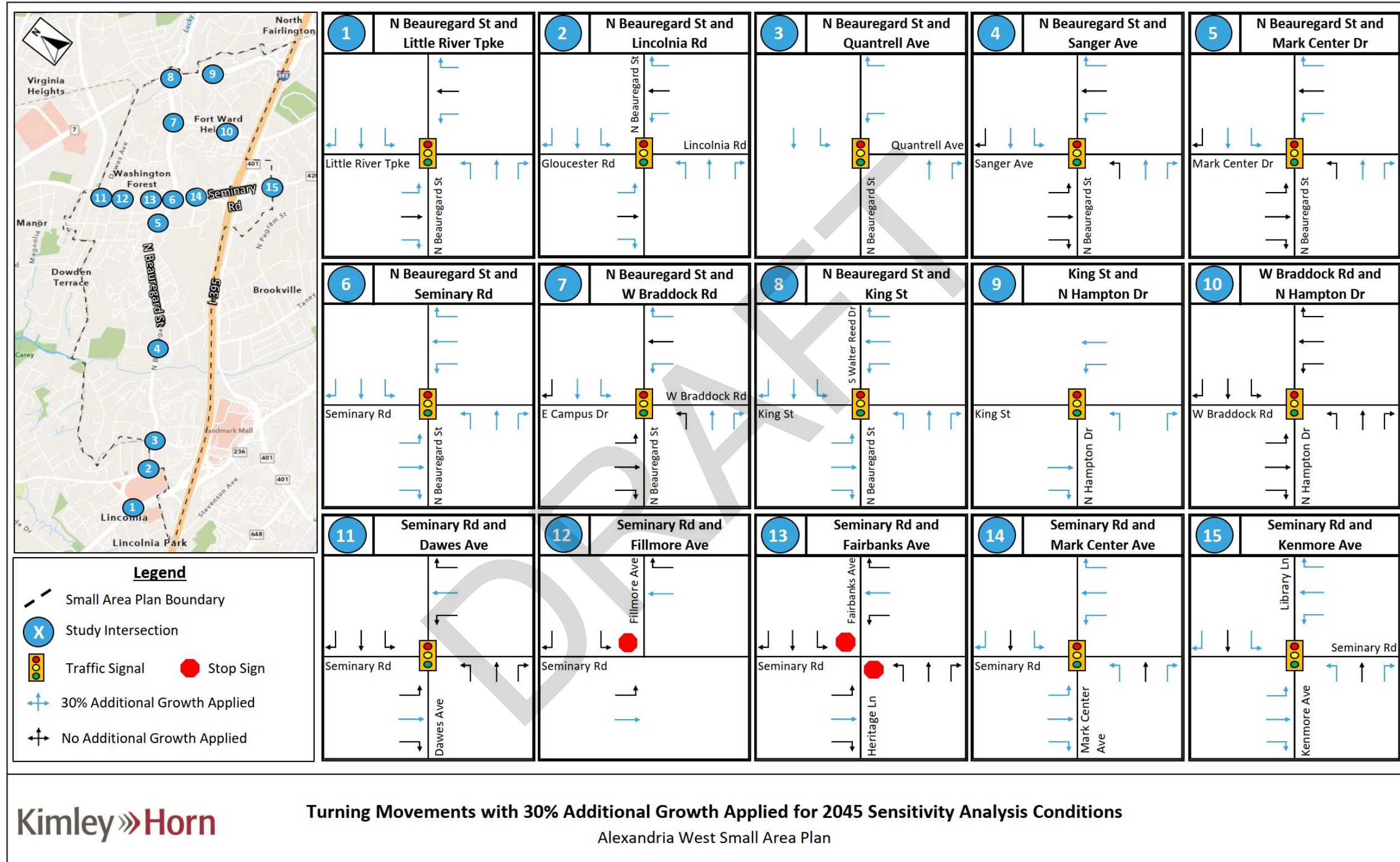


Figure 5-2: Turning Movements with Sensitivity Analysis Growth Applied

5.2 2045 SENSITIVITY ANALYSIS PEAK HOUR TRAFFIC VOLUMES

The 2045 sensitivity analysis turning movement volumes were calculated by applying the growth rates listed in **Table 5-1** to the 2022 existing turning movement counts. The Upland Park development trips, as described in **Section 4.5**, were also applied at the intersection of Seminary Road and Fairbanks Avenue. No adjustments were made to balance the traffic volumes as the imbalances remained similar to those under 2045 base conditions.

The 2022 existing turning movement volumes at the study area intersections are shown in **Figure 3-1**. The total 2045 base turning movement volumes are shown in **Figure 4-6**. The delta between the 2045 base conditions turning movement volumes and 2045 sensitivity analysis turning movement volumes is shown in **Figure 5-3**. The 2045 sensitivity analysis volumes (the sum of those shown in **Figure 4-6** and **Figure 5-3**) are shown in **Figure 5-4**.

5.3 2045 SENSITIVITY ANALYSIS INTERSECTION CAPACITY AND QUEUING ANALYSIS

The 2045 sensitivity analysis was based on total 2045 sensitivity analysis peak hour traffic volumes and the existing lane configurations and traffic control shown **Figure 2-1**, along with signal timing modifications described in **Section 4.5**. Peak hour were consistent with those used in the 2045 base conditions analysis.

HCM-based intersection capacity analysis and 95th percentile queueing analysis results are summarized in **Table 5-2**. The Synchro HCM reports for the 2045 sensitivity analysis are provided in **Appendix E**.

Note that in **Table 5-2**, red text indicates LOS E or F, and/or queue lengths which exceed available turn lane or block length storage capacity or restrict access to adjacent turn lanes.

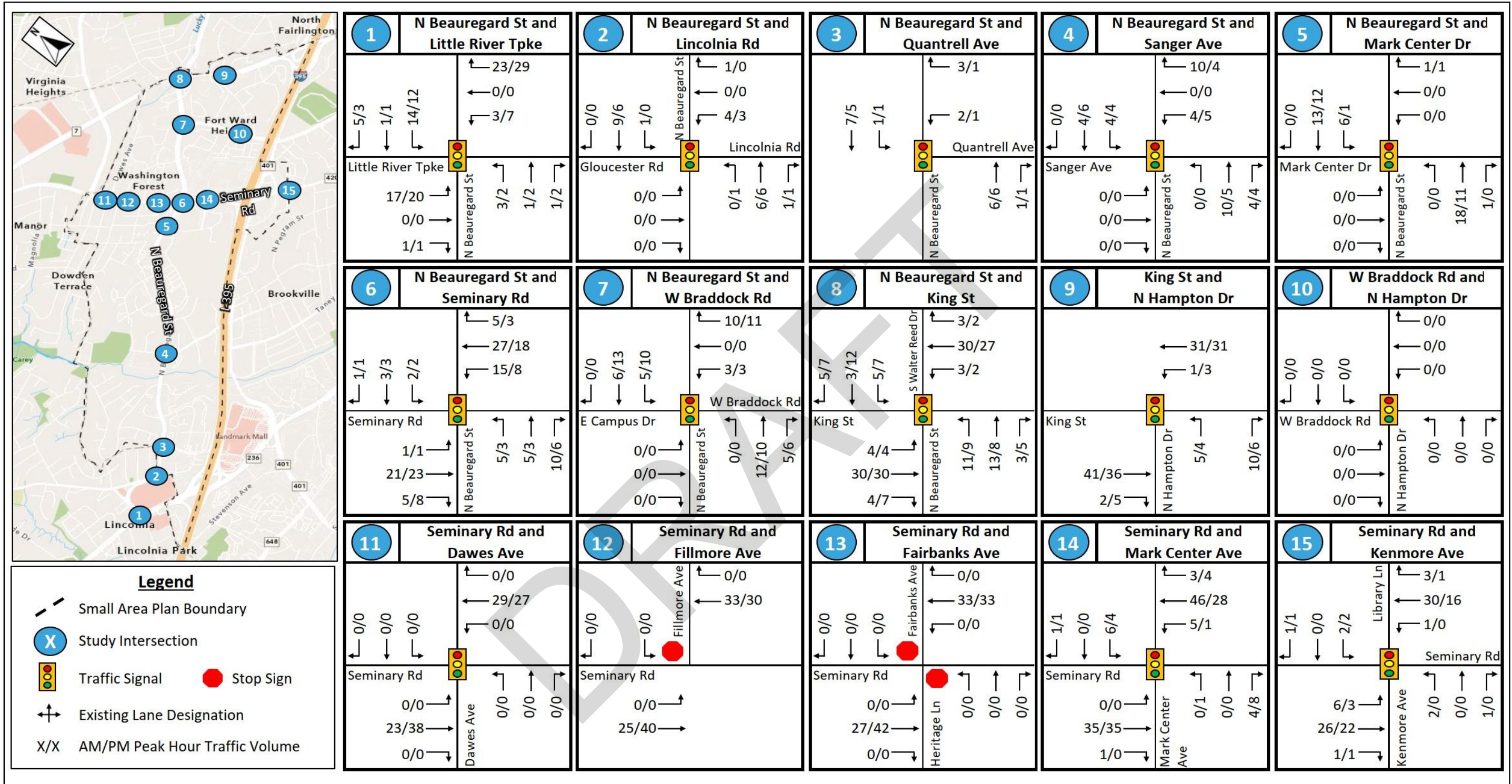


Figure 5-3: 2045 Sensitivity Analysis Peak Hour Growth Trips (Delta between 2045 Sensitivity Analysis Volumes and 2045 Base Volumes)

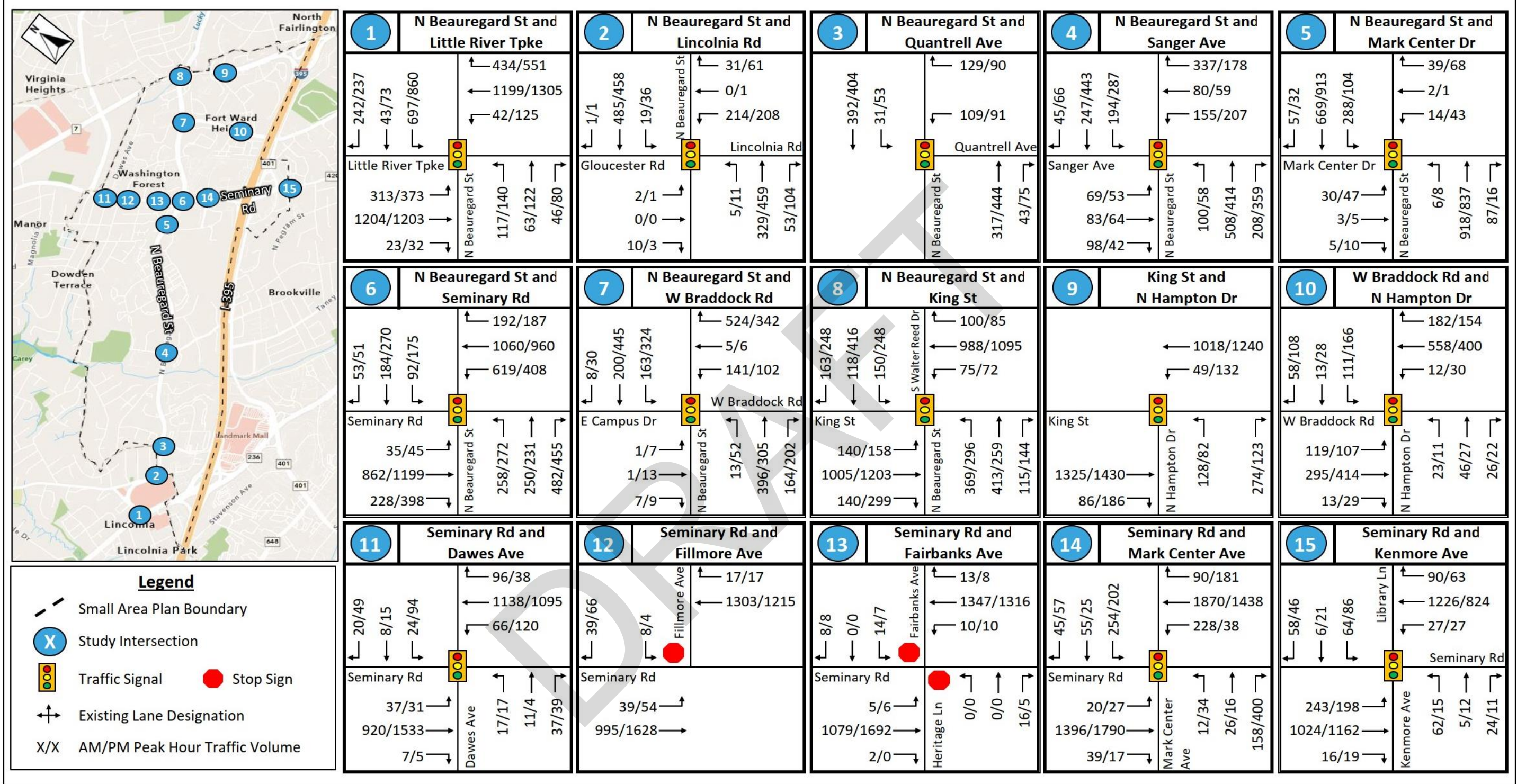


Figure 5-4: 2045 Sensitivity Analysis Peak Hour Traffic Volumes

Table 5-2: 2045 Sensitivity Analysis Conditions Intersection Capacity and Queuing Analysis Results

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions				2045 Sensitivity Analysis Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
1. N Beauregard Street and Little River Turnpike (Signalized)														
Northbound (N Beauregard St)	L	135	F (101.4)	#210	F (170.9)	#358	F (125.4)	#265	F (163.6)	#367	F (129.3)	#273	F (168.4)	#373
	T	-	E (78.9)	120	F (119.9)	#285	F (80.8)	128	F (116.9)	#289	F (80.7)	131	F (119.2)	#295
	R	-	E (70.8)	83	E (79.6)	149	E (72.5)	91	E (78.6)	157	E (72.4)	92	E (78.5)	161
	Approach	-	F (88.9)		F (131.5)		F (102.1)		F (127.2)		F (104.2)		F (129.8)	
Southbound (N Beauregard St)	L	650*	E (74.6)	m367	F (106.1)	m#870	E (64.9)	m430	F (94.3)	m#853	E (65.0)	m438	F (96.1)	m#876
	LT		E (73.7)	m367	F (104.8)	m#877	E (64.8)	m431	F (92.7)	m#858	E (64.4)	m441	F (94.4)	m#875
	R	670*	E (60.4)	m77	E (56.9)	m166	E (65.7)	m102	E (59.8)	m186	E (62.8)	m105	E (59.7)	m191
	Approach	-	E (70.7)		F (95.6)		E (65.1)		F (86.7)		E (64.2)		F (88.0)	
Eastbound (Little River Tpke)	L	400	F (84.7)	194	F (122.7)	#306	F (92.2)	239	F (129.6)	#377	F (95.2)	#263	F (144.7)	#409
	TR	680*	C (34.6)	577	D (48.0)	693	D (42.9)	804	E (63.2)	956	D (43.7)	805	E (64.3)	956
	Approach	-	D (44.4)		E (64.6)		D (52.5)		E (77.9)		D (54.1)		F (82.9)	
Westbound (Little River Tpke)	L	220	F (86.2)	80	F (116.3)	211	F (93.3)	94	F (151.3)	#313	F (97.2)	98	F (159.6)	#336
	T	335*	D (44.5)	635	D (54.3)	756	E (59.3)	#928	F (90.5)	#1158	E (61.2)	#928	F (92.1)	#1158
	R		B (12.9)	59	B (14.1)	249	B (14.2)	160	B (17.6)	347	B (14.8)	182	B (18.3)	381
	Approach	-	D (37.7)		D (47.3)		D (48.9)		E (74.6)		D (50.1)		E (75.8)	
Overall Intersection			D (50.9)		E (71.2)		E (56.4)		F (82.0)		E (57.4)		F (84.5)	
2. N Beauregard Street and Gloucester Road/Lincolnia Road (Signalized)														
Northbound (N Beauregard St)	L	210	B (10.0)	5	A (9.9)	9	B (10.3)	6	B (10.2)	9	B (10.4)	6	B (10.4)	10
	TR	850*	B (11.9)	83	B (13.5)	141	B (12.4)	93	B (14.1)	152	B (12.5)	95	B (14.3)	158
	Approach	-	B (11.8)		B (13.4)		B (12.4)		B (14.0)		B (12.5)		B (14.2)	
Southbound (N Beauregard St)	L	200	B (10.0)	11	B (10.2)	20	B (10.5)	12	B (10.6)	21	B (10.6)	13	B (10.7)	22
	TR	820*	B (12.2)	106	B (12.0)	113	B (12.8)	118	B (12.5)	122	B (13.0)	121	B (12.6)	127
	Approach	-	B (12.1)		B (11.9)		B (12.8)		B (12.3)		B (12.9)		B (12.5)	
Eastbound (Gloucester Rd)	LTR	-	B (11.4)	0	B (13.0)	0	B (11.1)	0	B (13.1)	0	B (11.0)	0	B (13.1)	0
	Approach	-	B (11.4)		B (13.0)		B (11.1)		B (13.1)		B (11.0)		B (13.1)	
Westbound (Lincolnia Rd)	LT	-	B (14.6)	113	B (17.1)	133	B (14.5)	122	B (17.3)	142	B (14.5)	125	B (17.4)	145
	R	60	B (11.4)	5	B (13.2)	21	B (11.1)	6	B (13.3)	23	B (11.1)	6	B (13.3)	23
	Approach	-	B (14.2)		B (16.2)		B (14.1)		B (16.4)		B (14.1)		B (16.5)	
Overall Intersection			B (12.4)		B (13.4)		B (12.9)		B (13.9)		B (13.0)		B (14.0)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions				2045 Sensitivity Analysis Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
3. N Beauregard Street and Quantrell Avenue (Signalized)														
Northbound (N Beauregard St)	T	835*	A (3.2)	36	A (2.9)	52	A (4.2)	37	A (3.4)	52	A (4.2)	38	A (3.4)	53
	R	110	A (3.0)	8	A (2.6)	11	A (3.8)	9	A (2.9)	12	A (3.8)	9	A (2.9)	12
	Approach	-	A (3.2)		A (2.9)		A (4.1)		A (3.3)		A (4.2)		A (3.3)	
Southbound (N Beauregard St)	L	120	A (1.9)	9	A (3.6)	21	A (2.3)	9	A (4.2)	22	A (2.4)	10	A (4.3)	23
	T	835*	A (2.0)	33	A (3.7)	53	A (2.5)	32	A (4.3)	54	A (2.5)	33	A (4.3)	56
	Approach	-	A (2.0)		A (3.7)		A (2.4)		A (4.3)		A (2.5)		A (4.3)	
Westbound (Quantrell Ave)	L	-	D (35.5)	98	D (38.8)	89	C (22.7)	74	C (30.2)	77	C (22.8)	75	C (30.2)	77
	R	35	C (32.1)	46	C (34.1)	40	C (20.7)	38	C (26.9)	36	C (20.7)	38	C (26.9)	36
	Approach	-	C (33.6)		D (36.5)		C (21.6)		C (28.5)		C (21.6)		C (28.6)	
Overall Intersection			A (9.8)		A (8.4)		A (7.5)		A (7.7)		A (7.5)		A (7.7)	
4. N Beauregard Street and Sanger Ave (Signalized)														
Northbound (N Beauregard St)	L	190	C (24.5)	109	C (25.6)	59	C (33.1)	126	C (28.8)	63	C (33.3)	126	C (29.2)	63
	TR	870*	C (34.2)	403	D (41.9)	515	D (47.1)	489	D (45.4)	546	D (47.7)	500	D (46.3)	553
	Approach	-	C (33.0)		D (40.8)		D (45.3)		D (44.3)		D (46.0)		D (45.1)	
Southbound (N Beauregard St)	L	185	B (19.0)	177	D (50.1)	335	C (28.4)	212	E (63.8)	#404	C (29.3)	216	E (68.9)	#422
	TR	880*	C (24.5)	151	C (28.7)	267	C (32.7)	177	C (28.2)	274	C (32.8)	180	C (28.4)	277
	Approach	-	C (22.3)		D (36.4)		C (31.0)		D (41.0)		C (31.4)		D (43.0)	
Eastbound (Sanger Ave)	LTR	-	F (82.1)	190	E (73.7)	135	F (89.2)	210	F (85.4)	#167	F (89.2)	210	F (85.5)	#167
	Approach	-	F (82.1)		E (73.7)		F (89.2)		F (85.4)		F (89.2)		F (85.5)	
Westbound (Sanger Ave)	LT	-	F (157.1)	#458	F (92.2)	#502	E (72.7)	370	F (87.2)	#457	E (72.9)	375	F (88.8)	#474
	TR	-	F (99.6)	#556	D (36.1)	199	E (60.1)	481	C (34.2)	203	E (61.0)	501	C (34.0)	208
	Approach	-	F (123.4)		E (69.7)		E (65.3)		E (66.0)		E (65.9)		E (66.8)	
Overall Intersection			E (59.9)		D (47.1)		D (52.6)		D (50.4)		D (53.1)		D (51.6)	
5. N Beauregard Street and Mark Center Drive (Signalized)														
Northbound (N Beauregard St)	L	175	D (47.1)	18	E (65.8)	m27	F (81.2)	25	E (73.2)	m28	F (80.1)	24	E (73.3)	m27
	TR	675*	B (16.9)	323	A (4.5)	103	B (13.3)	198	A (5.2)	100	B (13.4)	202	A (5.2)	101
	Approach	-	B (17.1)		A (5.1)		B (13.7)		A (5.8)		B (13.8)		A (5.9)	
Southbound (N Beauregard St)	L	390	C (24.9)	114	F (85.5)	m80	D (40.1)	178	F (90.2)	m88	D (40.3)	183	F (90.9)	m87
	TR	645*	A (1.4)	78	A (4.2)	184	A (2.4)	251	A (9.2)	423	A (2.5)	257	A (9.2)	428
	Approach	-	A (8.0)		B (12.2)		B (13.1)		B (17.3)		B (13.2)		B (17.3)	
Eastbound (Mark Center Dr)	L	-	E (58.0)	53	D (54.7)	75	E (58.0)	56	D (54.8)	77	E (58.0)	56	D (54.8)	77
	TR	-	E (56.5)	19	D (52.6)	25	E (56.4)	18	D (52.6)	25	E (56.4)	18	D (52.6)	25
	Approach	-	E (57.7)		D (54.2)		E (57.7)		D (54.3)		E (57.7)		D (54.3)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions				2045 Sensitivity Analysis Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
Westbound (Mark Center Dr)	LT	-	E (57.5)	34	D (54.8)	72	E (57.5)	35	E (55.0)	75	E (57.5)	35	E (55.0)	75
	R	-	C (28.2)	12	D (44.9)	34	C (28.1)	12	D (44.7)	35	C (28.1)	13	D (44.7)	35
	Approach	-	D (36.6)		D (48.9)		D (36.7)		D (48.8)		D (36.5)		D (48.7)	
Overall Intersection			B (14.0)		B (12.6)		B (14.8)		B (15.4)		B (14.9)		B (15.4)	
6. N Beauregard Street and Seminary Road (Signalized)														
Northbound (N Beauregard St)	L	190	E (69.1)	175	D (48.0)	145	D (51.1)	186	E (57.9)	139	D (50.9)	189	E (57.9)	140
	T	655*	F (82.5)	169	D (49.4)	124	C (33.0)	121	D (36.5)	88	C (33.0)	123	D (36.4)	89
	R	585	F (81.2)	515	D (40.5)	168	D (51.5)	221	D (49.5)	190	D (52.6)	232	D (49.8)	194
	Approach	-	E (78.4)		D (44.8)		D (46.7)		D (48.7)		D (47.2)		D (48.9)	
Southbound (N Beauregard St)	L	245	E (63.8)	138	E (59.3)	238	E (79.3)	157	E (57.4)	#244	E (79.5)	159	E (57.8)	#254
	TR	1240*	E (78.5)	152	E (58.6)	196	D (50.7)	152	E (57.1)	186	D (50.3)	153	E (57.1)	188
	Approach	-	E (74.4)		E (58.8)		E (58.7)		E (57.2)		E (58.4)		E (57.4)	
Eastbound (Seminary Rd)	L	125	D (53.2)	56	E (71.0)	m69	E (66.3)	51	D (54.5)	m51	E (66.5)	52	E (55.4)	m52
	TR	555*	C (29.7)	278	B (13.6)	109	C (21.6)	214	C (21.1)	401	C (22.1)	233	C (21.5)	431
	Approach	-	C (30.4)		B (15.1)		C (23.0)		C (22.0)		C (23.4)		C (22.4)	
Westbound (Seminary Rd)	L	350	C (30.8)	189	D (44.6)	158	C (24.6)	180	D (35.6)	124	C (24.7)	183	D (35.5)	125
	T	610*	A (6.0)	64	A (7.0)	57	A (4.1)	30	A (8.0)	76	A (4.1)	30	A (8.1)	77
	R	355	A (2.5)	0	A (2.7)	1	A (2.4)	1	A (2.1)	3	A (2.4)	1	A (2.1)	3
	Approach	-	B (13.8)		B (16.3)		B (10.7)		B (14.5)		B (10.7)		B (14.6)	
Overall Intersection			D (37.9)		C (26.5)		C (25.9)		C (28.8)		C (26.1)		C (29.0)	
7. N Beauregard Street and E Campus Drive/W Braddock Road (Signalized)														
Northbound (N Beauregard St)	L	85	E (65.5)	25	E (67.1)	93	E (64.4)	28	E (71.5)	102	E (64.3)	28	E (71.5)	103
	TR	1030*	B (14.7)	281	B (17.2)	254	B (13.4)	263	B (16.3)	281	B (13.8)	276	B (17.1)	291
	Approach	-	B (15.9)		C (22.0)		B (14.5)		C (21.7)		B (14.9)		C (22.1)	
Southbound (N Beauregard St)	L	200	D (51.5)	162	D (53.4)	215	E (64.7)	214	D (53.8)	246	E (64.2)	218	D (54.1)	253
	TR	700*	A (8.0)	77	A (7.1)	126	A (7.1)	97	B (10.6)	217	A (7.2)	99	B (10.6)	227
	Approach	-	C (27.1)		C (25.9)		C (32.4)		C (28.1)		C (32.3)		C (28.3)	
Eastbound (E Campus Dr)	L	125	E (63.4)	6	E (62.6)	20	E (63.4)	6	E (62.1)	22	E (63.4)	6	E (62.1)	22
	TR	-	E (63.4)	0	E (62.6)	18	E (63.4)	0	E (62.0)	18	E (63.4)	0	E (62.0)	18
	Approach	-	E (63.4)		E (62.6)		E (63.4)		E (62.0)		E (63.4)		E (62.0)	
Westbound (W Braddock Rd)	L	200	E (65.6)	174	E (62.2)	132	E (67.2)	185	E (63.5)	145	E (67.1)	189	E (63.9)	149
	LTR	-	E (55.5)	57	E (56.8)	50	E (55.2)	59	E (56.3)	52	E (55.0)	59	E (56.2)	53
	Approach	-	E (57.4)		E (57.9)		E (57.4)		E (57.8)		E (57.3)		E (57.8)	
Overall Intersection			D (36.3)		C (33.1)		D (36.7)		C (33.9)		D (36.7)		C (34.2)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions				2045 Sensitivity Analysis Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
8. N Beauregard Street/S Walter Reed Drive and King Street (Signalized)														
Northbound (N Beauregard St)	L	420	E (75.7)	222	E (73.5)	178	F (81.5)	#278	F (94.1)	#231	F (89.8)	#289	F (104.8)	#242
	TR	530*	D (44.8)	233	E (58.7)	163	D (49.4)	306	E (56.4)	146	D (49.0)	308	E (57.8)	152
	Approach	-	E (57.5)		E (65.0)		E (62.6)		E (72.4)		E (65.8)		E (77.7)	
Southbound (S Walter Reed Dr)	L	205	E (55.6)	139	D (48.6)	226	E (69.6)	#234	F (112.0)	#449	E (69.1)	#253	F (127.7)	#464
	T	900*	D (46.4)	73	D (51.6)	217	D (46.1)	74	D (54.2)	249	D (45.0)	75	D (54.7)	257
	R	205	D (46.0)	52	D (49.0)	136	D (46.1)	79	D (48.8)	115	D (45.2)	85	D (49.1)	126
Approach	-	D (49.5)		D (50.1)		D (54.3)		E (68.5)		D (53.5)		E (73.0)		
Eastbound (King St)	L	290	C (33.9)	95	C (31.5)	114	F (115.3)	#273	F (110.6)	#290	F (123.1)	#285	F (116.9)	#300
	TR	520*	D (36.2)	505	D (45.8)	#731	D (45.4)	#737	E (56.3)	#885	D (50.6)	#773	E (62.4)	#924
	Approach	-	D (35.9)		D (44.5)		D (53.0)		E (61.5)		E (58.5)		E (67.6)	
Westbound (King St)	L	435	C (29.9)	57	D (38.0)	67	F (117.1)	#174	F (108.9)	#161	F (134.2)	#184	F (114.4)	#166
	TR	685*	C (34.8)	470	D (38.2)	530	D (48.9)	#722	D (42.0)	604	E (55.6)	#761	D (43.4)	626
	Approach	-	C (34.4)		D (38.1)		D (53.2)		D (45.9)		E (60.7)		D (47.5)	
Overall Intersection			D (42.1)		D (46.9)		E (55.5)		E (60.2)		E (60.3)		E (64.7)	
9. N Hampton Drive and King Street (Signalized)														
Northbound (N Hampton Dr)	L	300	E (58.9)	147	D (54.6)	95	D (48.9)	148	E (55.0)	109	D (47.9)	153	E (55.6)	112
	R	765*	D (48.8)	76	D (50.4)	52	E (59.3)	210	D (49.8)	54	E (60.0)	225	D (49.6)	56
	Approach	-	D (52.0)		D (52.1)		E (56.0)		D (51.9)		E (56.2)		D (52.0)	
Eastbound (King St)	TR	305*	A (8.9)	318	A (9.4)	392	B (13.2)	520	B (12.2)	530	B (14.2)	548	B (12.8)	568
	Approach	-	A (8.9)		A (9.4)		B (13.2)		B (12.2)		B (14.2)		B (12.8)	
Westbound (King St)	L	295	A (4.9)	15	A (6.6)	30	A (8.7)	25	B (10.7)	51	A (9.8)	26	B (12.6)	64
	T	440*	A (4.0)	132	A (3.5)	150	A (6.1)	235	A (3.9)	183	A (6.6)	247	A (4.1)	193
	Approach	-	A (4.0)		A (3.8)		A (6.2)		A (4.6)		A (6.7)		A (4.9)	
Overall Intersection			B (12.9)		A (9.5)		B (16.5)		B (11.4)		B (17.3)		B (11.9)	
10. N Hampton Drive and W Braddock Road (Signalized)														
Northbound (N Hampton Dr)	LT	-	D (36.5)	67	C (31.1)	43	D (35.5)	74	C (31.4)	47	D (35.5)	74	C (31.4)	47
	R	-	C (34.9)	0	C (30.5)	0	C (33.7)	0	C (30.6)	0	C (33.7)	0	C (30.6)	0
	Approach	-	D (36.1)		C (30.9)		D (35.0)		C (31.1)		D (35.0)		C (31.1)	
Southbound (N Hampton Dr)	LT	-	D (47.2)	112	D (48.6)	170	D (49.0)	127	E (55.7)	#220	D (49.0)	127	E (55.7)	#220
	R	40	D (35.0)	0	C (30.8)	32	C (33.9)	5	C (31.0)	44	C (33.9)	5	C (31.0)	44
	Approach	-	D (43.3)		D (42.2)		D (44.2)		D (46.9)		D (44.2)		D (46.9)	
Eastbound (W Braddock Rd)	L	185	A (4.4)	41	A (6.6)	40	A (4.9)	47	A (6.7)	44	A (4.9)	47	A (6.7)	44
	TR	-	A (6.6)	67	A (9.7)	101	A (7.2)	74	B (10.5)	111	A (7.2)	74	B (10.5)	111
	Approach	-	A (6.0)		A (9.1)		A (6.5)		A (9.7)		A (6.5)		A (9.7)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions				2045 Sensitivity Analysis Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
Westbound (W Braddock Rd)	L	185	A (7.7)	8	A (8.2)	15	A (8.3)	9	A (9.1)	16	A (8.3)	9	A (9.1)	16
	T	-	A (9.8)	133	B (10.7)	98	B (10.7)	149	B (12.1)	108	B (10.7)	149	B (12.1)	108
	R	185	A (8.9)	33	B (10.1)	30	A (9.6)	35	B (11.3)	33	A (9.6)	35	B (11.3)	33
	Approach	-	A (9.6)		B (10.4)		B (10.4)		B (11.8)		B (10.4)		B (11.8)	
Overall Intersection			B (14.1)		B (16.8)		B (15.1)		B (18.9)		B (15.1)		B (18.9)	
11. Seminary Road and Dawes Avenue (Signalized)														
Northbound (Dawes Ave)	LTR	-	E (60.9)	62	D (54.8)	55	E (60.8)	64	D (54.2)	57	E (60.8)	64	D (54.2)	57
	Approach	-	E (60.9)		D (54.8)		E (60.8)		D (54.2)		E (60.8)		D (54.2)	
Southbound (Dawes Ave)	LT	-	E (61.4)	53	E (64.9)	144	E (61.6)	56	E (67.2)	154	E (61.6)	56	E (67.2)	154
	R	-	E (59.5)	0	D (54.1)	7	E (59.5)	0	D (53.5)	12	E (59.5)	0	D (53.5)	12
	Approach	-	E (60.7)		E (61.6)		E (60.8)		E (62.9)		E (60.8)		E (62.9)	
Eastbound (Seminary Rd)	L	280	A (4.3)	21	A (6.6)	18	A (4.7)	23	A (7.2)	19	A (4.8)	23	A (7.4)	19
	TR	570*	A (6.1)	256	B (13.2)	581	A (6.5)	288	B (15.0)	658	A (6.5)	299	B (15.6)	689
	Approach	-	A (6.1)		B (13.1)		A (6.4)		B (14.8)		A (6.5)		B (15.4)	
Westbound (Seminary Rd)	L	105	A (0.6)	6	C (23.6)	118	A (0.3)	2	D (45.6)	126	A (0.3)	2	D (46.0)	129
	TR	425*	A (1.2)	37	A (6.3)	324	A (1.2)	14	A (3.6)	140	A (1.1)	16	A (3.6)	143
	Approach	-	A (1.2)		A (8.0)		A (1.1)		A (7.7)		A (1.1)		A (7.7)	
Overall Intersection			A (6.2)		B (14.5)		A (6.2)		B (15.2)		A (6.2)		B (15.5)	
12. Seminary Road and Fillmore Avenue (Unsignalized)														
Southbound (Fillmore Ave)	LR		B (14.9)	9	B (12.3)	10	C (15.5)	11	B (11.8)	10	C (16.0)	11	B (11.9)	10
	Approach	-	B (14.9)		B (12.3)		C (15.5)		B (11.8)		C (16.0)		B (11.9)	
Eastbound (Seminary Rd)	LT	440*	A (0.9)	6	A (0.8)	7	A (1.0)	7	A (0.9)	8	A (1.0)	7	A (0.9)	8
	Approach	-	A (0.9)		A (0.8)		A (1.0)		A (0.9)		A (1.0)		A (0.9)	
Westbound (Seminary Rd)	TR	446*	A (0.0)	0	A (0.0)	0	A (0.0)	0	A (0.0)	0	A (0.0)	0	A (0.0)	0
	Approach	-	A (0.0)		A (0.0)		A (0.0)		A (0.0)		A (0.0)		A (0.0)	
13. Seminary Road and Fairbanks Avenue (Unsignalized)														
Northbound (Heritage Ln)	LTR		B (10.2)	2	A (9.6)	0	A (9.9)	2	B (10.4)	1	B (10.0)	2	B (10.4)	1
	Approach	-	B (10.2)		A (9.6)		A (9.9)		B (10.4)		B (10.0)		B (10.4)	
Southbound (Fairbanks Ave)	LTR		C (24.2)	3	C (18.3)	1	D (27.6)	11	C (22.4)	6	D (29.5)	12	C (23.9)	7
	Approach	-	C (24.2)		C (18.3)		D (27.6)		C (22.4)		D (29.5)		C (23.9)	
Eastbound (Seminary Rd)	LTR	445*	A (0.1)	0	A (0.0)	0	A (0.1)	1	A (0.2)	1	A (0.1)	1	A (0.2)	1
	Approach	-	A (0.1)		A (0.0)		A (0.1)		A (0.2)		A (0.1)		A (0.2)	
Westbound (Seminary Rd)	LTR	560*	A (0.2)	1	A (0.3)	2	A (0.2)	1	A (0.4)	2	A (0.2)	1	A (0.4)	2
	Approach	-	A (0.2)		A (0.3)		A (0.2)		A (0.4)		A (0.2)		A (0.4)	

Intersection	Movement	Storage Length (ft)	2022 Existing Conditions				2045 Base Conditions				2045 Sensitivity Analysis Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)	LOS (Delay)	95th Percentile Queue Length (ft)
14. Seminary Road and Mark Center Avenue (Signalized)														
Northbound (Mark Center Ave)	LT	230*	E (60.6)	70	E (59.9)	84	E (60.6)	72	E (60.0)	87	E (60.6)	72	E (59.9)	89
	R		D (39.1)	60	D (51.0)	173	D (38.2)	64	D (51.7)	185	D (38.0)	65	D (51.7)	189
	Approach		-	D (43.6)		D (52.0)		D (42.6)		D (52.6)		D (42.3)		D (52.6)
Southbound (Mark Center Ave)	L	100	D (49.4)	149	D (54.0)	135	D (49.4)	162	D (53.7)	140	D (49.5)	165	D (53.7)	143
	LTR	-	D (48.3)	110	D (52.3)	89	D (48.0)	118	D (51.7)	90	D (48.0)	120	D (51.7)	92
	Approach	-	D (48.7)		D (52.9)		D (48.5)		D (52.4)		D (48.6)		D (52.4)	
Eastbound (Seminary Rd)	L	205	F (80.9)	m35	E (72.0)	m42	E (78.8)	m34	E (79.8)	m41	E (79.2)	m33	F (80.5)	m40
	TR	615*	C (24.0)	396	B (14.6)	356	C (21.2)	401	B (11.1)	477	C (21.7)	#424	B (11.3)	483
	Approach	-	C (24.8)		B (15.5)		C (22.0)		B (12.1)		C (22.5)		B (12.3)	
Westbound (Seminary Rd)	L	1055*	D (52.0)	262	E (57.2)	68	E (65.9)	299	E (57.1)	70	E (65.6)	304	E (57.1)	72
	T	975*	C (25.0)	578	B (14.5)	395	B (15.0)	348	B (15.4)	442	B (15.1)	357	B (15.7)	453
	R	255	B (12.8)	m23	B (14.2)	64	A (0.4)	m0	B (14.7)	70	A (1.7)	m1	B (14.9)	74
	Approach	-	C (27.3)		B (15.5)		B (19.7)		B (16.3)		B (19.8)		B (16.5)	
Overall Intersection			C (29.1)		C (21.9)		C (24.0)		C (20.8)		C (24.3)		C (21.0)	
15. Seminary Road and Kenmore Avenue/Library Lane (Signalized)														
Northbound (Kenmore Ave)	LTR	-	F (81.1)	131	D (44.1)	48	F (86.4)	#152	D (44.3)	51	F (88.0)	#162	D (44.2)	51
	Approach	-	F (81.1)		D (44.1)		F (86.4)		D (44.3)		F (88.0)		D (44.2)	
Southbound (Library Ln)	LT	-	E (71.8)	115	E (55.0)	127	E (74.2)	121	E (58.7)	136	E (75.8)	#130	E (59.1)	138
	R	70	E (61.3)	95	D (44.9)	62	E (61.6)	103	D (45.1)	67	E (61.5)	104	D (45.0)	68
	Approach	-	E (67.1)		D (52.0)		E (68.5)		D (54.7)		E (69.4)		D (54.9)	
Eastbound (Seminary Rd)	L	215	B (16.8)	222	A (3.8)	59	C (20.2)	140	A (4.0)	58	C (23.2)	147	A (4.2)	59
	TR	230*	B (12.8)	363	A (7.0)	164	A (4.2)	9	A (7.1)	167	A (4.2)	9	A (7.2)	171
	Approach	-	B (13.6)		A (6.5)		A (7.3)		A (6.6)		A (7.8)		A (6.7)	
Westbound (Seminary Rd)	L	60	A (7.8)	10	A (7.0)	12	A (7.9)	10	A (7.4)	11	A (8.2)	11	A (7.6)	11
	TR	405*	B (12.2)	267	A (9.9)	154	B (12.6)	303	B (10.5)	165	B (13.2)	316	B (10.9)	171
	Approach	-	B (12.1)		A (9.8)		B (12.6)		B (10.5)		B (13.1)		B (10.8)	
Overall Intersection			B (17.5)		B (11.2)		B (15.0)		B (11.6)		B (15.6)		B (11.8)	

* Listed storage length is "block length," the distance to the nearest intersection.

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

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

2045 SENSITIVITY ANALYSIS INTERSECTION CAPACITY ANALYSIS RESULTS

The capacity analysis results show that under 2045 sensitivity analysis conditions, all signalized intersections operated at the same LOS as under 2045 base conditions in the AM and PM peak hours.

Most intersection approaches operate at the same LOS under 2045 sensitivity analysis conditions and 2045 base conditions, with some exceptions. The capacity analysis results indicate the following notable **increases in approach delay** between 2045 base conditions and 2045 sensitivity analysis conditions. The following is a summary of approaches operating at LOS E or LOS F under 2045 sensitivity analysis conditions, with notable (greater than five seconds) increases in delay compared to 2045 base conditions:

- N Beauregard Street/S Walter Reed Drive and King Street
 - The northbound approach remains at LOS F in the PM peak hour, with a 5.3-second increase in delay
 - The eastbound approach worsens from LOS D to LOS E in the AM peak hour with a 5.5-second increase in delay, and remains at LOS E in the PM peak hour with a 6.1-second increase in delay
 - The westbound approach worsens from LOS D to LOS E in the AM peak hour, with a 7.5-second increase in delay

The capacity analysis results indicate the following notable **increases in movement delay** between 2045 base conditions and 2045 sensitivity analysis conditions. The following is a summary of movements operating at LOS E or LOS F under 2045 sensitivity analysis conditions, with notable (greater than five seconds) increases in delay compared to 2045 base conditions.

- N Beauregard Street and Little River Turnpike
 - The eastbound left-turn movement remains at LOS F in the PM peak hour, with a 15.1-second increase in delay
 - The westbound left-turn movement remains at LOS F in the PM peak hour, with an 8.3-second increase in delay
- N Beauregard Street and Sanger Avenue
 - The southbound left-turn movement remains at LOS E in the PM peak hour, with a 5.1-second increase in delay
- N Beauregard Street/S Walter Reed Drive and King Street
 - The northbound left-turn movement remains at LOS F in the AM and PM peak hours, with 8.3-second and 10.7-second increases in delay, respectively
 - The southbound left-turn movement remains at LOS F in the PM peak hour, with a 15.7-second increase in delay
 - The eastbound left-turn movement remains at LOS F in the AM and PM peak hours, with 7.8-second and 6.3-second increases in delay, respectively
 - The eastbound through-right movement remains at LOS E in the PM peak hour, with a 6.1-second increase in delay
 - The westbound left-turn movement remains at LOS F in the AM and PM peak hours, with 17.1-second and 5.5-second increases in delay, respectively
 - The westbound through-right movement worsens from LOS D to LOS E in the AM peak hour, with a 6.7-second increase in delay

2045 SENSITIVITY ANALYSIS QUEUEING ANALYSIS RESULTS

Queueing analyses were conducted using Synchro methodology to determine the 95th percentile queues for each vehicle movement. The 95th percentile queues are summarized in **Table 5-2**. All changes in queue length between 2045 sensitivity analysis conditions and 2045 base conditions were less than 50 feet (approximately two vehicle lengths) and are considered nominal.

5.4 2045 SENSITIVITY ANALYSIS OPERATIONS SUMMARY

Intersection operations under the 2045 sensitivity analysis conditions are largely similar to 2045 base conditions operations. All overall intersection levels of service are the same under both conditions in the AM and PM peak hours, and all changes in overall intersection delay were less than five seconds.

At the approach and movement level, operations remained largely unchanged between 2045 base conditions and 2045 sensitivity analysis conditions, with some moderate increases in turning movement delay at Little River Turnpike, Sanger Avenue, and King Street. Across the study area, increases in traffic delay, especially in more congested locations, were shown to be slightly greater in the PM peak hour than in the AM peak hour.

All changes in queue length between 2045 sensitivity analysis conditions and 2045 base conditions were less than 50 feet (approximately two vehicle lengths) and are considered nominal.

The 2045 sensitivity analysis indicates that the study area transportation network can accommodate the proposed AlexWest land use, with only small changes in operational performance compared to 2045 base conditions. Similar to the 2045 base conditions scenario, the greatest operational challenges projected under the AlexWest land use conditions are at turning movements to and/or from minor streets along N Beauregard Street and along corridors that provide connection to I-395.

6. CONCLUSIONS

This traffic study was prepared to evaluate the impacts of the proposed AlexWest land use and development projections on the surrounding transportation network. The traffic study analyzed the transportation network under the following land use scenarios:

- **2022 Existing Conditions**
- **2045 Base Conditions** (based on forecasted traffic volumes from the Metropolitan Washington Council of Governments (MWCOC) travel demand model)
- **2045 Sensitivity Analysis** (considers a 30% increase in land use density and project area traffic, representative of the proposed AlexWest land use plan)

2022 Existing Conditions

The 2022 existing conditions Synchro traffic analyses are generally consistent with observed field conditions. On the N Beauregard Street corridor, the greatest operational challenges were observed in locations which provide access to I-395, namely, Little River Turnpike, Seminary Road, and King Street. These locations, which experience high demand from both the N Beauregard Street corridor and the connecting streets providing access to I-395, were shown to have significant delays along mainline N Beauregard Street. Relatively few operational challenges were observed on the rest of the N Beauregard Street corridor, except in locations directly adjacent to schools or high-density residential developments. In these locations, mainline turning movements and minor street approaches were subject to greater delays compared to mainline northbound and southbound through movements on N Beauregard Street.

On the Seminary Road corridor, delays were also primarily experienced by mainline turning vehicles and vehicles on minor street approaches to Seminary Road. West of N Beauregard Street, where the land use is primarily low-density residential, the unsignalized intersections operated with little delay, even to minor street approaches. East of N Beauregard Street, delays were also primarily experienced by mainline turning vehicles and vehicles on the minor street approaches to Seminary Road.

Generally, AM peak hour delays were slightly greater than PM peak hour delays, and more significantly so in areas adjacent to schools. PM peak hour delays were greater than AM peak hour delays in areas adjacent to commercial uses, as recorded in field observations and indicated by the traffic analysis.

2045 Base Conditions

Under 2045 base conditions, poor existing conditions operations worsened at the intersections of the major study corridors, including N Beauregard Street at Little River Turnpike and N Beauregard Street/S Walter Reed Drive at King Street. In several locations on N Beauregard Street, including at the intersection of N Beauregard Street and Seminary Road, signal timing optimization was implemented, which improved performance on minor street approaches while increasing delay for mainline turning movements. These delay increases may also be attributed to the increase in volume under 2045 base conditions.

The 2045 base conditions analysis indicates that overall, the study area transportation network can reasonably accommodate future development and land uses based on forecasted growth. Increases in delay that are expected due to the projected traffic increase can be mitigated by minor signal timing adjustments along the major study area corridors. The greatest operational challenges projected under

future land use conditions are at turning movements to and/or from minor streets along N Beauregard Street and along corridors that provide connection to I-395.

2045 Sensitivity Analysis

Under 2045 sensitivity analysis conditions, intersection operations are largely similar to 2045 base conditions operations. At the approach and movement level, operations experience some moderate increases in turning movement delay at Little River Turnpike, Sanger Avenue, and King Street. Across the study area, increases in traffic delay, especially in more congested locations, were shown to be slightly greater in the PM peak hour than in the AM peak hour.

The 2045 sensitivity analysis indicates that the study area transportation network can accommodate the proposed AlexWest land use, with only small changes in operational performance compared to 2045 base conditions. Similar to the 2045 base conditions scenario, the greatest operational challenges projected under the AlexWest land use conditions are at turning movements to and/or from minor streets along N Beauregard Street and along corridors that provide connection to I-395.

The results of this study will be further refined as individual development sites submit site-specific transportation studies, as required by the City's [Transportation Planning Administrative Guidelines](#). Localized transportation impacts will be mitigated as needed as development is introduced to the Alex West area.

Appendix A
Traffic Count Data

DRAFT



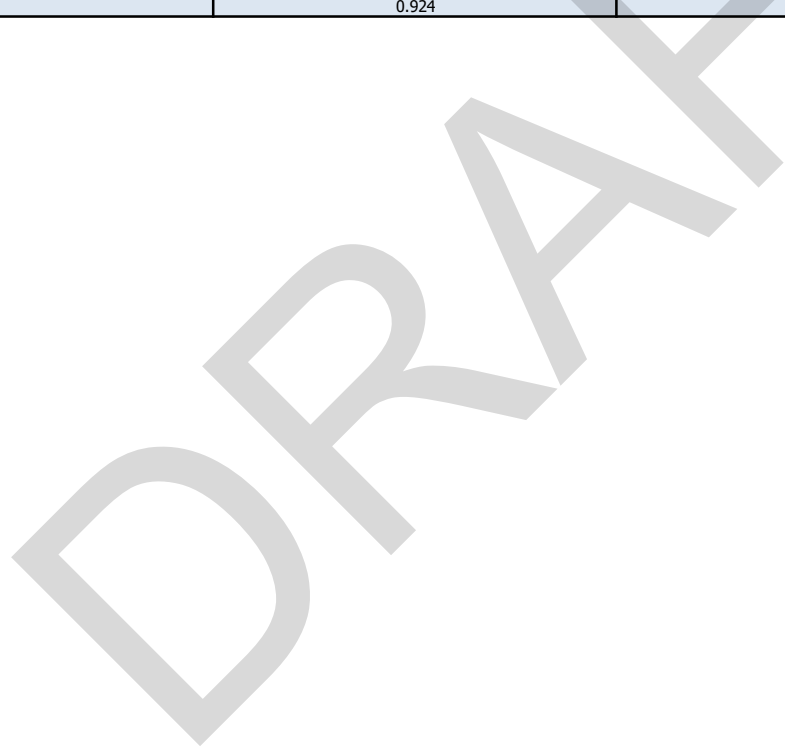
National Data & Surveying Services Intersection Turning Movement Count

Location: Beaugard St & Little River Turnpike
 City: Alexandria
 Control: Signalized

Project ID: 23-260065-001
 Date: 4/27/2023

Data - Total

NS/EW Streets:	Beaugard St						Beaugard St						Little River Turnpike						Little River Turnpike						TOTAL									
	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND															
PM	1 NL	1 NT	1 NR	0 NU	0 NL2	0 NR2	1.5 SL	0.5 ST	1 SR	0 SU	0 SL2	0 SR2	2 EL	2 ET	0 ER	0 EU	0 ET2	1 WL	2 WT	1 WR	0 WU	0 WT2	0 WU2	0 E2T	0 E2L2	0 E2T2	0 E2R2	0 E2U2	0 W2T	0 W2L2	0 W2T2	0 W2R2	0 W2U2	TOTAL
3:30 PM	26	24	18	0	0	1	214	16	62	0	5	0	51	180	8	0	4	22	213	119	1	1	1	2	0	0	10	0	0	2	1	1	1	983
3:45 PM	26	35	15	0	0	3	164	23	50	0	2	0	68	188	8	0	2	29	214	120	1	4	5	2	0	0	10	0	2	2	1	2	0	976
4:00 PM	17	28	19	0	0	2	189	18	55	1	1	0	62	216	9	0	5	16	291	110	1	6	5	1	1	0	13	0	0	1	1	0	0	1068
4:15 PM	15	27	25	0	1	3	207	21	63	0	4	1	55	264	4	0	9	15	238	98	0	9	2	3	0	2	8	1	1	0	0	1	0	1077
4:30 PM	28	31	24	0	0	3	199	29	43	0	4	2	65	234	9	0	2	22	249	99	1	2	2	1	0	0	14	0	0	1	1	4	0	1069
4:45 PM	38	26	20	0	0	3	180	14	56	0	3	2	95	245	3	0	6	21	263	96	4	1	3	5	0	0	9	0	0	3	1	0	0	1097
5:00 PM	25	37	14	0	1	2	191	17	56	0	3	1	68	258	8	0	6	11	303	117	5	1	2	2	0	0	12	0	0	2	0	0	0	1142
5:15 PM	32	27	19	0	0	3	229	18	51	0	6	1	59	240	6	0	1	15	257	118	0	2	3	1	0	0	12	0	0	0	1	0	0	1101
5:30 PM	37	25	22	0	0	4	211	20	61	0	2	0	65	235	8	0	3	38	238	93	2	3	4	2	0	0	14	1	0	1	0	0	0	1089
5:45 PM	28	25	23	0	0	3	173	28	30	0	1	0	69	268	12	0	6	25	267	119	0	5	2	4	0	0	15	0	0	0	0	0	0	1103
6:00 PM	23	21	12	0	1	4	199	23	49	0	1	0	73	190	7	0	7	16	204	93	5	2	4	4	0	0	10	1	0	1	0	1	0	951
6:15 PM	24	37	16	0	0	4	177	26	54	0	6	0	73	220	7	0	6	18	236	112	1	3	5	2	0	1	12	2	0	2	0	0	0	1044
6:30 PM	32	27	20	0	0	5	192	23	43	1	2	2	84	207	2	0	6	31	228	111	1	6	2	0	1	0	13	0	2	1	1	1	0	1044
6:45 PM	26	26	19	0	0	2	174	19	40	0	0	1	59	214	12	0	7	23	259	122	0	4	6	3	0	0	13	0	0	0	0	2	0	1031
7:00 PM	17	36	19	0	0	0	201	21	53	0	5	1	57	199	10	0	4	20	193	110	5	1	4	2	0	0	8	1	3	0	0	2	0	972
7:15 PM	36	46	25	0	0	1	184	29	39	0	4	2	67	160	10	0	3	21	189	87	1	1	6	3	0	0	16	0	1	2	0	3	1	937
TOTAL VOLUMES :	430	478	310	0	3	43	3084	345	805	2	49	13	1070	3518	123	0	77	343	3842	1724	28	51	56	37	2	3	189	6	9	18	7	17	2	16684
APPROACH %'s :	34.02%	37.82%	24.53%	0.00%	0.24%	3.40%	71.75%	8.03%	18.73%	0.05%	1.14%	0.30%	22.35%	73.48%	2.57%	0.00%	1.61%	5.68%	63.57%	28.52%	0.46%	0.84%	0.93%	15.61%	0.84%	1.27%	79.75%	2.53%	16.98%	33.96%	13.21%	32.08%	3.77%	
PEAK HR :	05:00 PM - 06:00 PM																								TOTAL									
PEAK HR VOL :	122	114	78	0	1	12	804	83	198	0	12	2	261	1001	34	0	16	89	1065	447	7	11	11	9	0	0	53	1	0	3	1	0	0	4435
PEAK HR FACTOR :	0.824	0.770	0.848	0.000	0.250	0.750	0.878	0.741	0.811	0.000	0.500	0.500	0.946	0.934	0.708	0.000	0.667	0.586	0.879	0.939	0.350	0.550	0.688	0.563	0.000	0.000	0.883	0.250	0.000	0.375	0.250	0.000	0.000	0.971



National Data & Surveying Services Intersection Turning Movement Count

Explanation for extra leg movement

Movements entering the extra leg

NL2	Movements coming from NB on Beauregard St entering into the Extra Leg 2 (Little Riv Tpk Service Rd)
SR2	Movements coming from SB on Beauregard St entering into the Extra Leg 2 (Little Riv Tpk Service Rd)
WT2	Movements coming from WB on Little River Turnpike entering into the Extra Leg 2 (Little Riv Tpk Service Rd)

Movements exiting the extra leg

E2U2	Movements exiting from Extra Leg 2 (Little Riv Tpk Service Rd) entering into Little River Turnpike heading WB
E2L2	Movements exiting from Extra Leg 2 (Little Riv Tpk Service Rd) entering into Beauregard St heading NB
E2T2	Movements exiting from Extra Leg 2 (Little Riv Tpk Service Rd) entering into Little Riv Tpk Service Rd heading EB
E2T	Movements exiting from Extra Leg 2 (Little Riv Tpk Service Rd) entering into Little Riv Tpk Service Rd heading EB
E2R2	Movements exiting from Extra Leg 2 (Little Riv Tpk Service Rd) entering into Beauregard St heading SB

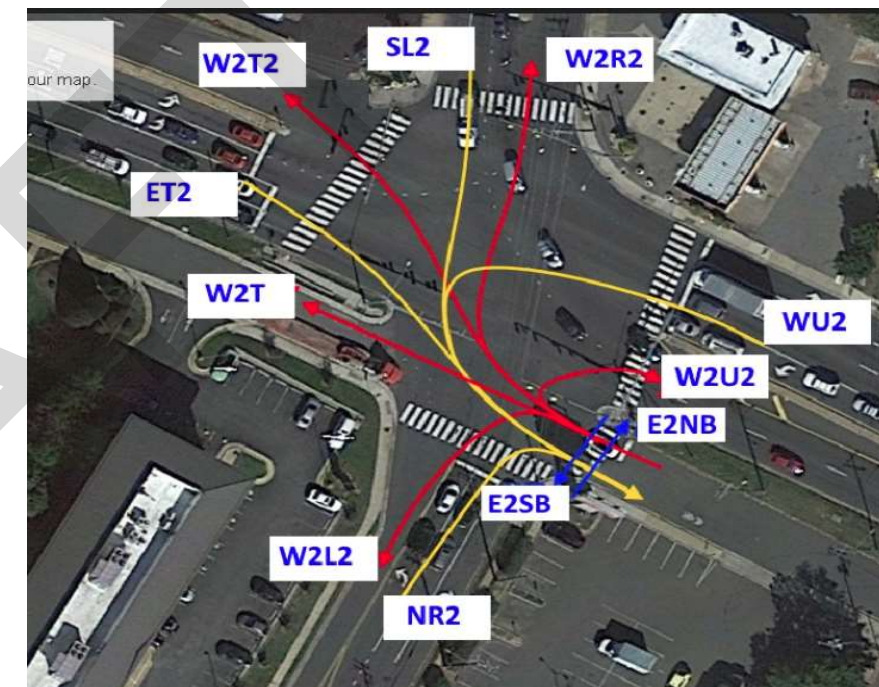
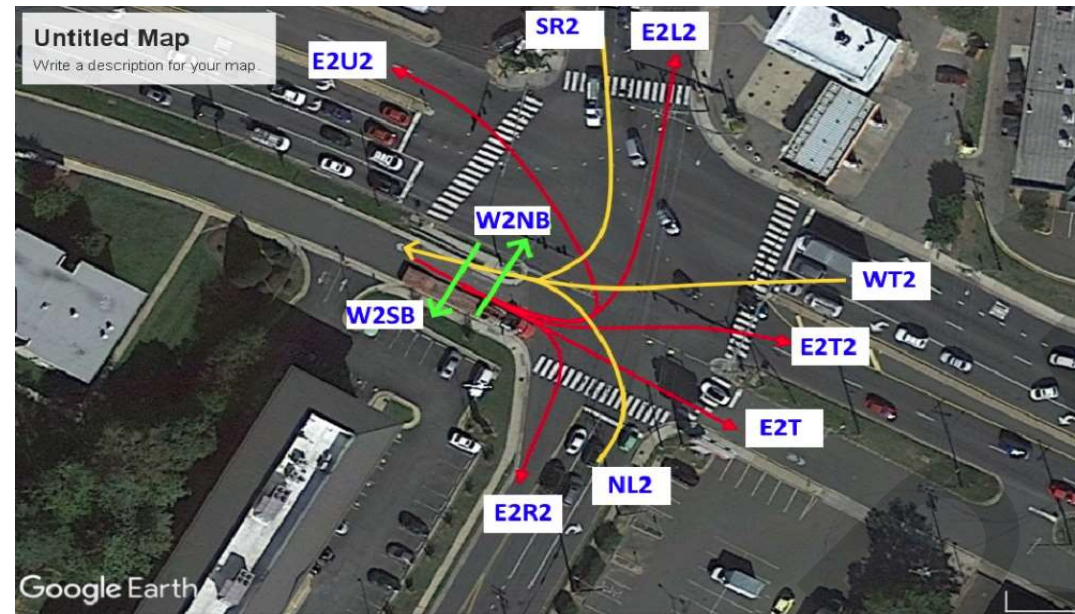
Explanation for extra leg movement

Movements entering the extra leg

NR2	Movements coming from NB on Beauregard St entering into the Extra Leg 1 (Little Riv Tpk Service Rd)
ET2	Movements coming from EB on Little River Turnpike entering into the Extra Leg 1 (Little Riv Tpk Service Rd)
SL2	Movements coming from SB on Beauregard St entering into the Extra Leg 1 (Little Riv Tpk Service Rd)
WU2	Movements coming from WB on Little River Turnpike entering into the Extra Leg 1 (Little Riv Tpk Service Rd)

Movements exiting the extra leg

W2L2	Movements exiting from Extra Leg 1 (Little Riv Tpk Service Rd) entering into Beauregard St heading SB
W2T	Movements exiting from Extra Leg 1 (Little Riv Tpk Service Rd) entering into Little Riv Tpk Service Rd heading WB
W2T2	Movements exiting from Extra Leg 1 (Little Riv Tpk Service Rd) entering into Little River Turnpike heading WB
W2R2	Movements exiting from Extra Leg 1 (Little Riv Tpk Service Rd) entering into Beauregard St heading SB
W2U2	Movements exiting from Extra Leg 1 (Little Riv Tpk Service Rd) entering into Little River Turnpike heading EB



DRAFT

National Data & Surveying Services Intersection Turning Movement Count

Location: Beaugard St & Little River Turnpike
 City: Alexandria
 Control: Signalized

Project ID: 23-260065-001
 Date: 4/27/2023

Data - Cars

NS/EW Streets:	Beaugard St						Beaugard St						Little River Turnpike						Little River Turnpike												TOTAL			
	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND															
PM	1 NL	1 NT	1 NR	0 NU	0 NL2	0 NR2	1.5 SL	0.5 ST	1 SR	0 SU	0 SL2	0 SR2	2 EL	2 ET	0 ER	0 EU	0 ET2	1 WL	2 WT	1 WR	0 WU	0 WT2	0 WU2	0 E2T	0 E2L2	0 E2T2	0 E2R2	0 E2U2	0 W2T	0 W2L2	0 W2T2	0 W2R2	0 W2U2	
3:30 PM	26	24	16	0	0	1	208	16	60	0	5	0	51	176	8	0	4	21	208	115	1	1	1	2	0	0	10	0	0	2	1	1	1	959
3:45 PM	22	33	15	0	0	3	156	22	46	0	2	0	65	184	8	0	2	28	207	116	1	4	5	2	0	0	9	0	2	2	1	2	0	937
4:00 PM	16	26	16	0	0	2	187	18	53	1	1	0	60	213	9	0	4	16	287	105	1	6	5	1	1	0	13	0	0	1	1	0	0	1043
4:15 PM	15	27	24	0	1	3	200	21	60	0	4	1	54	255	2	0	9	15	232	94	0	9	2	3	0	2	8	1	1	0	0	1	0	1044
4:30 PM	27	31	24	0	0	2	193	29	40	0	4	2	64	228	9	0	2	22	242	98	1	2	2	1	0	0	14	0	0	1	1	4	0	1043
4:45 PM	37	25	20	0	0	3	173	14	53	0	3	2	95	239	3	0	5	21	259	93	4	1	3	5	0	0	9	0	0	3	1	0	0	1071
5:00 PM	25	37	14	0	1	2	187	17	55	0	3	1	67	252	8	0	6	11	299	114	5	1	2	2	0	0	12	0	0	2	0	0	0	1123
5:15 PM	28	26	17	0	0	3	223	18	50	0	6	1	59	232	5	0	1	14	254	113	0	2	3	1	0	0	12	0	0	0	1	0	0	1069
5:30 PM	36	25	22	0	0	4	206	20	60	0	2	0	65	229	8	0	3	38	232	88	2	3	4	2	0	0	14	1	0	1	0	0	0	1065
5:45 PM	28	24	23	0	0	3	168	28	29	0	1	0	69	265	12	0	6	25	262	118	0	5	2	4	0	0	15	0	0	0	0	0	0	1087
6:00 PM	22	21	12	0	1	4	195	23	49	0	1	0	73	185	7	0	7	16	200	91	5	2	4	4	0	0	10	1	0	1	0	1	0	935
6:15 PM	24	37	16	0	0	4	174	26	54	0	6	0	71	218	7	0	6	18	234	109	1	3	5	2	0	1	12	2	0	2	0	0	0	1032
6:30 PM	32	27	20	0	0	5	189	23	41	1	2	2	83	205	2	0	6	31	226	109	1	6	2	0	1	0	13	0	2	1	1	1	0	1032
6:45 PM	26	25	19	0	0	2	167	19	40	0	0	1	59	209	12	0	7	23	256	120	0	4	6	3	0	0	13	0	0	0	0	1	0	1012
7:00 PM	17	36	19	0	0	0	198	21	53	0	5	1	57	197	10	0	4	20	190	109	5	1	4	2	0	0	8	1	3	0	0	2	0	963
7:15 PM	36	46	24	0	0	1	182	29	38	0	3	2	67	157	10	0	3	21	188	85	1	1	6	3	0	0	16	0	1	2	0	3	1	926
TOTAL VOLUMES :	NL	NT	NR	NU	NL2	NR2	SL	ST	SR	SU	SL2	SR2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	WT2	WU2	E2T	E2L2	E2T2	E2R2	E2U2	W2T	W2L2	W2T2	W2R2	W2U2	TOTAL
APPROACH %'s :	33.82%	38.12%	24.41%	0.00%	0.24%	3.41%	71.67%	8.20%	18.62%	0.05%	1.14%	0.31%	22.54%	73.31%	2.55%	0.00%	1.60%	5.74%	63.70%	28.29%	0.47%	0.86%	0.94%	15.68%	0.85%	1.27%	79.66%	2.54%	17.31%	34.62%	13.46%	30.77%	3.85%	16341
PEAK HR :	05:00 PM - 06:00 PM																																TOTAL	
PEAK HR VOL :	117	112	76	0	1	12	784	83	194	0	12	2	260	978	33	0	16	88	1047	433	7	11	11	9	0	0	53	1	0	3	1	0	0	4344
PEAK HR FACTOR :	0.813	0.757	0.826	0.000	0.250	0.750	0.879	0.741	0.808	0.000	0.500	0.500	0.942	0.923	0.688	0.000	0.667	0.579	0.875	0.917	0.350	0.550	0.688	0.563	0.000	0.000	0.883	0.250	0.000	0.375	0.250	0.000	0.000	0.967



National Data & Surveying Services Intersection Turning Movement Count

Location: Beaugard St & Little River Turnpike
 City: Alexandria
 Control: Signalized

Project ID: 23-260065-001
 Date: 4/27/2023

Data - Bikes

NS/EW Streets:	Beaugard St						Beaugard St						Little River Turnpike					Little River Turnpike										TOTAL							
	NORTHBOUND						SOUTHBOUND						EASTBOUND					WESTBOUND																	
PM	1 NL	1 NT	1 NR	0 NU	0 NL2	0 NR2	1.5 SL	0.5 ST	1 SR	0 SU	0 SL2	0 SR2	2 EL	2 ET	0 ER	0 EU	0 ET2	1 WL	2 WT	1 WR	0 WU	0 WT2	0 WU2	0 E2T	0 E2L2	0 E2T2	0 E2R2	0 E2U2	0 W2T	0 W2L2	0 W2T2	0 W2R2	0 W2U2		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	1	0	0	5
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:15 PM	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	3	
TOTAL VOLUMES :	NL	NT	NR	NU	NL2	NR2	SL	ST	SR	SU	SL2	SR2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	WT2	WU2	E2T	E2L2	E2T2	E2R2	E2U2	W2T	W2L2	W2T2	W2R2	W2U2	TOTAL	
APPROACH %'s :	0	1	1	0	0	0	0	2	2	0	0	0	2	0	0	1	0	1	1	2	0	0	0	4	0	0	0	0	2	1	1	0	0	21	
	0.00%	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	0.00%	66.67%	0.00%	0.00%	33.33%	0.00%	25.00%	25.00%	50.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	50.00%	25.00%	25.00%	0.00%	0.00%		
PEAK HR :	05:00 PM - 06:00 PM																								TOTAL										
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	



National Data & Surveying Services Intersection Turning Movement Count

Location: Beaugard St & Little River Turnpike
 City: Alexandria
 Control: Signalized

Project ID: 23-260065-001
 Date: 4/27/2023

Data - HT

NS/EW Streets:	Beaugard St						Beaugard St						Little River Turnpike						Little River Turnpike												TOTAL			
	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND															
PM	1 NL	1 NT	1 NR	0 NU	0 NL2	0 NR2	1.5 SL	0.5 ST	1 SR	0 SU	0 SL2	0 SR2	2 EL	2 ET	0 ER	0 EU	0 ET2	1 WL	2 WT	1 WR	0 WU	0 WT2	0 WU2	0 E2T	0 E2L2	0 E2T2	0 E2R2	0 E2U2	0 W2T	0 W2L2	0 W2T2	0 W2R2	0 W2U2	
3:30 PM	0	0	2	0	0	0	6	0	2	0	0	0	0	4	0	0	0	1	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	24
3:45 PM	4	2	0	0	0	0	8	1	4	0	0	0	3	4	0	0	0	1	7	4	0	0	0	0	0	0	0	0	0	0	0	0	39	
4:00 PM	1	2	3	0	0	0	2	0	2	0	0	0	2	3	0	0	1	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	25	
4:15 PM	0	0	1	0	0	0	7	0	3	0	0	0	1	9	2	0	0	0	6	4	0	0	0	0	0	0	0	0	0	0	0	0	33	
4:30 PM	1	0	0	0	0	1	6	0	3	0	0	0	1	6	0	0	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	26	
4:45 PM	1	1	0	0	0	0	7	0	3	0	0	0	0	6	0	0	1	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	26	
5:00 PM	0	0	0	0	0	0	4	0	1	0	0	0	1	6	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	19	
5:15 PM	4	1	2	0	0	0	6	0	1	0	0	0	0	8	1	0	0	1	3	5	0	0	0	0	0	0	0	0	0	0	0	0	32	
5:30 PM	1	0	0	0	0	0	5	0	1	0	0	0	0	6	0	0	0	0	6	5	0	0	0	0	0	0	0	0	0	0	0	0	24	
5:45 PM	0	1	0	0	0	0	5	0	1	0	0	0	0	3	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	16	
6:00 PM	1	0	0	0	0	0	4	0	0	0	0	0	0	5	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	16	
6:15 PM	0	0	0	0	0	0	3	0	0	0	0	0	2	2	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	12	
6:30 PM	0	0	0	0	0	0	3	0	2	0	0	0	1	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	12	
6:45 PM	0	1	0	0	0	0	7	0	0	0	0	0	0	5	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	1	0	19	
7:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	9	
7:15 PM	0	0	1	0	0	0	2	0	1	0	1	0	0	3	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	11	
TOTAL VOLUMES :	NL	NT	NR	NU	NL2	NR2	SL	ST	SR	SU	SL2	SR2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	WT2	WU2	E2T	E2L2	E2T2	E2R2	E2U2	W2T	W2L2	W2T2	W2R2	W2U2	TOTAL
APPROACH %'s :	41.94%	25.81%	29.03%	0.00%	0.00%	3.23%	75.00%	0.96%	23.08%	0.00%	0.96%	0.00%	12.22%	82.22%	3.33%	0.00%	2.22%	2.59%	56.90%	40.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	343
PEAK HR :	05:00 PM - 06:00 PM																								TOTAL									
PEAK HR VOL :	5	2	2	0	0	0	20	0	4	0	0	0	1	23	1	0	0	1	18	14	0	0	0	0	0	0	0	0	0	0	0	0	0	91
PEAK HR FACTOR :	0.313	0.500	0.250	0.000	0.000	0.000	0.833	0.000	1.000	0.000	0.000	0.000	0.250	0.719	0.250	0.000	0.000	0.250	0.750	0.700	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.711



National Data & Surveying Services Intersection Turning Movement Count

Location: Beaugard St & Little River Turnpike
City: Alexandria

Project ID: 23-260065-001
Date: 4/27/2023

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Beaugard St		Beaugard St		Little River Turnpike		Little River Turnpike						TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		EAST LEG 2		WEST LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	NB	SB	
PM													
3:30 PM	3	0	0	1	0	0	3	2	0	0	1	2	12
3:45 PM	0	1	1	2	1	1	1	1	0	1	1	1	11
4:00 PM	2	1	3	1	0	0	2	3	1	0	2	2	17
4:15 PM	0	2	0	2	1	0	2	1	1	1	2	0	12
4:30 PM	8	3	2	0	3	1	6	5	1	1	2	4	36
4:45 PM	4	6	2	1	0	0	1	0	1	0	1	0	16
5:00 PM	5	0	0	1	2	4	2	4	1	4	0	4	27
5:15 PM	3	6	0	1	1	0	1	2	2	0	1	1	18
5:30 PM	7	1	1	0	1	0	1	2	1	0	0	1	15
5:45 PM	2	1	1	7	1	2	3	2	0	3	0	1	23
6:00 PM	7	3	2	1	2	4	2	3	1	2	0	0	27
6:15 PM	5	2	4	2	1	0	4	5	1	0	3	3	30
6:30 PM	1	0	1	1	0	3	2	0	0	1	1	0	10
6:45 PM	4	1	0	4	0	0	5	0	0	1	1	0	16
7:00 PM	0	2	1	3	1	1	0	2	1	1	0	1	13
7:15 PM	0	5	1	3	1	4	1	1	1	3	1	0	21
TOTAL VOLUMES :	51	34	19	30	15	20	36	33	12	18	16	20	304
APPROACH %'s :	60.00%	40.00%	38.78%	61.22%	42.86%	57.14%	52.17%	47.83%	40.00%	60.00%	44.44%	55.56%	
PEAK HR :	05:00 PM - 06:00 PM												TOTAL
PEAK HR VOL :	17	8	2	9	5	6	7	10	4	7	1	7	83
PEAK HR FACTOR :	0.607	0.333	0.500	0.321	0.625	0.375	0.583	0.625	0.500	0.438	0.250	0.438	0.769
	0.694		0.344		0.458		0.708		0.550		0.500		

Project ID: 23-260065-001
 Location: Beaugard St & Little River Turnpike
 City: Alexandria

Day: Thursday
 Date: 4/27/2023

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Beaugard St Northbound						Beaugard St Southbound						Little River Turnpike Eastbound						Little River Turnpike Westbound						Int. Total
	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	
3:30 PM	26	24	18	0	1	68	214	16	62	0	3	292	51	180	8	0	5	239	22	213	119	1	0	355	954
3:45 PM	26	35	15	0	3	76	164	23	50	0	1	237	68	188	8	0	2	264	29	214	120	1	2	364	941
Total	52	59	33	0	4	144	378	39	112	0	4	529	119	368	16	0	7	503	51	427	239	2	2	719	1895
4:00 PM	17	28	19	0	4	64	189	18	55	1	3	263	62	216	9	0	5	287	16	291	110	1	0	418	1032
4:15 PM	15	27	25	0	2	67	207	21	63	0	2	291	55	264	4	0	3	323	15	238	98	0	1	351	1032
4:30 PM	28	31	24	0	2	83	199	29	43	0	11	271	65	234	9	0	11	308	22	249	99	1	4	371	1033
4:45 PM	38	26	20	0	3	84	180	14	56	0	10	250	95	245	3	0	1	343	21	263	96	4	0	384	1061
Total	98	112	88	0	11	298	775	82	217	1	26	1075	277	959	25	0	20	1261	74	1041	403	6	5	1524	4158
5:00 PM	25	37	14	0	1	76	191	17	56	0	5	264	68	258	8	0	6	334	11	303	117	5	6	436	1110
5:15 PM	32	27	19	0	1	78	229	18	51	0	9	298	59	240	6	0	3	305	15	257	118	0	1	390	1071
5:30 PM	37	25	22	0	1	84	211	20	61	0	8	292	65	235	8	0	3	308	38	238	93	2	1	371	1055
5:45 PM	28	25	23	0	8	76	173	28	30	0	3	231	69	268	12	0	5	349	25	267	119	0	3	411	1067
Total	122	114	78	0	11	314	804	83	198	0	25	1085	261	1001	34	0	17	1296	89	1065	447	7	11	1608	4303
6:00 PM	23	21	12	0	3	56	199	23	49	0	10	271	73	190	7	0	5	270	16	204	93	5	6	318	915
6:15 PM	24	37	16	0	6	77	177	26	54	0	7	257	73	220	7	0	9	300	18	236	112	1	1	367	1001
6:30 PM	32	27	20	0	2	79	192	23	43	1	1	259	84	207	2	0	2	293	31	228	111	1	3	371	1002
6:45 PM	26	26	19	0	4	71	174	19	40	0	5	233	59	214	12	0	5	285	23	259	122	0	0	404	993
Total	105	111	67	0	15	283	742	91	186	1	23	1020	289	831	28	0	21	1148	88	927	438	7	10	1460	3911
7:00 PM	17	36	19	0	4	72	201	21	53	0	2	275	57	199	10	0	2	266	20	193	110	5	2	328	941
7:15 PM	36	46	25	0	4	107	184	29	39	0	5	252	67	160	10	0	2	237	21	189	87	1	5	298	894
Total	53	82	44	0	8	179	385	50	92	0	7	527	124	359	20	0	4	503	41	382	197	6	7	626	1835
Grand Total	430	478	310	0	49	1218	3084	345	805	2	85	4236	1070	3518	123	0	69	4711	343	3842	1724	28	35	5937	16102
Apprch %	35.3	39.2	25.5	0.0	4.0		72.8	8.1	19.0	0.0	2.0		22.7	74.7	2.6	0.0	1.5		5.8	64.7	29.0	0.5	0.6		
Total %	2.7	3.0	1.9	0.0	0.3	7.6	19.2	2.1	5.0	0.0	0.5	26.3	6.6	21.8	0.8	0.0	0.4	29.3	2.1	23.9	10.7	0.2	0.2	36.9	
Cars, PU, Vans	417	470	301	0		1188	3006	344	781	2		4133	1059	3444	120	0		4623	340	3776	1677	28		5821	15765
% Cars, PU, Vans	97.0	98.3	97.1	0.0		97.5	97.5	99.7	97.0	100.0		97.6	99.0	97.9	97.6	0.0		98.1	99.1	98.3	97.3	100.0		98.0	97.9
Heavy trucks	13	8	9	0		30	78	1	24	0		103	11	74	3	0		88	3	66	47	0		116	337
%Heavy trucks	3.0	1.7	2.9	0.0		2.5	2.5	0.3	3.0	0.0		2.4	1.0	2.1	2.4	0.0		1.9	0.9	1.7	2.7	0.0		2.0	2.1

Project ID: 23-260065-001
 Location: Beauregard St & Little River Turnpike
 City: Alexandria

PEAK HOURS

Day: Thursday
 Date: 4/27/2023

PM

Start Time	Beauregard St Northbound					Beauregard St Southbound					Little River Turnpike Eastbound					Little River Turnpike Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	25	37	14	0	76	191	17	56	0	264	68	258	8	0	334	11	303	117	5	436	1110
5:15 PM	32	27	19	0	78	229	18	51	0	298	59	240	6	0	305	15	257	118	0	390	1071
5:30 PM	37	25	22	0	84	211	20	61	0	292	65	235	8	0	308	38	238	93	2	371	1055
5:45 PM	28	25	23	0	76	173	28	30	0	231	69	268	12	0	349	25	267	119	0	411	1067
Total Volume	122	114	78	0	314	804	83	198	0	1085	261	1001	34	0	1296	89	1065	447	7	1608	4303
% App. Total	38.9	36.3	24.8	0.0	100	74.1	7.6	18.2	0.0	100	20.1	77.2	2.6	0.0	100	5.5	66.2	27.8	0.4	100	
PHF	0.929					0.901					0.924					0.928					0.971
Cars, PU, Vans	117	112	76	0	305	784	83	194	0	1061	260	978	33	0	1271	88	1047	433	7	1575	4212
% Cars, PU, Vans	95.9	98.2	97.4	0.0	97.1	97.5	100.0	98.0	0.0	97.8	99.6	97.7	97.1	0.0	98.1	98.9	98.3	96.9	100.0	97.9	97.9
Heavy trucks	5	2	2	0	9	20	0	4	0	24	1	23	1	0	25	1	18	14	0	33	91
% Heavy trucks	4.1	1.8	2.6	0.0	2.9	2.5	0.0	2.0	0.0	2.2	0.4	2.3	2.9	0.0	1.9	1.1	1.7	3.1	0.0	2.1	2.1



National Data & Surveying Services Intersection Turning Movement Count

Location: Gloucester Rd/Lincolnia Rd & Beaugard St
City: Alexandria
Control: Signalized

Project ID: 23-260065-003
Date: 4/27/2023

Data - Total

NS/EW Streets:	Gloucester Rd/Lincolnia Rd				Gloucester Rd/Lincolnia Rd				Beaugard St				Beaugard St				TOTAL
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	30	0	15	0	0	0	2	0	2	95	15	0	12	95	0	0	266
3:45 PM	42	0	12	0	0	1	2	0	2	115	18	0	11	115	0	0	318
4:00 PM	43	1	14	0	0	1	1	0	1	116	31	1	15	108	1	0	333
4:15 PM	51	0	9	0	0	0	1	0	6	73	22	2	12	114	0	1	291
4:30 PM	63	0	14	0	0	0	1	0	0	105	35	3	16	93	1	1	332
4:45 PM	54	0	11	0	0	0	0	0	1	109	23	2	9	120	0	0	329
5:00 PM	54	0	19	0	0	0	1	0	2	102	25	0	7	102	1	0	313
5:15 PM	47	0	19	0	1	0	1	0	1	112	28	3	9	113	0	0	334
5:30 PM	41	1	9	0	0	0	1	0	1	110	22	0	9	97	0	0	291
5:45 PM	52	0	9	0	1	0	3	0	1	118	29	1	10	88	0	0	312
6:00 PM	46	0	16	0	0	0	1	0	1	94	27	1	10	99	0	1	296
6:15 PM	48	0	10	0	0	0	0	0	0	102	42	0	16	112	0	0	330
6:30 PM	54	0	15	0	0	1	1	0	3	101	23	2	11	114	0	0	325
6:45 PM	48	0	13	0	0	0	2	0	3	104	21	0	14	99	0	2	306
7:00 PM	54	0	15	0	1	0	0	0	1	94	24	0	6	101	0	0	296
7:15 PM	52	0	9	0	0	0	0	0	0	89	24	1	7	95	0	0	277
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	779	2	209	0	3	3	17	0	25	1639	409	16	174	1665	3	5	4949
APPROACH %'s:	78.69%	0.20%	21.11%	0.00%	13.04%	13.04%	73.91%	0.00%	1.20%	78.46%	19.58%	0.77%	9.42%	90.15%	0.16%	0.27%	
PEAK HR:	04:30 PM - 05:30 PM																
PEAK HR VOL:	218	0	63	0	1	0	3	0	4	428	111	8	41	428	2	1	1308
PEAK HR FACTOR:	0.865	0.000	0.829	0.000	0.250	0.000	0.750	0.000	0.500	0.955	0.793	0.667	0.641	0.892	0.500	0.250	0.979
	0.912				0.500				0.957				0.915				



National Data & Surveying Services Intersection Turning Movement Count

Location: Gloucester Rd/Lincolnia Rd & Beauregard St
City: Alexandria
Control: Signalized

Project ID: 23-260065-003
Date: 4/27/2023

Data - Cars

NS/EW Streets:	Gloucester Rd/Lincolnia Rd				Gloucester Rd/Lincolnia Rd				Beauregard St				Beauregard St				TOTAL
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	28	0	13	0	0	0	1	0	2	95	13	0	12	95	0	0	259
3:45 PM	38	0	12	0	0	1	2	0	2	115	18	0	10	113	0	0	311
4:00 PM	40	1	14	0	0	0	1	0	1	111	27	1	15	105	0	0	316
4:15 PM	50	0	9	0	0	0	1	0	6	72	20	2	12	114	0	1	287
4:30 PM	60	0	14	0	0	0	1	0	0	104	34	3	16	89	0	1	322
4:45 PM	51	0	11	0	0	0	0	0	1	108	23	2	9	120	0	0	325
5:00 PM	53	0	19	0	0	0	1	0	2	99	22	0	7	100	1	0	304
5:15 PM	44	0	18	0	1	0	1	0	1	112	26	3	8	113	0	0	327
5:30 PM	40	1	9	0	0	0	1	0	1	110	20	0	9	96	0	0	287
5:45 PM	49	0	9	0	1	0	2	0	0	118	27	1	10	88	0	0	305
6:00 PM	44	0	16	0	0	0	1	0	1	94	26	1	10	99	0	1	293
6:15 PM	47	0	10	0	0	0	0	0	0	100	40	0	16	110	0	0	323
6:30 PM	51	0	15	0	0	1	1	0	3	100	21	2	10	112	0	0	316
6:45 PM	46	0	13	0	0	0	2	0	2	104	20	0	13	98	0	2	300
7:00 PM	52	0	15	0	1	0	0	0	1	94	22	0	6	100	0	0	291
7:15 PM	51	0	9	0	0	0	0	0	0	89	23	1	6	95	0	0	274
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	744	2	206	0	3	2	15	0	23	1625	382	16	169	1647	1	5	4840
APPROACH %'s:	78.15%	0.21%	21.64%	0.00%	15.00%	10.00%	75.00%	0.00%	1.12%	79.42%	18.67%	0.78%	9.28%	90.40%	0.05%	0.27%	
PEAK HR:	04:30 PM - 05:30 PM																
PEAK HR VOL:	208	0	62	0	1	0	3	0	4	423	105	8	40	422	1	1	1278
PEAK HR FACTOR:	0.867	0.000	0.816	0.000	0.250	0.000	0.750	0.000	0.500	0.944	0.772	0.667	0.625	0.879	0.250	0.250	0.977
	0.912				0.500				0.951				0.899				



National Data & Surveying Services Intersection Turning Movement Count

Location: Gloucester Rd/Lincolnia Rd & Bearegard St
City: Alexandria
Control: Signalized

Project ID: 23-260065-003
Date: 4/27/2023

Data - HT

NS/EW Streets:	Gloucester Rd/Lincolnia Rd				Gloucester Rd/Lincolnia Rd				Bearegard St				Bearegard St				TOTAL
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	7
3:45 PM	4	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	7
4:00 PM	3	0	0	0	0	1	0	0	0	5	4	0	0	3	1	0	17
4:15 PM	1	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	4
4:30 PM	3	0	0	0	0	0	0	0	0	1	1	0	0	4	1	0	10
4:45 PM	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4
5:00 PM	1	0	0	0	0	0	0	0	0	3	3	0	0	2	0	0	9
5:15 PM	3	0	1	0	0	0	0	0	0	0	2	0	1	0	0	0	7
5:30 PM	1	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	4
5:45 PM	3	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	7
6:00 PM	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3
6:15 PM	1	0	0	0	0	0	0	0	0	2	2	0	0	2	0	0	7
6:30 PM	3	0	0	0	0	0	0	0	0	1	2	0	1	2	0	0	9
6:45 PM	2	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	6
7:00 PM	2	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	5
7:15 PM	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	3
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	35	0	3	0	0	1	2	0	2	14	27	0	5	18	2	0	109
APPROACH %'s:	92.11%	0.00%	7.89%	0.00%	0.00%	33.33%	66.67%	0.00%	4.65%	32.56%	62.79%	0.00%	20.00%	72.00%	8.00%	0.00%	
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	10	0	1	0	0	0	0	0	0	5	6	0	1	6	1	0	30
PEAK HR FACTOR:	0.833	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.500	0.000	0.250	0.375	0.250	0.000	0.750
	0.688								0.458				0.400				



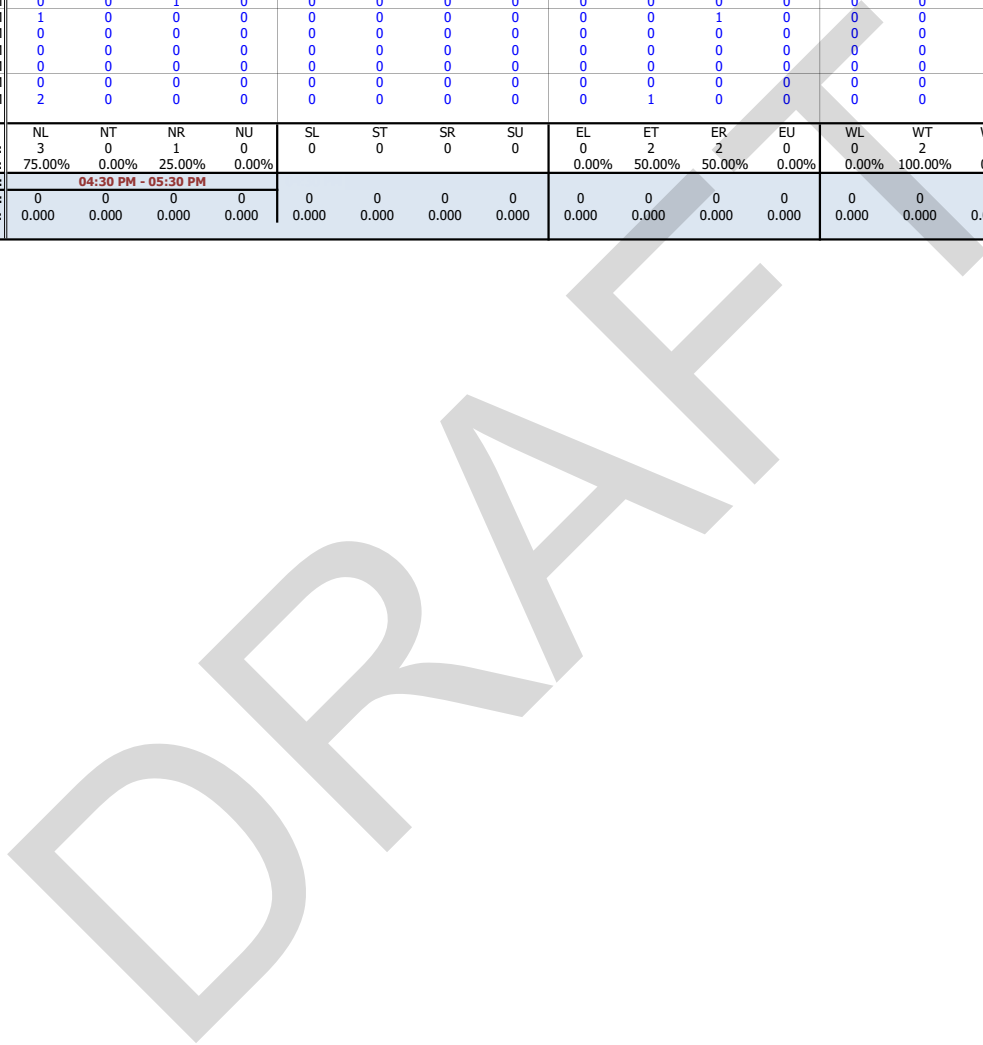
National Data & Surveying Services Intersection Turning Movement Count

Location: Gloucester Rd/Lincolnia Rd & Bearegard St
City: Alexandria
Control: Signalized

Project ID: 23-260065-003
Date: 4/27/2023

Data - Bikes

NS/EW Streets:	Gloucester Rd/Lincolnia Rd				Gloucester Rd/Lincolnia Rd				Bearegard St				Bearegard St				TOTAL
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	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	1	0	0	0
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	75.00%	0.00%	25.00%	0.00%	0	0	0	0	0.00%	50.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%	10
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0



National Data & Surveying Services Intersection Turning Movement Count

Location: Gloucester Rd/Lincolnia Rd & Beaugard St
City: Alexandria

Project ID: 23-260065-003
Date: 4/27/2023

Data - Pedestrians (Crosswalks)

NS/EW Streets:		Gloucester Rd/Lincolnia Rd		Gloucester Rd/Lincolnia Rd		Beaugard St		Beaugard St		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL	
	EB	WB	EB	WB	NB	SB	NB	SB		
3:30 PM	0	0	0	3	0	0	0	0	3	
3:45 PM	0	0	1	3	0	0	0	0	4	
4:00 PM	1	2	2	0	1	1	0	1	8	
4:15 PM	0	1	2	2	0	0	0	0	5	
4:30 PM	0	0	2	2	0	0	0	0	4	
4:45 PM	0	0	1	0	0	0	2	0	3	
5:00 PM	0	0	2	1	0	0	1	1	5	
5:15 PM	2	0	6	1	0	1	3	1	14	
5:30 PM	0	0	1	0	0	1	0	2	4	
5:45 PM	1	0	0	2	0	1	0	0	4	
6:00 PM	0	1	2	1	1	0	0	2	7	
6:15 PM	0	0	4	1	0	0	0	1	6	
6:30 PM	0	2	2	5	1	0	0	1	11	
6:45 PM	1	0	2	2	0	1	0	0	6	
7:00 PM	0	0	0	2	0	0	0	0	2	
7:15 PM	1	0	1	2	0	0	0	1	5	
TOTAL VOLUMES :	EB 6	WB 6	EB 28	WB 27	NB 3	SB 5	NB 6	SB 10	TOTAL 91	
APPROACH %'s :	50.00%	50.00%	50.91%	49.09%	37.50%	62.50%	37.50%	62.50%		
PEAK HR :	04:30 PM - 05:30 PM									
PEAK HR VOL :	2	0	11	4	0	1	6	2	TOTAL 26	
PEAK HR FACTOR :	0.250		0.458	0.500		0.250	0.500	0.500	0.464	
		0.250		0.536		0.250		0.500		

Project ID: 23-260065-003

Location: Gloucester Rd/Lincolnia Rd & Beauregard St
 City: Alexandria

Day: Thursday
 Date: 4/27/2023

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Gloucester Rd/Lincolnia Rd Northbound						Gloucester Rd/Lincolnia Rd Southbound						Beauregard St Eastbound						Beauregard St Westbound						Int. Total		
	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total			
3:30 PM	30	0	15	0	3	45	0	0	2	0	0	2	2	95	15	0	0	112	12	95	0	0	0	107	266		
3:45 PM	42	0	12	0	4	54	0	1	2	0	0	3	2	115	18	0	0	135	11	115	0	0	0	126	318		
Total	72	0	27	0	7	99	0	1	4	0	0	5	4	210	33	0	0	247	23	210	0	0	0	233	584		
4:00 PM	43	1	14	0	2	58	0	1	1	0	3	2	1	116	31	1	1	149	15	108	1	0	2	124	333		
4:15 PM	51	0	9	0	4	60	0	0	1	0	1	1	6	73	22	2	0	103	12	114	0	1	0	127	291		
4:30 PM	63	0	14	0	4	77	0	0	1	0	0	1	0	105	35	3	0	143	16	93	1	1	0	111	332		
4:45 PM	54	0	11	0	1	65	0	0	0	0	0	0	1	109	23	2	2	135	9	120	0	0	0	129	329		
Total	211	1	48	0	11	260	0	1	3	0	4	4	8	403	111	8	3	530	52	435	2	2	2	491	1285		
5:00 PM	54	0	19	0	3	73	0	0	1	0	0	1	2	102	25	0	2	129	7	102	1	0	0	110	313		
5:15 PM	47	0	19	0	7	66	1	0	1	0	2	2	1	112	28	3	4	144	9	113	0	0	1	122	334		
5:30 PM	41	1	9	0	1	51	0	0	1	0	0	1	1	110	22	0	2	133	9	97	0	0	1	106	291		
5:45 PM	52	0	9	0	2	61	1	0	3	0	1	4	1	118	29	1	0	149	10	88	0	0	1	98	312		
Total	194	1	56	0	13	251	2	0	6	0	3	8	5	442	104	4	8	555	35	400	1	0	3	436	1250		
6:00 PM	46	0	16	0	3	62	0	0	1	0	1	1	1	94	27	1	2	123	10	99	0	1	1	110	296		
6:15 PM	48	0	10	0	5	58	0	0	0	0	0	0	0	102	42	0	1	144	16	112	0	0	0	128	330		
6:30 PM	54	0	15	0	7	69	0	1	1	0	2	2	3	101	23	2	1	129	11	114	0	0	1	125	325		
6:45 PM	48	0	13	0	4	61	0	0	2	0	1	2	3	104	21	0	0	128	14	99	0	2	1	115	306		
Total	196	0	54	0	19	250	0	1	4	0	4	5	7	401	113	3	4	524	51	424	0	3	3	478	1257		
7:00 PM	54	0	15	0	2	69	1	0	0	0	0	1	1	94	24	0	0	119	6	101	0	0	0	107	296		
7:15 PM	52	0	9	0	3	61	0	0	0	0	1	0	0	89	24	1	1	114	7	95	0	0	0	102	277		
Total	106	0	24	0	5	130	1	0	0	0	1	1	1	183	48	1	1	233	13	196	0	0	0	209	573		
Grand Total	779	2	209	0	55	990	3	3	17	0	12	23	25	1639	409	16	16	2089	174	1665	3	5	8	1847	4949		
Apprch %	78.7	0.2	21.1	0.0	5.6	13.0	13.0	73.9	0.0	52.2	0.5	1.2	78.5	19.6	0.8	0.8	9.4	90.1	0.2	0.3	0.4	3.5	33.6	0.1	0.1	0.2	37.3
Total %	15.7	0.0	4.2	0.0	1.1	20.0	0.1	0.1	0.3	0.0	0.2	0.5	0.5	33.1	8.3	0.3	0.3	42.2	3.5	33.6	0.1	0.1	0.2	37.3			
Cars, PU, Vans	744	2	206	0		952	3	2	15	0		20	23	1625	382	16		2046	169	1647	1	5		1822	4840		
% Cars, PU, Vans	95.5	100.0	98.6	0.0		96.2	100.0	66.7	88.2	0.0		87.0	92.0	99.1	93.4	100.0		97.9	97.1	98.9	33.3	100.0		98.6	97.8		
Heavy trucks	35	0	3	0		38	0	1	2	0		3	2	14	27	0		43	5	18	2	0		25	109		
% Heavy trucks	4.5	0.0	1.4	0.0		3.8	0.0	33.3	11.8	0.0		13.0	8.0	0.9	6.6	0.0		2.1	2.9	1.1	66.7	0.0		1.4	2.2		

Project ID: 23-260065-003

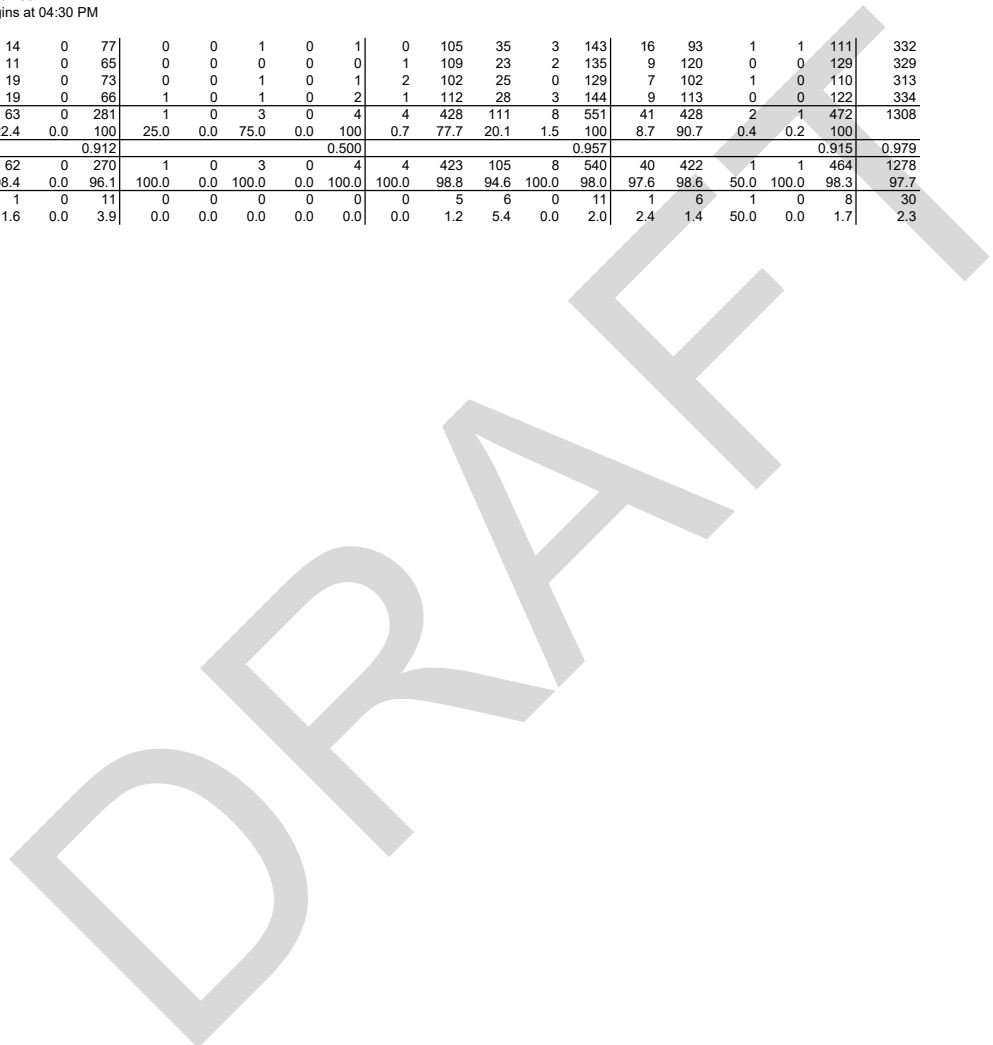
Location: Gloucester Rd/Lincolnia Rd & Beauregard St
 City: Alexandria

PEAK HOURS

Day: Thursday
 Date: 4/27/2023

PM

Start Time	Gloucester Rd/Lincolnia Rd Northbound					Gloucester Rd/Lincolnia Rd Southbound					Beauregard St Eastbound					Beauregard St Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	63	0	14	0	77	0	0	1	0	1	0	105	35	3	143	16	93	1	1	111	332
4:45 PM	54	0	11	0	65	0	0	0	0	0	1	109	23	2	135	9	120	0	0	129	329
5:00 PM	54	0	19	0	73	0	0	1	0	1	2	102	25	0	129	7	102	1	0	110	313
5:15 PM	47	0	19	0	66	1	0	1	0	2	1	112	28	3	144	9	113	0	0	122	334
Total Volume	218	0	63	0	281	1	0	3	0	4	4	428	111	8	551	41	428	2	1	472	1308
% App. Total	77.6	0.0	22.4	0.0	100	25.0	0.0	75.0	0.0	100	0.7	77.7	20.1	1.5	100	8.7	90.7	0.4	0.2	100	
PHF	0.912					0.500					0.957					0.915					0.979
Cars, PU, Vans	208	0	62	0	270	1	0	3	0	4	4	423	105	8	540	40	422	1	1	464	1278
% Cars, PU, Vans	95.4	0.0	98.4	0.0	96.1	100.0	0.0	100.0	0.0	100.0	100.0	98.8	94.6	100.0	98.0	97.6	98.6	50.0	100.0	98.3	97.7
Heavy trucks	10	0	1	0	11	0	0	0	0	0	0	5	6	0	11	1	6	1	0	8	30
% Heavy trucks	4.6	0.0	1.6	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	1.2	5.4	0.0	2.0	2.4	1.4	50.0	0.0	1.7	2.3



National Data & Surveying Services Intersection Turning Movement Count

Location: Quantrell Ave & Beaugard St
City: Alexandria
Control: Signalized

Project ID: 23-260065-004
Date: 4/27/2023

Data - Total

NS/EW Streets:	Quantrell Ave				Quantrell Ave				Beaugard St				Beaugard St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	1	0	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	21	0	11	0	0	0	0	0	0	89	17	0	15	84	0	0	237
3:45 PM	19	0	13	0	0	0	0	0	0	102	28	0	11	105	0	0	278
4:00 PM	25	0	22	0	0	0	0	0	0	108	23	0	18	104	0	0	300
4:15 PM	21	0	11	0	0	0	0	0	0	68	12	1	11	102	0	0	226
4:30 PM	17	0	30	0	0	0	0	0	0	103	19	0	6	92	0	0	267
4:45 PM	27	0	22	0	0	0	0	0	0	102	18	0	11	105	0	0	285
5:00 PM	18	0	22	0	0	0	0	0	0	97	22	0	10	89	0	0	258
5:15 PM	27	0	18	0	0	0	0	0	0	115	19	0	15	96	0	0	290
5:30 PM	14	0	23	0	0	0	0	0	0	105	12	0	14	91	0	0	259
5:45 PM	24	0	24	0	0	0	0	0	0	95	29	0	15	74	0	0	261
6:00 PM	20	0	31	0	0	0	0	0	0	100	17	0	15	92	0	0	275
6:15 PM	28	0	12	0	0	0	0	0	0	84	22	0	5	98	0	0	249
6:30 PM	28	0	25	0	0	0	0	0	0	93	26	2	13	100	0	0	287
6:45 PM	25	0	22	1	0	0	0	0	0	86	32	0	4	87	0	0	257
7:00 PM	28	0	21	2	0	0	0	0	0	94	18	0	12	77	0	0	252
7:15 PM	17	0	15	1	0	0	0	0	0	79	18	0	7	87	0	0	224
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	359	0	322	4	0	0	0	0	0	1520	332	3	182	1483	0	0	4205
APPROACH %'s:	52.41%	0.00%	47.01%	0.58%					0.00%	81.94%	17.90%	0.16%	10.93%	89.07%	0.00%	0.00%	
PEAK HR:	04:30 PM - 05:30 PM																
PEAK HR VOL:	89	0	92	0	0	0	0	0	0	417	78	0	42	382	0	0	1100
PEAK HR FACTOR:	0.824	0.000	0.767	0.000	0.000	0.000	0.000	0.000	0.000	0.907	0.886	0.000	0.700	0.910	0.000	0.000	0.948
	0.923								0.924				0.914				



National Data & Surveying Services Intersection Turning Movement Count

Location: Quantrell Ave & Beaugard St
City: Alexandria
Control: Signalized

Project ID: 23-260065-004
Date: 4/27/2023

Data - Cars

NS/EW Streets:	Quantrell Ave				Quantrell Ave				Beaugard St				Beaugard St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	1	0	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	21	0	11	0	0	0	0	0	0	87	17	0	14	84	0	0	234
3:45 PM	18	0	11	0	0	0	0	0	0	102	28	0	9	103	0	0	271
4:00 PM	24	0	22	0	0	0	0	0	0	105	21	0	15	101	0	0	288
4:15 PM	21	0	10	0	0	0	0	0	0	67	12	1	11	102	0	0	224
4:30 PM	16	0	30	0	0	0	0	0	0	103	18	0	6	88	0	0	261
4:45 PM	27	0	21	0	0	0	0	0	0	101	18	0	11	105	0	0	283
5:00 PM	17	0	22	0	0	0	0	0	0	94	22	0	10	88	0	0	253
5:15 PM	27	0	18	0	0	0	0	0	0	114	19	0	15	95	0	0	288
5:30 PM	13	0	23	0	0	0	0	0	0	105	12	0	14	91	0	0	258
5:45 PM	24	0	24	0	0	0	0	0	0	95	29	0	13	74	0	0	259
6:00 PM	20	0	31	0	0	0	0	0	0	100	17	0	15	92	0	0	275
6:15 PM	27	0	12	0	0	0	0	0	0	82	22	0	5	97	0	0	245
6:30 PM	28	0	25	0	0	0	0	0	0	93	26	2	13	97	0	0	284
6:45 PM	25	0	22	1	0	0	0	0	0	86	32	0	4	84	0	0	254
7:00 PM	28	0	21	2	0	0	0	0	0	93	18	0	12	77	0	0	251
7:15 PM	17	0	15	1	0	0	0	0	0	79	18	0	7	85	0	0	222
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	353	0	318	4	0	0	0	0	0	1506	329	3	174	1463	0	0	4150
APPROACH %'s:	52.30%	0.00%	47.11%	0.59%					0.00%	81.94%	17.90%	0.16%	10.63%	89.37%	0.00%	0.00%	
PEAK HR:	04:30 PM - 05:30 PM																
PEAK HR VOL:	87	0	91	0	0	0	0	0	0	412	77	0	42	376	0	0	1085
PEAK HR FACTOR:	0.806	0.000	0.758	0.000	0.000	0.000	0.000	0.000	0.000	0.904	0.875	0.000	0.700	0.895	0.000	0.000	0.942
	0.927								0.919				0.901				



National Data & Surveying Services Intersection Turning Movement Count

Location: Quantrell Ave & Beaugard St
City: Alexandria
Control: Signalized

Project ID: 23-260065-004
Date: 4/27/2023

Data - HT

NS/EW Streets:	Quantrell Ave				Quantrell Ave				Beaugard St				Beaugard St				TOTAL
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	0	1	0	0	0	0	0	0	0	2	1	0	1	2	0	0	3
3:45 PM	1	0	2	0	0	0	0	0	0	0	0	0	2	2	0	0	7
4:00 PM	1	0	0	0	0	0	0	0	0	3	2	0	3	3	0	0	12
4:15 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
4:30 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	4	0	0	6
4:45 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
5:00 PM	1	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	5
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	4
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
7:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	60.00%	0.00%	40.00%	0.00%	0	0	0	0	0.00%	82.35%	17.65%	0.00%	28.57%	71.43%	0.00%	0.00%	55
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	2	0	1	0	0	0	0	0	0	5	1	0	0	6	0	0	15
PEAK HR FACTOR:	0.500	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.250	0.000	0.000	0.375	0.000	0.000	0.625
	0.750								0.500				0.375				

DRAFT

National Data & Surveying Services Intersection Turning Movement Count

Location: Quantrell Ave & Bearegard St
City: Alexandria
Control: Signalized

Project ID: 23-260065-004
Date: 4/27/2023

Data - Bikes

NS/EW Streets:	Quantrell Ave				Quantrell Ave				Bearegard St				Bearegard St				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	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	1	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	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	1	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	0.00%	100.00%	0.00%	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	6
PEAK HR:	04:30 PM - 05:30 PM																
PEAK HR VOL:	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR:	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250

DRAFT

National Data & Surveying Services Intersection Turning Movement Count

Location: Quantrell Ave & Bearegard St
City: Alexandria

Project ID: 23-260065-004
Date: 4/27/2023

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Quantrell Ave		Quantrell Ave		Bearegard St		Bearegard St		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM	0	0	0	1	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	1	0	0	0	0	2
4:15 PM	0	0	1	2	0	0	0	0	3
4:30 PM	0	0	2	1	0	0	0	0	3
4:45 PM	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	1	3	0	0	0	0	4
5:15 PM	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	3	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	2	0	0	0	0	2
6:15 PM	0	0	6	1	0	0	0	0	7
6:30 PM	0	0	2	1	0	0	0	0	3
6:45 PM	0	0	2	3	0	0	0	0	5
7:00 PM	0	0	1	2	0	0	0	0	3
7:15 PM	0	0	1	1	0	0	0	0	2
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	21	19	0	0	0	0	40
			52.50%	47.50%					
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	4	5	0	0	0	0	9
PEAK HR FACTOR :			0.500	0.417					0.563
			0.563						

Quantrell Ave & Beauregard St

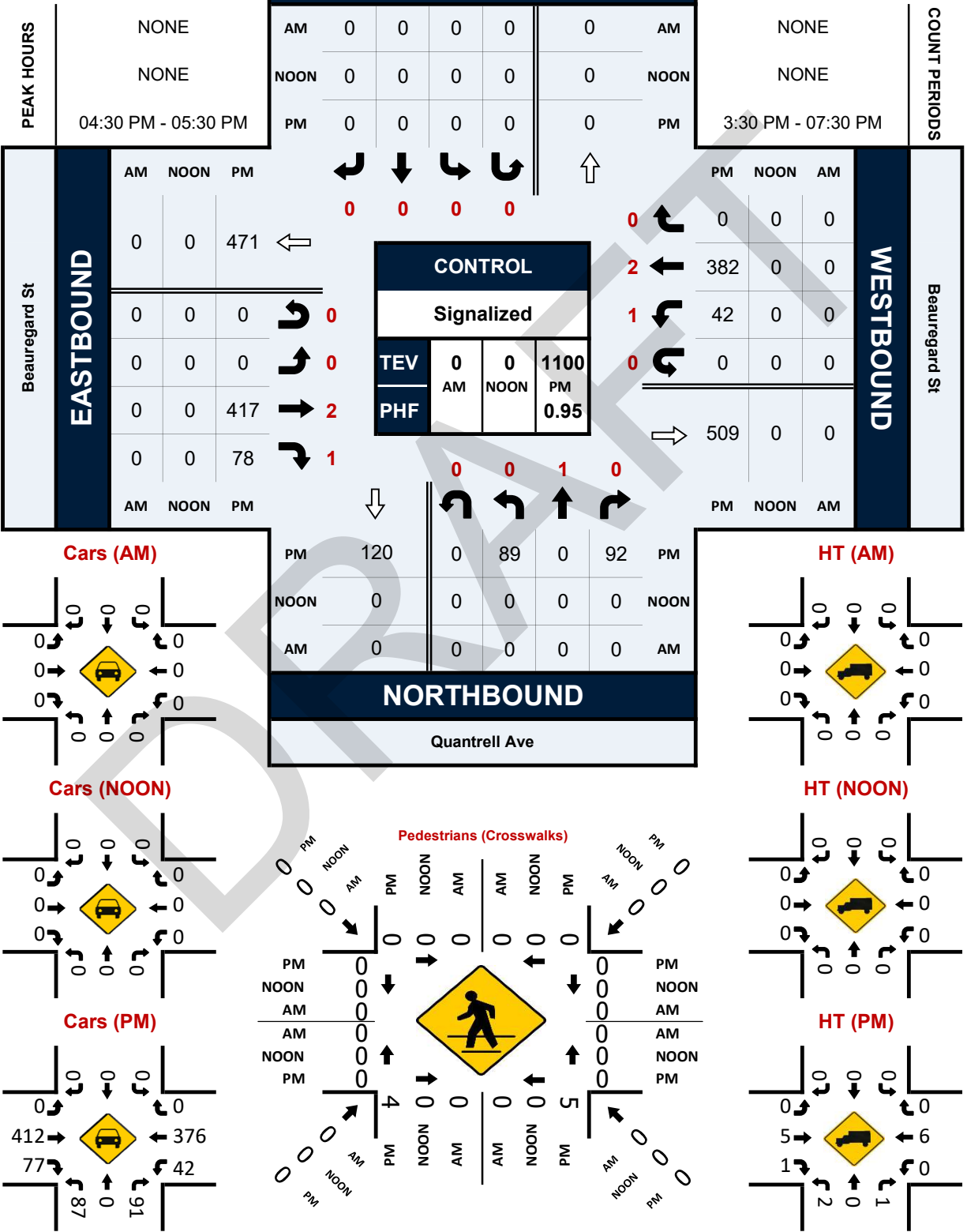
Peak Hour Turning Movement Count

ID: 23-260065-004

City: Alexandria

Day: Thursday

Date: 4/27/2023



Project ID: 23-26065-004
 Location: Quantrell Ave & Beauregard St
 City: Alexandria

Day: Thursday
 Date: 4/27/2023

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Quantrell Ave Northbound						Quantrell Ave Southbound						Beauregard St Eastbound						Beauregard St Westbound						Int. Total
	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	
3:30 PM	21	0	11	0	1	32	0	0	0	0	0	0	0	89	17	0	0	106	15	84	0	0	0	99	237
3:45 PM	19	0	13	0	0	32	0	0	0	0	0	0	0	102	28	0	0	130	11	105	0	0	0	116	278
Total	40	0	24	0	1	64	0	0	0	0	0	0	0	191	45	0	0	236	26	189	0	0	0	215	515
4:00 PM	25	0	22	0	2	47	0	0	0	0	0	0	0	108	23	0	0	131	18	104	0	0	0	122	300
4:15 PM	21	0	11	0	3	32	0	0	0	0	0	0	0	68	12	1	0	81	11	102	0	0	0	113	226
4:30 PM	17	0	30	0	3	47	0	0	0	0	0	0	0	103	19	0	0	122	6	92	0	0	0	98	267
4:45 PM	27	0	22	0	1	49	0	0	0	0	0	0	0	102	18	0	0	120	11	105	0	0	0	116	285
Total	90	0	85	0	9	175	0	0	0	0	0	0	0	381	72	1	0	454	46	403	0	0	0	449	1078
5:00 PM	18	0	22	0	4	40	0	0	0	0	0	0	0	97	22	0	0	119	10	89	0	0	0	99	258
5:15 PM	27	0	18	0	1	45	0	0	0	0	0	0	0	115	19	0	0	134	15	96	0	0	0	111	290
5:30 PM	14	0	23	0	3	37	0	0	0	0	0	0	0	105	12	0	0	117	14	91	0	0	0	105	259
5:45 PM	24	0	24	0	0	48	0	0	0	0	0	0	0	95	29	0	0	124	15	74	0	0	0	89	261
Total	83	0	87	0	8	170	0	0	0	0	0	0	0	412	82	0	0	494	54	350	0	0	0	404	1068
6:00 PM	20	0	31	0	2	51	0	0	0	0	0	0	0	100	17	0	0	117	15	92	0	0	0	107	275
6:15 PM	28	0	12	0	7	40	0	0	0	0	0	0	0	84	22	0	0	106	5	98	0	0	0	103	249
6:30 PM	28	0	25	0	3	53	0	0	0	0	0	0	0	93	26	2	0	121	13	100	0	0	0	113	287
6:45 PM	25	0	22	1	5	48	0	0	0	0	0	0	0	86	32	0	0	118	4	87	0	0	0	91	257
Total	101	0	90	1	17	192	0	0	0	0	0	0	0	363	97	2	0	462	37	377	0	0	0	414	1068
7:00 PM	28	0	21	2	3	51	0	0	0	0	0	0	0	94	18	0	0	112	12	77	0	0	0	89	252
7:15 PM	17	0	15	1	2	33	0	0	0	0	0	0	0	79	18	0	0	97	7	87	0	0	0	94	224
Total	45	0	36	3	5	84	0	0	0	0	0	0	0	173	36	0	0	209	19	164	0	0	0	183	476
Grand Total	359	0	322	4	40	685	0	0	0	0	0	0	0	1520	332	3	0	1855	182	1483	0	0	0	1665	4205
Apprch %	52.4	0.0	47.0	0.6	5.8		0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.9	17.9	0.2	0.0		10.9	89.1	0.0	0.0	0.0		
Total %	8.5	0.0	7.7	0.1	1.0	16.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	7.9	0.1	0.0	44.1	4.3	35.3	0.0	0.0	0.0	39.6	
Cars, PU, Vans	353	0	318	4		675	0	0	0	0	0	0	0	1506	329	3		1838	174	1463	0	0		1637	4150
% Cars, PU, Vans	98.3	0.0	98.8	100.0		98.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.1	99.1	100.0		99.1	95.6	98.7	0.0	0.0		98.3	98.7
Heavy trucks	6	0	4	0		10	0	0	0	0	0	0	0	14	3	0		17	8	20	0	0		28	55
%Heavy trucks	1.7	0.0	1.2	0.0		1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.0		0.9	4.4	1.3	0.0	0.0		1.7	1.3

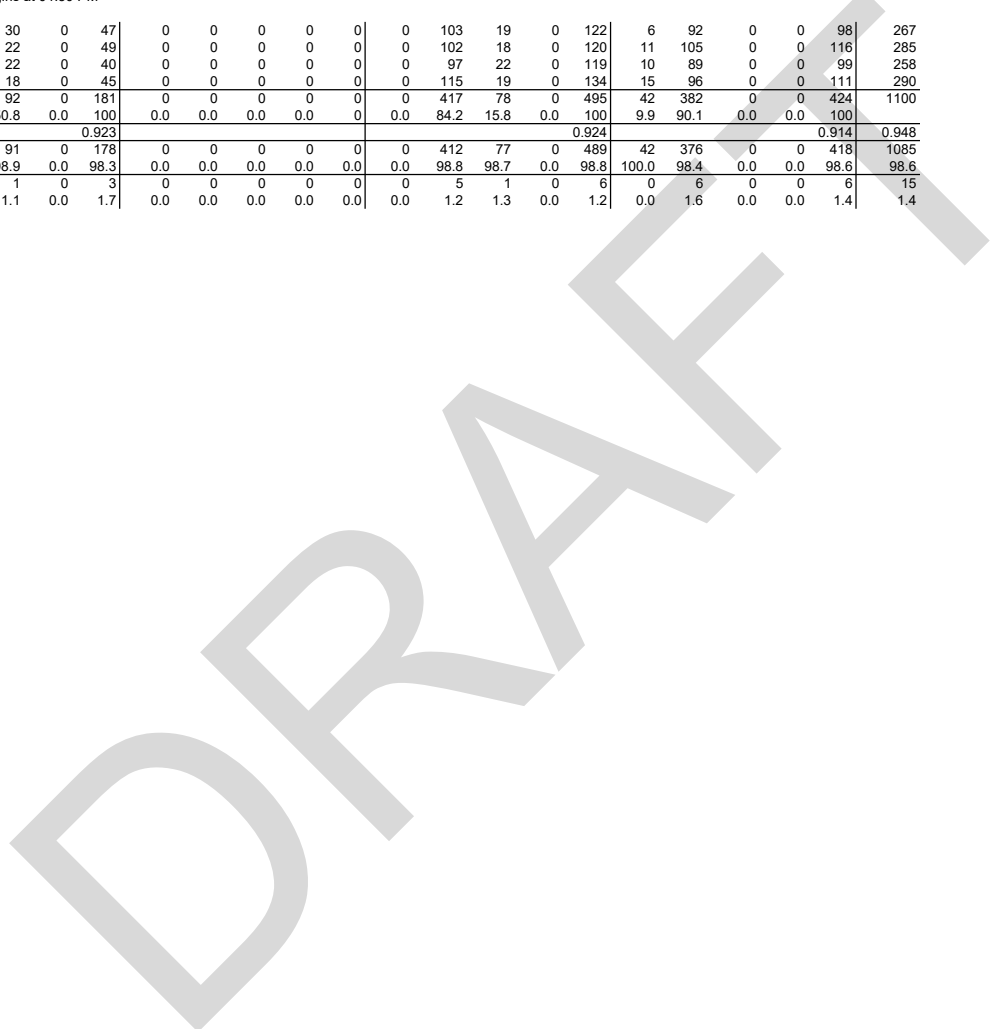
Project ID: 23-260065-004
 Location: Quantrell Ave & Beauregard St
 City: Alexandria

PEAK HOURS

Day: Thursday
 Date: 4/27/2023

PM

Start Time	Quantrell Ave Northbound					Quantrell Ave Southbound					Beauregard St Eastbound					Beauregard St Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	17	0	30	0	47	0	0	0	0	0	0	103	19	0	122	6	92	0	0	98	267
4:45 PM	27	0	22	0	49	0	0	0	0	0	0	102	18	0	120	11	105	0	0	116	285
5:00 PM	18	0	22	0	40	0	0	0	0	0	0	97	22	0	119	10	89	0	0	99	258
5:15 PM	27	0	18	0	45	0	0	0	0	0	0	115	19	0	134	15	96	0	0	111	290
Total Volume	89	0	92	0	181	0	0	0	0	0	0	417	78	0	495	42	382	0	0	424	1100
% App. Total	49.2	0.0	50.8	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	84.2	15.8	0.0	100	9.9	90.1	0.0	0.0	100	
PHF	0.923										0.924					0.914					0.948
Cars, PU, Vans	87	0	91	0	178	0	0	0	0	0	0	412	77	0	489	42	376	0	0	418	1085
% Cars, PU, Vans	97.8	0.0	98.9	0.0	98.3	0.0	0.0	0.0	0.0	0.0	0.0	98.8	98.7	0.0	98.8	100.0	98.4	0.0	0.0	98.6	98.6
Heavy trucks	2	0	1	0	3	0	0	0	0	0	0	5	1	0	6	0	6	0	0	6	15
%Heavy trucks	2.2	0.0	1.1	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.3	0.0	1.2	0.0	1.6	0.0	0.0	1.4	1.4



National Data & Surveying Services Intersection Turning Movement Count

Location: Sanger Ave & Beauregard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-005
Date: 12/13/2022

Data - Total

NS/EW Streets:	Sanger Ave				Sanger Ave				Beauregard St				Beauregard St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	0.5	0.5	1	0	0.5	1	0.5	0	1	2	0	0	1	2	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	13	4	17	0	8	13	10	0	1	33	14	0	11	14	4	0	142
6:15 AM	14	3	24	0	14	9	8	0	5	49	15	0	12	21	6	1	181
6:30 AM	16	4	26	0	15	4	5	0	7	53	23	0	23	28	5	0	209
6:45 AM	24	5	40	0	6	7	15	0	3	61	27	0	18	27	5	0	238
7:00 AM	23	10	26	0	10	12	13	0	12	65	21	0	20	44	12	0	268
7:15 AM	21	22	68	0	13	4	12	0	16	101	33	1	29	33	8	0	361
7:30 AM	30	18	70	0	16	14	15	0	27	140	53	0	27	52	18	0	480
7:45 AM	26	24	77	0	21	26	38	0	36	112	39	0	43	60	10	0	512
8:00 AM	39	20	75	0	22	21	29	0	22	101	55	0	60	60	10	0	514
8:15 AM	40	10	71	0	5	13	10	1	9	113	44	0	48	55	4	0	423
8:30 AM	28	11	51	0	7	7	9	0	4	91	40	1	42	49	3	1	344
8:45 AM	33	11	80	0	10	12	8	1	4	83	29	1	42	42	7	0	363
9:00 AM	27	6	48	0	3	6	10	0	7	80	38	0	42	52	6	0	325
9:15 AM	21	7	37	0	5	11	7	0	4	57	26	0	41	28	4	0	248
9:30 AM	22	4	40	0	4	7	9	0	10	58	38	0	31	48	2	1	274
9:45 AM	28	7	31	0	5	14	5	0	6	60	35	0	30	40	4	0	265
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	29.96%	12.28%	57.77%	0.00%	29.87%	32.79%	36.98%	0.36%	8.81%	64.03%	27.00%	0.15%	40.45%	50.90%	8.42%	0.23%	5147
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	135	72	293	0	64	74	92	1	94	466	191	0	178	227	42	0	1929
PEAK HR FACTOR:	0.844	0.750	0.951	0.000	0.727	0.712	0.605	0.250	0.653	0.832	0.868	0.000	0.742	0.946	0.583	0.000	0.938
	0.933				0.679				0.853				0.860				
PM	0.5	0.5	1	0	0.5	1	0.5	0	1	2	0	0	1	2	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	38	11	36	0	11	11	8	0	8	73	40	0	54	89	11	0	390
3:45 PM	35	15	37	0	8	14	8	0	12	80	49	0	60	94	15	0	427
4:00 PM	43	11	45	0	16	23	21	0	16	69	48	1	66	94	8	0	461
4:15 PM	36	11	50	0	10	14	20	0	11	74	62	1	59	108	12	0	468
4:30 PM	41	10	53	0	11	14	7	0	7	76	61	0	74	96	9	0	459
4:45 PM	48	9	30	0	15	11	7	0	11	96	99	1	66	133	18	1	545
5:00 PM	46	17	38	0	13	13	11	0	13	98	69	1	58	96	10	0	483
5:15 PM	44	7	51	0	14	12	11	0	9	112	94	1	65	101	15	0	536
5:30 PM	47	21	40	0	9	23	11	0	19	85	77	0	81	88	20	0	521
5:45 PM	42	11	42	0	12	11	17	0	16	96	78	0	56	85	13	0	479
6:00 PM	47	10	54	0	10	17	11	0	9	87	86	0	66	87	22	0	506
6:15 PM	53	12	42	0	14	14	7	0	8	70	75	0	75	75	13	1	459
6:30 PM	60	9	42	0	4	4	5	0	2	82	81	0	55	92	6	0	442
6:45 PM	50	8	50	0	3	6	4	0	11	65	74	1	57	70	8	0	407
7:00 PM	38	9	25	0	9	4	9	0	11	74	79	0	34	65	5	0	362
7:15 PM	32	5	29	0	8	8	7	0	7	61	58	0	42	78	3	0	338
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	45.45%	11.43%	43.12%	0.00%	31.51%	37.55%	30.94%	0.00%	6.53%	49.85%	43.39%	0.23%	37.10%	55.62%	7.21%	0.08%	7283
PEAK HR:	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL:	185	54	159	0	51	59	40	0	52	391	339	3	270	418	63	1	2085
PEAK HR FACTOR:	0.964	0.643	0.779	0.000	0.850	0.641	0.909	0.000	0.684	0.873	0.856	0.750	0.833	0.786	0.788	0.250	0.956
	0.921				0.872				0.909				0.862				

National Data & Surveying Services Intersection Turning Movement Count

Location: Sanger Ave & Beaugard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-005
Date: 12/13/2022

Data - Cars

NS/EW Streets:	Sanger Ave				Sanger Ave				Beaugard St				Beaugard St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	0.5	0.5	1	0	0.5	1	0.5	0	1	2	0	0	1	2	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	13	4	17	0	8	12	10	0	1	32	13	0	11	14	4	0	139
6:15 AM	14	3	22	0	13	9	8	0	5	49	15	0	12	19	6	1	176
6:30 AM	16	4	26	0	15	4	5	0	7	50	22	0	22	28	5	0	204
6:45 AM	20	5	39	0	6	7	15	0	3	58	27	0	18	25	4	0	227
7:00 AM	20	9	26	0	10	11	12	0	12	59	20	0	19	43	12	0	253
7:15 AM	20	21	64	0	13	4	11	0	12	98	29	1	28	30	8	0	339
7:30 AM	28	17	70	0	14	13	13	0	26	135	51	0	24	51	18	0	460
7:45 AM	25	24	76	0	21	24	36	0	35	109	36	0	41	58	10	0	495
8:00 AM	36	20	73	0	22	20	29	0	22	101	51	0	60	55	10	0	499
8:15 AM	39	10	69	0	5	13	10	1	9	110	43	0	47	52	4	0	412
8:30 AM	27	11	51	0	7	7	9	0	4	88	40	1	42	48	3	1	339
8:45 AM	33	11	79	0	10	12	7	1	4	81	28	1	40	40	7	0	354
9:00 AM	27	4	48	0	3	5	10	0	6	77	38	0	41	50	5	0	314
9:15 AM	20	7	37	0	4	11	7	0	4	52	26	0	39	26	4	0	237
9:30 AM	20	4	39	0	3	7	8	0	9	57	38	0	31	46	2	1	265
9:45 AM	26	7	30	0	5	13	5	0	6	59	35	0	30	39	4	0	259
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	29.29%	12.28%	58.43%	0.00%	30.11%	32.58%	36.93%	0.38%	8.71%	64.12%	27.02%	0.16%	40.79%	50.40%	8.56%	0.24%	4972
PEAK HR:	07:30 AM - 08:30 AM																
PEAK HR VOL:	128	71	288	0	62	70	88	1	92	455	181	0	172	216	42	0	1866
PEAK HR FACTOR:	0.821	0.740	0.947	0.000	0.705	0.729	0.611	0.250	0.657	0.843	0.887	0.000	0.717	0.931	0.583	0.000	0.935
	0.944				0.682				0.858				0.860				

NS/EW Streets:	Sanger Ave				Sanger Ave				Beaugard St				Beaugard St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0.5	0.5	1	0	0.5	1	0.5	0	1	2	0	0	1	2	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	35	9	36	0	10	10	7	0	8	70	40	0	53	84	11	0	373
3:45 PM	34	15	35	0	8	13	8	0	11	75	47	0	57	92	14	0	409
4:00 PM	41	11	43	0	16	23	19	0	16	68	46	1	66	91	8	0	449
4:15 PM	35	11	48	0	10	13	19	0	11	71	58	1	58	105	10	0	450
4:30 PM	41	10	53	0	11	13	7	0	7	75	60	0	74	94	8	0	453
4:45 PM	47	9	30	0	15	11	7	0	11	93	97	1	63	128	18	1	531
5:00 PM	45	17	37	0	13	13	11	0	12	96	68	1	57	94	10	0	474
5:15 PM	44	7	50	0	14	12	11	0	9	110	94	1	65	99	15	0	531
5:30 PM	47	21	40	0	9	23	11	0	19	83	76	0	80	88	20	0	517
5:45 PM	41	11	41	0	12	11	17	0	16	96	78	0	54	82	13	0	472
6:00 PM	47	10	54	0	10	17	11	0	9	84	85	0	64	85	22	0	498
6:15 PM	52	12	42	0	14	14	7	0	8	70	75	0	73	74	13	1	455
6:30 PM	60	9	42	0	4	4	5	0	2	81	81	0	55	90	6	0	439
6:45 PM	49	8	49	0	3	6	4	0	11	63	74	1	56	68	8	0	400
7:00 PM	38	9	25	0	9	4	9	0	11	71	79	0	34	63	5	0	357
7:15 PM	29	5	28	0	8	8	7	0	7	60	58	0	42	77	3	0	332
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	45.30%	11.51%	43.19%	0.00%	31.86%	37.43%	30.71%	0.00%	6.57%	49.53%	43.66%	0.23%	37.28%	55.43%	7.21%	0.08%	7140
PEAK HR:	04:45 PM - 05:45 PM																
PEAK HR VOL:	183	54	157	0	51	59	40	0	51	382	335	3	265	409	63	1	2053
PEAK HR FACTOR:	0.973	0.643	0.785	0.000	0.850	0.641	0.909	0.000	0.671	0.868	0.863	0.750	0.828	0.799	0.788	0.250	0.967
	0.912				0.872				0.901				0.879				

National Data & Surveying Services Intersection Turning Movement Count

Location: Sanger Ave & Beauregard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-005
Date: 12/13/2022

Data - HT

NS/EW Streets:	Sanger Ave				Sanger Ave				Beauregard St				Beauregard St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	0.5 NL	0.5 NT	1 NR	0 NU	0.5 SL	1 ST	0.5 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:00 AM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	3
6:15 AM	0	0	2	0	1	0	0	0	0	0	0	0	0	2	0	0	5
6:30 AM	0	0	0	0	0	0	0	0	0	3	1	0	1	0	0	0	5
6:45 AM	4	0	1	0	0	0	0	0	0	3	0	0	0	2	1	0	11
7:00 AM	3	1	0	0	0	1	1	0	0	6	1	0	1	1	0	0	15
7:15 AM	1	1	4	0	0	0	1	0	4	3	4	0	1	3	0	0	22
7:30 AM	2	1	0	0	2	1	2	0	1	5	2	0	3	1	0	0	20
7:45 AM	1	0	1	0	0	2	2	0	1	3	3	0	2	2	0	0	17
8:00 AM	3	0	2	0	0	1	0	0	0	0	4	0	0	5	0	0	15
8:15 AM	1	0	2	0	0	0	0	0	0	3	1	0	1	3	0	0	11
8:30 AM	1	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	5
8:45 AM	0	0	1	0	0	0	1	0	0	2	1	0	2	2	0	0	9
9:00 AM	0	2	0	0	0	1	0	0	1	3	0	0	1	2	1	0	11
9:15 AM	1	0	0	0	1	0	0	0	0	5	0	0	2	2	0	0	11
9:30 AM	2	0	1	0	1	0	1	0	1	1	0	0	0	2	0	0	9
9:45 AM	2	0	1	0	0	1	0	0	0	1	0	0	0	1	0	0	6
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	51.22%	12.20%	36.59%	0.00%	23.81%	38.10%	38.10%	0.00%	11.76%	61.76%	26.47%	0.00%	31.11%	64.44%	4.44%	0.00%	175
PEAK HR:	07:30 AM - 08:30 AM																
PEAK HR VOL:	7	1	5	0	2	4	4	0	2	11	10	0	6	11	0	0	63
PEAK HR FACTOR:	0.583	0.250	0.625	0.000	0.250	0.500	0.500	0.000	0.500	0.550	0.625	0.000	0.500	0.550	0.000	0.000	0.788
	0.650				0.500				0.719				0.850				
PM	0.5 NL	0.5 NT	1 NR	0 NU	0.5 SL	1 ST	0.5 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
3:30 PM	3	2	0	0	1	1	1	0	0	3	0	0	1	5	0	0	17
3:45 PM	1	0	2	0	0	1	0	0	1	5	2	0	3	2	1	0	18
4:00 PM	2	0	2	0	0	0	2	0	0	1	2	0	0	3	0	0	12
4:15 PM	1	0	2	0	0	1	1	0	0	3	4	0	1	3	2	0	18
4:30 PM	0	0	0	0	0	1	0	0	0	1	1	0	0	2	1	0	6
4:45 PM	1	0	0	0	0	0	0	0	0	3	2	0	3	5	0	0	14
5:00 PM	1	0	1	0	0	0	0	0	1	2	1	0	1	2	0	0	9
5:15 PM	0	0	1	0	0	0	0	0	0	2	0	0	0	2	0	0	5
5:30 PM	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	4
5:45 PM	1	0	1	0	0	0	0	0	0	0	0	0	2	3	0	0	7
6:00 PM	0	0	0	0	0	0	0	0	0	3	1	0	2	2	0	0	8
6:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	4
6:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
6:45 PM	1	0	1	0	0	0	0	0	0	2	0	0	1	2	0	0	7
7:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5
7:15 PM	3	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	6
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	53.57%	7.14%	39.29%	0.00%	11.11%	44.44%	44.44%	0.00%	4.17%	66.67%	29.17%	0.00%	29.31%	63.79%	6.90%	0.00%	143
PEAK HR:	04:45 PM - 05:45 PM																
PEAK HR VOL:	2	0	2	0	0	0	0	0	1	9	4	0	5	9	0	0	32
PEAK HR FACTOR:	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.250	0.750	0.500	0.000	0.417	0.450	0.000	0.000	0.571
	0.500								0.700				0.438				

National Data & Surveying Services Intersection Turning Movement Count

Location: Sanger Ave & Beauregard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-005
Date: 12/13/2022

Data - Bikes

NS/EW Streets:	Sanger Ave				Sanger Ave				Beauregard St				Beauregard St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	0.5 NL	0.5 NT	1 NR	0 NU	0.5 SL	1 ST	0.5 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	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	0
9:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
9:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	7
PEAK HR:	07:30 AM - 08:30 AM																
PEAK HR VOL:	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	3
PEAK HR FACTOR:	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.750
	0.250				0.250				0.250				0.250				
PM	0.5 NL	0.5 NT	1 NR	0 NU	0.5 SL	1 ST	0.5 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	1	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	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	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	100.00%	0.00%	0.00%	0.00%	66.67%	33.33%	0.00%	0	0	0	0	0.00%	66.67%	33.33%	0.00%	8
PEAK HR:	04:45 PM - 05:45 PM																
PEAK HR VOL:	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	5
PEAK HR FACTOR:	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.313
	0.250				0.500				0.250				0.250				

National Data & Surveying Services Intersection Turning Movement Count

Location: Sanger Ave & Beauregard St
City: Alexandria

Project ID: 22-260098-005
Date: 12/13/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:		Sanger Ave		Sanger Ave		Beauregard St		Beauregard St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL	
	EB	WB	EB	WB	NB	SB	NB	SB		
6:00 AM	0	0	1	1	0	0	0	1	3	
6:15 AM	0	1	0	1	0	0	1	0	3	
6:30 AM	0	0	1	0	0	0	2	2	5	
6:45 AM	0	0	0	1	1	0	1	2	5	
7:00 AM	0	1	0	1	0	0	0	0	2	
7:15 AM	0	0	1	3	2	0	3	3	12	
7:30 AM	1	7	0	15	2	2	11	21	59	
7:45 AM	0	2	1	1	3	0	9	10	26	
8:00 AM	0	1	0	3	0	0	0	1	5	
8:15 AM	1	1	0	0	0	0	0	1	3	
8:30 AM	0	1	0	0	0	0	0	3	4	
8:45 AM	0	0	0	1	0	0	0	0	1	
9:00 AM	0	0	0	1	0	0	2	0	3	
9:15 AM	0	2	0	1	2	0	4	1	10	
9:30 AM	0	3	1	0	0	0	0	2	6	
9:45 AM	1	0	0	0	0	0	0	0	1	
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL	
APPROACH %'s :	3	19	5	29	10	2	33	47	148	
	13.64%	86.36%	14.71%	85.29%	83.33%	16.67%	41.25%	58.75%		
PEAK HR :	07:30 AM - 08:30 AM									
PEAK HR VOL :	2	11	1	19	5	2	20	33	TOTAL	
PEAK HR FACTOR :	0.500	0.393	0.250	0.317	0.417	0.250	0.455	0.393	0.394	
	0.406		0.333		0.438		0.414			

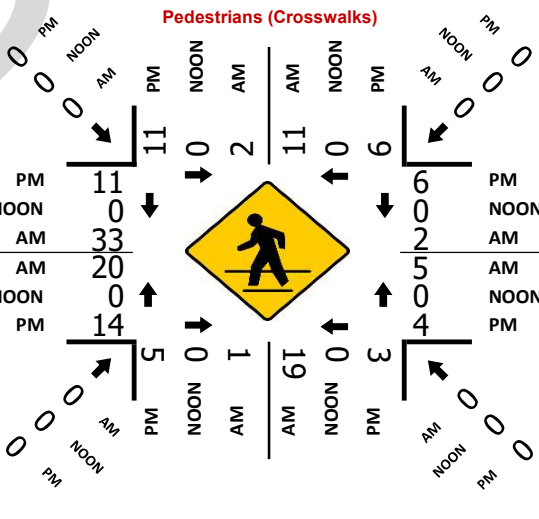
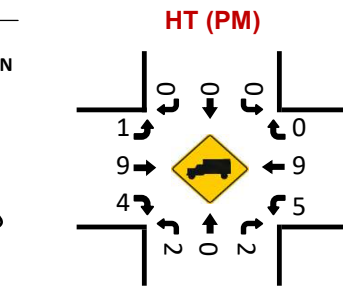
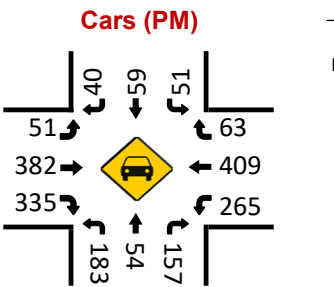
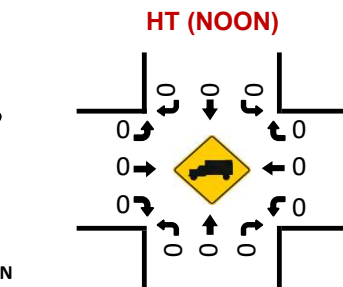
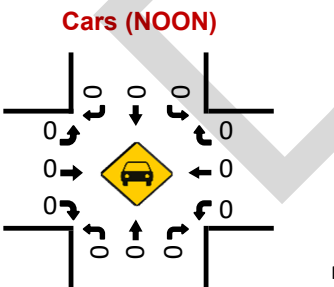
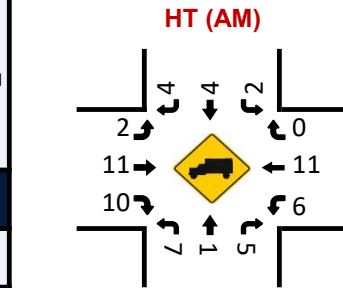
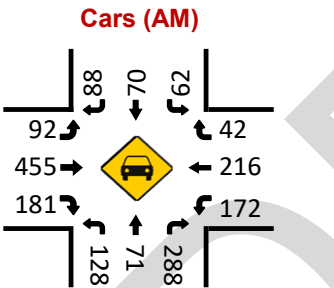
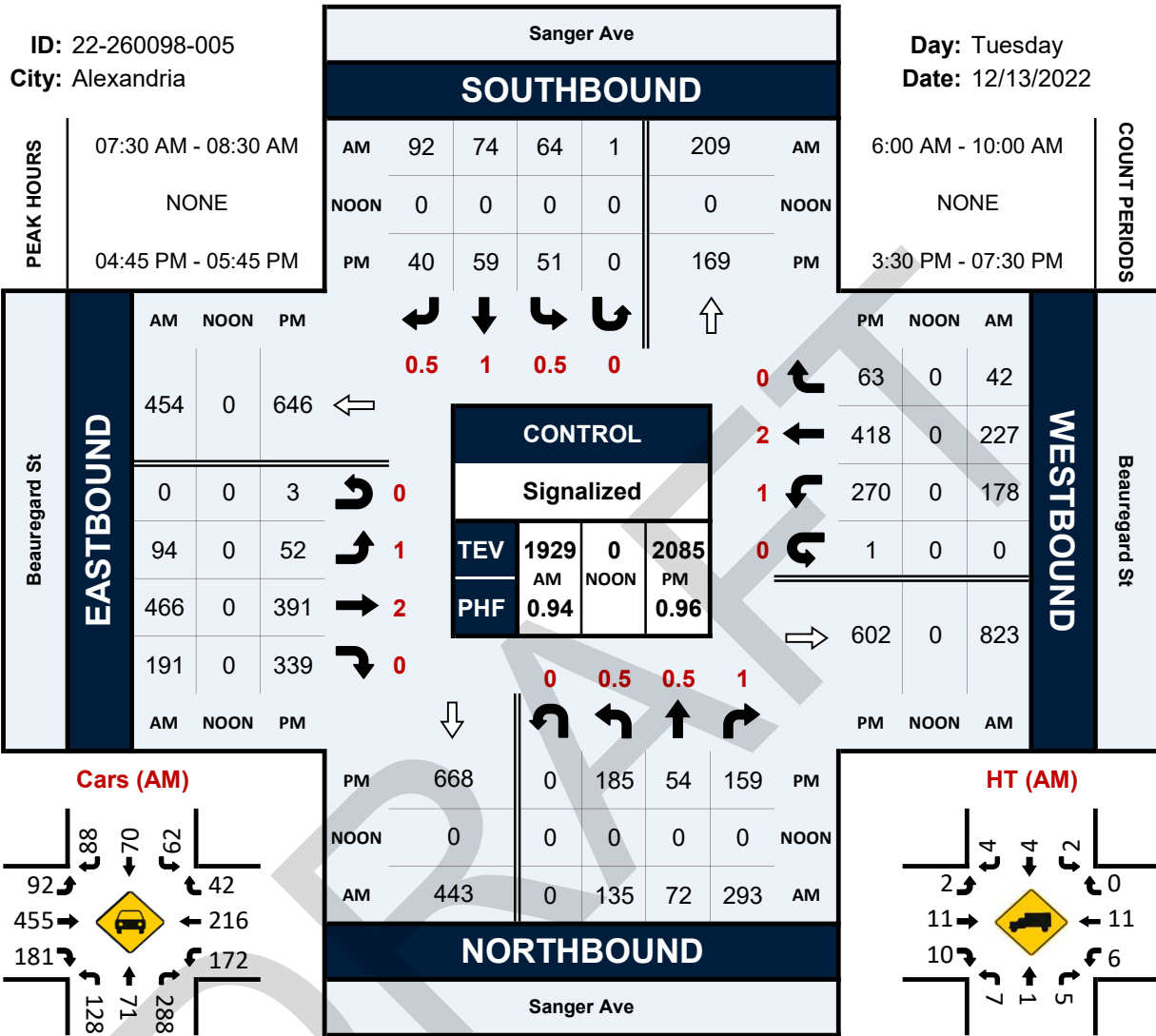
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM	1	3	8	0	3	1	2	8	26
3:45 PM	0	2	1	0	8	4	2	3	20
4:00 PM	0	0	4	0	2	2	4	2	14
4:15 PM	0	0	2	0	2	0	3	1	8
4:30 PM	0	1	0	2	2	0	2	3	10
4:45 PM	7	4	1	1	4	3	2	0	22
5:00 PM	2	1	1	0	0	2	3	3	12
5:15 PM	0	1	2	2	0	0	6	3	14
5:30 PM	2	0	1	0	0	1	3	5	12
5:45 PM	2	1	3	0	0	1	1	3	11
6:00 PM	1	0	3	2	3	0	3	1	13
6:15 PM	1	1	1	1	1	0	3	0	8
6:30 PM	0	0	1	0	0	0	0	1	2
6:45 PM	0	0	0	1	0	1	0	1	3
7:00 PM	1	0	0	0	0	2	0	0	3
7:15 PM	1	0	2	0	2	1	1	2	9
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	18	14	30	9	27	18	35	36	187
	56.25%	43.75%	76.92%	23.08%	60.00%	40.00%	49.30%	50.70%	
PEAK HR :	04:45 PM - 05:45 PM								
PEAK HR VOL :	11	6	5	3	4	6	14	11	TOTAL
PEAK HR FACTOR :	0.393	0.375	0.625	0.375	0.250	0.500	0.583	0.550	0.682
	0.386		0.500		0.357		0.694		

Sanger Ave & Beauregard St

Peak Hour Turning Movement Count

ID: 22-260098-005
City: Alexandria

Day: Tuesday
Date: 12/13/2022



Project ID: 22-260098-005
 Location: Sanger Ave & Beauregard St
 City: Alexandria

PEAK HOURS

Day: Tuesday
 Date: 12/13/2022

AM

Start Time	Sanger Ave Northbound					Sanger Ave Southbound					Beauregard St Eastbound					Beauregard St Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 06:00 AM - 10:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	30	18	70	0	118	16	14	15	0	45	27	140	53	0	220	27	52	18	0	97	480
7:45 AM	26	24	77	0	127	21	26	38	0	85	36	112	39	0	187	43	60	10	0	113	512
8:00 AM	39	20	75	0	134	22	21	29	0	72	22	101	55	0	178	60	60	10	0	130	514
8:15 AM	40	10	71	0	121	5	13	10	1	29	9	113	44	0	166	48	55	4	0	107	423
Total Volume	135	72	293	0	500	64	74	92	1	231	94	466	191	0	751	178	227	42	0	447	1929
% App. Total	27.0	14.4	58.6	0.0	100	27.7	32.0	39.8	0.4	100	12.5	62.1	25.4	0.0	100	39.8	50.8	9.4	0.0	100	
PHF	0.933					0.679					0.853					0.860					0.938
Cars, PU, Vans	128	71	288	0	487	62	70	88	1	221	92	455	181	0	728	172	216	42	0	430	1866
% Cars, PU, Vans	94.8	98.6	98.3	0.0	97.4	96.9	94.6	95.7	100.0	95.7	97.9	97.6	94.8	0.0	96.9	96.6	95.2	100.0	0.0	96.2	96.7
Heavy trucks	7	1	5	0	13	2	4	4	0	10	2	11	10	0	23	6	11	0	0	17	63
%Heavy trucks	5.2	1.4	1.7	0.0	2.6	3.1	5.4	4.3	0.0	4.3	2.1	2.4	5.2	0.0	3.1	3.4	4.8	0.0	0.0	3.8	3.3

PM

Start Time	Sanger Ave Northbound					Sanger Ave Southbound					Beauregard St Eastbound					Beauregard St Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
4:45 PM	48	9	30	0	87	15	11	7	0	33	11	96	99	1	207	66	133	18	1	218	545
5:00 PM	46	17	38	0	101	13	13	11	0	37	13	98	69	1	181	58	96	10	0	164	483
5:15 PM	44	7	51	0	102	14	12	11	0	37	9	112	94	1	216	65	101	15	0	181	536
5:30 PM	47	21	40	0	108	9	23	11	0	43	19	85	77	0	181	81	88	20	0	189	521
Total Volume	185	54	159	0	398	51	59	40	0	150	52	391	339	3	785	270	418	63	1	752	2085
% App. Total	46.5	13.6	39.9	0.0	100	34.0	39.3	26.7	0.0	100	6.6	49.8	43.2	0.4	100	35.9	55.6	8.4	0.1	100	
PHF	0.921					0.872					0.909					0.862					0.956
Cars, PU, Vans	183	54	157	0	394	51	59	40	0	150	51	382	335	3	771	265	409	63	1	738	2053
% Cars, PU, Vans	98.9	100.0	98.7	0.0	99.0	100.0	100.0	100.0	0.0	100.0	98.1	97.7	98.8	100.0	98.2	98.1	97.8	100.0	100.0	98.1	98.5
Heavy trucks	2	0	2	0	4	0	0	0	0	0	1	9	4	0	14	5	9	0	0	14	32
%Heavy trucks	1.1	0.0	1.3	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.9	2.3	1.2	0.0	1.8	1.9	2.2	0.0	0.0	1.9	1.5

National Data & Surveying Services Intersection Turning Movement Count

Location: Mark Center Dr & N Beauregard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-009
Date: 12/13/2022

Data - Total

NS/EW Streets:	Mark Center Dr				Mark Center Dr				N Beauregard St				N Beauregard St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	0.5 NL	0.5 NT	1 NR	0 NU	1 SL	0.5 ST	0.5 SR	0 SU	1 EL	3 ET	0 ER	0 EU	2 WL	2 WT	0 WR	0 WU	TOTAL
6:00 AM	1	0	6	0	4	0	0	0	0	74	3	0	44	27	0	0	159
6:15 AM	4	0	5	0	3	0	0	0	0	109	7	0	33	39	3	2	205
6:30 AM	2	0	6	0	1	0	0	0	1	102	7	1	50	67	4	1	242
6:45 AM	1	0	6	0	6	0	1	0	0	120	16	0	50	81	1	1	283
7:00 AM	4	2	8	0	3	1	0	0	0	124	16	1	43	98	4	0	304
7:15 AM	1	1	8	0	7	0	1	0	0	142	22	0	65	139	9	1	396
7:30 AM	3	0	9	0	7	0	2	0	2	200	11	0	63	170	9	3	479
7:45 AM	5	0	7	0	3	1	1	0	0	224	25	2	93	158	20	1	540
8:00 AM	4	1	12	0	8	1	0	0	1	229	21	1	61	145	11	1	496
8:15 AM	1	1	8	0	10	1	2	0	0	189	23	0	42	141	13	0	431
8:30 AM	6	0	18	0	6	0	1	0	0	154	16	0	76	137	16	2	432
8:45 AM	3	2	10	0	9	0	0	0	1	181	19	0	67	109	8	1	410
9:00 AM	6	0	9	0	7	0	0	0	3	128	10	1	66	118	9	2	359
9:15 AM	4	0	6	0	9	0	2	0	0	149	15	0	39	113	7	3	347
9:30 AM	6	0	9	0	5	1	1	0	0	132	8	0	44	105	5	2	318
9:45 AM	7	0	9	0	7	0	2	0	4	122	8	0	39	121	7	1	327
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	28.86%	3.48%	67.66%	0.00%	84.07%	4.42%	11.50%	0.00%	0.46%	90.66%	8.65%	0.23%	31.36%	63.37%	4.52%	0.75%	5728
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	13	2	36	0	28	3	5	0	3	842	80	3	259	614	53	5	1946
PEAK HR FACTOR:	0.650	0.500	0.750	0.000	0.700	0.750	0.625	0.000	0.375	0.919	0.800	0.375	0.696	0.903	0.663	0.417	0.901
	0.750				0.692				0.921				0.856				
PM	0.5 NL	0.5 NT	1 NR	0 NU	1 SL	0.5 ST	0.5 SR	0 SU	1 EL	3 ET	0 ER	0 EU	2 WL	2 WT	0 WR	0 WU	TOTAL
3:30 PM	12	1	8	0	7	1	3	0	0	175	4	1	16	207	1	5	441
3:45 PM	19	1	16	0	15	0	5	0	2	152	6	0	22	204	8	1	451
4:00 PM	13	0	22	0	26	1	1	0	2	175	6	2	25	187	5	2	467
4:15 PM	9	1	24	0	9	1	2	0	0	191	3	0	20	215	12	1	488
4:30 PM	9	0	19	0	11	0	3	0	0	184	7	1	25	210	9	4	482
4:45 PM	16	0	16	0	11	0	1	0	1	198	3	0	20	249	7	4	526
5:00 PM	16	0	22	0	12	3	6	0	3	213	5	0	18	185	6	1	490
5:15 PM	6	1	11	0	13	1	1	0	2	208	3	0	29	196	7	0	478
5:30 PM	3	0	15	0	9	1	2	0	2	171	4	0	26	231	11	0	475
5:45 PM	9	0	13	0	8	0	0	0	1	189	5	0	26	208	6	4	469
6:00 PM	7	1	11	0	8	0	1	0	0	184	4	0	19	210	7	1	453
6:15 PM	8	2	7	0	9	1	0	0	2	128	2	0	31	207	8	3	408
6:30 PM	4	1	5	0	5	0	1	0	1	135	4	0	19	207	5	4	391
6:45 PM	2	0	6	0	10	0	0	0	1	148	2	0	23	161	5	6	364
7:00 PM	2	0	6	0	9	0	1	0	4	133	5	0	17	134	10	9	330
7:15 PM	4	0	5	0	7	0	0	0	0	127	3	0	14	131	7	2	300
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	39.38%	2.27%	58.36%	0.00%	82.44%	4.39%	13.17%	0.00%	0.75%	96.75%	2.36%	0.14%	9.58%	86.01%	3.12%	1.29%	7013
PEAK HR:	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL:	50	1	81	0	43	4	12	0	4	786	18	1	83	859	34	10	1986
PEAK HR FACTOR:	0.781	0.250	0.844	0.000	0.896	0.333	0.500	0.000	0.333	0.923	0.643	0.250	0.830	0.862	0.708	0.625	0.944
	0.868				0.702				0.915				0.880				

National Data & Surveying Services Intersection Turning Movement Count

Location: Mark Center Dr & N Beauregard St
 City: Alexandria
 Control: Signalized

Project ID: 22-260098-009
 Date: 12/13/2022

Data - Cars

NS/EW Streets:	Mark Center Dr				Mark Center Dr				N Beauregard St				N Beauregard St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	1 SL	0.5 ST	0.5 SR	0 SU	1 EL	3 ET	0 ER	0 EU	2 WL	2 WT	0 WR	0 WU	
6:00 AM	0	0	5	0	4	0	0	0	0	73	2	0	39	27	0	0	150
6:15 AM	3	0	3	0	3	0	0	0	0	109	6	0	31	36	3	2	196
6:30 AM	1	0	5	0	1	0	0	0	1	102	4	1	45	64	4	1	229
6:45 AM	0	0	4	0	6	0	1	0	0	115	15	0	46	77	1	0	265
7:00 AM	2	2	7	0	3	1	0	0	0	121	14	1	41	96	4	0	292
7:15 AM	0	1	6	0	7	0	1	0	0	137	20	0	62	137	9	1	381
7:30 AM	2	0	8	0	7	0	2	0	2	194	9	0	59	164	9	3	459
7:45 AM	3	0	6	0	3	1	1	0	0	220	19	2	90	153	20	1	519
8:00 AM	2	1	10	0	8	1	0	0	1	226	21	1	60	141	11	1	484
8:15 AM	0	1	7	0	10	1	2	0	0	187	22	0	39	140	13	0	422
8:30 AM	4	0	16	0	6	0	1	0	0	151	14	0	75	133	16	2	418
8:45 AM	2	2	9	0	9	0	0	0	1	181	17	0	63	106	8	1	399
9:00 AM	4	0	7	0	7	0	0	0	3	127	9	1	61	113	9	2	343
9:15 AM	3	0	4	0	9	0	2	0	0	145	13	0	37	109	7	3	332
9:30 AM	4	0	7	0	5	1	1	0	0	127	6	0	41	102	5	2	301
9:45 AM	6	0	8	0	7	0	2	0	4	121	7	0	36	119	7	1	318
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	36	7	112	0	95	5	13	0	12	2336	198	6	825	1717	126	20	5508
APPROACH %'s:	23.23%	4.52%	72.26%	0.00%	84.07%	4.42%	11.50%	0.00%	0.47%	91.54%	7.76%	0.24%	30.69%	63.88%	4.69%	0.74%	
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	7	2	31	0	28	3	5	0	3	827	71	3	248	598	53	5	1884
PEAK HR FACTOR:	0.583	0.500	0.775	0.000	0.700	0.750	0.625	0.000	0.375	0.915	0.807	0.375	0.689	0.912	0.663	0.417	0.908

NS/EW Streets:	Mark Center Dr				Mark Center Dr				N Beauregard St				N Beauregard St				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	1 SL	0.5 ST	0.5 SR	0 SU	1 EL	3 ET	0 ER	0 EU	2 WL	2 WT	0 WR	0 WU	
3:30 PM	10	1	7	0	7	1	3	0	0	172	2	1	15	200	1	5	425
3:45 PM	18	1	14	0	15	0	4	0	2	149	5	0	19	203	8	1	439
4:00 PM	12	0	19	0	26	1	1	0	2	175	5	2	22	183	5	2	455
4:15 PM	7	1	22	0	9	1	2	0	0	188	1	0	17	213	12	1	474
4:30 PM	8	0	17	0	11	0	2	0	0	184	5	1	23	206	9	4	470
4:45 PM	14	0	15	0	11	0	0	0	1	196	2	0	16	245	7	4	511
5:00 PM	15	0	21	0	12	3	6	0	3	212	3	0	16	181	6	1	479
5:15 PM	4	1	11	0	13	1	1	0	2	206	2	0	25	195	7	0	468
5:30 PM	2	0	14	0	8	1	1	0	2	168	3	0	23	228	11	0	461
5:45 PM	7	0	12	0	8	0	0	0	1	189	5	0	24	206	5	4	461
6:00 PM	6	1	9	0	7	0	1	0	0	179	3	0	16	208	7	1	438
6:15 PM	6	2	6	0	9	1	0	0	2	127	2	0	29	205	8	3	400
6:30 PM	3	1	4	0	5	0	1	0	1	134	3	0	17	205	5	4	383
6:45 PM	1	0	5	0	10	0	0	0	1	147	0	0	21	159	5	5	354
7:00 PM	1	0	5	0	9	0	1	0	4	131	3	0	17	134	10	9	324
7:15 PM	2	0	4	0	7	0	0	0	0	126	2	0	14	130	7	2	294
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	116	8	185	0	167	9	23	0	21	2683	46	4	314	3101	113	46	6836
APPROACH %'s:	37.54%	2.59%	59.87%	0.00%	83.92%	4.52%	11.56%	0.00%	0.76%	97.42%	1.67%	0.15%	8.79%	86.77%	3.16%	1.29%	
PEAK HR:	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL:	44	1	75	0	43	4	10	0	4	780	11	1	72	845	34	10	1934
PEAK HR FACTOR:	0.733	0.250	0.852	0.000	0.896	0.333	0.417	0.000	0.333	0.920	0.550	0.250	0.783	0.862	0.708	0.625	0.946

National Data & Surveying Services Intersection Turning Movement Count

Location: Mark Center Dr & N Beauregard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-009
Date: 12/13/2022

Data - HT

NS/EW Streets:	Mark Center Dr				Mark Center Dr				N Beauregard St				N Beauregard St				TOTAL
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	0.5	1	0	1	0.5	0.5	0	1	3	0	0	2	2	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	1	0	1	0	0	0	0	0	0	1	1	0	5	0	0	0	9
6:15 AM	1	0	2	0	0	0	0	0	0	0	1	0	2	3	0	0	9
6:30 AM	1	0	1	0	0	0	0	0	0	0	3	0	5	3	0	0	13
6:45 AM	1	0	2	0	0	0	0	0	0	5	1	0	4	4	0	1	18
7:00 AM	2	0	1	0	0	0	0	0	0	3	2	0	2	2	0	0	12
7:15 AM	1	0	2	0	0	0	0	0	0	5	2	0	3	2	0	0	15
7:30 AM	1	0	1	0	0	0	0	0	0	6	2	0	4	6	0	0	20
7:45 AM	2	0	1	0	0	0	0	0	0	4	6	0	3	5	0	0	21
8:00 AM	2	0	2	0	0	0	0	0	0	3	0	0	1	4	0	0	12
8:15 AM	1	0	1	0	0	0	0	0	0	2	1	0	3	1	0	0	9
8:30 AM	2	0	2	0	0	0	0	0	0	3	2	0	1	4	0	0	14
8:45 AM	1	0	1	0	0	0	0	0	0	0	2	0	4	3	0	0	11
9:00 AM	2	0	2	0	0	0	0	0	0	1	1	0	5	5	0	0	16
9:15 AM	1	0	2	0	0	0	0	0	0	4	2	0	2	4	0	0	15
9:30 AM	2	0	2	0	0	0	0	0	0	5	2	0	3	3	0	0	17
9:45 AM	1	0	1	0	0	0	0	0	0	1	1	0	3	2	0	0	9
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	47.83%	0.00%	52.17%	0.00%	0	0	0	0	0.00%	59.72%	40.28%	0.00%	49.02%	50.00%	0.00%	0.98%	220
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	6	0	5	0	0	0	0	0	0	15	9	0	11	16	0	0	62
PEAK HR FACTOR:	0.750	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.375	0.000	0.688	0.667	0.000	0.000	0.738
	0.688				0.600				0.675								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5	0.5	1	0	1	0.5	0.5	0	1	3	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	2	0	1	0	0	0	0	0	0	3	2	0	1	7	0	0	16
3:45 PM	1	0	2	0	0	0	1	0	0	3	1	0	3	1	0	0	12
4:00 PM	1	0	3	0	0	0	0	0	0	0	1	0	3	4	0	0	12
4:15 PM	2	0	2	0	0	0	0	0	0	3	2	0	3	2	0	0	14
4:30 PM	1	0	2	0	0	0	1	0	0	0	2	0	2	4	0	0	12
4:45 PM	2	0	1	0	0	0	1	0	0	2	1	0	4	4	0	0	15
5:00 PM	1	0	1	0	0	0	0	0	0	1	2	0	2	4	0	0	11
5:15 PM	2	0	0	0	0	0	0	0	0	2	1	0	4	1	0	0	10
5:30 PM	1	0	1	0	1	0	1	0	0	3	1	0	3	3	0	0	14
5:45 PM	2	0	1	0	0	0	0	0	0	0	0	0	2	2	1	0	8
6:00 PM	1	0	2	0	1	0	0	0	0	5	1	0	3	2	0	0	15
6:15 PM	2	0	1	0	0	0	0	0	0	1	0	0	2	2	0	0	8
6:30 PM	1	0	1	0	0	0	0	0	0	1	1	0	2	2	0	0	8
6:45 PM	1	0	1	0	0	0	0	0	0	1	2	0	2	2	0	1	10
7:00 PM	1	0	1	0	0	0	0	0	0	2	2	0	0	0	0	0	6
7:15 PM	2	0	1	0	0	0	0	0	0	1	1	0	0	1	0	0	6
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	52.27%	0.00%	47.73%	0.00%	33.33%	0.00%	66.67%	0.00%	0.00%	58.33%	41.67%	0.00%	45.57%	51.90%	1.27%	1.27%	177
PEAK HR:	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL:	6	0	6	0	0	0	2	0	0	6	7	0	11	14	0	0	52
PEAK HR FACTOR:	0.750	0.000	0.750	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.875	0.000	0.688	0.875	0.000	0.000	0.867
	0.750				0.500				0.650				0.781				

National Data & Surveying Services Intersection Turning Movement Count

Location: Mark Center Dr & N Beaugard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-009
Date: 12/13/2022

Data - Bikes

NS/EW Streets:	Mark Center Dr				Mark Center Dr				N Beaugard St				N Beaugard St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	1 SL	0.5 ST	0.5 SR	0 SU	1 EL	3 ET	0 ER	0 EU	2 WL	2 WT	0 WR	0 WU	
6:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	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	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	6
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250

NS/EW Streets:	Mark Center Dr				Mark Center Dr				N Beaugard St				N Beaugard St				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	1 SL	0.5 ST	0.5 SR	0 SU	1 EL	3 ET	0 ER	0 EU	2 WL	2 WT	0 WR	0 WU	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	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	1	0	0	0	1
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0	0	0	0	100.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	7
PEAK HR:	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.500

National Data & Surveying Services Intersection Turning Movement Count

Location: Mark Center Dr & N Beaugard St
City: Alexandria

Project ID: 22-260098-009
Date: 12/13/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Mark Center Dr		Mark Center Dr		N Beaugard St		N Beaugard St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:00 AM	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0
6:30 AM	1	1	0	1	0	0	0	0	3
6:45 AM	1	0	2	0	0	0	0	1	4
7:00 AM	0	0	1	0	0	0	0	1	2
7:15 AM	2	2	0	1	0	0	0	4	9
7:30 AM	2	0	1	1	0	0	2	1	7
7:45 AM	2	1	1	0	0	0	0	1	5
8:00 AM	0	1	1	0	1	0	0	0	3
8:15 AM	1	0	1	0	0	0	1	0	3
8:30 AM	6	0	0	1	0	0	0	0	7
8:45 AM	1	0	1	0	0	0	0	0	2
9:00 AM	0	0	0	0	0	0	1	1	2
9:15 AM	0	1	0	0	0	0	0	1	2
9:30 AM	1	0	0	1	0	0	1	0	3
9:45 AM	5	0	0	0	0	0	1	0	6
TOTAL VOLUMES :	EB 22	WB 6	EB 8	WB 5	NB 1	SB 0	NB 6	SB 10	TOTAL 58
APPROACH %'s :	78.57%	21.43%	61.54%	38.46%	100.00%	0.00%	37.50%	62.50%	
PEAK HR :	07:30 AM - 08:30 AM								
PEAK HR VOL :	5	2	4	1	1	0	3	2	TOTAL 18
PEAK HR FACTOR :	0.625	0.500	1.000	0.250	0.250	0.250	0.375	0.500	0.643
	0.583		0.625		0.250		0.417		

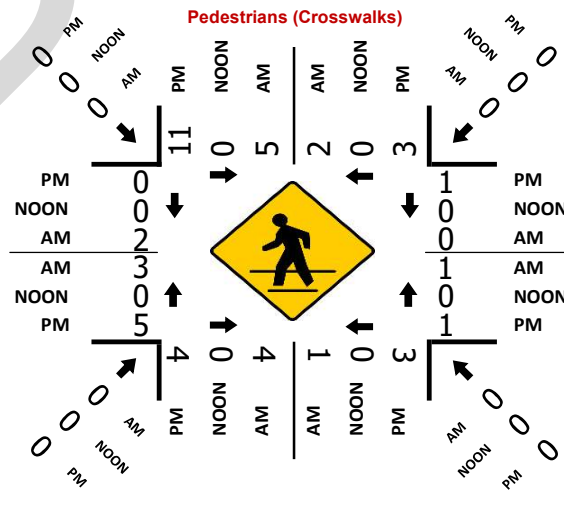
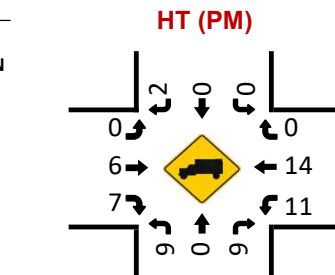
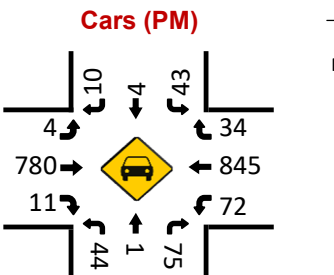
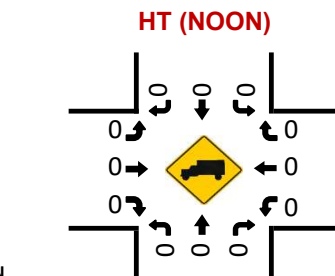
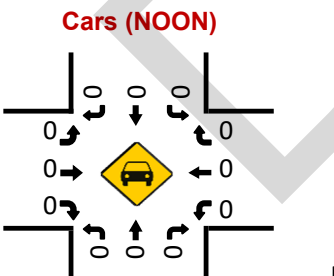
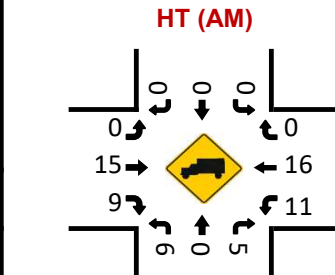
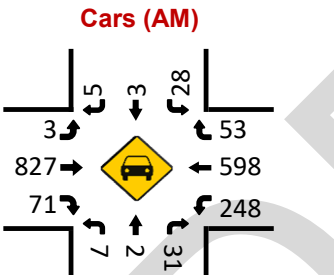
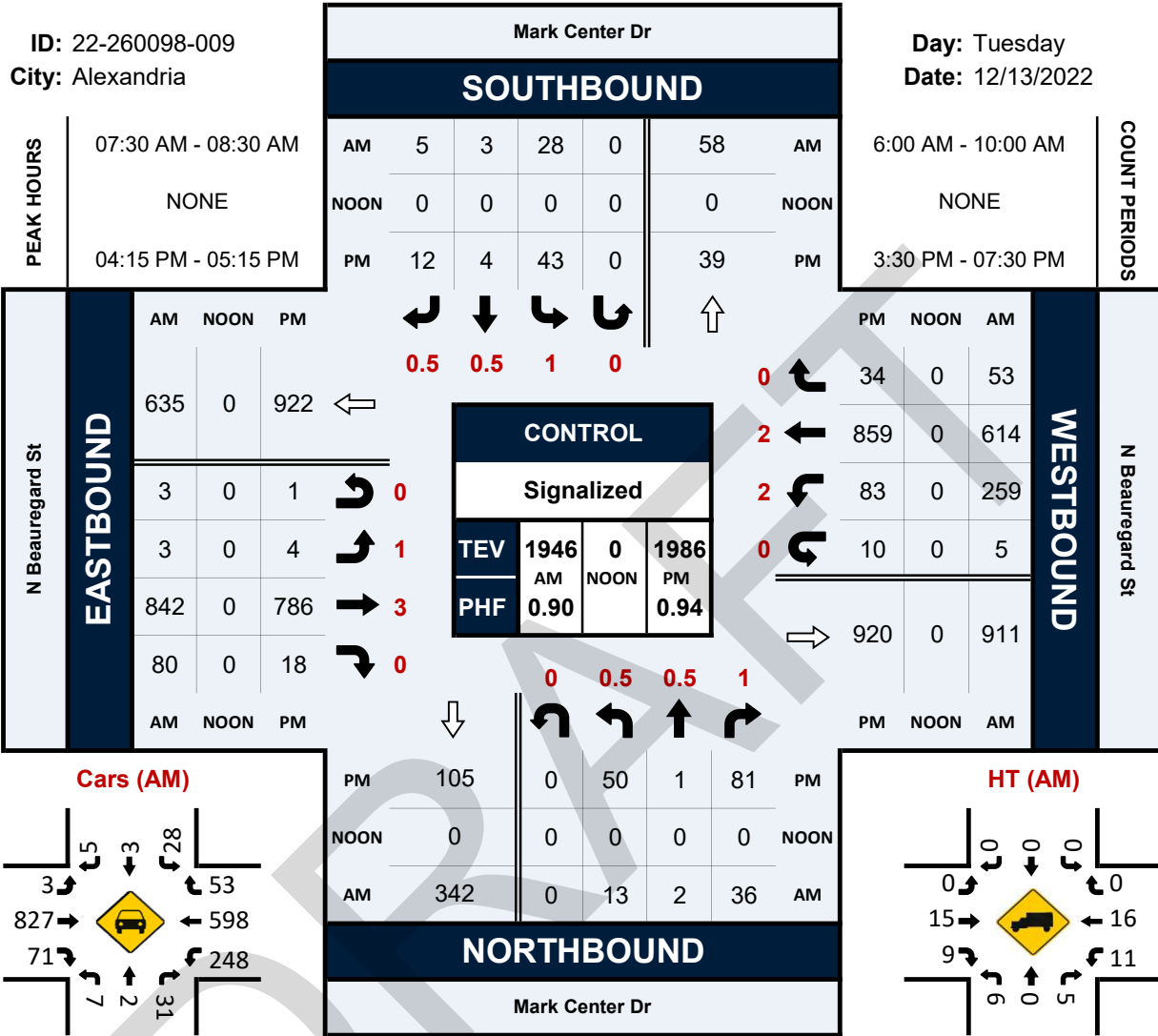
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	1	1	0	0	0	0	2	4
4:00 PM	3	2	1	4	0	0	5	0	15
4:15 PM	3	2	0	1	1	0	0	0	7
4:30 PM	2	0	1	2	0	1	2	0	8
4:45 PM	2	0	1	0	0	0	2	0	5
5:00 PM	4	1	2	0	0	0	1	0	8
5:15 PM	1	0	0	0	0	0	2	0	3
5:30 PM	1	3	0	2	0	0	1	0	7
5:45 PM	0	2	0	0	0	0	1	0	3
6:00 PM	0	4	2	2	1	0	2	1	12
6:15 PM	1	3	0	1	2	0	2	0	9
6:30 PM	0	0	1	0	0	0	0	0	1
6:45 PM	2	0	1	0	0	0	1	0	4
7:00 PM	1	1	0	0	0	0	0	0	2
7:15 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB 20	WB 19	EB 10	WB 12	NB 4	SB 1	NB 19	SB 3	TOTAL 88
APPROACH %'s :	51.28%	48.72%	45.45%	54.55%	80.00%	20.00%	86.36%	13.64%	
PEAK HR :	04:15 PM - 05:15 PM								
PEAK HR VOL :	11	3	4	3	1	1	5	0	TOTAL 28
PEAK HR FACTOR :	0.688	0.375	0.500	0.375	0.250	0.250	0.625	0.625	0.875
	0.700		0.583		0.500		0.625		

Mark Center Dr & N Beauregard St

Peak Hour Turning Movement Count

ID: 22-260098-009
City: Alexandria

Day: Tuesday
Date: 12/13/2022



Project ID: 22-260098-009

Location: Mark Center Dr & N Beauregard St

City: Alexandria

PEAK HOURS

Day: Tuesday

Date: 12/13/2022

AM

Start Time	Mark Center Dr Northbound					Mark Center Dr Southbound					N Beauregard St Eastbound					N Beauregard St Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 06:00 AM - 10:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	3	0	9	0	12	7	0	2	0	9	2	200	11	0	213	63	170	9	3	245	479
7:45 AM	5	0	7	0	12	3	1	1	0	5	0	224	25	2	251	93	158	20	1	272	540
8:00 AM	4	1	12	0	17	8	1	0	0	9	1	229	21	1	252	61	145	11	1	218	496
8:15 AM	1	1	8	0	10	10	1	2	0	13	0	189	23	0	212	42	141	13	0	196	431
Total Volume	13	2	36	0	51	28	3	5	0	36	3	842	80	3	928	259	614	53	5	931	1946
% App. Total	25.5	3.9	70.6	0.0	100	77.8	8.3	13.9	0.0	100	0.3	90.7	8.6	0.3	100	27.8	66.0	5.7	0.5	100	
PHF	0.750					0.692					0.921					0.856					0.901
Cars, PU, Vans	7	2	31	0	40	28	3	5	0	36	3	827	71	3	904	248	598	53	5	904	1884
% Cars, PU, Vans	53.8	100.0	86.1	0.0	78.4	100.0	100.0	100.0	0.0	100.0	100.0	98.2	88.8	100.0	97.4	95.8	97.4	100.0	100.0	97.1	96.8
Heavy trucks	6	0	5	0	11	0	0	0	0	0	0	15	9	0	24	11	16	0	0	27	62
% Heavy trucks	46.2	0.0	13.9	0.0	21.6	0.0	0.0	0.0	0.0	0.0	0.0	1.8	11.3	0.0	2.6	4.2	2.6	0.0	0.0	2.9	3.2

PM

Start Time	Mark Center Dr Northbound					Mark Center Dr Southbound					N Beauregard St Eastbound					N Beauregard St Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
4:15 PM	9	1	24	0	34	9	1	2	0	12	0	191	3	0	194	20	215	12	1	248	488
4:30 PM	9	0	19	0	28	11	0	3	0	14	0	184	7	1	192	25	210	9	4	248	482
4:45 PM	16	0	16	0	32	11	0	1	0	12	1	198	3	0	202	20	249	7	4	280	526
5:00 PM	16	0	22	0	38	12	3	6	0	21	3	213	5	0	221	18	185	6	1	210	490
Total Volume	50	1	81	0	132	43	4	12	0	59	4	786	18	1	809	83	859	34	10	986	1986
% App. Total	37.9	0.8	61.4	0.0	100	72.9	6.8	20.3	0.0	100	0.5	97.2	2.2	0.1	100	8.4	87.1	3.4	1.0	100	
PHF	0.868					0.702					0.915					0.880					0.944
Cars, PU, Vans	44	1	75	0	120	43	4	10	0	57	4	780	11	1	796	72	845	34	10	961	1934
% Cars, PU, Vans	88.0	100.0	92.6	0.0	90.9	100.0	100.0	83.3	0.0	96.6	100.0	99.2	61.1	100.0	98.4	86.7	98.4	100.0	100.0	97.5	97.4
Heavy trucks	6	0	6	0	12	0	0	2	0	2	0	6	7	0	13	11	14	0	0	25	52
% Heavy trucks	12.0	0.0	7.4	0.0	9.1	0.0	0.0	16.7	0.0	3.4	0.0	0.8	38.9	0.0	1.6	13.3	1.6	0.0	0.0	2.5	2.6

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & N Beauregard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-006
Date: 12/13/2022

Data - Total

NS/EW Streets:	Seminary Rd				Seminary Rd				N Beauregard St				N Beauregard St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	3 NL	2 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	2 EL	2 ET	2 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:00 AM	51	115	13	0	3	65	12	0	22	11	51	0	8	6	4	0	361
6:15 AM	54	131	14	1	2	106	20	0	29	23	55	0	10	8	7	0	460
6:30 AM	93	170	22	1	7	97	21	0	34	22	58	0	8	16	5	0	554
6:45 AM	75	181	34	1	3	136	35	0	46	26	67	0	11	10	6	0	631
7:00 AM	100	210	35	0	4	158	34	0	43	31	50	0	13	17	12	0	707
7:15 AM	134	239	34	2	4	139	46	0	53	38	79	0	13	37	12	0	830
7:30 AM	143	240	48	1	4	193	44	0	50	50	105	0	23	52	7	0	960
7:45 AM	168	223	44	0	10	218	50	0	76	59	112	0	26	52	13	0	1051
8:00 AM	134	236	38	0	7	186	59	0	60	76	114	0	19	33	15	0	977
8:15 AM	107	247	41	0	10	173	51	0	50	44	111	1	16	32	14	0	897
8:30 AM	150	273	31	0	10	136	50	0	67	39	75	0	22	27	12	0	892
8:45 AM	135	260	45	0	11	191	40	0	53	37	96	0	15	25	11	0	919
9:00 AM	95	222	27	3	11	156	55	0	62	30	68	0	19	32	6	0	786
9:15 AM	96	194	31	0	6	177	42	0	50	35	72	0	11	22	10	0	746
9:30 AM	98	171	27	2	9	134	42	0	59	27	70	0	16	20	10	0	685
9:45 AM	99	214	23	0	9	160	49	0	45	27	59	0	20	24	11	0	740
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	31.06%	59.65%	9.09%	0.20%	3.45%	76.14%	20.41%	0.00%	30.53%	21.97%	47.46%	0.04%	30.56%	50.49%	18.95%	0.00%	12196
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	552	946	171	1	31	770	204	0	236	229	442	1	84	169	49	0	3885
PEAK HR FACTOR:	0.821	0.957	0.891	0.250	0.775	0.883	0.864	0.000	0.776	0.753	0.969	0.250	0.808	0.813	0.817	0.000	0.924
	0.960				0.904				0.908				0.830				
PM	3 NL	2 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	2 EL	2 ET	2 ER	0 EU	1 WL	2 WT	0 WR	0 WU	TOTAL
3:30 PM	80	175	35	1	13	242	76	0	51	39	95	0	40	54	11	0	912
3:45 PM	123	181	37	1	13	250	86	0	73	41	80	0	36	40	11	0	972
4:00 PM	90	193	19	3	16	235	73	0	65	49	102	1	36	41	19	0	942
4:15 PM	100	214	35	2	8	264	103	0	66	48	104	0	35	46	12	0	1037
4:30 PM	97	178	26	1	22	263	94	0	74	55	104	0	44	73	21	0	1052
4:45 PM	104	231	36	0	13	274	97	0	56	47	123	0	31	63	16	0	1091
5:00 PM	83	198	38	2	8	251	65	1	72	67	112	0	40	77	12	0	1026
5:15 PM	83	238	48	0	11	311	83	0	65	55	107	0	43	53	6	0	1103
5:30 PM	102	214	50	0	8	264	120	0	64	49	87	0	51	62	14	0	1085
5:45 PM	83	187	36	1	15	280	104	1	59	46	100	0	32	39	14	0	997
6:00 PM	106	195	42	0	13	265	81	0	72	49	88	0	36	53	11	0	1011
6:15 PM	109	205	32	0	23	260	96	0	51	31	68	0	31	52	10	0	968
6:30 PM	106	268	42	1	14	285	94	0	45	27	62	0	21	25	8	0	998
6:45 PM	79	206	22	1	19	218	92	0	61	44	79	0	19	33	10	0	883
7:00 PM	60	211	24	4	20	243	58	0	39	26	83	1	21	41	7	0	838
7:15 PM	65	173	24	2	13	187	59	0	52	39	56	0	27	38	12	2	749
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	27.73%	61.62%	10.30%	0.36%	4.01%	71.74%	24.21%	0.04%	30.84%	22.75%	46.34%	0.06%	35.51%	51.67%	12.69%	0.13%	15664
PEAK HR:	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL:	372	881	172	2	40	1100	365	1	257	218	429	0	165	255	48	0	4305
PEAK HR FACTOR:	0.894	0.925	0.860	0.250	0.769	0.884	0.760	0.250	0.892	0.813	0.872	0.000	0.809	0.828	0.750	0.000	0.976
	0.962				0.930				0.900				0.907				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & N Beauregard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-006
Date: 12/13/2022

Data - Cars

NS/EW Streets:	Seminary Rd				Seminary Rd				N Beauregard St				N Beauregard St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	3 NL	2 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	2 EL	2 ET	2 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:00 AM	47	111	10	0	3	63	12	0	21	10	51	0	7	6	4	0	345
6:15 AM	50	124	14	1	2	103	20	0	29	22	54	0	9	7	7	0	442
6:30 AM	86	162	21	1	7	94	19	0	34	21	58	0	8	15	5	0	531
6:45 AM	68	174	32	1	3	132	35	0	44	25	64	0	8	10	6	0	602
7:00 AM	96	201	31	0	4	151	34	0	42	26	50	0	13	16	10	0	674
7:15 AM	130	221	32	2	4	135	46	0	51	36	77	0	12	34	11	0	791
7:30 AM	138	234	45	1	4	184	44	0	50	47	102	0	20	50	6	0	925
7:45 AM	161	213	41	0	10	215	48	0	76	57	109	0	24	52	11	0	1017
8:00 AM	133	231	37	0	7	178	57	0	59	73	113	0	17	32	15	0	952
8:15 AM	104	235	39	0	9	169	50	0	50	41	111	1	15	32	14	0	870
8:30 AM	145	261	28	0	10	129	50	0	64	37	75	0	21	27	12	0	859
8:45 AM	128	245	44	0	11	178	40	0	53	36	96	0	12	24	11	0	878
9:00 AM	90	212	26	3	11	148	52	0	61	29	67	0	18	31	6	0	754
9:15 AM	94	187	30	0	6	172	39	0	49	33	69	0	9	21	10	0	719
9:30 AM	92	163	26	2	9	122	42	0	57	24	70	0	12	20	10	0	659
9:45 AM	96	202	20	0	9	151	47	0	44	25	58	0	18	24	11	0	705
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	31.16%	59.69%	8.95%	0.21%	3.54%	75.83%	20.63%	0.00%	30.73%	21.25%	47.98%	0.04%	28.85%	51.88%	19.28%	0.00%	11723
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	536	913	162	1	30	746	199	0	235	218	435	1	76	166	46	0	3764
PEAK HR FACTOR:	0.832	0.971	0.900	0.250	0.750	0.867	0.873	0.000	0.773	0.747	0.962	0.250	0.792	0.798	0.767	0.000	0.925
	0.964				0.893				0.907				0.828				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	3 NL	2 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	2 EL	2 ET	2 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
3:30 PM	72	172	32	1	13	235	76	0	51	38	95	0	37	54	9	0	885
3:45 PM	121	179	37	1	13	245	86	0	73	37	76	0	31	38	10	0	947
4:00 PM	83	190	18	3	16	231	73	0	64	47	102	1	32	41	18	0	919
4:15 PM	95	209	35	2	8	258	103	0	64	46	104	0	32	45	12	0	1013
4:30 PM	93	175	25	1	22	253	94	0	74	53	103	0	41	72	21	0	1027
4:45 PM	98	226	36	0	13	265	97	0	56	46	122	0	26	61	16	0	1062
5:00 PM	76	192	37	2	8	242	64	1	72	64	112	0	39	76	12	0	997
5:15 PM	82	234	48	0	11	307	82	0	65	55	105	0	41	53	5	0	1088
5:30 PM	99	213	49	0	8	260	119	0	63	45	87	0	50	60	14	0	1067
5:45 PM	80	186	35	1	15	274	102	1	59	45	100	0	32	38	14	0	982
6:00 PM	102	192	40	0	13	257	80	0	70	47	85	0	34	53	10	0	983
6:15 PM	105	204	31	0	23	257	96	0	50	30	67	0	29	51	10	0	953
6:30 PM	102	265	41	1	14	282	94	0	44	26	62	0	21	25	8	0	985
6:45 PM	77	204	22	1	19	215	91	0	60	43	79	0	18	33	10	0	872
7:00 PM	60	210	23	4	20	240	58	0	39	24	81	1	19	41	6	0	826
7:15 PM	64	171	24	2	13	187	59	0	52	37	56	0	23	38	12	2	740
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	27.19%	62.16%	10.28%	0.37%	4.08%	71.41%	24.48%	0.04%	31.07%	22.20%	46.67%	0.06%	34.28%	52.89%	12.70%	0.14%	15346
PEAK HR:	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL:	355	865	170	2	40	1074	362	1	256	210	426	0	156	250	47	0	4214
PEAK HR FACTOR:	0.896	0.924	0.867	0.250	0.769	0.875	0.761	0.250	0.889	0.820	0.873	0.000	0.780	0.822	0.734	0.000	0.968
	0.956				0.923				0.899				0.892				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & N Beauregard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-006
Date: 12/13/2022

Data - HT

NS/EW Streets:	Seminary Rd				Seminary Rd				N Beauregard St				N Beauregard St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	3 NL	2 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	2 EL	2 ET	2 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:00 AM	4	4	3	0	0	2	0	0	1	1	0	0	1	0	0	0	16
6:15 AM	4	7	0	0	0	3	0	0	0	1	1	0	1	1	0	0	18
6:30 AM	7	8	1	0	0	3	2	0	0	1	0	0	0	1	0	0	23
6:45 AM	7	7	2	0	0	4	0	0	2	1	3	0	3	0	0	0	29
7:00 AM	4	9	4	0	0	7	0	0	1	5	0	0	0	1	2	0	33
7:15 AM	4	18	2	0	0	4	0	0	2	2	2	0	1	3	1	0	39
7:30 AM	5	6	3	0	0	9	0	0	0	3	3	0	3	2	1	0	35
7:45 AM	7	10	3	0	0	3	2	0	0	2	3	0	2	0	2	0	34
8:00 AM	1	5	1	0	0	8	2	0	1	3	1	0	2	1	0	0	25
8:15 AM	3	12	2	0	1	4	1	0	0	3	0	0	1	0	0	0	27
8:30 AM	5	12	3	0	0	7	0	0	3	2	0	0	1	0	0	0	33
8:45 AM	7	15	1	0	0	13	0	0	0	1	0	0	3	1	0	0	41
9:00 AM	5	10	1	0	0	8	3	0	1	1	1	0	1	1	0	0	32
9:15 AM	2	7	1	0	0	5	3	0	1	2	3	0	2	1	0	0	27
9:30 AM	6	8	1	0	0	2	0	0	2	3	0	0	4	0	0	0	26
9:45 AM	3	12	3	0	0	9	2	0	1	2	1	0	2	0	0	0	35
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	74	150	31	0	1	91	15	0	15	33	18	0	27	12	6	0	473
APPROACH %'s:	29.02%	58.82%	12.16%	0.00%	0.93%	85.05%	14.02%	0.00%	22.73%	50.00%	27.27%	0.00%	60.00%	26.67%	13.33%	0.00%	
PEAK HR:	07:30 AM - 08:30 AM																
PEAK HR VOL:	16	33	9	0	1	24	5	0	1	11	7	0	8	3	3	0	TOTAL
PEAK HR FACTOR:	0.571	0.688	0.750	0.000	0.250	0.667	0.625	0.000	0.250	0.917	0.583	0.000	0.667	0.375	0.375	0.000	121
	0.725				0.750				0.792				0.583				0.864

NS/EW Streets:	Seminary Rd				Seminary Rd				N Beauregard St				N Beauregard St				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	3 NL	2 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	2 EL	2 ET	2 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
3:30 PM	8	3	3	0	0	7	0	0	0	1	0	0	3	0	2	0	27
3:45 PM	2	2	0	0	0	5	0	0	0	4	4	0	5	2	1	0	25
4:00 PM	7	3	1	0	0	4	0	0	1	2	0	0	4	0	1	0	24
4:15 PM	5	5	0	0	0	6	0	0	2	2	0	0	3	1	0	0	23
4:30 PM	4	3	1	0	0	10	0	0	0	2	1	0	3	1	0	0	25
4:45 PM	6	5	0	0	0	9	0	0	0	1	1	0	5	2	0	0	29
5:00 PM	7	6	1	0	0	9	1	0	0	3	0	0	1	1	0	0	29
5:15 PM	1	4	0	0	0	4	1	0	0	0	2	0	2	0	1	0	15
5:30 PM	3	1	1	0	0	4	1	0	1	4	0	0	1	2	0	0	18
5:45 PM	3	1	1	0	0	6	2	0	0	1	0	0	0	1	0	0	15
6:00 PM	4	3	2	0	0	8	1	0	2	2	3	0	2	0	1	0	28
6:15 PM	4	1	1	0	0	3	0	0	1	1	1	0	2	1	0	0	15
6:30 PM	4	3	1	0	0	3	0	0	1	1	0	0	0	0	0	0	13
6:45 PM	2	2	0	0	0	3	1	0	1	1	0	0	1	0	0	0	11
7:00 PM	0	1	1	0	0	3	0	0	0	2	2	0	2	0	1	0	12
7:15 PM	1	2	0	0	0	0	0	0	0	2	0	0	4	0	0	0	9
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	61	45	13	0	0	84	7	0	9	29	14	0	38	11	7	0	318
APPROACH %'s:	51.26%	37.82%	10.92%	0.00%	0.00%	92.31%	7.69%	0.00%	17.31%	55.77%	26.92%	0.00%	67.86%	19.64%	12.50%	0.00%	
PEAK HR:	04:45 PM - 05:45 PM																
PEAK HR VOL:	17	16	2	0	0	26	3	0	1	8	3	0	9	5	1	0	TOTAL
PEAK HR FACTOR:	0.607	0.667	0.500	0.000	0.000	0.722	0.750	0.000	0.250	0.500	0.375	0.000	0.450	0.625	0.250	0.000	91
	0.625				0.725				0.600				0.536				0.784

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & N Beauregard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-006
Date: 12/13/2022

Data - Bikes

NS/EW Streets:	Seminary Rd				Seminary Rd				N Beauregard St				N Beauregard St					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	3 NL	2 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	2 EL	2 ET	2 ER	0 EU	1 WL	2 WT	0 WR	0 WU		
6:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	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	1	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s:	0	0	0	0	1	1	0	0	0	4	0	0	0	1	0	0	7	
PEAK HR:	07:30 AM - 08:30 AM																	
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	3 NL	2 NT	1 NR	0 NU	1 SL	3 ST	1 SR	0 SU	2 EL	2 ET	2 ER	0 EU	1 WL	2 WT	0 WR	0 WU		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	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	1	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	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	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s:	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	
PEAK HR:	04:45 PM - 05:45 PM																	
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.500	

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & N Beaugard St
City: Alexandria

Project ID: 22-260098-006
Date: 12/13/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Seminary Rd		Seminary Rd		N Beaugard St		N Beaugard St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:00 AM	0	0	0	0	0	0	0	1	1
6:15 AM	0	0	0	0	0	0	0	0	0
6:30 AM	1	1	1	0	0	1	0	0	4
6:45 AM	1	0	1	0	0	0	0	1	3
7:00 AM	0	1	2	2	0	0	0	1	6
7:15 AM	0	0	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	2	2
7:45 AM	0	1	0	1	0	0	0	0	2
8:00 AM	0	1	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	1	1
8:30 AM	1	1	1	0	0	0	0	1	4
8:45 AM	5	0	0	0	0	1	0	0	6
9:00 AM	0	0	0	0	0	0	0	0	0
9:15 AM	0	1	1	0	0	0	0	1	3
9:30 AM	0	0	0	0	0	0	0	1	1
9:45 AM	1	1	0	0	0	0	0	0	2
TOTAL VOLUMES :	EB 9	WB 7	EB 6	WB 4	NB 0	SB 2	NB 0	SB 9	TOTAL 37
APPROACH %'s :	56.25%	43.75%	60.00%	40.00%	0.00%	100.00%	0.00%	100.00%	
PEAK HR :	07:30 AM - 08:30 AM								
PEAK HR VOL :	0	2	0	1	0	0	0	3	TOTAL 6
PEAK HR FACTOR :	0.500		0.250		0.583		0.375		0.750

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM	1	0	0	0	0	0	0	0	1
3:45 PM	0	1	2	0	0	1	0	0	4
4:00 PM	0	0	2	4	0	0	0	0	6
4:15 PM	0	1	0	0	2	1	0	0	4
4:30 PM	0	2	2	0	2	0	0	1	7
4:45 PM	0	1	1	0	0	1	0	0	3
5:00 PM	1	0	0	0	0	2	0	0	3
5:15 PM	4	0	3	2	1	2	1	1	14
5:30 PM	0	0	0	0	0	1	0	0	1
5:45 PM	0	0	0	0	3	2	0	0	5
6:00 PM	0	1	1	0	0	0	0	0	2
6:15 PM	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0
7:00 PM	0	1	0	0	0	0	0	0	1
7:15 PM	0	2	0	0	2	0	0	0	4
TOTAL VOLUMES :	EB 6	WB 9	EB 11	WB 6	NB 10	SB 10	NB 1	SB 2	TOTAL 55
APPROACH %'s :	40.00%	60.00%	64.71%	35.29%	50.00%	50.00%	33.33%	66.67%	
PEAK HR :	04:45 PM - 05:45 PM								
PEAK HR VOL :	5	1	4	2	1	6	1	1	TOTAL 21
PEAK HR FACTOR :	0.375		0.300		0.583		0.250		0.375

Seminary Rd & N Beauregard St

Peak Hour Turning Movement Count

ID: 22-260098-006

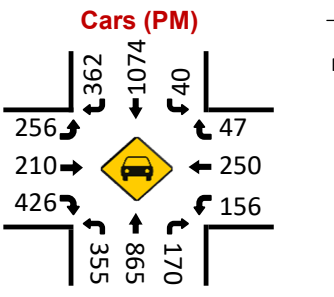
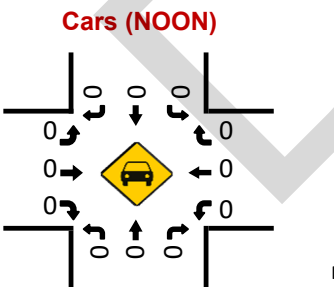
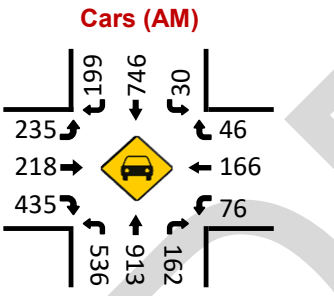
City: Alexandria

Day: Tuesday

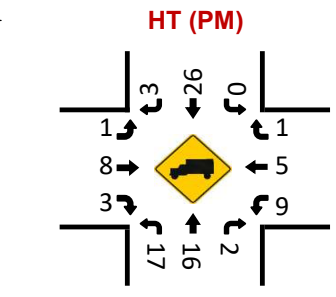
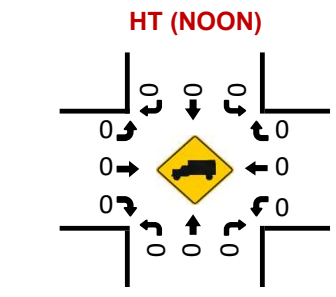
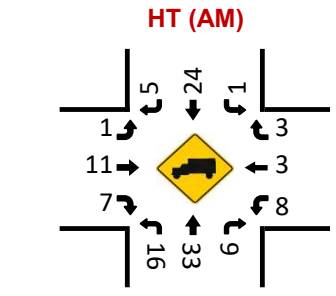
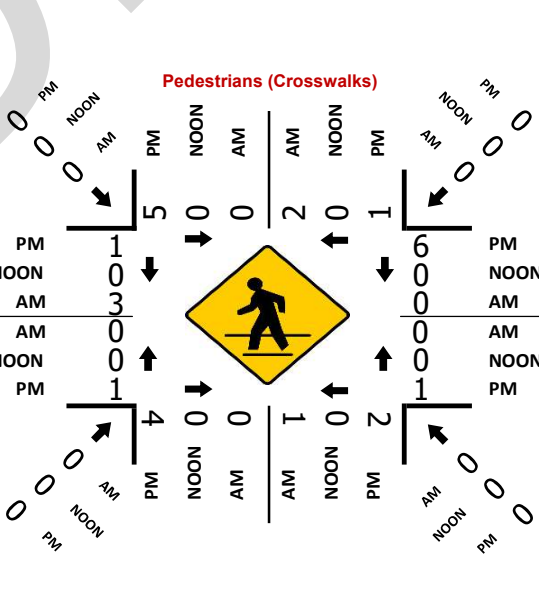
Date: 12/13/2022

PEAK HOURS	Seminary Rd								COUNT PERIODS
	SOUTHBOUND								
07:30 AM - 08:30 AM	AM	204	770	31	0	1231	AM	6:00 AM - 10:00 AM	
NONE	NOON	0	0	0	0	0	NOON	NONE	
04:45 PM - 05:45 PM	PM	365	1100	40	1	1187	PM	3:30 PM - 07:30 PM	

N Beauregard St	EASTBOUND			CONTROL	WESTBOUND		
	AM	NOON	PM		AM	NOON	PM
	926	0	992	TEV	3885	0	4305
	1	0	0	PHF	0.92	0	0.98
	236	0	257				
	229	0	218				
	442	0	429				



NORTHBOUND							
PM	1696	2	372	881	172	PM	
NOON	0	0	0	0	0	NOON	
AM	1297	1	552	946	171	AM	



Project ID: 22-260098-006

Location: Seminary Rd & N Beauregard St
City: Alexandria

Day: Tuesday
Date: 12/13/2022

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Seminary Rd Northbound						Seminary Rd Southbound						N Beauregard St Eastbound						N Beauregard St Westbound						Int. Total	
	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total		
6:00 AM	51	115	13	0	0	179	3	65	12	0	0	80	22	11	51	0	1	84	8	6	4	0	0	18	361	
6:15 AM	54	131	14	1	0	200	2	106	20	0	0	128	29	23	55	0	0	107	10	8	7	0	0	25	460	
6:30 AM	93	170	22	1	1	286	7	97	21	0	2	125	34	22	58	0	0	114	8	16	5	0	1	29	554	
6:45 AM	75	181	34	1	1	291	3	136	35	0	1	174	46	26	67	0	1	139	11	10	6	0	0	27	631	
Total	273	597	83	3	2	956	15	404	88	0	3	507	131	82	231	0	2	444	37	40	22	0	1	99	2006	
7:00 AM	100	210	35	0	4	345	4	158	34	0	1	196	43	31	50	0	1	124	13	17	12	0	0	42	707	
7:15 AM	134	239	34	2	1	409	4	139	46	0	0	189	53	38	79	0	0	170	13	37	12	0	0	62	830	
7:30 AM	143	240	48	1	0	432	4	193	44	0	0	241	50	50	105	0	2	205	23	52	7	0	0	82	960	
7:45 AM	168	223	44	0	1	435	10	218	50	0	1	278	76	59	112	0	0	247	26	52	13	0	0	91	1051	
Total	545	912	161	3	6	1621	22	708	174	0	2	904	222	178	346	0	3	746	75	158	44	0	0	277	3548	
8:00 AM	134	236	38	0	0	408	7	186	59	0	1	252	60	76	114	0	0	250	19	33	15	0	0	67	977	
8:15 AM	107	247	41	0	0	395	10	173	51	0	0	234	50	44	111	1	1	206	16	32	14	0	0	62	897	
8:30 AM	150	273	31	0	1	454	10	136	50	0	2	196	67	39	75	0	1	181	22	27	12	0	0	61	892	
8:45 AM	135	260	45	0	0	440	11	191	40	0	5	242	53	37	96	0	0	186	15	25	11	0	1	51	919	
Total	526	1016	155	0	1	1697	38	686	200	0	8	924	230	196	396	1	2	823	72	117	52	0	1	241	3685	
9:00 AM	95	222	27	3	0	347	11	156	55	0	0	222	62	30	68	0	0	160	19	32	6	0	0	57	786	
9:15 AM	96	194	31	0	1	321	6	177	42	0	1	225	50	35	72	0	1	157	11	22	10	0	0	43	746	
9:30 AM	98	171	27	2	0	298	9	134	42	0	0	185	59	27	70	0	1	156	16	20	10	0	0	46	685	
9:45 AM	99	214	23	0	0	336	9	160	49	0	2	218	45	27	59	0	0	131	20	24	11	0	0	55	740	
Total	388	801	108	5	1	1302	35	627	188	0	3	850	216	119	269	0	2	604	66	98	37	0	0	201	2957	
BREAK																										
3:30 PM	80	175	35	1	0	291	13	242	76	0	1	331	51	39	95	0	0	185	40	54	11	0	0	105	912	
3:45 PM	123	181	37	1	2	342	13	250	86	0	1	349	73	41	80	0	0	194	36	40	11	0	1	87	972	
Total	203	356	72	2	2	633	26	492	162	0	2	680	124	80	175	0	0	379	76	94	22	0	1	192	1884	
4:00 PM	90	193	19	3	6	305	16	235	73	0	0	324	65	49	102	1	0	217	36	41	19	0	0	96	942	
4:15 PM	100	214	35	2	0	351	8	264	103	0	1	375	66	48	104	0	0	218	35	46	12	0	3	93	1037	
4:30 PM	97	178	26	1	2	302	22	263	94	0	2	379	74	55	104	0	1	233	44	73	21	0	2	138	1052	
4:45 PM	104	231	36	0	1	371	13	274	97	0	1	384	56	47	123	0	0	226	31	63	16	0	1	110	1091	
Total	391	816	116	6	9	1329	59	1036	367	0	4	1462	261	199	433	1	1	894	146	223	68	0	6	437	4122	
5:00 PM	83	198	38	2	0	321	8	251	65	1	1	325	72	67	112	0	0	251	40	77	12	0	2	129	1026	
5:15 PM	83	238	48	0	5	369	11	311	83	0	4	405	65	55	107	0	2	227	43	53	6	0	3	102	1103	
5:30 PM	102	214	50	0	0	366	8	264	120	0	0	392	64	49	87	0	0	200	51	62	14	0	1	127	1085	
5:45 PM	83	187	36	1	0	307	15	280	104	1	0	400	59	46	100	0	0	205	32	39	14	0	5	85	997	
Total	351	837	172	3	5	1363	42	1106	372	2	5	1522	260	217	406	0	2	883	166	231	46	0	11	443	4211	
6:00 PM	106	195	42	0	1	343	13	265	81	0	1	359	72	49	88	0	0	209	36	53	11	0	0	100	1011	
6:15 PM	109	205	32	0	0	346	23	260	96	0	0	379	51	31	68	0	0	150	31	52	10	0	0	93	968	
6:30 PM	106	268	42	1	0	417	14	285	94	0	0	393	45	27	62	0	0	134	21	25	8	0	0	54	998	
6:45 PM	79	206	22	1	0	308	19	218	92	0	0	329	61	44	79	0	0	184	19	33	10	0	0	62	883	
Total	400	874	138	2	1	1414	69	1028	363	0	1	1460	229	151	297	0	0	677	107	163	39	0	0	309	3860	
7:00 PM	60	211	24	4	0	299	20	243	58	0	1	321	39	26	83	1	0	149	21	41	7	0	0	69	838	
7:15 PM	65	173	24	2	0	264	13	187	59	0	2	259	52	39	56	0	0	147	27	38	12	2	2	79	749	
Total	125	384	48	6	0	563	33	430	117	0	3	580	91	65	139	1	0	296	48	79	19	2	2	148	1587	
Grand Total	3202	6593	1053	30	27	10878	339	6517	2031	2	31	8889	1764	1287	2692	3	12	5746	793	1203	349	2	22	2347	27860	
Apprch %	29.4	60.6	9.7	0.3	0.2		3.8	73.3	22.8	0.0	0.3		30.7	22.4	46.8	0.1	0.2		33.8	51.3	14.9	0.1	0.9			
Total %	11.5	23.7	3.8	0.1	0.1	39.0	1.2	23.4	7.3	0.0	0.1	31.9	6.3	4.6	9.7	0.0	0.0	20.6	2.8	4.3	1.3	0.0	0.1	8.4		
Cars, PU, Vans	3067	6398	1009	30		10504	338	6342	2009	2		8691	1740	1225	2660	3		5628	728	1180	336	2		2246	27069	
% Cars, PU, Vans	95.8	97.0	95.8	100.0		96.6	99.7	97.3	98.9	100.0		97.8	98.6	95.2	98.8	100.0		97.9	91.8	98.1	96.3	100.0		95.7	97.2	
Heavy trucks	135	195	44	0		374	1	175	22	0		198	24	62	32	0		118	65	23	13	0		101	791	
% Heavy trucks	4.2	3.0	4.2	0.0		3.4	0.3	2.7	1.1	0.0		2.2	1.4	4.8	1.2	0.0		2.1	8.2	1.9	3.7	0.0		4.3	2.8	

Project ID: 22-260098-006
 Location: Seminary Rd & N Beaugard St
 City: Alexandria

PEAK HOURS

Day: Tuesday
 Date: 12/13/2022

AM

Start Time	Seminary Rd Northbound					Seminary Rd Southbound					N Beaugard St Eastbound					N Beaugard St Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 06:00 AM - 10:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	143	240	48	1	432	4	193	44	0	241	50	50	105	0	205	23	52	7	0	82	960
7:45 AM	168	223	44	0	435	10	218	50	0	278	76	59	112	0	247	26	52	13	0	91	1051
8:00 AM	134	236	38	0	408	7	186	59	0	252	60	76	114	0	250	19	33	15	0	67	977
8:15 AM	107	247	41	0	395	10	173	51	0	234	50	44	111	1	206	16	32	14	0	62	897
Total Volume	552	946	171	1	1670	31	770	204	0	1005	236	229	442	1	908	84	169	49	0	302	3885
% App. Total	33.1	56.6	10.2	0.1	100	3.1	76.6	20.3	0.0	100	26.0	25.2	48.7	0.1	100	27.8	56.0	16.2	0.0	100	
PHF	0.960					0.904					0.908					0.830					0.924
Cars, PU, Vans	536	913	162	1	1612	30	746	199	0	975	235	218	435	1	889	76	166	46	0	288	3764
% Cars, PU, Vans	97.1	96.5	94.7	100.0	96.5	96.8	96.9	97.5	0.0	97.0	99.6	95.2	98.4	100.0	97.9	90.5	98.2	93.9	0.0	95.4	96.9
Heavy trucks	16	33	9	0	58	1	24	5	0	30	1	11	7	0	19	8	3	3	0	14	121
% Heavy trucks	2.9	3.5	5.3	0.0	3.5	3.2	3.1	2.5	0.0	3.0	0.4	4.8	1.6	0.0	2.1	9.5	1.8	6.1	0.0	4.6	3.1

PM

Start Time	Seminary Rd Northbound					Seminary Rd Southbound					N Beaugard St Eastbound					N Beaugard St Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
4:45 PM	104	231	36	0	371	13	274	97	0	384	56	47	123	0	226	31	63	16	0	110	1091
5:00 PM	83	198	38	2	321	8	251	65	1	325	72	67	112	0	251	40	77	12	0	129	1026
5:15 PM	83	238	48	0	369	11	311	83	0	405	65	55	107	0	227	43	53	6	0	102	1103
5:30 PM	102	214	50	0	366	8	264	120	0	392	64	49	87	0	200	51	62	14	0	127	1085
Total Volume	372	881	172	2	1427	40	1100	365	1	1506	257	218	429	0	904	165	255	48	0	468	4305
% App. Total	26.1	61.7	12.1	0.1	100	2.7	73.0	24.2	0.1	100	28.4	24.1	47.5	0.0	100	35.3	54.5	10.3	0.0	100	
PHF	0.962					0.930					0.900					0.907					0.976
Cars, PU, Vans	355	865	170	2	1392	40	1074	362	1	1477	256	210	426	0	892	156	250	47	0	453	4214
% Cars, PU, Vans	95.4	98.2	98.8	100.0	97.5	100.0	97.6	99.2	100.0	98.1	99.6	96.3	99.3	0.0	98.7	94.5	98.0	97.9	0.0	96.8	97.9
Heavy trucks	17	16	2	0	35	0	26	3	0	29	1	8	3	0	12	9	5	1	0	15	91
% Heavy trucks	4.6	1.8	1.2	0.0	2.5	0.0	2.4	0.8	0.0	1.9	0.4	3.7	0.7	0.0	1.3	5.5	2.0	2.1	0.0	3.2	2.1

National Data & Surveying Services Intersection Turning Movement Count

Location: W Braddock Rd & N Beauregard St
 City: Alexandria
 Control: Signalized

Project ID: 22-260098-007
 Date: 12/13/2022

Data - Total

NS/EW Streets:	W Braddock Rd				W Braddock Rd				N Beauregard St				N Beauregard St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1.5 NL	1.5 NT	1 NR	0 NU	1 SL	1.5 ST	0.5 SR	0 SU	1 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:00 AM	6	0	20	0	0	0	0	0	0	22	9	1	3	9	0	0	70
6:15 AM	7	0	37	0	0	0	1	0	1	35	8	2	10	14	0	0	115
6:30 AM	11	1	36	0	0	0	2	0	1	55	7	2	8	20	1	0	144
6:45 AM	13	0	64	0	0	0	2	0	1	52	9	5	13	19	1	0	179
7:00 AM	17	0	69	0	0	0	2	0	1	64	14	3	6	27	1	0	204
7:15 AM	31	2	99	1	1	0	2	0	3	62	8	1	12	26	1	0	249
7:30 AM	37	2	116	1	0	0	1	0	1	88	29	1	31	42	1	0	350
7:45 AM	35	1	126	0	1	0	3	0	1	88	29	3	33	42	5	0	367
8:00 AM	33	1	116	1	0	0	1	0	3	75	50	1	44	48	0	0	373
8:15 AM	22	1	123	0	0	1	1	0	2	93	35	0	33	42	1	1	355
8:30 AM	24	0	126	0	0	1	2	0	2	83	17	3	24	36	2	0	320
8:45 AM	25	1	114	0	0	0	2	0	2	73	34	1	29	32	0	0	313
9:00 AM	23	1	76	0	0	1	1	0	0	57	17	0	25	34	1	0	236
9:15 AM	18	1	53	0	0	1	1	0	0	48	24	1	33	29	0	0	209
9:30 AM	15	2	60	0	0	0	2	0	2	44	21	0	15	31	1	0	193
9:45 AM	17	2	66	0	1	0	2	0	2	48	26	1	34	26	0	1	226
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	20.21%	0.91%	78.71%	0.18%	9.38%	12.50%	78.13%	0.00%	1.60%	71.99%	24.58%	1.82%	41.68%	56.32%	1.77%	0.24%	3903
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	127	5	481	2	1	1	6	0	7	344	143	5	141	174	7	1	1445
PEAK HR FACTOR:	0.858	0.625	0.954	0.500	0.250	0.250	0.500	0.000	0.583	0.925	0.715	0.417	0.801	0.906	0.350	0.250	0.968
	0.949				0.500				0.960				0.878				
PM	1.5 NL	1.5 NT	1 NR	0 NU	1 SL	1.5 ST	0.5 SR	0 SU	1 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
3:30 PM	23	1	57	0	1	3	1	0	2	64	23	3	68	70	3	1	320
3:45 PM	19	3	57	0	1	4	3	0	2	53	29	1	59	68	3	0	302
4:00 PM	23	0	45	0	1	2	0	0	3	65	44	2	72	91	1	1	350
4:15 PM	15	1	68	0	1	0	1	0	2	67	36	3	74	82	0	0	350
4:30 PM	35	0	58	0	0	3	2	0	2	79	50	3	84	95	1	0	412
4:45 PM	20	1	59	0	0	2	2	0	3	76	39	2	66	101	3	2	376
5:00 PM	26	0	67	0	0	2	3	0	9	59	39	1	69	85	3	0	363
5:15 PM	13	1	87	0	3	3	1	0	17	74	47	1	74	97	8	0	426
5:30 PM	30	3	84	0	3	5	2	0	12	56	51	2	71	104	13	0	436
5:45 PM	27	0	80	0	1	0	1	0	11	64	31	1	77	95	3	0	391
6:00 PM	15	3	84	0	0	6	4	0	5	72	38	1	68	92	7	0	395
6:15 PM	16	3	63	0	0	1	0	0	6	54	26	0	87	71	4	1	332
6:30 PM	19	0	65	0	1	1	0	0	2	58	33	0	65	65	2	0	311
6:45 PM	13	1	48	0	0	1	1	0	2	38	42	2	48	46	1	0	243
7:00 PM	14	2	40	0	1	1	1	0	0	42	24	2	63	47	0	0	237
7:15 PM	16	1	36	1	0	0	2	0	0	44	24	1	43	62	0	0	230
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	24.13%	1.49%	74.31%	0.07%	18.31%	47.89%	33.80%	0.00%	4.74%	58.70%	35.04%	1.52%	45.03%	52.61%	2.15%	0.21%	5474
PEAK HR:	05:15 PM - 06:15 PM																TOTAL
PEAK HR VOL:	85	7	335	0	7	14	8	0	45	266	167	5	290	388	31	0	1648
PEAK HR FACTOR:	0.708	0.583	0.963	0.000	0.583	0.583	0.500	0.000	0.662	0.899	0.819	0.625	0.942	0.933	0.596	0.000	0.945
	0.912				0.725				0.869				0.943				

National Data & Surveying Services Intersection Turning Movement Count

Location: W Braddock Rd & N Beauregard St
 City: Alexandria
 Control: Signalized

Project ID: 22-260098-007
 Date: 12/13/2022

Data - Cars

NS/EW Streets:	W Braddock Rd				W Braddock Rd				N Beauregard St				N Beauregard St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1.5 NL	1.5 NT	1 NR	0 NU	1 SL	1.5 ST	0.5 SR	0 SU	1 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	TOTAL
6:00 AM	4	0	20	0	0	0	0	0	0	20	7	1	3	8	0	0	63
6:15 AM	6	0	37	0	0	0	1	0	1	32	7	2	10	13	0	0	109
6:30 AM	10	1	36	0	0	0	2	0	1	51	6	2	8	17	1	0	135
6:45 AM	11	0	63	0	0	0	2	0	1	48	7	5	13	16	1	0	167
7:00 AM	14	0	66	0	0	0	2	0	1	59	10	3	6	24	1	0	186
7:15 AM	25	2	98	1	1	0	2	0	3	57	6	1	12	21	1	0	230
7:30 AM	34	2	114	1	0	0	1	0	1	78	26	1	30	39	1	0	328
7:45 AM	33	1	125	0	1	0	3	0	1	81	26	3	33	40	4	0	351
8:00 AM	31	0	114	1	0	0	1	0	3	72	44	1	42	43	0	0	352
8:15 AM	20	1	119	0	0	1	1	0	2	88	34	0	32	39	1	1	339
8:30 AM	23	0	120	0	0	1	2	0	2	78	14	3	22	34	2	0	301
8:45 AM	23	1	108	0	0	0	1	0	2	69	31	1	29	29	0	0	294
9:00 AM	20	1	70	0	0	1	1	0	0	54	13	0	25	31	1	0	217
9:15 AM	17	1	50	0	0	0	1	0	0	46	23	1	33	25	0	0	197
9:30 AM	13	2	52	0	0	0	2	0	2	43	17	0	15	29	1	0	176
9:45 AM	15	2	60	0	1	0	2	0	2	46	24	1	34	24	0	0	211
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	19.07%	0.89%	79.85%	0.19%	10.00%	10.00%	80.00%	0.00%	1.74%	72.94%	23.34%	1.98%	43.70%	54.41%	1.76%	0.13%	3656
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	118	4	472	2	1	1	6	0	7	319	130	5	137	161	6	1	1370
PEAK HR FACTOR:	0.868	0.500	0.944	0.500	0.250	0.250	0.500	0.000	0.583	0.906	0.739	0.417	0.815	0.936	0.375	0.250	0.973
	0.937				0.500				0.929				0.897				
PM	1.5 NL	1.5 NT	1 NR	0 NU	1 SL	1.5 ST	0.5 SR	0 SU	1 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	TOTAL
3:30 PM	21	1	56	0	1	3	1	0	2	58	22	3	67	67	3	1	306
3:45 PM	17	3	57	0	1	4	3	0	2	50	26	1	59	64	3	0	290
4:00 PM	21	0	45	0	1	2	0	0	3	63	41	2	71	85	1	1	336
4:15 PM	13	1	68	0	1	0	1	0	2	63	33	3	73	78	0	0	336
4:30 PM	32	0	57	0	0	2	2	0	2	75	47	3	84	94	0	0	398
4:45 PM	18	1	59	0	0	2	2	0	3	74	37	2	66	95	3	2	364
5:00 PM	25	0	67	0	0	2	3	0	9	55	38	1	67	82	3	0	352
5:15 PM	10	1	87	0	3	3	1	0	17	71	46	1	73	93	8	0	414
5:30 PM	27	3	84	0	3	5	2	0	12	52	48	2	70	100	13	0	421
5:45 PM	25	0	80	0	1	0	1	0	11	62	31	1	74	92	3	0	381
6:00 PM	13	3	84	0	0	6	4	0	5	69	38	1	68	87	7	0	385
6:15 PM	14	3	62	0	0	1	0	0	6	50	25	0	85	68	4	1	319
6:30 PM	18	0	65	0	1	1	0	0	2	54	31	0	63	62	2	0	299
6:45 PM	11	1	48	0	0	1	1	0	2	36	41	2	47	42	1	0	233
7:00 PM	13	2	39	0	1	1	1	0	0	39	22	2	63	46	0	0	229
7:15 PM	13	1	36	1	0	0	1	0	0	42	20	1	43	59	0	0	217
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	22.28%	1.53%	76.11%	0.08%	18.84%	47.83%	33.33%	0.00%	4.99%	58.45%	34.96%	1.60%	45.80%	51.81%	2.18%	0.21%	5280
PEAK HR:	05:15 PM - 06:15 PM																TOTAL
PEAK HR VOL:	75	7	335	0	7	14	8	0	45	254	163	5	285	372	31	0	1601
PEAK HR FACTOR:	0.694	0.583	0.963	0.000	0.583	0.583	0.500	0.000	0.662	0.894	0.849	0.625	0.963	0.930	0.596	0.000	0.951
	0.914				0.725				0.865				0.940				

National Data & Surveying Services Intersection Turning Movement Count

Location: W Braddock Rd & N Beauregard St
City: Alexandria
Control: Signalized

Project ID: 22-260098-007
Date: 12/13/2022

Data - HT

NS/EW Streets:	W Braddock Rd				W Braddock Rd				N Beauregard St				N Beauregard St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1.5 NL	1.5 NT	1 NR	0 NU	1 SL	1.5 ST	0.5 SR	0 SU	1 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:00 AM	2	0	0	0	0	0	0	0	0	2	2	0	0	1	0	0	7
6:15 AM	1	0	0	0	0	0	0	0	0	3	1	0	0	1	0	0	6
6:30 AM	1	0	0	0	0	0	0	0	0	4	1	0	0	3	0	0	9
6:45 AM	2	0	1	0	0	0	0	0	0	4	2	0	0	3	0	0	12
7:00 AM	3	0	3	0	0	0	0	0	0	5	4	0	0	3	0	0	18
7:15 AM	6	0	1	0	0	0	0	0	0	5	2	0	0	5	0	0	19
7:30 AM	3	0	2	0	0	0	0	0	0	10	3	0	1	3	0	0	22
7:45 AM	2	0	1	0	0	0	0	0	0	7	3	0	0	2	1	0	16
8:00 AM	2	1	2	0	0	0	0	0	0	3	6	0	2	5	0	0	21
8:15 AM	2	0	4	0	0	0	0	0	0	5	1	0	1	3	0	0	16
8:30 AM	1	0	6	0	0	0	0	0	0	5	3	0	2	2	0	0	19
8:45 AM	2	0	6	0	0	0	1	0	0	4	3	0	0	3	0	0	19
9:00 AM	3	0	6	0	0	0	0	0	0	3	4	0	0	3	0	0	19
9:15 AM	1	0	3	0	0	1	0	0	0	2	1	0	0	4	0	0	12
9:30 AM	2	0	8	0	0	0	0	0	0	1	4	0	0	2	0	0	17
9:45 AM	2	0	6	0	0	0	0	0	0	2	2	0	0	2	0	1	15
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	41.18%	1.18%	57.65%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	60.75%	39.25%	0.00%	11.32%	84.91%	1.89%	1.89%	247
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	9	1	9	0	0	0	0	0	0	25	13	0	4	13	1	0	75
PEAK HR FACTOR:	0.750	0.250	0.563	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.542	0.000	0.500	0.650	0.250	0.000	0.852
	0.792								0.731				0.643				

NS/EW Streets:	W Braddock Rd				W Braddock Rd				N Beauregard St				N Beauregard St				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1.5 NL	1.5 NT	1 NR	0 NU	1 SL	1.5 ST	0.5 SR	0 SU	1 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
3:30 PM	2	0	1	0	0	0	0	0	0	6	1	0	1	3	0	0	14
3:45 PM	2	0	0	0	0	0	0	0	0	3	3	0	0	4	0	0	12
4:00 PM	2	0	0	0	0	0	0	0	0	2	3	0	1	6	0	0	14
4:15 PM	2	0	0	0	0	0	0	0	0	4	3	0	1	4	0	0	14
4:30 PM	3	0	1	0	0	1	0	0	0	4	3	0	0	1	1	0	14
4:45 PM	2	0	0	0	0	0	0	0	0	2	2	0	0	6	0	0	12
5:00 PM	1	0	0	0	0	0	0	0	0	4	1	0	2	3	0	0	11
5:15 PM	3	0	0	0	0	0	0	0	0	3	1	0	1	4	0	0	12
5:30 PM	3	0	0	0	0	0	0	0	0	4	3	0	1	4	0	0	15
5:45 PM	2	0	0	0	0	0	0	0	0	2	0	0	3	3	0	0	10
6:00 PM	2	0	0	0	0	0	0	0	0	3	0	0	0	5	0	0	10
6:15 PM	2	0	1	0	0	0	0	0	0	4	1	0	2	3	0	0	13
6:30 PM	1	0	0	0	0	0	0	0	0	4	2	0	2	3	0	0	12
6:45 PM	2	0	0	0	0	0	0	0	0	2	1	0	1	4	0	0	10
7:00 PM	1	0	1	0	0	0	0	0	0	3	2	0	0	1	0	0	8
7:15 PM	3	0	0	0	0	0	1	0	0	2	4	0	0	3	0	0	13
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	89.19%	0.00%	10.81%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	63.41%	36.59%	0.00%	20.55%	78.08%	1.37%	0.00%	194
PEAK HR:	05:15 PM - 06:15 PM																TOTAL
PEAK HR VOL:	10	0	0	0	0	0	0	0	0	12	4	0	5	16	0	0	47
PEAK HR FACTOR:	0.833	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.333	0.000	0.417	0.800	0.000	0.000	0.783
	0.833								0.571				0.875				

National Data & Surveying Services Intersection Turning Movement Count

Location: W Braddock Rd & N Beauregard St
 City: Alexandria
 Control: Signalized

Project ID: 22-260098-007
 Date: 12/13/2022

Data - Bikes

NS/EW Streets:	W Braddock Rd				W Braddock Rd				N Beauregard St				N Beauregard St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1.5 NL	1.5 NT	1 NR	0 NU	1 SL	1.5 ST	0.5 SR	0 SU	1 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
6:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0	0	0	0	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	5
PEAK HR:	07:30 AM - 08:30 AM																
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	TOTAL
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1.5 NL	1.5 NT	1 NR	0 NU	1 SL	1.5 ST	0.5 SR	0 SU	1 EL	2 ET	1 ER	0 EU	1 WL	2 WT	0 WR	0 WU	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
6:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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	1	0	0	0	0	0	0	
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	0.00%	100.00%	0.00%	0	0	0	0	0.00%	100.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	8
PEAK HR:	05:15 PM - 06:15 PM																
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	TOTAL
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.500

National Data & Surveying Services Intersection Turning Movement Count

Location: W Braddock Rd & N Beaugard St
City: Alexandria

Project ID: 22-260098-007
Date: 12/13/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	W Braddock Rd		W Braddock Rd		N Beaugard St		N Beaugard St		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:00 AM	0	0	0	0	0	0	0	0	0
6:15 AM	0	1	0	1	0	1	0	0	3
6:30 AM	0	0	0	1	0	0	0	0	1
6:45 AM	1	0	1	1	0	0	0	1	4
7:00 AM	1	0	1	2	0	0	0	0	4
7:15 AM	0	0	0	0	1	0	0	0	1
7:30 AM	0	1	0	1	1	0	2	0	5
7:45 AM	0	1	2	0	0	0	1	0	4
8:00 AM	0	0	2	1	1	0	0	0	4
8:15 AM	0	0	1	0	0	0	0	0	1
8:30 AM	0	2	0	0	1	0	0	0	3
8:45 AM	0	1	0	0	0	0	0	0	1
9:00 AM	0	0	0	0	0	0	2	0	2
9:15 AM	0	0	1	1	0	0	1	0	3
9:30 AM	1	0	0	1	0	1	2	0	5
9:45 AM	0	0	2	0	0	0	0	0	2
TOTAL VOLUMES :	EB 3	WB 6	EB 10	WB 9	NB 4	SB 2	NB 8	SB 1	TOTAL 43
APPROACH %'s :	33.33%	66.67%	52.63%	47.37%	66.67%	33.33%	88.89%	11.11%	
PEAK HR :	07:30 AM - 08:30 AM								
PEAK HR VOL :	0	2	5	2	2	0	3	0	TOTAL 14
PEAK HR FACTOR :	0.500	0.500	0.625	0.500	0.500	0.500	0.375	0.375	0.700

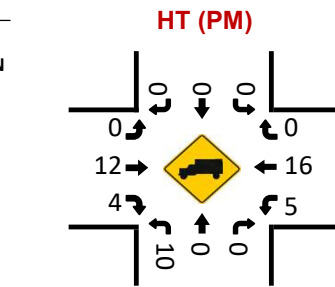
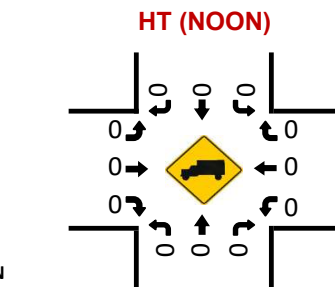
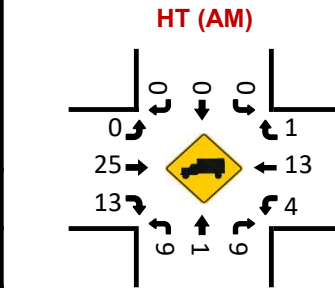
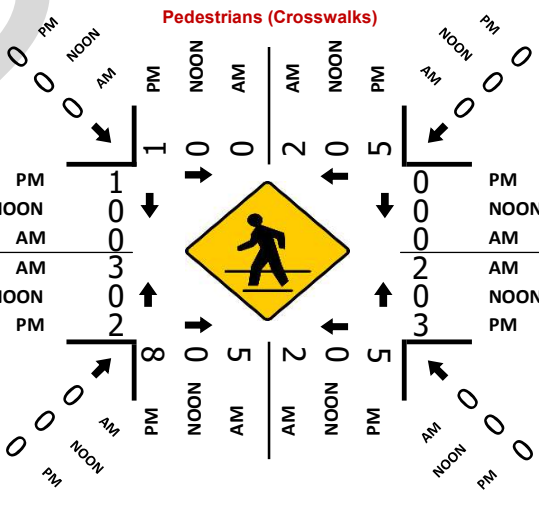
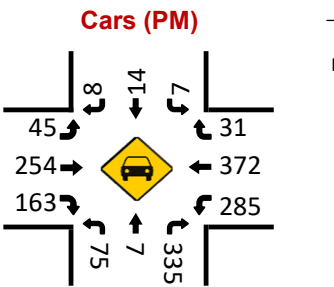
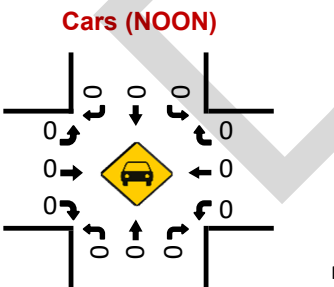
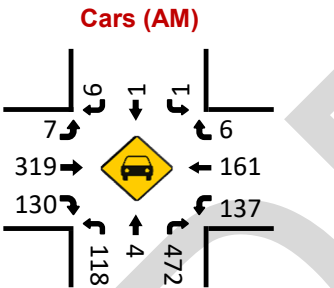
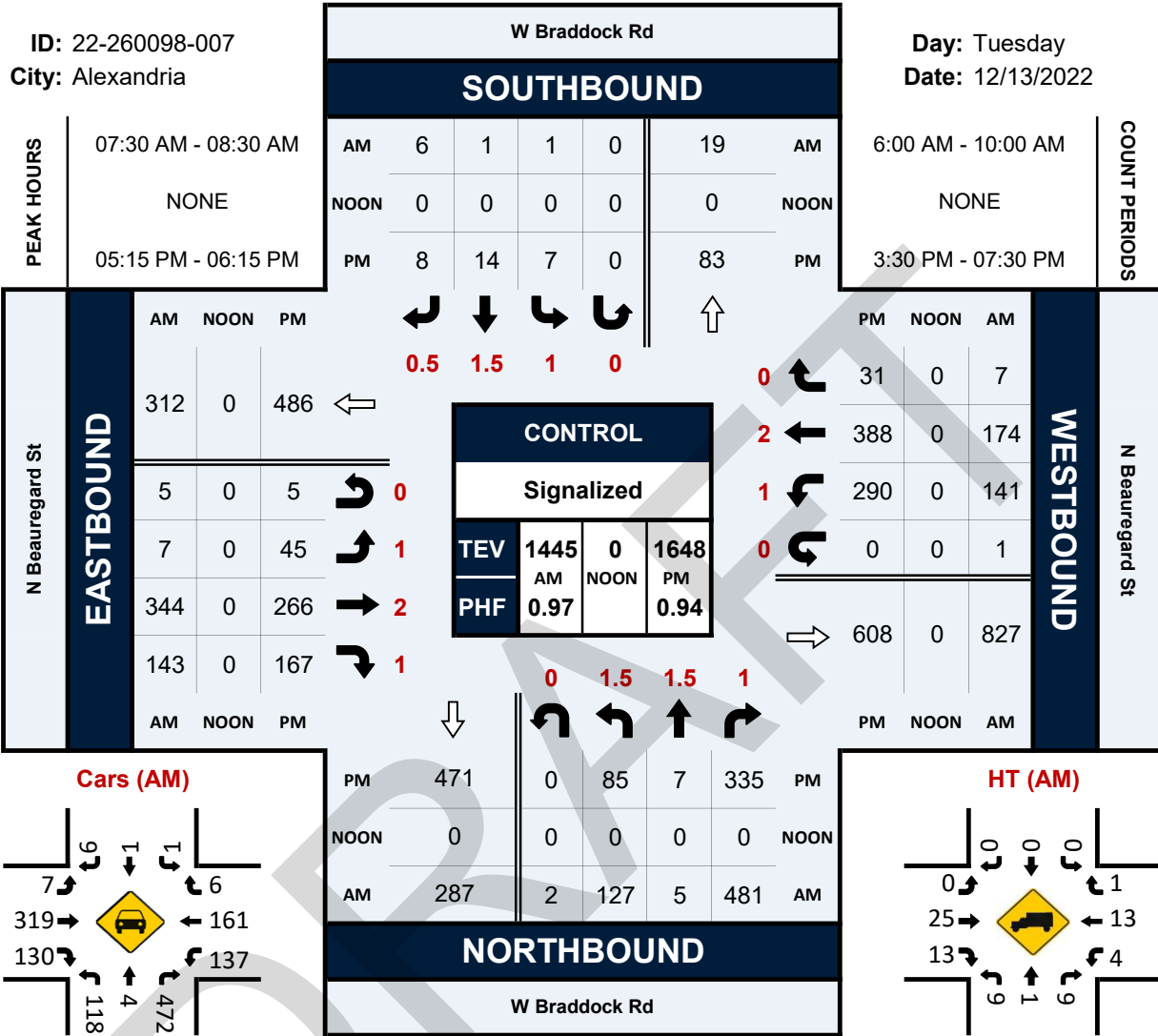
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM	3	1	4	2	0	0	3	1	14
3:45 PM	0	1	7	1	0	0	1	1	11
4:00 PM	3	2	0	0	0	2	0	1	8
4:15 PM	0	2	0	1	0	0	1	4	8
4:30 PM	1	0	4	5	1	0	2	1	14
4:45 PM	0	4	1	2	0	0	1	1	9
5:00 PM	1	2	2	1	1	0	0	0	7
5:15 PM	0	2	1	0	1	0	1	1	6
5:30 PM	1	1	5	2	1	0	0	0	10
5:45 PM	0	2	2	2	0	0	0	0	6
6:00 PM	0	0	0	1	1	0	1	0	3
6:15 PM	0	1	1	0	0	0	0	0	2
6:30 PM	0	0	1	0	0	1	0	0	2
6:45 PM	0	1	1	1	0	0	1	0	3
7:00 PM	1	1	0	2	0	0	0	0	4
7:15 PM	0	0	1	0	0	0	0	0	1
TOTAL VOLUMES :	EB 10	WB 20	EB 30	WB 20	NB 5	SB 3	NB 10	SB 10	TOTAL 108
APPROACH %'s :	33.33%	66.67%	60.00%	40.00%	62.50%	37.50%	50.00%	50.00%	
PEAK HR :	05:15 PM - 06:15 PM								
PEAK HR VOL :	1	5	8	5	3	0	2	1	TOTAL 25
PEAK HR FACTOR :	0.250	0.625	0.400	0.625	0.750	0.750	0.500	0.250	0.625

W Braddock Rd & N Beauregard St

Peak Hour Turning Movement Count

ID: 22-260098-007
City: Alexandria

Day: Tuesday
Date: 12/13/2022



Project ID: 22-260098-007

Location: W Braddock Rd & N Beauregard St
 City: Alexandria

Day: Tuesday
 Date: 12/13/2022

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	W Braddock Rd Northbound						W Braddock Rd Southbound						N Beauregard St Eastbound						N Beauregard St Westbound						Int. Total	
	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total		
6:00 AM	6	0	20	0	0	26	0	0	0	0	0	0	0	22	9	1	0	32	3	9	0	0	0	12	70	
6:15 AM	7	0	37	0	1	44	0	0	1	0	1	1	1	35	8	2	0	46	10	14	0	0	1	24	115	
6:30 AM	11	1	36	0	1	48	0	0	2	0	0	2	1	55	7	2	0	65	8	20	1	0	0	29	144	
6:45 AM	13	0	64	0	2	77	0	0	2	0	1	2	1	52	9	5	1	67	13	19	1	0	0	33	179	
Total	37	1	157	0	4	195	0	0	5	0	2	5	3	164	33	10	1	210	34	62	2	0	1	98	508	
7:00 AM	17	0	69	0	3	86	0	0	2	0	1	2	1	64	14	3	0	82	6	27	1	0	0	34	204	
7:15 AM	31	2	99	1	0	133	1	0	2	0	0	3	3	62	8	1	0	74	12	26	1	0	1	39	249	
7:30 AM	37	2	116	1	1	156	0	0	1	0	1	1	1	88	29	1	2	119	31	42	1	0	1	74	350	
7:45 AM	35	1	126	0	2	162	1	0	3	0	1	4	1	88	29	3	1	121	33	42	5	0	0	80	367	
Total	120	5	410	2	6	537	2	0	8	0	3	10	6	302	80	8	3	396	82	137	8	0	2	227	1170	
8:00 AM	33	1	116	1	3	151	0	0	1	0	0	1	3	75	50	1	0	129	44	48	0	0	1	92	373	
8:15 AM	22	1	123	0	1	146	0	1	1	0	0	2	2	93	35	0	0	130	33	42	1	1	0	77	355	
8:30 AM	24	0	126	0	0	150	0	1	2	0	2	3	2	83	17	3	0	105	24	36	2	0	1	62	320	
8:45 AM	25	1	114	0	0	140	0	0	2	0	1	2	2	73	34	1	0	110	29	32	0	0	0	61	313	
Total	104	3	479	1	4	587	0	2	6	0	3	8	9	324	136	5	0	474	130	158	3	1	2	292	1361	
9:00 AM	23	1	76	0	0	100	0	1	1	0	0	2	0	57	17	0	2	74	25	34	1	0	0	60	236	
9:15 AM	18	1	53	0	2	72	0	1	1	0	0	2	0	48	24	1	1	73	33	29	0	0	0	62	209	
9:30 AM	15	2	60	0	1	77	0	0	2	0	1	2	2	44	21	0	2	67	15	31	1	0	1	47	193	
9:45 AM	17	2	66	0	2	85	1	0	2	0	0	3	2	48	26	1	0	77	34	26	0	1	0	61	226	
Total	73	6	255	0	5	334	1	2	6	0	1	9	4	197	88	2	5	291	107	120	2	1	1	230	864	
BREAK																										
3:30 PM	23	1	57	0	6	81	1	3	1	0	4	5	2	64	23	3	4	92	68	70	3	1	0	142	320	
3:45 PM	19	3	57	0	8	79	1	4	3	0	1	8	2	53	29	1	2	85	59	68	3	0	0	130	302	
Total	42	4	114	0	14	160	2	7	4	0	5	13	4	117	52	4	6	177	127	138	6	1	0	272	622	
4:00 PM	23	0	45	0	0	68	1	2	0	0	5	3	3	65	44	2	1	114	72	91	1	1	2	165	350	
4:15 PM	15	1	68	0	1	84	1	0	1	0	2	2	2	67	36	3	5	108	74	82	0	0	0	156	350	
4:30 PM	35	0	58	0	9	93	0	3	2	0	1	5	2	79	50	3	3	134	84	95	1	0	1	180	412	
4:45 PM	20	1	59	0	3	80	0	2	2	0	4	4	3	76	39	2	2	120	66	101	3	2	0	172	376	
Total	93	2	230	0	13	325	2	7	5	0	12	14	10	287	169	10	11	476	296	369	5	3	3	673	1488	
5:00 PM	26	0	67	0	3	93	0	2	3	0	3	5	9	59	39	1	0	108	69	85	3	0	1	157	363	
5:15 PM	13	1	87	0	1	101	3	3	1	0	2	7	17	74	47	1	2	139	74	97	8	0	1	179	426	
5:30 PM	30	3	84	0	7	117	3	5	2	0	2	10	12	56	51	2	0	121	71	104	13	0	1	188	436	
5:45 PM	27	0	80	0	4	107	1	0	1	0	2	2	11	64	31	1	0	107	77	95	3	0	0	175	391	
Total	96	4	318	0	15	418	7	10	7	0	9	24	49	253	168	5	2	475	291	381	27	0	3	699	1616	
6:00 PM	15	3	84	0	1	102	0	6	4	0	0	10	5	72	38	1	1	116	68	92	7	0	1	167	395	
6:15 PM	16	3	63	0	1	82	0	1	0	0	1	1	6	54	26	0	0	86	87	71	4	1	0	163	332	
6:30 PM	19	0	65	0	1	84	1	1	0	0	0	2	2	58	33	0	0	93	65	65	2	0	1	132	311	
6:45 PM	13	1	48	0	2	62	0	1	1	0	1	2	2	38	42	2	0	84	48	46	1	0	0	95	243	
Total	63	7	260	0	5	330	1	9	5	0	2	15	15	222	139	3	1	379	268	274	14	1	2	557	1281	
7:00 PM	14	2	40	0	2	56	1	1	1	0	2	3	0	42	24	2	0	68	63	47	0	0	0	110	237	
7:15 PM	16	1	36	1	1	54	0	0	2	0	0	2	0	44	24	1	0	69	43	62	0	0	0	105	230	
Total	30	3	76	1	3	110	1	1	3	0	2	5	0	86	48	3	0	137	106	109	0	0	0	215	467	
Grand Total	658	35	2299	4	69	2996	16	38	49	0	39	103	100	1952	913	50	29	3015	1441	1748	67	7	14	3263	9377	
Approch %	22.0	1.2	76.7	0.1	2.3		15.5	36.9	47.6	0.0	37.9		3.3	64.7	30.3	1.7	1.0		44.2	53.6	2.1	0.2	0.4			
Total %	7.0	0.4	24.5	0.0	0.7	32.0	0.2	0.4	0.5	0.0	0.4	1.1	1.1	20.8	9.7	0.5	0.3	32.2	15.4	18.6	0.7	0.1	0.1	34.8		
Cars, PU, Vans	590	34	2246	4	2874		16	36	47	0	99		100	1835	841	50	2826		1420	1646	65	6	3137	8936		
% Cars, PU, Vans	89.7	97.1	97.7	100.0	95.9		100.0	94.7	95.9	0.0	96.1		100.0	94.0	92.1	100.0	93.7		98.5	94.2	97.0	85.7	96.1	95.3		
Heavy trucks	68	1	53	0	122		0	2	2	0	4		0	117	72	0	189		21	102	2	1	126	441		
% Heavy trucks	10.3	2.9	2.3	0.0	4.1		0.0	5.3	4.1	0.0	3.9		0.0	6.0	7.9	0.0	6.3		1.5	5.8	3.0	14.3	3.9	4.7		

Project ID: 22-26098-007
 Location: W Braddock Rd & N Beauregard St
 City: Alexandria

PEAK HOURS

Day: Tuesday
 Date: 12/13/2022

AM

Start Time	W Braddock Rd Northbound					W Braddock Rd Southbound					N Beauregard St Eastbound					N Beauregard St Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 06:00 AM - 10:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	37	2	116	1	156	0	0	1	0	1	1	88	29	1	119	31	42	1	0	74	350
7:45 AM	35	1	126	0	162	1	0	3	0	4	1	88	29	3	121	33	42	5	0	80	367
8:00 AM	33	1	116	1	151	0	0	1	0	1	3	75	50	1	129	44	48	0	0	92	373
8:15 AM	22	1	123	0	146	0	1	1	0	2	2	93	35	0	130	33	42	1	1	77	355
Total Volume	127	5	481	2	615	1	1	6	0	8	7	344	143	5	499	141	174	7	1	323	1445
% App. Total	20.7	0.8	78.2	0.3	100	12.5	12.5	75.0	0.0	100	1.4	68.9	28.7	1.0	100	43.7	53.9	2.2	0.3	100	
PHF	0.949					0.500					0.960					0.878					0.968
Cars, PU, Vans	118	4	472	2	596	1	1	6	0	8	7	319	130	5	461	137	161	6	1	305	1370
% Cars, PU, Vans	92.9	80.0	98.1	100.0	96.9	100.0	100.0	100.0	0.0	100.0	100.0	92.7	90.9	100.0	92.4	97.2	92.5	85.7	100.0	94.4	94.8
Heavy trucks	9	1	9	0	19	0	0	0	0	0	0	25	13	0	38	4	13	1	0	18	75
%Heavy trucks	7.1	20.0	1.9	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	7.3	9.1	0.0	7.6	2.8	7.5	14.3	0.0	5.6	5.2

PM

Start Time	W Braddock Rd Northbound					W Braddock Rd Southbound					N Beauregard St Eastbound					N Beauregard St Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
5:15 PM	13	1	87	0	101	3	3	1	0	7	17	74	47	1	139	74	97	8	0	179	426
5:30 PM	30	3	84	0	117	3	5	2	0	10	12	56	51	2	121	71	104	13	0	188	436
5:45 PM	27	0	80	0	107	1	0	1	0	2	11	64	31	1	107	77	95	3	0	175	391
6:00 PM	15	3	84	0	102	0	6	4	0	10	5	72	38	1	116	68	92	7	0	167	395
Total Volume	85	7	335	0	427	7	14	8	0	29	45	266	167	5	483	290	388	31	0	709	1648
% App. Total	19.9	1.6	78.5	0.0	100	24.1	48.3	27.6	0.0	100	9.3	55.1	34.6	1.0	100	40.9	54.7	4.4	0.0	100	
PHF	0.912					0.725					0.869					0.943					0.945
Cars, PU, Vans	75	7	335	0	417	7	14	8	0	29	45	254	163	5	467	285	372	31	0	688	1601
% Cars, PU, Vans	88.2	100.0	100.0	0.0	97.7	100.0	100.0	100.0	0.0	100.0	100.0	95.5	97.6	100.0	96.7	98.3	95.9	100.0	0.0	97.0	97.1
Heavy trucks	10	0	0	0	10	0	0	0	0	0	0	12	4	0	16	5	16	0	0	21	47
%Heavy trucks	11.8	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	4.5	2.4	0.0	3.3	1.7	4.1	0.0	0.0	3.0	2.9

National Data & Surveying Services Intersection Turning Movement Count

Location: King St & N Beauregard St/S Walter Reed Dr
City: Alexandria
Control: Signalized

Project ID: 22-260098-008
Date: 12/13/2022

Data - Total

NS/EW Streets:	King St				King St				N Beauregard St/S Walter Reed Dr				N Beauregard St/S Walter Reed Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1	1.5	0.5	0	1	2	1	0	2	1.5	0.5	0	1	2	1	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	3	86	13	0	12	94	6	0	13	19	7	0	8	4	9	0	274
6:15 AM	3	84	13	0	14	99	13	0	32	34	8	0	12	6	15	0	333
6:30 AM	6	125	5	0	16	153	14	0	31	36	19	0	17	8	13	0	443
6:45 AM	7	109	13	0	22	121	12	0	47	51	21	0	24	11	20	0	458
7:00 AM	4	166	22	0	16	157	19	0	41	43	17	0	24	10	26	0	545
7:15 AM	10	176	18	0	15	190	16	0	81	81	10	0	23	18	28	0	666
7:30 AM	20	217	20	0	27	215	26	0	69	85	21	0	29	18	28	0	775
7:45 AM	14	201	21	0	25	192	34	0	92	93	21	0	40	29	39	0	801
8:00 AM	16	256	23	0	38	252	26	0	72	88	24	0	26	33	35	0	889
8:15 AM	15	185	23	0	32	215	36	0	88	93	34	0	35	23	40	0	819
8:30 AM	9	209	22	0	29	197	27	0	85	81	21	0	26	19	25	0	750
8:45 AM	12	183	12	0	44	127	23	0	98	74	22	0	29	28	30	0	682
9:00 AM	9	199	18	0	39	167	30	0	54	59	9	0	17	15	21	0	637
9:15 AM	14	159	10	0	32	155	26	0	52	53	21	0	16	22	46	0	606
9:30 AM	11	169	14	0	25	146	26	0	39	33	16	0	17	18	37	0	551
9:45 AM	17	144	15	0	24	145	26	0	64	46	17	0	23	19	42	0	582
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	5.48%	86.06%	8.45%	0.00%	12.08%	77.32%	10.60%	0.00%	43.25%	43.75%	13.00%	0.00%	33.24%	25.52%	41.24%	0.00%	9811
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	65	859	87	0	122	874	122	0	321	359	100	0	130	103	142	0	3284
PEAK HR FACTOR:	0.813	0.839	0.946	0.000	0.803	0.867	0.847	0.000	0.872	0.965	0.735	0.000	0.813	0.780	0.888	0.000	0.924
	0.857				0.884				0.907				0.868				
PM	1	1.5	0.5	0	1	2	1	0	2	1.5	0.5	0	1	2	1	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	11	209	19	0	39	260	61	0	54	45	24	0	37	70	44	0	873
3:45 PM	21	243	19	0	29	270	55	0	46	41	34	0	39	52	53	0	902
4:00 PM	18	256	15	0	25	258	66	0	71	35	25	0	34	75	48	0	926
4:15 PM	17	228	18	0	29	276	53	0	58	42	20	0	46	99	61	0	947
4:30 PM	21	230	21	0	42	317	61	0	60	38	32	1	54	82	49	0	1008
4:45 PM	18	203	12	1	36	253	51	0	61	58	30	0	61	108	56	0	948
5:00 PM	13	257	21	0	41	280	74	0	52	51	27	0	54	74	50	0	994
5:15 PM	13	254	27	0	37	269	67	0	74	70	32	0	51	96	65	0	1055
5:30 PM	19	264	16	0	27	272	75	0	70	46	36	0	50	84	45	0	1004
5:45 PM	19	250	16	0	39	275	73	0	88	45	21	0	44	63	59	0	992
6:00 PM	9	212	17	0	49	246	70	0	59	56	33	0	36	90	63	0	940
6:15 PM	13	285	19	0	31	274	64	0	56	40	20	0	42	66	52	0	962
6:30 PM	21	228	13	0	38	244	75	0	70	45	21	0	39	39	52	0	885
6:45 PM	14	293	28	0	39	257	52	0	47	41	15	0	43	29	39	0	897
7:00 PM	9	202	18	0	39	212	59	0	49	29	18	0	24	33	43	0	735
7:15 PM	18	202	16	0	44	193	50	0	38	20	26	0	28	42	53	0	730
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	5.82%	87.40%	6.76%	0.02%	10.16%	72.33%	17.51%	0.00%	46.04%	33.91%	20.00%	0.05%	26.07%	42.13%	31.80%	0.00%	14798
PEAK HR:	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL:	64	1025	80	0	144	1096	289	0	284	212	116	0	199	317	219	0	4045
PEAK HR FACTOR:	0.842	0.971	0.741	0.000	0.878	0.979	0.963	0.000	0.807	0.757	0.806	0.000	0.921	0.826	0.842	0.000	0.959
	0.977				0.968				0.869				0.867				

National Data & Surveying Services Intersection Turning Movement Count

Location: King St & N Beauregard St/S Walter Reed Dr
City: Alexandria
Control: Signalized

Project ID: 22-260098-008
Date: 12/13/2022

Data - Cars

NS/EW Streets:	King St				King St				N Beauregard St/S Walter Reed Dr				N Beauregard St/S Walter Reed Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1	1.5	0.5	0	1	2	1	0	2	1.5	0.5	0	1	2	1	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	2	79	12	0	12	90	6	0	13	19	5	0	8	4	9	0	259
6:15 AM	2	78	13	0	14	96	13	0	32	34	5	0	12	6	15	0	320
6:30 AM	3	123	5	0	16	152	13	0	31	35	16	0	17	8	13	0	432
6:45 AM	4	100	13	0	20	120	12	0	46	51	19	0	24	10	16	0	435
7:00 AM	3	161	22	0	15	155	19	0	41	42	14	0	24	10	20	0	526
7:15 AM	7	169	18	0	14	184	16	0	80	80	8	0	22	16	24	0	638
7:30 AM	15	213	18	0	26	208	26	0	69	81	17	0	29	18	27	0	747
7:45 AM	11	195	20	0	25	185	34	0	91	90	17	0	38	29	39	0	774
8:00 AM	12	246	22	0	36	242	26	0	72	86	21	0	26	32	34	0	855
8:15 AM	11	177	22	0	31	206	35	0	88	90	29	0	35	23	39	0	786
8:30 AM	6	203	20	0	28	193	27	0	82	80	17	0	25	17	25	0	723
8:45 AM	9	177	12	0	44	123	23	0	93	68	17	0	29	28	29	0	652
9:00 AM	5	191	17	0	37	161	29	0	51	56	6	0	17	15	19	0	604
9:15 AM	10	153	10	0	31	150	25	0	51	50	17	0	16	22	46	0	581
9:30 AM	10	161	14	0	25	140	25	0	37	32	15	0	17	17	36	0	529
9:45 AM	13	138	14	0	22	136	26	0	61	40	15	0	22	18	41	0	546
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	4.19%	87.24%	8.57%	0.00%	12.03%	77.19%	10.78%	0.00%	44.45%	44.27%	11.28%	0.00%	33.86%	25.61%	40.53%	0.00%	9407
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	49	831	82	0	118	841	121	0	320	347	84	0	128	102	139	0	3162
PEAK HR FACTOR:	0.817	0.845	0.932	0.000	0.819	0.869	0.864	0.000	0.879	0.964	0.724	0.000	0.842	0.797	0.891	0.000	0.925
	0.859				0.888				0.907				0.870				

NS/EW Streets:	King St				King St				N Beauregard St/S Walter Reed Dr				N Beauregard St/S Walter Reed Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	1.5	0.5	0	1	2	1	0	2	1.5	0.5	0	1	2	1	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	9	207	19	0	38	258	61	0	54	45	18	0	34	70	44	0	857
3:45 PM	17	240	18	0	28	268	55	0	46	40	31	0	39	52	53	0	887
4:00 PM	17	253	15	0	24	253	63	0	71	35	23	0	33	73	48	0	908
4:15 PM	14	225	18	0	29	273	52	0	57	42	17	0	44	99	60	0	930
4:30 PM	19	224	21	0	41	312	60	0	59	38	28	1	54	81	48	0	986
4:45 PM	14	201	11	1	35	250	51	0	61	58	27	0	61	108	55	0	933
5:00 PM	11	252	21	0	40	275	74	0	52	51	24	0	54	72	50	0	976
5:15 PM	10	252	25	0	37	265	67	0	74	69	30	0	51	94	65	0	1039
5:30 PM	14	263	16	0	27	268	73	0	70	45	32	0	50	82	45	0	985
5:45 PM	17	248	15	0	39	274	71	0	88	45	19	0	44	63	59	0	982
6:00 PM	6	209	16	0	49	244	70	0	59	56	30	0	36	89	62	0	926
6:15 PM	10	281	19	0	31	272	63	0	56	40	16	0	42	64	52	0	946
6:30 PM	19	226	13	0	38	241	75	0	69	45	16	0	38	38	52	0	870
6:45 PM	10	292	28	0	38	257	51	0	47	41	13	0	43	29	39	0	888
7:00 PM	8	201	18	0	39	211	59	0	48	29	17	0	24	33	42	0	729
7:15 PM	15	201	16	0	43	191	50	0	38	20	23	0	28	42	53	0	720
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	4.91%	88.30%	6.76%	0.02%	10.14%	72.36%	17.51%	0.00%	47.14%	34.72%	18.08%	0.05%	26.05%	42.03%	31.92%	0.00%	14562
PEAK HR:	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL:	52	1015	77	0	143	1082	285	0	284	210	105	0	199	311	219	0	3982
PEAK HR FACTOR:	0.765	0.965	0.770	0.000	0.894	0.984	0.963	0.000	0.807	0.761	0.820	0.000	0.921	0.827	0.842	0.000	0.958
	0.976				0.970				0.866				0.868				

National Data & Surveying Services Intersection Turning Movement Count

Location: King St & N Beauregard St/S Walter Reed Dr
City: Alexandria
Control: Signalized

Project ID: 22-260098-008
Date: 12/13/2022

Data - HT

NS/EW Streets:	King St				King St				N Beauregard St/S Walter Reed Dr				N Beauregard St/S Walter Reed Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1	1.5	0.5	0	1	2	1	0	2	1.5	0.5	0	1	2	1	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	1	7	1	0	0	4	0	0	0	0	2	0	0	0	0	0	15
6:15 AM	1	6	0	0	0	3	0	0	0	0	3	0	0	0	0	0	13
6:30 AM	3	2	0	0	0	1	1	0	0	0	1	3	0	0	0	0	11
6:45 AM	3	9	0	0	2	1	0	0	1	0	2	0	0	1	4	0	23
7:00 AM	1	5	0	0	1	2	0	0	0	1	3	0	0	0	6	0	19
7:15 AM	3	7	0	0	1	6	0	0	1	1	2	0	1	2	4	0	28
7:30 AM	5	4	2	0	1	7	0	0	0	4	4	0	0	0	1	0	28
7:45 AM	3	6	1	0	0	7	0	0	1	3	4	0	2	0	0	0	27
8:00 AM	4	10	1	0	2	10	0	0	0	2	3	0	0	1	1	0	34
8:15 AM	4	8	1	0	1	9	1	0	0	3	5	0	0	0	1	0	33
8:30 AM	3	6	2	0	1	4	0	0	3	1	4	0	1	2	0	0	27
8:45 AM	3	6	0	0	0	4	0	0	5	6	5	0	0	0	1	0	30
9:00 AM	4	8	1	0	2	6	1	0	3	3	3	0	0	0	2	0	33
9:15 AM	4	6	0	0	1	5	1	0	1	3	4	0	0	0	0	0	25
9:30 AM	1	8	0	0	0	6	1	0	2	1	1	0	0	1	1	0	22
9:45 AM	4	6	1	0	2	9	0	0	3	6	2	0	1	1	1	0	36
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	29.19%	64.60%	6.21%	0.00%	13.59%	81.55%	4.85%	0.00%	19.05%	33.33%	47.62%	0.00%	14.29%	22.86%	62.86%	0.00%	404
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	16	28	5	0	4	33	1	0	1	12	16	0	2	1	3	0	122
PEAK HR FACTOR:	0.800	0.700	0.625	0.000	0.500	0.825	0.250	0.000	0.250	0.750	0.800	0.000	0.250	0.250	0.750	0.000	0.897
	0.817				0.792				0.906				0.750				

NS/EW Streets:	King St				King St				N Beauregard St/S Walter Reed Dr				N Beauregard St/S Walter Reed Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	1.5	0.5	0	1	2	1	0	2	1.5	0.5	0	1	2	1	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	2	2	0	0	1	2	0	0	0	0	6	0	3	0	0	0	16
3:45 PM	4	3	1	0	1	2	0	0	0	1	3	0	0	0	0	0	15
4:00 PM	1	3	0	0	1	5	3	0	0	0	2	0	1	2	0	0	18
4:15 PM	3	3	0	0	0	3	1	0	1	0	3	0	2	0	1	0	17
4:30 PM	2	6	0	0	1	5	1	0	1	0	4	0	0	1	1	0	22
4:45 PM	4	2	1	0	1	3	0	0	0	0	3	0	0	0	1	0	15
5:00 PM	2	5	0	0	1	5	0	0	0	0	3	0	0	2	0	0	18
5:15 PM	3	2	2	0	0	4	0	0	0	1	2	0	0	2	0	0	16
5:30 PM	5	1	0	0	0	4	2	0	0	1	4	0	0	2	0	0	19
5:45 PM	2	2	1	0	0	1	2	0	0	0	2	0	0	0	0	0	10
6:00 PM	3	3	1	0	0	2	0	0	0	0	3	0	0	1	1	0	14
6:15 PM	3	4	0	0	0	2	1	0	0	0	4	0	0	2	0	0	16
6:30 PM	2	2	0	0	0	3	0	0	1	0	5	0	1	1	0	0	15
6:45 PM	4	1	0	0	1	0	1	0	0	0	2	0	0	0	0	0	9
7:00 PM	1	1	0	0	0	1	0	0	1	0	1	0	0	0	1	0	6
7:15 PM	3	1	0	0	1	2	0	0	0	0	3	0	0	0	0	0	10
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	48.35%	45.05%	6.59%	0.00%	12.70%	69.84%	17.46%	0.00%	7.02%	5.26%	87.72%	0.00%	28.00%	52.00%	20.00%	0.00%	236
PEAK HR:	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL:	12	10	3	0	1	14	4	0	0	2	11	0	0	6	0	0	63
PEAK HR FACTOR:	0.600	0.500	0.375	0.000	0.250	0.700	0.500	0.000	0.000	0.500	0.688	0.000	0.000	0.750	0.000	0.000	0.829
	0.893				0.792				0.650				0.750				

National Data & Surveying Services Intersection Turning Movement Count

Location: King St & N Beauregard St/S Walter Reed Dr
City: Alexandria
Control: Signalized

Project ID: 22-260098-008
Date: 12/13/2022

Data - Bikes

NS/EW Streets:	King St				King St				N Beauregard St/S Walter Reed Dr				N Beauregard St/S Walter Reed Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1.5 NT	0.5 NR	0 NU	1 SL	2 ST	1 SR	0 SU	2 EL	1.5 ET	0.5 ER	0 EU	1 WL	2 WT	1 WR	0 WU	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	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	1	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	0
9:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
9:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	6
PEAK HR:	07:30 AM - 08:30 AM																
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250

NS/EW Streets:	King St				King St				N Beauregard St/S Walter Reed Dr				N Beauregard St/S Walter Reed Dr				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1.5 NT	0.5 NR	0 NU	1 SL	2 ST	1 SR	0 SU	2 EL	1.5 ET	0.5 ER	0 EU	1 WL	2 WT	1 WR	0 WU	
3:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	25.00%	25.00%	50.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	66.67%	33.33%	0.00%	33.33%	44.44%	22.22%	0.00%	19
PEAK HR:	05:00 PM - 06:00 PM																
PEAK HR VOL:	1	1	0	0	0	0	0	0	0	0	0	0	2	1	0	0	5
PEAK HR FACTOR:	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.417

National Data & Surveying Services Intersection Turning

Movement Count

Location: King St & N Beaugard St/S Walter Reed Dr
City: Alexandria

Project ID: 22-260098-008
Date: 12/13/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	King St		King St		N Beaugard St/S Walter Reed Dr		N Beaugard St/S Walter Reed Dr		TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
AM									
6:00 AM	0	0	0	1	0	0	0	2	3
6:15 AM	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	2	2	4
6:45 AM	0	0	1	1	0	0	1	1	4
7:00 AM	0	1	1	0	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	1	0	0	2	1	4
7:45 AM	0	0	1	1	1	0	0	2	5
8:00 AM	0	0	1	1	1	1	0	0	4
8:15 AM	0	0	0	3	0	3	2	0	8
8:30 AM	0	0	0	1	1	0	2	1	5
8:45 AM	1	0	0	1	0	0	1	1	4
9:00 AM	0	0	0	1	0	0	1	0	2
9:15 AM	0	1	1	0	0	0	0	0	2
9:30 AM	0	0	0	1	0	0	2	0	3
9:45 AM	0	0	1	1	0	0	1	1	4
TOTAL VOLUMES :	EB 1	WB 2	EB 6	WB 13	NB 3	SB 4	NB 15	SB 11	TOTAL 55
APPROACH %'s :	33.33%	66.67%	31.58%	68.42%	42.86%	57.14%	57.69%	42.31%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	2	6	2	4	4	3	21
PEAK HR FACTOR :	0.375		0.667		0.500		0.583		0.656

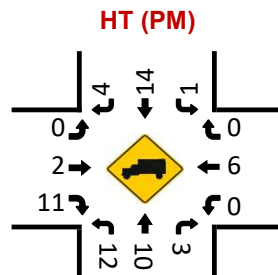
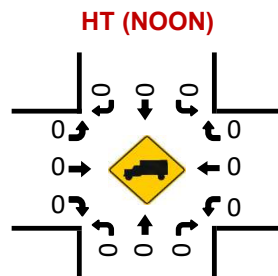
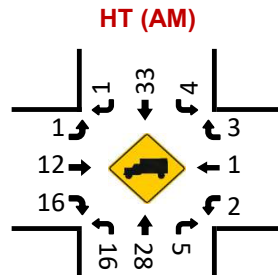
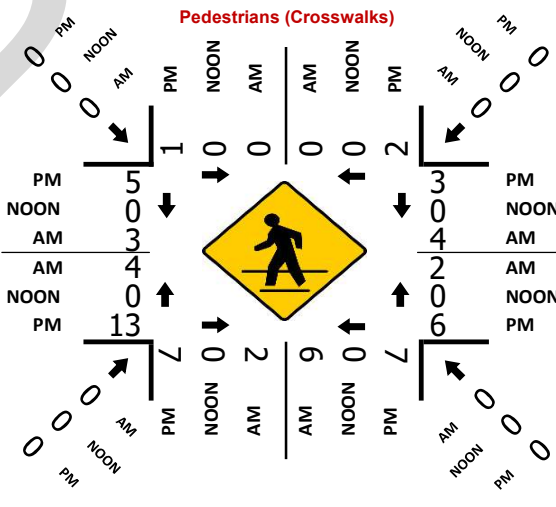
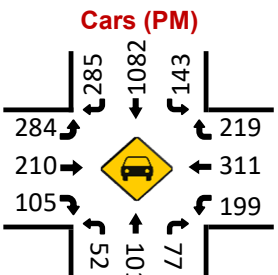
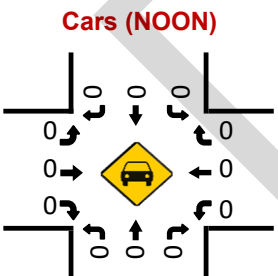
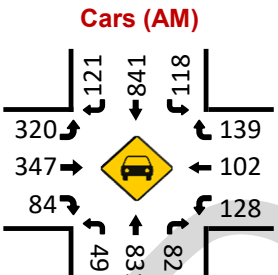
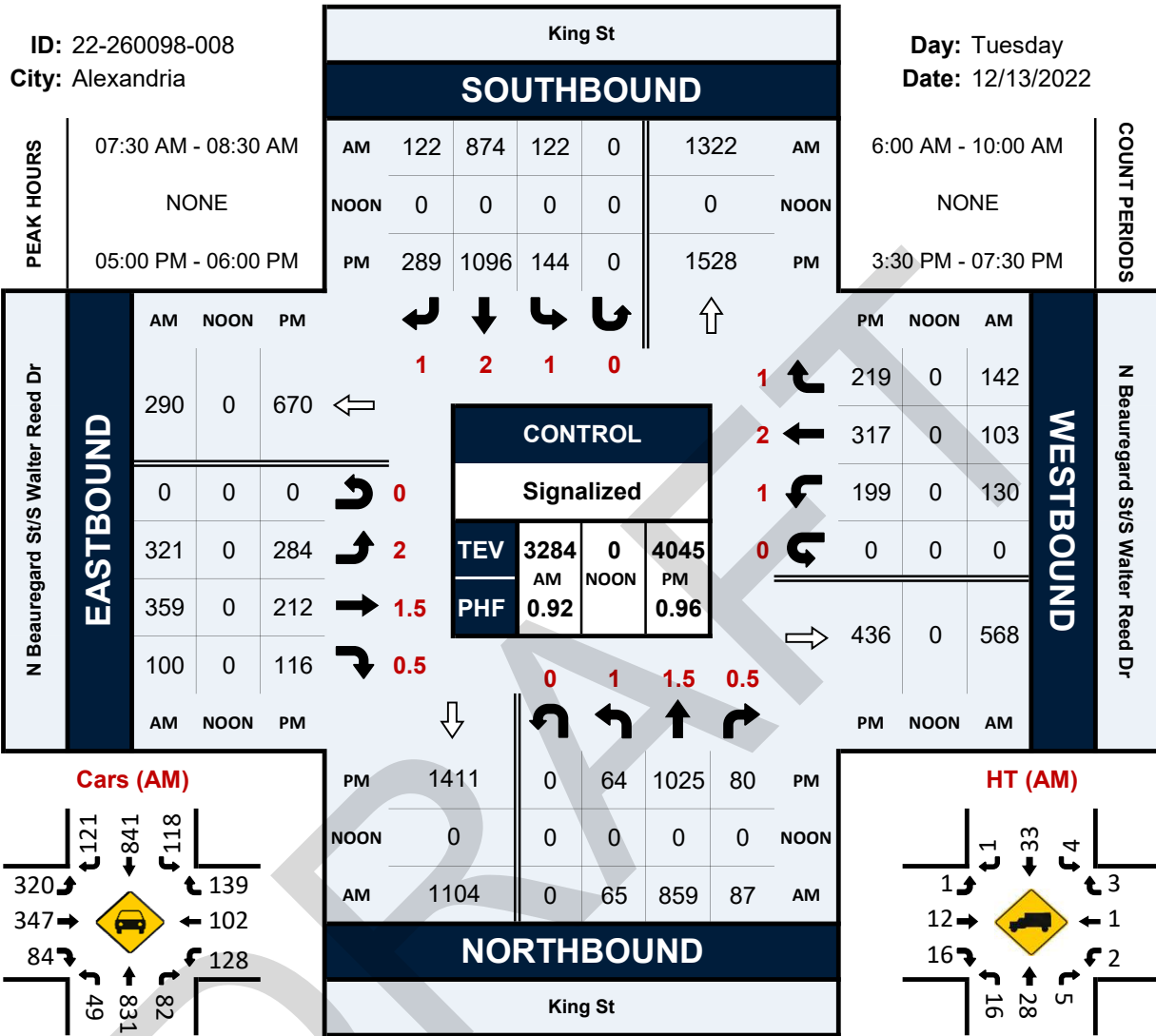
NS/EW Streets:	King St		King St		N Beaugard St/S Walter Reed Dr		N Beaugard St/S Walter Reed Dr		TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
PM									
3:30 PM	0	0	0	4	0	4	0	3	11
3:45 PM	0	0	2	1	0	3	1	1	8
4:00 PM	0	0	6	0	0	0	2	4	12
4:15 PM	0	1	2	1	1	1	1	3	10
4:30 PM	0	1	1	2	1	0	2	2	9
4:45 PM	0	0	2	2	1	0	3	3	11
5:00 PM	0	0	1	2	0	2	5	2	12
5:15 PM	0	0	2	1	3	0	1	1	8
5:30 PM	1	0	4	1	2	0	4	2	14
5:45 PM	0	2	0	3	1	1	3	0	10
6:00 PM	0	3	1	7	1	5	2	2	21
6:15 PM	0	0	1	0	0	0	3	0	4
6:30 PM	0	0	1	2	0	0	2	1	6
6:45 PM	0	1	3	0	2	0	2	0	8
7:00 PM	0	0	3	1	1	0	0	5	10
7:15 PM	0	0	0	2	1	2	0	4	9
TOTAL VOLUMES :	EB 1	WB 8	EB 29	WB 29	NB 14	SB 18	NB 31	SB 33	TOTAL 163
APPROACH %'s :	11.11%	88.89%	50.00%	50.00%	43.75%	56.25%	48.44%	51.56%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	1	2	7	7	6	3	13	5	44
PEAK HR FACTOR :	0.375		0.700		0.750		0.643		0.786

King St & N Beauregard St/S Walter Reed Dr

Peak Hour Turning Movement Count

ID: 22-260098-008
City: Alexandria

Day: Tuesday
Date: 12/13/2022



Project ID: 22-260098-008

Location: King St & N Beauregard St/S Walter Reed Dr
City: Alexandria

PEAK HOURS

Day: Tuesday
Date: 12/13/2022

AM

Start Time	King St Northbound					King St Southbound					N Beauregard St/S Walter Reed Dr Eastbound					N Beauregard St/S Walter Reed Dr Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 06:00 AM - 10:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	20	217	20	0	257	27	215	26	0	268	69	85	21	0	175	29	18	28	0	75	775
7:45 AM	14	201	21	0	236	25	192	34	0	251	92	93	21	0	206	40	29	39	0	108	801
8:00 AM	16	256	23	0	295	38	252	26	0	316	72	88	24	0	184	26	33	35	0	94	889
8:15 AM	15	185	23	0	223	32	215	36	0	283	88	93	34	0	215	35	23	40	0	98	819
Total Volume	65	859	87	0	1011	122	874	122	0	1118	321	359	100	0	780	130	103	142	0	375	3284
% App. Total	6.4	85.0	8.6	0.0	100	10.9	78.2	10.9	0.0	100	41.2	46.0	12.8	0.0	100	34.7	27.5	37.9	0.0	100	
PHF	0.857					0.884					0.907					0.868					0.924
Cars, PU, Vans	49	831	82	0	962	118	841	121	0	1080	320	347	84	0	751	128	102	139	0	369	3162
% Cars, PU, Vans	75.4	96.7	94.3	0.0	95.2	96.7	96.2	99.2	0.0	96.6	99.7	96.7	84.0	0.0	96.3	98.5	99.0	97.9	0.0	98.4	96.3
Heavy trucks	16	28	5	0	49	4	33	1	0	38	1	12	16	0	29	2	1	3	0	6	122
% Heavy trucks	24.6	3.3	5.7	0.0	4.8	3.3	3.8	0.8	0.0	3.4	0.3	3.3	16.0	0.0	3.7	1.5	1.0	2.1	0.0	1.6	3.7

PM

Start Time	King St Northbound					King St Southbound					N Beauregard St/S Walter Reed Dr Eastbound					N Beauregard St/S Walter Reed Dr Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	13	257	21	0	291	41	280	74	0	395	52	51	27	0	130	54	74	50	0	178	994
5:15 PM	13	254	27	0	294	37	269	67	0	373	74	70	32	0	176	51	96	65	0	212	1055
5:30 PM	19	264	16	0	299	27	272	75	0	374	70	46	36	0	152	50	84	45	0	179	1004
5:45 PM	19	250	16	0	285	39	275	73	0	387	88	45	21	0	154	44	63	59	0	166	992
Total Volume	64	1025	80	0	1169	144	1096	289	0	1529	284	212	116	0	612	199	317	219	0	735	4045
% App. Total	5.5	87.7	6.8	0.0	100	9.4	71.7	18.9	0.0	100	46.4	34.6	19.0	0.0	100	27.1	43.1	29.8	0.0	100	
PHF	0.977					0.968					0.869					0.867					0.959
Cars, PU, Vans	52	1015	77	0	1144	143	1082	285	0	1510	284	210	105	0	599	199	311	219	0	729	3982
% Cars, PU, Vans	81.3	99.0	96.3	0.0	97.9	99.3	98.7	98.6	0.0	98.8	100.0	99.1	90.5	0.0	97.9	100.0	98.1	100.0	0.0	99.2	98.4
Heavy trucks	12	10	3	0	25	1	14	4	0	19	0	2	11	0	13	0	6	0	0	6	63
% Heavy trucks	18.8	1.0	3.8	0.0	2.1	0.7	1.3	1.4	0.0	1.2	0.0	0.9	9.5	0.0	2.1	0.0	1.9	0.0	0.0	0.8	1.6

National Data & Surveying Services Intersection Turning Movement Count

Location: King St & N Hampton Dr
City: Alexandria
Control: Signalized

Project ID: 22-260098-010
Date: 12/13/2022

Data - Total

NS/EW Streets:	King St				King St				N Hampton Dr				N Hampton Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	0 SL	2 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
6:00 AM	3	83	0	0	0	114	2	0	7	0	20	0	0	0	0	0	229
6:15 AM	3	96	0	0	0	122	4	0	7	0	27	0	0	0	0	0	259
6:30 AM	5	134	0	0	0	198	7	0	7	0	29	0	0	0	0	0	380
6:45 AM	3	140	0	0	0	186	9	0	10	0	35	0	0	0	0	0	383
7:00 AM	4	170	0	0	0	207	11	0	8	0	25	0	0	0	0	0	425
7:15 AM	8	178	0	0	0	249	8	0	21	0	48	0	0	0	0	0	512
7:30 AM	8	237	0	0	0	282	14	0	23	0	65	0	0	0	0	0	629
7:45 AM	16	201	0	0	0	280	18	1	30	0	55	0	0	0	0	0	601
8:00 AM	10	261	0	1	0	305	18	0	26	0	56	0	0	0	0	0	677
8:15 AM	8	186	0	0	0	284	25	0	26	0	51	1	0	0	0	0	581
8:30 AM	4	222	0	0	0	237	13	0	22	0	40	0	0	0	0	0	538
8:45 AM	8	179	0	0	0	198	17	0	23	0	36	0	0	0	0	0	461
9:00 AM	6	204	0	0	0	201	10	0	18	0	40	0	0	0	0	0	479
9:15 AM	15	163	0	0	0	203	9	0	22	0	35	0	0	0	0	0	447
9:30 AM	9	178	0	0	0	175	14	1	13	0	25	0	0	0	0	0	415
9:45 AM	3	154	0	0	0	197	16	0	13	0	30	0	0	0	0	0	413
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	113	2786	0	1	0	3438	195	2	276	0	617	1	0	0	0	0	7429
APPROACH %'s:	3.90%	96.07%	0.00%	0.03%	0.00%	94.58%	5.36%	0.06%	30.87%	0.00%	69.02%	0.11%	0	0	0	0	
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	42	885	0	1	0	1151	75	1	105	0	227	1	0	0	0	0	2488
PEAK HR FACTOR:	0.656	0.848	0.000	0.250	0.000	0.943	0.750	0.250	0.875	0.000	0.873	0.250	0.000	0.000	0.000	0.000	0.919
	0.853				0.950				0.946								

NS/EW Streets:	King St				King St				N Hampton Dr				N Hampton Dr				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	0 SL	2 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
3:30 PM	26	254	0	0	0	317	33	1	9	0	22	0	0	0	0	0	662
3:45 PM	21	271	0	0	0	291	31	0	16	0	26	0	0	0	0	0	656
4:00 PM	17	286	0	0	0	301	21	0	17	0	25	0	0	0	0	0	667
4:15 PM	30	256	0	0	0	308	36	1	16	0	27	0	0	0	0	0	674
4:30 PM	23	260	0	0	0	400	40	0	10	0	23	0	0	0	0	0	756
4:45 PM	28	257	0	0	0	311	36	0	16	0	24	0	0	0	0	0	672
5:00 PM	28	280	0	0	0	327	41	0	17	0	24	1	0	0	0	0	718
5:15 PM	31	293	0	0	0	321	43	0	12	0	22	0	0	0	0	0	722
5:30 PM	31	277	0	0	0	318	46	0	20	0	29	0	0	0	0	0	721
5:45 PM	30	253	0	0	0	275	45	0	23	0	30	0	0	0	0	0	656
6:00 PM	43	273	0	2	0	315	42	0	12	0	34	0	0	0	0	0	721
6:15 PM	36	313	0	1	0	267	43	0	14	0	32	0	0	0	0	0	706
6:30 PM	30	280	0	0	0	290	40	0	14	0	26	0	0	0	0	0	680
6:45 PM	22	303	0	1	0	242	28	0	19	0	17	0	0	0	0	0	632
7:00 PM	23	247	0	0	0	245	38	0	18	0	28	0	0	0	0	0	599
7:15 PM	22	205	0	0	0	208	28	1	18	0	24	0	0	0	0	0	506
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	441	4308	0	4	0	4736	591	3	251	0	413	1	0	0	0	0	10748
APPROACH %'s:	9.28%	90.64%	0.00%	0.08%	0.00%	88.86%	11.09%	0.06%	37.74%	0.00%	62.11%	0.15%	0	0	0	0	
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	110	1090	0	0	0	1359	160	0	55	0	93	1	0	0	0	0	2868
PEAK HR FACTOR:	0.887	0.930	0.000	0.000	0.000	0.849	0.930	0.000	0.809	0.000	0.969	0.250	0.000	0.000	0.000	0.000	0.948
	0.926				0.863				0.887								

National Data & Surveying Services Intersection Turning Movement Count

Location: King St & N Hampton Dr
City: Alexandria
Control: Signalized

Project ID: 22-260098-010
Date: 12/13/2022

Data - Cars

NS/EW Streets:	King St				King St				N Hampton Dr				N Hampton Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1 NL	2 NT	0 NR	0 NU	0 SL	2 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
6:00 AM	3	76	0	0	0	110	1	0	6	0	20	0	0	0	0	0	216
6:15 AM	3	90	0	0	0	119	3	0	7	0	27	0	0	0	0	0	249
6:30 AM	5	131	0	0	0	196	5	0	6	0	29	0	0	0	0	0	372
6:45 AM	3	131	0	0	0	185	8	0	8	0	34	0	0	0	0	0	369
7:00 AM	4	165	0	0	0	206	9	0	6	0	25	0	0	0	0	0	415
7:15 AM	8	169	0	0	0	243	7	0	18	0	48	0	0	0	0	0	493
7:30 AM	8	229	0	0	0	278	9	0	22	0	65	0	0	0	0	0	611
7:45 AM	14	192	0	0	0	271	16	1	26	0	55	0	0	0	0	0	575
8:00 AM	9	252	0	1	0	295	16	0	23	0	55	0	0	0	0	0	651
8:15 AM	8	175	0	0	0	275	22	0	24	0	51	1	0	0	0	0	556
8:30 AM	4	217	0	0	0	231	12	0	20	0	40	0	0	0	0	0	524
8:45 AM	8	170	0	0	0	192	15	0	21	0	36	0	0	0	0	0	442
9:00 AM	6	194	0	0	0	196	8	0	16	0	39	0	0	0	0	0	459
9:15 AM	14	158	0	0	0	198	8	0	20	0	35	0	0	0	0	0	433
9:30 AM	9	170	0	0	0	170	12	1	12	0	25	0	0	0	0	0	399
9:45 AM	3	145	0	0	0	185	14	0	11	0	30	0	0	0	0	0	388
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	109	2664	0	1	0	3350	165	2	246	0	614	1	0	0	0	0	7152
APPROACH %'s:	3.93%	96.03%	0.00%	0.04%	0.00%	95.25%	4.69%	0.06%	28.57%	0.00%	71.31%	0.12%	0	0	0	0	
PEAK HR:	07:30 AM - 08:30 AM																
PEAK HR VOL:	39	848	0	1	0	1119	63	1	95	0	226	1	0	0	0	0	TOTAL
PEAK HR FACTOR:	0.696	0.841	0.000	0.250	0.000	0.948	0.716	0.250	0.913	0.000	0.869	0.250	0.000	0.000	0.000	0.000	0.919
	0.847				0.951				0.925								

NS/EW Streets:	King St				King St				N Hampton Dr				N Hampton Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1 NL	2 NT	0 NR	0 NU	0 SL	2 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
3:30 PM	25	252	0	0	0	312	30	1	8	0	22	0	0	0	0	0	650
3:45 PM	21	269	0	0	0	289	28	0	13	0	26	0	0	0	0	0	646
4:00 PM	17	283	0	0	0	298	19	0	17	0	25	0	0	0	0	0	659
4:15 PM	30	252	0	0	0	302	35	1	14	0	27	0	0	0	0	0	661
4:30 PM	23	255	0	0	0	394	38	0	10	0	23	0	0	0	0	0	743
4:45 PM	28	254	0	0	0	307	35	0	13	0	24	0	0	0	0	0	661
5:00 PM	28	277	0	0	0	322	39	0	16	0	24	1	0	0	0	0	707
5:15 PM	30	288	0	0	0	316	41	0	11	0	22	0	0	0	0	0	708
5:30 PM	31	274	0	0	0	314	44	0	18	0	29	0	0	0	0	0	710
5:45 PM	30	250	0	0	0	273	44	0	21	0	30	0	0	0	0	0	648
6:00 PM	43	268	0	2	0	313	40	0	11	0	34	0	0	0	0	0	711
6:15 PM	36	309	0	1	0	264	41	0	12	0	32	0	0	0	0	0	695
6:30 PM	30	278	0	0	0	285	38	0	12	0	26	0	0	0	0	0	669
6:45 PM	22	301	0	1	0	242	26	0	18	0	17	0	0	0	0	0	627
7:00 PM	23	247	0	0	0	244	37	0	16	0	28	0	0	0	0	0	595
7:15 PM	22	205	0	0	0	207	27	1	17	0	24	0	0	0	0	0	503
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	439	4262	0	4	0	4682	562	3	227	0	413	1	0	0	0	0	10593
APPROACH %'s:	9.33%	90.58%	0.00%	0.09%	0.00%	89.23%	10.71%	0.06%	35.41%	0.00%	64.43%	0.16%	0	0	0	0	
PEAK HR:	04:30 PM - 05:30 PM																
PEAK HR VOL:	109	1074	0	0	0	1339	153	0	50	0	93	1	0	0	0	0	TOTAL
PEAK HR FACTOR:	0.908	0.932	0.000	0.000	0.000	0.850	0.933	0.000	0.781	0.000	0.969	0.250	0.000	0.000	0.000	0.000	0.949
	0.930				0.863				0.878								

National Data & Surveying Services Intersection Turning Movement Count

Location: King St & N Hampton Dr
 City: Alexandria
 Control: Signalized

Project ID: 22-260098-010
 Date: 12/13/2022

Data - HT

NS/EW Streets:	King St				King St				N Hampton Dr				N Hampton Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	0 SL	2 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
6:00 AM	0	7	0	0	0	4	1	0	1	0	0	0	0	0	0	0	13
6:15 AM	0	6	0	0	0	3	1	0	0	0	0	0	0	0	0	0	10
6:30 AM	0	3	0	0	0	2	2	0	1	0	0	0	0	0	0	0	8
6:45 AM	0	9	0	0	0	1	1	0	2	0	1	0	0	0	0	0	14
7:00 AM	0	5	0	0	0	1	2	0	2	0	0	0	0	0	0	0	10
7:15 AM	0	9	0	0	0	6	1	0	3	0	0	0	0	0	0	0	19
7:30 AM	0	8	0	0	0	4	5	0	1	0	0	0	0	0	0	0	18
7:45 AM	2	9	0	0	0	9	2	0	4	0	0	0	0	0	0	0	26
8:00 AM	1	9	0	0	0	10	2	0	3	0	1	0	0	0	0	0	26
8:15 AM	0	11	0	0	0	9	3	0	2	0	0	0	0	0	0	0	25
8:30 AM	0	5	0	0	0	6	1	0	2	0	0	0	0	0	0	0	14
8:45 AM	0	9	0	0	0	6	2	0	2	0	0	0	0	0	0	0	19
9:00 AM	0	10	0	0	0	5	2	0	2	0	1	0	0	0	0	0	20
9:15 AM	1	5	0	0	0	5	1	0	2	0	0	0	0	0	0	0	14
9:30 AM	0	8	0	0	0	5	2	0	1	0	0	0	0	0	0	0	16
9:45 AM	0	9	0	0	0	12	2	0	2	0	0	0	0	0	0	0	25
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	3.17%	96.83%	0.00%	0.00%	0.00%	74.58%	25.42%	0.00%	90.91%	0.00%	9.09%	0.00%	0	0	0	0	277
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	3	37	0	0	0	32	12	0	10	0	1	0	0	0	0	0	95
PEAK HR FACTOR:	0.375	0.841	0.000	0.000	0.000	0.800	0.600	0.000	0.625	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.913
	0.909				0.917				0.688								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	0 SL	2 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
3:30 PM	1	2	0	0	0	5	3	0	1	0	0	0	0	0	0	0	12
3:45 PM	0	2	0	0	0	2	3	0	3	0	0	0	0	0	0	0	10
4:00 PM	0	3	0	0	0	3	2	0	0	0	0	0	0	0	0	0	8
4:15 PM	0	4	0	0	0	6	1	0	2	0	0	0	0	0	0	0	13
4:30 PM	0	5	0	0	0	6	2	0	0	0	0	0	0	0	0	0	13
4:45 PM	0	3	0	0	0	4	1	0	3	0	0	0	0	0	0	0	11
5:00 PM	0	3	0	0	0	5	2	0	1	0	0	0	0	0	0	0	11
5:15 PM	1	5	0	0	0	5	2	0	1	0	0	0	0	0	0	0	14
5:30 PM	0	3	0	0	0	4	2	0	2	0	0	0	0	0	0	0	11
5:45 PM	0	3	0	0	0	2	1	0	2	0	0	0	0	0	0	0	8
6:00 PM	0	5	0	0	0	2	2	0	1	0	0	0	0	0	0	0	10
6:15 PM	0	4	0	0	0	3	2	0	2	0	0	0	0	0	0	0	11
6:30 PM	0	2	0	0	0	5	2	0	2	0	0	0	0	0	0	0	11
6:45 PM	0	2	0	0	0	0	2	0	1	0	0	0	0	0	0	0	5
7:00 PM	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	4
7:15 PM	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	3
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	4.17%	95.83%	0.00%	0.00%	0.00%	65.06%	34.94%	0.00%	100.00%	0.00%	0.00%	0.00%	0	0	0	0	155
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	1	16	0	0	0	20	7	0	5	0	0	0	0	0	0	0	49
PEAK HR FACTOR:	0.250	0.800	0.000	0.000	0.000	0.833	0.875	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.875
	0.708				0.844				0.417								

National Data & Surveying Services Intersection Turning Movement Count

Location: King St & N Hampton Dr
 City: Alexandria
 Control: Signalized

Project ID: 22-260098-010
 Date: 12/13/2022

Data - Bikes

NS/EW Streets:	King St				King St				N Hampton Dr				N Hampton Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	0 SL	2 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	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	0	0	0	0	0	0	0	0
7:45 AM	0	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	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	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	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR:	07:30 AM - 08:30 AM																
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	0 SL	2 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	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	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	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	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	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0	0	0	0	7
PEAK HR:	04:30 PM - 05:30 PM																
PEAK HR VOL:	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR:	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250

National Data & Surveying Services Intersection Turning Movement Count

Location: King St & N Hampton Dr
City: Alexandria

Project ID: 22-260098-010
Date: 12/13/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:		King St		King St		N Hampton Dr		N Hampton Dr		TOTAL
		NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
AM		EB	WB	EB	WB	NB	SB	NB	SB	
6:00 AM		0	0	0	0	0	0	0	1	1
6:15 AM		0	0	0	0	0	0	0	1	1
6:30 AM		0	0	0	0	0	0	1	0	1
6:45 AM		0	0	0	0	0	0	0	1	1
7:00 AM		0	0	0	0	0	0	0	0	0
7:15 AM		0	0	0	0	0	0	0	1	1
7:30 AM		0	0	0	0	0	0	1	1	2
7:45 AM		0	0	0	0	0	0	3	1	4
8:00 AM		0	0	0	0	0	0	2	1	3
8:15 AM		0	0	0	0	0	0	5	2	7
8:30 AM		0	0	0	0	0	0	0	2	2
8:45 AM		0	0	0	0	0	0	2	1	3
9:00 AM		0	0	0	0	0	0	2	1	3
9:15 AM		0	0	0	0	0	0	3	2	5
9:30 AM		0	0	0	0	0	0	4	3	7
9:45 AM		0	0	0	0	0	0	1	0	1
TOTAL VOLUMES :		EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :		0	0	0	0	0	0	24	18	42
PEAK HR :		07:30 AM - 08:30 AM								
PEAK HR VOL :		0	0	0	0	0	0	11	5	16
PEAK HR FACTOR :								0.550	0.625	0.571

NS/EW Streets:		King St		King St		N Hampton Dr		N Hampton Dr		TOTAL
		NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
PM		EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM		0	0	0	0	0	0	2	5	7
3:45 PM		0	0	0	0	0	0	5	2	7
4:00 PM		0	0	0	0	0	0	2	4	6
4:15 PM		0	0	0	0	0	0	2	4	6
4:30 PM		0	0	0	0	0	0	6	6	12
4:45 PM		0	0	0	0	0	0	3	4	7
5:00 PM		0	0	0	0	0	0	5	7	12
5:15 PM		0	0	0	0	0	0	8	2	10
5:30 PM		0	0	0	0	0	0	7	2	9
5:45 PM		0	0	0	0	0	0	3	6	9
6:00 PM		0	0	0	0	0	0	3	2	5
6:15 PM		0	0	0	0	0	0	2	5	7
6:30 PM		0	0	0	0	0	0	1	2	3
6:45 PM		0	0	0	0	0	0	2	0	2
7:00 PM		0	0	0	0	0	0	1	1	2
7:15 PM		0	0	0	0	0	0	0	3	3
TOTAL VOLUMES :		EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :		0	0	0	0	0	0	52	55	107
PEAK HR :		04:30 PM - 05:30 PM								
PEAK HR VOL :		0	0	0	0	0	0	22	19	41
PEAK HR FACTOR :								0.688	0.679	0.854

King St & N Hampton Dr

Peak Hour Turning Movement Count

ID: 22-260098-010

City: Alexandria

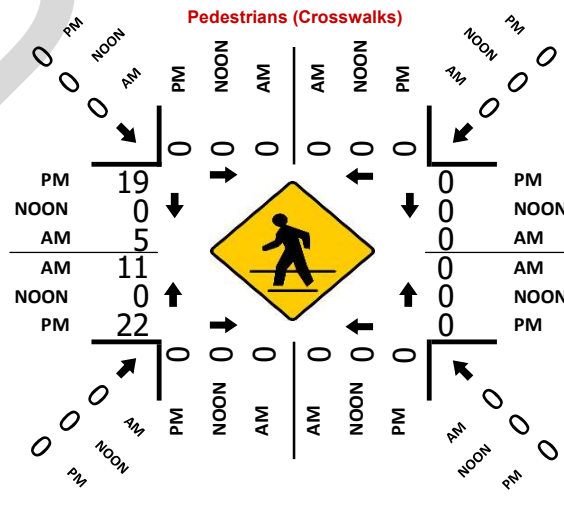
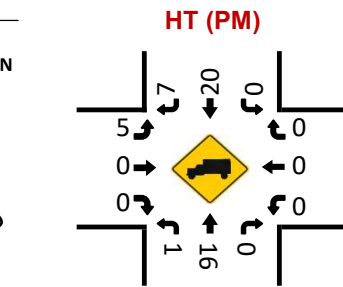
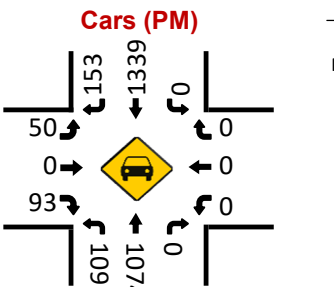
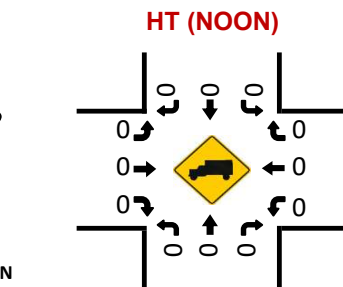
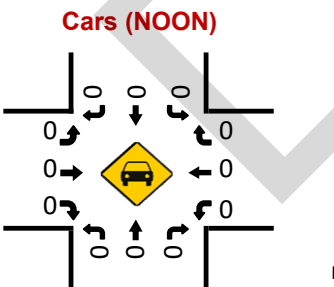
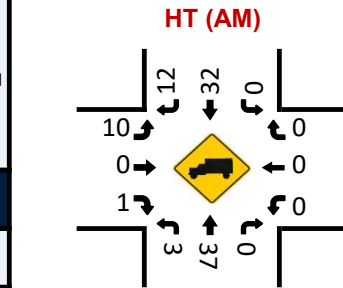
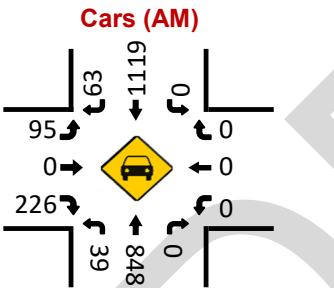
Day: Tuesday

Date: 12/13/2022

PEAK HOURS	King St										COUNT PERIODS
	SOUTHBOUND										
07:30 AM - 08:30 AM	AM	75	1151	0	1	991	AM	6:00 AM - 10:00 AM			
NONE	NOON	0	0	0	0	0	NOON	NONE			
04:30 PM - 05:30 PM	PM	160	1359	0	0	1145	PM	3:30 PM - 07:30 PM			

N Hampton Dr	EASTBOUND			CONTROL			WESTBOUND		
	AM	NOON	PM	Signalized			PM	NOON	AM
	118	0	271	TEV	2488	0	2868		
	1	0	1	PHF	0.92		0.95		
	105	0	55						
	0	0	0						
	227	0	93						

King St									
NORTHBOUND									
PM	1452	0	110	1090	0	PM			
NOON	0	0	0	0	0	NOON			
AM	1379	1	42	885	0	AM			



Project ID: 22-260098-010
 Location: King St & N Hampton Dr
 City: Alexandria

Day: Tuesday
 Date: 12/13/2022

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	King St Northbound						King St Southbound						N Hampton Dr Eastbound						N Hampton Dr Westbound						Int. Total
	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	
6:00 AM	3	83	0	0	0	86	0	114	2	0	0	116	7	0	20	0	1	27	0	0	0	0	0	0	229
6:15 AM	3	96	0	0	0	99	0	122	4	0	0	126	7	0	27	0	1	34	0	0	0	0	0	0	259
6:30 AM	5	134	0	0	0	139	0	198	7	0	0	205	7	0	29	0	1	36	0	0	0	0	0	0	380
6:45 AM	3	140	0	0	0	143	0	186	9	0	0	195	10	0	35	0	1	45	0	0	0	0	0	0	383
Total	14	453	0	0	0	467	0	620	22	0	0	642	31	0	111	0	4	142	0	0	0	0	0	0	1251
7:00 AM	4	170	0	0	0	174	0	207	11	0	0	218	8	0	25	0	0	33	0	0	0	0	0	0	425
7:15 AM	8	178	0	0	0	186	0	249	8	0	0	257	21	0	48	0	1	69	0	0	0	0	0	0	512
7:30 AM	8	237	0	0	0	245	0	282	14	0	0	296	23	0	65	0	2	88	0	0	0	0	0	0	629
7:45 AM	16	201	0	0	0	217	0	280	18	1	0	299	30	0	55	0	4	85	0	0	0	0	0	0	601
Total	36	786	0	0	0	822	0	1018	51	1	0	1070	82	0	193	0	7	275	0	0	0	0	0	0	2167
8:00 AM	10	261	0	1	0	272	0	305	18	0	0	323	26	0	56	0	3	82	0	0	0	0	0	0	677
8:15 AM	8	186	0	0	0	194	0	284	25	0	0	309	26	0	51	1	7	78	0	0	0	0	0	0	581
8:30 AM	4	222	0	0	0	226	0	237	13	0	0	250	22	0	40	0	2	62	0	0	0	0	0	0	538
8:45 AM	8	179	0	0	0	187	0	198	17	0	0	215	23	0	36	0	3	59	0	0	0	0	0	0	461
Total	30	848	0	1	0	879	0	1024	73	0	0	1097	97	0	183	1	15	281	0	0	0	0	0	0	2257
9:00 AM	6	204	0	0	0	210	0	201	10	0	0	211	18	0	40	0	3	58	0	0	0	0	0	0	479
9:15 AM	15	163	0	0	0	178	0	203	9	0	0	212	22	0	35	0	5	57	0	0	0	0	0	0	447
9:30 AM	9	178	0	0	0	187	0	175	14	1	0	190	13	0	25	0	7	38	0	0	0	0	0	0	415
9:45 AM	3	154	0	0	0	157	0	197	16	0	0	213	13	0	30	0	1	43	0	0	0	0	0	0	413
Total	33	699	0	0	0	732	0	776	49	1	0	826	66	0	130	0	16	196	0	0	0	0	0	0	1754
BREAK																									
3:30 PM	26	254	0	0	0	280	0	317	33	1	0	351	9	0	22	0	7	31	0	0	0	0	0	0	662
3:45 PM	21	271	0	0	0	292	0	291	31	0	0	322	16	0	26	0	7	42	0	0	0	0	0	0	656
Total	47	525	0	0	0	572	0	608	64	1	0	673	25	0	48	0	14	73	0	0	0	0	0	0	1318
4:00 PM	17	286	0	0	0	303	0	301	21	0	0	322	17	0	25	0	6	42	0	0	0	0	0	0	667
4:15 PM	30	256	0	0	0	286	0	308	36	1	0	345	16	0	27	0	6	43	0	0	0	0	0	0	674
4:30 PM	23	260	0	0	0	283	0	400	40	0	0	440	10	0	23	0	12	33	0	0	0	0	0	0	756
4:45 PM	28	257	0	0	0	285	0	311	36	0	0	347	16	0	24	0	7	40	0	0	0	0	0	0	672
Total	98	1059	0	0	0	1157	0	1320	133	1	0	1454	59	0	99	0	31	158	0	0	0	0	0	0	2769
5:00 PM	28	280	0	0	0	308	0	327	41	0	0	368	17	0	24	1	12	42	0	0	0	0	0	0	718
5:15 PM	31	293	0	0	0	324	0	321	43	0	0	364	12	0	22	0	10	34	0	0	0	0	0	0	722
5:30 PM	31	277	0	0	0	308	0	318	46	0	0	364	20	0	29	0	9	49	0	0	0	0	0	0	721
5:45 PM	30	253	0	0	0	283	0	275	45	0	0	320	23	0	30	0	9	53	0	0	0	0	0	0	656
Total	120	1103	0	0	0	1223	0	1241	175	0	0	1416	72	0	105	1	40	178	0	0	0	0	0	0	2817
6:00 PM	43	273	0	2	0	318	0	315	42	0	0	357	12	0	34	0	5	46	0	0	0	0	0	0	721
6:15 PM	36	313	0	1	0	350	0	267	43	0	0	310	14	0	32	0	7	46	0	0	0	0	0	0	706
6:30 PM	30	280	0	0	0	310	0	290	40	0	0	330	14	0	26	0	3	40	0	0	0	0	0	0	680
6:45 PM	22	303	0	1	0	326	0	242	28	0	0	270	19	0	17	0	2	36	0	0	0	0	0	0	632
Total	131	1169	0	4	0	1304	0	1114	153	0	0	1267	59	0	109	0	17	168	0	0	0	0	0	0	2739
7:00 PM	23	247	0	0	0	270	0	245	38	0	0	283	18	0	28	0	2	46	0	0	0	0	0	0	599
7:15 PM	22	205	0	0	0	227	0	208	28	1	0	237	18	0	24	0	3	42	0	0	0	0	0	0	506
Total	45	452	0	0	0	497	0	453	66	1	0	520	36	0	52	0	5	88	0	0	0	0	0	0	1105
Grand Total	554	7094	0	5	0	7653	0	8174	786	5	0	8965	527	0	1030	2	149	1559	0	0	0	0	0	0	18177
Approch %	7.2	92.7	0.0	0.1	0.0		0.0	91.2	8.8	0.1	0.0		33.8	0.0	66.1	0.1	9.6		0.0	0.0	0.0	0.0	0.0		
Total %	3.0	39.0	0.0	0.0	0.0	42.1	0.0	45.0	4.3	0.0	0.0	49.3	2.9	0.0	5.7	0.0	8.6		0.0	0.0	0.0	0.0	0.0		
Cars, PU, Vans	548	6926	0	5	0	7479	0	8032	727	5	0	8764	473	0	1027	2	1502		0	0	0	0	0	0	17745
% Cars, PU, Vans	98.9	97.6	0.0	100.0		97.7	0.0	98.3	92.5	100.0		97.8	89.8	0.0	99.7	100.0	96.3		0.0	0.0	0.0	0.0	0.0	0.0	97.6
Heavy trucks	6	168	0	0	0	174	0	142	59	0	0	201	54	0	3	0	57		0	0	0	0	0	0	432
%Heavy trucks	1.1	2.4	0.0	0.0		2.3	0.0	1.7	7.5	0.0		2.2	10.2	0.0	0.3	0.0	3.7		0.0	0.0	0.0	0.0	0.0	0.0	2.4

Project ID: 22-260098-010
 Location: King St & N Hampton Dr
 City: Alexandria

PEAK HOURS

Day: Tuesday
 Date: 12/13/2022

AM

Start Time	King St Northbound					King St Southbound					N Hampton Dr Eastbound					N Hampton Dr Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 06:00 AM - 10:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	8	237	0	0	245	0	282	14	0	296	23	0	65	0	88	0	0	0	0	0	629
7:45 AM	16	201	0	0	217	0	280	18	1	299	30	0	55	0	85	0	0	0	0	0	601
8:00 AM	10	261	0	1	272	0	305	18	0	323	26	0	56	0	82	0	0	0	0	0	677
8:15 AM	8	186	0	0	194	0	284	25	0	309	26	0	51	1	78	0	0	0	0	0	581
Total Volume	42	885	0	1	928	0	1151	75	1	1227	105	0	227	1	333	0	0	0	0	0	2488
% App. Total	4.5	95.4	0.0	0.1	100	0.0	93.8	6.1	0.1	100	31.5	0.0	68.2	0.3	100	0.0	0.0	0.0	0.0	0.0	0
PHF	0.853					0.950					0.946					0.919					
Cars, PU, Vans	39	848	0	1	888	0	1119	63	1	1183	95	0	226	1	322	0	0	0	0	0	2393
% Cars, PU, Vans	92.9	95.8	0.0	100.0	95.7	0.0	97.2	84.0	100.0	96.4	90.5	0.0	99.6	100.0	96.7	0.0	0.0	0.0	0.0	0.0	96.2
Heavy trucks	3	37	0	0	40	0	32	12	0	44	10	0	1	0	11	0	0	0	0	0	95
% Heavy trucks	7.1	4.2	0.0	0.0	4.3	0.0	2.8	16.0	0.0	3.6	9.5	0.0	0.4	0.0	3.3	0.0	0.0	0.0	0.0	0.0	3.8

PM

Start Time	King St Northbound					King St Southbound					N Hampton Dr Eastbound					N Hampton Dr Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	23	260	0	0	283	0	400	40	0	440	10	0	23	0	33	0	0	0	0	0	756
4:45 PM	28	257	0	0	285	0	311	36	0	347	16	0	24	0	40	0	0	0	0	0	672
5:00 PM	28	280	0	0	308	0	327	41	0	368	17	0	24	1	42	0	0	0	0	0	718
5:15 PM	31	293	0	0	324	0	321	43	0	364	12	0	22	0	34	0	0	0	0	0	722
Total Volume	110	1090	0	0	1200	0	1359	160	0	1519	55	0	93	1	149	0	0	0	0	0	2868
% App. Total	9.2	90.8	0.0	0.0	100	0.0	89.5	10.5	0.0	100	36.9	0.0	62.4	0.7	100	0.0	0.0	0.0	0.0	0.0	0
PHF	0.926					0.863					0.887					0.948					
Cars, PU, Vans	109	1074	0	0	1183	0	1339	153	0	1492	50	0	93	1	144	0	0	0	0	0	2819
% Cars, PU, Vans	99.1	98.5	0.0	0.0	98.6	0.0	98.5	95.6	0.0	98.2	90.9	0.0	100.0	100.0	96.6	0.0	0.0	0.0	0.0	0.0	98.3
Heavy trucks	1	16	0	0	17	0	20	7	0	27	5	0	0	0	5	0	0	0	0	0	49
% Heavy trucks	0.9	1.5	0.0	0.0	1.4	0.0	1.5	4.4	0.0	1.8	9.1	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	1.7

National Data & Surveying Services Intersection Turning Movement Count

Location: W Braddock Rd & N Hampton Dr
City: Alexandria
Control: Signalized

Project ID: 22-260098-011
Date: 12/13/2022

Data - Total

NS/EW Streets:	W Braddock Rd				W Braddock Rd				N Hampton Dr				N Hampton Dr				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1 NL	3 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	TOTAL
6:00 AM	0	27	6	0	13	15	0	0	2	2	1	0	5	0	4	0	75
6:15 AM	0	28	6	0	18	13	2	0	1	7	2	0	7	0	5	0	89
6:30 AM	1	43	14	0	9	25	0	0	1	5	0	0	8	0	4	0	110
6:45 AM	1	56	21	0	16	20	0	0	7	6	5	0	9	2	8	0	151
7:00 AM	3	66	13	0	17	25	2	0	6	7	6	0	12	1	15	0	173
7:15 AM	1	102	18	0	26	25	1	0	4	10	3	0	12	3	10	0	215
7:30 AM	1	128	34	0	26	62	1	0	7	13	4	0	22	2	8	0	308
7:45 AM	3	137	40	0	23	60	4	0	6	11	8	0	23	3	19	0	337
8:00 AM	3	123	41	0	35	82	3	0	4	9	3	0	22	4	15	0	344
8:15 AM	4	134	55	0	27	72	4	0	3	7	7	0	29	2	8	0	352
8:30 AM	3	130	50	0	16	30	0	0	2	6	6	0	16	2	12	0	273
8:45 AM	6	115	20	0	21	64	1	0	4	7	6	0	23	1	15	0	283
9:00 AM	3	77	35	0	21	34	4	1	5	10	5	0	14	1	16	0	226
9:15 AM	5	55	15	0	19	46	4	0	4	6	3	0	11	3	10	0	181
9:30 AM	4	60	14	0	16	32	0	0	4	4	2	0	13	4	12	0	165
9:45 AM	2	76	14	0	19	46	4	0	2	5	4	0	17	3	8	0	200
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	2.23%	75.68%	22.09%	0.00%	32.07%	64.84%	2.99%	0.10%	25.62%	47.52%	26.86%	0.00%	54.85%	7.00%	38.15%	0.00%	3482
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	11	522	170	0	111	276	12	0	20	40	22	0	96	11	50	0	1341
PEAK HR FACTOR:	0.688	0.953	0.773	0.000	0.793	0.841	0.750	0.000	0.714	0.769	0.688	0.000	0.828	0.688	0.658	0.000	0.952
	0.911				0.831				0.820				0.872				
PM	1 NL	3 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	TOTAL
3:30 PM	9	86	22	6	15	77	4	0	1	2	5	0	27	6	17	0	277
3:45 PM	5	60	17	1	16	69	7	0	5	5	5	0	28	8	15	0	241
4:00 PM	7	52	24	0	15	89	1	0	4	2	4	0	19	6	10	0	233
4:15 PM	1	80	22	0	23	86	7	0	2	3	2	0	30	8	23	0	287
4:30 PM	7	68	26	0	22	102	3	0	6	5	4	0	37	4	16	0	300
4:45 PM	3	80	25	0	23	91	6	0	3	7	4	0	29	9	15	0	295
5:00 PM	8	70	36	1	22	80	5	0	1	3	7	0	38	3	17	1	292
5:15 PM	5	101	39	0	22	102	8	0	3	6	7	0	35	8	29	0	365
5:30 PM	9	108	38	1	29	98	7	0	2	7	1	0	36	4	30	1	371
5:45 PM	6	73	23	0	14	85	6	0	9	7	7	0	32	13	27	1	303
6:00 PM	6	83	24	1	30	96	8	0	6	1	5	0	28	9	25	0	322
6:15 PM	6	72	34	0	16	79	5	0	6	6	2	0	22	6	22	0	276
6:30 PM	3	73	35	0	13	80	7	0	5	3	2	0	25	7	14	0	267
6:45 PM	5	55	20	0	23	58	4	0	3	5	5	0	22	4	12	0	216
7:00 PM	6	54	28	0	19	53	5	0	2	4	2	0	27	7	23	0	230
7:15 PM	4	41	20	0	16	48	5	0	0	3	4	0	16	8	16	0	181
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	5.33%	68.44%	25.64%	0.59%	18.72%	76.10%	5.18%	0.00%	30.05%	35.75%	34.20%	0.00%	51.54%	12.57%	35.54%	0.34%	4456
PEAK HR:	05:15 PM - 06:15 PM																TOTAL
PEAK HR VOL:	26	365	124	2	95	381	29	0	20	21	20	0	131	34	111	2	1361
PEAK HR FACTOR:	0.722	0.845	0.795	0.500	0.792	0.934	0.906	0.000	0.556	0.750	0.714	0.000	0.910	0.654	0.925	0.500	0.917
	0.829				0.942				0.663				0.952				

National Data & Surveying Services Intersection Turning Movement Count

Location: W Braddock Rd & N Hampton Dr
City: Alexandria
Control: Signalized

Project ID: 22-260098-011
Date: 12/13/2022

Data - Cars

NS/EW Streets:	W Braddock Rd				W Braddock Rd				N Hampton Dr				N Hampton Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
6:00 AM	0	26	6	0	12	14	0	0	2	2	1	0	5	0	2	0	
6:15 AM	0	28	6	0	17	13	2	0	1	7	2	0	7	0	4	0	
6:30 AM	1	43	14	0	9	24	0	0	1	5	0	0	8	0	2	0	
6:45 AM	1	54	20	0	14	20	0	0	7	6	5	0	9	2	7	0	
7:00 AM	3	62	12	0	13	21	2	0	6	7	6	0	12	1	14	0	
7:15 AM	1	101	18	0	25	24	0	0	3	10	3	0	12	3	7	0	
7:30 AM	1	124	34	0	25	59	1	0	7	13	4	0	20	2	7	0	
7:45 AM	3	135	38	0	21	59	4	0	6	11	8	0	21	3	17	0	
8:00 AM	3	119	38	0	31	78	3	0	4	9	3	0	21	4	13	0	
8:15 AM	4	131	54	0	27	71	4	0	3	7	7	0	29	2	7	0	
8:30 AM	3	124	48	0	14	28	0	0	2	6	6	0	16	2	10	0	
8:45 AM	6	107	20	0	19	62	1	0	4	7	6	0	22	1	14	0	
9:00 AM	3	71	35	0	19	33	4	1	5	10	5	0	14	1	13	0	
9:15 AM	5	52	15	0	17	44	4	0	4	6	3	0	10	3	9	0	
9:30 AM	4	52	13	0	13	31	0	0	4	4	2	0	12	4	10	0	
9:45 AM	2	70	14	0	18	45	4	0	2	5	4	0	15	3	6	0	
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	2.32%	75.35%	22.33%	0.00%	30.95%	65.89%	3.05%	0.11%	25.31%	47.72%	26.97%	0.00%	57.39%	7.64%	34.98%	0.00%	3321
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	11	509	164	0	104	267	12	0	20	40	22	0	91	11	44	0	1295
PEAK HR FACTOR:	0.688	0.943	0.759	0.000	0.839	0.856	0.750	0.000	0.714	0.769	0.688	0.000	0.784	0.688	0.647	0.000	0.936
	0.905				0.855				0.820				0.890				

NS/EW Streets:	W Braddock Rd				W Braddock Rd				N Hampton Dr				N Hampton Dr				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
3:30 PM	9	85	21	6	14	76	4	0	1	2	5	0	25	6	15	0	
3:45 PM	5	60	16	1	14	68	7	0	5	5	4	0	25	8	13	0	
4:00 PM	7	51	24	0	14	86	1	0	4	2	4	0	19	6	9	0	
4:15 PM	1	80	22	0	22	85	6	0	2	3	2	0	30	8	21	0	
4:30 PM	7	67	26	0	19	101	3	0	6	5	4	0	37	4	14	0	
4:45 PM	3	80	25	0	22	91	6	0	3	7	4	0	28	9	13	0	
5:00 PM	8	70	36	1	19	79	5	0	1	3	6	0	38	3	16	1	
5:15 PM	5	99	38	0	21	101	8	0	3	6	7	0	35	8	27	0	
5:30 PM	9	107	38	1	27	96	7	0	2	7	1	0	35	4	29	1	
5:45 PM	6	73	23	0	14	84	6	0	9	7	7	0	32	13	25	1	
6:00 PM	6	82	23	1	30	94	8	0	6	1	5	0	28	9	23	0	
6:15 PM	6	72	34	0	15	77	5	0	6	6	2	0	21	6	21	0	
6:30 PM	3	72	35	0	13	77	7	0	5	3	2	0	25	7	14	0	
6:45 PM	5	55	20	0	21	57	4	0	3	5	5	0	22	4	10	0	
7:00 PM	6	53	28	0	18	53	5	0	2	4	2	0	27	7	21	0	
7:15 PM	4	40	20	0	14	45	5	0	0	3	4	0	16	8	14	0	
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	5.37%	68.42%	25.61%	0.60%	17.96%	76.78%	5.26%	0.00%	30.37%	36.13%	33.51%	0.00%	52.68%	13.08%	33.89%	0.36%	4361
PEAK HR:	05:15 PM - 06:15 PM																TOTAL
PEAK HR VOL:	26	361	122	2	92	375	29	0	20	21	20	0	130	34	104	2	1338
PEAK HR FACTOR:	0.722	0.843	0.803	0.500	0.767	0.928	0.906	0.000	0.556	0.750	0.714	0.000	0.929	0.654	0.897	0.500	0.919
	0.824				0.939				0.663				0.951				

National Data & Surveying Services Intersection Turning Movement Count

Location: W Braddock Rd & N Hampton Dr
City: Alexandria
Control: Signalized

Project ID: 22-260098-011
Date: 12/13/2022

Data - HT

NS/EW Streets:		W Braddock Rd				W Braddock Rd				N Hampton Dr				N Hampton Dr				TOTAL
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		1 NL	3 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
6:00 AM		0	1	0	0	1	1	0	0	0	0	0	0	0	0	2	0	5
6:15 AM		0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
6:30 AM		0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	3
6:45 AM		0	2	1	0	2	0	0	0	0	0	0	0	0	0	1	0	6
7:00 AM		0	4	1	0	4	4	0	0	0	0	0	0	0	0	1	0	14
7:15 AM		0	1	0	0	1	1	1	0	1	0	0	0	0	0	3	0	8
7:30 AM		0	4	0	0	1	3	0	0	0	0	0	0	2	0	1	0	11
7:45 AM		0	2	2	0	2	1	0	0	0	0	0	0	2	0	2	0	11
8:00 AM		0	4	3	0	4	4	0	0	0	0	0	0	1	0	2	0	18
8:15 AM		0	3	1	0	0	1	0	0	0	0	0	0	0	0	1	0	6
8:30 AM		0	6	2	0	2	2	0	0	0	0	0	0	0	0	2	0	14
8:45 AM		0	8	0	0	2	2	0	0	0	0	0	0	1	0	1	0	14
9:00 AM		0	6	0	0	2	1	0	0	0	0	0	0	0	0	3	0	12
9:15 AM		0	3	0	0	2	2	0	0	0	0	0	0	1	0	1	0	9
9:30 AM		0	8	1	0	3	1	0	0	0	0	0	0	1	0	2	0	16
9:45 AM		0	6	0	0	1	1	0	0	0	0	0	0	2	0	2	0	12
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		0	58	11	0	28	25	1	0	1	0	0	0	10	0	27	0	161
		0.00%	84.06%	15.94%	0.00%	51.85%	46.30%	1.85%	0.00%	100.00%	0.00%	0.00%	0.00%	27.03%	0.00%	72.97%	0.00%	
PEAK HR:		07:30 AM - 08:30 AM																
PEAK HR VOL:		0	13	6	0	7	9	0	0	0	0	0	0	5	0	6	0	46
PEAK HR FACTOR:		0.000	0.813	0.500	0.000	0.438	0.563	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.750	0.000	0.639
		0.679				0.500								0.688				

NS/EW Streets:		W Braddock Rd				W Braddock Rd				N Hampton Dr				N Hampton Dr				TOTAL
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		1 NL	3 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
3:30 PM		0	1	1	0	1	1	0	0	0	0	0	0	2	0	2	0	8
3:45 PM		0	0	1	0	2	1	0	0	0	0	1	0	3	0	2	0	10
4:00 PM		0	1	0	0	1	3	0	0	0	0	0	0	0	0	1	0	6
4:15 PM		0	0	0	0	1	1	1	0	0	0	0	0	0	0	2	0	5
4:30 PM		0	1	0	0	3	1	0	0	0	0	0	0	0	0	2	0	7
4:45 PM		0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0	4
5:00 PM		0	0	0	0	3	1	0	0	0	0	1	0	0	0	1	0	6
5:15 PM		0	2	1	0	1	1	0	0	0	0	0	0	0	0	2	0	7
5:30 PM		0	1	0	0	2	2	0	0	0	0	0	0	1	0	1	0	7
5:45 PM		0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	3
6:00 PM		0	1	1	0	0	2	0	0	0	0	0	0	0	0	2	0	6
6:15 PM		0	0	0	0	1	2	0	0	0	0	0	0	1	0	1	0	5
6:30 PM		0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4
6:45 PM		0	0	0	0	2	1	0	0	0	0	0	0	0	0	2	0	5
7:00 PM		0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	0	4
7:15 PM		0	1	0	0	2	3	0	0	0	0	0	0	0	0	2	0	8
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		0	10	4	0	21	23	1	0	0	0	2	0	8	0	26	0	95
		0.00%	71.43%	28.57%	0.00%	46.67%	51.11%	2.22%	0.00%	0.00%	0.00%	100.00%	0.00%	23.53%	0.00%	76.47%	0.00%	
PEAK HR:		05:15 PM - 06:15 PM																
PEAK HR VOL:		0	4	2	0	3	6	0	0	0	0	0	0	1	0	7	0	23
PEAK HR FACTOR:		0.000	0.500	0.500	0.000	0.375	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.875	0.000	0.821
		0.500				0.563								1.000				

National Data & Surveying Services Intersection Turning Movement Count

Location: W Braddock Rd & N Hampton Dr
City: Alexandria
Control: Signalized

Project ID: 22-260098-011
Date: 12/13/2022

Data - Bikes

NS/EW Streets:	W Braddock Rd				W Braddock Rd				N Hampton Dr				N Hampton Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	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	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	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	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0	0	0	0	0	0	0	0	100.00%	0.00%	0.00%	0.00%	0	0	0	0	1
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	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	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	100.00%	0.00%	0.00%	0.00%	66.67%	33.33%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	6
PEAK HR:	05:15 PM - 06:15 PM																TOTAL
PEAK HR VOL:	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500

National Data & Surveying Services Intersection Turning Movement Count

Location: W Braddock Rd & N Hampton Dr
City: Alexandria

Project ID: 22-260098-011
Date: 12/13/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	W Braddock Rd		W Braddock Rd		N Hampton Dr		N Hampton Dr		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:00 AM	0	0	2	2	2	1	0	0	7
6:15 AM	1	0	1	1	0	0	0	0	3
6:30 AM	0	0	2	0	0	1	0	0	3
6:45 AM	0	0	0	0	2	1	0	0	3
7:00 AM	0	0	1	0	0	2	0	0	3
7:15 AM	0	0	1	0	0	0	0	1	2
7:30 AM	1	0	2	0	1	0	0	2	6
7:45 AM	0	0	1	1	0	1	0	1	4
8:00 AM	0	0	1	1	0	0	1	0	3
8:15 AM	1	0	0	2	0	0	0	0	3
8:30 AM	0	0	1	0	0	0	0	0	1
8:45 AM	1	1	1	0	0	0	2	0	5
9:00 AM	0	0	0	1	2	1	0	0	4
9:15 AM	2	0	0	0	0	1	0	0	3
9:30 AM	0	2	0	0	0	0	0	2	4
9:45 AM	0	0	0	0	1	1	0	1	3
TOTAL VOLUMES :	EB 6	WB 3	EB 13	WB 8	NB 8	SB 9	NB 3	SB 7	TOTAL 57
APPROACH %'s :	66.67%	33.33%	61.90%	38.10%	47.06%	52.94%	30.00%	70.00%	
PEAK HR :	07:30 AM - 08:30 AM								
PEAK HR VOL :	2	0	4	4	1	1	1	3	TOTAL 16
PEAK HR FACTOR :	0.500		0.500	0.500	0.250	0.250	0.250	0.375	0.667
	0.500		1.000		0.500		0.500		

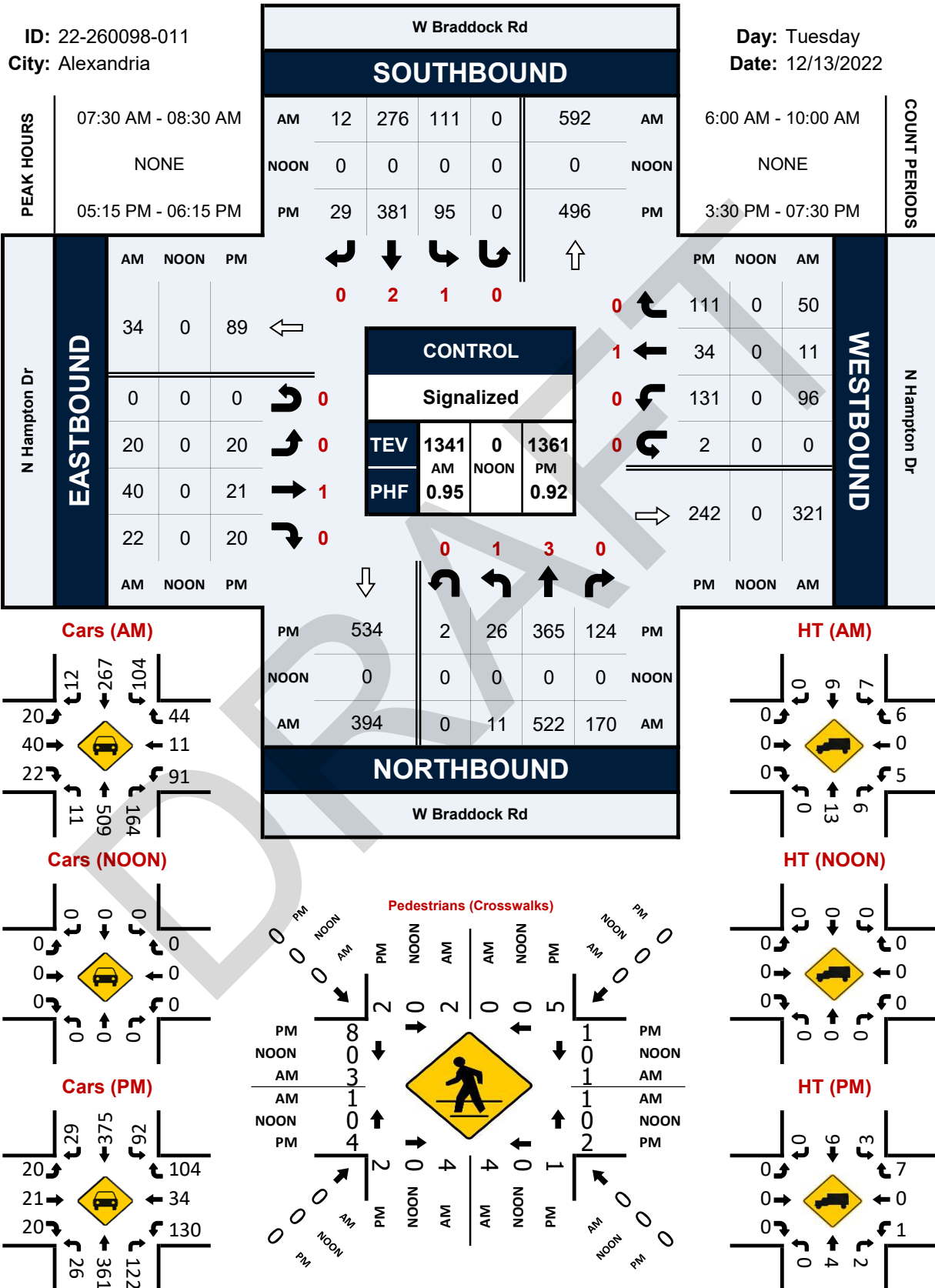
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM	0	0	0	0	1	0	0	0	1
3:45 PM	1	2	1	0	1	3	0	2	10
4:00 PM	1	0	1	0	0	1	1	0	4
4:15 PM	1	0	0	1	0	0	0	0	2
4:30 PM	0	2	1	1	1	0	0	1	6
4:45 PM	1	4	2	2	1	1	1	1	13
5:00 PM	0	1	0	0	2	0	0	2	5
5:15 PM	0	1	0	0	0	0	3	3	7
5:30 PM	1	0	0	0	1	0	1	0	3
5:45 PM	1	3	0	0	0	1	0	0	5
6:00 PM	0	1	2	1	1	0	0	5	10
6:15 PM	1	0	0	0	1	1	0	0	3
6:30 PM	0	0	0	0	1	1	0	0	2
6:45 PM	1	3	1	0	1	1	1	0	8
7:00 PM	0	1	0	1	0	0	1	0	3
7:15 PM	0	0	0	0	0	0	1	1	2
TOTAL VOLUMES :	EB 8	WB 18	EB 8	WB 6	NB 11	SB 9	NB 9	SB 15	TOTAL 84
APPROACH %'s :	30.77%	69.23%	57.14%	42.86%	55.00%	45.00%	37.50%	62.50%	
PEAK HR :	05:15 PM - 06:15 PM								
PEAK HR VOL :	2	5	2	1	2	1	4	8	TOTAL 25
PEAK HR FACTOR :	0.500	0.417	0.250	0.250	0.500	0.250	0.333	0.400	0.625
	0.438		0.250		0.750		0.500		

W Braddock Rd & N Hampton Dr

Peak Hour Turning Movement Count

ID: 22-260098-011
City: Alexandria

Day: Tuesday
Date: 12/13/2022



Project ID: 22-26098-011
 Location: W Braddock Rd & N Hampton Dr
 City: Alexandria

Day: Tuesday
 Date: 12/13/2022

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	W Braddock Rd Northbound						W Braddock Rd Southbound						N Hampton Dr Eastbound						N Hampton Dr Westbound						Int. Total
	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	
6:00 AM	0	27	6	0	4	33	13	15	0	0	0	28	2	2	1	0	0	5	5	0	4	0	3	9	75
6:15 AM	0	28	6	0	2	34	18	13	2	0	1	33	1	7	2	0	0	10	7	0	5	0	0	12	89
6:30 AM	1	43	14	0	2	58	9	25	0	0	0	34	1	5	0	0	0	6	8	0	4	0	1	12	110
6:45 AM	1	56	21	0	0	78	16	20	0	0	0	36	7	6	5	0	0	18	9	2	8	0	3	19	151
Total	2	154	47	0	8	203	56	73	2	0	1	131	11	20	8	0	0	39	29	2	21	0	7	52	425
7:00 AM	3	66	13	0	1	82	17	25	2	0	0	44	6	7	6	0	0	19	12	1	15	0	2	28	173
7:15 AM	1	102	18	0	1	121	26	25	1	0	0	52	4	10	3	0	1	17	12	3	10	0	0	25	215
7:30 AM	1	128	34	0	2	163	26	62	1	0	1	89	7	13	4	0	2	24	22	2	8	0	1	32	308
7:45 AM	3	137	40	0	2	180	23	60	4	0	0	87	6	11	8	0	1	25	23	3	19	0	1	45	337
Total	8	433	105	0	6	546	92	172	8	0	1	272	23	41	21	0	4	85	69	9	52	0	4	130	1033
8:00 AM	3	123	41	0	2	167	35	82	3	0	0	120	4	9	3	0	1	16	22	4	15	0	0	41	344
8:15 AM	4	134	55	0	2	193	27	72	4	0	1	103	3	7	7	0	0	17	29	2	8	0	0	39	352
8:30 AM	3	130	50	0	1	183	16	30	0	0	0	46	2	6	6	0	0	14	16	2	12	0	0	30	273
8:45 AM	6	115	20	0	1	141	21	64	1	0	2	86	4	7	6	0	2	17	23	1	15	0	0	39	283
Total	16	502	166	0	6	684	99	248	8	0	3	355	13	29	22	0	3	64	90	9	50	0	0	149	1252
9:00 AM	3	77	35	0	1	115	21	34	4	1	0	60	5	10	5	0	0	20	14	1	16	0	3	31	226
9:15 AM	5	55	15	0	0	75	19	46	4	0	2	69	4	6	3	0	0	13	11	3	10	0	1	24	181
9:30 AM	4	60	14	0	0	78	16	32	0	0	2	48	4	4	2	0	2	10	13	4	12	0	0	29	165
9:45 AM	2	76	14	0	0	92	19	46	4	0	0	69	2	5	4	0	1	11	17	3	8	0	2	28	200
Total	14	268	78	0	1	360	75	158	12	1	4	246	15	25	14	0	3	54	55	11	46	0	6	112	772
BREAK																									
3:30 PM	9	86	22	6	0	123	15	77	4	0	0	96	1	2	5	0	0	8	27	6	17	0	1	50	277
3:45 PM	5	60	17	1	1	83	16	69	7	0	3	92	5	5	5	0	2	15	28	8	15	0	4	51	241
Total	14	146	39	7	1	206	31	146	11	0	3	188	6	7	10	0	2	23	55	14	32	0	5	101	518
4:00 PM	7	52	24	0	1	83	15	89	1	0	1	105	4	2	4	0	1	10	19	6	10	0	1	35	233
4:15 PM	1	80	22	0	1	103	23	86	7	0	1	116	2	3	2	0	0	7	30	8	23	0	0	61	287
4:30 PM	7	68	26	0	2	101	22	102	3	0	2	127	6	5	4	0	1	15	37	4	16	0	1	57	300
4:45 PM	3	80	25	0	4	108	23	91	6	0	5	120	3	7	4	0	2	14	29	9	15	0	2	53	295
Total	18	280	97	0	8	395	83	368	17	0	9	468	15	17	14	0	4	46	115	27	64	0	4	206	1115
5:00 PM	8	70	36	1	0	115	22	80	5	0	1	107	1	3	7	0	2	11	38	3	17	1	2	59	292
5:15 PM	5	101	39	0	0	145	22	102	8	0	1	132	3	6	7	0	6	16	35	8	29	0	0	72	365
5:30 PM	9	108	38	1	0	156	29	98	7	0	1	134	2	7	1	0	1	10	36	4	30	1	1	71	371
5:45 PM	6	73	23	0	0	102	14	85	6	0	4	105	9	7	7	0	0	23	32	13	27	1	1	73	303
Total	28	352	136	2	0	518	87	365	26	0	7	478	15	23	22	0	9	60	141	28	103	3	4	275	1331
6:00 PM	6	83	24	1	3	114	30	96	8	0	1	134	6	1	5	0	5	12	28	9	25	0	1	62	322
6:15 PM	6	72	34	0	0	112	16	79	5	0	1	100	6	6	2	0	0	14	22	6	22	0	2	50	276
6:30 PM	3	73	35	0	0	111	13	80	7	0	0	100	5	3	2	0	0	10	25	7	14	0	2	46	267
6:45 PM	5	55	20	0	1	80	23	58	4	0	4	85	3	5	5	0	1	13	22	4	12	0	2	38	216
Total	20	283	113	1	4	417	82	313	24	0	6	419	20	15	14	0	6	49	97	26	73	0	7	196	1081
7:00 PM	6	54	28	0	1	88	19	53	5	0	1	77	2	4	2	0	1	8	27	7	23	0	0	57	230
7:15 PM	4	41	20	0	0	65	16	48	5	0	0	69	0	3	4	0	2	7	16	8	16	0	0	40	181
Total	10	95	48	0	1	153	35	101	10	0	1	146	2	7	6	0	3	15	43	15	39	0	0	97	411
Grand Total	130	2513	829	10	35	3482	640	1944	118	1	35	2703	120	184	131	0	34	435	694	141	480	3	37	1318	7938
Approch %	3.7	72.2	23.8	0.3	1.0		23.7	71.9	4.4	0.0	1.3		27.6	42.3	30.1	0.0	7.8		52.7	10.7	36.4	0.2	2.8		
Total %	1.6	31.7	10.4	0.1	0.4	43.9	8.1	24.5	1.5	0.0	0.4	34.1	1.5	2.3	1.7	0.0	0.4	5.5	8.7	1.8	6.0	0.0	0.5	16.6	
Cars, PU, Vans	130	2445	814	10		3399	591	1896	116	1		2604	119	184	129	0		432	676	141	427	3		1247	7682
% Cars, PU, Vans	100.0	97.3	98.2	100.0		97.6	92.3	97.5	98.3	100.0		96.3	99.2	100.0	98.5	0.0		99.3	97.4	100.0	89.0	100.0		94.6	96.8
Heavy trucks	0	68	15	0		83	49	48	2	0		99	1	0	2	0		3	18	0	53	0		71	256
%Heavy trucks	0.0	2.7	1.8	0.0		2.4	7.7	2.5	1.7	0.0		3.7	0.8	0.0	1.5	0.0		0.7	2.6	0.0	11.0	0.0		5.4	3.2

Project ID: 22-260098-011
 Location: W Braddock Rd & N Hampton Dr
 City: Alexandria

PEAK HOURS

Day: Tuesday
 Date: 12/13/2022

AM

Start Time	W Braddock Rd Northbound					W Braddock Rd Southbound					N Hampton Dr Eastbound					N Hampton Dr Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 06:00 AM - 10:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	1	128	34	0	163	26	62	1	0	89	7	13	4	0	24	22	2	8	0	32	308
7:45 AM	3	137	40	0	180	23	60	4	0	87	6	11	8	0	25	23	3	19	0	45	337
8:00 AM	3	123	41	0	167	35	82	3	0	120	4	9	3	0	16	22	4	15	0	41	344
8:15 AM	4	134	55	0	193	27	72	4	0	103	3	7	7	0	17	29	2	8	0	39	352
Total Volume	11	522	170	0	703	111	276	12	0	399	20	40	22	0	82	96	11	50	0	157	1341
% App. Total	1.6	74.3	24.2	0.0	100	27.8	69.2	3.0	0.0	100	24.4	48.8	26.8	0.0	100	61.1	7.0	31.8	0.0	100	
PHF	0.911					0.831					0.820					0.872					0.952
Cars, PU, Vans	11	509	164	0	684	104	267	12	0	383	20	40	22	0	82	91	11	44	0	146	1295
% Cars, PU, Vans	100.0	97.5	96.5	0.0	97.3	93.7	96.7	100.0	0.0	96.0	100.0	100.0	100.0	0.0	100.0	94.8	100.0	88.0	0.0	93.0	96.6
Heavy trucks	0	13	6	0	19	7	9	0	0	16	0	0	0	0	0	5	0	6	0	11	46
%Heavy trucks	0.0	2.5	3.5	0.0	2.7	6.3	3.3	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	5.2	0.0	12.0	0.0	7.0	3.4

PM

Start Time	W Braddock Rd Northbound					W Braddock Rd Southbound					N Hampton Dr Eastbound					N Hampton Dr Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
5:15 PM	5	101	39	0	145	22	102	8	0	132	3	6	7	0	16	35	8	29	0	72	365
5:30 PM	9	108	38	1	156	29	98	7	0	134	2	7	1	0	10	36	4	30	1	71	371
5:45 PM	6	73	23	0	102	14	85	6	0	105	9	7	7	0	23	32	13	27	1	73	303
6:00 PM	6	83	24	1	114	30	96	8	0	134	6	1	5	0	12	28	9	25	0	62	322
Total Volume	26	365	124	2	517	95	381	29	0	505	20	21	20	0	61	131	34	111	2	278	1361
% App. Total	5.0	70.6	24.0	0.4	100	18.8	75.4	5.7	0.0	100	32.8	34.4	32.8	0.0	100	47.1	12.2	39.9	0.7	100	
PHF	0.829					0.942					0.663					0.952					0.917
Cars, PU, Vans	26	361	122	2	511	92	375	29	0	496	20	21	20	0	61	130	34	104	2	270	1338
% Cars, PU, Vans	100.0	98.9	98.4	100.0	98.8	96.8	98.4	100.0	0.0	98.2	100.0	100.0	100.0	0.0	100.0	99.2	100.0	93.7	100.0	97.1	98.3
Heavy trucks	0	4	2	0	6	3	6	0	0	9	0	0	0	0	0	1	0	7	0	8	23
%Heavy trucks	0.0	1.1	1.6	0.0	1.2	3.2	1.6	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.8	0.0	6.3	0.0	2.9	1.7

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Dawes Ave
City: Alexandria
Control: Signalized

Project ID: 22-260098-015
Date: 12/13/2022

Data - Total

NS/EW Streets:	Seminary Rd				Seminary Rd				Dawes Ave				Dawes Ave				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1	2	0	0	1	2	0	0	0	1	0	0	0.5	0.5	1	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	3	139	2	0	2	88	0	0	0	0	1	0	2	0	1	0	238
6:15 AM	3	146	9	1	2	94	1	1	2	0	3	0	2	0	3	0	267
6:30 AM	2	177	15	0	2	133	1	0	2	0	4	0	1	0	1	0	338
6:45 AM	7	232	8	0	5	153	2	1	1	0	2	0	2	1	1	0	415
7:00 AM	8	232	7	0	4	149	0	1	0	1	7	0	2	1	3	0	415
7:15 AM	10	292	15	0	4	166	0	1	6	2	12	0	4	1	3	0	516
7:30 AM	11	250	24	0	8	189	3	4	6	1	10	0	5	0	4	0	515
7:45 AM	20	236	23	0	10	232	0	0	2	4	9	0	3	3	4	0	546
8:00 AM	6	286	25	0	3	201	2	1	4	4	7	0	8	1	7	0	555
8:15 AM	23	244	16	0	6	199	1	2	4	2	8	0	6	4	3	0	518
8:30 AM	19	317	21	0	8	195	2	1	3	5	5	0	4	3	3	0	586
8:45 AM	10	270	23	1	10	164	1	0	2	4	10	0	17	2	7	0	521
9:00 AM	11	258	24	0	6	193	2	1	1	0	7	0	11	3	7	0	524
9:15 AM	13	213	24	1	7	172	0	0	5	2	5	0	17	2	6	0	467
9:30 AM	6	208	21	0	8	170	2	3	3	3	4	0	16	2	9	0	455
9:45 AM	8	230	26	0	6	167	1	0	1	2	7	0	16	2	11	0	477
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	160	3730	283	3	91	2665	18	16	42	30	101	0	116	25	73	0	7353
	3.83%	89.32%	6.78%	0.07%	3.26%	95.52%	0.65%	0.57%	24.28%	17.34%	58.38%	0.00%	54.21%	11.68%	34.11%	0.00%	
PEAK HR:	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL:	68	1083	85	0	27	827	5	4	13	15	29	0	21	11	17	0	2205
PEAK HR FACTOR:	0.739	0.854	0.850	0.000	0.675	0.891	0.625	0.500	0.813	0.750	0.806	0.000	0.656	0.688	0.607	0.000	0.941
	0.866				0.892				0.950				0.766				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0.5	0.5	1	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	22	183	10	0	3	285	2	1	5	0	4	0	17	5	8	0	545
3:45 PM	24	217	10	0	6	325	3	0	5	1	9	0	26	5	10	0	641
4:00 PM	30	210	11	0	7	272	1	1	2	3	3	0	21	3	8	0	572
4:15 PM	11	256	7	0	6	374	4	0	6	4	3	0	14	6	8	0	699
4:30 PM	24	253	6	0	5	345	3	0	7	7	11	0	16	4	12	0	693
4:45 PM	25	248	4	0	7	334	2	1	4	2	7	0	23	8	7	0	672
5:00 PM	22	238	9	0	7	331	2	1	2	1	12	0	24	6	16	0	671
5:15 PM	31	244	18	0	6	319	1	2	5	1	12	0	26	0	7	0	672
5:30 PM	32	248	4	0	3	385	0	1	5	0	5	0	13	1	15	0	712
5:45 PM	32	217	4	0	9	330	2	1	9	0	11	0	9	5	11	0	640
6:00 PM	25	227	7	0	7	356	7	0	4	3	2	0	11	2	6	0	657
6:15 PM	25	243	13	0	5	350	1	2	4	3	3	0	12	2	4	0	667
6:30 PM	23	256	6	0	2	378	1	1	2	2	7	0	12	5	9	0	704
6:45 PM	28	253	4	1	0	297	1	1	3	1	4	0	10	3	1	0	607
7:00 PM	20	205	2	0	3	277	3	1	0	1	7	0	5	3	1	0	528
7:15 PM	20	209	1	0	0	282	1	1	0	0	2	0	2	3	2	0	523
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	394	3707	116	1	76	5240	34	14	63	29	102	0	241	61	125	0	10203
	9.34%	87.89%	2.75%	0.02%	1.42%	97.69%	0.63%	0.26%	32.47%	14.95%	52.58%	0.00%	56.44%	14.29%	29.27%	0.00%	
PEAK HR:	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL:	82	995	26	0	25	1384	11	2	19	14	33	0	77	24	43	0	2735
PEAK HR FACTOR:	0.820	0.972	0.722	0.000	0.893	0.925	0.688	0.500	0.679	0.500	0.688	0.000	0.802	0.750	0.672	0.000	0.978
	0.974				0.926				0.660				0.783				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Dawes Ave
City: Alexandria
Control: Signalized

Project ID: 22-260098-015
Date: 12/13/2022

Data - Cars

NS/EW Streets:	Seminary Rd				Seminary Rd				Dawes Ave				Dawes Ave				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1	2	0	0	1	2	0	0	0	1	0	0	0.5	0.5	1	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	3	131	2	0	2	85	0	0	0	0	1	0	0	0	0	0	224
6:15 AM	3	139	8	1	1	94	1	1	2	0	3	0	1	0	1	0	255
6:30 AM	2	171	13	0	2	127	0	0	2	0	3	0	1	0	0	0	321
6:45 AM	7	221	7	0	4	146	2	1	0	0	2	0	2	1	1	0	394
7:00 AM	8	224	5	0	2	144	0	1	0	1	7	0	2	1	1	0	396
7:15 AM	10	272	14	0	2	163	0	1	5	2	11	0	3	1	2	0	486
7:30 AM	11	242	23	0	7	179	3	4	6	1	9	0	5	0	2	0	492
7:45 AM	19	229	23	0	9	227	0	0	2	4	8	0	2	3	4	0	530
8:00 AM	5	280	25	0	2	190	1	1	4	4	7	0	7	1	5	0	532
8:15 AM	22	233	14	0	5	193	1	2	3	2	8	0	6	4	2	0	495
8:30 AM	19	302	21	0	5	185	2	1	2	5	5	0	3	3	2	0	555
8:45 AM	10	258	22	1	9	152	1	0	2	4	10	0	13	2	6	0	490
9:00 AM	10	247	24	0	5	180	2	1	1	0	6	0	11	3	6	0	496
9:15 AM	12	206	24	1	6	166	0	0	5	2	5	0	17	2	5	0	451
9:30 AM	5	198	21	0	7	165	2	3	3	3	2	0	15	2	8	0	434
9:45 AM	8	216	26	0	5	159	1	0	1	2	6	0	16	2	11	0	453
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	3.85%	89.27%	6.80%	0.08%	2.74%	96.05%	0.60%	0.60%	23.60%	18.63%	57.76%	0.00%	56.22%	13.51%	30.27%	0.00%	7004
PEAK HR:	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL:	65	1044	83	0	21	795	4	4	11	15	28	0	18	11	13	0	2112
PEAK HR FACTOR:	0.739	0.864	0.830	0.000	0.583	0.876	0.500	0.500	0.688	0.750	0.875	0.000	0.643	0.688	0.650	0.000	0.951
	0.871				0.873				0.900				0.808				

NS/EW Streets:	Seminary Rd				Seminary Rd				Dawes Ave				Dawes Ave				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	2	0	0	1	2	0	0	0	1	0	0	0.5	0.5	1	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	21	180	10	0	2	278	2	1	5	0	4	0	17	5	7	0	532
3:45 PM	23	215	10	0	5	322	3	0	3	1	9	0	24	5	9	0	629
4:00 PM	30	206	10	0	6	267	1	1	2	3	3	0	20	3	6	0	558
4:15 PM	11	251	6	0	6	366	4	0	4	4	2	0	14	6	7	0	681
4:30 PM	24	247	6	0	4	334	3	0	6	7	10	0	16	4	11	0	672
4:45 PM	25	244	4	0	6	326	2	1	4	2	6	0	23	8	7	0	658
5:00 PM	22	230	9	0	6	323	2	1	2	1	12	0	21	6	14	0	649
5:15 PM	30	241	17	0	4	316	1	2	5	1	12	0	25	0	6	0	660
5:30 PM	32	244	3	0	3	380	0	1	5	0	5	0	13	1	15	0	702
5:45 PM	32	216	4	0	8	323	2	1	9	0	11	0	9	5	10	0	630
6:00 PM	25	221	6	0	6	347	7	0	4	3	2	0	11	2	5	0	639
6:15 PM	25	242	11	0	3	345	1	2	4	3	3	0	12	2	3	0	656
6:30 PM	23	249	6	0	1	374	1	1	2	2	7	0	12	5	8	0	691
6:45 PM	28	249	4	1	0	291	1	1	3	1	3	0	9	3	0	0	594
7:00 PM	20	203	1	0	2	275	3	1	0	1	7	0	5	3	0	0	521
7:15 PM	20	206	1	0	0	281	1	1	0	0	2	0	2	3	2	0	519
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	9.44%	87.93%	2.61%	0.02%	1.18%	97.91%	0.65%	0.27%	31.35%	15.68%	52.97%	0.00%	57.67%	15.10%	27.23%	0.00%	9991
PEAK HR:	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL:	82	972	25	0	22	1349	11	2	16	14	30	0	74	24	39	0	2660
PEAK HR FACTOR:	0.820	0.968	0.694	0.000	0.917	0.921	0.688	0.500	0.667	0.500	0.625	0.000	0.804	0.750	0.696	0.000	0.977
	0.974				0.920				0.652				0.835				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Dawes Ave
City: Alexandria
Control: Signalized

Project ID: 22-260098-015
Date: 12/13/2022

Data - HT

NS/EW Streets:	Seminary Rd				Seminary Rd				Dawes Ave				Dawes Ave				TOTAL
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	0	8	0	0	0	3	0	0	0	0	0	0	2	0	1	0	14
6:15 AM	0	7	1	0	1	0	0	0	0	0	0	0	1	0	2	0	12
6:30 AM	0	6	2	0	0	6	1	0	0	0	1	0	0	0	1	0	17
6:45 AM	0	11	1	0	1	7	0	0	0	1	0	0	0	0	0	0	21
7:00 AM	0	8	2	0	2	5	0	0	0	0	0	0	0	0	2	0	19
7:15 AM	0	20	1	0	2	3	0	0	1	0	1	0	1	0	1	0	30
7:30 AM	0	8	1	0	1	10	0	0	0	0	1	0	0	0	2	0	23
7:45 AM	1	7	0	0	1	5	0	0	0	0	1	0	1	0	0	0	16
8:00 AM	1	6	0	0	1	11	1	0	0	0	0	0	1	0	2	0	23
8:15 AM	1	11	2	0	1	6	0	0	1	0	0	0	0	0	1	0	23
8:30 AM	0	15	0	0	3	10	0	0	1	0	0	0	1	0	1	0	31
8:45 AM	0	12	1	0	1	12	0	0	0	0	0	0	4	0	1	0	31
9:00 AM	1	11	0	0	1	13	0	0	0	0	1	0	0	0	1	0	28
9:15 AM	1	7	0	0	1	6	0	0	0	0	0	0	0	0	1	0	16
9:30 AM	1	10	0	0	1	5	0	0	0	0	2	0	1	0	1	0	21
9:45 AM	0	14	0	0	1	8	0	0	0	0	1	0	0	0	0	0	24
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	6	161	11	0	18	110	2	0	4	0	8	0	12	0	17	0	349
	3.37%	90.45%	6.18%	0.00%	13.85%	84.62%	1.54%	0.00%	33.33%	0.00%	66.67%	0.00%	41.38%	0.00%	58.62%	0.00%	
PEAK HR:	07:45 AM - 08:45 AM																
PEAK HR VOL:	3	39	2	0	6	32	1	0	2	0	1	0	3	0	4	0	93
PEAK HR FACTOR:	0.750	0.650	0.250	0.000	0.500	0.727	0.250	0.000	0.500	0.000	0.250	0.000	0.750	0.000	0.500	0.000	0.750
						0.750					0.750				0.583		

NS/EW Streets:	Seminary Rd				Seminary Rd				Dawes Ave				Dawes Ave				TOTAL
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	1	3	0	0	1	7	0	0	0	0	0	0	0	0	1	0	13
3:45 PM	1	2	0	0	1	3	0	0	0	2	0	0	2	0	1	0	12
4:00 PM	0	4	1	0	1	5	0	0	0	0	0	0	1	0	2	0	14
4:15 PM	0	5	1	0	0	8	0	0	2	0	1	0	0	0	1	0	18
4:30 PM	0	6	0	0	1	11	0	0	1	0	1	0	0	0	1	0	21
4:45 PM	0	4	0	0	1	8	0	0	0	0	1	0	0	0	0	0	14
5:00 PM	0	8	0	0	1	8	0	0	0	0	0	0	3	0	2	0	22
5:15 PM	1	3	1	0	2	3	0	0	0	0	0	0	1	0	1	0	12
5:30 PM	0	4	1	0	0	5	0	0	0	0	0	0	0	0	0	0	10
5:45 PM	0	1	0	0	1	7	0	0	0	0	0	0	0	0	1	0	10
6:00 PM	0	6	1	0	1	9	0	0	0	0	0	0	0	0	1	0	18
6:15 PM	0	1	2	0	2	5	0	0	0	0	0	0	0	0	1	0	11
6:30 PM	0	7	0	0	1	4	0	0	0	0	0	0	0	0	1	0	13
6:45 PM	0	4	0	0	0	6	0	0	0	0	1	0	1	0	1	0	13
7:00 PM	0	2	1	0	1	2	0	0	0	0	0	0	0	0	1	0	7
7:15 PM	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	3	63	8	0	14	92	0	0	5	0	4	0	8	0	15	0	212
	4.05%	85.14%	10.81%	0.00%	13.21%	86.79%	0.00%	0.00%	55.56%	0.00%	44.44%	0.00%	34.78%	0.00%	65.22%	0.00%	
PEAK HR:	04:15 PM - 05:15 PM																
PEAK HR VOL:	0	23	1	0	3	35	0	0	3	0	3	0	3	0	4	0	75
PEAK HR FACTOR:	0.000	0.719	0.250	0.000	0.750	0.795	0.000	0.000	0.375	0.000	0.750	0.000	0.250	0.000	0.500	0.000	0.852
						0.792					0.500				0.350		

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Dawes Ave
City: Alexandria
Control: Signalized

Project ID: 22-260098-015
Date: 12/13/2022

Data - Bikes

NS/EW Streets:	Seminary Rd				Seminary Rd				Dawes Ave				Dawes Ave				TOTAL
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	
6:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	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	0
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	1	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	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	6
PEAK HR:	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL:	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR:	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	
3:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	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	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	2	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	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	50.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0.00%	100.00%	0.00%	0.00%	7
PEAK HR:	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL:	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	3
PEAK HR FACTOR:	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.750

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Dawes Ave
City: Alexandria

Project ID: 22-260098-015
Date: 12/13/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Seminary Rd		Seminary Rd		Dawes Ave		Dawes Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:00 AM	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	3	0	0	3
6:30 AM	1	0	0	0	0	0	1	0	2
6:45 AM	1	1	0	0	1	2	0	0	5
7:00 AM	1	0	0	0	0	2	0	1	4
7:15 AM	0	0	0	0	2	0	0	0	2
7:30 AM	2	0	0	0	1	1	1	0	5
7:45 AM	0	1	0	0	2	1	1	2	7
8:00 AM	2	0	0	0	0	0	1	0	3
8:15 AM	1	1	0	0	2	3	0	0	7
8:30 AM	1	0	0	0	3	0	1	0	5
8:45 AM	2	0	0	0	2	0	2	0	6
9:00 AM	1	0	0	0	0	0	1	0	2
9:15 AM	1	0	0	0	0	1	0	0	2
9:30 AM	0	0	0	0	5	1	0	1	7
9:45 AM	0	1	0	0	4	0	2	1	8
TOTAL VOLUMES :	EB 13	WB 4	EB 0	WB 0	NB 22	SB 14	NB 10	SB 5	TOTAL 68
APPROACH %'s :	76.47%	23.53%			61.11%	38.89%	66.67%	33.33%	
PEAK HR :	07:45 AM - 08:45 AM								TOTAL 22
PEAK HR VOL :	4	2	0	0	7	4	3	2	
PEAK HR FACTOR :	0.500	0.500			0.583	0.333	0.750	0.250	0.786
	0.750				0.550		0.417		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM	0	1	0	0	2	1	0	0	4
3:45 PM	0	1	0	0	3	1	0	0	5
4:00 PM	2	1	0	0	4	3	0	1	11
4:15 PM	1	1	0	0	4	1	1	0	8
4:30 PM	0	1	0	0	4	3	0	0	8
4:45 PM	2	0	0	0	1	4	0	0	7
5:00 PM	2	0	0	0	2	2	1	0	7
5:15 PM	1	2	0	0	2	1	2	2	10
5:30 PM	0	1	0	0	2	2	0	1	6
5:45 PM	2	0	0	0	2	1	2	1	8
6:00 PM	1	1	0	0	3	1	0	0	6
6:15 PM	0	1	0	0	3	4	1	1	10
6:30 PM	0	0	0	0	1	0	0	0	1
6:45 PM	0	0	0	0	0	1	0	0	1
7:00 PM	1	1	0	0	3	4	0	0	9
7:15 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB 12	WB 11	EB 0	WB 0	NB 36	SB 29	NB 7	SB 6	TOTAL 101
APPROACH %'s :	52.17%	47.83%			55.38%	44.62%	53.85%	46.15%	
PEAK HR :	04:15 PM - 05:15 PM								TOTAL 30
PEAK HR VOL :	5	2	0	0	11	10	2	0	
PEAK HR FACTOR :	0.625	0.500			0.688	0.625	0.500		0.938
	0.875				0.750		0.500		

Seminary Rd & Dawes Ave

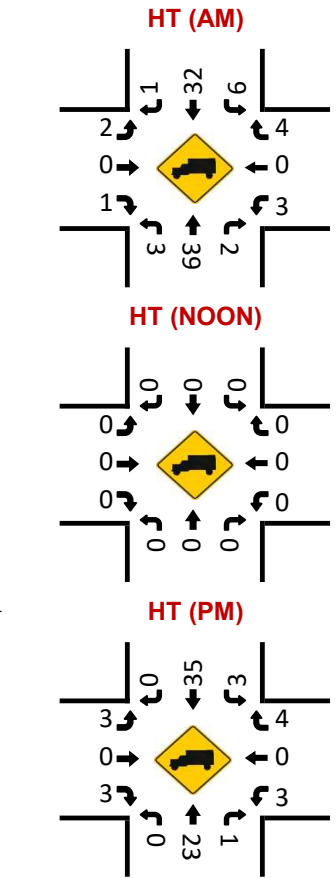
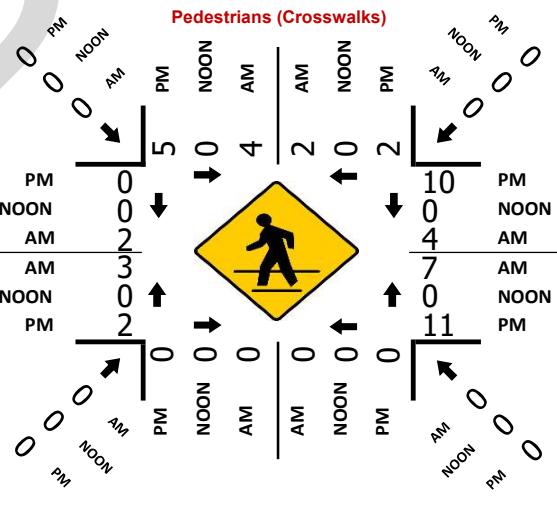
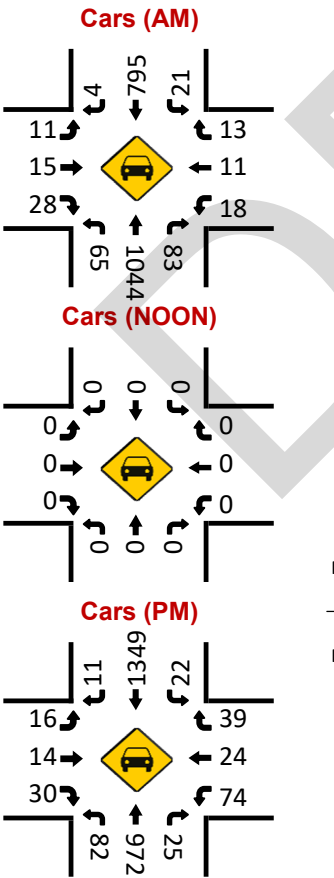
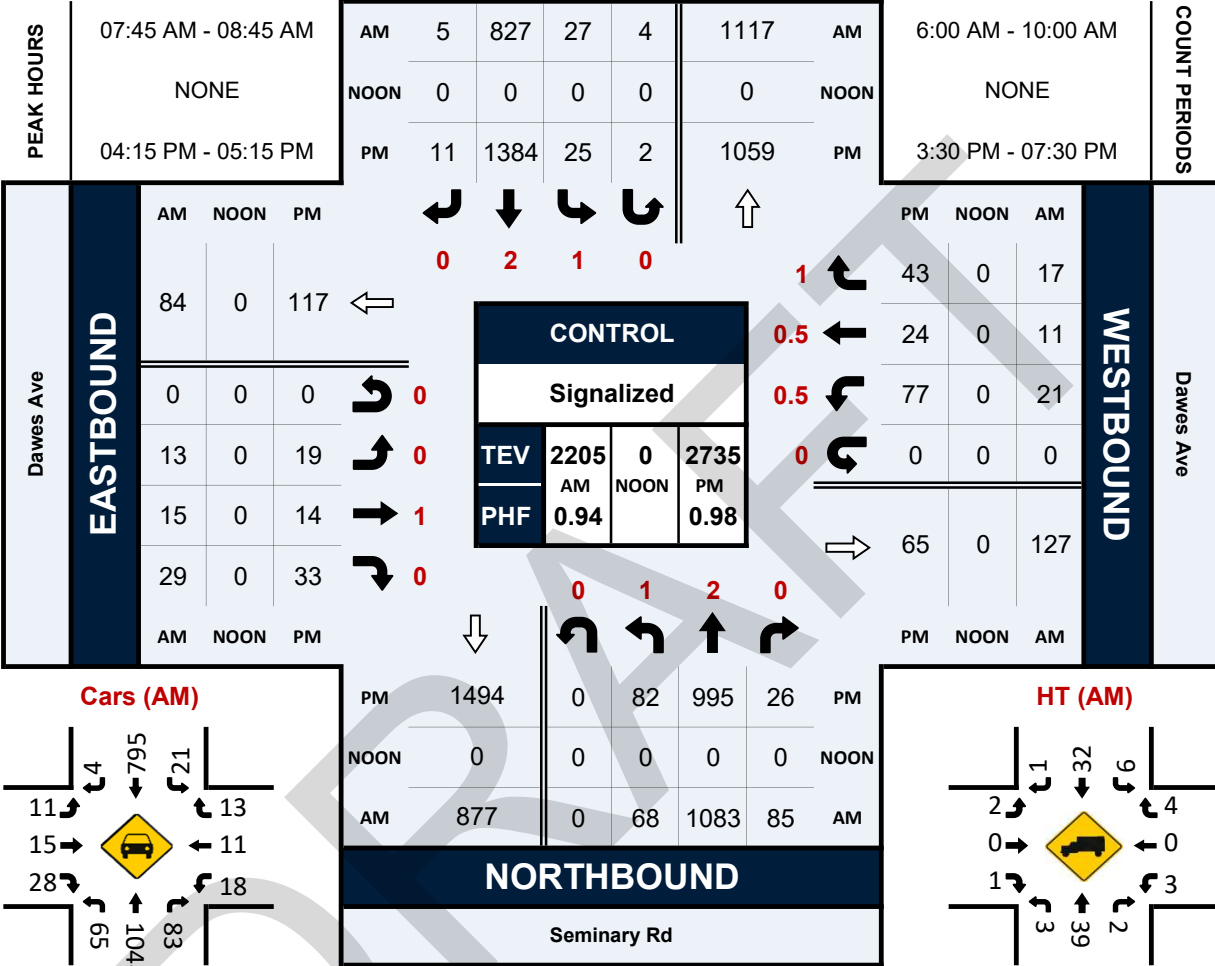
Peak Hour Turning Movement Count

ID: 22-260098-015

City: Alexandria

Day: Tuesday

Date: 12/13/2022



Project ID: 22-260098-015
 Location: Seminary Rd & Dawes Ave
 City: Alexandria

PEAK HOURS

Day: Tuesday
 Date: 12/13/2022

AM

Start Time	Seminary Rd Northbound					Seminary Rd Southbound					Dawes Ave Eastbound					Dawes Ave Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 06:00 AM - 10:00 AM																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
7:45 AM	20	236	23	0	279	10	232	0	0	242	2	4	9	0	15	3	3	4	0	10	546
8:00 AM	6	286	25	0	317	3	201	2	1	207	4	4	7	0	15	8	1	7	0	16	555
8:15 AM	23	244	16	0	283	6	199	1	2	208	4	2	8	0	14	6	4	3	0	13	518
8:30 AM	19	317	21	0	357	8	195	2	1	206	3	5	5	0	13	4	3	3	0	10	586
Total Volume	68	1083	85	0	1236	27	827	5	4	863	13	15	29	0	57	21	11	17	0	49	2205
% App. Total	5.5	87.6	6.9	0.0	100	3.1	95.8	0.6	0.5	100	22.8	26.3	50.9	0.0	100	42.9	22.4	34.7	0.0	100	
PHF	0.866					0.892					0.950					0.766					0.941
Cars, PU, Vans	65	1044	83	0	1192	21	795	4	4	824	11	15	28	0	54	18	11	13	0	42	2112
% Cars, PU, Vans	95.6	96.4	97.6	0.0	96.4	77.8	96.1	80.0	100.0	95.5	84.6	100.0	96.6	0.0	94.7	85.7	100.0	76.5	0.0	85.7	95.8
Heavy trucks	3	39	2	0	44	6	32	1	0	39	2	0	1	0	3	3	0	4	0	7	93
% Heavy trucks	4.4	3.6	2.4	0.0	3.6	22.2	3.9	20.0	0.0	4.5	15.4	0.0	3.4	0.0	5.3	14.3	0.0	23.5	0.0	14.3	4.2

PM

Start Time	Seminary Rd Northbound					Seminary Rd Southbound					Dawes Ave Eastbound					Dawes Ave Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
4:15 PM	11	256	7	0	274	6	374	4	0	384	6	4	3	0	13	14	6	8	0	28	699
4:30 PM	24	253	6	0	283	5	345	3	0	353	7	7	11	0	25	16	4	12	0	32	693
4:45 PM	25	248	4	0	277	7	334	2	1	344	4	2	7	0	13	23	8	7	0	38	672
5:00 PM	22	238	9	0	269	7	331	2	1	341	2	1	12	0	15	24	6	16	0	46	671
Total Volume	82	995	26	0	1103	25	1384	11	2	1422	19	14	33	0	66	77	24	43	0	144	2735
% App. Total	7.4	90.2	2.4	0.0	100	1.8	97.3	0.8	0.1	100	28.8	21.2	50.0	0.0	100	53.5	16.7	29.9	0.0	100	
PHF	0.974					0.926					0.660					0.783					0.978
Cars, PU, Vans	82	972	25	0	1079	22	1349	11	2	1384	16	14	30	0	60	74	24	39	0	137	2660
% Cars, PU, Vans	100.0	97.7	96.2	0.0	97.8	88.0	97.5	100.0	100.0	97.3	84.2	100.0	90.9	0.0	90.9	96.1	100.0	90.7	0.0	95.1	97.3
Heavy trucks	0	23	1	0	24	3	35	0	0	38	3	0	3	0	6	3	0	4	0	7	75
% Heavy trucks	0.0	2.3	3.8	0.0	2.2	12.0	2.5	0.0	0.0	2.7	15.8	0.0	9.1	0.0	9.1	3.9	0.0	9.3	0.0	4.9	2.7

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Fillmore Ave
City: Alexandria
Control: 1-Way Stop(WB)

Project ID: 22-260098-014
Date: 12/13/2022

Data - Total

NS/EW Streets:		Seminary Rd				Seminary Rd				Fillmore Ave				Fillmore Ave				TOTAL
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	0	146	4	0	0	4	85	0	0	0	0	0	0	0	2	0	241	
6:15 AM	0	151	3	0	0	4	84	0	0	0	0	0	1	0	3	0	246	
6:30 AM	0	196	4	0	0	5	132	0	0	0	0	0	0	0	5	0	342	
6:45 AM	0	236	2	0	0	3	171	0	0	0	0	0	5	0	9	0	426	
7:00 AM	0	235	1	0	0	3	159	0	0	0	0	0	4	0	11	0	413	
7:15 AM	0	316	5	0	0	1	193	0	0	0	0	0	1	0	7	0	523	
7:30 AM	0	272	5	0	0	11	202	0	0	0	0	0	3	0	12	0	505	
7:45 AM	0	287	6	0	0	12	253	0	0	0	0	0	2	0	7	0	567	
8:00 AM	0	309	1	0	0	9	225	0	0	0	0	0	1	0	9	0	554	
8:15 AM	0	295	4	0	0	4	208	0	0	0	0	0	1	0	8	0	520	
8:30 AM	0	351	3	0	0	6	209	0	0	0	0	0	1	0	10	0	580	
8:45 AM	0	293	6	0	0	3	199	0	0	0	0	0	0	0	13	0	514	
9:00 AM	0	298	3	0	0	6	206	0	0	0	0	0	1	0	9	0	523	
9:15 AM	0	241	4	0	0	8	190	0	0	0	0	0	3	0	11	0	457	
9:30 AM	0	226	5	0	0	7	193	0	0	0	0	0	0	0	10	0	441	
9:45 AM	0	263	1	0	0	9	183	0	0	0	0	0	1	0	12	1	470	
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		0	4115	57	0	95	2892	0	0	0	0	0	0	24	0	138	1	7322
		0.00%	98.63%	1.37%	0.00%	3.18%	96.82%	0.00%	0.00%	0	0	0	0	14.72%	0.00%	84.66%	0.61%	
PEAK HR:		07:45 AM - 08:45 AM												TOTAL				
PEAK HR VOL:		0	1242	14	0	31	895	0	0	0	0	0	0	5	0	34	0	2221
PEAK HR FACTOR:		0.000	0.885	0.583	0.000	0.646	0.884	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.850	0.000	0.957
		0.887				0.874								0.886				

NS/EW Streets:		Seminary Rd				Seminary Rd				Fillmore Ave				Fillmore Ave				TOTAL
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	0	211	4	0	0	3	312	0	0	0	0	0	2	0	10	0	542	
3:45 PM	0	262	2	0	0	13	355	0	0	0	0	0	2	0	10	0	644	
4:00 PM	0	253	4	0	0	11	299	0	0	0	0	0	1	0	14	0	582	
4:15 PM	0	249	9	0	0	6	365	0	0	0	0	0	0	0	16	0	645	
4:30 PM	0	294	4	0	0	14	374	0	0	0	0	0	0	0	12	0	698	
4:45 PM	0	256	6	0	0	16	355	0	0	0	0	0	0	0	10	0	643	
5:00 PM	0	277	2	0	0	10	363	0	0	0	0	0	1	0	11	0	664	
5:15 PM	0	277	5	0	0	11	364	0	0	0	0	0	2	0	13	0	672	
5:30 PM	0	275	3	0	0	12	372	0	0	0	0	0	1	0	26	0	689	
5:45 PM	0	258	3	0	0	15	361	0	0	0	0	0	0	0	13	0	650	
6:00 PM	0	243	1	0	0	12	346	0	0	0	0	0	1	0	11	0	614	
6:15 PM	0	285	3	0	0	9	375	0	0	0	0	0	1	0	12	0	685	
6:30 PM	0	269	8	0	0	18	366	0	0	0	0	0	1	0	15	0	677	
6:45 PM	0	292	4	0	0	11	313	0	0	0	0	0	2	0	10	0	632	
7:00 PM	0	221	4	0	0	16	286	0	0	0	0	0	0	0	6	0	533	
7:15 PM	0	235	2	0	0	9	273	0	0	0	0	0	1	0	8	0	528	
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		0	4157	64	0	186	5479	0	0	0	0	0	0	15	0	197	0	10098
		0.00%	98.48%	1.52%	0.00%	3.28%	96.72%	0.00%	0.00%	0	0	0	0	7.08%	0.00%	92.92%	0.00%	
PEAK HR:		04:30 PM - 05:30 PM												TOTAL				
PEAK HR VOL:		0	1104	17	0	51	1456	0	0	0	0	0	0	3	0	46	0	2677
PEAK HR FACTOR:		0.000	0.939	0.708	0.000	0.797	0.973	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.885	0.000	0.959
		0.940				0.971								0.817				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Fillmore Ave
City: Alexandria
Control: 1-Way Stop(WB)

Project ID: 22-260098-014
Date: 12/13/2022

Data - Cars

NS/EW Streets:	Seminary Rd				Seminary Rd				Fillmore Ave				Fillmore Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	0	139	4	0	2	82	0	0	0	0	0	0	0	0	1	0	228
6:15 AM	0	144	3	0	4	83	0	0	0	0	0	0	1	0	2	0	237
6:30 AM	0	189	4	0	3	126	0	0	0	0	0	0	0	0	4	0	326
6:45 AM	0	225	2	0	2	164	0	0	0	0	0	0	5	0	8	0	406
7:00 AM	0	227	0	0	1	155	0	0	0	0	0	0	4	0	8	0	395
7:15 AM	0	296	4	0	1	188	0	0	0	0	0	0	1	0	7	0	497
7:30 AM	0	266	5	0	8	194	0	0	0	0	0	0	3	0	9	0	485
7:45 AM	0	279	6	0	10	247	0	0	0	0	0	0	2	0	6	0	550
8:00 AM	0	303	1	0	5	216	0	0	0	0	0	0	1	0	9	0	535
8:15 AM	0	283	4	0	4	202	0	0	0	0	0	0	1	0	6	0	500
8:30 AM	0	337	3	0	3	202	0	0	0	0	0	0	1	0	7	0	553
8:45 AM	0	283	5	0	2	185	0	0	0	0	0	0	0	0	11	0	486
9:00 AM	0	289	2	0	4	197	0	0	0	0	0	0	1	0	8	0	501
9:15 AM	0	234	3	0	7	184	0	0	0	0	0	0	2	0	9	0	439
9:30 AM	0	217	5	0	5	189	0	0	0	0	0	0	0	0	8	0	424
9:45 AM	0	251	1	0	8	174	0	0	0	0	0	0	1	0	10	1	446
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	0	3962	52	0	69	2788	0	0	0	0	0	0	23	0	113	1	7008
APPROACH %'s:	0.00%	98.70%	1.30%	0.00%	2.42%	97.58%	0.00%	0.00%	0	0	0	0	16.79%	0.00%	82.48%	0.73%	
PEAK HR:	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL:	0	1202	14	0	22	867	0	0	0	0	0	0	5	0	28	0	2138
PEAK HR FACTOR:	0.000	0.892	0.583	0.000	0.550	0.878	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.778	0.000	0.967
	0.894				0.865								0.825				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	0	208	4	0	1	305	0	0	0	0	0	0	2	0	10	0	530
3:45 PM	0	261	2	0	11	349	0	0	0	0	0	0	2	0	8	0	633
4:00 PM	0	250	4	0	9	293	0	0	0	0	0	0	1	0	12	0	569
4:15 PM	0	243	9	0	5	355	0	0	0	0	0	0	0	0	14	0	626
4:30 PM	0	288	4	0	12	363	0	0	0	0	0	0	0	0	10	0	677
4:45 PM	0	252	6	0	15	346	0	0	0	0	0	0	0	0	10	0	629
5:00 PM	0	270	2	0	9	352	0	0	0	0	0	0	1	0	9	0	643
5:15 PM	0	273	5	0	10	361	0	0	0	0	0	0	2	0	11	0	662
5:30 PM	0	272	3	0	11	365	0	0	0	0	0	0	1	0	24	0	676
5:45 PM	0	256	3	0	13	355	0	0	0	0	0	0	0	0	12	0	639
6:00 PM	0	237	1	0	11	338	0	0	0	0	0	0	0	0	9	0	596
6:15 PM	0	282	3	0	7	371	0	0	0	0	0	0	1	0	11	0	675
6:30 PM	0	262	8	0	17	362	0	0	0	0	0	0	1	0	11	0	661
6:45 PM	0	289	4	0	8	307	0	0	0	0	0	0	2	0	6	0	616
7:00 PM	0	220	4	0	15	284	0	0	0	0	0	0	0	0	5	0	528
7:15 PM	0	233	2	0	8	273	0	0	0	0	0	0	1	0	6	0	523
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	0	4096	64	0	162	5379	0	0	0	0	0	0	14	0	168	0	9883
APPROACH %'s:	0.00%	98.46%	1.54%	0.00%	2.92%	97.08%	0.00%	0.00%	0	0	0	0	7.69%	0.00%	92.31%	0.00%	
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	0	1083	17	0	46	1422	0	0	0	0	0	0	3	0	40	0	2611
PEAK HR FACTOR:	0.000	0.940	0.708	0.000	0.767	0.979	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.909	0.000	0.964
	0.942				0.979								0.827				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Fillmore Ave
City: Alexandria
Control: 1-Way Stop(WB)

Project ID: 22-260098-014
Date: 12/13/2022

Data - HT

NS/EW Streets:		Seminary Rd				Seminary Rd				Fillmore Ave				Fillmore Ave				TOTAL
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM		0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	13
6:15 AM		0	7	0	0	0	1	0	0	0	0	0	0	0	0	1	0	9
6:30 AM		0	7	0	0	2	6	0	0	0	0	0	0	0	0	1	0	16
6:45 AM		0	11	0	0	1	7	0	0	0	0	0	0	0	0	1	0	20
7:00 AM		0	8	1	0	2	4	0	0	0	0	0	0	0	0	3	0	18
7:15 AM		0	20	1	0	0	5	0	0	0	0	0	0	0	0	0	0	26
7:30 AM		0	6	0	0	3	8	0	0	0	0	0	0	0	0	3	0	20
7:45 AM		0	8	0	0	2	6	0	0	0	0	0	0	0	0	1	0	17
8:00 AM		0	6	0	0	4	9	0	0	0	0	0	0	0	0	0	0	19
8:15 AM		0	12	0	0	0	6	0	0	0	0	0	0	0	0	2	0	20
8:30 AM		0	14	0	0	3	7	0	0	0	0	0	0	0	0	3	0	27
8:45 AM		0	10	1	0	1	14	0	0	0	0	0	0	0	0	2	0	28
9:00 AM		0	9	1	0	2	9	0	0	0	0	0	0	0	0	1	0	22
9:15 AM		0	7	1	0	1	6	0	0	0	0	0	0	1	0	2	0	18
9:30 AM		0	9	0	0	2	4	0	0	0	0	0	0	0	0	2	0	17
9:45 AM		0	12	0	0	1	9	0	0	0	0	0	0	0	0	2	0	24
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		0	153	5	0	26	104	0	0	0	0	0	0	1	0	25	0	314
		0.00%	96.84%	3.16%	0.00%	20.00%	80.00%	0.00%	0.00%	0	0	0	0	3.85%	0.00%	96.15%	0.00%	
PEAK HR:		07:45 AM - 08:45 AM																
PEAK HR VOL:		0	40	0	0	9	28	0	0	0	0	0	0	0	0	6	0	83
PEAK HR FACTOR:		0.000	0.714	0.000	0.000	0.563	0.778	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.769
		0.714				0.712								0.500				
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM		0	3	0	0	2	7	0	0	0	0	0	0	0	0	0	0	12
3:45 PM		0	1	0	0	2	6	0	0	0	0	0	0	0	0	2	0	11
4:00 PM		0	3	0	0	2	6	0	0	0	0	0	0	0	0	2	0	13
4:15 PM		0	6	0	0	1	10	0	0	0	0	0	0	0	0	2	0	19
4:30 PM		0	6	0	0	2	11	0	0	0	0	0	0	0	0	2	0	21
4:45 PM		0	4	0	0	1	9	0	0	0	0	0	0	0	0	0	0	14
5:00 PM		0	7	0	0	1	11	0	0	0	0	0	0	0	0	2	0	21
5:15 PM		0	4	0	0	1	3	0	0	0	0	0	0	0	0	2	0	10
5:30 PM		0	3	0	0	1	7	0	0	0	0	0	0	0	0	2	0	13
5:45 PM		0	2	0	0	2	6	0	0	0	0	0	0	0	0	1	0	11
6:00 PM		0	6	0	0	1	8	0	0	0	0	0	0	1	0	2	0	18
6:15 PM		0	3	0	0	2	4	0	0	0	0	0	0	0	0	1	0	10
6:30 PM		0	7	0	0	1	4	0	0	0	0	0	0	0	0	4	0	16
6:45 PM		0	3	0	0	3	6	0	0	0	0	0	0	0	0	4	0	16
7:00 PM		0	1	0	0	1	2	0	0	0	0	0	0	0	0	1	0	5
7:15 PM		0	2	0	0	1	0	0	0	0	0	0	0	0	0	2	0	5
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		0	61	0	0	24	100	0	0	0	0	0	0	1	0	29	0	215
		0.00%	100.00%	0.00%	0.00%	19.35%	80.65%	0.00%	0.00%	0	0	0	0	3.33%	0.00%	96.67%	0.00%	
PEAK HR:		04:30 PM - 05:30 PM																
PEAK HR VOL:		0	21	0	0	5	34	0	0	0	0	0	0	0	0	6	0	66
PEAK HR FACTOR:		0.000	0.750	0.000	0.000	0.625	0.773	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.786
		0.750				0.750								0.750				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Fillmore Ave
City: Alexandria
Control: 1-Way Stop(WB)

Project ID: 22-260098-014
Date: 12/13/2022

Data - Bikes

NS/EW Streets:	Seminary Rd				Seminary Rd				Fillmore Ave				Fillmore Ave				TOTAL
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	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	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
9:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0	4
PEAK HR:	07:45 AM - 08:45 AM																
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	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	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	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	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0	4
PEAK HR:	04:30 PM - 05:30 PM																
PEAK HR VOL:	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR:	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500

National Data & Surveying Services **Intersection Turning** Movement Count

Location: Seminary Rd & Fillmore Ave
City: Alexandria

Project ID: 22-260098-014
Date: 12/13/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Seminary Rd		Seminary Rd		Fillmore Ave		Fillmore Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:00 AM	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	1	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	2	0	0	2
7:00 AM	0	0	0	0	2	0	0	0	2
7:15 AM	0	0	0	0	1	1	0	0	2
7:30 AM	0	0	0	0	0	1	0	0	1
7:45 AM	0	0	0	0	2	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	1
8:30 AM	0	0	0	0	3	0	0	0	3
8:45 AM	0	0	0	0	1	0	0	0	1
9:00 AM	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	1	0	0	0	1
9:30 AM	0	0	0	0	1	0	0	0	1
9:45 AM	0	0	0	0	2	1	0	0	3
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	14	6	0	0	20
					70.00%	30.00%			
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	0	0	0	0	6	0	0	0	6
PEAK HR FACTOR :					0.500	0.500			0.500

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM	0	0	0	0	0	3	0	0	3
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	1	3	0	0	4
4:15 PM	0	0	0	0	6	2	0	0	8
4:30 PM	0	0	0	0	3	2	0	0	5
4:45 PM	0	0	0	0	1	2	0	0	3
5:00 PM	0	0	0	0	1	2	0	0	3
5:15 PM	0	0	0	0	1	2	0	0	3
5:30 PM	0	0	0	0	1	1	0	0	2
5:45 PM	0	0	0	0	1	4	0	0	5
6:00 PM	0	0	0	0	3	1	0	0	4
6:15 PM	0	0	0	0	1	1	0	0	2
6:30 PM	0	0	0	0	1	0	0	0	1
6:45 PM	0	0	0	0	0	1	0	0	1
7:00 PM	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	2	0	0	2
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	20	26	0	0	46
					43.48%	56.52%			
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	0	6	8	0	0	14
PEAK HR FACTOR :					0.500	1.000			0.700

Seminary Rd & Fillmore Ave

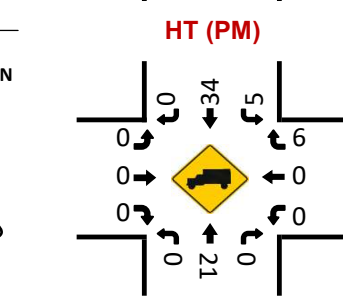
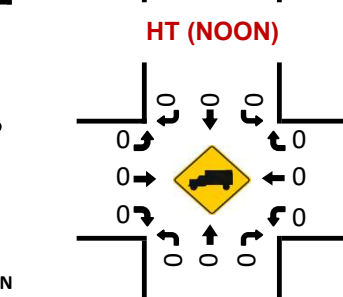
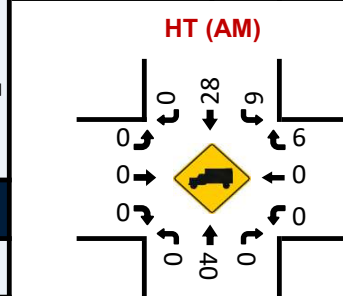
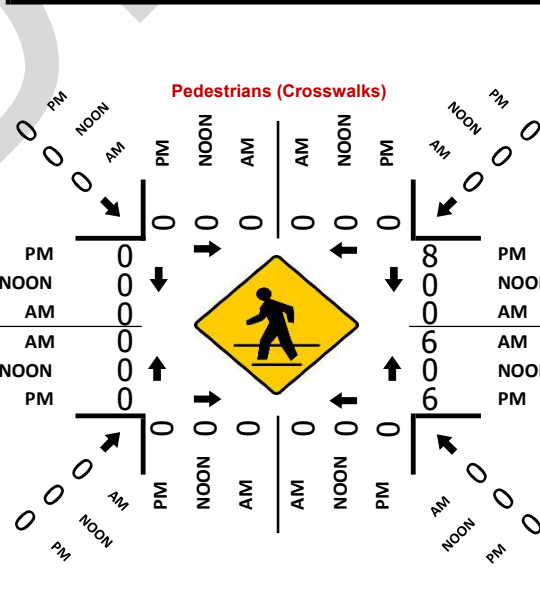
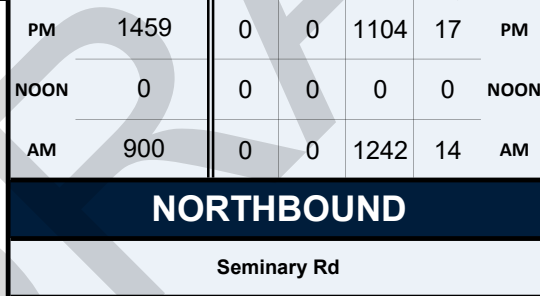
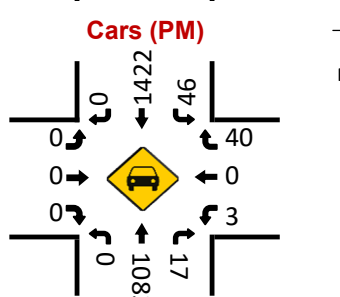
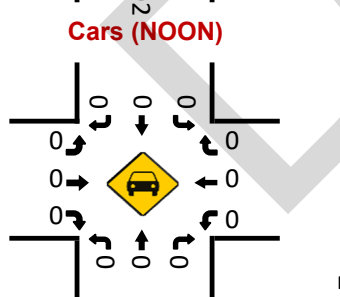
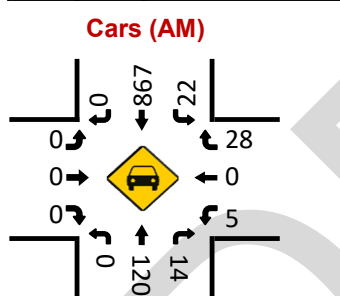
Peak Hour Turning Movement Count

ID: 22-260098-014
City: Alexandria

Day: Tuesday
Date: 12/13/2022

PEAK HOURS	Seminary Rd					COUNT PERIODS		
	SOUTHBOUND							
07:45 AM - 08:45 AM	AM	0	895	31	0	1276	AM	6:00 AM - 10:00 AM
NONE	NOON	0	0	0	0	0	NOON	NONE
04:30 PM - 05:30 PM	PM	0	1456	51	0	1150	PM	3:30 PM - 07:30 PM

Fillmore Ave	EASTBOUND			CONTROL	WESTBOUND		
	AM	NOON	PM		PM	NOON	AM
0	0	0	1-Way Stop(WB)	0	0	34	
0	0	0		1	0	0	
0	0	0		0	3	0	
0	0	0		0	0	5	
AM	NOON	PM		TEV	2221	0	2677
				AM		NOON	PM
				PHF	0.96		0.96
				68	0	45	



Project ID: 22-260098-014
 Location: Seminary Rd & Fillmore Ave
 City: Alexandria

Day: Tuesday
 Date: 12/13/2022

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Seminary Rd Northbound						Seminary Rd Southbound						Fillmore Ave Eastbound						Fillmore Ave Westbound						Int. Total	
	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total		
6:00 AM	0	146	4	0	0	150	4	85	0	0	0	89	0	0	0	0	0	0	0	0	2	0	0	2	241	
6:15 AM	0	151	3	0	0	154	4	84	0	0	0	88	0	0	0	0	0	0	1	0	3	0	1	4	246	
6:30 AM	0	196	4	0	0	200	5	132	0	0	0	137	0	0	0	0	0	0	0	0	5	0	0	5	342	
6:45 AM	0	236	2	0	0	238	3	171	0	0	0	174	0	0	0	0	0	0	5	0	9	0	2	14	426	
Total	0	729	13	0	0	742	16	472	0	0	0	488	0	0	0	0	0	0	6	0	19	0	3	25	1255	
7:00 AM	0	235	1	0	0	236	3	159	0	0	0	162	0	0	0	0	0	0	4	0	11	0	2	15	413	
7:15 AM	0	316	5	0	0	321	1	193	0	0	0	194	0	0	0	0	0	0	1	0	7	0	2	8	523	
7:30 AM	0	272	5	0	0	277	11	202	0	0	0	213	0	0	0	0	0	0	3	0	12	0	1	15	505	
7:45 AM	0	287	6	0	0	293	12	253	0	0	0	265	0	0	0	0	0	0	2	0	7	0	2	9	567	
Total	0	1110	17	0	0	1127	27	807	0	0	0	834	0	0	0	0	0	0	10	0	37	0	7	47	2008	
8:00 AM	0	309	1	0	0	310	9	225	0	0	0	234	0	0	0	0	0	0	1	0	9	0	0	10	554	
8:15 AM	0	295	4	0	0	299	4	208	0	0	0	212	0	0	0	0	0	0	1	0	8	0	1	9	520	
8:30 AM	0	351	3	0	0	354	6	209	0	0	0	215	0	0	0	0	0	0	1	0	10	0	3	11	580	
8:45 AM	0	293	6	0	0	299	3	199	0	0	0	202	0	0	0	0	0	0	0	0	13	0	1	13	514	
Total	0	1248	14	0	0	1262	22	841	0	0	0	863	0	0	0	0	0	0	3	0	40	0	5	43	2168	
9:00 AM	0	298	3	0	0	301	6	206	0	0	0	212	0	0	0	0	0	0	1	0	9	0	0	10	523	
9:15 AM	0	241	4	0	0	245	8	190	0	0	0	198	0	0	0	0	0	0	3	0	11	0	1	14	457	
9:30 AM	0	226	5	0	0	231	7	193	0	0	0	200	0	0	0	0	0	0	0	0	10	0	1	10	441	
9:45 AM	0	263	1	0	0	264	9	183	0	0	0	192	0	0	0	0	0	0	1	0	12	1	3	14	470	
Total	0	1028	13	0	0	1041	30	772	0	0	0	802	0	0	0	0	0	0	5	0	42	1	5	48	1891	
BREAK																										
3:30 PM	0	211	4	0	0	215	3	312	0	0	0	315	0	0	0	0	0	0	2	0	10	0	3	12	542	
3:45 PM	0	262	2	0	0	264	13	355	0	0	0	368	0	0	0	0	0	0	2	0	10	0	0	12	644	
Total	0	473	6	0	0	479	16	667	0	0	0	683	0	0	0	0	0	0	4	0	20	0	3	24	1186	
4:00 PM	0	253	4	0	0	257	11	299	0	0	0	310	0	0	0	0	0	0	1	0	14	0	4	15	582	
4:15 PM	0	249	9	0	0	258	6	365	0	0	0	371	0	0	0	0	0	0	0	0	16	0	8	16	645	
4:30 PM	0	294	4	0	0	298	14	374	0	0	0	388	0	0	0	0	0	0	0	0	12	0	5	12	698	
4:45 PM	0	256	6	0	0	262	16	355	0	0	0	371	0	0	0	0	0	0	0	0	10	0	3	10	643	
Total	0	1052	23	0	0	1075	47	1393	0	0	0	1440	0	0	0	0	0	0	1	0	52	0	20	53	2568	
5:00 PM	0	277	2	0	0	279	10	363	0	0	0	373	0	0	0	0	0	0	1	0	11	0	3	12	664	
5:15 PM	0	277	5	0	0	282	11	364	0	0	0	375	0	0	0	0	0	0	2	0	13	0	3	15	672	
5:30 PM	0	275	3	0	0	278	12	372	0	0	0	384	0	0	0	0	0	0	1	0	26	0	2	27	689	
5:45 PM	0	258	3	0	0	261	15	361	0	0	0	376	0	0	0	0	0	0	0	0	13	0	5	13	650	
Total	0	1087	13	0	0	1100	48	1460	0	0	0	1508	0	0	0	0	0	0	4	0	63	0	13	67	2675	
6:00 PM	0	243	1	0	0	244	12	346	0	0	0	358	0	0	0	0	0	0	1	0	11	0	4	12	614	
6:15 PM	0	285	3	0	0	288	9	375	0	0	0	384	0	0	0	0	0	0	1	0	12	0	2	13	685	
6:30 PM	0	269	8	0	0	277	18	366	0	0	0	384	0	0	0	0	0	0	1	0	15	0	1	16	677	
6:45 PM	0	292	4	0	0	296	11	313	0	0	0	324	0	0	0	0	0	0	2	0	10	0	1	12	632	
Total	0	1089	16	0	0	1105	50	1400	0	0	0	1450	0	0	0	0	0	0	5	0	48	0	8	53	2608	
7:00 PM	0	221	4	0	0	225	16	286	0	0	0	302	0	0	0	0	0	0	0	0	6	0	0	6	533	
7:15 PM	0	235	2	0	0	237	9	273	0	0	0	282	0	0	0	0	0	0	1	0	8	0	2	9	528	
Total	0	456	6	0	0	462	25	559	0	0	0	584	0	0	0	0	0	0	1	0	14	0	2	15	1061	
Grand Total	0	8272	121	0	0	8393	281	8371	0	0	0	8652	0	0	0	0	0	0	39	0	335	1	66	375	17420	
Approch %	0.0	98.6	1.4	0.0	0.0		3.2	96.8	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		10.4	0.0	89.3	0.3	17.6			
Total %	0.0	47.5	0.7	0.0	0.0	48.2	1.6	48.1	0.0	0.0	0.0	49.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.9	0.0	0.4	2.2		
Cars, PU, Vans	0	8058	116	0	0	8174	231	8167	0	0	0	8398	0	0	0	0	0	0	37	0	281	1	66	319	16891	
% Cars, PU, Vans	0.0	97.4	95.9	0.0	0.0	97.4	82.2	97.6	0.0	0.0	0.0	97.1	0.0	0.0	0.0	0.0	0.0	0.0	94.9	0.0	83.9	100.0	85.1	97.0		
Heavy trucks	0	214	5	0	0	219	50	204	0	0	0	254	0	0	0	0	0	0	2	0	54	0	0	56	529	
%Heavy trucks	0.0	2.6	4.1	0.0	0.0	2.6	17.8	2.4	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	16.1	0.0	14.9	3.0		

Project ID: 22-260098-014
 Location: Seminary Rd & Fillmore Ave
 City: Alexandria

PEAK HOURS

Day: Tuesday
 Date: 12/13/2022

AM

Start Time	Seminary Rd Northbound					Seminary Rd Southbound					Fillmore Ave Eastbound					Fillmore Ave Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 06:00 AM - 10:00 AM																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
7:45 AM	0	287	6	0	293	12	253	0	0	265	0	0	0	0	0	2	0	7	0	9	567
8:00 AM	0	309	1	0	310	9	225	0	0	234	0	0	0	0	0	1	0	9	0	10	554
8:15 AM	0	295	4	0	299	4	208	0	0	212	0	0	0	0	0	1	0	8	0	9	520
8:30 AM	0	351	3	0	354	6	209	0	0	215	0	0	0	0	0	1	0	10	0	11	580
Total Volume	0	1242	14	0	1256	31	895	0	0	926	0	0	0	0	0	5	0	34	0	39	2221
% App. Total	0.0	98.9	1.1	0.0	100	3.3	96.7	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	12.8	0.0	87.2	0.0	100	
PHF	0.887					0.874										0.886					0.957
Cars, PU, Vans	0	1202	14	0	1216	22	867	0	0	889	0	0	0	0	0	5	0	28	0	33	2138
% Cars, PU, Vans	0.0	96.8	100.0	0.0	96.8	71.0	96.9	0.0	0.0	96.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	82.4	0.0	84.6	96.3
Heavy trucks	0	40	0	0	40	9	28	0	0	37	0	0	0	0	0	0	0	6	0	6	83
% Heavy trucks	0.0	3.2	0.0	0.0	3.2	29.0	3.1	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	0.0	15.4	3.7

PM

Start Time	Seminary Rd Northbound					Seminary Rd Southbound					Fillmore Ave Eastbound					Fillmore Ave Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	0	294	4	0	298	14	374	0	0	388	0	0	0	0	0	0	0	12	0	12	698
4:45 PM	0	256	6	0	262	16	355	0	0	371	0	0	0	0	0	0	0	10	0	10	643
5:00 PM	0	277	2	0	279	10	363	0	0	373	0	0	0	0	0	1	0	11	0	12	664
5:15 PM	0	277	5	0	282	11	364	0	0	375	0	0	0	0	0	2	0	13	0	15	672
Total Volume	0	1104	17	0	1121	51	1456	0	0	1507	0	0	0	0	0	3	0	46	0	49	2677
% App. Total	0.0	98.5	1.5	0.0	100	3.4	96.6	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	6.1	0.0	93.9	0.0	100	
PHF	0.940					0.971										0.817					0.959
Cars, PU, Vans	0	1083	17	0	1100	46	1422	0	0	1468	0	0	0	0	0	3	0	40	0	43	2611
% Cars, PU, Vans	0.0	98.1	100.0	0.0	98.1	90.2	97.7	0.0	0.0	97.4	0.0	0.0	0.0	0.0	0.0	100.0	0.0	87.0	0.0	87.8	97.5
Heavy trucks	0	21	0	0	21	5	34	0	0	39	0	0	0	0	0	0	0	6	0	6	66
% Heavy trucks	0.0	1.9	0.0	0.0	1.9	9.8	2.3	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	12.2	2.5

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Fairbanks Ave
City: Alexandria
Control: 2-Way Stop(EB/WB)

Project ID: 22-260098-016
Date: 12/13/2022

Data - Total

NS/EW Streets:	Seminary Rd				Seminary Rd				Fairbanks Ave				Fairbanks Ave				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	TOTAL
6:00 AM	0	150	1	0	0	95	0	0	0	0	1	0	1	0	0	0	248
6:15 AM	0	159	3	0	0	107	0	0	0	0	3	0	1	0	0	0	273
6:30 AM	0	210	2	0	0	135	0	0	1	0	2	0	0	0	0	0	350
6:45 AM	0	228	7	0	2	180	1	0	0	0	1	0	1	0	0	0	420
7:00 AM	1	248	3	0	0	182	0	0	0	0	4	0	1	0	0	0	439
7:15 AM	0	316	0	0	0	200	1	0	0	0	5	0	1	0	0	0	523
7:30 AM	0	287	3	0	0	210	0	0	0	0	2	0	1	0	1	0	504
7:45 AM	4	305	3	0	1	278	0	0	0	0	4	0	3	0	0	0	598
8:00 AM	2	314	3	0	2	239	0	0	0	0	6	0	0	0	1	0	567
8:15 AM	3	297	1	0	0	236	2	0	0	0	3	0	0	0	1	0	543
8:30 AM	2	359	1	0	0	221	0	0	2	0	2	0	1	0	0	0	588
8:45 AM	0	304	3	0	0	217	0	0	0	0	1	0	0	0	3	0	528
9:00 AM	1	301	3	0	0	224	0	0	0	0	3	0	0	0	0	0	532
9:15 AM	0	242	1	0	2	210	0	0	0	0	1	0	0	0	0	0	456
9:30 AM	2	240	3	0	0	196	1	0	0	0	4	0	0	0	0	0	446
9:45 AM	4	268	4	0	1	206	1	0	1	0	4	0	0	0	1	0	490
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.44%	98.60%	0.96%	0.00%	0.25%	99.56%	0.19%	0.00%	8.00%	0.00%	92.00%	0.00%	58.82%	0.00%	41.18%	0.00%	7505
PEAK HR:	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL:	11	1275	8	0	3	974	2	0	2	0	15	0	4	0	2	0	2296
PEAK HR FACTOR:	0.688	0.888	0.667	0.000	0.375	0.876	0.250	0.000	0.250	0.000	0.625	0.000	0.333	0.000	0.500	0.000	0.960
	0.894				0.877				0.708				0.500				
PM	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	TOTAL
3:30 PM	4	221	0	0	3	316	0	0	0	0	1	0	1	0	1	0	547
3:45 PM	1	273	2	0	1	364	0	0	0	0	2	0	1	0	4	0	648
4:00 PM	5	264	0	0	0	306	2	0	0	0	1	0	2	0	0	0	580
4:15 PM	1	278	3	0	2	373	0	0	0	0	0	0	0	0	2	0	659
4:30 PM	3	287	0	0	1	390	0	0	0	0	1	1	2	0	2	0	687
4:45 PM	2	286	1	0	1	366	0	0	0	0	2	0	1	0	0	0	659
5:00 PM	2	291	1	0	0	360	0	0	0	0	1	0	0	0	2	0	657
5:15 PM	4	288	0	0	0	368	0	0	0	0	2	0	0	0	0	0	662
5:30 PM	1	310	1	0	0	417	0	0	0	0	0	0	0	0	0	0	729
5:45 PM	1	247	0	0	0	375	2	0	0	0	3	0	0	0	1	0	629
6:00 PM	5	278	0	0	0	357	1	0	1	0	2	0	1	0	0	0	645
6:15 PM	2	269	2	0	0	393	1	0	0	0	2	0	1	0	0	0	670
6:30 PM	3	299	0	0	1	372	2	0	0	0	0	0	0	0	0	0	677
6:45 PM	5	290	2	0	0	342	1	0	1	0	2	0	0	0	1	0	644
7:00 PM	1	236	1	0	0	305	0	0	0	0	2	0	0	0	0	0	545
7:15 PM	1	246	1	0	1	264	1	0	1	0	1	0	1	0	0	0	517
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.93%	98.76%	0.32%	0.00%	0.18%	99.65%	0.18%	0.00%	11.54%	0.00%	84.62%	3.85%	43.48%	0.00%	56.52%	0.00%	10155
PEAK HR:	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL:	9	1175	3	0	1	1511	0	0	0	0	5	0	1	0	2	0	2707
PEAK HR FACTOR:	0.563	0.948	0.750	0.000	0.250	0.906	0.000	0.000	0.000	0.000	0.625	0.000	0.250	0.000	0.250	0.000	0.928
	0.951				0.906				0.625				0.375				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Fairbanks Ave
City: Alexandria
Control: 2-Way Stop(EB/WB)

Project ID: 22-260098-016
Date: 12/13/2022

Data - Cars

NS/EW Streets:	Seminary Rd				Seminary Rd				Fairbanks Ave				Fairbanks Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
6:00 AM	0	144	1	0	0	92	0	0	0	0	1	0	1	0	0	0	239
6:15 AM	0	152	3	0	0	105	0	0	0	0	3	0	1	0	0	0	264
6:30 AM	0	203	2	0	0	129	0	0	1	0	2	0	0	0	0	0	337
6:45 AM	0	218	7	0	2	174	1	0	0	0	1	0	1	0	0	0	404
7:00 AM	1	236	3	0	0	178	0	0	0	0	4	0	1	0	0	0	423
7:15 AM	0	296	0	0	0	196	1	0	0	0	5	0	1	0	0	0	499
7:30 AM	0	279	3	0	0	201	0	0	0	0	2	0	1	0	1	0	487
7:45 AM	4	293	3	0	1	273	0	0	0	0	4	0	3	0	0	0	581
8:00 AM	2	308	3	0	2	229	0	0	0	0	6	0	0	0	1	0	551
8:15 AM	3	285	1	0	0	230	2	0	0	0	3	0	0	0	1	0	525
8:30 AM	2	345	0	0	0	214	0	0	2	0	2	0	1	0	0	0	566
8:45 AM	0	293	2	0	0	202	0	0	0	0	1	0	0	0	1	0	499
9:00 AM	1	289	3	0	0	214	0	0	0	0	3	0	0	0	0	0	510
9:15 AM	0	234	1	0	2	203	0	0	0	0	1	0	0	0	0	0	441
9:30 AM	2	229	2	0	0	194	0	0	0	0	4	0	0	0	0	0	431
9:45 AM	3	256	4	0	1	195	1	0	1	0	4	0	0	0	0	0	465
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.44%	98.64%	0.92%	0.00%	0.26%	99.57%	0.16%	0.00%	8.00%	0.00%	92.00%	0.00%	71.43%	0.00%	28.57%	0.00%	7222
PEAK HR:	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL:	11	1231	7	0	3	946	2	0	2	0	15	0	4	0	2	0	2223
PEAK HR FACTOR:	0.688	0.892	0.583	0.000	0.375	0.866	0.250	0.000	0.250	0.000	0.625	0.000	0.333	0.000	0.500	0.000	0.957
	0.900				0.868				0.708				0.500				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
3:30 PM	4	216	0	0	3	309	0	0	0	0	1	0	1	0	1	0	535
3:45 PM	1	271	1	0	1	358	0	0	0	0	2	0	1	0	4	0	639
4:00 PM	5	260	0	0	0	303	2	0	0	0	1	0	2	0	0	0	573
4:15 PM	1	271	2	0	1	366	0	0	0	0	0	0	0	0	2	0	643
4:30 PM	3	284	0	0	1	382	0	0	0	0	1	1	1	0	2	0	675
4:45 PM	2	282	1	0	1	357	0	0	0	0	2	0	1	0	0	0	646
5:00 PM	2	284	1	0	0	348	0	0	0	0	1	0	0	0	2	0	638
5:15 PM	4	283	0	0	0	365	0	0	0	0	2	0	0	0	0	0	654
5:30 PM	1	308	1	0	0	410	0	0	0	0	0	0	0	0	0	0	720
5:45 PM	1	246	0	0	0	368	2	0	0	0	3	0	0	0	1	0	621
6:00 PM	5	272	0	0	0	349	1	0	1	0	2	0	1	0	0	0	631
6:15 PM	2	267	2	0	0	390	1	0	0	0	2	0	1	0	0	0	665
6:30 PM	3	295	0	0	1	369	2	0	0	0	0	0	0	0	0	0	670
6:45 PM	5	287	2	0	0	337	1	0	1	0	2	0	0	0	1	0	636
7:00 PM	1	234	1	0	0	303	0	0	0	0	2	0	0	0	0	0	541
7:15 PM	1	244	1	0	1	264	1	0	1	0	1	0	1	0	0	0	515
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.94%	98.78%	0.28%	0.00%	0.16%	99.66%	0.18%	0.00%	11.54%	0.00%	84.62%	3.85%	40.91%	0.00%	59.09%	0.00%	10002
PEAK HR:	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL:	9	1157	3	0	1	1480	0	0	0	0	5	0	1	0	2	0	2658
PEAK HR FACTOR:	0.563	0.939	0.750	0.000	0.250	0.902	0.000	0.000	0.000	0.000	0.625	0.000	0.250	0.000	0.250	0.000	0.923
	0.943				0.903				0.625				0.375				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Fairbanks Ave
City: Alexandria
Control: 2-Way Stop(EB/WB)

Project ID: 22-260098-016
Date: 12/13/2022

Data - HT

NS/EW Streets:	Seminary Rd				Seminary Rd				Fairbanks Ave				Fairbanks Ave				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	0	9
6:15 AM	0	7	0	0	0	2	0	0	0	0	0	0	0	0	0	0	9
6:30 AM	0	7	0	0	0	6	0	0	0	0	0	0	0	0	0	0	13
6:45 AM	0	10	0	0	0	6	0	0	0	0	0	0	0	0	0	0	16
7:00 AM	0	12	0	0	0	4	0	0	0	0	0	0	0	0	0	0	16
7:15 AM	0	20	0	0	0	4	0	0	0	0	0	0	0	0	0	0	24
7:30 AM	0	8	0	0	0	9	0	0	0	0	0	0	0	0	0	0	17
7:45 AM	0	12	0	0	0	5	0	0	0	0	0	0	0	0	0	0	17
8:00 AM	0	6	0	0	0	10	0	0	0	0	0	0	0	0	0	0	16
8:15 AM	0	12	0	0	0	6	0	0	0	0	0	0	0	0	0	0	18
8:30 AM	0	14	1	0	0	7	0	0	0	0	0	0	0	0	0	0	22
8:45 AM	0	11	1	0	0	15	0	0	0	0	0	0	0	2	0	0	29
9:00 AM	0	12	0	0	0	10	0	0	0	0	0	0	0	0	0	0	22
9:15 AM	0	8	0	0	0	7	0	0	0	0	0	0	0	0	0	0	15
9:30 AM	0	11	1	0	0	2	1	0	0	0	0	0	0	0	0	0	15
9:45 AM	1	12	0	0	0	11	0	0	0	0	0	0	0	0	1	0	25
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	1	168	3	0	0	107	1	0	0	0	0	0	0	0	3	0	283
	0.58%	97.67%	1.74%	0.00%	0.00%	99.07%	0.93%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR:	07:45 AM - 08:45 AM																
PEAK HR VOL:	0	44	1	0	0	28	0	0	0	0	0	0	0	0	0	0	73
PEAK HR FACTOR:	0.000	0.786	0.250	0.000	0.000	0.700	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.830
	0.750				0.700												
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0	0	12
3:45 PM	0	2	1	0	0	6	0	0	0	0	0	0	0	0	0	0	9
4:00 PM	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
4:15 PM	0	7	1	0	1	7	0	0	0	0	0	0	0	0	0	0	16
4:30 PM	0	3	0	0	0	8	0	0	0	0	0	1	0	0	0	0	12
4:45 PM	0	4	0	0	0	9	0	0	0	0	0	0	0	0	0	0	13
5:00 PM	0	7	0	0	0	12	0	0	0	0	0	0	0	0	0	0	19
5:15 PM	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	8
5:30 PM	0	2	0	0	0	7	0	0	0	0	0	0	0	0	0	0	9
5:45 PM	0	1	0	0	0	7	0	0	0	0	0	0	0	0	0	0	8
6:00 PM	0	6	0	0	0	8	0	0	0	0	0	0	0	0	0	0	14
6:15 PM	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5
6:30 PM	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
6:45 PM	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	0	8
7:00 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
7:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0	59	2	0	1	90	0	0	0	0	0	0	1	0	0	0	153
	0.00%	96.72%	3.28%	0.00%	1.10%	98.90%	0.00%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR:	04:45 PM - 05:45 PM																
PEAK HR VOL:	0	18	0	0	0	31	0	0	0	0	0	0	0	0	0	0	49
PEAK HR FACTOR:	0.000	0.643	0.000	0.000	0.000	0.646	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.645
	0.643				0.646												

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Fairbanks Ave
City: Alexandria
Control: 2-Way Stop(EB/WB)

Project ID: 22-260098-016
Date: 12/13/2022

Data - Bikes

NS/EW Streets:	Seminary Rd				Seminary Rd				Fairbanks Ave				Fairbanks Ave				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	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	1	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
9:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0	0	0	0	5
PEAK HR:	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250
0.250																	
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	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	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0	4
PEAK HR:	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL:	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR:	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
0.250																	

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Fairbanks Ave
City: Alexandria

Project ID: 22-260098-016
Date: 12/13/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Seminary Rd		Seminary Rd		Fairbanks Ave		Fairbanks Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:00 AM	0	0	0	0	1	1	0	1	3
6:15 AM	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	1	0	1
6:45 AM	0	0	0	0	0	2	0	0	2
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	1	2
7:30 AM	1	0	0	0	0	0	2	1	4
7:45 AM	0	0	0	0	0	1	2	0	3
8:00 AM	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	0	0	1	1	1	0	3
8:30 AM	0	0	0	0	3	0	0	0	3
8:45 AM	0	0	0	0	1	1	0	0	2
9:00 AM	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	1	0	0	1	2
9:30 AM	0	0	0	0	0	0	0	1	1
9:45 AM	0	0	0	0	1	0	6	0	7
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	1	0	0	0	8	6	13	6	34
	100.00%	0.00%			57.14%	42.86%	68.42%	31.58%	
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	0	0	0	0	4	2	3	1	10
PEAK HR FACTOR :					0.333	0.500	0.375	0.250	0.833
						0.500		0.500	

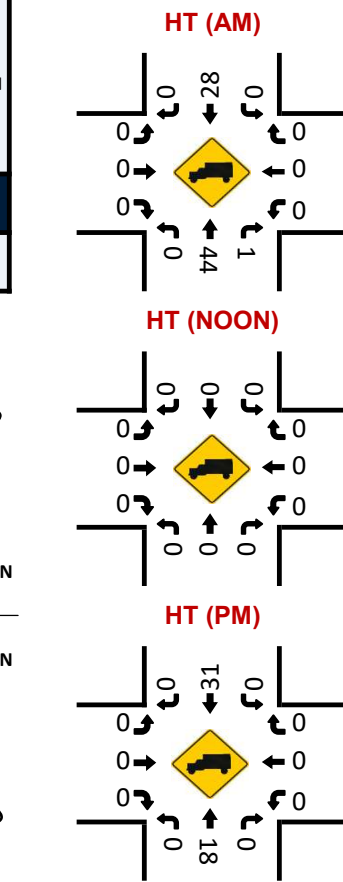
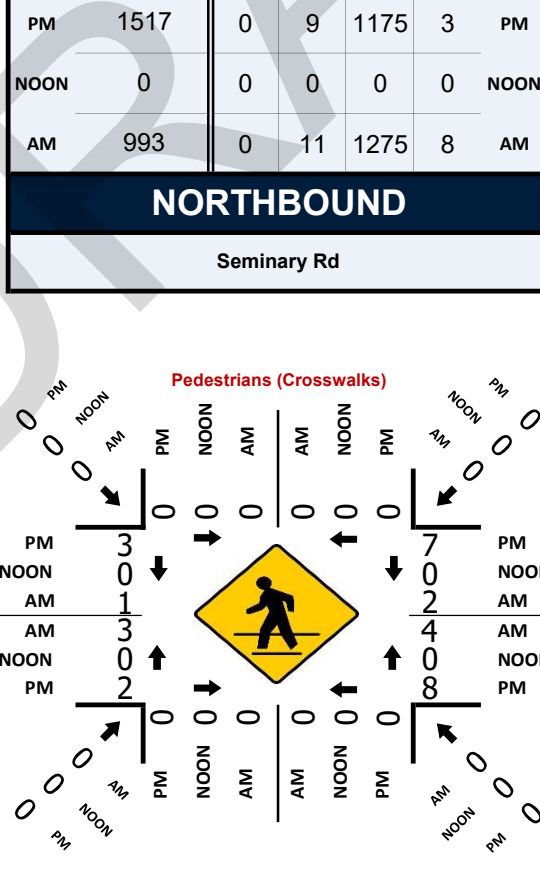
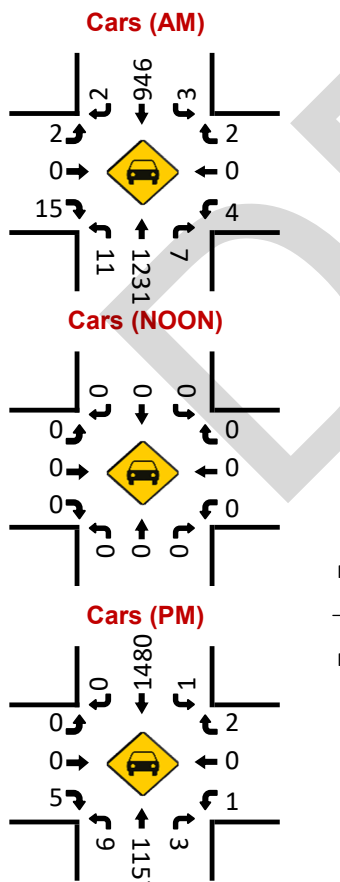
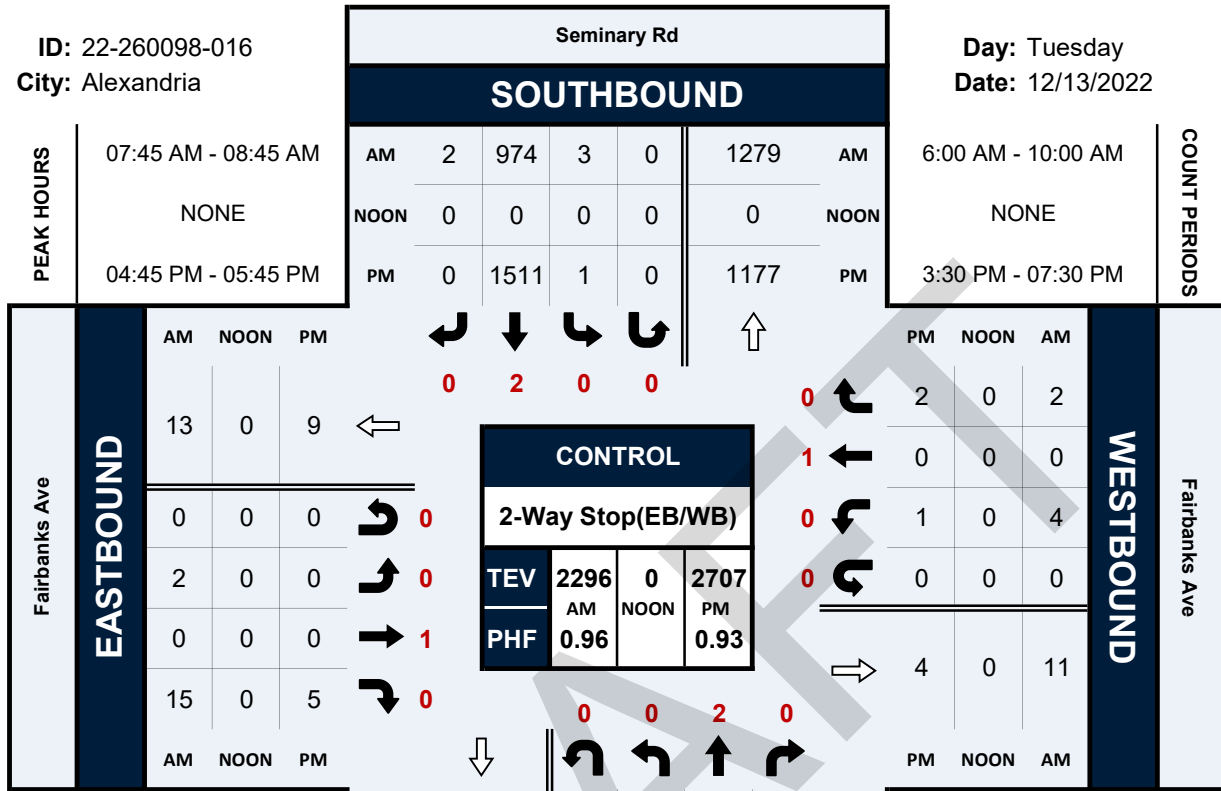
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM	0	0	0	0	0	2	0	0	2
3:45 PM	0	0	0	0	1	0	0	0	1
4:00 PM	0	0	1	0	2	2	2	1	8
4:15 PM	0	0	0	0	2	3	0	0	5
4:30 PM	0	0	0	0	3	0	0	0	3
4:45 PM	0	0	0	0	1	2	0	0	3
5:00 PM	0	0	0	0	1	1	0	0	2
5:15 PM	0	0	0	0	4	2	1	2	9
5:30 PM	0	0	0	0	2	2	1	1	6
5:45 PM	0	0	0	0	2	2	0	1	5
6:00 PM	0	0	0	0	2	2	2	2	8
6:15 PM	0	0	0	0	2	2	0	1	5
6:30 PM	0	0	0	0	0	1	1	1	3
6:45 PM	0	0	0	0	0	1	1	0	2
7:00 PM	0	0	0	0	0	0	0	1	1
7:15 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	1	0	22	22	8	10	63
			100.00%	0.00%	50.00%	50.00%	44.44%	55.56%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	0	0	8	7	2	3	20
PEAK HR FACTOR :					0.500	0.875	0.500	0.375	0.556
						0.625		0.417	

Seminary Rd & Fairbanks Ave

Peak Hour Turning Movement Count

ID: 22-260098-016
City: Alexandria

Day: Tuesday
Date: 12/13/2022



Project ID: 22-260098-016
 Location: Seminary Rd & Fairbanks Ave
 City: Alexandria

Day: Tuesday
 Date: 12/13/2022

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Seminary Rd Northbound						Seminary Rd Southbound						Fairbanks Ave Eastbound						Fairbanks Ave Westbound						Int. Total
	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	
6:00 AM	0	150	1	0	0	151	0	95	0	0	0	95	0	0	1	0	1	1	1	0	0	2	1	248	
6:15 AM	0	159	3	0	0	162	0	107	0	0	0	107	0	0	3	0	0	3	1	0	0	0	0	273	
6:30 AM	0	210	2	0	0	212	0	135	0	0	0	135	1	0	2	0	1	3	0	0	0	0	0	350	
6:45 AM	0	228	7	0	0	235	2	180	1	0	0	183	0	0	1	0	0	1	1	0	0	0	2	420	
Total	0	747	13	0	0	760	2	517	1	0	0	520	1	0	7	0	2	8	3	0	0	4	3	1291	
7:00 AM	1	248	3	0	0	252	0	182	0	0	0	182	0	0	4	0	0	4	1	0	0	0	0	439	
7:15 AM	0	316	0	0	0	316	0	200	1	0	0	201	0	0	5	0	2	5	1	0	0	0	0	523	
7:30 AM	0	287	3	0	0	290	0	210	0	0	1	210	0	0	2	0	3	2	1	0	1	0	0	504	
7:45 AM	4	305	3	0	0	312	1	278	0	0	0	279	0	0	4	0	2	4	3	0	0	0	1	598	
Total	5	1156	9	0	0	1170	1	870	1	0	1	872	0	0	15	0	7	15	6	0	1	0	1	2064	
8:00 AM	2	314	3	0	0	319	2	239	0	0	0	241	0	0	6	0	1	6	0	0	1	0	0	567	
8:15 AM	3	297	1	0	0	301	0	236	2	0	0	238	0	0	3	0	1	3	0	0	1	0	2	543	
8:30 AM	2	359	1	0	0	362	0	221	0	0	0	221	2	0	2	0	0	4	1	0	0	0	3	588	
8:45 AM	0	304	3	0	0	307	0	217	0	0	0	217	0	0	1	0	0	1	0	0	3	0	2	528	
Total	7	1274	8	0	0	1289	2	913	2	0	0	917	2	0	12	0	2	14	1	0	5	0	7	2226	
9:00 AM	1	301	3	0	0	305	0	224	0	0	0	224	0	0	3	0	0	3	0	0	0	0	0	532	
9:15 AM	0	242	1	0	0	243	2	210	0	0	0	212	0	0	1	0	1	1	0	0	0	0	1	456	
9:30 AM	2	240	3	0	0	245	0	196	1	0	0	197	0	0	4	0	1	4	0	0	0	0	0	446	
9:45 AM	4	268	4	0	0	276	1	206	1	0	0	208	1	0	4	0	6	5	0	0	1	0	1	490	
Total	7	1051	11	0	0	1069	3	836	2	0	0	841	1	0	12	0	8	13	0	0	1	0	2	1924	
BREAK																									
3:30 PM	4	221	0	0	0	225	3	316	0	0	0	319	0	0	1	0	0	1	1	0	1	0	2	547	
3:45 PM	1	273	2	0	0	276	1	364	0	0	0	365	0	0	2	0	0	2	1	0	4	0	1	5	648
Total	5	494	2	0	0	501	4	680	0	0	0	684	0	0	3	0	0	3	2	0	5	0	3	7	1195
4:00 PM	5	264	0	0	1	269	0	306	2	0	0	308	0	0	1	0	3	1	2	0	0	0	4	2	580
4:15 PM	1	278	3	0	0	282	2	373	0	0	0	375	0	0	0	0	0	0	0	0	2	0	5	2	659
4:30 PM	3	287	0	0	0	290	1	390	0	0	0	391	0	0	1	1	0	2	2	0	2	0	3	4	687
4:45 PM	2	286	1	0	0	289	1	366	0	0	0	367	0	0	2	0	0	2	1	0	0	0	3	1	659
Total	11	1115	4	0	1	1130	4	1435	2	0	0	1441	0	0	4	1	3	5	5	0	4	0	15	9	2585
5:00 PM	2	291	1	0	0	294	0	360	0	0	0	360	0	0	1	0	0	1	0	0	2	0	2	2	657
5:15 PM	4	288	0	0	0	292	0	368	0	0	0	368	0	0	2	0	3	2	0	0	0	0	6	0	662
5:30 PM	1	310	1	0	0	312	0	417	0	0	0	417	0	0	0	0	2	0	0	0	0	0	4	0	729
5:45 PM	1	247	0	0	0	248	0	375	2	0	0	377	0	0	3	0	1	3	0	0	1	0	4	1	629
Total	8	1136	2	0	0	1146	0	1520	2	0	0	1522	0	0	6	0	6	6	0	0	3	0	16	3	2677
6:00 PM	5	278	0	0	0	283	0	357	1	0	0	358	1	0	2	0	4	3	1	0	0	0	4	1	645
6:15 PM	2	269	2	0	0	273	0	393	1	0	0	394	0	0	2	0	1	2	1	0	0	0	4	1	670
6:30 PM	3	299	0	0	0	302	1	372	2	0	0	375	0	0	0	0	2	0	0	0	0	0	1	0	677
6:45 PM	5	290	2	0	0	297	0	342	1	0	0	343	1	0	2	0	1	3	0	0	1	0	1	1	644
Total	15	1136	4	0	0	1155	1	1464	5	0	0	1470	2	0	6	0	8	8	2	0	1	0	10	3	2636
7:00 PM	1	236	1	0	0	238	0	305	0	0	0	305	0	0	2	0	1	2	0	0	0	0	0	0	545
7:15 PM	1	246	1	0	0	248	1	264	1	0	0	266	1	0	1	0	0	2	1	0	0	0	0	1	517
Total	2	482	2	0	0	486	1	569	1	0	0	571	1	0	3	0	1	4	1	0	0	0	0	1	1062
Grand Total	60	8591	55	0	1	8706	18	8804	16	0	1	8838	7	0	68	1	37	76	20	0	20	0	58	40	17660
Approch %	0.7	98.7	0.6	0.0	0.0		0.2	99.6	0.2	0.0	0.0		9.2	0.0	89.5	1.3	48.7		50.0	0.0	50.0	0.0	145.0		
Total %	0.3	48.6	0.3	0.0	0.0	49.3	0.1	49.9	0.1	0.0	0.0	50.0	0.0	0.0	0.4	0.0	0.2	0.4	0.1	0.0	0.1	0.0	0.3	0.2	
Cars, PU, Vans	59	8364	50	0		8473	17	8607	15	0		8639	7	0	68	1		76	19	0	17	0		36	17224
% Cars, PU, Vans	98.3	97.4	90.9	0.0		97.3	94.4	97.8	93.8	0.0		97.7	100.0	0.0	100.0	100.0		100.0	95.0	0.0	85.0	0.0		90.0	97.5
Heavy trucks	1	227	5	0		233	1	197	1	0		199	0	0	0	0		0	1	0	3	0		4	436
% Heavy trucks	1.7	2.6	9.1	0.0		2.7	5.6	2.2	6.3	0.0		2.3	0.0	0.0	0.0	0.0		0.0	5.0	0.0	15.0	0.0		10.0	2.5

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Mark Center Ave
City: Alexandria
Control: Signalized

Project ID: 22-260098-012
Date: 12/13/2022

Data - Total

NS/EW Streets:	Seminary Rd				Seminary Rd				Mark Center Ave				Mark Center Ave				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	0.5 EL	0.5 ET	3 ER	0 EU	1.5 WL	0.5 WT	1 WR	0 WU	TOTAL
6:00 AM	20	174	11	0	1	119	1	0	2	2	13	0	25	21	1	0	390
6:15 AM	28	215	25	0	0	157	12	0	1	1	15	0	37	16	2	0	509
6:30 AM	29	258	14	0	1	159	8	1	2	2	20	0	35	11	7	0	547
6:45 AM	41	289	23	0	1	201	9	0	2	4	24	0	42	15	3	0	654
7:00 AM	41	350	26	1	1	217	8	0	2	3	22	1	37	21	5	0	735
7:15 AM	38	386	16	0	0	221	10	0	1	5	24	1	53	19	7	0	781
7:30 AM	54	440	9	2	7	299	15	0	6	5	27	0	52	11	8	0	935
7:45 AM	40	403	19	3	2	342	12	0	2	7	31	0	64	20	11	0	956
8:00 AM	55	427	28	6	7	300	3	0	1	10	51	0	58	13	13	0	972
8:15 AM	41	400	24	3	2	305	5	0	2	4	32	0	53	11	8	0	890
8:30 AM	53	403	22	4	2	217	12	0	7	6	25	0	52	19	13	0	835
8:45 AM	43	407	34	0	4	283	17	0	4	3	23	0	45	12	10	0	885
9:00 AM	28	339	27	1	0	238	7	0	3	5	26	1	57	11	6	0	749
9:15 AM	28	333	26	2	3	248	9	0	4	3	10	0	37	8	6	0	717
9:30 AM	22	290	21	1	3	206	7	0	8	3	27	0	49	10	10	0	657
9:45 AM	17	288	25	2	3	237	6	0	7	3	18	0	31	13	7	0	657
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	9.10%	85.00%	5.51%	0.39%	0.94%	95.44%	3.59%	0.03%	10.57%	12.92%	75.93%	0.59%	67.63%	21.49%	10.88%	0.00%	11869
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	190	1670	80	14	18	1246	35	0	11	26	141	0	227	55	40	0	3753
PEAK HR FACTOR:	0.864	0.949	0.714	0.583	0.643	0.911	0.583	0.000	0.458	0.650	0.691	0.000	0.887	0.688	0.769	0.000	0.965
	0.947				0.912				0.718				0.847				
PM	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	0.5 EL	0.5 ET	3 ER	0 EU	1.5 WL	0.5 WT	1 WR	0 WU	TOTAL
3:30 PM	11	299	44	3	11	372	4	0	2	2	100	0	40	7	7	0	902
3:45 PM	6	307	35	1	9	342	6	0	8	7	96	0	56	7	10	0	890
4:00 PM	5	308	44	2	9	373	7	0	9	3	101	0	31	6	8	0	906
4:15 PM	7	317	35	2	4	396	1	0	5	6	85	0	54	7	10	0	929
4:30 PM	6	313	36	1	10	404	2	0	8	4	108	0	54	6	7	0	959
4:45 PM	10	325	35	1	4	407	4	0	11	6	95	0	48	5	10	0	961
5:00 PM	5	314	41	2	5	402	4	0	11	6	104	0	51	6	17	0	968
5:15 PM	6	366	46	0	11	450	6	0	5	2	81	0	44	6	5	0	1028
5:30 PM	11	314	44	0	5	383	2	0	4	2	87	0	42	8	20	0	922
5:45 PM	10	318	33	1	11	412	3	0	3	2	78	0	38	9	6	0	924
6:00 PM	5	304	42	1	10	369	3	1	8	4	58	0	48	9	11	1	874
6:15 PM	6	360	34	0	7	354	4	0	2	2	54	0	42	5	9	1	880
6:30 PM	3	377	41	0	10	353	1	0	3	2	50	0	46	5	14	0	905
6:45 PM	3	295	32	0	9	302	5	0	3	3	38	0	39	7	14	0	750
7:00 PM	6	292	32	1	12	335	5	1	4	3	33	0	27	6	10	1	768
7:15 PM	6	242	39	1	3	263	6	1	1	3	21	0	43	4	8	0	641
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	1.83%	87.30%	10.59%	0.28%	2.13%	96.79%	1.03%	0.05%	6.53%	4.28%	89.20%	0.00%	72.10%	10.56%	17.03%	0.31%	14207
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	27	1318	158	4	30	1663	16	0	35	18	388	0	197	23	39	0	3916
PEAK HR FACTOR:	0.675	0.900	0.859	0.500	0.682	0.924	0.667	0.000	0.795	0.750	0.898	0.000	0.912	0.958	0.574	0.000	0.952
	0.901				0.915				0.911				0.875				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Mark Center Ave
City: Alexandria
Control: Signalized

Project ID: 22-260098-012
Date: 12/13/2022

Data - Cars

NS/EW Streets:	Seminary Rd				Seminary Rd				Mark Center Ave				Mark Center Ave				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	0.5 EL	0.5 ET	3 ER	0 EU	1.5 WL	0.5 WT	1 WR	0 WU	TOTAL
6:00 AM	17	165	10	0	1	116	1	0	1	0	8	0	23	19	1	0	362
6:15 AM	25	201	21	0	0	155	11	0	1	0	13	0	35	15	2	0	479
6:30 AM	25	246	11	0	1	156	7	1	1	1	13	0	31	9	7	0	509
6:45 AM	38	274	15	0	1	193	6	0	1	1	19	0	41	13	3	0	605
7:00 AM	38	333	21	1	1	211	7	0	1	1	17	0	33	17	5	0	686
7:15 AM	35	364	13	0	0	215	9	0	0	0	18	0	51	12	7	0	724
7:30 AM	53	425	5	2	5	291	13	0	5	2	20	0	48	9	8	0	886
7:45 AM	38	385	17	3	1	334	10	0	2	3	25	0	63	16	11	0	908
8:00 AM	54	421	24	6	7	293	2	0	0	9	45	0	53	10	13	0	937
8:15 AM	39	383	20	3	2	298	4	0	2	2	31	0	50	8	8	0	850
8:30 AM	52	385	17	4	2	210	11	0	5	3	18	0	48	15	13	0	783
8:45 AM	43	383	30	0	4	269	15	0	4	1	18	0	42	9	10	0	828
9:00 AM	27	325	24	1	0	229	6	0	2	3	23	1	52	10	6	0	709
9:15 AM	27	324	22	2	3	241	7	0	3	1	7	0	33	6	6	0	682
9:30 AM	22	275	17	1	3	203	4	0	7	1	23	0	45	8	10	0	619
9:45 AM	17	271	21	2	3	225	5	0	7	1	16	0	28	11	7	0	614
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	9.13%	85.67%	4.78%	0.42%	0.90%	95.97%	3.11%	0.03%	10.88%	7.51%	81.35%	0.26%	68.98%	19.08%	11.94%	0.00%	11181
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	184	1614	66	14	15	1216	29	0	9	16	121	0	214	43	40	0	3581
PEAK HR FACTOR:	0.852	0.949	0.688	0.583	0.536	0.910	0.558	0.000	0.450	0.444	0.672	0.000	0.849	0.672	0.769	0.000	0.955
	0.930				0.913				0.676				0.825				
PM	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	0.5 EL	0.5 ET	3 ER	0 EU	1.5 WL	0.5 WT	1 WR	0 WU	TOTAL
3:30 PM	10	288	42	3	10	364	4	0	1	1	98	0	35	5	6	0	867
3:45 PM	6	303	29	1	9	330	3	0	8	4	91	0	54	5	10	0	853
4:00 PM	5	300	39	2	9	366	6	0	7	0	99	0	27	2	7	0	869
4:15 PM	7	308	34	2	4	389	0	0	5	4	82	0	49	3	9	0	896
4:30 PM	5	305	31	1	10	390	1	0	7	1	99	0	49	5	7	0	911
4:45 PM	9	316	32	1	4	395	2	0	11	4	91	0	43	1	9	0	918
5:00 PM	4	303	35	2	5	392	3	0	9	3	101	0	48	4	16	0	925
5:15 PM	4	358	41	0	10	445	5	0	5	0	76	0	43	4	5	0	996
5:30 PM	10	313	43	0	5	378	1	0	3	0	82	0	40	4	20	0	899
5:45 PM	10	314	30	1	11	406	3	0	3	2	75	0	34	4	5	0	898
6:00 PM	3	297	38	1	10	359	2	1	7	2	56	0	44	6	10	1	837
6:15 PM	5	354	31	0	7	348	2	0	2	1	49	0	39	2	9	1	850
6:30 PM	3	369	36	0	10	350	1	0	2	1	45	0	42	3	14	0	876
6:45 PM	1	292	29	0	9	299	4	0	3	0	33	0	35	3	14	0	722
7:00 PM	4	290	27	1	12	331	4	1	3	2	33	0	24	4	10	1	747
7:15 PM	4	239	35	1	3	259	5	1	1	0	19	0	38	1	8	0	614
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	1.61%	88.26%	9.84%	0.29%	2.14%	97.04%	0.77%	0.05%	6.26%	2.03%	91.71%	0.00%	74.71%	6.50%	18.45%	0.35%	13678
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	22	1282	139	4	29	1622	11	0	32	8	367	0	183	14	37	0	3750
PEAK HR FACTOR:	0.611	0.895	0.848	0.500	0.725	0.911	0.550	0.000	0.727	0.500	0.908	0.000	0.934	0.700	0.578	0.000	0.941
	0.898				0.903				0.900				0.860				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Mark Center Ave
City: Alexandria
Control: Signalized

Project ID: 22-260098-012
Date: 12/13/2022

Data - HT

NS/EW Streets:	Seminary Rd				Seminary Rd				Mark Center Ave				Mark Center Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	0.5 EL	0.5 ET	3 ER	0 EU	1.5 WL	0.5 WT	1 WR	0 WU	
6:00 AM	3	9	1	0	0	3	0	0	1	2	5	0	2	2	0	0	28
6:15 AM	3	14	4	0	0	2	1	0	0	1	2	0	2	1	0	0	30
6:30 AM	4	12	3	0	0	3	1	0	1	1	7	0	4	2	0	0	38
6:45 AM	3	15	8	0	0	8	3	0	1	3	5	0	1	2	0	0	49
7:00 AM	3	17	5	0	0	6	1	0	1	2	5	1	4	4	0	0	49
7:15 AM	3	22	3	0	0	6	1	0	1	5	6	1	2	7	0	0	57
7:30 AM	1	15	4	0	2	8	2	0	1	3	7	0	4	2	0	0	49
7:45 AM	2	18	2	0	1	8	2	0	0	4	6	0	1	4	0	0	48
8:00 AM	1	6	4	0	0	7	1	0	1	1	6	0	5	3	0	0	35
8:15 AM	2	17	4	0	0	7	1	0	0	2	1	0	3	3	0	0	40
8:30 AM	1	18	5	0	0	7	1	0	2	3	7	0	4	4	0	0	52
8:45 AM	0	24	4	0	0	14	2	0	0	2	5	0	3	3	0	0	57
9:00 AM	1	14	3	0	0	9	1	0	1	2	3	0	5	1	0	0	40
9:15 AM	1	9	4	0	0	7	2	0	1	2	3	0	4	2	0	0	35
9:30 AM	0	15	4	0	0	3	3	0	1	2	4	0	4	2	0	0	38
9:45 AM	0	17	4	0	0	12	1	0	0	2	2	0	3	2	0	0	43
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	8.43%	72.89%	18.67%	0.00%	2.21%	80.88%	16.91%	0.00%	9.60%	29.60%	59.20%	1.60%	53.68%	46.32%	0.00%	0.00%	688
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	6	56	14	0	3	30	6	0	2	10	20	0	13	12	0	0	172
PEAK HR FACTOR:	0.750	0.778	0.875	0.000	0.375	0.938	0.750	0.000	0.500	0.625	0.714	0.000	0.650	0.750	0.000	0.000	0.878
	0.826				0.813				0.727				0.781				

NS/EW Streets:	Seminary Rd				Seminary Rd				Mark Center Ave				Mark Center Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	0.5 EL	0.5 ET	3 ER	0 EU	1.5 WL	0.5 WT	1 WR	0 WU	
3:30 PM	1	11	2	0	1	8	0	0	1	1	2	0	5	2	1	0	35
3:45 PM	0	4	6	0	0	12	3	0	0	3	5	0	2	2	0	0	37
4:00 PM	0	8	5	0	0	7	1	0	2	3	2	0	4	4	1	0	37
4:15 PM	0	9	1	0	0	7	1	0	0	2	3	0	5	4	1	0	33
4:30 PM	1	8	5	0	0	14	1	0	1	3	9	0	5	1	0	0	48
4:45 PM	1	9	3	0	0	12	2	0	0	2	4	0	5	4	1	0	43
5:00 PM	1	11	6	0	0	10	1	0	2	3	3	0	3	2	1	0	43
5:15 PM	2	8	5	0	1	5	1	0	0	2	5	0	1	2	0	0	32
5:30 PM	1	1	1	0	0	5	1	0	1	2	5	0	2	4	0	0	23
5:45 PM	0	4	3	0	0	6	0	0	0	0	3	0	4	5	1	0	26
6:00 PM	2	7	4	0	0	10	1	0	1	2	2	0	4	3	1	0	37
6:15 PM	1	6	3	0	0	6	2	0	0	1	5	0	3	3	0	0	30
6:30 PM	0	8	5	0	0	3	0	0	1	1	5	0	4	2	0	0	29
6:45 PM	2	3	3	0	0	3	1	0	0	3	5	0	4	4	0	0	28
7:00 PM	2	2	5	0	0	4	1	0	1	1	0	0	3	2	0	0	21
7:15 PM	2	3	4	0	0	4	1	0	0	3	2	0	5	3	0	0	27
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	8.94%	56.98%	34.08%	0.00%	1.48%	85.93%	12.59%	0.00%	9.80%	31.37%	58.82%	0.00%	52.21%	41.59%	6.19%	0.00%	529
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	5	36	19	0	1	41	5	0	3	10	21	0	14	9	2	0	166
PEAK HR FACTOR:	0.625	0.818	0.792	0.000	0.250	0.732	0.625	0.000	0.375	0.833	0.583	0.000	0.700	0.563	0.500	0.000	0.865
	0.833				0.783				0.654				0.625				

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Mark Center Ave
City: Alexandria
Control: Signalized

Project ID: 22-260098-012
Date: 12/13/2022

Data - Bikes

NS/EW Streets:	Seminary Rd				Seminary Rd				Mark Center Ave				Mark Center Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	0.5 EL	0.5 ET	3 ER	0 EU	1.5 WL	0.5 WT	1 WR	0 WU	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	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	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	3 NT	1 NR	0 NU	1 SL	4 ST	1 SR	0 SU	0.5 EL	0.5 ET	3 ER	0 EU	1.5 WL	0.5 WT	1 WR	0 WU	
3:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	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	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	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	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR:	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250

National Data & Surveying Services Intersection Turning Movement Count

Location: Seminary Rd & Mark Center Ave
City: Alexandria

Project ID: 22-260098-012
Date: 12/13/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Seminary Rd		Seminary Rd		Mark Center Ave		Mark Center Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:00 AM	1	1	0	1	1	1	0	0	5
6:15 AM	0	0	1	0	0	0	0	0	1
6:30 AM	0	2	0	0	0	0	0	0	2
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	1	0	0	1	0	0	0	2
7:15 AM	0	1	0	0	0	0	0	0	1
7:30 AM	1	2	0	0	0	2	0	0	5
7:45 AM	1	3	0	0	0	0	0	0	4
8:00 AM	2	4	0	0	0	1	0	0	7
8:15 AM	0	6	0	0	2	1	0	1	10
8:30 AM	2	4	0	0	1	0	0	0	7
8:45 AM	3	2	0	0	0	1	0	0	6
9:00 AM	0	1	0	0	1	0	0	0	2
9:15 AM	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	1	0	0	1
9:45 AM	1	1	0	0	0	1	0	0	3
TOTAL VOLUMES :	EB 11	WB 28	EB 1	WB 1	NB 6	SB 8	NB 0	SB 1	TOTAL 56
APPROACH %'s :	28.21%	71.79%	50.00%	50.00%	42.86%	57.14%	0.00%	100.00%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	4	15	0	0	2	4	0	1	26
PEAK HR FACTOR :	0.500	0.625			0.250	0.500		0.250	0.650
	0.792				0.500			0.250	

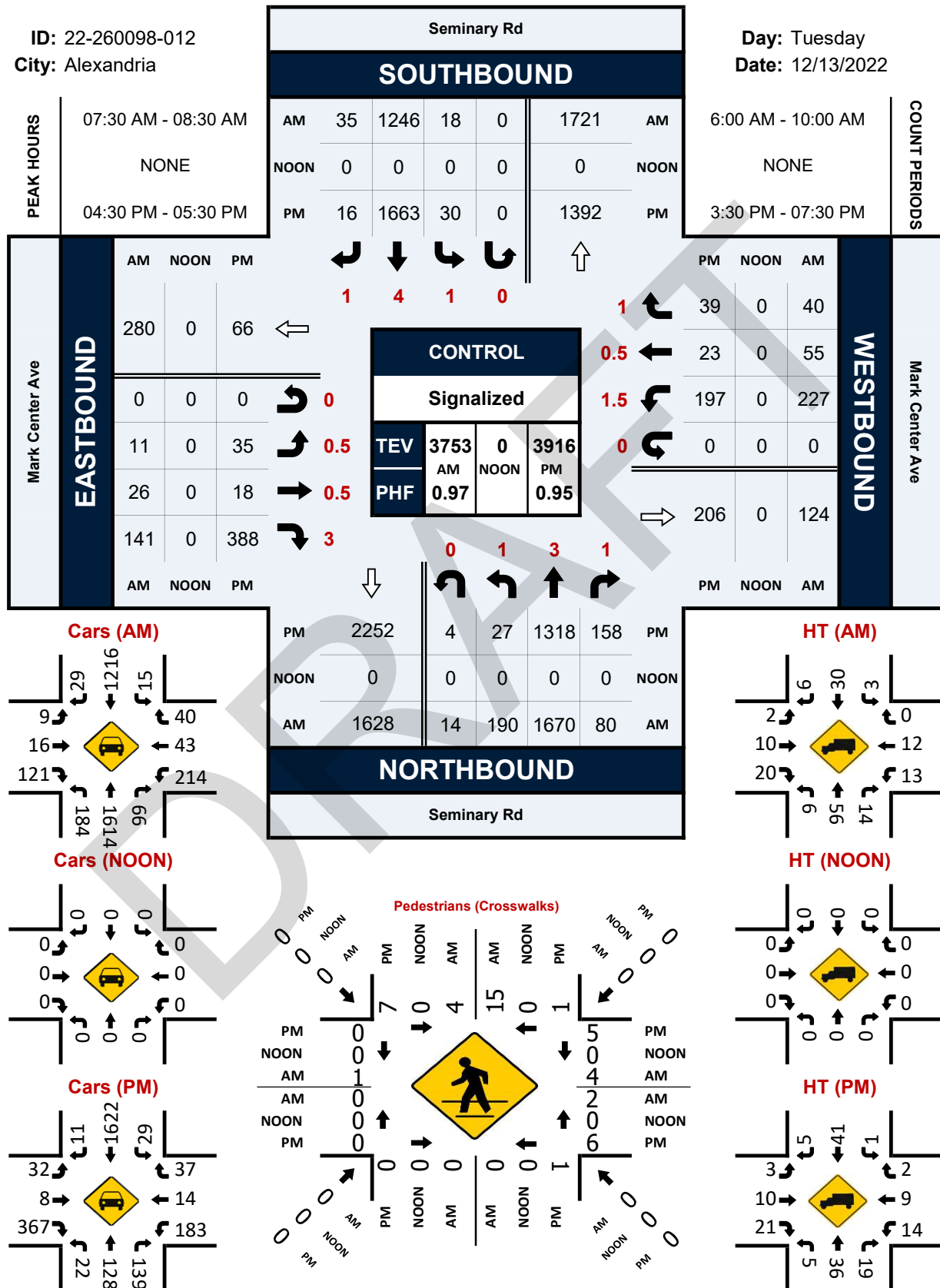
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM	1	0	0	0	2	0	0	0	3
3:45 PM	7	3	0	0	1	2	0	0	13
4:00 PM	2	1	0	0	0	1	0	0	4
4:15 PM	1	2	0	0	1	2	0	0	6
4:30 PM	1	0	0	1	0	0	0	0	2
4:45 PM	4	1	0	0	1	1	0	0	7
5:00 PM	0	0	0	0	1	1	0	0	2
5:15 PM	2	0	0	0	4	3	0	0	9
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	0	1	0	0	0	2
6:00 PM	3	1	0	0	0	1	0	0	5
6:15 PM	3	1	0	0	1	0	0	0	5
6:30 PM	0	0	0	0	0	0	0	0	0
6:45 PM	2	0	0	0	0	0	0	0	2
7:00 PM	0	0	0	0	0	0	0	0	0
7:15 PM	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	EB 28	WB 9	EB 0	WB 1	NB 12	SB 11	NB 0	SB 0	TOTAL 61
APPROACH %'s :	75.68%	24.32%	0.00%	100.00%	52.17%	47.83%			
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	7	1	0	1	6	5	0	0	20
PEAK HR FACTOR :	0.438	0.250		0.250	0.375	0.417			0.556
	0.400				0.393				

Seminary Rd & Mark Center Ave

Peak Hour Turning Movement Count

ID: 22-260098-012
City: Alexandria

Day: Tuesday
Date: 12/13/2022



Project ID: 22-260098-012
 Location: Seminary Rd & Mark Center Ave
 City: Alexandria

Day: Tuesday
 Date: 12/13/2022

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Seminary Rd Northbound						Seminary Rd Southbound						Mark Center Ave Eastbound						Mark Center Ave Westbound						Int. Total	
	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total		
6:00 AM	20	174	11	0	1	205	1	119	1	0	2	121	2	2	13	0	0	17	25	21	1	0	2	47	390	
6:15 AM	28	215	25	0	1	268	0	157	12	0	0	169	1	1	15	0	0	17	37	16	2	0	0	55	509	
6:30 AM	29	258	14	0	0	301	1	159	8	1	2	169	2	2	20	0	0	24	35	11	7	0	0	53	547	
6:45 AM	41	289	23	0	0	353	1	201	9	0	0	211	2	4	24	0	0	30	42	15	3	0	0	60	654	
Total	118	936	73	0	2	1127	3	636	30	1	4	670	7	9	72	0	0	88	139	63	13	0	2	215	2100	
7:00 AM	41	350	26	1	0	418	1	217	8	0	1	226	2	3	22	1	0	28	37	21	5	0	1	63	735	
7:15 AM	38	386	16	0	0	440	0	221	10	0	1	231	1	5	24	1	0	31	53	19	7	0	0	79	781	
7:30 AM	54	440	9	2	0	505	7	299	15	0	3	321	6	5	27	0	0	38	52	11	8	0	2	71	935	
7:45 AM	40	403	19	3	0	465	2	342	12	0	4	356	2	7	31	0	0	40	64	20	11	0	0	95	956	
Total	173	1579	70	6	0	1828	10	1079	45	0	9	1134	11	20	104	2	0	137	206	71	31	0	3	308	3407	
8:00 AM	55	427	28	6	0	516	7	300	3	0	6	310	1	10	51	0	0	62	58	13	13	0	1	84	972	
8:15 AM	41	400	24	3	0	468	2	305	5	0	6	312	2	4	32	0	1	38	53	11	8	0	3	72	890	
8:30 AM	53	403	22	4	0	482	2	217	12	0	6	231	7	6	25	0	0	38	52	19	13	0	1	84	835	
8:45 AM	43	407	34	0	0	484	4	283	17	0	5	304	4	3	23	0	0	30	45	12	10	0	1	67	885	
Total	192	1637	108	13	0	1950	15	1105	37	0	23	1157	14	23	131	0	1	168	208	55	44	0	6	307	3582	
9:00 AM	28	339	27	1	0	395	0	238	7	0	1	245	3	5	26	1	0	35	57	11	6	0	1	74	749	
9:15 AM	28	333	26	2	0	389	3	248	9	0	0	260	4	3	10	0	0	17	37	8	6	0	0	51	717	
9:30 AM	22	290	21	1	0	334	3	206	7	0	0	216	8	3	27	0	0	38	49	10	10	0	1	69	657	
9:45 AM	17	288	25	2	0	332	3	237	6	0	2	246	7	3	18	0	0	28	31	13	7	0	1	51	657	
Total	95	1250	99	6	0	1450	9	929	29	0	3	967	22	14	81	1	0	118	174	42	29	0	3	245	2780	
BREAK																										
3:30 PM	11	299	44	3	0	357	11	372	4	0	1	387	2	2	100	0	0	104	40	7	7	0	2	54	902	
3:45 PM	6	307	35	1	0	349	9	342	6	0	10	357	8	7	96	0	0	111	56	7	10	0	3	73	890	
Total	17	606	79	4	0	706	20	714	10	0	11	744	10	9	196	0	0	215	96	14	17	0	5	127	1792	
4:00 PM	5	308	44	2	0	359	9	373	7	0	3	389	9	3	101	0	0	113	31	6	8	0	1	45	906	
4:15 PM	7	317	35	2	0	361	4	396	1	0	3	401	5	6	85	0	0	96	54	7	10	0	3	71	929	
4:30 PM	6	313	36	1	1	356	10	404	2	0	1	416	8	4	108	0	0	120	54	6	7	0	0	67	959	
4:45 PM	10	325	35	1	0	371	4	407	4	0	5	415	11	6	95	0	0	112	48	5	10	0	2	63	961	
Total	28	1263	150	6	1	1447	27	1580	14	0	12	1621	33	19	389	0	0	441	187	24	35	0	6	246	3755	
5:00 PM	5	314	41	2	0	362	5	402	4	0	0	411	11	8	104	0	0	121	51	6	17	0	2	74	968	
5:15 PM	6	366	46	0	0	418	11	450	6	0	2	467	5	2	81	0	0	88	44	6	5	0	7	55	1028	
5:30 PM	11	314	44	0	0	369	5	383	2	0	0	390	4	2	87	0	0	93	42	8	20	0	0	70	922	
5:45 PM	10	318	33	1	0	362	11	412	3	0	1	426	3	2	78	0	0	83	38	9	6	0	1	53	924	
Total	32	1312	164	3	0	1511	32	1647	15	0	3	1694	23	12	350	0	0	385	175	29	48	0	10	252	3842	
6:00 PM	5	304	42	1	0	352	10	369	3	1	4	383	8	4	58	0	0	70	48	9	11	1	1	69	874	
6:15 PM	6	360	34	0	0	400	7	354	4	0	4	365	2	2	54	0	0	58	42	5	9	1	1	57	880	
6:30 PM	3	377	41	0	0	421	10	353	1	0	0	364	3	2	50	0	0	55	46	5	14	0	0	65	905	
6:45 PM	3	295	32	0	0	330	9	302	5	0	2	316	3	3	38	0	0	44	39	7	14	0	0	60	750	
Total	17	1336	149	1	0	1503	36	1378	13	1	10	1428	16	11	200	0	0	227	175	26	48	2	2	251	3409	
7:00 PM	6	292	32	1	0	331	12	335	5	1	0	353	4	3	33	0	0	40	27	6	10	1	0	44	768	
7:15 PM	6	242	39	1	0	288	3	263	6	1	1	273	1	3	21	0	0	25	43	4	8	0	0	55	641	
Total	12	534	71	2	0	619	15	598	11	2	1	626	5	6	54	0	0	65	70	10	18	1	0	99	1409	
Grand Total	684	10453	963	41	3	12141	167	9666	204	4	76	10041	141	123	1577	3	1	1844	1430	334	283	3	37	2050	26076	
Apprch %	5.6	86.1	7.9	0.3	0.0		1.7	96.3	2.0	0.0	0.8		7.6	6.7	85.5	0.2	0.1		69.8	16.3	13.8	0.1	1.8			
Total %	2.6	40.1	3.7	0.2	0.0	46.6	0.6	37.1	0.8	0.0	0.3	38.5	0.5	0.5	6.0	0.0	0.0	7.1	5.5	1.3	1.1	0.0	0.1	7.9		
Cars, PU, Vans	640	10109	840	41		11630	162	9440	164	4		9770	119	54	1443	1		1617	1320	243	276	3		1842	24859	
% Cars, PU, Vans	93.6	96.7	87.2	100.0		95.8	97.0	97.7	80.4	100.0		97.3	84.4	43.9	91.5	33.3		87.7	92.3	72.8	97.5	100.0		89.9	95.3	
Heavy trucks	44	344	123	0		511	5	226	40	0		271	22	69	134	2		227	110	91	7	0		208	1217	
%Heavy trucks	6.4	3.3	12.8	0.0		4.2	3.0	2.3	19.6	0.0		2.7	15.6	56.1	8.5	66.7		12.3	7.7	27.2	2.5	0.0		10.1	4.7	

Project ID: 22-260098-012
 Location: Seminary Rd & Mark Center Ave
 City: Alexandria

PEAK HOURS

Day: Tuesday
 Date: 12/13/2022

AM

Start Time	Seminary Rd Northbound					Seminary Rd Southbound					Mark Center Ave Eastbound					Mark Center Ave Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 06:00 AM - 10:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	54	440	9	2	505	7	299	15	0	321	6	5	27	0	38	52	11	8	0	71	935
7:45 AM	40	403	19	3	465	2	342	12	0	356	2	7	31	0	40	64	20	11	0	95	956
8:00 AM	55	427	28	6	516	7	300	3	0	310	1	10	51	0	62	58	13	13	0	84	972
8:15 AM	41	400	24	3	468	2	305	5	0	312	2	4	32	0	38	53	11	8	0	72	890
Total Volume	190	1670	80	14	1954	18	1246	35	0	1299	11	26	141	0	178	227	55	40	0	322	3753
% App. Total	9.7	85.5	4.1	0.7	100	1.4	95.9	2.7	0.0	100	6.2	14.6	79.2	0.0	100	70.5	17.1	12.4	0.0	100	
PHF	0.947					0.912					0.718					0.847					0.965
Cars, PU, Vans	184	1614	66	14	1878	15	1216	29	0	1260	9	16	121	0	146	214	43	40	0	297	3581
% Cars, PU, Vans	96.8	96.6	82.5	100.0	96.1	83.3	97.6	82.9	0.0	97.0	81.8	61.5	85.8	0.0	82.0	94.3	78.2	100.0	0.0	92.2	95.4
Heavy trucks	6	56	14	0	76	3	30	6	0	39	2	10	20	0	32	13	12	0	0	25	172
% Heavy trucks	3.2	3.4	17.5	0.0	3.9	16.7	2.4	17.1	0.0	3.0	18.2	38.5	14.2	0.0	18.0	5.7	21.8	0.0	0.0	7.8	4.6

PM

Start Time	Seminary Rd Northbound					Seminary Rd Southbound					Mark Center Ave Eastbound					Mark Center Ave Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	6	313	36	1	356	10	404	2	0	416	8	4	108	0	120	54	6	7	0	67	959
4:45 PM	10	325	35	1	371	4	407	4	0	415	11	6	95	0	112	48	5	10	0	63	961
5:00 PM	5	314	41	2	362	5	402	4	0	411	11	6	104	0	121	51	6	17	0	74	968
5:15 PM	6	366	46	0	418	11	450	6	0	467	5	2	81	0	88	44	6	5	0	55	1028
Total Volume	27	1318	158	4	1507	30	1663	16	0	1709	35	18	388	0	441	197	23	39	0	259	3916
% App. Total	1.8	87.5	10.5	0.3	100	1.8	97.3	0.9	0.0	100	7.9	4.1	88.0	0.0	100	76.1	8.9	15.1	0.0	100	
PHF	0.901					0.915					0.911					0.875					0.952
Cars, PU, Vans	22	1282	139	4	1447	29	1622	11	0	1662	32	8	367	0	407	183	14	37	0	234	3750
% Cars, PU, Vans	81.5	97.3	88.0	100.0	96.0	96.7	97.5	68.8	0.0	97.2	91.4	44.4	94.6	0.0	92.3	92.9	60.9	94.9	0.0	90.3	95.8
Heavy trucks	5	36	19	0	60	1	41	5	0	47	3	10	21	0	34	14	9	2	0	25	166
% Heavy trucks	18.5	2.7	12.0	0.0	4.0	3.3	2.5	31.3	0.0	2.8	8.6	55.6	5.4	0.0	7.7	7.1	39.1	5.1	0.0	9.7	4.2

National Data & Surveying Services Intersection Turning Movement Count

Location: Library Ln/Kenmore Ave & SR 420/Seminary Rd
City: Alexandria
Control: Signalized

Project ID: 23-260017-001
Date: 1/31/2023

Data - Total

NS/EW Streets:	Library Ln/Kenmore Ave				Library Ln/Kenmore Ave				SR 420/Seminary Rd				SR 420/Seminary Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	1	2	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	6	0	1	0	3	0	0	0	17	84	0	2	1	99	5	0	218
6:15 AM	4	0	1	0	6	0	3	0	17	88	1	5	2	94	10	0	231
6:30 AM	7	0	2	0	7	2	6	0	28	159	0	0	1	157	7	0	376
6:45 AM	6	0	2	0	3	1	3	0	16	172	2	4	4	204	11	0	428
7:00 AM	11	1	3	0	7	1	9	0	21	130	3	4	1	215	11	0	417
7:15 AM	5	0	1	0	2	1	10	0	52	189	2	7	1	251	14	0	535
7:30 AM	18	1	2	0	15	0	18	0	51	185	3	6	3	246	15	0	563
7:45 AM	15	1	9	0	9	0	9	0	45	249	2	11	4	284	19	1	658
8:00 AM	9	1	5	0	20	2	13	0	49	247	3	7	10	327	27	0	720
8:15 AM	13	2	5	0	13	4	12	0	43	233	6	5	5	238	19	1	599
8:30 AM	8	0	2	0	10	0	11	0	42	175	2	3	6	328	26	0	613
8:45 AM	14	2	1	0	8	1	16	0	48	161	0	3	4	231	24	0	513
9:00 AM	3	2	1	0	9	1	14	0	37	168	4	2	1	218	13	0	473
9:15 AM	5	2	0	0	16	1	9	0	50	137	2	2	4	196	17	0	441
9:30 AM	7	1	1	0	17	0	11	0	38	129	3	1	0	167	16	0	391
9:45 AM	3	0	3	0	8	1	13	0	50	114	4	4	2	157	14	1	374
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	72.04%	6.99%	20.97%	0.00%	47.08%	4.62%	48.31%	0.00%	18.15%	78.75%	1.11%	1.98%	1.32%	91.92%	6.68%	0.08%	7550
PEAK HR:	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL:	45	4	21	0	52	6	45	0	179	904	13	26	25	1177	91	2	2590
PEAK HR FACTOR:	0.750	0.500	0.583	0.000	0.650	0.375	0.865	0.000	0.913	0.908	0.542	0.591	0.625	0.897	0.843	0.500	0.899
	0.700				0.736				0.914				0.889				

NS/EW Streets:	Library Ln/Kenmore Ave				Library Ln/Kenmore Ave				SR 420/Seminary Rd				SR 420/Seminary Rd				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	1	2	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	8	5	2	0	25	5	14	0	48	187	3	1	8	218	16	0	540
3:45 PM	2	0	2	0	17	2	10	0	29	250	6	3	1	187	16	0	525
4:00 PM	4	1	2	0	21	0	14	0	49	194	3	2	7	160	10	0	467
4:15 PM	4	1	1	0	19	4	9	0	31	208	4	0	2	174	16	0	473
4:30 PM	2	3	1	0	21	4	13	0	48	241	5	3	5	169	17	0	532
4:45 PM	3	6	1	0	18	7	9	0	46	256	5	3	7	176	15	0	552
5:00 PM	5	1	2	0	30	4	10	0	43	275	3	1	4	191	11	0	580
5:15 PM	2	1	4	0	17	4	15	0	43	250	7	0	8	178	7	0	536
5:30 PM	4	4	3	0	14	6	8	0	44	285	2	2	6	211	25	0	614
5:45 PM	4	2	1	0	10	2	6	0	48	241	3	1	4	167	10	0	499
6:00 PM	5	3	1	0	19	2	8	0	44	226	8	4	6	206	13	0	545
6:15 PM	5	2	0	0	11	2	13	0	40	221	2	1	2	139	10	0	448
6:30 PM	5	0	3	0	10	3	5	0	32	205	7	2	6	170	10	0	458
6:45 PM	6	1	2	0	10	3	10	0	39	198	4	1	2	119	12	0	407
7:00 PM	5	3	3	0	9	2	9	0	32	145	3	2	3	127	7	0	350
7:15 PM	0	2	2	0	6	1	8	0	40	183	0	0	6	110	8	0	366
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	49.61%	27.13%	23.26%	0.00%	54.80%	10.87%	34.33%	0.00%	15.21%	82.68%	1.51%	0.60%	2.58%	90.61%	6.81%	0.00%	7892
PEAK HR:	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL:	14	12	10	0	79	21	42	0	176	1066	17	6	25	756	58	0	2282
PEAK HR FACTOR:	0.700	0.500	0.625	0.000	0.658	0.750	0.700	0.000	0.957	0.935	0.607	0.500	0.781	0.896	0.580	0.000	0.929
	0.818				0.807				0.950				0.867				

National Data & Surveying Services Intersection Turning Movement Count

Location: Library Ln/Kenmore Ave & SR 420/Seminary Rd
City: Alexandria
Control: Signalized

Project ID: 23-260017-001
Date: 1/31/2023

Data - Cars

NS/EW Streets:	Library Ln/Kenmore Ave				Library Ln/Kenmore Ave				SR 420/Seminary Rd				SR 420/Seminary Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	1	2	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	6	0	1	0	3	0	0	0	16	79	0	2	1	95	5	0	208
6:15 AM	4	0	1	0	6	0	3	0	15	85	1	5	2	86	10	0	218
6:30 AM	7	0	2	0	7	2	6	0	28	151	0	0	1	151	6	0	361
6:45 AM	6	0	2	0	3	1	3	0	15	167	2	4	2	194	11	0	410
7:00 AM	11	1	3	0	7	1	6	0	17	126	3	4	1	202	10	0	392
7:15 AM	5	0	1	0	1	1	10	0	50	179	2	7	1	242	14	0	513
7:30 AM	18	1	2	0	15	0	18	0	51	177	3	6	3	238	15	0	547
7:45 AM	15	1	9	0	9	0	9	0	44	242	2	11	4	278	19	1	644
8:00 AM	9	1	5	0	19	2	13	0	49	234	3	7	10	324	27	0	703
8:15 AM	13	2	5	0	13	4	12	0	43	230	6	5	5	229	19	1	587
8:30 AM	8	0	2	0	9	0	11	0	41	168	2	3	6	322	26	0	598
8:45 AM	14	2	1	0	7	1	16	0	47	159	0	3	4	221	24	0	499
9:00 AM	3	2	1	0	9	1	14	0	36	159	4	1	1	209	13	0	453
9:15 AM	5	2	0	0	13	1	9	0	47	129	2	2	4	191	17	0	422
9:30 AM	7	1	1	0	17	0	11	0	37	121	3	1	0	161	16	0	376
9:45 AM	3	0	3	0	8	1	13	0	50	110	4	4	2	150	14	1	363
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	72.04%	6.99%	20.97%	0.00%	46.35%	4.76%	48.89%	0.00%	18.29%	78.53%	1.15%	2.03%	1.31%	91.75%	6.85%	0.08%	7294
PEAK HR:	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL:	45	4	21	0	50	6	45	0	177	874	13	26	25	1153	91	2	2532
PEAK HR FACTOR:	0.750	0.500	0.583	0.000	0.658	0.375	0.865	0.000	0.903	0.903	0.542	0.591	0.625	0.890	0.843	0.500	0.900
	0.700				0.743				0.911				0.880				

NS/EW Streets:	Library Ln/Kenmore Ave				Library Ln/Kenmore Ave				SR 420/Seminary Rd				SR 420/Seminary Rd				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	1	2	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	8	5	2	0	24	5	14	0	47	183	3	1	7	210	16	0	525
3:45 PM	2	0	2	0	17	2	10	0	28	239	6	3	1	177	15	0	502
4:00 PM	4	1	2	0	18	0	14	0	47	187	3	2	7	158	10	0	453
4:15 PM	4	1	1	0	19	4	9	0	30	205	4	0	2	166	16	0	461
4:30 PM	2	3	1	0	21	4	12	0	46	236	5	3	5	164	17	0	519
4:45 PM	3	6	1	0	18	7	8	0	46	253	5	3	7	170	15	0	542
5:00 PM	5	1	2	0	30	4	10	0	43	270	3	1	4	187	11	0	571
5:15 PM	2	1	4	0	17	4	15	0	42	248	7	0	8	173	7	0	528
5:30 PM	4	4	3	0	14	6	7	0	42	279	2	2	6	206	25	0	600
5:45 PM	4	2	1	0	10	2	6	0	48	238	3	1	4	164	10	0	493
6:00 PM	5	3	1	0	19	2	8	0	43	223	8	4	6	194	13	0	529
6:15 PM	5	2	0	0	10	2	13	0	39	219	2	1	2	134	10	0	439
6:30 PM	5	0	3	0	10	3	5	0	32	200	7	2	6	163	10	0	446
6:45 PM	6	1	2	0	10	3	10	0	39	194	4	1	2	114	12	0	398
7:00 PM	5	3	3	0	9	2	9	0	32	139	3	2	3	125	7	0	342
7:15 PM	0	2	2	0	6	1	8	0	40	177	0	0	6	106	8	0	356
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	49.61%	27.13%	23.26%	0.00%	54.66%	11.06%	34.27%	0.00%	15.24%	82.60%	1.54%	0.62%	2.63%	90.38%	6.99%	0.00%	7704
PEAK HR:	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL:	14	12	10	0	79	21	40	0	173	1050	17	6	25	736	58	0	2241
PEAK HR FACTOR:	0.700	0.500	0.625	0.000	0.658	0.750	0.667	0.000	0.940	0.941	0.607	0.500	0.781	0.893	0.580	0.000	0.934
	0.818				0.795				0.958				0.864				

National Data & Surveying Services Intersection Turning Movement Count

Location: Library Ln/Kenmore Ave & SR 420/Seminary Rd
City: Alexandria
Control: Signalized

Project ID: 23-260017-001
Date: 1/31/2023

Data - HT

NS/EW Streets:	Library Ln/Kenmore Ave				Library Ln/Kenmore Ave				SR 420/Seminary Rd				SR 420/Seminary Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:00 AM	0	1	0	0	0	0	0	0	1	2	1	0	1	3	0	0	10
6:15 AM	0	0	0	0	0	0	0	0	2	3	0	0	0	8	0	0	13
6:30 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	6	1	0	15
6:45 AM	0	0	0	0	0	0	0	0	1	5	0	0	2	10	0	0	18
7:00 AM	0	0	0	0	0	0	3	0	4	4	0	0	0	13	1	0	25
7:15 AM	0	0	0	0	1	0	0	0	2	10	0	0	0	9	0	0	22
7:30 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	8	0	0	16
7:45 AM	0	0	0	0	0	0	0	0	1	7	0	0	0	6	0	0	14
8:00 AM	0	0	0	0	1	0	0	0	0	13	0	0	0	3	0	0	17
8:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	9	0	0	12
8:30 AM	0	0	0	0	1	0	0	0	1	7	0	0	0	6	0	0	15
8:45 AM	0	0	0	0	1	0	0	0	1	2	0	0	0	10	0	0	14
9:00 AM	0	0	0	0	0	0	0	0	1	9	0	1	0	9	0	0	20
9:15 AM	0	0	0	0	3	0	0	0	3	8	0	0	0	5	0	0	19
9:30 AM	0	0	0	0	0	0	0	0	1	8	0	0	0	6	0	0	15
9:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	7	0	0	11
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0	1	0	0	0	1	0	0	18	104	0	1	2	119	2	0	256
					70.00%	0.00%	30.00%	0.00%	14.63%	84.55%	0.00%	0.81%	1.63%	96.75%	1.63%	0.00%	
PEAK HR:	07:45 AM - 08:45 AM																
PEAK HR VOL:	0	0	0	0	2	0	0	0	2	30	0	0	0	24	0	0	58
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.577	0.000	0.000	0.000	0.667	0.000	0.000	0.853
					0.500				0.615				0.667				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:30 PM	0	0	0	0	1	0	0	0	1	4	0	0	1	8	0	0	15
3:45 PM	0	0	0	0	0	0	0	0	1	11	0	0	0	10	1	0	23
4:00 PM	0	0	0	0	3	0	0	0	2	7	0	0	0	2	0	0	14
4:15 PM	0	0	0	0	0	0	0	0	1	3	0	0	0	8	0	0	12
4:30 PM	0	0	0	0	0	0	1	0	2	5	0	0	0	5	0	0	13
4:45 PM	0	0	0	0	0	0	1	0	0	3	0	0	0	6	0	0	10
5:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	4	0	0	9
5:15 PM	0	0	0	0	0	0	0	0	1	2	0	0	0	5	0	0	8
5:30 PM	0	0	0	0	0	0	1	0	2	6	0	0	0	5	0	0	14
5:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	6
6:00 PM	0	0	0	0	0	0	0	0	1	3	0	0	0	12	0	0	16
6:15 PM	0	0	0	0	1	0	0	0	1	2	0	0	0	5	0	0	9
6:30 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	7	0	0	12
6:45 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	5	0	0	9
7:00 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	2	0	0	8
7:15 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	0	10
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0	0	0	0	5	0	3	0	12	75	0	0	1	91	1	0	188
					62.50%	0.00%	37.50%	0.00%	13.79%	86.21%	0.00%	0.00%	1.08%	97.85%	1.08%	0.00%	
PEAK HR:	04:45 PM - 05:45 PM																
PEAK HR VOL:	0	0	0	0	0	0	2	0	3	16	0	0	0	20	0	0	41
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.375	0.667	0.000	0.000	0.000	0.833	0.000	0.000	0.732
					0.500				0.594				0.833				

National Data & Surveying Services Intersection Turning Movement Count

Location: Library Ln/Kenmore Ave & SR 420/Seminary Rd
City: Alexandria
Control: Signalized

Project ID: 23-260017-001
Date: 1/31/2023

Data - Bikes

NS/EW Streets:	Library Ln/Kenmore Ave				Library Ln/Kenmore Ave				SR 420/Seminary Rd				SR 420/Seminary Rd					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:45 AM	0	0	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	1	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	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	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s:	0	0	0	0	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	3	
PEAK HR:	07:45 AM - 08:45 AM																TOTAL	
PEAK HR VOL:	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	

NS/EW Streets:	Library Ln/Kenmore Ave				Library Ln/Kenmore Ave				SR 420/Seminary Rd				SR 420/Seminary Rd					
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	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	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	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	0	0
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s:	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	0	4	
PEAK HR:	04:45 PM - 05:45 PM																TOTAL	
PEAK HR VOL:	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
PEAK HR FACTOR:	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	

National Data & Surveying Services Intersection Turning Movement Count

Location: Library Ln/Kenmore Ave & SR 420/Seminary Rd
City: Alexandria

Project ID: 23-260017-001
Date: 1/31/2023

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Library Ln/Kenmore Ave		Library Ln/Kenmore Ave		SR 420/Seminary Rd		SR 420/Seminary Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:00 AM	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	1	0	1
6:30 AM	0	3	1	0	2	2	2	1	11
6:45 AM	1	0	0	0	0	0	1	1	3
7:00 AM	0	0	0	0	0	0	2	0	2
7:15 AM	0	1	2	0	0	0	1	0	4
7:30 AM	1	0	7	0	1	1	0	0	10
7:45 AM	3	0	16	1	0	7	1	0	28
8:00 AM	0	1	40	2	0	8	1	8	60
8:15 AM	0	3	26	3	4	10	4	12	62
8:30 AM	0	0	18	0	0	3	0	4	25
8:45 AM	0	0	5	4	0	0	2	3	14
9:00 AM	0	0	1	0	0	0	0	1	2
9:15 AM	0	1	0	0	1	0	0	1	3
9:30 AM	2	0	0	0	0	1	0	0	3
9:45 AM	1	2	1	1	0	1	3	1	10
TOTAL VOLUMES :	EB 8	WB 11	EB 117	WB 11	NB 8	SB 33	NB 18	SB 32	TOTAL 238
APPROACH %'s :	42.11%	57.89%	91.41%	8.59%	19.51%	80.49%	36.00%	64.00%	
PEAK HR :	07:45 AM - 08:45 AM								
PEAK HR VOL :	3	4	100	6	4	28	6	24	TOTAL 175
PEAK HR FACTOR :	0.250	0.333	0.625	0.500	0.250	0.700	0.375	0.500	0.706
	0.583		0.631		0.571		0.469		

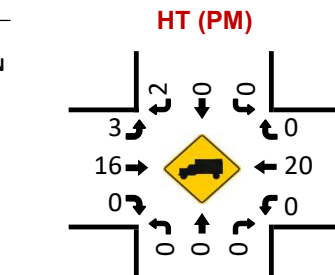
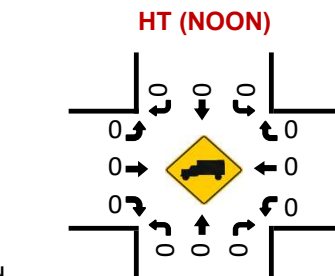
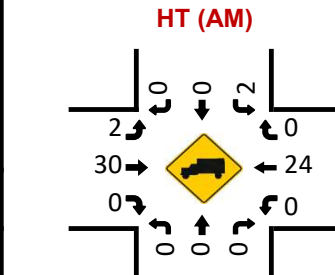
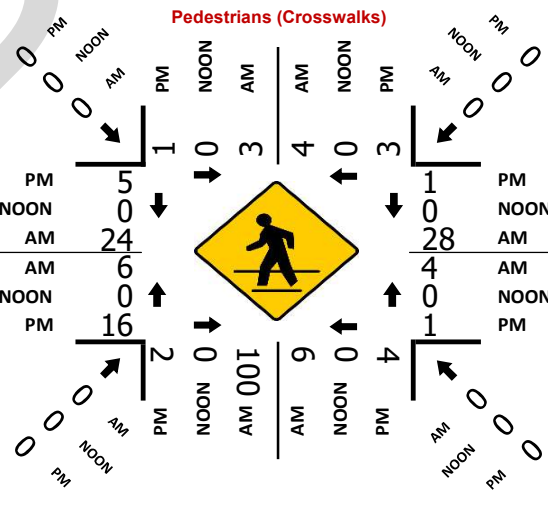
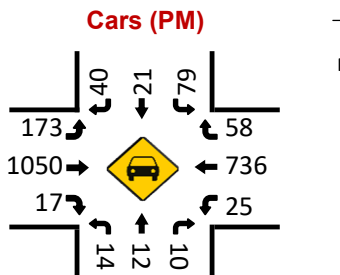
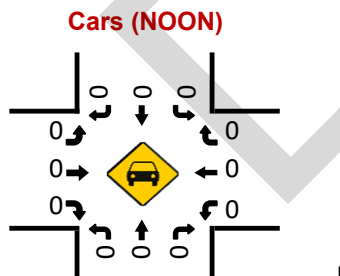
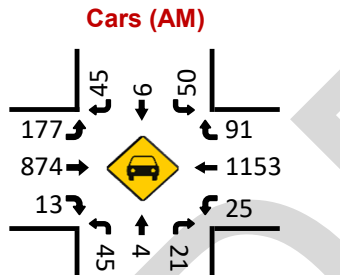
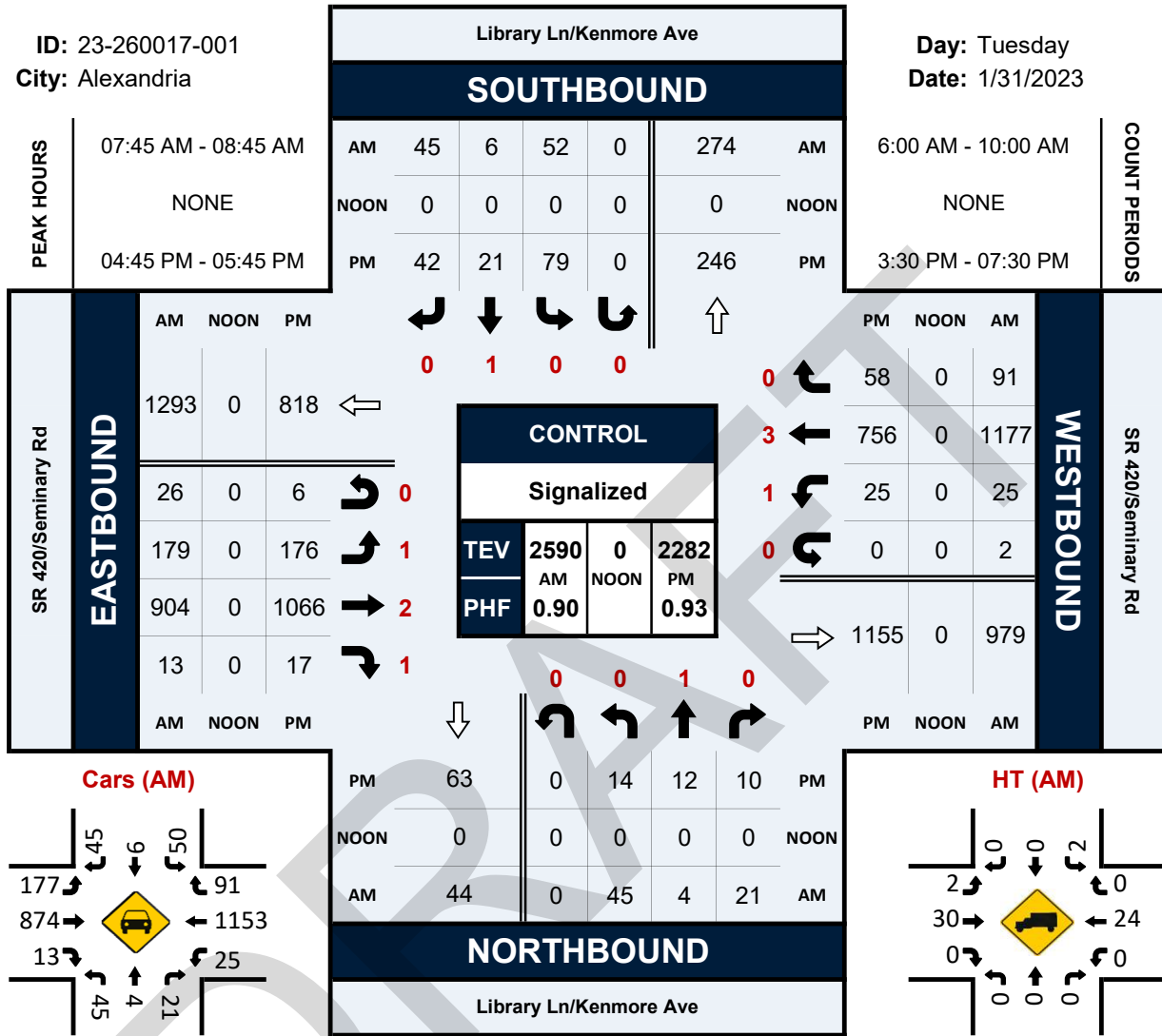
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:30 PM	2	22	5	48	34	5	20	2	138
3:45 PM	2	0	4	0	1	1	2	3	13
4:00 PM	1	2	0	3	0	2	8	0	16
4:15 PM	0	0	4	0	0	0	2	4	10
4:30 PM	0	0	1	1	1	0	1	2	6
4:45 PM	0	0	0	1	0	0	3	0	4
5:00 PM	0	2	0	0	0	0	2	1	5
5:15 PM	1	1	1	3	1	1	6	3	17
5:30 PM	0	0	1	0	0	0	5	1	7
5:45 PM	0	0	2	3	0	2	5	2	14
6:00 PM	0	0	0	4	0	3	0	1	8
6:15 PM	0	0	1	0	0	0	1	0	2
6:30 PM	0	0	1	0	0	0	0	5	6
6:45 PM	0	2	1	0	1	0	0	5	9
7:00 PM	0	1	0	0	0	0	1	4	6
7:15 PM	0	1	0	0	0	0	1	2	4
TOTAL VOLUMES :	EB 6	WB 31	EB 21	WB 63	NB 38	SB 14	NB 57	SB 35	TOTAL 265
APPROACH %'s :	16.22%	83.78%	25.00%	75.00%	73.08%	26.92%	61.96%	38.04%	
PEAK HR :	04:45 PM - 05:45 PM								
PEAK HR VOL :	1	3	2	4	1	1	16	5	TOTAL 33
PEAK HR FACTOR :	0.250	0.375	0.500	0.333	0.250	0.250	0.667	0.417	0.485
	0.500		0.375		0.250		0.583		

Library Ln/Kenmore Ave & SR 420/Seminary Rd

Peak Hour Turning Movement Count

ID: 23-260017-001
City: Alexandria

Day: Tuesday
Date: 1/31/2023



Project ID: 23-260017-001

Location: Library Ln/Kenmore Ave & SR 420/Seminary Rd
 City: Alexandria

Day: Tuesday
 Date: 1/31/2023

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Library Ln/Kenmore Ave Northbound						Library Ln/Kenmore Ave Southbound						SR 420/Seminary Rd Eastbound						SR 420/Seminary Rd Westbound						Int. Total
	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	Left	Thru	Rgt	Utum	Peds	App. Total	
6:00 AM	6	0	1	0	0	7	3	0	0	0	0	3	17	84	0	2	0	103	1	99	5	0	0	105	218
6:15 AM	4	0	1	0	0	5	6	0	3	0	0	9	17	88	1	5	1	111	2	94	10	0	0	106	231
6:30 AM	7	0	2	0	1	9	7	2	6	0	3	15	28	159	0	0	3	187	1	157	7	0	4	165	376
6:45 AM	6	0	2	0	0	8	3	1	3	0	1	7	16	172	2	4	2	194	4	204	11	0	0	219	428
Total	23	0	6	0	1	29	19	3	12	0	4	34	78	503	3	11	6	595	8	554	33	0	4	595	1253
7:00 AM	11	1	3	0	0	15	7	1	9	0	0	17	21	130	3	4	2	158	1	215	11	0	0	227	417
7:15 AM	5	0	1	0	2	6	2	1	10	0	1	13	52	189	2	7	1	250	1	251	14	0	0	266	535
7:30 AM	18	1	2	0	7	21	15	0	18	0	1	33	51	185	3	6	0	245	3	246	15	0	2	264	563
7:45 AM	15	1	9	0	17	25	9	0	9	0	3	18	45	249	2	11	1	307	4	284	19	1	7	308	658
Total	49	3	15	0	26	67	33	2	46	0	5	81	169	753	10	28	4	960	9	996	59	1	9	1065	2173
8:00 AM	9	1	5	0	42	15	20	2	13	0	1	35	49	247	3	7	9	306	10	327	27	0	8	364	720
8:15 AM	13	2	5	0	29	20	13	4	12	0	3	29	43	233	6	5	16	287	5	238	19	1	14	263	599
8:30 AM	8	0	2	0	18	10	10	0	11	0	0	21	42	175	2	3	4	222	6	328	26	0	3	360	613
8:45 AM	14	2	1	0	9	17	8	1	16	0	0	25	48	161	0	3	5	212	4	231	24	0	0	259	513
Total	44	5	13	0	98	62	51	7	52	0	4	110	182	816	11	18	34	1027	25	1124	96	1	25	1246	2445
9:00 AM	3	2	1	0	1	6	9	1	14	0	0	24	37	168	4	2	1	211	1	218	13	0	0	232	473
9:15 AM	5	2	0	0	0	7	16	1	9	0	1	26	50	137	2	2	1	191	4	196	17	0	1	217	441
9:30 AM	7	1	1	0	0	9	17	0	11	0	2	28	38	129	3	1	0	171	0	167	16	0	1	183	391
9:45 AM	3	0	3	0	2	6	8	1	13	0	3	22	50	114	4	4	4	172	2	157	14	1	1	174	374
Total	18	5	5	0	3	28	50	3	47	0	6	100	175	548	13	9	6	745	7	738	60	1	3	806	1679
BREAK																									
3:30 PM	8	5	2	0	53	15	25	5	14	0	24	44	48	187	3	1	22	239	8	218	16	0	39	242	540
3:45 PM	2	0	2	0	4	4	17	2	10	0	2	29	29	250	6	3	5	288	1	187	16	0	2	204	525
Total	10	5	4	0	57	19	42	7	24	0	26	73	77	437	9	4	27	527	9	405	32	0	41	446	1065
4:00 PM	4	1	2	0	3	7	21	0	14	0	3	35	49	194	3	2	8	248	7	160	10	0	2	177	467
4:15 PM	4	1	1	0	4	6	19	4	9	0	0	32	31	208	4	0	6	243	2	174	16	0	0	192	473
4:30 PM	2	3	1	0	2	6	21	4	13	0	0	38	48	241	5	3	3	297	5	169	17	0	1	191	532
4:45 PM	3	6	1	0	1	10	18	7	9	0	0	34	46	256	5	3	3	310	7	176	15	0	0	198	552
Total	13	11	5	0	10	29	79	15	45	0	3	139	174	899	17	8	20	1098	21	679	58	0	3	758	2024
5:00 PM	5	1	2	0	0	8	30	4	10	0	2	44	43	275	3	1	3	322	4	191	11	0	0	206	580
5:15 PM	2	1	4	0	4	7	17	4	15	0	2	36	43	250	7	0	9	300	8	178	7	0	2	193	536
5:30 PM	4	4	3	0	1	11	14	6	8	0	0	28	44	285	2	2	6	333	6	211	25	0	0	242	614
5:45 PM	4	2	1	0	5	7	10	2	6	0	0	18	48	241	3	1	7	293	4	167	10	0	2	181	499
Total	15	8	10	0	10	33	71	16	39	0	4	126	178	1051	15	4	25	1248	22	747	53	0	4	822	2229
6:00 PM	5	3	1	0	4	9	19	2	8	0	0	29	44	226	8	4	1	282	6	206	13	0	3	225	545
6:15 PM	5	2	0	0	1	7	11	2	13	0	0	26	40	221	2	1	1	264	2	139	10	0	0	151	448
6:30 PM	5	0	3	0	1	8	10	3	5	0	0	18	32	205	7	2	5	246	6	170	10	0	0	186	458
6:45 PM	6	1	2	0	1	9	10	3	10	0	2	23	39	198	4	1	5	242	2	119	12	0	1	133	407
Total	21	6	6	0	7	33	50	10	36	0	2	96	155	850	21	8	12	1034	16	634	45	0	4	695	1858
7:00 PM	5	3	3	0	0	11	9	2	9	0	1	20	32	145	3	2	5	182	3	127	7	0	0	137	350
7:15 PM	0	2	2	0	0	4	6	1	8	0	1	15	40	183	0	0	3	223	6	110	8	0	0	124	366
Total	5	5	5	0	0	15	15	3	17	0	2	35	72	328	3	2	8	405	9	237	15	0	0	261	716
Grand Total	198	48	69	0	212	315	410	66	318	0	56	794	1260	6185	102	92	142	7639	126	6114	451	3	93	6694	15442
Approch %	62.9	15.2	21.9	0.0	67.3		51.6	8.3	40.1	0.0	7.1		16.5	81.0	1.3	1.2	1.9		1.9	91.3	6.7	0.0	1.4		
Total %	1.3	0.3	0.4	0.0	1.4	2.0	2.7	0.4	2.1	0.0	0.4	5.1	8.2	40.1	0.7	0.6	0.9	49.5	0.8	39.6	2.9	0.0	0.6	43.3	
Cars, PU, Vans	198	48	69	0		315	398	66	312	0		776	1230	6006	102	91		7429	123	5904	448	3		6478	14998
% Cars, PU, Vans	100.0	100.0	100.0	0.0		100.0	97.1	100.0	98.1	0.0		97.7	97.6	97.1	100.0	98.9	97.3	97.6	96.6	99.3	100.0		96.8	97.1	
Heavy trucks	0	0	0	0		0	12	0	6	0		18	30	179	0	1		210	3	210	3	0		216	444
%Heavy trucks	0.0	0.0	0.0	0.0		0.0	2.9	0.0	1.9	0.0		2.3	2.4	2.9	0.0	1.1		2.7	2.4	3.4	0.7	0.0		3.2	2.9

Project ID: 23-260017-001

Location: Library Ln/Kenmore Ave & SR 420/Seminary Rd
 City: Alexandria

PEAK HOURS

Day: Tuesday
 Date: 1/31/2023

AM

Start Time	Library Ln/Kenmore Ave Northbound					Library Ln/Kenmore Ave Southbound					SR 420/Seminary Rd Eastbound					SR 420/Seminary Rd Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 06:00 AM - 10:00 AM																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
7:45 AM	15	1	9	0	25	9	0	9	0	18	45	249	2	11	307	4	284	19	1	308	658
8:00 AM	9	1	5	0	15	20	2	13	0	35	49	247	3	7	306	10	327	27	0	364	720
8:15 AM	13	2	5	0	20	13	4	12	0	29	43	233	6	5	287	5	238	19	1	263	599
8:30 AM	8	0	2	0	10	10	0	11	0	21	42	175	2	3	222	6	328	26	0	360	613
Total Volume	45	4	21	0	70	52	6	45	0	103	179	904	13	26	1122	25	1177	91	2	1295	2590
% App. Total	64.3	5.7	30.0	0.0	100	50.5	5.8	43.7	0.0	100	16.0	80.6	1.2	2.3	100	1.9	90.9	7.0	0.2	100	
PHF	0.700					0.736					0.914					0.889					0.899
Cars, PU, Vans	45	4	21	0	70	50	6	45	0	101	177	874	13	26	1090	25	1153	91	2	1271	2532
% Cars, PU, Vans	100.0	100.0	100.0	0.0	100.0	96.2	100.0	100.0	0.0	98.1	98.9	96.7	100.0	100.0	97.1	100.0	98.0	100.0	100.0	98.1	97.8
Heavy trucks	0	0	0	0	0	2	0	0	0	2	2	30	0	0	32	0	24	0	0	24	58
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	1.9	1.1	3.3	0.0	0.0	2.9	0.0	2.0	0.0	0.0	1.9	2.2

PM

Start Time	Library Ln/Kenmore Ave Northbound					Library Ln/Kenmore Ave Southbound					SR 420/Seminary Rd Eastbound					SR 420/Seminary Rd Westbound					Int. Total
	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	Left	Thru	Rgt	Utum	App. Total	
Peak Hour Analysis from 03:30 PM - 07:30 PM																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
4:45 PM	3	6	1	0	10	18	7	9	0	34	46	256	5	3	310	7	176	15	0	198	552
5:00 PM	5	1	2	0	8	30	4	10	0	44	43	275	3	1	322	4	191	11	0	206	580
5:15 PM	2	1	4	0	7	17	4	15	0	36	43	250	7	0	300	8	178	7	0	193	536
5:30 PM	4	4	3	0	11	14	6	8	0	28	44	285	2	2	333	6	211	25	0	242	614
Total Volume	14	12	10	0	36	79	21	42	0	142	176	1066	17	6	1265	25	756	58	0	839	2282
% App. Total	38.9	33.3	27.8	0.0	100	55.6	14.8	29.6	0.0	100	13.9	84.3	1.3	0.5	100	3.0	90.1	6.9	0.0	100	
PHF	0.818					0.807					0.950					0.867					0.929
Cars, PU, Vans	14	12	10	0	36	79	21	40	0	140	173	1050	17	6	1246	25	736	58	0	819	2241
% Cars, PU, Vans	100.0	100.0	100.0	0.0	100.0	100.0	100.0	95.2	0.0	98.6	98.3	98.5	100.0	100.0	98.5	100.0	97.4	100.0	0.0	97.6	98.2
Heavy trucks	0	0	0	0	0	0	0	2	0	2	3	16	0	0	19	0	20	0	0	20	41
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	1.4	1.7	1.5	0.0	0.0	1.5	0.0	2.6	0.0	0.0	2.4	1.8

Appendix B


































Existing Conditions Analysis Results

DRAFT



HCM Signalized Intersection Capacity Analysis
 1: N Beauregard St & Little River Tpke

2022 Existing
 Timing Plan: AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 	 	 	 	 
Traffic Volume (vph)	241	979	18	32	975	334	107	58	42	639	39	222
Future Volume (vph)	241	979	18	32	975	334	107	58	42	639	39	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00
Satd. Flow (prot)	3400	3492		1805	3539	1520	1641	1845	1490	1665	1678	1552
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00
Satd. Flow (perm)	3400	3492		1805	3539	1520	1641	1845	1490	1665	1678	1552
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	246	999	18	33	995	341	109	59	43	652	40	227
RTOR Reduction (vph)	0	0	0	0	0	101	0	0	0	0	0	148
Lane Group Flow (vph)	246	1017	0	33	995	240	109	59	43	346	346	79
Confl. Peds. (#/hr)	3		8	8		3	4		4	4		4
Heavy Vehicles (%)	3%	3%	6%	0%	2%	5%	10%	3%	7%	3%	3%	2%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	5	2		1	6	3	4	4	1	3	3	
Permitted Phases						6			4			3
Actuated Green, G (s)	18.4	88.1		7.2	75.6	117.7	15.7	15.7	22.9	42.1	42.1	42.1
Effective Green, g (s)	18.4	88.1		7.2	75.6	117.7	15.7	15.7	22.9	42.1	42.1	42.1
Actuated g/C Ratio	0.10	0.49		0.04	0.42	0.65	0.09	0.09	0.13	0.23	0.23	0.23
Clearance Time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	347	1709		72	1486	993	143	160	189	389	392	362
v/s Ratio Prot	c0.07	c0.29		0.02	c0.28	0.06	c0.07	0.03	0.01	c0.21	0.21	
v/s Ratio Perm						0.10			0.02			0.05
v/c Ratio	0.71	0.60		0.46	0.67	0.24	0.76	0.37	0.23	0.89	0.88	0.22
Uniform Delay, d1	78.2	33.1		84.5	42.1	12.8	80.3	77.5	70.6	66.7	66.6	55.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	1.08
Incremental Delay, d2	6.5	1.5		1.7	2.4	0.1	21.0	1.4	0.2	15.9	15.2	0.2
Delay (s)	84.7	34.6		86.2	44.5	12.9	101.4	78.9	70.8	74.6	73.7	60.4
Level of Service	F	C		F	D	B	F	E	E	E	E	E
Approach Delay (s)		44.4			37.7			88.9			70.7	
Approach LOS		D			D			F			E	
Intersection Summary												
HCM 2000 Control Delay			50.9	HCM 2000 Level of Service				D				
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			180.0	Sum of lost time (s)				28.2				
Intersection Capacity Utilization			76.7%	ICU Level of Service				D				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2022 Existing
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↔		↕	↕↔	
Traffic Volume (vph)	2	0	9	196	0	28	5	302	49	17	445	1
Future Volume (vph)	2	0	9	196	0	28	5	302	49	17	445	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00			1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.89			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1537			1703	1437	1804	3380		1702	3573	
Flt Permitted		0.94			0.75	1.00	0.49	1.00		0.53	1.00	
Satd. Flow (perm)		1455			1345	1437	930	3380		956	3573	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	2	0	9	200	0	29	5	308	50	17	454	1
RTOR Reduction (vph)	0	8	0	0	0	21	0	11	0	0	0	0
Lane Group Flow (vph)	0	3	0	0	200	8	5	347	0	17	455	0
Confl. Peds. (#/hr)	1					1	2		2	2		2
Heavy Vehicles (%)	0%	0%	11%	6%	0%	11%	0%	2%	18%	6%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8				6		
Actuated Green, G (s)		12.5			12.5	12.5	14.5	13.7		14.7	13.8	
Effective Green, g (s)		12.5			12.5	12.5	14.5	13.7		14.7	13.8	
Actuated g/C Ratio		0.28			0.28	0.28	0.33	0.31		0.33	0.31	
Clearance Time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		412			381	407	321	1050		333	1118	
v/s Ratio Prot							0.00	0.10		c0.00	c0.13	
v/s Ratio Perm		0.00			c0.15	0.01	0.00			0.02		
v/c Ratio		0.01			0.52	0.02	0.02	0.33		0.05	0.41	
Uniform Delay, d1		11.3			13.3	11.4	10.0	11.7		9.9	11.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0			1.3	0.0	0.0	0.2		0.1	0.2	
Delay (s)		11.4			14.6	11.4	10.0	11.9		10.0	12.2	
Level of Service		B			B	B	A	B		A	B	
Approach Delay (s)		11.4			14.2			11.8			12.1	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			12.4									B
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			44.1							17.0		
Intersection Capacity Utilization			41.3%									A
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: N Beauregard St & Quantrell Ave






















2022 Existing
Timing Plan: AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↕	↱	↰	↕
Traffic Volume (vph)	100	118	291	39	28	360
Future Volume (vph)	100	118	291	39	28	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	12	10	12
Grade (%)	3%		0%			-5%
Total Lost time (s)	6.0	6.0	5.3	5.3	0.3	0.3
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	*0.95
Frbp, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1627	1334	3421	1506	1450	3800
Flt Permitted	0.95	1.00	1.00	1.00	0.57	1.00
Satd. Flow (perm)	1627	1334	3421	1506	868	3664
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	122	300	40	29	371
RTOR Reduction (vph)	0	106	0	11	0	0
Lane Group Flow (vph)	103	16	300	29	29	371
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	2%	2%	2%	5%	19%	1%
Parking (#/hr)		3				
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			2
Permitted Phases	4	4	2	2	2	2
Actuated Green, G (s)	10.5	10.5	60.8	60.8	60.8	60.8
Effective Green, g (s)	10.5	10.5	60.8	60.8	65.8	65.8
Actuated g/C Ratio	0.13	0.13	0.74	0.74	0.80	0.80
Clearance Time (s)	6.0	6.0	5.3	5.3	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	206	169	2518	1108	691	3027
v/s Ratio Prot			0.09			c0.10
v/s Ratio Perm	c0.06	0.01		0.02	0.03	
v/c Ratio	0.50	0.09	0.12	0.03	0.04	0.12
Uniform Delay, d1	33.6	31.8	3.2	2.9	1.8	1.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.2	0.1	0.0	0.1	0.1
Delay (s)	35.5	32.1	3.2	3.0	1.9	2.0
Level of Service	D	C	A	A	A	A
Approach Delay (s)	33.6		3.2			2.0
Approach LOS	C		A			A
Intersection Summary						
HCM 2000 Control Delay			9.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.18			
Actuated Cycle Length (s)			82.6		Sum of lost time (s)	11.3
Intersection Capacity Utilization			35.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
4: N Beauregard St & Sanger Ave

2022 Existing
Timing Plan: AM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	65	74	92	135	72	293	94	466	191	178	227	42	
Future Volume (vph)	65	74	92	135	72	293	94	466	191	178	227	42	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	10	10	11	11	11	11	10	12	12	10	12	12	
Grade (%)		-2%			2%			0%				-3%	
Total Lost time (s)		6.0			6.0	6.0	8.3	8.3		0.3	0.3		
Lane Util. Factor		0.95			1.00	1.00	1.00	0.95		1.00	0.95		
Frbp, ped/bikes		0.94			1.00	1.00	1.00	0.99		1.00	0.99		
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Frt		0.94			1.00	0.85	1.00	0.96		1.00	0.98		
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00		
Satd. Flow (prot)		2856			1700	1515	1645	3550		1658	3800		
Flt Permitted		0.99			0.97	1.00	0.52	1.00		0.31	1.00		
Satd. Flow (perm)		2856			1700	1515	897	3332		543	3415		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	69	79	98	144	77	312	100	496	203	189	241	45	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	246	0	0	221	312	100	699	0	189	286	0	
Confl. Peds. (#/hr)	7		53	53		7	13		20	20		13	
Heavy Vehicles (%)	3%	5%	4%	5%	1%	2%	2%	2%	5%	3%	5%	0%	
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA		
Protected Phases	4	4		8	8	8	5	1	6		5	2	
Permitted Phases							6				2		
Actuated Green, G (s)		20.0			21.0	37.7	89.8	79.1		89.8	79.1		
Effective Green, g (s)		20.0			21.0	37.7	83.8	76.1		99.8	84.1		
Actuated g/C Ratio		0.12			0.12	0.22	0.49	0.44		0.58	0.49		
Clearance Time (s)		6.0			6.0		5.3	5.3		5.3	5.3		
Vehicle Extension (s)		3.0			3.0		3.0	4.0		3.0	4.0		
Lane Grp Cap (vph)		332			207	332	470	1570		416	1858		
v/s Ratio Prot		c0.09			0.13	c0.21	0.01	c0.20		0.04	0.08		
v/s Ratio Perm							0.09			0.22			
v/c Ratio		0.74			1.07	0.94	0.21	0.45		0.45	0.15		
Uniform Delay, d1		73.5			75.5	66.0	24.3	33.3		18.2	24.3		
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		8.6			81.6	33.6	0.2	0.9		0.8	0.2		
Delay (s)		82.1			157.1	99.6	24.5	34.2		19.0	24.5		
Level of Service		F			F	F	C	C		B	C		
Approach Delay (s)		82.1			123.4			33.0			22.3		
Approach LOS		F			F			C			C		
Intersection Summary													
HCM 2000 Control Delay			59.9									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.59										
Actuated Cycle Length (s)			172.0									Sum of lost time (s)	28.6
Intersection Capacity Utilization			69.5%									ICU Level of Service	C
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

5: N Beauregard St & Mark Center Dr

2022 Existing
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↑↑↑		↖↗	↖↗	
Traffic Volume (vph)	28	3	5	13	2	36	6	842	80	264	614	53
Future Volume (vph)	28	3	5	13	2	36	6	842	80	264	614	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	12	11	12	10	12	12	11	12	12
Total Lost time (s)	6.0	6.0			6.0	5.0	0.3	0.3		0.0	0.3	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.91		0.97	0.95	
Frbp, ped/bikes	1.00	0.99			1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			0.99	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1682	1576			1247	1411	1685	5700		3255	3800	
Flt Permitted	0.75	1.00			0.78	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1323	1576			1017	1411	1685	4760		3255	3460	
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)	31	3	6	14	2	40	7	936	89	293	682	59
RTOR Reduction (vph)	0	5	0	0	0	25	0	6	0	0	2	0
Lane Group Flow (vph)	31	4	0	0	16	15	7	1019	0	293	739	0
Confl. Peds. (#/hr)	1		5	5		1	7		5	5		7
Heavy Vehicles (%)	0%	0%	0%	46%	0%	14%	0%	2%	11%	4%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	32	0	0	0	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	14.4	14.4			14.4	51.6	1.3	72.1		37.2	107.7	
Effective Green, g (s)	14.4	14.4			14.4	51.6	6.3	77.1		42.2	112.7	
Actuated g/C Ratio	0.10	0.10			0.10	0.37	0.04	0.55		0.30	0.81	
Clearance Time (s)	6.0	6.0			6.0	5.0	5.3	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	0.2		2.0	0.2	
Lane Grp Cap (vph)	136	162			104	570	75	3139		981	3059	
v/s Ratio Prot		0.00				0.01	0.00	c0.18		c0.09	0.19	
v/s Ratio Perm	c0.02				0.02	0.00						
v/c Ratio	0.23	0.02			0.15	0.03	0.09	0.32		0.30	0.24	
Uniform Delay, d1	57.7	56.5			57.2	28.2	64.1	17.2		37.5	3.3	
Progression Factor	1.00	1.00			1.00	1.00	0.73	0.97		0.66	0.36	
Incremental Delay, d2	0.3	0.0			0.3	0.0	0.2	0.3		0.1	0.2	
Delay (s)	58.0	56.5			57.5	28.2	47.1	16.9		24.9	1.4	
Level of Service	E	E			E	C	D	B		C	A	
Approach Delay (s)		57.7			36.6			17.1			8.0	
Approach LOS		E			D			B			A	

Intersection Summary

































HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: N Beauregard St & Seminary Rd

2022 Existing
Timing Plan: AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		  	 		 	 	 		  	
Traffic Volume (vph)	31	770	204	553	946	171	237	229	442	84	169	49
Future Volume (vph)	31	770	204	553	946	171	237	229	442	84	169	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	12	16	13	12	12	11	12	16	10	11	13
Grade (%)		-1%			-1%			0%				2%
Total Lost time (s)	2.2	1.0		2.8	1.0	1.0	2.3	1.4	7.8	2.3	1.4	
Lane Util. Factor	1.00	0.91		0.94	0.95	1.00	0.97	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1820	5700		3800	3800	1546	3800	3438	1786	1516	3234	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1820	4895		5132	3522	1546	3385	3438	1786	1516	3234	
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)	34	837	222	601	1028	186	258	249	480	91	184	53
RTOR Reduction (vph)	0	29	0	0	0	74	0	0	84	0	21	0
Lane Group Flow (vph)	34	1030	0	601	1028	112	258	249	396	91	216	0
Confl. Peds. (#/hr)			3	3			2		1	1		2
Heavy Vehicles (%)	3%	3%	2%	3%	3%	5%	0%	5%	2%	10%	2%	6%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2		7	4	5	3	8	
Permitted Phases						2			4			
Actuated Green, G (s)	5.4	49.8		34.1	79.1	79.1	14.4	19.3	53.4	9.3	14.2	
Effective Green, g (s)	10.4	54.8		39.1	84.1	84.1	19.4	24.3	53.4	14.3	19.2	
Actuated g/C Ratio	0.07	0.39		0.28	0.60	0.60	0.14	0.17	0.38	0.10	0.14	
Clearance Time (s)	7.2	6.0		7.8	6.0	6.0	7.3	6.4	7.8	7.3	6.4	
Vehicle Extension (s)	2.5	0.2		2.5	0.2	0.2	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	135	2231		1061	2282	928	526	596	681	154	443	
v/s Ratio Prot	0.02	c0.18		c0.16	0.27		c0.07	0.07	c0.14	c0.06	0.07	
v/s Ratio Perm						0.07			0.08			
v/c Ratio	0.25	0.46		0.57	0.45	0.12	0.49	0.42	0.58	0.59	0.49	
Uniform Delay, d1	61.1	31.6		43.2	15.3	12.0	55.7	51.5	34.4	60.1	55.9	
Progression Factor	0.86	0.92		0.70	0.35	0.19	1.23	1.59	2.33	0.98	1.39	
Incremental Delay, d2	0.7	0.7		0.5	0.6	0.2	0.5	0.3	1.0	5.0	0.6	
Delay (s)	53.2	29.7		30.8	6.0	2.5	69.1	82.5	81.2	63.8	78.5	
Level of Service	D	C		C	A	A	E	F	F	E	E	
Approach Delay (s)		30.4			13.8			78.4			74.4	
Approach LOS		C			B			E			E	
Intersection Summary												
HCM 2000 Control Delay			37.9								HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			140.0								Sum of lost time (s)	12.5
Intersection Capacity Utilization			71.1%								ICU Level of Service	C
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 7: N Beauregard St & E Campus Dr/W Braddock Rd

2022 Existing
 Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	1	1	6	129	5	481	12	344	143	142	174	7
Future Volume (vph)	1	1	6	129	5	481	12	344	143	142	174	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	13	10	11	12	11	11	13	11	12	12
Grade (%)		-6%			-4%			-2%			2%	
Total Lost time (s)	5.8	5.8		5.8	5.8		0.0	0.3		0.0	0.3	
Lane Util. Factor	1.00	0.95		0.91	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.86		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1735	2952		1461	2806		1762	3800		1677	3800	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1735	2952		1461	2806		1762	2959		1677	3311	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1	1	6	133	5	496	12	355	147	146	179	7
RTOR Reduction (vph)	0	7	0	0	435	0	0	18	0	0	1	0
Lane Group Flow (vph)	1	0	0	120	79	0	12	484	0	146	185	0
Confl. Peds. (#/hr)	2		3	3		2	2		7	7		2
Heavy Vehicles (%)	0%	0%	0%	7%	20%	2%	0%	7%	9%	3%	7%	14%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	24	0	0	0	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.8	6.8		17.3	17.3		3.1	76.5		17.5	90.9	
Effective Green, g (s)	6.8	6.8		17.3	17.3		8.1	81.5		22.5	95.9	
Actuated g/C Ratio	0.05	0.05		0.12	0.12		0.06	0.58		0.16	0.69	
Clearance Time (s)	5.8	5.8		5.8	5.8		5.0	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	0.2		3.0	0.2	
Lane Grp Cap (vph)	84	143		180	346		101	2212		269	2603	
v/s Ratio Prot	c0.00	0.00		c0.08	0.03		0.01	c0.13		c0.09	0.05	
v/s Ratio Perm												
v/c Ratio	0.01	0.00		0.67	0.23		0.12	0.22		0.54	0.07	
Uniform Delay, d1	63.4	63.4		58.6	55.3		62.6	14.0		54.0	7.3	
Progression Factor	1.00	1.00		1.00	1.00		1.04	1.03		0.91	1.09	
Incremental Delay, d2	0.0	0.0		7.0	0.1		0.5	0.2		2.2	0.1	
Delay (s)	63.4	63.4		65.6	55.5		65.5	14.7		51.5	8.0	
Level of Service	E	E		E	E		E	B		D	A	
Approach Delay (s)		63.4			57.4			15.9			27.1	
Approach LOS		E			E			B			C	

Intersection Summary

HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

8: N Beauregard St/S Walter Reed Dr & King St

2022 Existing
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Traffic Volume (vph)	122	874	122	65	859	87	321	359	100	130	103	142
Future Volume (vph)	122	874	122	65	859	87	321	359	100	130	103	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	5.5	6.5		5.5	6.5		6.0	5.6		6.0	5.6	5.6
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	3409		1444	3440		3502	3279		1745	3539	1567
Flt Permitted	0.15	1.00		0.13	1.00		0.95	1.00		0.47	1.00	1.00
Satd. Flow (perm)	278	3409		200	3440		3502	3279		862	3539	1567
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)	133	950	133	71	934	95	349	390	109	141	112	154
RTOR Reduction (vph)	0	8	0	0	6	0	0	18	0	0	0	123
Lane Group Flow (vph)	133	1075	0	71	1023	0	349	481	0	141	112	31
Confl. Peds. (#/hr)	6		7	7		6			8	8		
Heavy Vehicles (%)	3%	4%	1%	25%	3%	6%	0%	3%	16%	2%	1%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		pm+pt	NA	Prot
Protected Phases	5	2		1	6		7	4		3	8	8
Permitted Phases	2			6						8		
Actuated Green, G (s)	69.0	60.5		69.0	60.5		19.0	42.4		33.4	28.4	28.4
Effective Green, g (s)	69.0	60.5		69.0	60.5		19.0	42.4		33.4	28.4	28.4
Actuated g/C Ratio	0.49	0.43		0.49	0.43		0.14	0.30		0.24	0.20	0.20
Clearance Time (s)	5.5	6.5		5.5	6.5		6.0	5.6		6.0	5.6	5.6
Vehicle Extension (s)	3.0	0.2		3.0	0.2		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	226	1473		174	1486		475	993		237	717	317
v/s Ratio Prot	c0.04	c0.32		0.02	0.30		c0.10	0.15		0.02	0.03	0.02
v/s Ratio Perm	0.25			0.18						c0.12		
v/c Ratio	0.59	0.73		0.41	0.69		0.73	0.48		0.59	0.16	0.10
Uniform Delay, d1	23.2	33.0		22.9	32.1		58.1	39.9		45.1	45.9	45.4
Progression Factor	1.00	1.00		1.00	1.00		1.14	1.08		1.00	1.00	1.00
Incremental Delay, d2	10.8	3.2		6.9	2.6		9.4	1.6		10.5	0.5	0.6
Delay (s)	33.9	36.2		29.9	34.8		75.7	44.8		55.6	46.4	46.0
Level of Service	C	D		C	C		E	D		E	D	D
Approach Delay (s)		35.9			34.4			57.5			49.5	
Approach LOS		D			C			E			D	

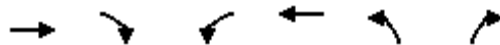
Intersection Summary

HCM 2000 Control Delay	42.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	23.6
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

9: N Hampton Dr & King St

2022 Existing
Timing Plan: AM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	1152	75	43	885	106	227
Future Volume (vph)	1152	75	43	885	106	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frbp, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433		1686	3471	1641	1615
Flt Permitted	1.00		0.16	1.00	0.95	1.00
Satd. Flow (perm)	3433		280	3471	1641	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1252	82	47	962	115	247
RTOR Reduction (vph)	3	0	0	0	0	220
Lane Group Flow (vph)	1331	0	47	962	115	27
Confl. Peds. (#/hr)		16	16			
Heavy Vehicles (%)	3%	16%	7%	4%	10%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	3	
Permitted Phases			6			3
Actuated Green, G (s)	85.6		94.9	94.9	13.1	13.1
Effective Green, g (s)	85.6		94.9	94.9	13.1	13.1
Actuated g/C Ratio	0.71		0.79	0.79	0.11	0.11
Clearance Time (s)	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	0.2		2.0	0.2	3.0	3.0
Lane Grp Cap (vph)	2448		271	2744	179	176
v/s Ratio Prot	c0.39		0.01	c0.28	c0.07	
v/s Ratio Perm			0.13			0.02
v/c Ratio	0.54		0.17	0.35	0.64	0.15
Uniform Delay, d1	8.1		4.8	3.6	51.2	48.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9		0.1	0.4	7.7	0.4
Delay (s)	8.9		4.9	4.0	58.9	48.8
Level of Service	A		A	A	E	D
Approach Delay (s)	8.9			4.0	52.0	
Approach LOS	A			A	D	
Intersection Summary						
HCM 2000 Control Delay			12.9		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.56			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	17.0
Intersection Capacity Utilization			58.4%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
 10: N Hampton Dr & W Braddock Rd

2022 Existing
 Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗		↖	↗		↖	↗
Traffic Volume (vph)	111	276	12	11	522	170	20	40	22	96	11	50
Future Volume (vph)	111	276	12	11	522	170	20	40	22	96	11	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-4%			0%			0%	
Total Lost time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.98		1.00	0.98		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		0.99	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00		0.96	1.00
Satd. Flow (prot)	1702	3483		1837	3610	1548		1868	1586		1732	1422
Flt Permitted	0.40	1.00		0.57	1.00	1.00		0.85	1.00		0.70	1.00
Satd. Flow (perm)	717	3483		1096	3610	1548		1612	1586		1273	1422
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	117	291	13	12	549	179	21	42	23	101	12	53
RTOR Reduction (vph)	0	2	0	0	0	75	0	0	20	0	0	46
Lane Group Flow (vph)	117	302	0	12	549	104	0	63	3	0	113	7
Confl. Peds. (#/hr)	2		4	4		2	2		8	8		2
Heavy Vehicles (%)	6%	3%	0%	0%	2%	4%	0%	0%	0%	5%	0%	12%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2		2	4		4	8		8
Actuated Green, G (s)	65.7	59.1		54.5	53.5	53.5		12.0	12.0		12.0	12.0
Effective Green, g (s)	65.7	59.1		54.5	53.5	53.5		12.0	12.0		12.0	12.0
Actuated g/C Ratio	0.71	0.64		0.59	0.58	0.58		0.13	0.13		0.13	0.13
Clearance Time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		0.2	0.2		2.0	2.0
Lane Grp Cap (vph)	582	2235		656	2097	899		210	206		165	185
v/s Ratio Prot	c0.01	0.09		0.00	c0.15							
v/s Ratio Perm	0.13			0.01		0.07		0.04	0.00		c0.09	0.00
v/c Ratio	0.20	0.14		0.02	0.26	0.12		0.30	0.01		0.68	0.04
Uniform Delay, d1	4.3	6.5		7.7	9.5	8.7		36.2	34.9		38.2	35.0
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.1		0.0	0.3	0.3		0.3	0.0		9.0	0.0
Delay (s)	4.4	6.6		7.7	9.8	8.9		36.5	34.9		47.2	35.0
Level of Service	A	A		A	A	A		D	C		D	D
Approach Delay (s)		6.0			9.6			36.1			43.3	
Approach LOS		A			A			D			D	

Intersection Summary

HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	92.1	Sum of lost time (s)	20.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 11: Dawes Ave & Seminary Rd

2022 Existing
 Timing Plan: AM

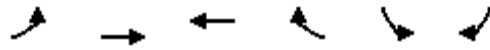


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Traffic Volume (vph)	34	821	6	60	1016	88	16	11	34	22	8	18
Future Volume (vph)	34	821	6	60	1016	88	16	11	34	22	8	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	9	13	13	12	16	12	12	11	11
Grade (%)		-1%			0%			0%			0%	
Total Lost time (s)	6.9	6.9		1.9	1.9			6.5			6.5	6.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1471	3412		1545	4000			1868			1660	1193
Flt Permitted	0.21	1.00		0.32	1.00			0.90			0.77	1.00
Satd. Flow (perm)	330	3412		516	3493			1700			1328	1193
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)	35	855	6	62	1058	92	17	11	35	23	8	19
RTOR Reduction (vph)	0	0	0	0	2	0	0	32	0	0	0	18
Lane Group Flow (vph)	35	861	0	63	1148	0	0	31	0	0	31	1
Confl. Peds. (#/hr)	10		5	5		10	7					7
Heavy Vehicles (%)	15%	4%	17%	5%	3%	3%	6%	0%	6%	9%	0%	28%
Bus Blockages (#/hr)	0	10	0	0	10	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		4
Actuated Green, G (s)	109.5	105.2		107.9	104.4			11.0			11.0	11.0
Effective Green, g (s)	109.5	105.2		117.9	109.4			11.0			11.0	11.0
Actuated g/C Ratio	0.78	0.75		0.84	0.78			0.08			0.08	0.08
Clearance Time (s)	6.9	6.9		6.9	6.9			6.5			6.5	6.5
Vehicle Extension (s)	2.0	2.0		0.2	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	293	2563		497	3125			133			104	93
v/s Ratio Prot	0.00	0.25		c0.01	c0.29							
v/s Ratio Perm	0.09			0.10				0.02			c0.02	0.00
v/c Ratio	0.12	0.34		0.13	0.37			0.23			0.30	0.02
Uniform Delay, d1	4.2	5.8		1.9	4.7			60.5			60.9	59.5
Progression Factor	1.00	1.00		0.28	0.20			1.00			1.00	1.00
Incremental Delay, d2	0.1	0.4		0.0	0.3			0.3			0.6	0.0
Delay (s)	4.3	6.1		0.6	1.2			60.9			61.4	59.5
Level of Service	A	A		A	A			E			E	E
Approach Delay (s)		6.1			1.2			60.9			60.7	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 12: Seminary Rd & Fillmore Ave

2022 Existing
 Timing Plan: AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↘	
Traffic Volume (veh/h)	36	888	1163	16	7	36
Future Volume (Veh/h)	36	888	1163	16	7	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	38	935	1224	17	7	38
Pedestrians					4	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		462	533			
pX, platoon unblocked	0.86				0.90	0.86
vC, conflicting volume	1245				1780	624
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	951				1239	226
tC, single (s)	4.6				6.8	7.2
tC, 2 stage (s)						
tF (s)	2.5				3.5	3.5
p0 queue free %	92				95	94
cM capacity (veh/h)	505				141	625
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	350	623	816	425	45	
Volume Left	38	0	0	0	7	
Volume Right	0	0	0	17	38	
cSH	505	1700	1700	1700	407	
Volume to Capacity	0.08	0.37	0.48	0.25	0.11	
Queue Length 95th (ft)	6	0	0	0	9	
Control Delay (s)	2.4	0.0	0.0	0.0	14.9	
Lane LOS	A				B	
Approach Delay (s)	0.9		0.0		14.9	
Approach LOS					B	
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			60.9%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 13: Heritage Ln/Fairbanks Ave & Seminary Rd

2022 Existing
 Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (veh/h)	3	963	2	9	1203	10	0	0	15	4	0	3
Future Volume (Veh/h)	3	963	2	9	1203	10	0	0	15	4	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	1047	2	10	1308	11	0	0	16	4	0	3
Pedestrians		1						7			3	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		521			707							
pX, platoon unblocked	0.84			0.88			0.90	0.90	0.88	0.90	0.90	0.84
vC, conflicting volume	1322			1056			1739	2403	532	1882	2398	664
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1008			802			1021	1758	208	1179	1753	226
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			100	100	98	97	100	100
cM capacity (veh/h)	584			730			169	75	707	127	76	657
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	526	526	664	665	16	7						
Volume Left	3	0	10	0	0	4						
Volume Right	0	2	0	11	16	3						
cSH	584	1700	730	1700	707	195						
Volume to Capacity	0.01	0.31	0.01	0.39	0.02	0.04						
Queue Length 95th (ft)	0	0	1	0	2	3						
Control Delay (s)	0.1	0.0	0.4	0.0	10.2	24.2						
Lane LOS	A		A		B	C						
Approach Delay (s)	0.1		0.2		10.2	24.2						
Approach LOS					B	C						
Intersection Summary												
Average Delay			0.3									
Intersection Capacity Utilization			50.9%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
 14: Mark Center Ave & Seminary Rd

2022 Existing
 Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑↑		↖	↑↑↑↑	↗		↗	↑↑↑↑	↖	↗	
Traffic Volume (vph)	18	1246	35	204	1670	80	11	26	141	227	55	40
Future Volume (vph)	18	1246	35	204	1670	80	11	26	141	227	55	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	13	12	12	12	12	12	10	10	10
Grade (%)		0%			-1%			0%			0%	
Total Lost time (s)	1.6	1.7		1.8	1.7	1.7		2.2	1.8	2.6	2.6	
Lane Util. Factor	1.00	0.86		1.00	0.91	1.00		1.00	0.76	0.91	0.91	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.97	
Satd. Flow (prot)	1543	5700		1900	5700	1328		1417	3191	1446	2780	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.97	
Satd. Flow (perm)	1543	6354		1820	5061	1328		1417	3191	1446	2780	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	19	1285	36	210	1722	82	11	27	145	234	57	41
RTOR Reduction (vph)	0	2	0	0	0	34	0	0	0	0	16	0
Lane Group Flow (vph)	19	1319	0	210	1722	48	0	38	145	117	199	0
Confl. Peds. (#/hr)	6		1	1		6	19					19
Heavy Vehicles (%)	17%	2%	17%	3%	3%	18%	18%	38%	14%	6%	22%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	9	0	0	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	pm+ov	Split	NA	
Protected Phases	1	6		5	2		4	4	5	3	3	
Permitted Phases						2			4			
Actuated Green, G (s)	4.7	60.2		20.8	76.5	76.5		7.1	27.9	23.6	23.6	
Effective Green, g (s)	9.7	65.2		25.8	81.5	81.5		12.1	37.9	28.6	28.6	
Actuated g/C Ratio	0.07	0.47		0.18	0.58	0.58		0.09	0.27	0.20	0.20	
Clearance Time (s)	6.6	6.7		6.8	6.7	6.7		7.2	6.8	7.6	7.6	
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2		2.0	3.0	4.0	4.0	
Lane Grp Cap (vph)	106	2654		350	3318	773		122	863	295	567	
v/s Ratio Prot	0.01	0.23		c0.11	c0.30			c0.03	0.03	c0.08	0.07	
v/s Ratio Perm						0.04			0.01			
v/c Ratio	0.18	0.50		0.60	0.52	0.06		0.31	0.17	0.40	0.35	
Uniform Delay, d1	61.4	26.0		52.4	17.5	12.7		60.0	39.0	48.2	47.7	
Progression Factor	1.31	0.90		0.94	1.40	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.6		2.7	0.6	0.1		0.5	0.1	1.2	0.5	
Delay (s)	80.9	24.0		52.0	25.0	12.8		60.6	39.1	49.4	48.3	
Level of Service	F	C		D	C	B		E	D	D	D	
Approach Delay (s)		24.8			27.3			43.6			48.7	
Approach LOS		C			C			D			D	

Intersection Summary		
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.51	
Actuated Cycle Length (s)	140.0	Sum of lost time (s) 13.3
Intersection Capacity Utilization	66.9%	ICU Level of Service C
Analysis Period (min)	15	
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis
 15: Kenmore Ave/Library Ln & Seminary Rd

2022 Existing
 Timing Plan: AM

































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↕	↗
Traffic Volume (vph)	217	914	14	24	1095	80	55	5	21	57	6	52
Future Volume (vph)	217	914	14	24	1095	80	55	5	21	57	6	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.97			1.00	0.90
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.95			0.94	1.00
Frt	1.00	1.00		1.00	0.99			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.96	1.00
Satd. Flow (prot)	1787	5020		1807	5056			1630			1674	1458
Flt Permitted	0.16	1.00		0.26	1.00			0.75			0.70	1.00
Satd. Flow (perm)	294	5020		493	5056			1269			1226	1458
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	247	1039	16	27	1244	91	62	6	24	65	7	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	9	0	0	0	0
Lane Group Flow (vph)	247	1055	0	27	1335	0	0	84	0	0	72	59
Confl. Peds. (#/hr)	8		95	95		8	26		31	31		26
Heavy Vehicles (%)	1%	3%	0%	0%	2%	0%	0%	0%	0%	2%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			3			3	
Permitted Phases	6			2			3			3		3
Actuated Green, G (s)	115.4	106.3		93.7	90.6			12.6			12.6	12.6
Effective Green, g (s)	115.4	106.3		93.7	90.6			12.6			12.6	12.6
Actuated g/C Ratio	0.82	0.76		0.67	0.65			0.09			0.09	0.09
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Vehicle Extension (s)	2.0	0.2		2.0	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	442	3811		359	3271			114			110	131
v/s Ratio Prot	c0.07	0.21		0.00	0.26							
v/s Ratio Perm	c0.38			0.05				c0.07			0.06	0.04
v/c Ratio	0.56	0.28		0.08	0.41			0.74			0.65	0.45
Uniform Delay, d1	6.3	5.1		7.8	11.8			62.1			61.6	60.4
Progression Factor	2.54	2.47		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.8	0.2		0.0	0.4			19.0			10.2	0.9
Delay (s)	16.8	12.8		7.8	12.2			81.1			71.8	61.3
Level of Service	B	B		A	B			F			E	E
Approach Delay (s)		13.6			12.1			81.1			67.1	
Approach LOS		B			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 1: N Beauregard St & Little River Tpke

2022 Existing
 Timing Plan: PM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	 	 		 	 					 	 	 	
Traffic Volume (vph)	287	978	25	96	1061	424	132	115	75	811	69	224	
Future Volume (vph)	287	978	25	96	1061	424	132	115	75	811	69	224	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8	
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.99	1.00	1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00	
Satd. Flow (prot)	3502	3488		1787	3539	1473	1719	1863	1545	1665	1689	1503	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00	
Satd. Flow (perm)	3502	3488		1787	3539	1473	1719	1863	1545	1665	1689	1503	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	296	1008	26	99	1094	437	136	119	77	836	71	231	
RTOR Reduction (vph)	0	0	0	0	0	19	0	0	0	0	0	95	
Lane Group Flow (vph)	296	1034	0	99	1094	418	136	119	77	451	456	136	
Confl. Peds. (#/hr)	32		6	6		32	13		8	8		13	
Heavy Vehicles (%)	0%	3%	4%	1%	2%	4%	5%	2%	3%	3%	0%	3%	
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Perm	
Protected Phases	5	2		1	6	3	4	4	1	3	3		
Permitted Phases						6			4			3	
Actuated Green, G (s)	19.5	93.8		15.3	88.3	145.5	16.8	16.8	32.1	57.2	57.2	57.2	
Effective Green, g (s)	19.5	93.8		15.3	88.3	145.5	16.8	16.8	32.1	57.2	57.2	57.2	
Actuated g/C Ratio	0.09	0.45		0.07	0.42	0.69	0.08	0.08	0.15	0.27	0.27	0.27	
Clearance Time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8	
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	325	1557		130	1488	1020	137	149	236	453	460	409	
v/s Ratio Prot	c0.08	c0.30		0.06	c0.31	0.11	c0.08	0.06	0.02	c0.27	0.27		
v/s Ratio Perm						0.17			0.03			0.09	
v/c Ratio	0.91	0.66		0.76	0.74	0.41	0.99	0.80	0.33	1.00	0.99	0.33	
Uniform Delay, d1	94.4	45.7		95.6	51.0	13.8	96.5	94.9	79.3	76.3	76.2	61.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.92	
Incremental Delay, d2	28.4	2.3		20.7	3.3	0.3	74.4	25.0	0.3	35.1	33.9	0.4	
Delay (s)	122.7	48.0		116.3	54.3	14.1	170.9	119.9	79.6	106.1	104.8	56.9	
Level of Service	F	D		F	D	B	F	F	E	F	F	E	
Approach Delay (s)		64.6			47.3			131.5			95.6		
Approach LOS		E			D			F			F		
Intersection Summary													
HCM 2000 Control Delay	71.2			HCM 2000 Level of Service					E				
HCM 2000 Volume to Capacity ratio	0.87												
Actuated Cycle Length (s)	210.0			Sum of lost time (s)					28.2				
Intersection Capacity Utilization	86.0%			ICU Level of Service					E				
Analysis Period (min)	15												

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2022 Existing
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↔		↕	↕↔	
Traffic Volume (vph)	1	0	3	196	1	58	10	433	98	34	432	1
Future Volume (vph)	1	0	3	196	1	58	10	433	98	34	432	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frb, ped/bikes		0.99			1.00	0.99	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00	1.00	1.00		1.00	1.00	
Frt		0.90			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1664			1730	1563	1804	3416		1748	3573	
Flt Permitted		0.93			0.73	1.00	0.49	1.00		0.42	1.00	
Satd. Flow (perm)		1570			1317	1563	929	3416		768	3573	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	0	3	206	1	61	11	456	103	36	455	1
RTOR Reduction (vph)	0	3	0	0	0	43	0	16	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	207	18	11	543	0	36	456	0
Confl. Peds. (#/hr)	2		10	10		2	2		12	12		2
Heavy Vehicles (%)	0%	0%	0%	4%	0%	2%	0%	1%	7%	3%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	6			2		
Actuated Green, G (s)		14.7			14.7	14.7	19.5	17.5		19.5	18.7	
Effective Green, g (s)		14.7			14.7	14.7	19.5	17.5		19.5	18.7	
Actuated g/C Ratio		0.29			0.29	0.29	0.38	0.34		0.38	0.37	
Clearance Time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		450			378	448	367	1167		330	1304	
v/s Ratio Prot							0.00	c0.16		c0.00	0.13	
v/s Ratio Perm		0.00			c0.16	0.01	0.01			0.04		
v/c Ratio		0.00			0.55	0.04	0.03	0.47		0.11	0.35	
Uniform Delay, d1		13.0			15.4	13.2	9.9	13.2		10.0	11.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0			1.6	0.0	0.0	0.3		0.1	0.2	
Delay (s)		13.0			17.1	13.2	9.9	13.5		10.2	12.0	
Level of Service		B			B	B	A	B		B	B	
Approach Delay (s)		13.0			16.2			13.4			11.9	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			13.4									B
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			51.2							17.0		
Intersection Capacity Utilization			53.1%									A
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: N Beauregard St & Quantrell Ave

2022 Existing
Timing Plan: PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↕	↷	↶	↕
Traffic Volume (vph)	86	85	419	71	50	381
Future Volume (vph)	86	85	419	71	50	381
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	12	10	12
Grade (%)	3%		0%			-5%
Total Lost time (s)	6.0	6.0	5.3	5.3	8.3	8.3
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	*0.95
Frbp, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1627	1347	3455	1573	1721	3800
Flt Permitted	0.95	1.00	1.00	1.00	0.49	1.00
Satd. Flow (perm)	1627	1347	3455	1573	895	3664
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	91	90	446	76	53	405
RTOR Reduction (vph)	0	81	0	18	0	0
Lane Group Flow (vph)	91	9	446	58	53	405
Confl. Peds. (#/hr)				9	9	
Heavy Vehicles (%)	2%	1%	1%	0%	0%	1%
Parking (#/hr)		3				
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			2
Permitted Phases	4	4	2	2	2	2
Actuated Green, G (s)	8.8	8.8	63.8	63.8	63.8	63.8
Effective Green, g (s)	8.8	8.8	63.8	63.8	60.8	60.8
Actuated g/C Ratio	0.10	0.10	0.76	0.76	0.72	0.72
Clearance Time (s)	6.0	6.0	5.3	5.3	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	170	141	2627	1196	648	2753
v/s Ratio Prot			c0.13			0.11
v/s Ratio Perm	c0.06	0.01		0.04	0.06	
v/c Ratio	0.54	0.07	0.17	0.05	0.08	0.15
Uniform Delay, d1	35.6	33.8	2.8	2.5	3.4	3.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	0.2	0.1	0.1	0.2	0.1
Delay (s)	38.8	34.1	2.9	2.6	3.6	3.7
Level of Service	D	C	A	A	A	A
Approach Delay (s)	36.5		2.9			3.7
Approach LOS	D		A			A
Intersection Summary						
HCM 2000 Control Delay			8.4		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.22			
Actuated Cycle Length (s)			83.9		Sum of lost time (s)	14.3
Intersection Capacity Utilization			41.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

4: N Beauregard St & Sanger Ave

2022 Existing
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔	↔	↔	↔↔		↔	↔↔	
Traffic Volume (vph)	51	59	40	185	54	159	55	391	339	271	418	63
Future Volume (vph)	51	59	40	185	54	159	55	391	339	271	418	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	11	11	11	10	12	12	10	12	12
Grade (%)		-2%			2%			0%				-3%
Total Lost time (s)		6.0			6.0	6.0	0.3	0.3		8.3	8.3	
Lane Util. Factor		0.95			1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes		0.97			1.00	1.00	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.96			1.00	0.85	1.00	0.93		1.00	0.98	
Flt Protected		0.98			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3125			1737	1530	1645	3550		1676	3800	
Flt Permitted		0.98			0.96	1.00	0.47	1.00		0.14	1.00	
Satd. Flow (perm)		3125			1737	1530	811	3279		244	3512	
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)	53	61	42	193	56	166	57	407	353	282	435	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	156	0	0	249	166	57	760	0	282	501	0
Confl. Peds. (#/hr)	10		25	25		10	17		8	8		17
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	2%	2%	1%	2%	2%	0%
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8	8	5	6		5	2	
Permitted Phases							6			2		
Actuated Green, G (s)		13.3			25.6	58.0	60.4	53.7		85.4	73.4	
Effective Green, g (s)		13.3			25.6	58.0	70.4	58.7		82.4	70.4	
Actuated g/C Ratio		0.08			0.16	0.37	0.44	0.37		0.52	0.44	
Clearance Time (s)		6.0			6.0		5.3	5.3		5.3	5.3	
Vehicle Extension (s)		3.0			3.0		3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		262			280	559	421	1313		338	1686	
v/s Ratio Prot		c0.05			c0.14	0.11	0.01	0.21		c0.12	0.13	
v/s Ratio Perm							0.05			c0.31		
v/c Ratio		0.60			0.89	0.30	0.14	0.58		0.83	0.30	
Uniform Delay, d1		70.1			65.1	35.8	25.4	40.0		34.0	28.3	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.6			27.0	0.3	0.1	1.9		16.1	0.5	
Delay (s)		73.7			92.2	36.1	25.6	41.9		50.1	28.7	
Level of Service		E			F	D	C	D		D	C	
Approach Delay (s)		73.7			69.7			40.8			36.4	
Approach LOS		E			E			D			D	

Intersection Summary

HCM 2000 Control Delay	47.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	158.6	Sum of lost time (s)	23.6
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

5: N Beauregard St & Mark Center Dr

2022 Existing
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗	↖	↑↑↑		↖↗	↖↗	
Traffic Volume (vph)	45	5	10	41	1	64	8	790	15	98	861	31
Future Volume (vph)	45	5	10	41	1	64	8	790	15	98	861	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	12	11	12	10	12	12	11	12	12
Total Lost time (s)	6.0	6.0			6.0	5.0	0.0	0.3		8.0	8.3	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.91		0.97	0.95	
Frbp, ped/bikes	1.00	0.99			1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			0.99	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1652	1378			1514	1538	1685	5700		2969	3800	
Flt Permitted	0.73	1.00			0.72	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1265	1378			1143	1538	1685	5048		2969	3550	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	5	11	44	1	68	9	840	16	104	916	33
RTOR Reduction (vph)	0	10	0	0	0	54	0	1	0	0	1	0
Lane Group Flow (vph)	48	6	0	0	45	14	9	855	0	104	948	0
Confl. Peds. (#/hr)			6	6			12		5	5		12
Heavy Vehicles (%)	2%	0%	20%	15%	0%	5%	0%	1%	33%	14%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	19.0	19.0			19.0	28.4	1.4	95.3		9.4	103.3	
Effective Green, g (s)	19.0	19.0			19.0	28.4	6.4	100.3		6.4	100.3	
Actuated g/C Ratio	0.14	0.14			0.14	0.20	0.05	0.72		0.05	0.72	
Clearance Time (s)	6.0	6.0			6.0	5.0	5.0	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	0.2		2.0	0.2	
Lane Grp Cap (vph)	171	187			155	311	77	4083		135	2722	
v/s Ratio Prot		0.00				0.00	0.01	0.15		c0.04	c0.25	
v/s Ratio Perm	0.04				c0.04	0.01						
v/c Ratio	0.28	0.03			0.29	0.04	0.12	0.21		0.77	0.35	
Uniform Delay, d1	54.4	52.5			54.4	44.9	64.1	6.6		66.1	7.5	
Progression Factor	1.00	1.00			1.00	1.00	1.02	0.66		1.01	0.52	
Incremental Delay, d2	0.3	0.0			0.4	0.0	0.2	0.1		19.0	0.3	
Delay (s)	54.7	52.6			54.8	44.9	65.8	4.5		85.5	4.2	
Level of Service	D	D			D	D	E	A		F	A	
Approach Delay (s)		54.2			48.9			5.1			12.2	
Approach LOS		D			D			A			B	

Intersection Summary































HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: N Beauregard St & Seminary Rd

2022 Existing
Timing Plan: PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		  	 		 	 			 	
Traffic Volume (vph)	41	1100	365	374	881	172	257	218	429	165	255	48
Future Volume (vph)	41	1100	365	374	881	172	257	218	429	165	255	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	12	16	13	12	12	11	12	16	10	11	13
Grade (%)		-1%			-1%			0%				2%
Total Lost time (s)	2.2	1.0		2.8	1.0	1.0	2.3	1.4	2.8	2.3	1.4	
Lane Util. Factor	1.00	0.91		0.94	0.95	1.00	0.97	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1874	5700		3800	3800	1571	3800	3471	1795	1588	3296	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1874	4914		5034	3557	1571	3385	3471	1795	1588	3296	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	42	1122	372	382	899	176	262	222	438	168	260	49
RTOR Reduction (vph)	0	35	0	0	0	76	0	0	96	0	13	0
Lane Group Flow (vph)	42	1459	0	382	899	100	262	222	342	168	296	0
Confl. Peds. (#/hr)	7		2	2		7	6		6	6		6
Heavy Vehicles (%)	0%	2%	1%	5%	2%	1%	0%	4%	1%	5%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2		7	4	5	3	8	
Permitted Phases						2			4			
Actuated Green, G (s)	7.1	64.3		16.6	74.4	74.4	13.9	14.6	31.2	17.0	17.7	
Effective Green, g (s)	12.1	69.3		21.6	79.4	79.4	18.9	19.6	41.2	22.0	22.7	
Actuated g/C Ratio	0.09	0.49		0.15	0.57	0.57	0.13	0.14	0.29	0.16	0.16	
Clearance Time (s)	7.2	6.0		7.8	6.0	6.0	7.3	6.4	7.8	7.3	6.4	
Vehicle Extension (s)	2.5	0.2		2.5	0.2	0.2	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	161	2821		586	2155	890	513	485	528	249	534	
v/s Ratio Prot	0.02	c0.26		c0.10	0.24		0.07	0.06	c0.10	c0.11	0.09	
v/s Ratio Perm						0.06			0.09			
v/c Ratio	0.26	0.52		0.65	0.42	0.11	0.51	0.46	0.65	0.67	0.56	
Uniform Delay, d1	59.8	24.0		55.7	17.2	14.0	56.3	55.3	43.1	55.6	54.0	
Progression Factor	1.18	0.54		0.76	0.37	0.17	0.84	0.88	0.89	0.95	1.07	
Incremental Delay, d2	0.6	0.6		2.2	0.6	0.2	0.6	0.5	2.4	6.4	1.0	
Delay (s)	71.0	13.6		44.6	7.0	2.7	48.0	49.4	40.5	59.3	58.6	
Level of Service	E	B		D	A	A	D	D	D	E	E	
Approach Delay (s)		15.1			16.3			44.8			58.8	
Approach LOS		B			B			D			E	
Intersection Summary												
HCM 2000 Control Delay			26.5	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			140.0	Sum of lost time (s)				7.5				
Intersection Capacity Utilization			75.8%	ICU Level of Service				D				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

7: N Beauregard St & E Campus Dr/W Braddock Rd






















2022 Existing
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	6	12	8	89	5	297	47	265	176	282	387	27
Future Volume (vph)	6	12	8	89	5	297	47	265	176	282	387	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	13	10	11	12	11	11	13	11	12	12
Grade (%)		-6%			-4%			-2%			2%	
Total Lost time (s)	5.8	5.8		5.8	5.8		0.0	0.3		0.0	0.3	
Lane Util. Factor	1.00	0.95		0.91	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.86		1.00	0.94		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1735	3202		1422	2863		1762	3800		1710	3800	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1735	3202		1422	2863		1762	3068		1710	3405	
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)	7	13	9	97	5	323	51	288	191	307	421	29
RTOR Reduction (vph)	0	8	0	0	288	0	0	51	0	0	2	0
Lane Group Flow (vph)	7	14	0	87	50	0	51	428	0	307	448	0
Confl. Peds. (#/hr)	3		4	4		3	11		14	14		11
Heavy Vehicles (%)	0%	0%	0%	10%	0%	0%	0%	5%	4%	1%	4%	0%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	8	0	0	0	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.0	8.0		15.1	15.1		8.3	63.7		31.3	86.7	
Effective Green, g (s)	8.0	8.0		15.1	15.1		13.3	68.7		36.3	91.7	
Actuated g/C Ratio	0.06	0.06		0.11	0.11		0.10	0.49		0.26	0.66	
Clearance Time (s)	5.8	5.8		5.8	5.8		5.0	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	0.2		3.0	0.2	
Lane Grp Cap (vph)	99	182		153	308		167	1864		443	2489	
v/s Ratio Prot	0.00	c0.00		c0.06	0.02		0.03	c0.11		c0.18	0.12	
v/s Ratio Perm												
v/c Ratio	0.07	0.07		0.57	0.16		0.31	0.23		0.69	0.18	
Uniform Delay, d1	62.5	62.5		59.4	56.7		59.0	20.5		46.8	9.4	
Progression Factor	1.00	1.00		1.00	1.00		1.12	0.83		1.04	0.74	
Incremental Delay, d2	0.1	0.1		2.9	0.1		1.0	0.3		4.6	0.2	
Delay (s)	62.6	62.6		62.2	56.8		67.1	17.2		53.4	7.1	
Level of Service	E	E		E	E		E	B		D	A	
Approach Delay (s)		62.6			57.9			22.0			25.9	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			33.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.37									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)		11.9			
Intersection Capacity Utilization			58.7%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
8: N Beauregard St/S Walter Reed Dr & King St

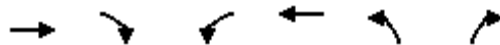
2022 Existing
Timing Plan: PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	1074	267	64	978	76	257	225	125	216	362	216
Future Volume (vph)	141	1074	267	64	978	76	257	225	125	216	362	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	5.5	6.5		5.5	6.5		6.0	5.6		6.0	5.6	5.6
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.98		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	3434		1480	3521		3502	3228		1776	3504	1599
Flt Permitted	0.11	1.00		0.07	1.00		0.95	1.00		0.41	1.00	1.00
Satd. Flow (perm)	200	3434		106	3521		3502	3228		770	3504	1599
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	148	1131	281	67	1029	80	271	237	132	227	381	227
RTOR Reduction (vph)	0	16	0	0	4	0	0	55	0	0	0	126
Lane Group Flow (vph)	148	1397	0	67	1105	0	271	314	0	227	381	101
Confl. Peds. (#/hr)	8		21	21		8	1		15	15		1
Heavy Vehicles (%)	1%	1%	1%	22%	1%	4%	0%	1%	10%	0%	2%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		pm+pt	NA	Prot
Protected Phases	5	2		1	6		7	4		3	8	8
Permitted Phases	2			6						8		
Actuated Green, G (s)	76.0	62.5		68.0	58.5		15.0	30.4		43.4	29.4	29.4
Effective Green, g (s)	76.0	62.5		68.0	58.5		15.0	30.4		43.4	29.4	29.4
Actuated g/C Ratio	0.54	0.45		0.49	0.42		0.11	0.22		0.31	0.21	0.21
Clearance Time (s)	5.5	6.5		5.5	6.5		6.0	5.6		6.0	5.6	5.6
Vehicle Extension (s)	3.0	0.2		3.0	0.2		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	261	1533		144	1471		375	700		339	735	335
v/s Ratio Prot	c0.05	c0.41		0.03	0.31		c0.08	0.10		0.07	0.11	0.06
v/s Ratio Perm	0.25			0.19						c0.14		
v/c Ratio	0.57	0.91		0.47	0.75		0.72	0.45		0.67	0.52	0.30
Uniform Delay, d1	22.8	36.2		27.6	34.6		60.5	47.5		38.5	49.0	46.7
Progression Factor	1.00	1.00		1.00	1.00		1.03	1.19		1.00	1.00	1.00
Incremental Delay, d2	8.6	9.7		10.4	3.6		10.9	2.0		10.1	2.6	2.3
Delay (s)	31.5	45.8		38.0	38.2		73.5	58.7		48.6	51.6	49.0
Level of Service	C	D		D	D		E	E		D	D	D
Approach Delay (s)		44.5			38.1			65.0			50.1	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			46.9				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)		23.6			
Intersection Capacity Utilization			92.7%				ICU Level of Service		F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: N Hampton Dr & King St

2022 Existing
Timing Plan: PM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	1277	166	118	1107	66	99
Future Volume (vph)	1277	166	118	1107	66	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frbp, ped/bikes	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3452		1787	3574	1626	1615
Flt Permitted	1.00		0.13	1.00	0.95	1.00
Satd. Flow (perm)	3452		245	3574	1626	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1303	169	120	1130	67	101
RTOR Reduction (vph)	5	0	0	0	0	92
Lane Group Flow (vph)	1467	0	120	1130	67	9
Confl. Peds. (#/hr)		38	38			
Heavy Vehicles (%)	1%	4%	1%	1%	11%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4
Actuated Green, G (s)	86.0		97.5	97.5	10.5	10.5
Effective Green, g (s)	86.0		97.5	97.5	10.5	10.5
Actuated g/C Ratio	0.72		0.81	0.81	0.09	0.09
Clearance Time (s)	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	0.2		2.0	0.2	3.0	3.0
Lane Grp Cap (vph)	2473		282	2903	142	141
v/s Ratio Prot	c0.42		0.02	c0.32	c0.04	
v/s Ratio Perm			0.32			0.01
v/c Ratio	0.59		0.43	0.39	0.47	0.06
Uniform Delay, d1	8.4		6.2	3.1	52.1	50.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1		0.4	0.4	2.5	0.2
Delay (s)	9.4		6.6	3.5	54.6	50.4
Level of Service	A		A	A	D	D
Approach Delay (s)	9.4			3.8	52.1	
Approach LOS	A			A	D	

Intersection Summary

HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: N Hampton Dr & W Braddock Rd

2022 Existing
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗		↖	↗		↖	↗
Traffic Volume (vph)	96	371	26	27	359	138	9	23	19	140	24	91
Future Volume (vph)	96	371	26	27	359	138	9	23	19	140	24	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-4%			0%				0%
Total Lost time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.99		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00		0.96	1.00
Satd. Flow (prot)	1684	3534		1834	3646	1588		1872	1515		1803	1482
Flt Permitted	0.49	1.00		0.49	1.00	1.00		0.89	1.00		0.73	1.00
Satd. Flow (perm)	869	3534		954	3646	1588		1684	1515		1376	1482
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	108	417	29	30	403	155	10	26	21	157	27	102
RTOR Reduction (vph)	0	4	0	0	0	71	0	0	17	0	0	84
Lane Group Flow (vph)	108	442	0	30	403	84	0	36	4	0	184	18
Confl. Peds. (#/hr)	5		11	11		5	8		4	4		8
Heavy Vehicles (%)	7%	1%	0%	0%	1%	1%	0%	0%	5%	1%	0%	7%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2		2	4		4	8		8
Actuated Green, G (s)	55.8	50.4		51.0	48.0	48.0		15.3	15.3		15.3	15.3
Effective Green, g (s)	55.8	50.4		51.0	48.0	48.0		15.3	15.3		15.3	15.3
Actuated g/C Ratio	0.63	0.57		0.57	0.54	0.54		0.17	0.17		0.17	0.17
Clearance Time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		0.2	0.2		2.0	2.0
Lane Grp Cap (vph)	596	2008		578	1973	859		290	261		237	255
v/s Ratio Prot	c0.01	c0.13		0.00	0.11							
v/s Ratio Perm	0.10			0.03		0.05		0.02	0.00		c0.13	0.01
v/c Ratio	0.18	0.22		0.05	0.20	0.10		0.12	0.01		0.78	0.07
Uniform Delay, d1	6.6	9.5		8.1	10.5	9.9		31.0	30.4		35.1	30.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.3		0.0	0.2	0.2		0.1	0.0		13.5	0.0
Delay (s)	6.6	9.7		8.2	10.7	10.1		31.1	30.5		48.6	30.8
Level of Service	A	A		A	B	B		C	C		D	C
Approach Delay (s)		9.1			10.4			30.9			42.2	
Approach LOS		A			B			C			D	

Intersection Summary

HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	88.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 11: Dawes Ave & Seminary Rd

2022 Existing
 Timing Plan: PM



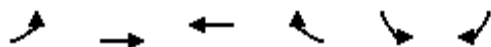
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↗	↖
Traffic Volume (vph)	28	1369	5	110	978	35	16	4	36	86	15	45
Future Volume (vph)	28	1369	5	110	978	35	16	4	36	86	15	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	9	13	13	12	16	12	12	11	11
Grade (%)		-1%			0%			0%				0%
Total Lost time (s)	6.9	6.9		1.9	1.9			6.5			6.5	6.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1445	3470		1608	4000			1896			1690	1426
Flt Permitted	0.24	1.00		0.14	1.00			0.88			0.76	1.00
Satd. Flow (perm)	367	3470		232	3560			1700			1338	1426
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)	29	1426	5	115	1019	36	17	4	38	90	16	47
RTOR Reduction (vph)	0	0	0	0	1	0	0	33	0	0	0	41
Lane Group Flow (vph)	29	1431	0	115	1054	0	0	26	0	0	106	6
Confl. Peds. (#/hr)	16		6	6		16	8					8
Heavy Vehicles (%)	17%	2%	0%	1%	2%	6%	0%	0%	3%	5%	0%	7%
Bus Blockages (#/hr)	0	12	0	0	9	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		4
Actuated Green, G (s)	98.9	95.5		106.1	99.1			17.2			17.2	17.2
Effective Green, g (s)	98.9	95.5		114.4	104.1			17.2			17.2	17.2
Actuated g/C Ratio	0.71	0.68		0.82	0.74			0.12			0.12	0.12
Clearance Time (s)	6.9	6.9		6.9	6.9			6.5			6.5	6.5
Vehicle Extension (s)	2.0	2.0		2.0	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	285	2367		307	2974			208			164	175
v/s Ratio Prot	0.00	c0.41		c0.03	0.26							
v/s Ratio Perm	0.07			0.27				0.02			c0.08	0.00
v/c Ratio	0.10	0.60		0.37	0.35			0.12			0.65	0.03
Uniform Delay, d1	6.6	12.0		6.6	6.2			54.7			58.5	54.1
Progression Factor	1.00	1.00		3.52	0.96			1.00			1.00	1.00
Incremental Delay, d2	0.1	1.2		0.3	0.3			0.1			6.4	0.0
Delay (s)	6.6	13.2		23.6	6.3			54.8			64.9	54.1
Level of Service	A	B		C	A			D			E	D
Approach Delay (s)		13.1			8.0			54.8			61.6	
Approach LOS		B			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

12: Seminary Rd & Fillmore Ave

2022 Existing
Timing Plan: PM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↔		↔↔	
Traffic Volume (veh/h)	49	1454	1085	16	4	60
Future Volume (Veh/h)	49	1454	1085	16	4	60
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	51	1499	1119	16	4	62
Pedestrians					11	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)		462	533			
pX, platoon unblocked	0.87				0.83	0.87
vC, conflicting volume	1146				1990	578
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	869				1081	217
tC, single (s)	4.3				6.8	7.1
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	92				98	91
cM capacity (veh/h)	633				163	658
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	551	999	746	389	66	
Volume Left	51	0	0	0	4	
Volume Right	0	0	0	16	62	
cSH	633	1700	1700	1700	556	
Volume to Capacity	0.08	0.59	0.44	0.23	0.12	
Queue Length 95th (ft)	7	0	0	0	10	
Control Delay (s)	2.2	0.0	0.0	0.0	12.3	
Lane LOS	A				B	
Approach Delay (s)	0.8		0.0		12.3	
Approach LOS					B	
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			86.1%		ICU Level of Service	E
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 13: Heritage Ln/Fairbanks Ave & Seminary Rd

2022 Existing
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (veh/h)	1	1511	0	9	1175	3	0	0	5	1	0	2
Future Volume (Veh/h)	1	1511	0	9	1175	3	0	0	5	1	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	1	1625	0	10	1263	3	0	0	5	1	0	2
Pedestrians								5			15	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		521			707							
pX, platoon unblocked	0.86			0.73			0.80	0.80	0.73	0.80	0.80	0.86
vC, conflicting volume	1281			1630			2286	2933	818	2119	2932	648
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	999			1115			1307	2119	0	1098	2118	262
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	99	99	100	100
cM capacity (veh/h)	595			459			92	39	789	129	39	630
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	814	812	642	634	5	3						
Volume Left	1	0	10	0	0	1						
Volume Right	0	0	0	3	5	2						
cSH	595	1700	459	1700	789	274						
Volume to Capacity	0.00	0.48	0.02	0.37	0.01	0.01						
Queue Length 95th (ft)	0	0	2	0	0	1						
Control Delay (s)	0.0	0.0	0.6	0.0	9.6	18.3						
Lane LOS	A		A		A	C						
Approach Delay (s)	0.0		0.3		9.6	18.3						
Approach LOS					A	C						
Intersection Summary												
Average Delay			0.2									
Intersection Capacity Utilization			52.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
 14: Mark Center Ave & Seminary Rd

2022 Existing
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑↑		↖	↑↑↑↑	↗		↖	↑↑↑↑	↖	↖↑	
Traffic Volume (vph)	25	1642	16	35	1319	166	31	16	367	185	25	52
Future Volume (vph)	25	1642	16	35	1319	166	31	16	367	185	25	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	13	12	12	12	12	12	10	10	10
Grade (%)		0%			-1%			0%			0%	
Total Lost time (s)	1.6	1.7		1.8	1.7	6.7		2.2	1.8	2.6	2.6	
Lane Util. Factor	1.00	0.86		1.00	0.91	1.00		1.00	0.76	0.91	0.91	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.96		1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97	1.00	0.95	0.97	
Satd. Flow (prot)	1736	5700		1900	5700	1426		1464	3446	1446	2669	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.97	1.00	0.95	0.97	
Satd. Flow (perm)	1736	6381		1616	5111	1426		1464	3446	1446	2669	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	1747	17	37	1403	177	33	17	390	197	27	55
RTOR Reduction (vph)	0	0	0	0	0	64	0	0	0	0	37	0
Lane Group Flow (vph)	27	1764	0	37	1403	113	0	50	390	98	144	0
Confl. Peds. (#/hr)	11					11	7					7
Heavy Vehicles (%)	4%	2%	31%	16%	2%	9%	10%	56%	5%	6%	48%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	13	0	0	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	pm+ov	Split	NA	
Protected Phases	1	6		5	2		4	4	5	3	3	
Permitted Phases						2			4			
Actuated Green, G (s)	5.3	75.2		10.2	80.3	80.3		8.3	18.5	18.0	18.0	
Effective Green, g (s)	10.3	80.2		15.2	85.3	80.3		13.3	28.5	23.0	23.0	
Actuated g/C Ratio	0.07	0.57		0.11	0.61	0.57		0.10	0.20	0.16	0.16	
Clearance Time (s)	6.6	6.7		6.8	6.7	6.7		7.2	6.8	7.6	7.6	
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2		2.0	3.0	4.0	4.0	
Lane Grp Cap (vph)	127	3265		206	3472	817		139	701	237	438	
v/s Ratio Prot	0.02	c0.31		0.02	0.25			0.03	c0.06	c0.07	0.05	
v/s Ratio Perm						0.08			0.05			
v/c Ratio	0.21	0.54		0.18	0.40	0.14		0.36	0.56	0.41	0.33	
Uniform Delay, d1	61.0	18.5		56.7	14.2	13.8		59.4	50.1	52.5	51.7	
Progression Factor	1.17	0.76		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.5		0.4	0.4	0.4		0.6	1.0	1.6	0.6	
Delay (s)	72.0	14.6		57.2	14.5	14.2		59.9	51.0	54.0	52.3	
Level of Service	E	B		E	B	B		E	D	D	D	
Approach Delay (s)		15.5			15.5			52.0			52.9	
Approach LOS		B			B			D			D	

Intersection Summary		
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.54	C
Actuated Cycle Length (s)	140.0	Sum of lost time (s)
Intersection Capacity Utilization	55.1%	ICU Level of Service
Analysis Period (min)	15	B
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis
 15: Kenmore Ave/Library Ln & Seminary Rd

2022 Existing
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Traffic Volume (vph)	182	1066	17	25	756	58	14	12	10	79	21	42
Future Volume (vph)	182	1066	17	25	756	58	14	12	10	79	21	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	0.93
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1769	5073		1814	5009			1752			1821	1437
Flt Permitted	0.27	1.00		0.23	1.00			0.85			0.75	1.00
Satd. Flow (perm)	510	5073		441	5009			1513			1411	1437
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	196	1146	18	27	813	62	15	13	11	85	23	45
RTOR Reduction (vph)	0	1	0	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	196	1163	0	27	875	0	0	29	0	0	108	45
Confl. Peds. (#/hr)	4		6	6		4	21		2	2		21
Heavy Vehicles (%)	2%	2%	0%	0%	3%	0%	0%	0%	0%	0%	0%	5%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			3			3	
Permitted Phases	6			2			3			3		3
Actuated Green, G (s)	85.4	76.3		71.2	68.1			12.6			12.6	12.6
Effective Green, g (s)	85.4	76.3		71.2	68.1			12.6			12.6	12.6
Actuated g/C Ratio	0.78	0.69		0.65	0.62			0.11			0.11	0.11
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Vehicle Extension (s)	2.0	0.2		2.0	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	525	3518		324	3101			173			161	164
v/s Ratio Prot	c0.04	0.23		0.00	0.17						c0.08	0.03
v/s Ratio Perm	c0.25			0.05				0.02				0.03
v/c Ratio	0.37	0.33		0.08	0.28			0.17			0.67	0.27
Uniform Delay, d1	3.7	6.7		6.9	9.7			44.0			46.7	44.5
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.2	0.3		0.0	0.2			0.2			8.3	0.3
Delay (s)	3.8	7.0		7.0	9.9			44.1			55.0	44.9
Level of Service	A	A		A	A			D			E	D
Approach Delay (s)		6.5			9.8			44.1			52.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Queues
1: N Beauregard St & Little River Tpke

2022 Existing
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	246	1017	33	995	341	109	59	43	346	346	227
v/c Ratio	0.71	0.59	0.38	0.67	0.31	0.76	0.37	0.22	0.89	0.88	0.44
Control Delay	89.5	35.9	94.8	46.5	2.8	111.1	83.3	64.7	77.0	76.0	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.5	35.9	94.8	46.5	2.8	111.1	83.3	64.7	77.0	76.0	13.5
Queue Length 50th (ft)	147	480	39	522	18	127	66	43	334	334	44
Queue Length 95th (ft)	194	577	80	635	59	#210	120	83	m367	m367	m77
Internal Link Dist (ft)		669		376			336			734	
Turn Bay Length (ft)	400		220			135					
Base Capacity (vph)	617	1731	139	1486	1083	162	182	215	418	421	534
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.59	0.24	0.67	0.31	0.67	0.32	0.20	0.83	0.82	0.43

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

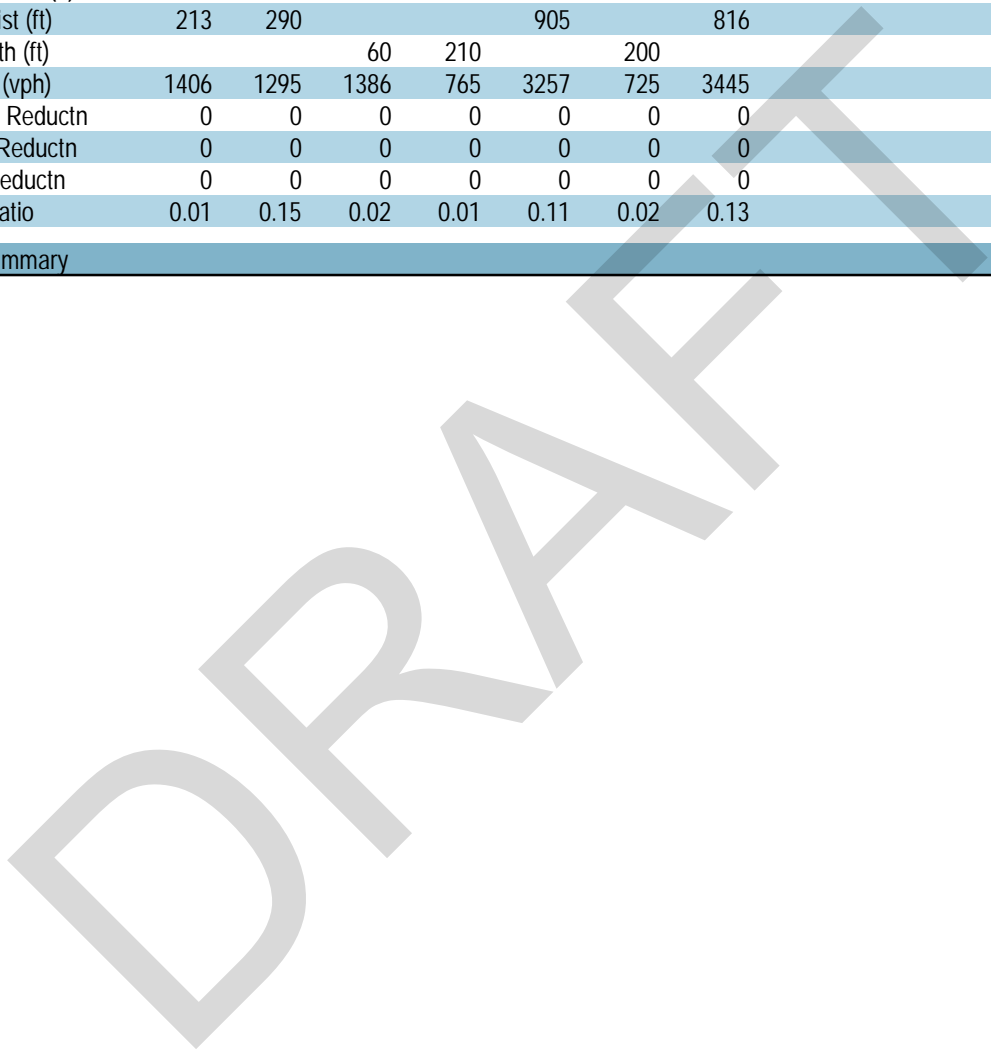
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Queues
 2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2022 Existing
 Timing Plan: AM



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	200	29	5	358	17	455
v/c Ratio	0.02	0.47	0.06	0.01	0.31	0.04	0.37
Control Delay	0.1	16.3	1.4	8.4	11.7	8.5	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.1	16.3	1.4	8.4	11.7	8.5	12.4
Queue Length 50th (ft)	0	27	0	1	23	2	31
Queue Length 95th (ft)	0	113	5	5	83	11	106
Internal Link Dist (ft)	213	290			905		816
Turn Bay Length (ft)			60	210		200	
Base Capacity (vph)	1406	1295	1386	765	3257	725	3445
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.15	0.02	0.01	0.11	0.02	0.13
Intersection Summary							

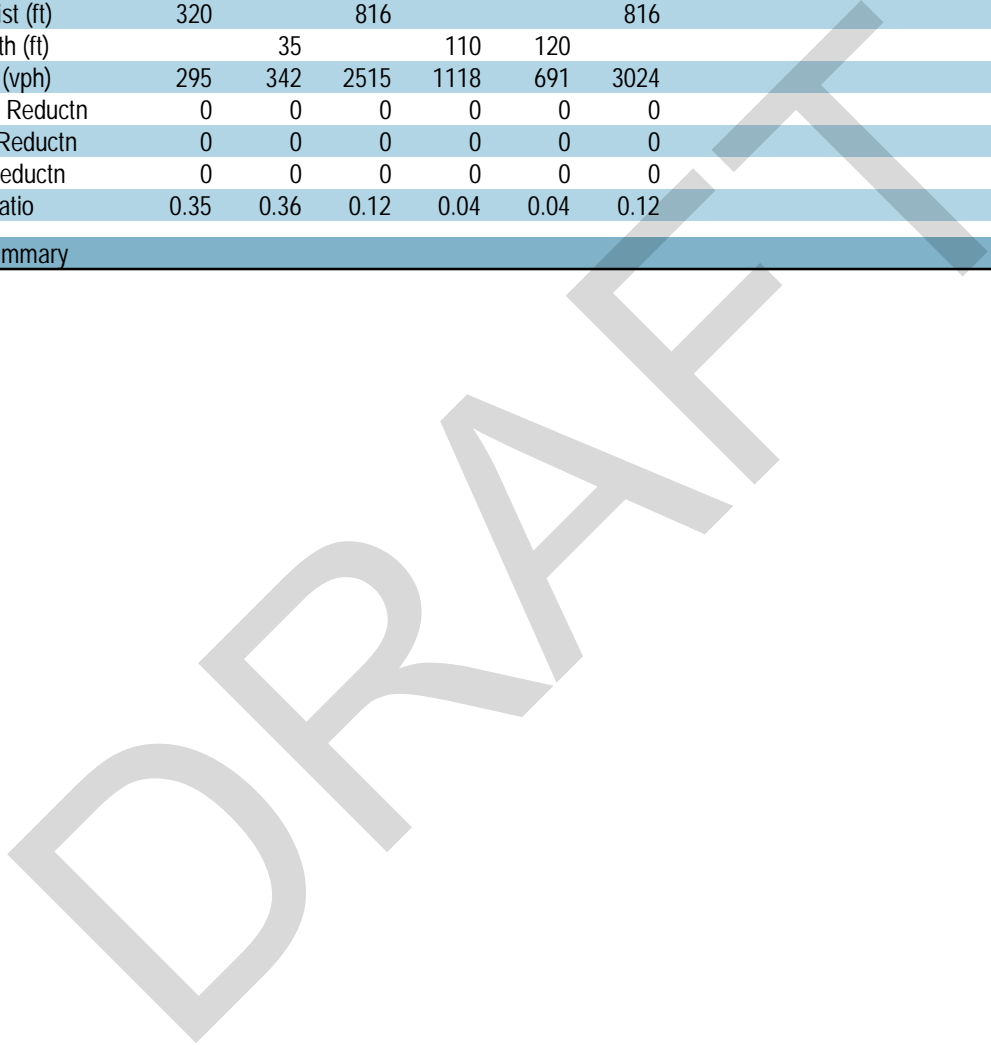


Queues
3: N Beauregard St & Quantrell Ave

2022 Existing
Timing Plan: AM



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	103	122	300	40	29	371
v/c Ratio	0.50	0.44	0.12	0.04	0.04	0.12
Control Delay	41.8	11.9	3.6	1.4	2.5	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	11.9	3.6	1.4	2.5	2.3
Queue Length 50th (ft)	50	0	18	0	2	16
Queue Length 95th (ft)	98	46	36	8	9	33
Internal Link Dist (ft)	320		816			816
Turn Bay Length (ft)		35		110	120	
Base Capacity (vph)	295	342	2515	1118	691	3024
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	0.35	0.36	0.12	0.04	0.04	0.12
Intersection Summary						



Queues
4: N Beauregard St & Sanger Ave

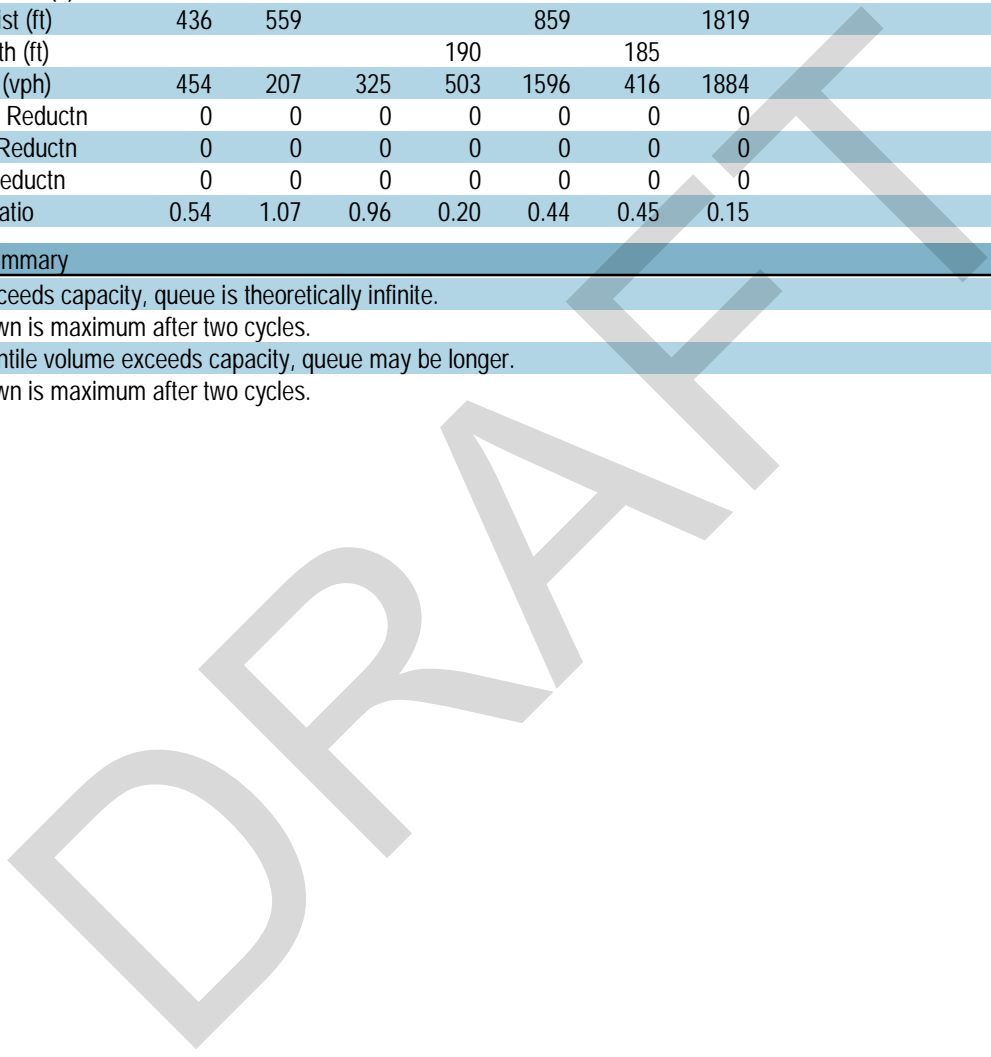
2022 Existing
Timing Plan: AM



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	246	221	312	100	699	189	286
v/c Ratio	0.73	1.07	0.96	0.21	0.44	0.45	0.15
Control Delay	86.2	149.6	106.1	24.6	36.6	23.6	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.2	149.6	106.1	24.6	36.6	23.6	27.6
Queue Length 50th (ft)	143	-274	352	62	318	113	105
Queue Length 95th (ft)	190	#458	#556	109	403	177	151
Internal Link Dist (ft)	436	559			859		1819
Turn Bay Length (ft)				190		185	
Base Capacity (vph)	454	207	325	503	1596	416	1884
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	1.07	0.96	0.20	0.44	0.45	0.15

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Queues
5: N Beauregard St & Mark Center Dr

2022 Existing
Timing Plan: AM



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	9	16	40	7	1025	293	741
v/c Ratio	0.22	0.05	0.14	0.08	0.06	0.30	0.33	0.23
Control Delay	54.7	30.9	52.5	2.4	44.8	15.9	28.1	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	30.9	52.5	2.4	44.8	15.9	28.1	1.6
Queue Length 50th (ft)	28	3	14	0	5	163	80	1
Queue Length 95th (ft)	53	19	34	12	18	323	114	78
Internal Link Dist (ft)		251	541			712		713
Turn Bay Length (ft)					175		390	
Base Capacity (vph)	330	398	254	524	237	3364	883	3209
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.02	0.06	0.08	0.03	0.30	0.33	0.23
Intersection Summary								

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Queues
6: N Beauregard St & Seminary Rd

2022 Existing
Timing Plan: AM

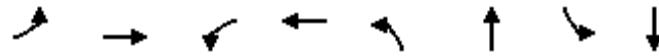


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	34	1059	601	1028	186	258	249	480	91	237
v/c Ratio	0.21	0.45	0.61	0.44	0.18	0.49	0.42	0.67	0.59	0.51
Control Delay	52.9	27.3	34.8	6.1	0.7	71.3	82.8	41.9	74.8	73.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.9	27.3	34.8	6.2	0.7	71.3	82.8	41.9	74.8	73.3
Queue Length 50th (ft)	28	283	178	63	0	128	122	376	80	107
Queue Length 95th (ft)	56	278	189	64	0	175	169	515	138	152
Internal Link Dist (ft)		243		352			713			1255
Turn Bay Length (ft)	125		350		355	190		585	245	
Base Capacity (vph)	231	2375	982	2360	1034	670	1021	714	159	748
Starvation Cap Reductn	0	0	0	111	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.45	0.61	0.46	0.18	0.39	0.24	0.67	0.57	0.32
Intersection Summary										

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Queues
7: N Beauregard St & E Campus Dr/W Braddock Rd

2022 Existing
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	7	120	514	12	502	146	186
v/c Ratio	0.01	0.01	0.67	0.66	0.08	0.22	0.54	0.07
Control Delay	52.0	0.0	74.9	9.4	62.2	16.9	56.2	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	0.0	74.9	9.4	62.2	16.9	56.2	11.5
Queue Length 50th (ft)	1	0	117	8	10	64	118	14
Queue Length 95th (ft)	6	0	174	57	25	281	162	77
Internal Link Dist (ft)		185		1746		1053		742
Turn Bay Length (ft)	125		200		85		200	
Base Capacity (vph)	374	1143	388	1109	289	2324	337	2780
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.01	0.31	0.46	0.04	0.22	0.43	0.07
Intersection Summary								

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Queues
8: N Beauregard St/S Walter Reed Dr & King St

2022 Existing
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	133	1083	71	1029	349	499	141	112	154
v/c Ratio	0.58	0.73	0.41	0.69	0.73	0.49	0.60	0.16	0.34
Control Delay	27.1	36.1	22.9	34.8	76.1	42.8	49.6	46.7	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	36.1	22.9	34.8	76.1	42.8	49.6	46.7	7.8
Queue Length 50th (ft)	58	420	30	390	171	153	86	44	0
Queue Length 95th (ft)	95	505	57	470	222	233	139	73	52
Internal Link Dist (ft)		919		1047		564		898	
Turn Bay Length (ft)	290		435		420		205		205
Base Capacity (vph)	228	1481	175	1491	475	1010	234	717	448
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.73	0.41	0.69	0.73	0.49	0.60	0.16	0.34
Intersection Summary									

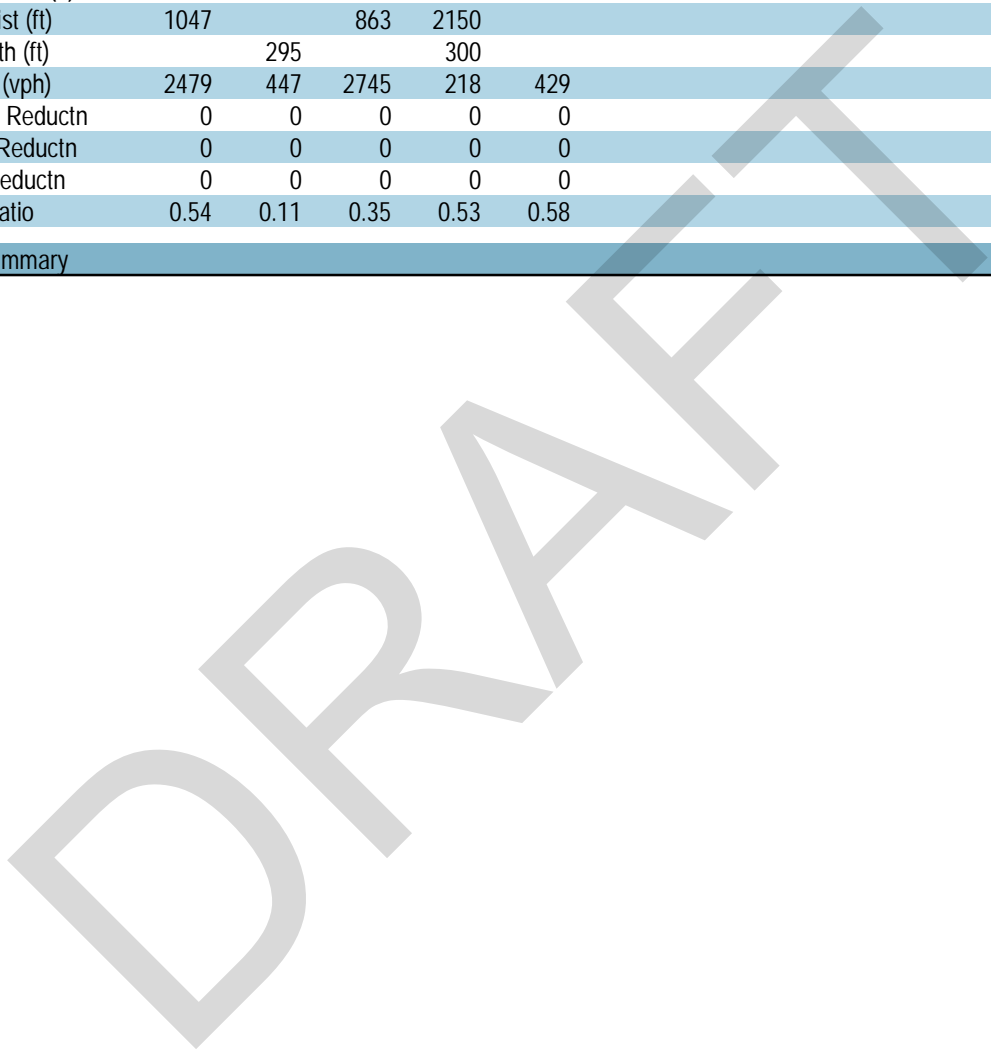


Queues
9: N Hampton Dr & King St

2022 Existing
Timing Plan: AM



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1334	47	962	115	247
v/c Ratio	0.54	0.16	0.35	0.65	0.62
Control Delay	9.4	4.2	4.2	67.4	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	4.2	4.2	67.4	13.3
Queue Length 50th (ft)	236	6	95	86	0
Queue Length 95th (ft)	318	15	132	147	76
Internal Link Dist (ft)	1047		863	2150	
Turn Bay Length (ft)		295		300	
Base Capacity (vph)	2479	447	2745	218	429
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	0.54	0.11	0.35	0.53	0.58
Intersection Summary					



Queues
10: N Hampton Dr & W Braddock Rd

2022 Existing
Timing Plan: AM

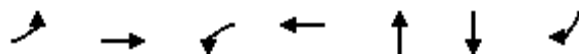


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	117	304	12	549	179	63	23	113	53
v/c Ratio	0.20	0.13	0.02	0.27	0.19	0.29	0.07	0.64	0.18
Control Delay	5.6	6.2	5.5	11.5	2.5	35.2	0.5	51.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.6	6.2	5.5	11.5	2.5	35.2	0.5	51.1	1.3
Queue Length 50th (ft)	17	22	2	75	0	30	0	56	0
Queue Length 95th (ft)	41	67	8	133	33	67	0	112	0
Internal Link Dist (ft)		1746		786		210		2150	
Turn Bay Length (ft)	185		185		185				40
Base Capacity (vph)	678	2379	903	1999	937	373	456	294	418
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.13	0.01	0.27	0.19	0.17	0.05	0.38	0.13
Intersection Summary									

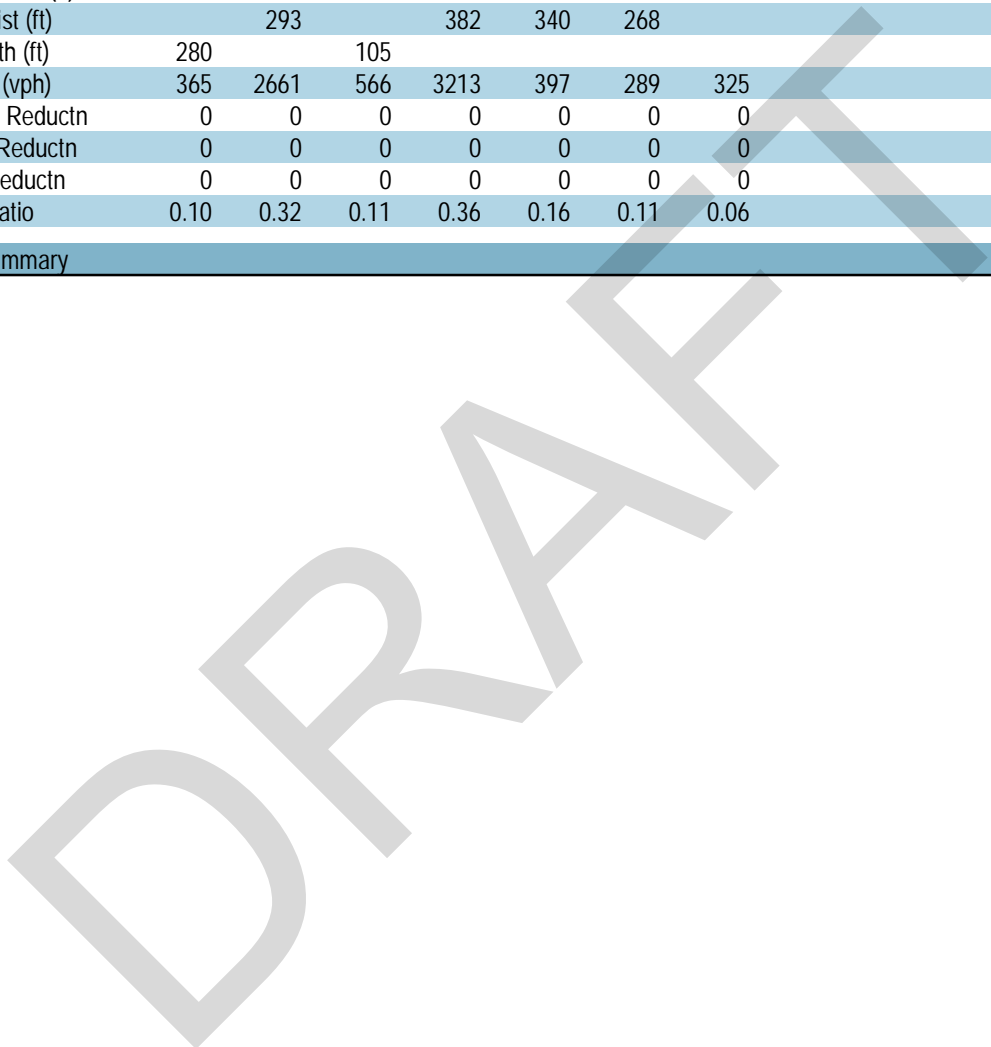
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Queues
11: Dawes Ave & Seminary Rd

2022 Existing
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	35	861	63	1150	63	31	19
v/c Ratio	0.11	0.32	0.12	0.36	0.34	0.26	0.10
Control Delay	4.9	7.3	1.2	1.5	33.3	61.1	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.9	7.3	1.2	1.5	33.3	61.1	1.1
Queue Length 50th (ft)	4	110	2	29	25	28	0
Queue Length 95th (ft)	21	256	6	37	62	53	0
Internal Link Dist (ft)		293		382	340	268	
Turn Bay Length (ft)	280		105				
Base Capacity (vph)	365	2661	566	3213	397	289	325
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.32	0.11	0.36	0.16	0.11	0.06
Intersection Summary							



Queues
14: Mark Center Ave & Seminary Rd

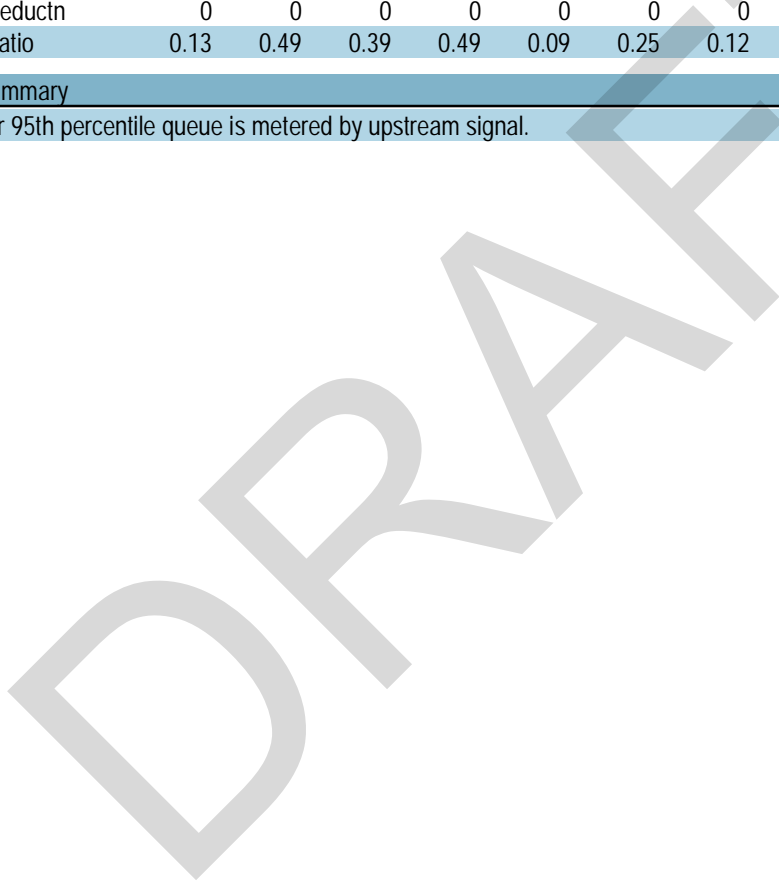
2022 Existing
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	19	1321	210	1722	82	38	145	117	215
v/c Ratio	0.14	0.49	0.60	0.49	0.09	0.28	0.16	0.40	0.37
Control Delay	78.9	26.8	55.9	27.9	5.6	63.8	36.5	49.5	43.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.9	26.8	55.9	27.9	5.6	63.8	36.5	49.5	43.0
Queue Length 50th (ft)	18	127	180	357	0	33	42	107	89
Queue Length 95th (ft)	m35	396	262	578	m23	70	60	149	110
Internal Link Dist (ft)		203		1074		625			271
Turn Bay Length (ft)	205				255		225	100	
Base Capacity (vph)	147	2716	532	3483	866	150	1185	437	855
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.49	0.39	0.49	0.09	0.25	0.12	0.27	0.25

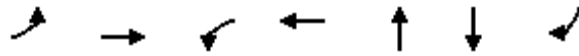
Intersection Summary

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

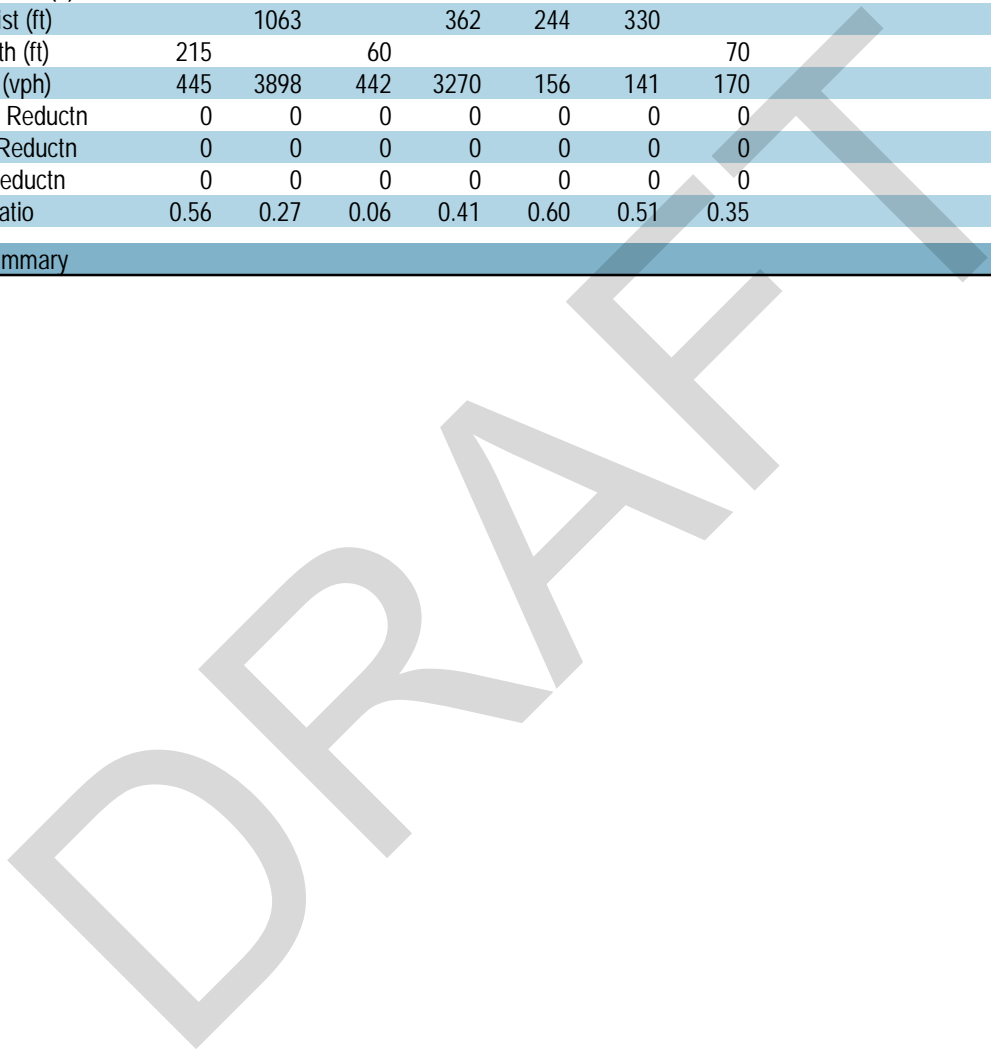


Queues
 15: Kenmore Ave/Library Ln & Seminary Rd

2022 Existing
 Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	247	1055	27	1335	93	72	59
v/c Ratio	0.56	0.27	0.07	0.41	0.74	0.65	0.44
Control Delay	17.6	12.8	5.1	13.1	87.5	86.8	69.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	12.8	5.1	13.1	87.5	86.8	69.6
Queue Length 50th (ft)	130	80	4	206	74	64	51
Queue Length 95th (ft)	222	363	10	267	131	115	95
Internal Link Dist (ft)		1063		362	244	330	
Turn Bay Length (ft)	215		60				70
Base Capacity (vph)	445	3898	442	3270	156	141	170
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.27	0.06	0.41	0.60	0.51	0.35
Intersection Summary							



Queues
1: N Beauregard St & Little River Tpke

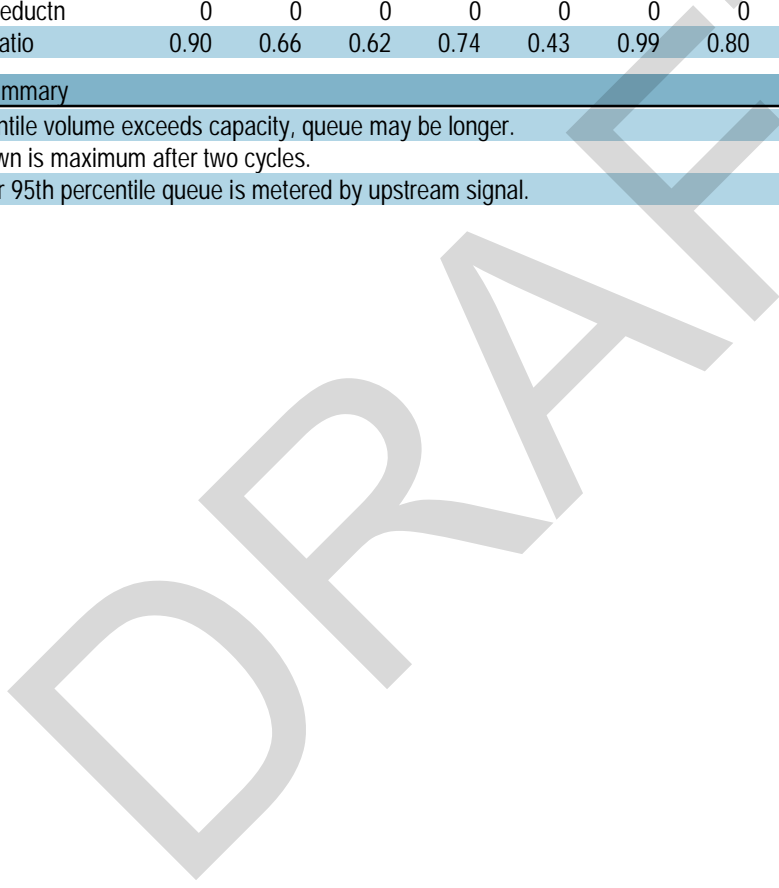
2022 Existing
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	296	1034	99	1094	437	136	119	77	451	456	231
v/c Ratio	0.91	0.66	0.76	0.74	0.43	0.99	0.80	0.32	1.00	0.99	0.46
Control Delay	124.1	48.7	128.8	54.8	11.4	166.3	128.1	76.0	104.3	103.6	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.1	48.7	128.8	54.8	11.4	166.3	128.1	76.0	104.3	103.6	26.9
Queue Length 50th (ft)	213	595	137	670	187	192	165	92	676	683	114
Queue Length 95th (ft)	#306	693	211	756	249	#358	#285	149	m#870	m#877	m166
Internal Link Dist (ft)		669		376			336			734	
Turn Bay Length (ft)	400		220			135					
Base Capacity (vph)	328	1557	160	1487	1027	137	149	243	453	459	504
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.66	0.62	0.74	0.43	0.99	0.80	0.32	1.00	0.99	0.46

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

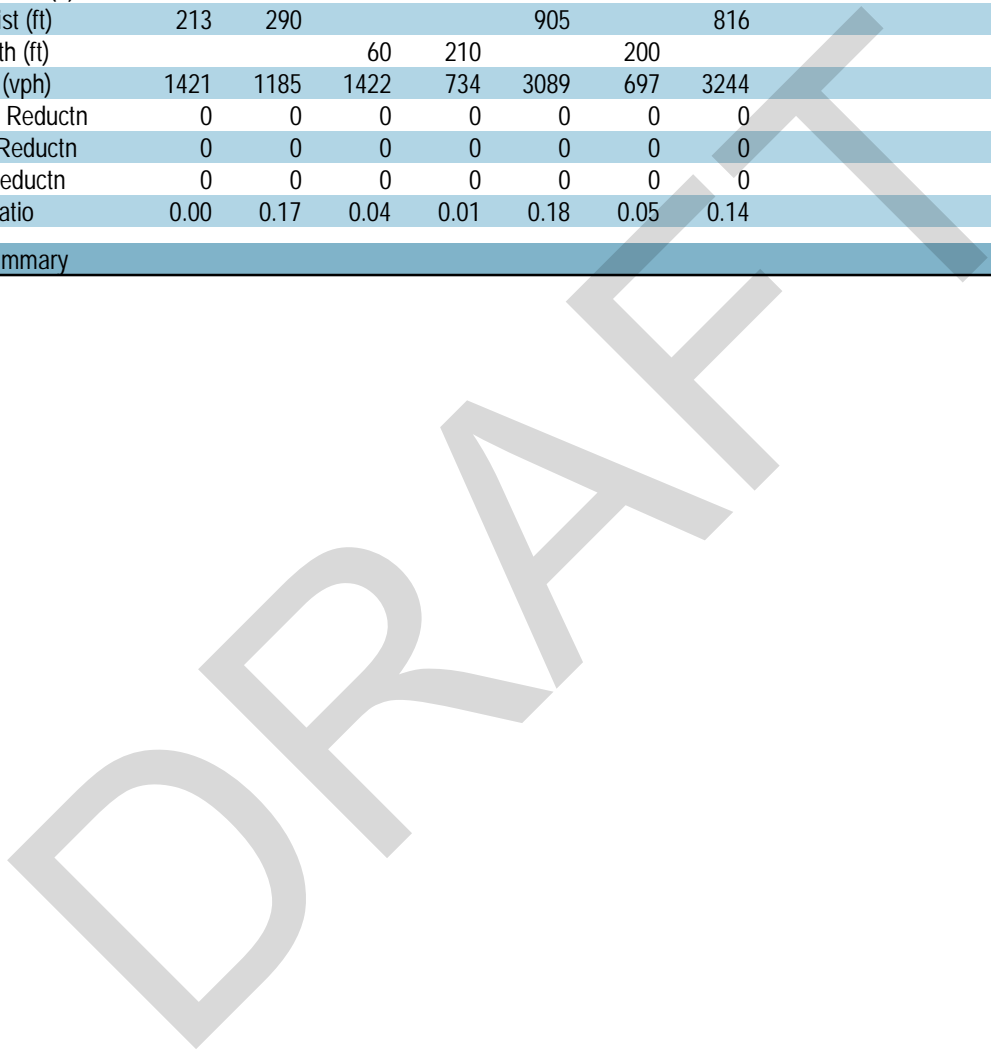


Queues
2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2022 Existing
Timing Plan: PM



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	4	207	61	11	559	36	456
v/c Ratio	0.01	0.51	0.12	0.02	0.47	0.08	0.32
Control Delay	0.0	20.9	5.2	8.2	14.8	8.7	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.0	20.9	5.2	8.2	14.8	8.7	11.9
Queue Length 50th (ft)	0	36	0	2	46	5	38
Queue Length 95th (ft)	0	133	21	9	141	20	113
Internal Link Dist (ft)	213	290			905		816
Turn Bay Length (ft)			60	210		200	
Base Capacity (vph)	1421	1185	1422	734	3089	697	3244
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.17	0.04	0.01	0.18	0.05	0.14
Intersection Summary							

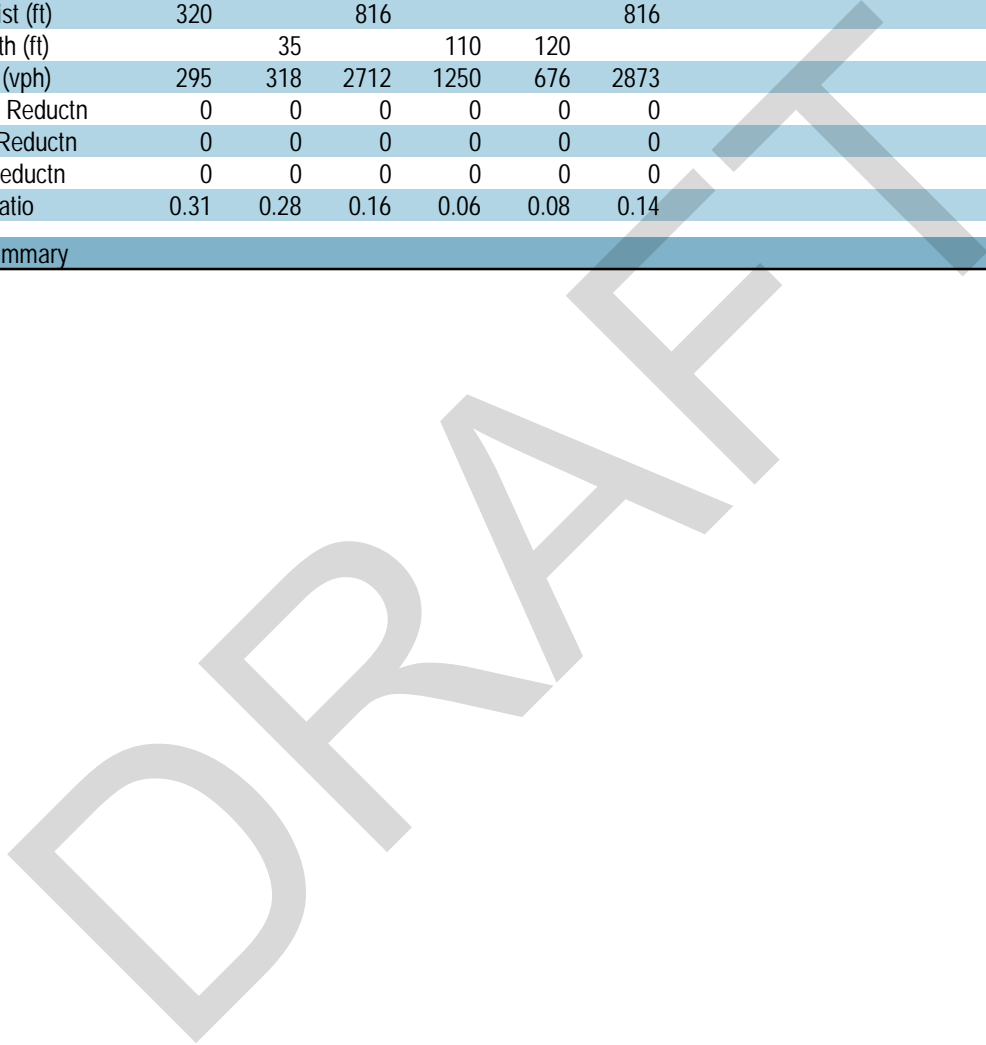


Queues
3: N Beauregard St & Quantrell Ave

2022 Existing
Timing Plan: PM



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	91	90	446	76	53	405
v/c Ratio	0.46	0.37	0.16	0.06	0.08	0.14
Control Delay	41.2	12.3	3.4	1.1	4.8	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	12.3	3.4	1.1	4.8	4.1
Queue Length 50th (ft)	44	0	28	0	7	30
Queue Length 95th (ft)	89	40	52	11	21	53
Internal Link Dist (ft)	320		816			816
Turn Bay Length (ft)		35		110	120	
Base Capacity (vph)	295	318	2712	1250	676	2873
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	0.31	0.28	0.16	0.06	0.08	0.14
Intersection Summary						



Queues
4: N Beauregard St & Sanger Ave

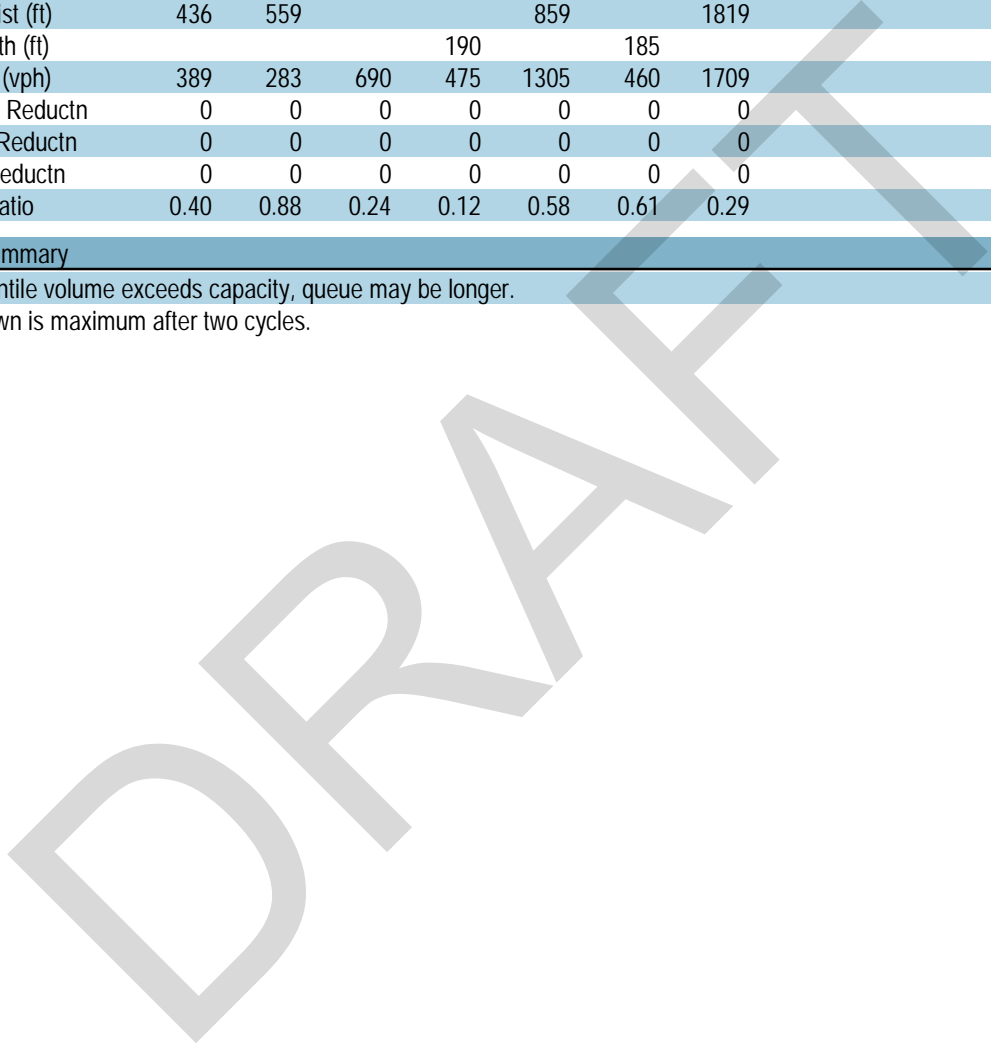
2022 Existing
Timing Plan: PM



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	156	249	166	57	760	282	501
v/c Ratio	0.58	0.88	0.30	0.13	0.58	0.83	0.29
Control Delay	80.9	95.2	38.3	21.2	46.8	52.9	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.9	95.2	38.3	21.2	46.8	52.9	31.2
Queue Length 50th (ft)	90	282	136	30	384	212	202
Queue Length 95th (ft)	135	#502	199	59	515	335	267
Internal Link Dist (ft)	436	559			859		1819
Turn Bay Length (ft)				190		185	
Base Capacity (vph)	389	283	690	475	1305	460	1709
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.88	0.24	0.12	0.58	0.61	0.29

Intersection Summary

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



Queues
5: N Beauregard St & Mark Center Dr

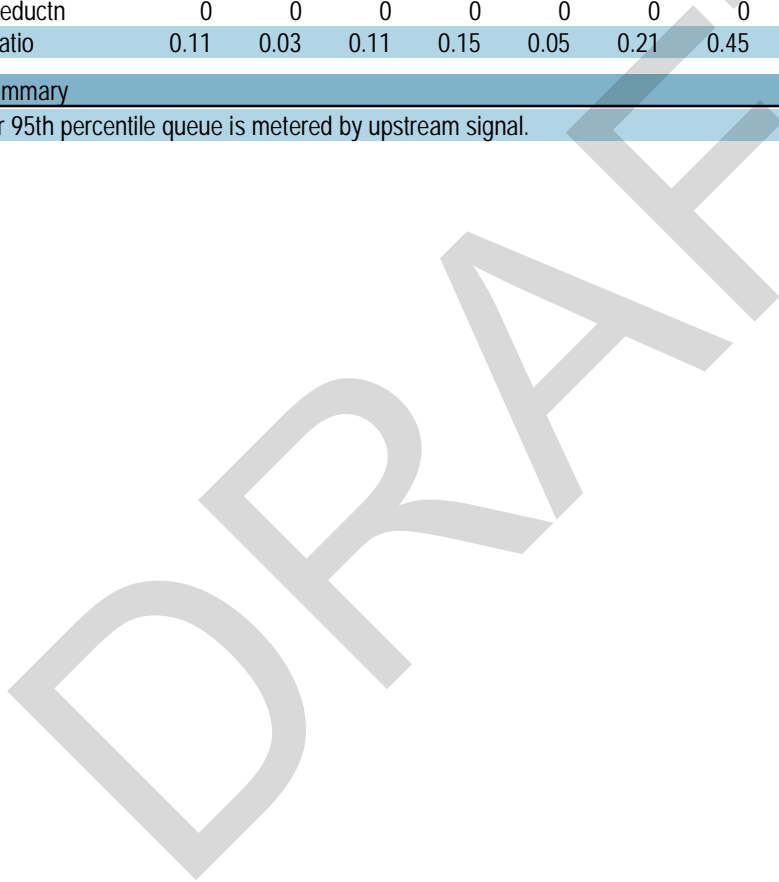
2022 Existing
Timing Plan: PM



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	48	16	45	68	9	856	104	949
v/c Ratio	0.26	0.08	0.27	0.16	0.07	0.21	0.77	0.33
Control Delay	52.5	26.6	53.0	8.0	62.4	5.5	96.2	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	26.6	53.0	8.0	62.4	5.5	96.2	4.4
Queue Length 50th (ft)	36	4	34	0	7	81	50	124
Queue Length 95th (ft)	75	25	72	34	m27	103	m80	184
Internal Link Dist (ft)		251	541			712		713
Turn Bay Length (ft)					175		390	
Base Capacity (vph)	443	489	399	464	192	4135	233	2910
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.03	0.11	0.15	0.05	0.21	0.45	0.33

Intersection Summary

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



Queues
6: N Beauregard St & Seminary Rd

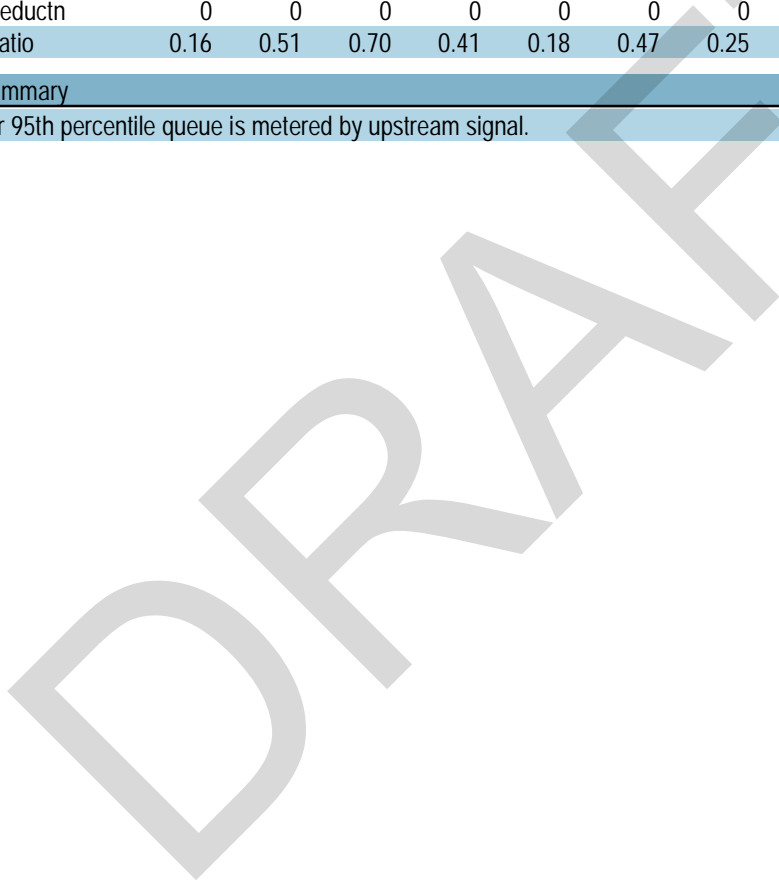
2022 Existing
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	42	1494	382	899	176	262	222	438	168	309
v/c Ratio	0.24	0.51	0.70	0.41	0.18	0.51	0.46	0.74	0.67	0.56
Control Delay	71.2	12.8	50.4	7.3	0.8	50.7	51.5	25.2	66.7	58.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	12.8	50.4	7.3	0.8	50.7	51.5	25.2	66.7	58.5
Queue Length 50th (ft)	31	293	119	48	0	104	104	194	154	142
Queue Length 95th (ft)	m69	109	158	57	1	145	124	168	238	196
Internal Link Dist (ft)		243		352			713			1255
Turn Bay Length (ft)	125		350		355	190		585	245	
Base Capacity (vph)	265	2911	548	2192	981	561	882	591	268	919
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.51	0.70	0.41	0.18	0.47	0.25	0.74	0.63	0.34

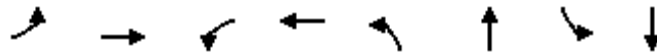
Intersection Summary

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



Queues
7: N Beauregard St & E Campus Dr/W Braddock Rd

2022 Existing
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	22	87	338	51	479	307	450
v/c Ratio	0.05	0.09	0.57	0.57	0.28	0.24	0.69	0.17
Control Delay	55.3	38.8	71.6	10.2	67.7	16.9	56.7	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	38.8	71.6	10.2	67.7	16.9	56.7	9.5
Queue Length 50th (ft)	6	6	85	7	40	64	250	56
Queue Length 95th (ft)	20	18	132	50	93	254	215	126
Internal Link Dist (ft)		185		1746		1053		742
Turn Bay Length (ft)	125		200		85		200	
Base Capacity (vph)	324	606	448	1125	339	1978	445	2579
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.04	0.19	0.30	0.15	0.24	0.69	0.17
Intersection Summary								



Queues
8: N Beauregard St/S Walter Reed Dr & King St

2022 Existing
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	148	1412	67	1109	271	369	227	381	227
v/c Ratio	0.56	0.91	0.46	0.75	0.72	0.49	0.68	0.52	0.49
Control Delay	25.7	45.5	30.3	38.3	73.9	48.4	45.6	51.9	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	45.5	30.3	38.3	73.9	48.4	45.6	51.9	19.3
Queue Length 50th (ft)	62	613	27	444	129	140	152	163	52
Queue Length 95th (ft)	114	#731	67	530	178	163	226	217	136
Internal Link Dist (ft)		919		1047		564		898	
Turn Bay Length (ft)	290		435		420		205		205
Base Capacity (vph)	262	1548	145	1475	375	755	336	735	461
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.91	0.46	0.75	0.72	0.49	0.68	0.52	0.49

Intersection Summary

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

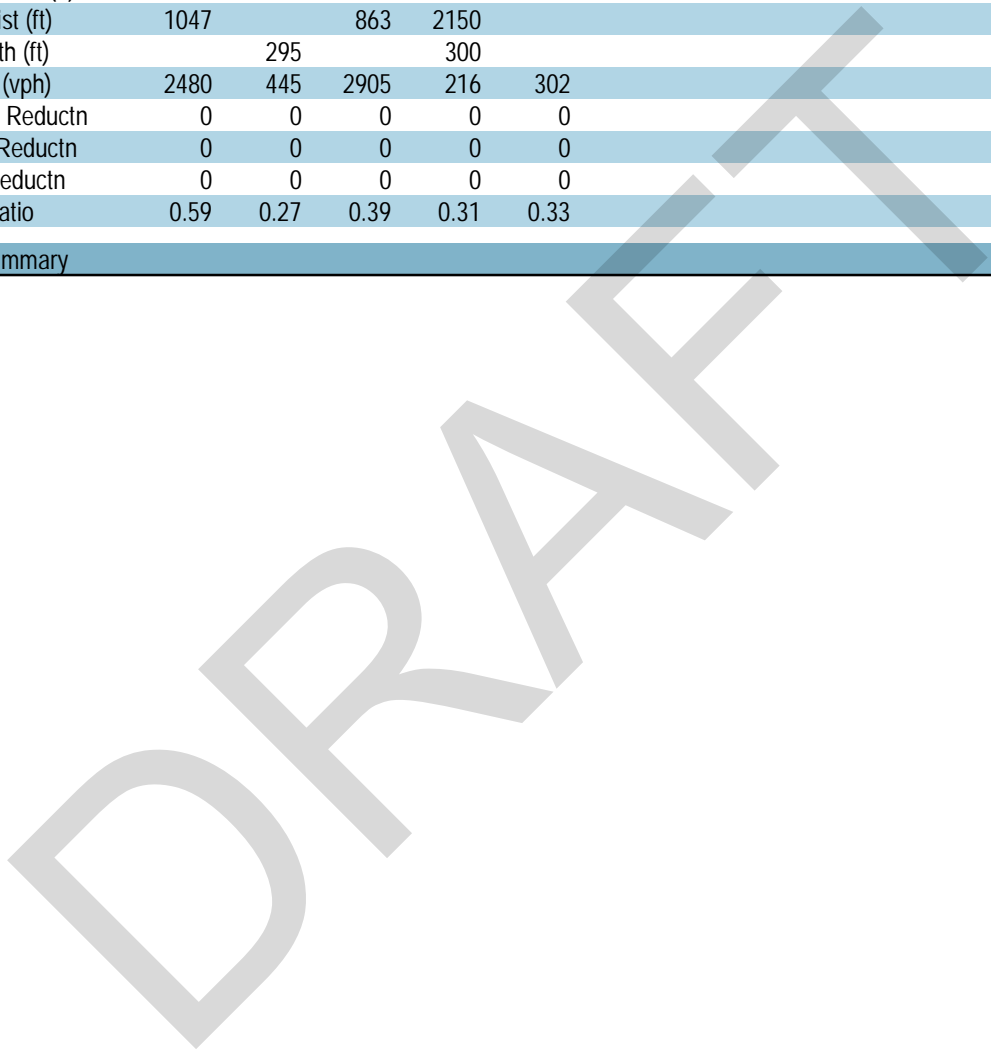


Queues
9: N Hampton Dr & King St

2022 Existing
Timing Plan: PM



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1472	120	1130	67	101
v/c Ratio	0.59	0.42	0.39	0.48	0.44
Control Delay	10.0	6.9	3.7	62.5	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	6.9	3.7	62.5	15.5
Queue Length 50th (ft)	252	14	98	50	0
Queue Length 95th (ft)	392	30	150	95	52
Internal Link Dist (ft)	1047		863	2150	
Turn Bay Length (ft)		295		300	
Base Capacity (vph)	2480	445	2905	216	302
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	0.59	0.27	0.39	0.31	0.33
Intersection Summary					



Queues
10: N Hampton Dr & W Braddock Rd

2022 Existing
Timing Plan: PM

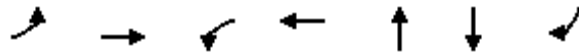


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	108	446	30	403	155	36	21	184	102
v/c Ratio	0.18	0.21	0.05	0.20	0.17	0.14	0.06	0.75	0.28
Control Delay	6.6	10.2	6.4	12.1	2.8	31.6	0.4	53.7	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	10.2	6.4	12.1	2.8	31.6	0.4	53.7	7.1
Queue Length 50th (ft)	19	64	5	61	0	17	0	97	0
Queue Length 95th (ft)	40	101	15	98	30	43	0	170	32
Internal Link Dist (ft)		1746		786		210		2150	
Turn Bay Length (ft)	185		185		185				40
Base Capacity (vph)	722	2076	789	1978	931	395	444	323	436
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.21	0.04	0.20	0.17	0.09	0.05	0.57	0.23
Intersection Summary									

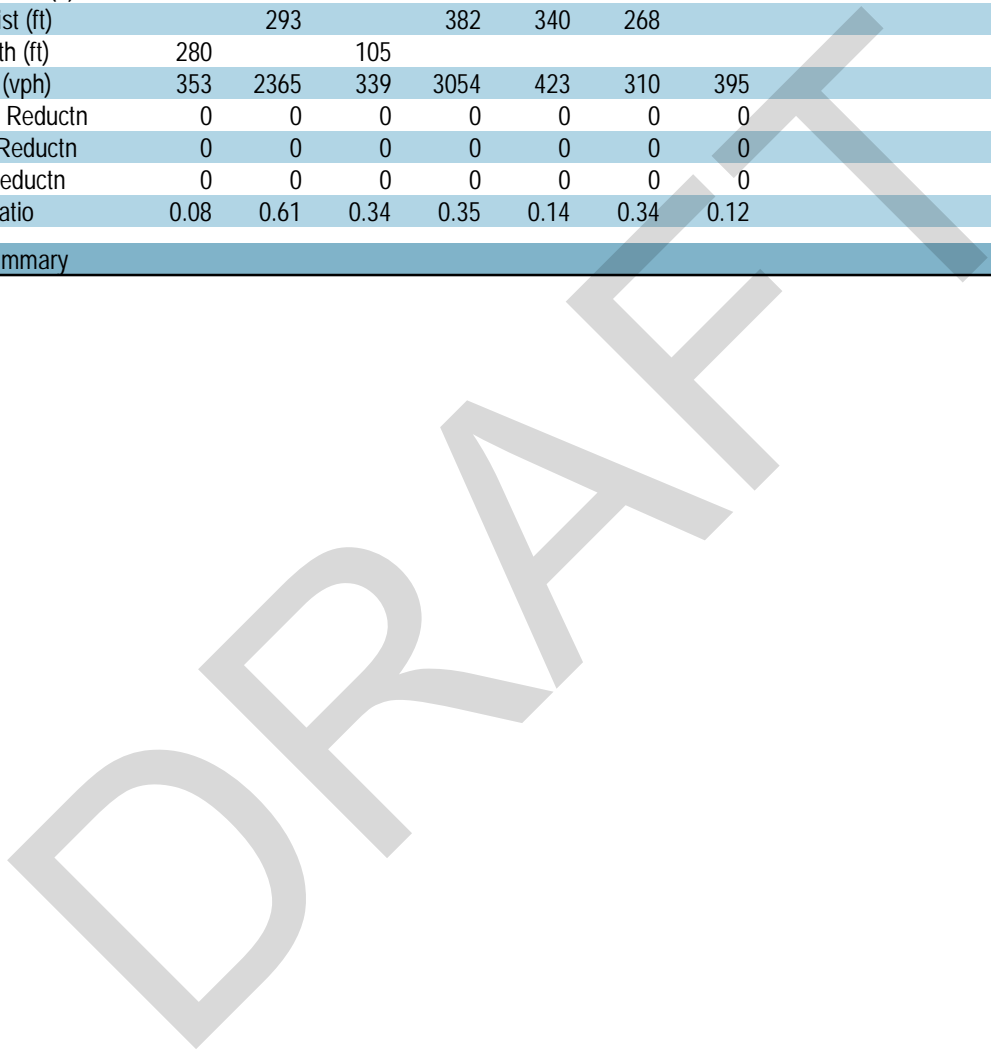
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Queues
11: Dawes Ave & Seminary Rd

2022 Existing
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	29	1431	115	1055	59	106	47
v/c Ratio	0.10	0.61	0.38	0.35	0.24	0.65	0.19
Control Delay	5.9	15.0	15.4	6.9	24.9	74.6	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.9	15.0	15.4	6.9	24.9	74.6	3.2
Queue Length 50th (ft)	5	324	7	36	17	94	0
Queue Length 95th (ft)	18	581	118	324	55	144	7
Internal Link Dist (ft)		293		382	340	268	
Turn Bay Length (ft)	280		105				
Base Capacity (vph)	353	2365	339	3054	423	310	395
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.61	0.34	0.35	0.14	0.34	0.12
Intersection Summary							



Queues
14: Mark Center Ave & Seminary Rd

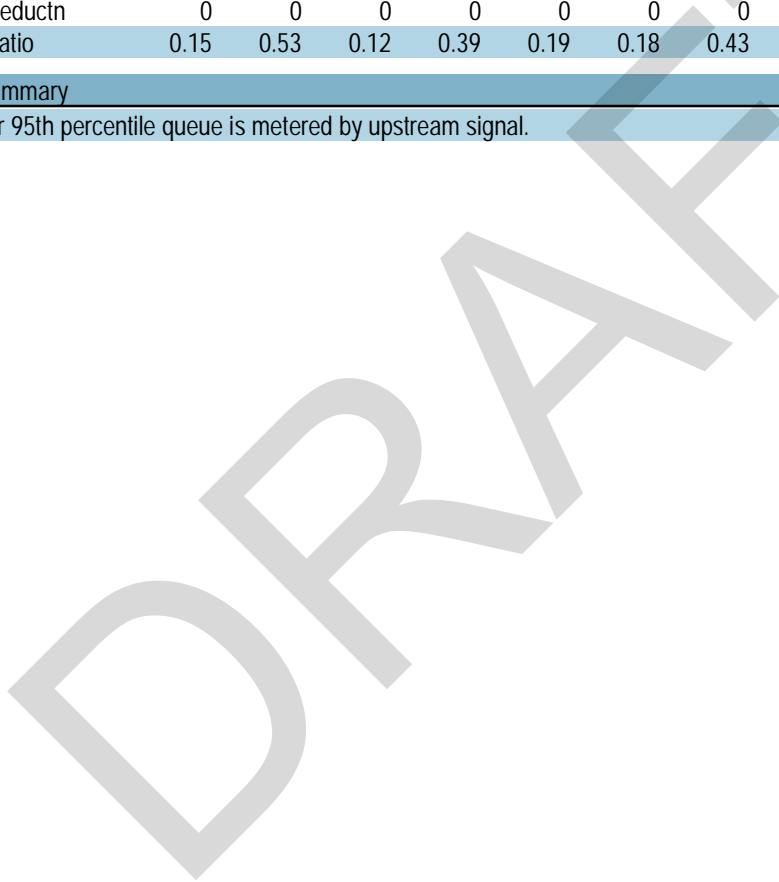
2022 Existing
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	27	1764	37	1403	177	50	390	98	181
v/c Ratio	0.17	0.53	0.18	0.39	0.19	0.33	0.54	0.41	0.38
Control Delay	70.0	15.6	60.0	16.1	5.5	63.1	51.6	55.7	39.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.0	15.6	60.0	16.1	5.5	63.1	51.6	55.7	39.8
Queue Length 50th (ft)	25	175	32	236	10	43	139	91	62
Queue Length 95th (ft)	m42	356	68	395	64	84	173	135	89
Internal Link Dist (ft)		203		1074		625			271
Turn Bay Length (ft)	205				255		225	100	
Base Capacity (vph)	180	3326	314	3639	919	280	917	386	744
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.53	0.12	0.39	0.19	0.18	0.43	0.25	0.24

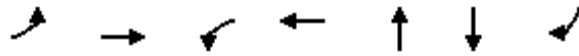
Intersection Summary

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

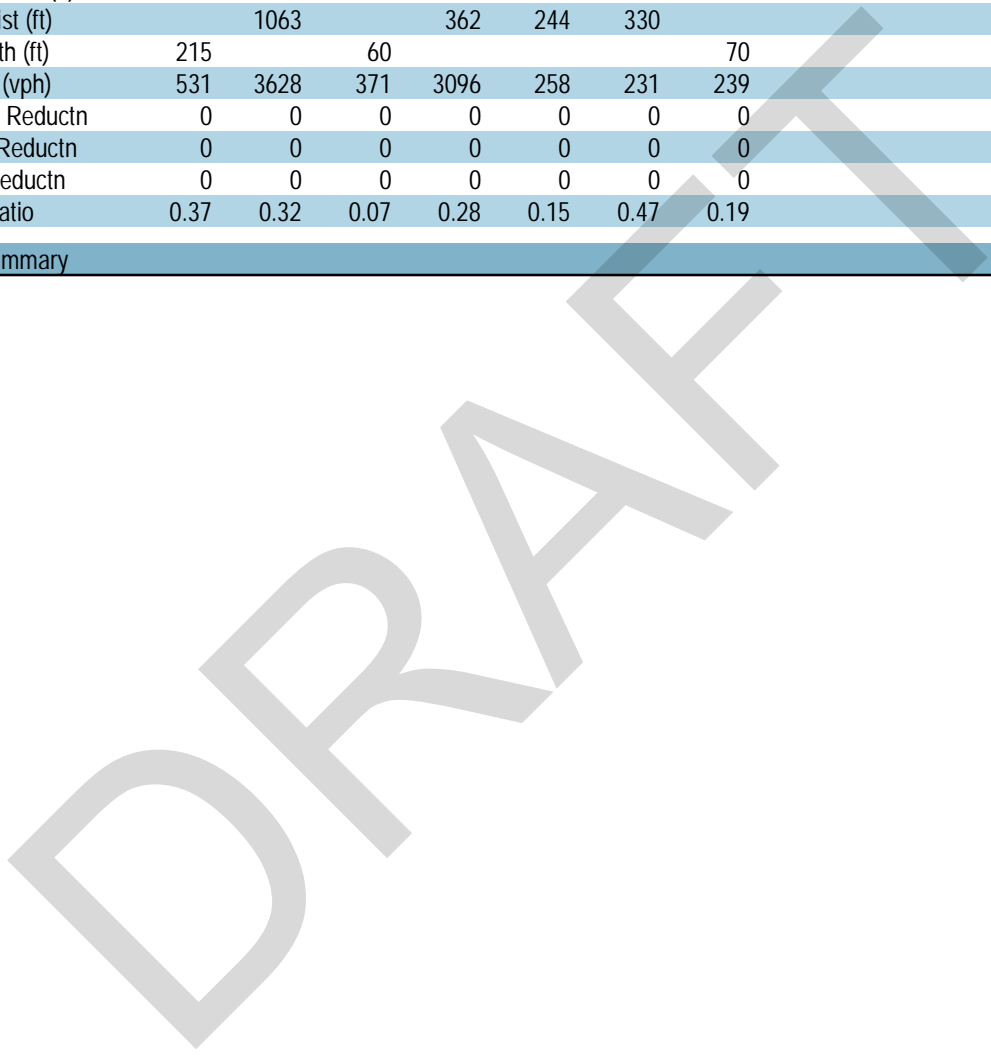


Queues
 15: Kenmore Ave/Library Ln & Seminary Rd

2022 Existing
 Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	196	1164	27	875	39	108	45
v/c Ratio	0.37	0.32	0.08	0.28	0.21	0.67	0.27
Control Delay	5.6	7.1	5.2	11.0	35.3	65.5	46.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.6	7.1	5.2	11.0	35.3	65.5	46.6
Queue Length 50th (ft)	29	113	4	97	18	74	29
Queue Length 95th (ft)	59	164	12	154	48	127	62
Internal Link Dist (ft)		1063		362	244	330	
Turn Bay Length (ft)	215		60				70
Base Capacity (vph)	531	3628	371	3096	258	231	239
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.32	0.07	0.28	0.15	0.47	0.19
Intersection Summary							



Appendix C

MWCOG Transit Use Outputs by Link

DRAFT



Roadway	Location	Percentage Change in Transit Trips 2019-2045
N Bearegard St (South of Seminary Rd)	Little River Tpke to N Chambliss St	-67%
	N Chambliss St to Lincolnia Rd/Gloucester Rd	-66%
	Lincolnia Rd/Gloucester Rd to Quantrell Ave	-66%
	Quantrell Ave to N Armistead St	-57%
	N Armistead St to N Morgan St	-69%
	N Morgan St to Sanger Ave (1)	-54%
	N Morgan St to Sanger Ave (2)	-40%
	Sanger Ave to Roanoke Ave	266%
	Roanoke Ave to Reading Ave	249%
	Reading Ave to Rayburn Ave	259%
	Rayburn Ave to N Highview Ln	241%
	N Highview Ln to Mark Center Dr	244%
Mark Center Dr to Seminary Rd	241%	
N Bearegard St (North of Seminary Rd)	Seminary Rd to Fillmore Ave (1)	12%
	Seminary Rd to Fillmore Ave (2)	11%
	Fillmore Ave to W Braddock Rd	46%
	W Braddock Rd to King St	62%
	North of King St	240%
Seminary Rd (West of N Bearegard St)	West of Dawes Ave	13%
	Dawes Ave to Fillmore Ave	15%
	Fillmore Ave to Echols Ave	127%
	Echols Ave to Fairbanks Ave	127%
	Fairbanks Ave to Bearegard St	125%
Seminary Rd (East of N Bearegard St)	N Bearegard St to SB I-395 Ramps (1)	359%
	N Bearegard St to SB I-395 Ramps (2)	245%
	SB I-395 Ramps to HOV Ramps	186%
	HOV Ramps to Van Dorn St	-8%
	Van Dorn St to Kenmore Ave	-19%
	East of Kenmore Ave	-11%
Little River Tpke	West of Bearegard	-16%
	East of Bearegard	-23%
Sanger Ave	West of Bearegard	6866%
	East of Bearegard	5001%
Braddock Rd	East of Bearegard	-61%
King St	West of Bearegard	36%
	East of Bearegard	-48%

Appendix D






























2045 Base Conditions Analysis Results

DRAFT



HCM Signalized Intersection Capacity Analysis
 1: N Beauregard St & Little River Tpke

2045 Base
 Timing Plan: AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 					 	 	
Traffic Volume (vph)	296	1204	22	39	1199	411	114	62	45	683	42	237
Future Volume (vph)	296	1204	22	39	1199	411	114	62	45	683	42	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00
Satd. Flow (prot)	3400	3492		1805	3539	1522	1641	1845	1490	1665	1678	1552
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00
Satd. Flow (perm)	3400	3492		1805	3539	1522	1641	1845	1490	1665	1678	1552
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	302	1229	22	40	1223	419	116	63	46	697	43	242
RTOR Reduction (vph)	0	0	0	0	0	67	0	0	0	0	0	151
Lane Group Flow (vph)	302	1251	0	40	1223	352	116	63	46	369	371	91
Confl. Peds. (#/hr)	3		8	8		3	4		4	4		4
Heavy Vehicles (%)	3%	3%	6%	0%	2%	5%	10%	3%	7%	3%	3%	2%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	5	2		1	6	3	4	4	1	3	3	
Permitted Phases						6			4			3
Actuated Green, G (s)	19.5	84.5		6.8	70.5	117.8	14.5	14.5	21.3	47.3	47.3	47.3
Effective Green, g (s)	19.5	84.5		6.8	70.5	117.8	14.5	14.5	21.3	47.3	47.3	47.3
Actuated g/C Ratio	0.11	0.47		0.04	0.39	0.65	0.08	0.08	0.12	0.26	0.26	0.26
Clearance Time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	368	1639		68	1386	996	132	148	176	437	440	407
v/s Ratio Prot	c0.09	c0.36		0.02	c0.35	0.09	c0.07	0.03	0.01	c0.22	0.22	
v/s Ratio Perm						0.14			0.02			0.06
v/c Ratio	0.82	0.76		0.59	0.88	0.35	0.88	0.43	0.26	0.84	0.84	0.22
Uniform Delay, d1	78.5	39.5		85.2	50.9	14.0	81.9	78.8	72.2	62.9	62.8	52.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	1.26
Incremental Delay, d2	13.6	3.4		8.1	8.4	0.2	43.5	2.0	0.3	9.6	9.5	0.2
Delay (s)	92.2	42.9		93.3	59.3	14.2	125.4	80.8	72.5	64.9	64.8	65.7
Level of Service	F	D		F	E	B	F	F	E	E	E	E
Approach Delay (s)		52.5			48.9			102.1			65.1	
Approach LOS		D			D			F			E	
Intersection Summary												
HCM 2000 Control Delay	56.4			HCM 2000 Level of Service				E				
HCM 2000 Volume to Capacity ratio	0.87											
Actuated Cycle Length (s)	180.0			Sum of lost time (s)				28.2				
Intersection Capacity Utilization	85.8%			ICU Level of Service				E				
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2045 Base
Timing Plan: AM

















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↔		↕	↕↔	
Traffic Volume (vph)	2	0	10	210	0	30	5	323	52	18	476	1
Future Volume (vph)	2	0	10	210	0	30	5	323	52	18	476	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00			1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.89			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1532			1703	1437	1804	3382		1702	3573	
Flt Permitted		0.94			0.75	1.00	0.47	1.00		0.52	1.00	
Satd. Flow (perm)		1459			1344	1437	901	3382		940	3573	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	2	0	10	214	0	31	5	330	53	18	486	1
RTOR Reduction (vph)	0	8	0	0	0	22	0	10	0	0	0	0
Lane Group Flow (vph)	0	4	0	0	214	9	5	373	0	18	487	0
Confl. Peds. (#/hr)	1					1	2		2	2		2
Heavy Vehicles (%)	0%	0%	11%	6%	0%	11%	0%	2%	18%	6%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8				6		
Actuated Green, G (s)		13.4			13.4	13.4	14.5	13.7		14.5	13.7	
Effective Green, g (s)		13.4			13.4	13.4	14.5	13.7		14.5	13.7	
Actuated g/C Ratio		0.30			0.30	0.30	0.32	0.31		0.32	0.31	
Clearance Time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		435			401	428	307	1031		317	1090	
v/s Ratio Prot							0.00	0.11		c0.00	c0.14	
v/s Ratio Perm		0.00			c0.16	0.01	0.00			0.02		
v/c Ratio		0.01			0.53	0.02	0.02	0.36		0.06	0.45	
Uniform Delay, d1		11.1			13.1	11.1	10.3	12.2		10.4	12.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0			1.4	0.0	0.0	0.2		0.1	0.3	
Delay (s)		11.1			14.5	11.1	10.3	12.4		10.5	12.8	
Level of Service		B			B	B	B	B		B	B	
Approach Delay (s)		11.1			14.1			12.4			12.8	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			12.9								HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			44.9							17.0		
Intersection Capacity Utilization			42.9%								ICU Level of Service	A
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: N Beauregard St & Quantrell Ave

2045 Base
Timing Plan: AM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	107	126	311	42	30	385
Future Volume (vph)	107	126	311	42	30	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	12	10	12
Grade (%)	3%		0%			-5%
Total Lost time (s)	6.0	6.0	5.3	5.3	0.3	0.3
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	*0.95
Frbp, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1627	1334	3421	1506	1450	3800
Flt Permitted	0.95	1.00	1.00	1.00	0.56	1.00
Satd. Flow (perm)	1627	1334	3421	1506	851	3664
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	110	130	321	43	31	397
RTOR Reduction (vph)	0	109	0	15	0	0
Lane Group Flow (vph)	110	21	321	28	31	397
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	2%	2%	2%	5%	19%	1%
Parking (#/hr)		3				
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			2
Permitted Phases	4	4	2	2	2	2
Actuated Green, G (s)	9.2	9.2	36.7	36.7	36.7	36.7
Effective Green, g (s)	9.2	9.2	36.7	36.7	41.7	41.7
Actuated g/C Ratio	0.16	0.16	0.64	0.64	0.73	0.73
Clearance Time (s)	6.0	6.0	5.3	5.3	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	261	214	2194	966	620	2770
v/s Ratio Prot			0.09			c0.10
v/s Ratio Perm	c0.07	0.02		0.02	0.04	
v/c Ratio	0.42	0.10	0.15	0.03	0.05	0.14
Uniform Delay, d1	21.6	20.5	4.1	3.7	2.2	2.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.2	0.1	0.1	0.2	0.1
Delay (s)	22.7	20.7	4.2	3.8	2.3	2.5
Level of Service	C	C	A	A	A	A
Approach Delay (s)	21.6		4.1			2.4
Approach LOS	C		A			A
Intersection Summary						
HCM 2000 Control Delay			7.5		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.21			
Actuated Cycle Length (s)			57.2		Sum of lost time (s)	11.3
Intersection Capacity Utilization			35.6%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

4: N Beauregard St & Sanger Ave

2045 Base
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕	↕	↕	↕↕		↕	↕↕	
Traffic Volume (vph)	69	83	98	151	80	327	100	498	204	190	243	45
Future Volume (vph)	69	83	98	151	80	327	100	498	204	190	243	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	11	11	11	10	12	12	10	12	12
Grade (%)		-2%			2%			0%				-3%
Total Lost time (s)		6.0			6.0	6.0	8.3	8.3		0.3	0.3	
Lane Util. Factor		0.95			1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes		0.94			1.00	1.00	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.94			1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2858			1699	1515	1644	3550		1659	3800	
Flt Permitted		0.99			0.97	1.00	0.49	1.00		0.25	1.00	
Satd. Flow (perm)		2858			1699	1515	846	3329		431	3414	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	73	88	104	161	85	348	106	530	217	202	259	48
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	265	0	0	246	348	106	747	0	202	307	0
Confl. Peds. (#/hr)	7		53	53		7	13		20	20		13
Heavy Vehicles (%)	3%	5%	4%	5%	1%	2%	2%	2%	5%	3%	5%	0%
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8	8	5	1	6		5	2
Permitted Phases							6				2	
Actuated Green, G (s)		19.5			34.1	52.9	75.8	64.4		78.6	65.8	
Effective Green, g (s)		19.5			34.1	52.9	69.8	61.4		87.5	70.8	
Actuated g/C Ratio		0.11			0.20	0.31	0.41	0.36		0.51	0.41	
Clearance Time (s)		6.0			6.0		5.3	5.3		5.3	5.3	
Vehicle Extension (s)		3.0			3.0		3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		324			336	465	382	1267		346	1564	
v/s Ratio Prot		c0.09			0.14	c0.23	0.01	c0.21		c0.06	0.08	
v/s Ratio Perm							0.10			0.24		
v/c Ratio		0.82			0.73	0.75	0.28	0.59		0.58	0.20	
Uniform Delay, d1		74.5			64.7	53.6	32.7	45.0		25.9	32.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		14.7			8.0	6.5	0.4	2.0		2.5	0.3	
Delay (s)		89.2			72.7	60.1	33.1	47.1		28.4	32.7	
Level of Service		F			E	E	C	D		C	C	
Approach Delay (s)		89.2			65.3			45.3			31.0	
Approach LOS		F			E			D			C	























Intersection Summary

HCM 2000 Control Delay	52.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	172.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: N Beauregard St & Mark Center Dr

2045 Base
Timing Plan: AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	5	14	2	38	6	900	86	282	656	57
Future Volume (vph)	30	3	5	14	2	38	6	900	86	282	656	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	12	11	12	10	12	12	11	12	12
Total Lost time (s)	6.0	6.0			6.0	5.0	0.3	0.3		0.0	0.3	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.91		0.97	0.95	
Frbp, ped/bikes	1.00	0.99			1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			0.99	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1682	1588			1243	1411	1685	5700		3255	3800	
Flt Permitted	0.75	1.00			0.78	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1322	1588			1010	1411	1685	4760		3255	3460	
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)	33	3	5	15	2	41	7	978	93	307	713	62
RTOR Reduction (vph)	0	4	0	0	0	26	0	6	0	0	2	0
Lane Group Flow (vph)	33	4	0	0	17	15	7	1065	0	307	773	0
Confl. Peds. (#/hr)	1		5	5		1	7		5	5		7
Heavy Vehicles (%)	0%	0%	0%	46%	0%	14%	0%	2%	11%	4%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	32	0	0	0	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	14.5	14.5			14.5	51.8	1.3	71.9		37.3	107.6	
Effective Green, g (s)	14.5	14.5			14.5	51.8	6.3	76.9		42.3	112.6	
Actuated g/C Ratio	0.10	0.10			0.10	0.37	0.04	0.55		0.30	0.80	
Clearance Time (s)	6.0	6.0			6.0	5.0	5.3	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	0.2		2.0	0.2	
Lane Grp Cap (vph)	136	164			104	572	75	3130		983	3056	
v/s Ratio Prot		0.00				0.01	0.00	c0.19		c0.09	0.20	
v/s Ratio Perm	c0.02				0.02	0.00						
v/c Ratio	0.24	0.02			0.16	0.03	0.09	0.34		0.31	0.25	
Uniform Delay, d1	57.7	56.4			57.2	28.1	64.1	17.5		37.6	3.4	
Progression Factor	1.00	1.00			1.00	1.00	1.26	0.74		1.06	0.67	
Incremental Delay, d2	0.3	0.0			0.3	0.0	0.2	0.3		0.1	0.2	
Delay (s)	58.0	56.4			57.5	28.1	81.2	13.3		40.1	2.4	
Level of Service	E	E			E	C	F	B		D	A	
Approach Delay (s)		57.7			36.7			13.7			13.1	
Approach LOS		E			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			14.8									B
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			140.0							11.3		
Intersection Capacity Utilization			51.3%									A
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: N Beauregard St & Seminary Rd

2045 Base
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖↖↖	↖↖	↖	↖↖	↖↖	↖	↖	↖↖	↖↖
Traffic Volume (vph)	34	841	223	604	1033	187	253	245	472	90	181	52
Future Volume (vph)	34	841	223	604	1033	187	253	245	472	90	181	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	12	16	13	12	12	11	12	16	10	11	13
Grade (%)		-1%			-1%			0%				2%
Total Lost time (s)	2.2	1.0		2.8	1.0	1.0	2.3	1.4	7.8	2.3	1.4	
Lane Util. Factor	1.00	0.91		0.94	0.95	1.00	0.97	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1820	5700		3800	3800	1546	3800	3438	1786	1516	3234	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1820	4896		5132	3522	1546	3385	3438	1786	1516	3234	
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)	37	914	242	657	1123	203	275	266	513	98	197	57
RTOR Reduction (vph)	0	30	0	0	0	83	0	0	86	0	21	0
Lane Group Flow (vph)	37	1126	0	657	1123	120	275	266	427	98	233	0
Confl. Peds. (#/hr)			3	3			2		1	1		2
Heavy Vehicles (%)	3%	3%	2%	3%	3%	5%	0%	5%	2%	10%	2%	6%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2		7	4	5	3	8	
Permitted Phases						2			4			
Actuated Green, G (s)	6.9	50.7		33.7	78.1	78.1	13.1	17.9	51.6	10.2	15.0	
Effective Green, g (s)	11.9	55.7		38.7	83.1	83.1	18.1	22.9	51.6	15.2	20.0	
Actuated g/C Ratio	0.09	0.40		0.28	0.59	0.59	0.13	0.16	0.37	0.11	0.14	
Clearance Time (s)	7.2	6.0		7.8	6.0	6.0	7.3	6.4	7.8	7.3	6.4	
Vehicle Extension (s)	2.5	0.2		2.5	0.2	0.2	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	154	2267		1050	2255	917	491	562	658	164	462	
v/s Ratio Prot	0.02	c0.20		c0.17	0.30		c0.07	0.08	c0.16	c0.06	0.07	
v/s Ratio Perm						0.08			0.08			
v/c Ratio	0.24	0.50		0.63	0.50	0.13	0.56	0.47	0.65	0.60	0.50	
Uniform Delay, d1	59.8	31.6		44.3	16.4	12.5	57.2	53.1	36.7	59.5	55.4	
Progression Factor	1.10	0.66		0.54	0.21	0.17	0.87	0.61	1.35	1.25	0.90	
Incremental Delay, d2	0.6	0.7		0.9	0.7	0.3	1.2	0.4	1.9	4.8	0.6	
Delay (s)	66.3	21.6		24.6	4.1	2.4	51.1	33.0	51.5	79.3	50.7	
Level of Service	E	C		C	A	A	D	C	D	E	D	
Approach Delay (s)		23.0			10.7			46.7			58.7	
Approach LOS		C			B			D			E	

Intersection Summary

HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

7: N Beauregard St & E Campus Dr/W Braddock Rd

2045 Base
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Volume (vph)	1	1	7	138	5	514	13	384	159	158	194	8
Future Volume (vph)	1	1	7	138	5	514	13	384	159	158	194	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	13	10	11	12	11	11	13	11	12	12
Grade (%)		-6%			-4%			-2%			2%	
Total Lost time (s)	5.8	5.8		5.8	5.8		0.0	0.3		0.0	0.3	
Lane Util. Factor	1.00	0.95		0.91	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.86		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1735	2942		1461	2806		1762	3800		1677	3800	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1735	2942		1461	2806		1762	2959		1677	3311	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1	1	7	142	5	530	13	396	164	163	200	8
RTOR Reduction (vph)	0	8	0	0	463	0	0	19	0	0	1	0
Lane Group Flow (vph)	1	0	0	128	86	0	13	541	0	163	207	0
Confl. Peds. (#/hr)	2		3	3		2	2		7	7		2
Heavy Vehicles (%)	0%	0%	0%	7%	20%	2%	0%	7%	9%	3%	7%	14%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	24	0	0	0	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.8	6.8		17.8	17.8		3.1	74.7		18.8	90.4	
Effective Green, g (s)	6.8	6.8		17.8	17.8		8.1	79.7		23.8	95.4	
Actuated g/C Ratio	0.05	0.05		0.13	0.13		0.06	0.57		0.17	0.68	
Clearance Time (s)	5.8	5.8		5.8	5.8		5.0	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	0.2		3.0	0.2	
Lane Grp Cap (vph)	84	142		185	356		101	2163		285	2589	
v/s Ratio Prot	c0.00	0.00		c0.09	0.03		0.01	c0.14		c0.10	0.05	
v/s Ratio Perm												
v/c Ratio	0.01	0.00		0.69	0.24		0.13	0.25		0.57	0.08	
Uniform Delay, d1	63.4	63.4		58.5	55.0		62.6	15.1		53.4	7.5	
Progression Factor	1.00	1.00		1.00	1.00		1.02	0.86		1.16	0.93	
Incremental Delay, d2	0.0	0.0		8.7	0.1		0.6	0.3		2.8	0.1	
Delay (s)	63.4	63.4		67.2	55.2		64.4	13.4		64.7	7.1	
Level of Service	E	E		E	E		E	B		E	A	
Approach Delay (s)		63.4			57.4			14.5			32.4	
Approach LOS		E			E			B			C	

Intersection Summary

HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 8: N Beauregard St/S Walter Reed Dr & King St

2045 Base
 Timing Plan: AM



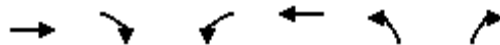
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Traffic Volume (vph)	136	975	136	72	958	97	358	400	112	145	115	158
Future Volume (vph)	136	975	136	72	958	97	358	400	112	145	115	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	8.3	5.7		8.3	5.8		7.7	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frft	1.00	0.98		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	3411		1444	3442		3502	3283		1752	3539	1567
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	3411		1444	3442		3502	3283		1752	3539	1567
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)	148	1060	148	78	1041	105	389	435	122	158	125	172
RTOR Reduction (vph)	0	7	0	0	5	0	0	20	0	0	0	116
Lane Group Flow (vph)	148	1201	0	78	1141	0	389	537	0	158	125	56
Confl. Peds. (#/hr)	6		7	7		6			8	8		
Heavy Vehicles (%)	3%	4%	1%	25%	3%	6%	0%	3%	16%	2%	1%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	12.7	57.0		8.8	53.0		16.3	27.5		17.3	28.5	28.5
Effective Green, g (s)	12.7	57.0		8.8	53.0		16.3	27.5		17.3	28.5	28.5
Actuated g/C Ratio	0.09	0.41		0.06	0.38		0.12	0.20		0.12	0.20	0.20
Clearance Time (s)	8.3	5.7		8.3	5.8		7.7	7.7		7.7	7.7	7.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	158	1388		90	1303		407	644		216	720	318
v/s Ratio Prot	c0.08	c0.35		0.05	0.33		0.11	c0.16		c0.09	0.04	
v/s Ratio Perm												0.04
v/c Ratio	0.94	0.87		0.87	0.88		0.96	0.83		0.73	0.17	0.18
Uniform Delay, d1	63.3	38.0		65.0	40.4		61.5	54.1		59.1	46.0	46.0
Progression Factor	1.00	1.00		1.00	1.00		0.81	0.76		1.00	1.00	1.00
Incremental Delay, d2	52.1	7.4		52.1	8.5		31.7	8.3		10.4	0.0	0.1
Delay (s)	115.3	45.4		117.1	48.9		81.5	49.4		69.6	46.1	46.1
Level of Service	F	D		F	D		F	D		E	D	D
Approach Delay (s)		53.0			53.2			62.6			54.3	
Approach LOS		D			D			E			D	

Intersection Summary

HCM 2000 Control Delay	55.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	29.5
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 9: N Hampton Dr & King St

2045 Base
 Timing Plan: AM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (vph)	1284	84	48	987	123	264
Future Volume (vph)	1284	84	48	987	123	264
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frbp, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433		1687	3471	1641	1615
Flt Permitted	1.00		0.11	1.00	0.95	1.00
Satd. Flow (perm)	3433		203	3471	1641	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1396	91	52	1073	134	287
RTOR Reduction (vph)	3	0	0	0	0	104
Lane Group Flow (vph)	1484	0	52	1073	134	183
Confl. Peds. (#/hr)		16	16			
Heavy Vehicles (%)	3%	16%	7%	4%	10%	0%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		4	4
Actuated Green, G (s)	80.0		89.5	89.5	18.5	18.5
Effective Green, g (s)	80.0		89.5	89.5	18.5	18.5
Actuated g/C Ratio	0.67		0.75	0.75	0.15	0.15
Clearance Time (s)	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	0.2		2.0	0.2	3.0	3.0
Lane Grp Cap (vph)	2288		207	2588	252	248
v/s Ratio Prot	c0.43		0.01	c0.31		
v/s Ratio Perm			0.18		0.08	c0.11
v/c Ratio	0.65		0.25	0.41	0.53	0.74
Uniform Delay, d1	11.7		8.4	5.6	46.8	48.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4		0.2	0.5	2.2	10.9
Delay (s)	13.2		8.7	6.1	48.9	59.3
Level of Service	B		A	A	D	E
Approach Delay (s)	13.2			6.2	56.0	
Approach LOS	B			A	E	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: N Hampton Dr & W Braddock Rd

2045 Base
 Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗		↖	↗		↖	↗
Traffic Volume (vph)	119	295	13	12	558	182	23	46	26	111	13	58
Future Volume (vph)	119	295	13	12	558	182	23	46	26	111	13	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-4%			0%			0%	
Total Lost time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.98		1.00	0.98		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00		0.96	1.00
Satd. Flow (prot)	1702	3483		1838	3610	1548		1868	1586		1732	1422
Flt Permitted	0.38	1.00		0.56	1.00	1.00		0.85	1.00		0.70	1.00
Satd. Flow (perm)	675	3483		1074	3610	1548		1606	1586		1263	1422
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	125	311	14	13	587	192	24	48	27	117	14	61
RTOR Reduction (vph)	0	2	0	0	0	83	0	0	23	0	0	52
Lane Group Flow (vph)	125	323	0	13	587	109	0	72	4	0	131	9
Confl. Peds. (#/hr)	2		4	4		2	2		8	8		2
Heavy Vehicles (%)	6%	3%	0%	0%	2%	4%	0%	0%	0%	5%	0%	12%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2		2	4		4	8		8
Actuated Green, G (s)	64.3	57.6		52.9	51.9	51.9		13.2	13.2		13.2	13.2
Effective Green, g (s)	64.3	57.6		52.9	51.9	51.9		13.2	13.2		13.2	13.2
Actuated g/C Ratio	0.70	0.63		0.58	0.57	0.57		0.14	0.14		0.14	0.14
Clearance Time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		0.2	0.2		2.0	2.0
Lane Grp Cap (vph)	547	2185		627	2040	875		230	228		181	204
v/s Ratio Prot	c0.02	0.09		0.00	c0.16							
v/s Ratio Perm	0.14			0.01		0.07		0.04	0.00		c0.10	0.01
v/c Ratio	0.23	0.15		0.02	0.29	0.12		0.31	0.02		0.72	0.04
Uniform Delay, d1	4.8	7.0		8.3	10.4	9.3		35.2	33.7		37.6	33.9
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.1		0.0	0.4	0.3		0.3	0.0		11.5	0.0
Delay (s)	4.9	7.2		8.3	10.7	9.6		35.5	33.7		49.0	33.9
Level of Service	A	A		A	B	A		D	C		D	C
Approach Delay (s)		6.5			10.4			35.0			44.2	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	91.8	Sum of lost time (s)	20.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 11: Dawes Ave & Seminary Rd

2045 Base
 Timing Plan: AM

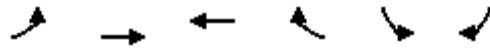


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Traffic Volume (vph)	37	897	7	66	1109	96	17	11	37	24	8	20
Future Volume (vph)	37	897	7	66	1109	96	17	11	37	24	8	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	9	13	13	12	16	12	12	11	11
Grade (%)		-1%			0%			0%			0%	
Total Lost time (s)	6.9	6.9		1.9	1.9			6.5			6.5	6.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1472	3411		1546	4000			1862			1657	1193
Flt Permitted	0.19	1.00		0.29	1.00			0.90			0.74	1.00
Satd. Flow (perm)	289	3411		469	3494			1696			1278	1193
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)	39	934	7	69	1155	100	18	11	39	25	8	21
RTOR Reduction (vph)	0	0	0	0	2	0	0	36	0	0	0	19
Lane Group Flow (vph)	39	941	0	69	1253	0	0	32	0	0	33	2
Confl. Peds. (#/hr)	10		5	5		10	7					7
Heavy Vehicles (%)	15%	4%	17%	5%	3%	3%	6%	0%	6%	9%	0%	28%
Bus Blockages (#/hr)	0	10	0	0	10	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		4
Actuated Green, G (s)	109.4	105.0		107.8	104.2			11.1			11.1	11.1
Effective Green, g (s)	109.4	105.0		117.8	109.2			11.1			11.1	11.1
Actuated g/C Ratio	0.78	0.75		0.84	0.78			0.08			0.08	0.08
Clearance Time (s)	6.9	6.9		6.9	6.9			6.5			6.5	6.5
Vehicle Extension (s)	2.0	2.0		0.2	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	263	2558		460	3120			134			101	94
v/s Ratio Prot	0.00	0.28		c0.01	c0.31							
v/s Ratio Perm	0.11			0.12				0.02			c0.03	0.00
v/c Ratio	0.15	0.37		0.15	0.40			0.24			0.33	0.02
Uniform Delay, d1	4.6	6.0		2.0	4.9			60.5			60.9	59.4
Progression Factor	1.00	1.00		0.12	0.16			1.00			1.00	1.00
Incremental Delay, d2	0.1	0.4		0.0	0.3			0.3			0.7	0.0
Delay (s)	4.7	6.5		0.3	1.2			60.8			61.6	59.5
Level of Service	A	A		A	A			E			E	E
Approach Delay (s)		6.4			1.1			60.8			60.8	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 12: Seminary Rd & Fillmore Ave

2045 Base
 Timing Plan: AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔↑	↔↑		↔	
Traffic Volume (veh/h)	39	970	1270	17	8	39
Future Volume (Veh/h)	39	970	1270	17	8	39
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	41	1021	1337	18	8	41
Pedestrians					4	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		462	533			
pX, platoon unblocked	0.81				0.86	0.81
vC, conflicting volume	1359				1942	682
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	976				1281	141
tC, single (s)	4.6				6.8	7.2
tC, 2 stage (s)						
tF (s)	2.5				3.5	3.5
p0 queue free %	91				94	94
cM capacity (veh/h)	467				125	675
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	381	681	891	464	49	
Volume Left	41	0	0	0	8	
Volume Right	0	0	0	18	41	
cSH	467	1700	1700	1700	393	
Volume to Capacity	0.09	0.40	0.52	0.27	0.12	
Queue Length 95th (ft)	7	0	0	0	11	
Control Delay (s)	2.8	0.0	0.0	0.0	15.5	
Lane LOS	A				C	
Approach Delay (s)	1.0		0.0		15.5	
Approach LOS					C	
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			65.3%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 13: Heritage Ln/Fairbanks Ave & Seminary Rd

2045 Base
 Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (veh/h)	5	1052	2	10	1314	13	0	0	16	14	0	8
Future Volume (Veh/h)	5	1052	2	10	1314	13	0	0	16	14	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	1143	2	11	1428	14	0	0	17	15	0	9
Pedestrians		1						7			3	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		521			707							
pX, platoon unblocked	0.82			0.85			0.89	0.89	0.85	0.89	0.89	0.82
vC, conflicting volume	1445			1152			1907	2628	580	2058	2622	725
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1094			815			999	1806	138	1168	1799	212
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			100	100	98	88	100	99
cM capacity (veh/h)	525			691			171	69	750	128	70	650
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	576	574	725	728	17	24						
Volume Left	5	0	11	0	0	15						
Volume Right	0	2	0	14	17	9						
cSH	525	1700	691	1700	750	183						
Volume to Capacity	0.01	0.34	0.02	0.43	0.02	0.13						
Queue Length 95th (ft)	1	0	1	0	2	11						
Control Delay (s)	0.3	0.0	0.4	0.0	9.9	27.6						
Lane LOS	A		A		A	D						
Approach Delay (s)	0.1		0.2		9.9	27.6						
Approach LOS					A	D						
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			58.6%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
 14: Mark Center Ave & Seminary Rd

2045 Base
 Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑↑		↖	↑↑↑↑	↗		↑	↗↗↗	↖	↗↗	
Traffic Volume (vph)	20	1361	38	223	1824	87	12	26	154	248	55	44
Future Volume (vph)	20	1361	38	223	1824	87	12	26	154	248	55	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	13	12	12	12	12	12	10	10	10
Grade (%)		0%			-1%			0%			0%	
Total Lost time (s)	1.6	1.7		1.8	1.7	1.7		2.2	1.8	2.6	2.6	
Lane Util. Factor	1.00	0.86		1.00	0.91	1.00		1.00	0.76	0.91	0.91	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (prot)	1543	5700		1900	5700	1328		1419	3191	1446	2783	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (perm)	1543	6354		1820	5061	1328		1419	3191	1446	2783	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	1403	39	230	1880	90	12	27	159	256	57	45
RTOR Reduction (vph)	0	2	0	0	0	38	0	0	0	0	16	0
Lane Group Flow (vph)	21	1440	0	230	1880	52	0	39	159	128	214	0
Confl. Peds. (#/hr)	6		1	1		6	19					19
Heavy Vehicles (%)	17%	2%	17%	3%	3%	18%	18%	38%	14%	6%	22%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	9	0	0	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	pm+ov	Split	NA	
Protected Phases	1	6		5	2		4	4	5	3	3	
Permitted Phases						2			4			
Actuated Green, G (s)	4.5	58.2		22.2	76.1	76.1		7.1	29.3	24.2	24.2	
Effective Green, g (s)	9.5	63.2		27.2	81.1	81.1		12.1	39.3	29.2	29.2	
Actuated g/C Ratio	0.07	0.45		0.19	0.58	0.58		0.09	0.28	0.21	0.21	
Clearance Time (s)	6.6	6.7		6.8	6.7	6.7		7.2	6.8	7.6	7.6	
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2		2.0	3.0	4.0	4.0	
Lane Grp Cap (vph)	104	2573		369	3301	769		122	895	301	580	
v/s Ratio Prot	0.01	0.25		c0.12	c0.33			c0.03	0.03	c0.09	0.08	
v/s Ratio Perm						0.04			0.02			
v/c Ratio	0.20	0.56		0.62	0.57	0.07		0.32	0.18	0.43	0.37	
Uniform Delay, d1	61.7	28.2		51.7	18.5	12.9		60.1	38.1	48.1	47.5	
Progression Factor	1.26	0.72		1.21	0.77	0.02		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	0.7		3.2	0.7	0.2		0.6	0.1	1.3	0.5	
Delay (s)	78.8	21.2		65.9	15.0	0.4		60.6	38.2	49.4	48.0	
Level of Service	E	C		E	B	A		E	D	D	D	
Approach Delay (s)		22.0			19.7			42.6			48.5	
Approach LOS		C			B			D			D	

Intersection Summary		
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.55	C
Actuated Cycle Length (s)	140.0	Sum of lost time (s)
Intersection Capacity Utilization	70.2%	ICU Level of Service
Analysis Period (min)	15	C
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis
 15: Kenmore Ave/Library Ln & Seminary Rd

2045 Base
 Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↖	↗
Traffic Volume (vph)	237	998	15	26	1196	87	60	5	23	62	6	57
Future Volume (vph)	237	998	15	26	1196	87	60	5	23	62	6	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.97			1.00	0.90
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.95			0.94	1.00
Fr _t	1.00	1.00		1.00	0.99			0.96			1.00	0.85
Fl _t Protected	0.95	1.00		0.95	1.00			0.97			0.96	1.00
Satd. Flow (prot)	1787	5021		1808	5056			1626			1674	1457
Fl _t Permitted	0.14	1.00		0.25	1.00			0.75			0.70	1.00
Satd. Flow (perm)	271	5021		470	5056			1260			1228	1457
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)	258	1085	16	28	1300	95	65	5	25	67	7	62
RTOR Reduction (vph)	0	0	0	0	0	0	0	9	0	0	0	0
Lane Group Flow (vph)	258	1101	0	28	1395	0	0	86	0	0	74	62
Confl. Peds. (#/hr)	8		95	95		8	26		31	31		26
Heavy Vehicles (%)	1%	3%	0%	0%	2%	0%	0%	0%	0%	2%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			3			3	
Permitted Phases	6			2			3			3		3
Actuated Green, G (s)	115.5	106.4		93.3	90.2			12.5			12.5	12.5
Effective Green, g (s)	115.5	106.4		93.3	90.2			12.5			12.5	12.5
Actuated g/C Ratio	0.82	0.76		0.67	0.64			0.09			0.09	0.09
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Vehicle Extension (s)	2.0	0.2		2.0	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	432	3815		342	3257			112			109	130
v/s Ratio Prot	c0.08	0.22		0.00	0.28							
v/s Ratio Perm	c0.41			0.05				c0.07			0.06	0.04
v/c Ratio	0.60	0.29		0.08	0.43			0.77			0.68	0.48
Uniform Delay, d ₁	8.2	5.2		7.9	12.2			62.3			61.8	60.6
Progression Factor	2.29	0.79		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d ₂	1.3	0.2		0.0	0.4			24.1			12.4	1.0
Delay (s)	20.2	4.2		7.9	12.6			86.4			74.2	61.6
Level of Service	C	A		A	B			F			E	E
Approach Delay (s)		7.3			12.6			86.4			68.5	
Approach LOS		A			B			F			E	

Intersection Summary

HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 1: N Beauregard St & Little River Tpke

2045 Base
 Timing Plan: PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	353	1203	31	118	1305	522	138	120	78	848	72	234
Future Volume (vph)	353	1203	31	118	1305	522	138	120	78	848	72	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00
Satd. Flow (prot)	3502	3488		1787	3539	1478	1719	1863	1544	1665	1689	1503
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00
Satd. Flow (perm)	3502	3488		1787	3539	1478	1719	1863	1544	1665	1689	1503
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	364	1240	32	122	1345	538	142	124	80	874	74	241
RTOR Reduction (vph)	0	0	0	0	0	30	0	0	0	0	0	96
Lane Group Flow (vph)	364	1272	0	122	1345	508	142	124	80	472	476	145
Confl. Peds. (#/hr)	32		6	6		32	13		8	8		13
Heavy Vehicles (%)	0%	3%	4%	1%	2%	4%	5%	2%	3%	3%	0%	3%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	5	2		1	6	3	4	4	1	3	3	
Permitted Phases						6			4			3
Actuated Green, G (s)	22.7	88.0		15.6	79.6	141.3	17.8	17.8	33.4	61.7	61.7	61.7
Effective Green, g (s)	22.7	88.0		15.6	79.6	141.3	17.8	17.8	33.4	61.7	61.7	61.7
Actuated g/C Ratio	0.11	0.42		0.07	0.38	0.67	0.08	0.08	0.16	0.29	0.29	0.29
Clearance Time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	378	1461		132	1341	994	145	157	245	489	496	441
v/s Ratio Prot	c0.10	c0.36		0.07	c0.38	0.15	c0.08	0.07	0.02	c0.28	0.28	
v/s Ratio Perm						0.19			0.03			0.10
v/c Ratio	0.96	0.87		0.92	1.00	0.51	0.98	0.79	0.33	0.97	0.96	0.33
Uniform Delay, d1	93.2	55.8		96.6	65.2	17.1	95.9	94.3	78.3	73.1	72.9	58.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.97	1.03
Incremental Delay, d2	36.4	7.4		54.7	25.3	0.4	67.7	22.7	0.3	23.8	22.4	0.3
Delay (s)	129.6	63.2		151.3	90.5	17.6	163.6	116.9	78.6	94.3	92.7	59.8
Level of Service	F	E		F	F	B	F	F	E	F	F	E
Approach Delay (s)		77.9			74.6			127.2			86.7	
Approach LOS		E			E			F			F	
Intersection Summary												
HCM 2000 Control Delay			82.0	HCM 2000 Level of Service				F				
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			210.0	Sum of lost time (s)				28.2				
Intersection Capacity Utilization			95.7%	ICU Level of Service				F				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2045 Base
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↔		↕	↕↔	
Traffic Volume (vph)	1	0	3	205	1	61	10	453	103	36	452	1
Future Volume (vph)	1	0	3	205	1	61	10	453	103	36	452	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes		0.99			1.00	0.99	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00	1.00	1.00		1.00	1.00	
Frt		0.90			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1663			1730	1563	1804	3415		1748	3573	
Flt Permitted		0.93			0.73	1.00	0.48	1.00		0.39	1.00	
Satd. Flow (perm)		1574			1317	1563	910	3415		724	3573	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	0	3	216	1	64	11	477	108	38	476	1
RTOR Reduction (vph)	0	3	0	0	0	45	0	16	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	217	19	11	569	0	38	477	0
Confl. Peds. (#/hr)	2		10	10		2	2		12	12		2
Heavy Vehicles (%)	0%	0%	0%	4%	0%	2%	0%	1%	7%	3%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	6			2		
Actuated Green, G (s)		15.8			15.8	15.8	20.2	18.1		20.2	19.4	
Effective Green, g (s)		15.8			15.8	15.8	20.2	18.1		20.2	19.4	
Actuated g/C Ratio		0.30			0.30	0.30	0.38	0.34		0.38	0.37	
Clearance Time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		469			392	465	360	1166		316	1307	
v/s Ratio Prot							0.00	c0.17		c0.00	0.13	
v/s Ratio Perm		0.00			c0.16	0.01	0.01			0.04		
v/c Ratio		0.00			0.55	0.04	0.03	0.49		0.12	0.36	
Uniform Delay, d1		13.1			15.6	13.2	10.2	13.8		10.4	12.3	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0			1.7	0.0	0.0	0.3		0.2	0.2	
Delay (s)		13.1			17.3	13.3	10.2	14.1		10.6	12.5	
Level of Service		B			B	B	B	B		B	B	
Approach Delay (s)		13.1			16.4			14.0			12.3	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			13.9								HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			53.0								Sum of lost time (s)	17.0
Intersection Capacity Utilization			54.0%								ICU Level of Service	A
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

3: N Beauregard St & Quantrell Ave

2045 Base
Timing Plan: PM

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↖	↑↑	↗	↘	↑↑
Traffic Volume (vph)	90	89	438	74	52	399
Future Volume (vph)	90	89	438	74	52	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	12	10	12
Grade (%)	3%		0%			-5%
Total Lost time (s)	6.0	6.0	5.3	5.3	8.3	8.3
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	*0.95
Frbp, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1627	1347	3455	1573	1721	3800
Flt Permitted	0.95	1.00	1.00	1.00	0.48	1.00
Satd. Flow (perm)	1627	1347	3455	1573	877	3664
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	96	95	466	79	55	424
RTOR Reduction (vph)	0	84	0	22	0	0
Lane Group Flow (vph)	96	11	466	57	55	424
Confl. Peds. (#/hr)				9	9	
Heavy Vehicles (%)	2%	1%	1%	0%	0%	1%
Parking (#/hr)		3				
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			2
Permitted Phases	4	4	2	2	2	2
Actuated Green, G (s)	8.1	8.1	48.8	48.8	48.8	48.8
Effective Green, g (s)	8.1	8.1	48.8	48.8	45.8	45.8
Actuated g/C Ratio	0.12	0.12	0.72	0.72	0.67	0.67
Clearance Time (s)	6.0	6.0	5.3	5.3	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	193	159	2472	1125	588	2551
v/s Ratio Prot			c0.13			0.11
v/s Ratio Perm	c0.06	0.01		0.04	0.06	
v/c Ratio	0.50	0.07	0.19	0.05	0.09	0.17
Uniform Delay, d1	28.1	26.7	3.2	2.9	3.9	4.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.2	0.2	0.1	0.3	0.1
Delay (s)	30.2	26.9	3.4	2.9	4.2	4.3
Level of Service	C	C	A	A	A	A
Approach Delay (s)	28.5		3.3			4.3
Approach LOS	C		A			A
Intersection Summary						
HCM 2000 Control Delay			7.7		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.25			
Actuated Cycle Length (s)			68.2		Sum of lost time (s)	14.3
Intersection Capacity Utilization			41.8%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
4: N Beauregard St & Sanger Ave

2045 Base
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔	↔	↔	↔↔		↔	↔↔	
Traffic Volume (vph)	53	64	42	202	59	174	58	409	355	283	437	66
Future Volume (vph)	53	64	42	202	59	174	58	409	355	283	437	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	11	11	11	10	12	12	10	12	12
Grade (%)		-2%			2%			0%				-3%
Total Lost time (s)		6.0			6.0	6.0	0.3	0.3		8.3	8.3	
Lane Util. Factor		0.95			1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes		0.97			1.00	1.00	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.96			1.00	0.85	1.00	0.93		1.00	0.98	
Flt Protected		0.98			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3118			1737	1530	1645	3550		1676	3800	
Flt Permitted		0.98			0.96	1.00	0.46	1.00		0.11	1.00	
Satd. Flow (perm)		3118			1737	1530	793	3279		200	3513	
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)	55	67	44	210	61	181	60	426	370	295	455	69
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	166	0	0	271	181	60	796	0	295	524	0
Confl. Peds. (#/hr)	10		25	25		10	17		8	8		17
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	2%	2%	1%	2%	2%	0%
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8	8	5	1	6		5	2
Permitted Phases							6				2	
Actuated Green, G (s)		11.8			29.1	63.8	57.8	53.2		87.2	77.3	
Effective Green, g (s)		11.8			29.1	63.8	67.8	58.2		84.2	74.3	
Actuated g/C Ratio		0.07			0.18	0.39	0.42	0.36		0.52	0.46	
Clearance Time (s)		6.0			6.0		5.3	5.3		5.3	5.3	
Vehicle Extension (s)		3.0			3.0		3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		226			311	601	381	1272		337	1738	
v/s Ratio Prot		c0.05			c0.16	0.12	0.01	0.22		c0.14	0.14	
v/s Ratio Perm							0.06			c0.32		
v/c Ratio		0.73			0.87	0.30	0.16	0.63		0.88	0.30	
Uniform Delay, d1		73.8			64.8	33.9	28.6	43.1		42.3	27.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		11.7			22.4	0.3	0.2	2.3		21.5	0.4	
Delay (s)		85.4			87.2	34.2	28.8	45.4		63.8	28.2	
Level of Service		F			F	C	C	D		E	C	
Approach Delay (s)		85.4			66.0			44.3			41.0	
Approach LOS		F			E			D			D	























Intersection Summary			
HCM 2000 Control Delay	50.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	162.4	Sum of lost time (s)	23.6
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

5: N Beauregard St & Mark Center Dr

2045 Base
Timing Plan: PM























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	5	10	43	1	67	8	826	16	103	901	32
Future Volume (vph)	47	5	10	43	1	67	8	826	16	103	901	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	12	11	12	10	12	12	11	12	12
Total Lost time (s)	6.0	6.0			6.0	5.0	0.0	0.3		8.0	8.3	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.91		0.97	0.95	
Frbp, ped/bikes	1.00	0.99			1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			0.99	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1652	1378			1514	1538	1685	5700		2969	3800	
Flt Permitted	0.73	1.00			0.72	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1263	1378			1142	1538	1685	5048		2969	3551	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	50	5	11	46	1	71	9	879	17	110	959	34
RTOR Reduction (vph)	0	10	0	0	0	56	0	1	0	0	1	0
Lane Group Flow (vph)	50	6	0	0	47	15	9	895	0	110	992	0
Confl. Peds. (#/hr)			6	6			12		5	5		12
Heavy Vehicles (%)	2%	0%	20%	15%	0%	5%	0%	1%	33%	14%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	19.0	19.0			19.0	28.7	1.4	95.0		9.7	103.3	
Effective Green, g (s)	19.0	19.0			19.0	28.7	6.4	100.0		6.7	100.3	
Actuated g/C Ratio	0.14	0.14			0.14	0.20	0.05	0.71		0.05	0.72	
Clearance Time (s)	6.0	6.0			6.0	5.0	5.0	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	0.2		2.0	0.2	
Lane Grp Cap (vph)	171	187			154	315	77	4071		142	2722	
v/s Ratio Prot		0.00				0.00	0.01	0.16		c0.04	c0.26	
v/s Ratio Perm	0.04				c0.04	0.01						
v/c Ratio	0.29	0.03			0.31	0.05	0.12	0.22		0.77	0.36	
Uniform Delay, d1	54.5	52.5			54.5	44.7	64.1	6.8		65.9	7.6	
Progression Factor	1.00	1.00			1.00	1.00	1.14	0.74		1.09	1.17	
Incremental Delay, d2	0.3	0.0			0.4	0.0	0.2	0.1		18.6	0.3	
Delay (s)	54.8	52.6			55.0	44.7	73.2	5.2		90.2	9.2	
Level of Service	D	D			D	D	E	A		F	A	
Approach Delay (s)		54.3			48.8			5.8			17.3	
Approach LOS		D			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			15.4									B
HCM 2000 Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			140.0								14.3	
Intersection Capacity Utilization			56.5%									B
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: N Beauregard St & Seminary Rd

2045 Base
Timing Plan: PM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	44	1176	390	400	942	184	269	228	449	173	267	50	
Future Volume (vph)	44	1176	390	400	942	184	269	228	449	173	267	50	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	13	12	16	13	12	12	11	12	16	10	11	13	
Grade (%)		-1%			-1%			0%				2%	
Total Lost time (s)	2.2	1.0		2.8	1.0	1.0	2.3	1.4	2.8	2.3	1.4		
Lane Util. Factor	1.00	0.91		0.94	0.95	1.00	0.97	0.95	1.00	1.00	0.95		
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1874	5700		3800	3800	1571	3800	3471	1797	1588	3296		
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1874	4914		5034	3557	1571	3385	3471	1797	1588	3296		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	45	1200	398	408	961	188	274	233	458	177	272	51	
RTOR Reduction (vph)	0	35	0	0	0	84	0	0	87	0	13	0	
Lane Group Flow (vph)	45	1563	0	408	961	104	274	233	371	177	310	0	
Confl. Peds. (#/hr)	7		2	2		7	6		6	6		6	
Heavy Vehicles (%)	0%	2%	1%	5%	2%	1%	0%	4%	1%	5%	2%	2%	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		
Protected Phases	1	6		5	2		7	4	5	3	8		
Permitted Phases						2			4				
Actuated Green, G (s)	7.3	55.8		23.6	72.7	72.7	14.8	16.4	40.0	16.7	18.3		
Effective Green, g (s)	12.3	60.8		28.6	77.7	77.7	19.8	21.4	50.0	21.7	23.3		
Actuated g/C Ratio	0.09	0.43		0.20	0.56	0.56	0.14	0.15	0.36	0.15	0.17		
Clearance Time (s)	7.2	6.0		7.8	6.0	6.0	7.3	6.4	7.8	7.3	6.4		
Vehicle Extension (s)	2.5	0.2		2.5	0.2	0.2	2.5	2.5	2.5	2.5	2.5		
Lane Grp Cap (vph)	164	2475		776	2109	871	537	530	641	246	548		
v/s Ratio Prot	0.02	c0.27		0.11	0.25		0.07	0.07	c0.12	c0.11	c0.09		
v/s Ratio Perm						0.07			0.09				
v/c Ratio	0.27	0.63		0.53	0.46	0.12	0.51	0.44	0.58	0.72	0.57		
Uniform Delay, d1	59.7	30.9		49.7	18.6	14.8	55.6	53.9	36.5	56.3	53.7		
Progression Factor	0.90	0.65		0.71	0.40	0.12	1.03	0.67	1.33	0.86	1.04		
Incremental Delay, d2	0.5	1.0		0.5	0.7	0.3	0.6	0.4	1.0	9.0	1.1		
Delay (s)	54.5	21.1		35.6	8.0	2.1	57.9	36.5	49.5	57.4	57.1		
Level of Service	D	C		D	A	A	E	D	D	E	E		
Approach Delay (s)		22.0			14.5			48.7			57.2		
Approach LOS		C			B			D			E		
Intersection Summary													
HCM 2000 Control Delay			28.8									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.61										
Actuated Cycle Length (s)			140.0									Sum of lost time (s)	7.5
Intersection Capacity Utilization			79.5%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

7: N Beauregard St & E Campus Dr/W Braddock Rd

2045 Base
Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↔		↖	↗		↖	↗	
Traffic Volume (vph)	7	13	9	99	6	331	52	295	196	314	432	30
Future Volume (vph)	7	13	9	99	6	331	52	295	196	314	432	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	13	10	11	12	11	11	13	11	12	12
Grade (%)		-6%			-4%			-2%			2%	
Total Lost time (s)	5.8	5.8		5.8	5.8		0.0	0.3		0.0	0.3	
Lane Util. Factor	1.00	0.95		0.91	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.86		1.00	0.94		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1735	3197		1422	2865		1762	3800		1710	3800	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1735	3197		1422	2865		1762	3068		1710	3404	
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)	8	14	10	108	7	360	57	321	213	341	470	33
RTOR Reduction (vph)	0	9	0	0	319	0	0	53	0	0	2	0
Lane Group Flow (vph)	8	15	0	97	59	0	57	481	0	341	501	0
Confl. Peds. (#/hr)	3		4	4		3	11		14	14		11
Heavy Vehicles (%)	0%	0%	0%	10%	0%	0%	0%	5%	4%	1%	4%	0%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	8	0	0	0	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.6	8.6		15.8	15.8		8.1	62.2		31.5	85.6	
Effective Green, g (s)	8.6	8.6		15.8	15.8		13.1	67.2		36.5	90.6	
Actuated g/C Ratio	0.06	0.06		0.11	0.11		0.09	0.48		0.26	0.65	
Clearance Time (s)	5.8	5.8		5.8	5.8		5.0	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	0.2		3.0	0.2	
Lane Grp Cap (vph)	106	196		160	323		164	1824		445	2459	
v/s Ratio Prot	c0.00	0.00		c0.07	0.02		0.03	c0.13		c0.20	0.13	
v/s Ratio Perm												
v/c Ratio	0.08	0.07		0.61	0.18		0.35	0.26		0.77	0.20	
Uniform Delay, d1	62.0	61.9		59.1	56.2		59.4	21.7		47.8	10.0	
Progression Factor	1.00	1.00		1.00	1.00		1.18	0.74		0.97	1.04	
Incremental Delay, d2	0.1	0.1		4.4	0.1		1.3	0.4		7.5	0.2	
Delay (s)	62.1	62.0		63.5	56.3		71.5	16.3		53.8	10.6	
Level of Service	E	E		E	E		E	B		D	B	
Approach Delay (s)		62.0			57.8			21.7			28.1	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			33.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)		11.9			
Intersection Capacity Utilization			61.3%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 8: N Beauregard St/S Walter Reed Dr & King St

2045 Base
 Timing Plan: PM



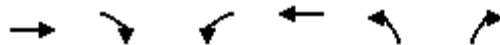
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Traffic Volume (vph)	154	1173	292	70	1068	83	287	251	139	241	404	241
Future Volume (vph)	154	1173	292	70	1068	83	287	251	139	241	404	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	8.3	5.7		8.3	5.8		7.7	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	3444		1480	3523		3502	3246		1787	3504	1578
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1787	3444		1480	3523		3502	3246		1787	3504	1578
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	162	1235	307	74	1124	87	302	264	146	254	425	254
RTOR Reduction (vph)	0	16	0	0	4	0	0	55	0	0	0	175
Lane Group Flow (vph)	162	1526	0	74	1207	0	302	355	0	254	425	79
Confl. Peds. (#/hr)	8		21	21		8	1		15	15		1
Heavy Vehicles (%)	1%	1%	1%	22%	1%	4%	0%	1%	10%	0%	2%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	13.7	63.3		8.5	58.0		12.5	18.6		20.2	26.3	26.3
Effective Green, g (s)	13.7	63.3		8.5	58.0		12.5	18.6		20.2	26.3	26.3
Actuated g/C Ratio	0.10	0.45		0.06	0.41		0.09	0.13		0.14	0.19	0.19
Clearance Time (s)	8.3	5.7		8.3	5.8		7.7	7.7		7.7	7.7	7.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	174	1557		89	1459		312	431		257	658	296
v/s Ratio Prot	0.09	c0.44		0.05	c0.34		0.09	c0.11		c0.14	c0.12	
v/s Ratio Perm												0.05
v/c Ratio	0.93	0.98		0.83	0.83		0.97	0.82		0.99	0.65	0.27
Uniform Delay, d1	62.7	37.7		65.0	36.5		63.6	59.1		59.8	52.5	48.6
Progression Factor	1.00	1.00		1.00	1.00		0.85	0.77		1.00	1.00	1.00
Incremental Delay, d2	48.0	18.6		43.9	5.5		39.8	10.8		52.2	1.6	0.2
Delay (s)	110.6	56.3		108.9	42.0		94.1	56.4		112.0	54.2	48.8
Level of Service	F	E		F	D		F	E		F	D	D
Approach Delay (s)		61.5			45.9			72.4			68.5	
Approach LOS		E			D			E			E	

Intersection Summary		
HCM 2000 Control Delay	60.2	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.00	E
Actuated Cycle Length (s)	140.0	Sum of lost time (s)
Intersection Capacity Utilization	105.2%	29.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		G

HCM Signalized Intersection Capacity Analysis

9: N Hampton Dr & King St

2045 Base
Timing Plan: PM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	1394	181	129	1209	78	117
Future Volume (vph)	1394	181	129	1209	78	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frbp, ped/bikes	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3452		1787	3574	1626	1615
Flt Permitted	1.00		0.10	1.00	0.95	1.00
Satd. Flow (perm)	3452		187	3574	1626	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1422	185	132	1234	80	119
RTOR Reduction (vph)	6	0	0	0	0	108
Lane Group Flow (vph)	1601	0	132	1234	80	11
Confl. Peds. (#/hr)		38	38			
Heavy Vehicles (%)	1%	4%	1%	1%	11%	0%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		4	4
Actuated Green, G (s)	83.0		96.7	96.7	11.3	11.3
Effective Green, g (s)	83.0		96.7	96.7	11.3	11.3
Actuated g/C Ratio	0.69		0.81	0.81	0.09	0.09
Clearance Time (s)	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	0.2		2.0	0.2	3.0	3.0
Lane Grp Cap (vph)	2387		266	2880	153	152
v/s Ratio Prot	c0.46		0.04	c0.35		
v/s Ratio Perm			0.36		c0.05	0.01
v/c Ratio	0.67		0.50	0.43	0.52	0.07
Uniform Delay, d1	10.6		10.1	3.5	51.8	49.6
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5		0.5	0.5	3.2	0.2
Delay (s)	12.2		10.7	3.9	55.0	49.8
Level of Service	B		B	A	D	D
Approach Delay (s)	12.2			4.6	51.9	
Approach LOS	B			A	D	
Intersection Summary						
HCM 2000 Control Delay			11.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.64			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	17.0
Intersection Capacity Utilization			71.8%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
 10: N Hampton Dr & W Braddock Rd

2045 Base
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗		↖	↗		↖	↗
Traffic Volume (vph)	107	414	29	30	400	154	11	27	22	166	28	108
Future Volume (vph)	107	414	29	30	400	154	11	27	22	166	28	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-4%			0%			0%	
Total Lost time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Fr	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00		0.96	1.00
Satd. Flow (prot)	1684	3533		1835	3646	1587		1870	1515		1802	1482
Flt Permitted	0.46	1.00		0.48	1.00	1.00		0.88	1.00		0.73	1.00
Satd. Flow (perm)	823	3533		921	3646	1587		1664	1515		1367	1482
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)	116	450	32	33	435	167	12	29	24	180	30	117
RTOR Reduction (vph)	0	4	0	0	0	80	0	0	20	0	0	95
Lane Group Flow (vph)	116	478	0	33	435	87	0	41	4	0	210	22
Confl. Peds. (#/hr)	5		11	11		5	8		4	4		8
Heavy Vehicles (%)	7%	1%	0%	0%	1%	1%	0%	0%	5%	1%	0%	7%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2		2	4		4	8		8
Actuated Green, G (s)	58.5	51.7		51.3	48.1	48.1		17.0	17.0		17.0	17.0
Effective Green, g (s)	58.5	51.7		51.3	48.1	48.1		17.0	17.0		17.0	17.0
Actuated g/C Ratio	0.64	0.56		0.56	0.52	0.52		0.18	0.18		0.18	0.18
Clearance Time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		0.2	0.2		2.0	2.0
Lane Grp Cap (vph)	587	1987		545	1908	830		307	280		252	274
v/s Ratio Prot	c0.01	c0.14		0.00	0.12							
v/s Ratio Perm	0.11			0.03		0.06		0.02	0.00		c0.15	0.02
v/c Ratio	0.20	0.24		0.06	0.23	0.11		0.13	0.02		0.83	0.08
Uniform Delay, d1	6.6	10.2		9.1	11.9	11.0		31.3	30.6		36.1	31.0
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.3		0.0	0.3	0.3		0.1	0.0		19.6	0.0
Delay (s)	6.7	10.5		9.1	12.1	11.3		31.4	30.6		55.7	31.0
Level of Service	A	B		A	B	B		C	C		E	C
Approach Delay (s)		9.7			11.8			31.1			46.9	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	91.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 11: Dawes Ave & Seminary Rd

2045 Base
 Timing Plan: PM

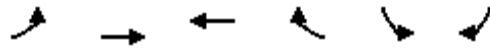


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↗	↖
Traffic Volume (vph)	31	1495	5	120	1068	38	17	4	39	94	15	49
Future Volume (vph)	31	1495	5	120	1068	38	17	4	39	94	15	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	9	13	13	12	16	12	12	11	11
Grade (%)		-1%			0%			0%			0%	
Total Lost time (s)	6.9	6.9		1.9	1.9			6.5			6.5	6.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1445	3470		1608	4000			1894			1688	1426
Flt Permitted	0.21	1.00		0.11	1.00			0.88			0.74	1.00
Satd. Flow (perm)	325	3470		185	3560			1696			1312	1426
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)	32	1557	5	125	1112	40	18	4	41	98	16	51
RTOR Reduction (vph)	0	0	0	0	1	0	0	36	0	0	0	44
Lane Group Flow (vph)	32	1562	0	125	1152	0	0	27	0	0	114	7
Confl. Peds. (#/hr)	16		6	6		16	8					8
Heavy Vehicles (%)	17%	2%	0%	1%	2%	6%	0%	0%	3%	5%	0%	7%
Bus Blockages (#/hr)	0	12	0	0	9	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		4
Actuated Green, G (s)	97.6	94.5		106.0	98.7			17.9			17.9	17.9
Effective Green, g (s)	97.6	94.5		113.7	103.7			17.9			17.9	17.9
Actuated g/C Ratio	0.70	0.68		0.81	0.74			0.13			0.13	0.13
Clearance Time (s)	6.9	6.9		6.9	6.9			6.5			6.5	6.5
Vehicle Extension (s)	2.0	2.0		2.0	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	251	2342		275	2962			216			167	182
v/s Ratio Prot	0.00	c0.45		c0.04	0.29							
v/s Ratio Perm	0.09			0.33				0.02			c0.09	0.00
v/c Ratio	0.13	0.67		0.45	0.39			0.13			0.68	0.04
Uniform Delay, d1	7.2	13.4		9.9	6.6			54.1			58.3	53.5
Progression Factor	1.00	1.00		4.57	0.49			1.00			1.00	1.00
Incremental Delay, d2	0.1	1.5		0.4	0.4			0.1			8.8	0.0
Delay (s)	7.2	15.0		45.6	3.6			54.2			67.2	53.5
Level of Service	A	B		D	A			D			E	D
Approach Delay (s)		14.8			7.7			54.2			62.9	
Approach LOS		B			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 12: Seminary Rd & Fillmore Ave

2045 Base
 Timing Plan: PM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↔		↔↔	
Traffic Volume (veh/h)	54	1588	1185	17	4	66
Future Volume (Veh/h)	54	1588	1185	17	4	66
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	56	1637	1222	18	4	68
Pedestrians					11	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		462	533			
pX, platoon unblocked	0.83				0.80	0.83
vC, conflicting volume	1251				2172	631
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	888				1009	139
tC, single (s)	4.3				6.8	7.1
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	91				98	90
cM capacity (veh/h)	592				173	705
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	602	1091	815	425	72	
Volume Left	56	0	0	0	4	
Volume Right	0	0	0	18	68	
cSH	592	1700	1700	1700	602	
Volume to Capacity	0.09	0.64	0.48	0.25	0.12	
Queue Length 95th (ft)	8	0	0	0	10	
Control Delay (s)	2.6	0.0	0.0	0.0	11.8	
Lane LOS	A				B	
Approach Delay (s)	0.9		0.0		11.8	
Approach LOS					B	
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			93.1%		ICU Level of Service	F
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 13: Heritage Ln/Fairbanks Ave & Seminary Rd

2045 Base
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (veh/h)	6	1650	0	10	1283	8	0	0	5	7	0	8
Future Volume (Veh/h)	6	1650	0	10	1283	8	0	0	5	7	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	6	1774	0	11	1380	9	0	0	5	8	0	9
Pedestrians								5			15	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		521			707							
pX, platoon unblocked	0.84			0.62			0.70	0.70	0.62	0.70	0.70	0.84
vC, conflicting volume	1404			1779			2512	3217	892	2326	3212	710
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1101			1020			1268	2280	0	1000	2274	275
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			100	100	99	94	100	99
cM capacity (veh/h)	532			423			84	27	670	131	27	605
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	893	887	701	699	5	17						
Volume Left	6	0	11	0	0	8						
Volume Right	0	0	0	9	5	9						
cSH	532	1700	423	1700	670	224						
Volume to Capacity	0.01	0.52	0.03	0.41	0.01	0.08						
Queue Length 95th (ft)	1	0	2	0	1	6						
Control Delay (s)	0.4	0.0	0.8	0.0	10.4	22.4						
Lane LOS	A		A		B	C						
Approach Delay (s)	0.2		0.4		10.4	22.4						
Approach LOS					B	C						
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			63.7%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
 14: Mark Center Ave & Seminary Rd

2045 Base
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑↑		↖	↑↑↑↑	↗		↗	↑↑↑↑	↖	↑↑	
Traffic Volume (vph)	27	1755	17	37	1410	177	33	16	392	198	25	56
Future Volume (vph)	27	1755	17	37	1410	177	33	16	392	198	25	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	13	12	12	12	12	12	10	10	10
Grade (%)		0%			-1%			0%			0%	
Total Lost time (s)	1.6	1.7		1.8	1.7	6.7		2.2	1.8	2.6	2.6	
Lane Util. Factor	1.00	0.86		1.00	0.91	1.00		1.00	0.76	0.91	0.91	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.96		1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97	1.00	0.95	0.97	
Satd. Flow (prot)	1736	5700		1900	5700	1426		1470	3446	1446	2675	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.97	1.00	0.95	0.97	
Satd. Flow (perm)	1736	6381		1616	5111	1426		1470	3446	1446	2675	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	1867	18	39	1500	188	35	17	417	211	27	60
RTOR Reduction (vph)	0	0	0	0	0	69	0	0	0	0	42	0
Lane Group Flow (vph)	29	1885	0	39	1500	119	0	52	417	105	151	0
Confl. Peds. (#/hr)	11					11	7					7
Heavy Vehicles (%)	4%	2%	31%	16%	2%	9%	10%	56%	5%	6%	48%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	13	0	0	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	pm+ov	Split	NA	
Protected Phases	1	6		5	2		4	4	5	3	3	
Permitted Phases						2			4			
Actuated Green, G (s)	5.4	74.2		10.3	79.3	79.3		8.4	18.7	18.8	18.8	
Effective Green, g (s)	10.4	79.2		15.3	84.3	79.3		13.4	28.7	23.8	23.8	
Actuated g/C Ratio	0.07	0.57		0.11	0.60	0.57		0.10	0.20	0.17	0.17	
Clearance Time (s)	6.6	6.7		6.8	6.7	6.7		7.2	6.8	7.6	7.6	
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2		2.0	3.0	4.0	4.0	
Lane Grp Cap (vph)	128	3224		207	3432	807		140	706	245	454	
v/s Ratio Prot	0.02	c0.33		0.02	0.26			0.04	c0.06	c0.07	0.06	
v/s Ratio Perm						0.08			0.06			
v/c Ratio	0.23	0.58		0.19	0.44	0.15		0.37	0.59	0.43	0.33	
Uniform Delay, d1	61.0	19.7		56.7	15.0	14.4		59.4	50.3	52.0	51.1	
Progression Factor	1.30	0.53		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.6		0.4	0.4	0.4		0.6	1.3	1.6	0.6	
Delay (s)	79.8	11.1		57.1	15.4	14.7		60.0	51.7	53.7	51.7	
Level of Service	E	B		E	B	B		E	D	D	D	
Approach Delay (s)		12.1			16.3			52.6			52.4	
Approach LOS		B			B			D			D	

Intersection Summary		
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.57	C
Actuated Cycle Length (s)	140.0	Sum of lost time (s)
Intersection Capacity Utilization	57.4%	ICU Level of Service
Analysis Period (min)	15	B
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis
 15: Kenmore Ave/Library Ln & Seminary Rd

2045 Base
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕			↖	↗
Traffic Volume (vph)	195	1140	18	27	808	62	15	12	11	84	21	45
Future Volume (vph)	195	1140	18	27	808	62	15	12	11	84	21	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	0.93
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1769	5073		1814	5009			1749			1820	1436
Flt Permitted	0.25	1.00		0.21	1.00			0.84			0.74	1.00
Satd. Flow (perm)	471	5073		405	5009			1498			1404	1436
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	210	1226	19	29	869	67	16	13	12	90	23	48
RTOR Reduction (vph)	0	1	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	210	1244	0	29	936	0	0	30	0	0	113	48
Confl. Peds. (#/hr)	4		6	6		4	21		2	2		21
Heavy Vehicles (%)	2%	2%	0%	0%	3%	0%	0%	0%	0%	0%	0%	5%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			3			3	
Permitted Phases	6			2			3			3		3
Actuated Green, G (s)	85.5	76.4		70.2	67.1			12.5			12.5	12.5
Effective Green, g (s)	85.5	76.4		70.2	67.1			12.5			12.5	12.5
Actuated g/C Ratio	0.78	0.69		0.64	0.61			0.11			0.11	0.11
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Vehicle Extension (s)	2.0	0.2		2.0	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	512	3523		298	3055			170			159	163
v/s Ratio Prot	c0.05	0.25		0.00	0.19						c0.08	0.03
v/s Ratio Perm	c0.27			0.06				0.02				0.03
v/c Ratio	0.41	0.35		0.10	0.31			0.18			0.71	0.29
Uniform Delay, d1	3.8	6.8		7.3	10.3			44.1			47.0	44.7
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.2	0.3		0.1	0.3			0.2			11.7	0.4
Delay (s)	4.0	7.1		7.4	10.5			44.3			58.7	45.1
Level of Service	A	A		A	B			D			E	D
Approach Delay (s)		6.6			10.5			44.3			54.7	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Queues
1: N Beauregard St & Little River Tpke

2045 Base
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	302	1251	40	1223	419	116	63	46	369	371	242
v/c Ratio	0.82	0.75	0.48	0.88	0.40	0.89	0.43	0.25	0.84	0.84	0.43
Control Delay	96.7	44.4	101.9	59.7	7.3	132.3	88.0	68.4	67.3	66.9	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.7	44.4	101.9	59.7	7.3	132.3	88.0	68.4	67.3	66.9	13.5
Queue Length 50th (ft)	181	663	47	729	100	138	72	47	358	360	67
Queue Length 95th (ft)	239	804	94	#928	160	#265	128	91	m430	m431	m102
Internal Link Dist (ft)		669		376			336			734	
Turn Bay Length (ft)	400		220			135					
Base Capacity (vph)	391	1662	89	1387	1049	134	151	188	501	505	610
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.75	0.45	0.88	0.40	0.87	0.42	0.24	0.74	0.73	0.40

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

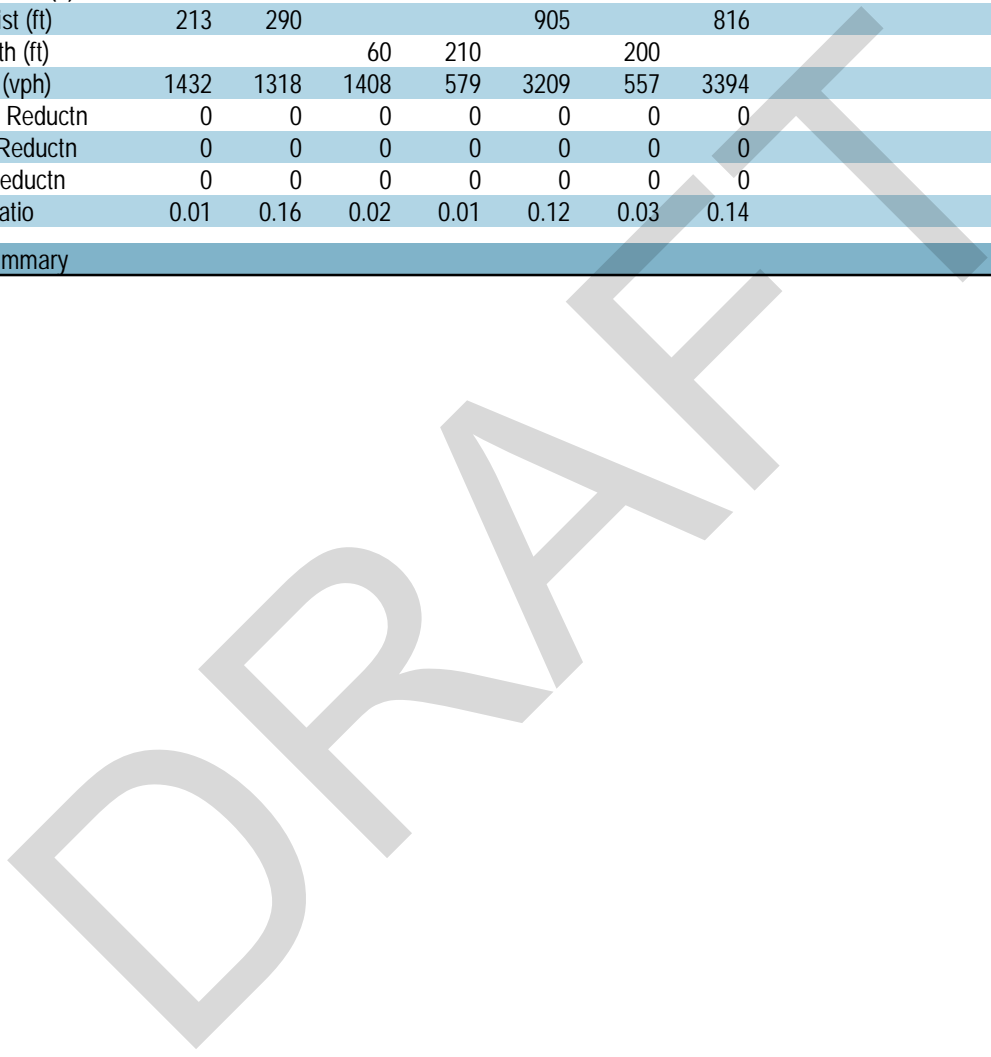
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Queues
2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2045 Base
Timing Plan: AM



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	214	31	5	383	18	487
v/c Ratio	0.02	0.49	0.06	0.01	0.34	0.04	0.41
Control Delay	0.1	16.4	1.6	8.8	12.4	9.1	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.1	16.4	1.6	8.8	12.4	9.1	13.1
Queue Length 50th (ft)	0	30	0	1	26	2	35
Queue Length 95th (ft)	0	122	6	6	93	12	118
Internal Link Dist (ft)	213	290			905		816
Turn Bay Length (ft)			60	210		200	
Base Capacity (vph)	1432	1318	1408	579	3209	557	3394
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.16	0.02	0.01	0.12	0.03	0.14
Intersection Summary							

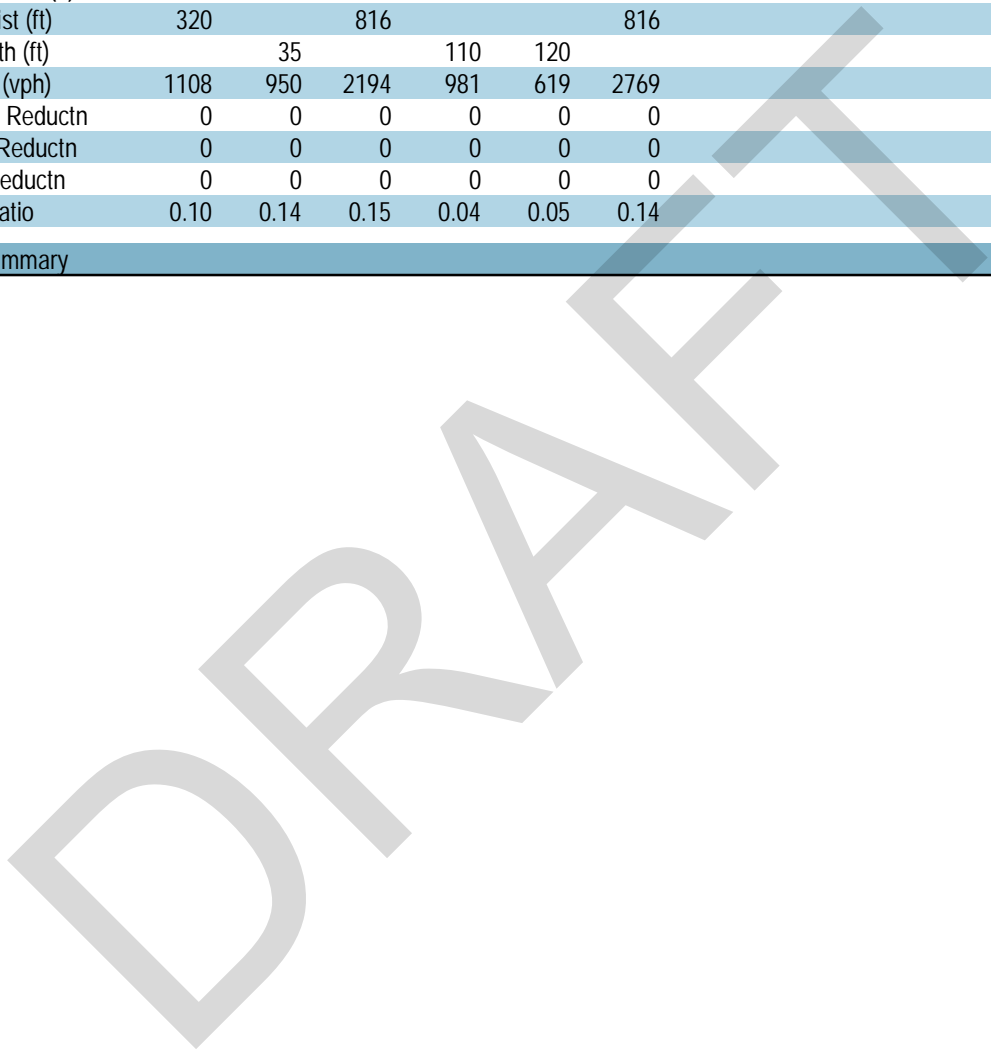


Queues
3: N Beauregard St & Quantrell Ave

2045 Base
Timing Plan: AM



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	110	130	321	43	31	397
v/c Ratio	0.42	0.40	0.15	0.04	0.05	0.14
Control Delay	26.6	8.9	4.6	1.9	2.9	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	8.9	4.6	1.9	2.9	2.8
Queue Length 50th (ft)	34	0	18	0	2	15
Queue Length 95th (ft)	74	38	37	9	9	32
Internal Link Dist (ft)	320		816			816
Turn Bay Length (ft)		35		110	120	
Base Capacity (vph)	1108	950	2194	981	619	2769
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	0.10	0.14	0.15	0.04	0.05	0.14
Intersection Summary						

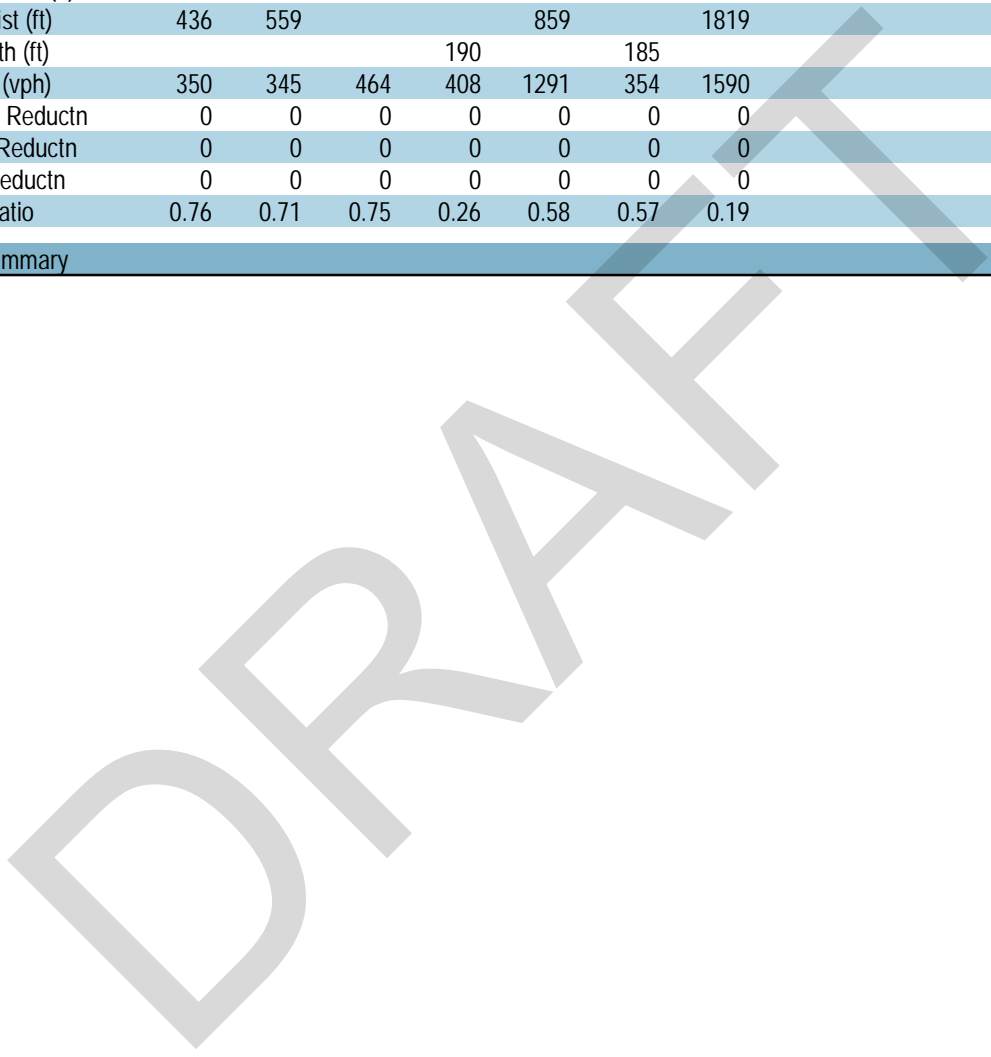


Queues
4: N Beauregard St & Sanger Ave

2045 Base
Timing Plan: AM



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	265	246	348	106	747	202	307
v/c Ratio	0.82	0.73	0.76	0.27	0.58	0.58	0.19
Control Delay	93.9	78.4	65.7	32.7	49.9	33.7	35.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.9	78.4	65.7	32.7	49.9	33.7	35.9
Queue Length 50th (ft)	154	262	351	78	408	146	133
Queue Length 95th (ft)	210	370	481	126	489	212	177
Internal Link Dist (ft)	436	559			859		1819
Turn Bay Length (ft)				190		185	
Base Capacity (vph)	350	345	464	408	1291	354	1590
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.71	0.75	0.26	0.58	0.57	0.19
Intersection Summary							



Queues
5: N Beauregard St & Mark Center Dr

2045 Base
Timing Plan: AM



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	33	8	17	41	7	1071	307	775
v/c Ratio	0.23	0.04	0.15	0.08	0.06	0.32	0.35	0.24
Control Delay	55.2	32.7	52.9	2.5	76.7	12.4	44.9	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	32.7	52.9	2.5	76.7	12.4	44.9	2.9
Queue Length 50th (ft)	30	3	15	0	6	104	128	13
Queue Length 95th (ft)	56	18	35	12	25	198	178	251
Internal Link Dist (ft)		251	541			712		713
Turn Bay Length (ft)					175		390	
Base Capacity (vph)	330	400	252	525	237	3361	883	3207
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.02	0.07	0.08	0.03	0.32	0.35	0.24
Intersection Summary								

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Queues
6: N Beauregard St & Seminary Rd

2045 Base
Timing Plan: AM

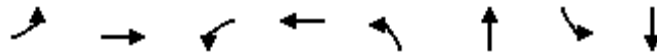


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	37	1156	657	1123	203	275	266	513	98	254
v/c Ratio	0.22	0.49	0.65	0.49	0.20	0.56	0.47	0.72	0.60	0.53
Control Delay	66.8	20.4	27.4	4.2	0.7	54.4	35.0	29.0	90.1	48.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.8	20.4	27.4	4.2	0.7	54.4	35.0	29.0	90.1	48.8
Queue Length 50th (ft)	35	212	185	25	0	98	106	170	93	100
Queue Length 95th (ft)	51	214	180	30	1	186	121	221	157	152
Internal Link Dist (ft)		243		352			713			1255
Turn Bay Length (ft)	125		350		355	190		585	245	
Base Capacity (vph)	177	2358	1009	2295	1014	507	923	710	170	817
Starvation Cap Reductn	0	0	0	113	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.49	0.65	0.51	0.20	0.54	0.29	0.72	0.58	0.31
Intersection Summary										

DRAFT

Queues
7: N Beauregard St & E Campus Dr/W Braddock Rd

2045 Base
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	8	128	549	13	560	163	208
v/c Ratio	0.01	0.01	0.69	0.67	0.09	0.25	0.57	0.08
Control Delay	52.0	0.0	75.9	9.3	61.2	15.2	69.1	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	0.0	75.9	9.3	61.2	15.2	69.1	9.9
Queue Length 50th (ft)	1	0	125	8	13	97	157	18
Queue Length 95th (ft)	6	0	185	59	28	263	214	97
Internal Link Dist (ft)		185		1746		1053		742
Turn Bay Length (ft)	125		200		85		200	
Base Capacity (vph)	361	1072	377	1118	155	2274	331	2765
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.01	0.34	0.49	0.08	0.25	0.49	0.08
Intersection Summary								

DRAFT

Queues
8: N Beauregard St/S Walter Reed Dr & King St

2045 Base
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	148	1208	78	1146	389	557	158	125	172
v/c Ratio	0.94	0.87	0.87	0.88	0.96	0.84	0.73	0.17	0.40
Control Delay	119.0	46.2	127.0	49.7	83.8	50.3	78.4	44.6	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.0	46.2	127.0	49.7	83.8	50.3	78.4	44.6	12.3
Queue Length 50th (ft)	136	529	72	513	186	248	139	49	19
Queue Length 95th (ft)	#273	#737	#174	#722	#278	306	#234	74	79
Internal Link Dist (ft)		919		1047		564		898	
Turn Bay Length (ft)	425		425		395		200		200
Base Capacity (vph)	158	1395	90	1307	407	916	220	917	514
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.87	0.87	0.88	0.96	0.61	0.72	0.14	0.33

Intersection Summary

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

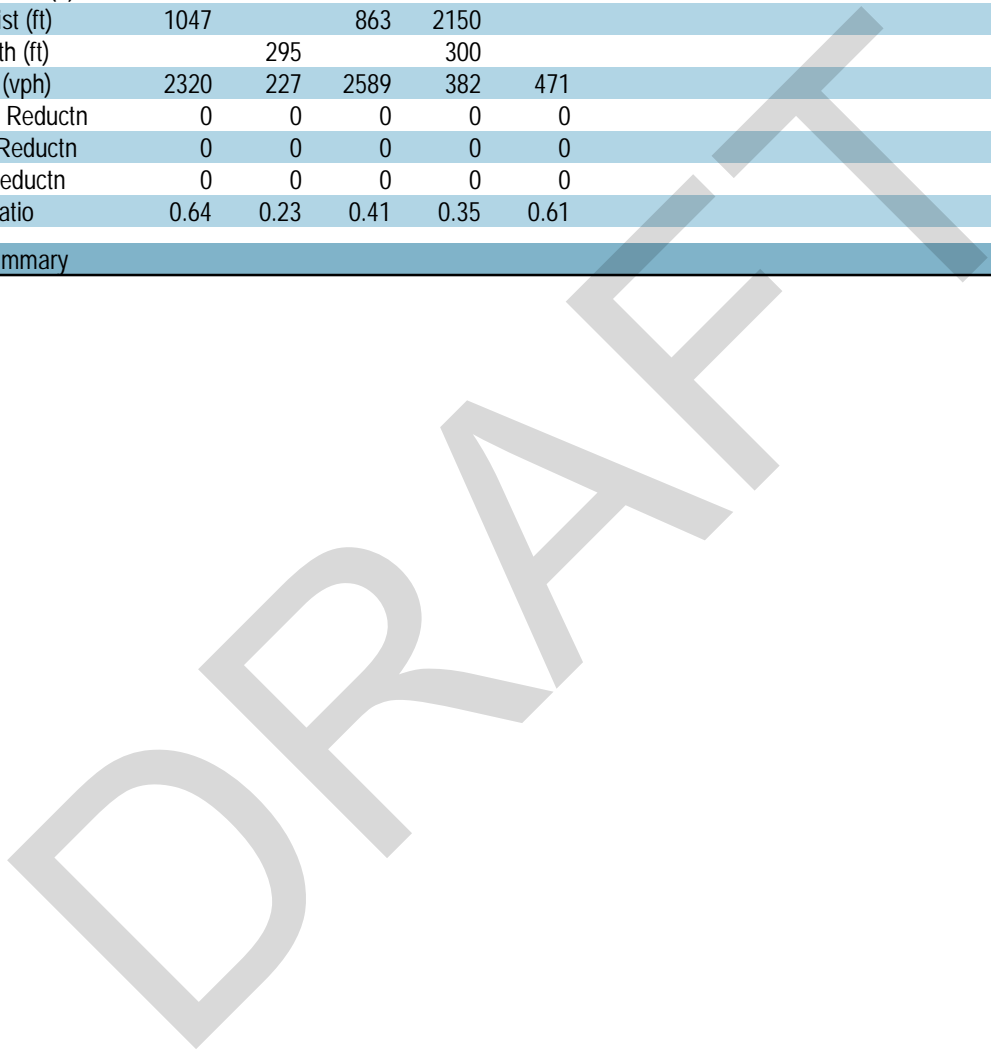


Queues
9: N Hampton Dr & King St

2045 Base
Timing Plan: AM



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1487	52	1073	134	287
v/c Ratio	0.64	0.24	0.41	0.53	0.82
Control Delay	14.6	7.6	6.9	52.9	45.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	7.6	6.9	52.9	45.1
Queue Length 50th (ft)	332	9	139	97	126
Queue Length 95th (ft)	520	25	235	148	210
Internal Link Dist (ft)	1047		863	2150	
Turn Bay Length (ft)		295		300	
Base Capacity (vph)	2320	227	2589	382	471
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	0.64	0.23	0.41	0.35	0.61
Intersection Summary					



Queues
10: N Hampton Dr & W Braddock Rd

2045 Base
Timing Plan: AM

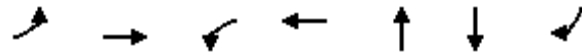


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	125	325	13	587	192	72	27	131	61
v/c Ratio	0.23	0.14	0.02	0.30	0.21	0.30	0.08	0.68	0.19
Control Delay	6.2	6.7	5.9	12.5	2.7	35.0	0.5	52.2	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.2	6.7	5.9	12.5	2.7	35.0	0.5	52.2	2.0
Queue Length 50th (ft)	19	26	2	86	0	34	0	67	0
Queue Length 95th (ft)	47	74	9	149	35	74	0	127	5
Internal Link Dist (ft)		1746		786		210		2150	
Turn Bay Length (ft)	185		185		185				40
Base Capacity (vph)	647	2329	875	1935	919	373	457	294	420
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.14	0.01	0.30	0.21	0.19	0.06	0.45	0.15
Intersection Summary									

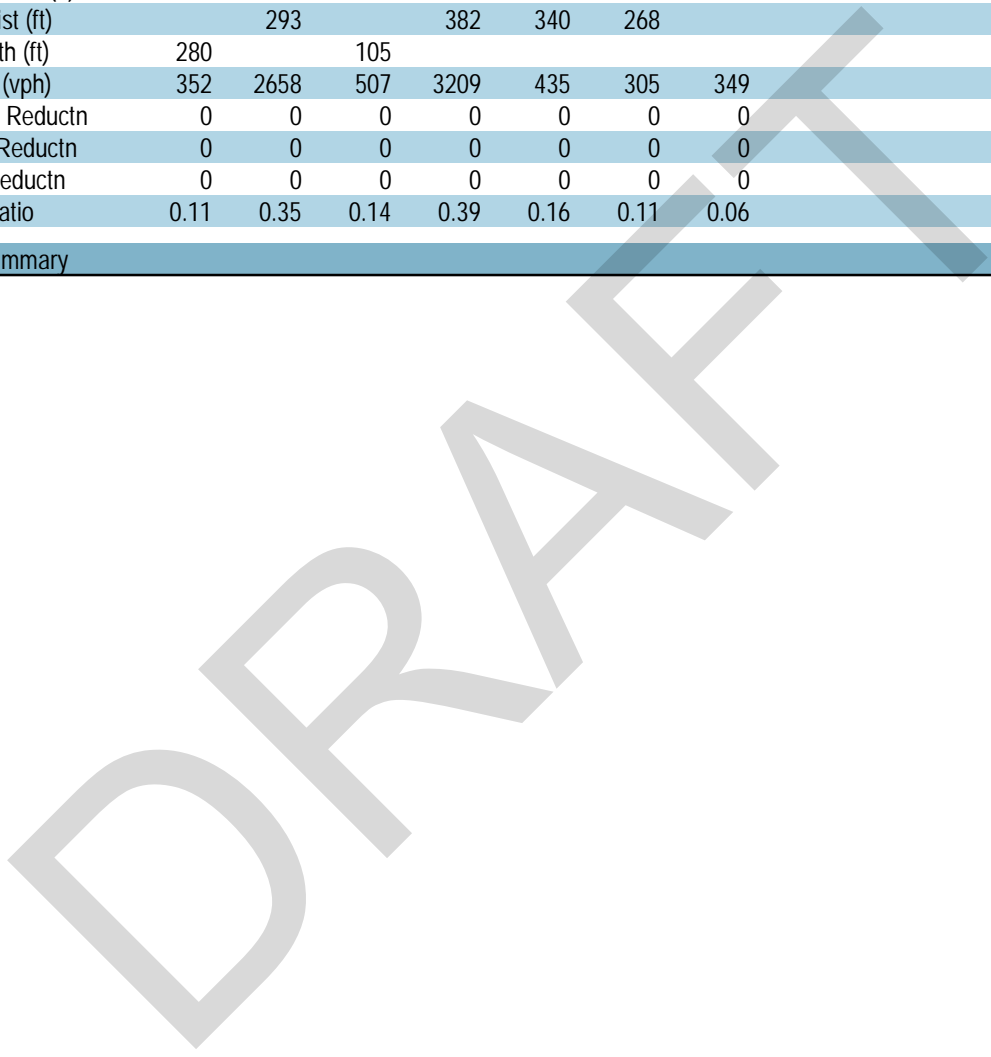
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Queues
11: Dawes Ave & Seminary Rd

2045 Base
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	39	941	69	1255	68	33	21
v/c Ratio	0.14	0.35	0.15	0.39	0.36	0.29	0.11
Control Delay	5.2	7.7	0.9	1.3	32.5	62.2	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	7.7	0.9	1.3	32.5	62.2	1.2
Queue Length 50th (ft)	4	124	2	23	26	30	0
Queue Length 95th (ft)	23	288	2	14	64	56	0
Internal Link Dist (ft)		293		382	340	268	
Turn Bay Length (ft)	280		105				
Base Capacity (vph)	352	2658	507	3209	435	305	349
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.35	0.14	0.39	0.16	0.11	0.06
Intersection Summary							



Queues
14: Mark Center Ave & Seminary Rd

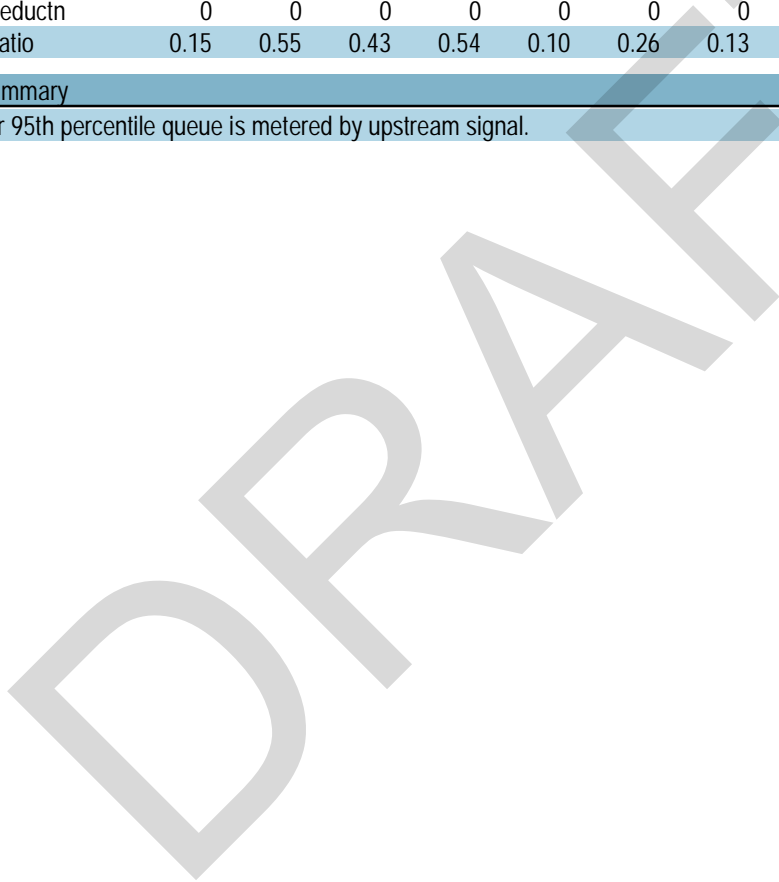
2045 Base
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	1442	230	1880	90	39	159	128	230
v/c Ratio	0.16	0.55	0.62	0.54	0.10	0.29	0.17	0.43	0.39
Control Delay	77.5	23.6	69.3	16.4	0.2	63.9	35.6	50.1	43.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.5	23.6	69.3	16.4	0.2	63.9	35.6	50.1	43.4
Queue Length 50th (ft)	0	147	207	283	0	34	46	117	95
Queue Length 95th (ft)	m34	401	299	348	m0	72	64	162	118
Internal Link Dist (ft)		203		1074		625			271
Turn Bay Length (ft)	205				255		225	100	
Base Capacity (vph)	136	2634	532	3471	864	151	1186	437	857
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.55	0.43	0.54	0.10	0.26	0.13	0.29	0.27

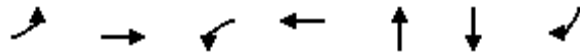
Intersection Summary

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



Queues
15: Kenmore Ave/Library Ln & Seminary Rd

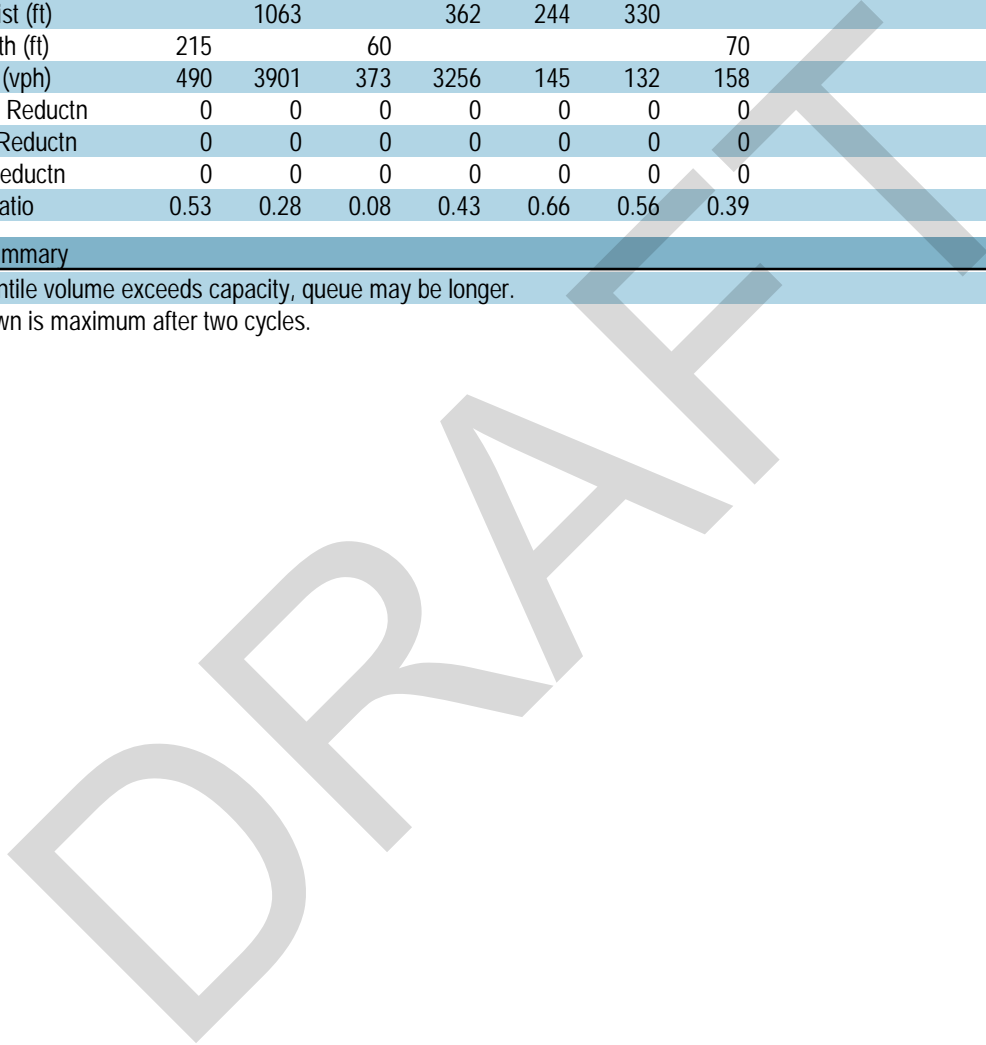
2045 Base
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	258	1101	28	1395	95	74	62
v/c Ratio	0.60	0.28	0.08	0.43	0.77	0.67	0.47
Control Delay	22.2	4.2	5.4	13.7	92.2	89.8	71.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	4.2	5.4	13.7	92.2	89.8	71.5
Queue Length 50th (ft)	67	263	4	223	76	66	54
Queue Length 95th (ft)	140	9	10	303	#152	121	103
Internal Link Dist (ft)		1063		362	244	330	
Turn Bay Length (ft)	215		60				70
Base Capacity (vph)	490	3901	373	3256	145	132	158
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.28	0.08	0.43	0.66	0.56	0.39

Intersection Summary

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



Queues
1: N Beauregard St & Little River Tpke

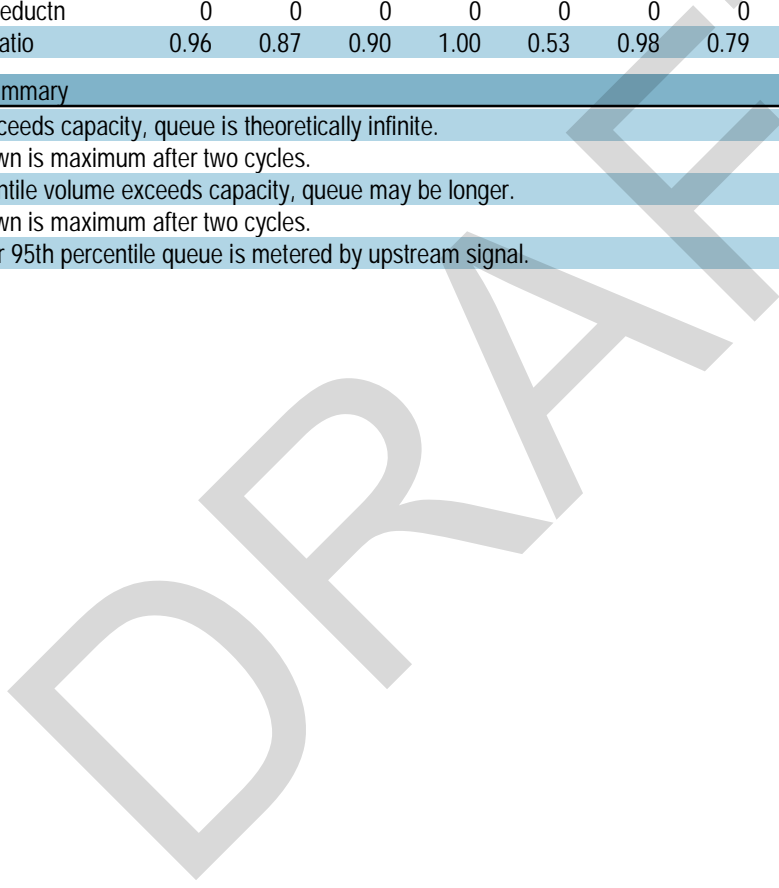
2045 Base
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	364	1272	122	1345	538	142	124	80	472	476	241
v/c Ratio	0.96	0.87	0.92	1.00	0.53	0.98	0.79	0.32	0.97	0.96	0.45
Control Delay	128.5	63.7	152.2	88.5	14.2	160.5	125.2	76.0	94.0	93.0	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	128.5	63.7	152.2	88.5	14.2	160.5	125.2	76.0	94.0	93.3	27.6
Queue Length 50th (ft)	263	854	171	~1005	264	200	172	95	605	610	107
Queue Length 95th (ft)	#377	956	#313	#1158	347	#367	#289	157	m#853	m#858	m186
Internal Link Dist (ft)		669		376			336			734	
Turn Bay Length (ft)	400		220			135					
Base Capacity (vph)	378	1462	135	1342	1012	145	157	253	493	499	540
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	1	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.87	0.90	1.00	0.53	0.98	0.79	0.32	0.96	0.96	0.45

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

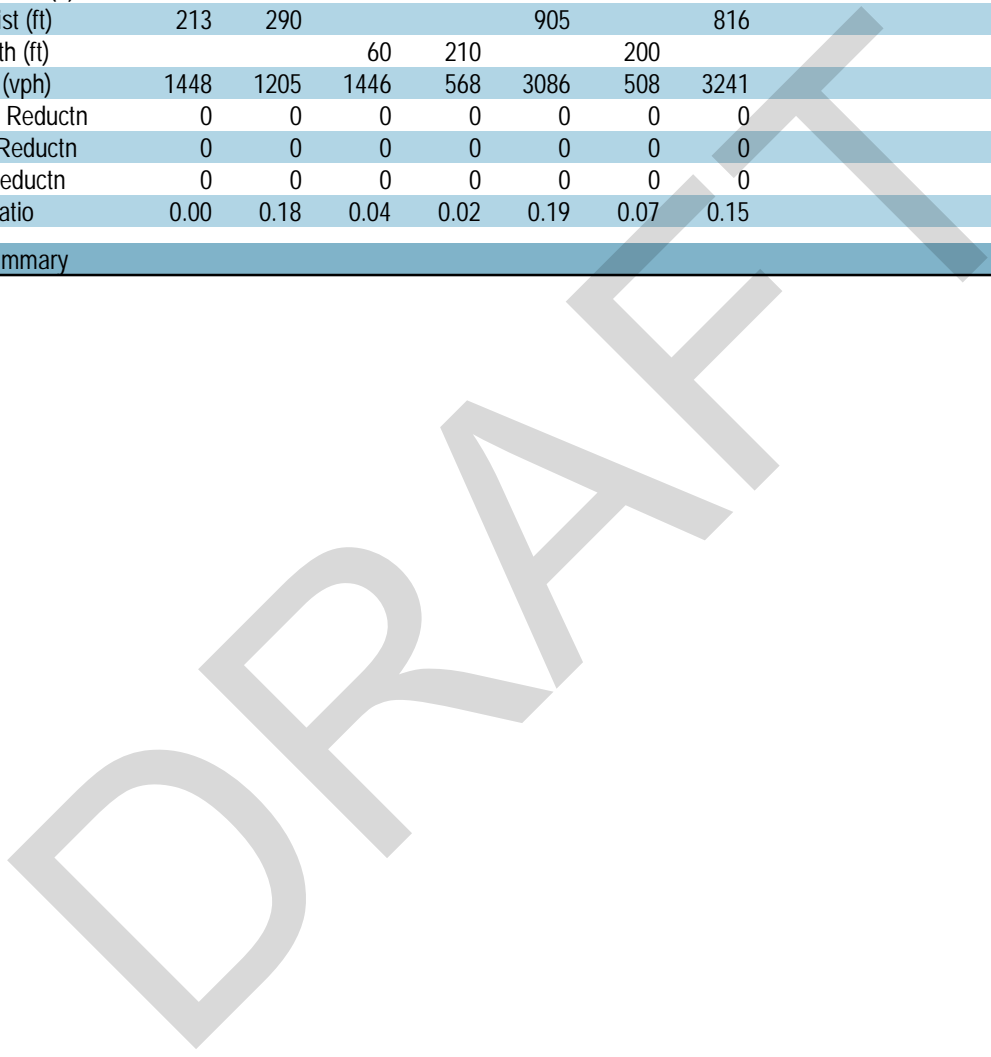


Queues
2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2045 Base
Timing Plan: PM



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	4	217	64	11	585	38	477
v/c Ratio	0.01	0.52	0.12	0.02	0.49	0.09	0.34
Control Delay	0.0	21.2	5.4	8.5	15.4	9.1	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.0	21.2	5.4	8.5	15.4	9.1	12.3
Queue Length 50th (ft)	0	39	0	2	51	6	41
Queue Length 95th (ft)	0	142	23	9	152	21	122
Internal Link Dist (ft)	213	290			905		816
Turn Bay Length (ft)			60	210		200	
Base Capacity (vph)	1448	1205	1446	568	3086	508	3241
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.18	0.04	0.02	0.19	0.07	0.15
Intersection Summary							

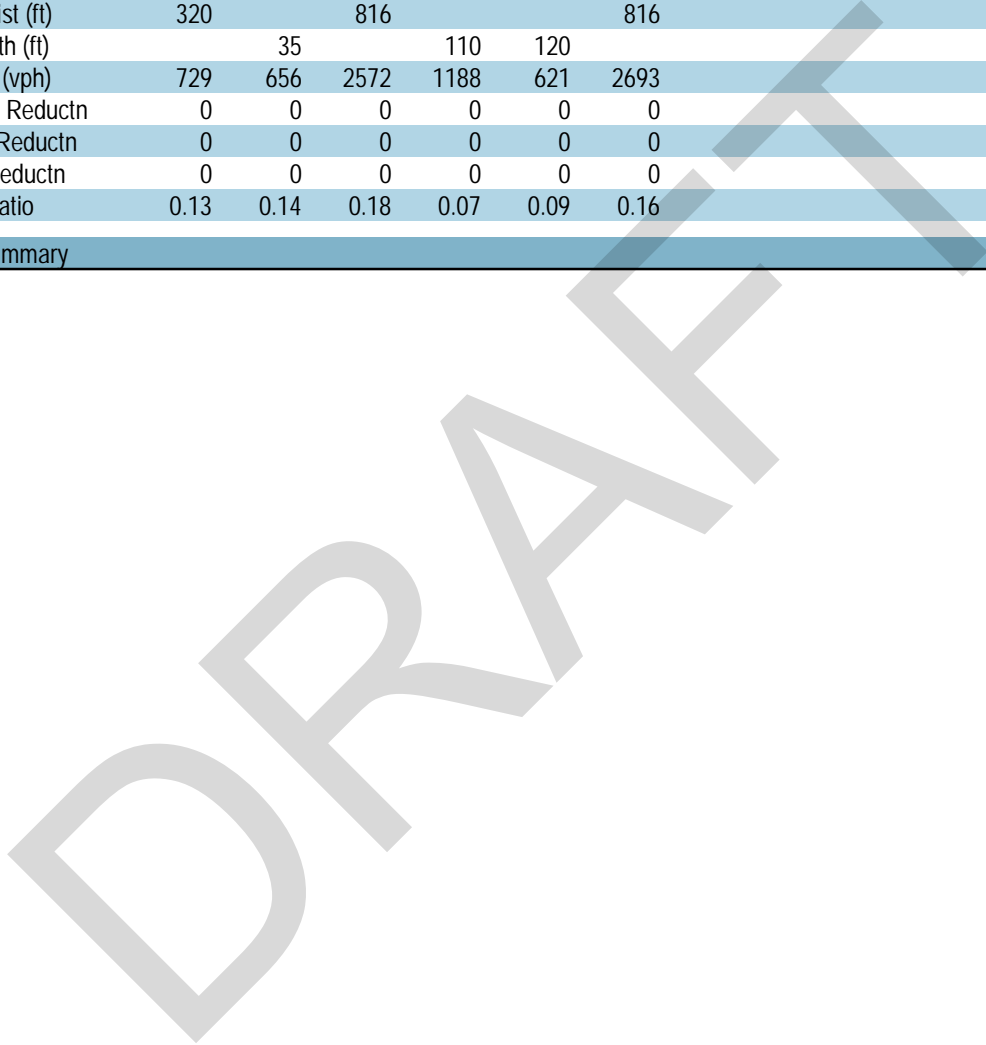


Queues
3: N Beauregard St & Quantrell Ave

2045 Base
Timing Plan: PM



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	96	95	466	79	55	424
v/c Ratio	0.42	0.35	0.18	0.07	0.09	0.16
Control Delay	31.9	10.3	3.9	1.3	5.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	10.3	3.9	1.3	5.6	4.8
Queue Length 50th (ft)	36	0	28	0	7	31
Queue Length 95th (ft)	77	36	52	12	22	54
Internal Link Dist (ft)	320		816			816
Turn Bay Length (ft)		35		110	120	
Base Capacity (vph)	729	656	2572	1188	621	2693
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	0.13	0.14	0.18	0.07	0.09	0.16
Intersection Summary						



Queues
4: N Beauregard St & Sanger Ave

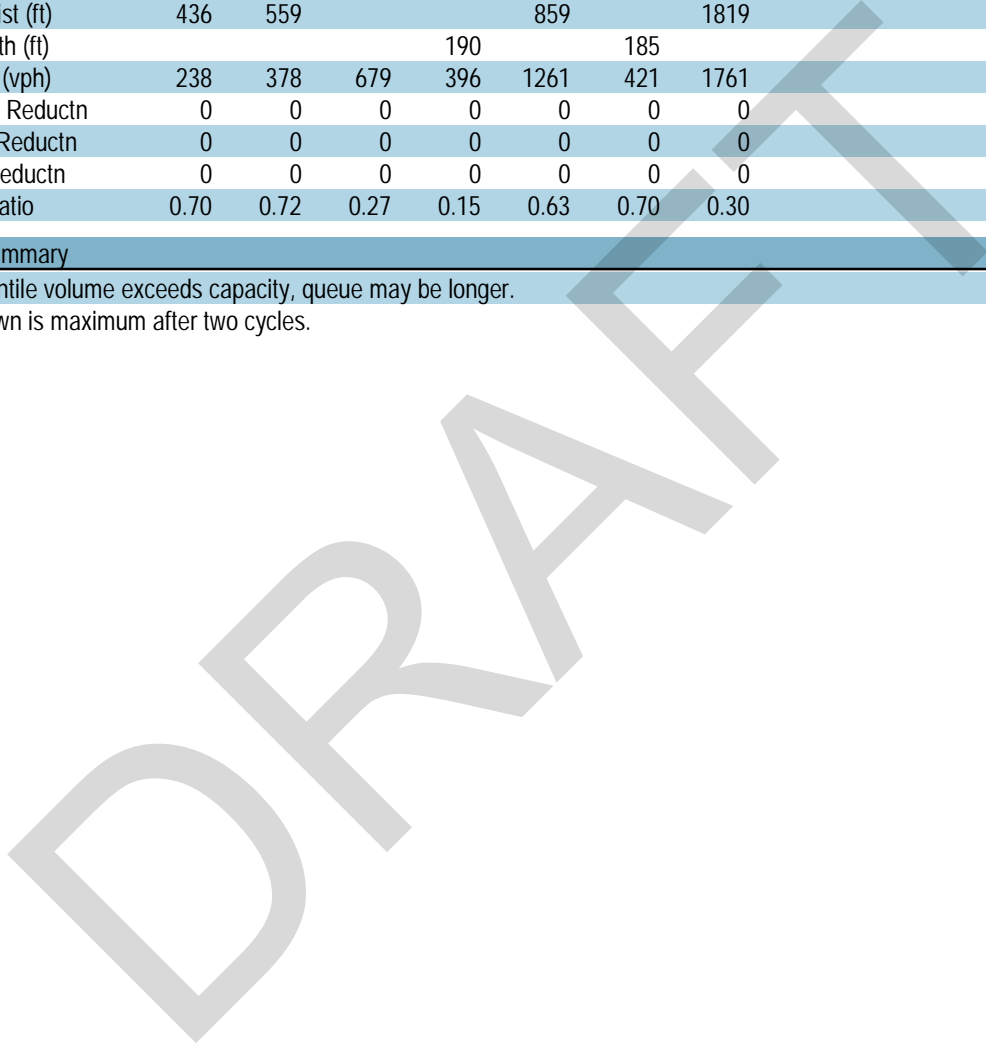
2045 Base
Timing Plan: PM



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	166	271	181	60	796	295	524
v/c Ratio	0.73	0.86	0.30	0.15	0.63	0.87	0.30
Control Delay	94.1	90.4	35.0	23.6	50.9	64.7	31.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.1	90.4	35.0	23.6	50.9	64.7	31.0
Queue Length 50th (ft)	103	310	143	35	448	265	223
Queue Length 95th (ft)	#167	#457	203	63	546	#404	274
Internal Link Dist (ft)	436	559			859		1819
Turn Bay Length (ft)				190		185	
Base Capacity (vph)	238	378	679	396	1261	421	1761
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.72	0.27	0.15	0.63	0.70	0.30

Intersection Summary

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



Queues
5: N Beauregard St & Mark Center Dr

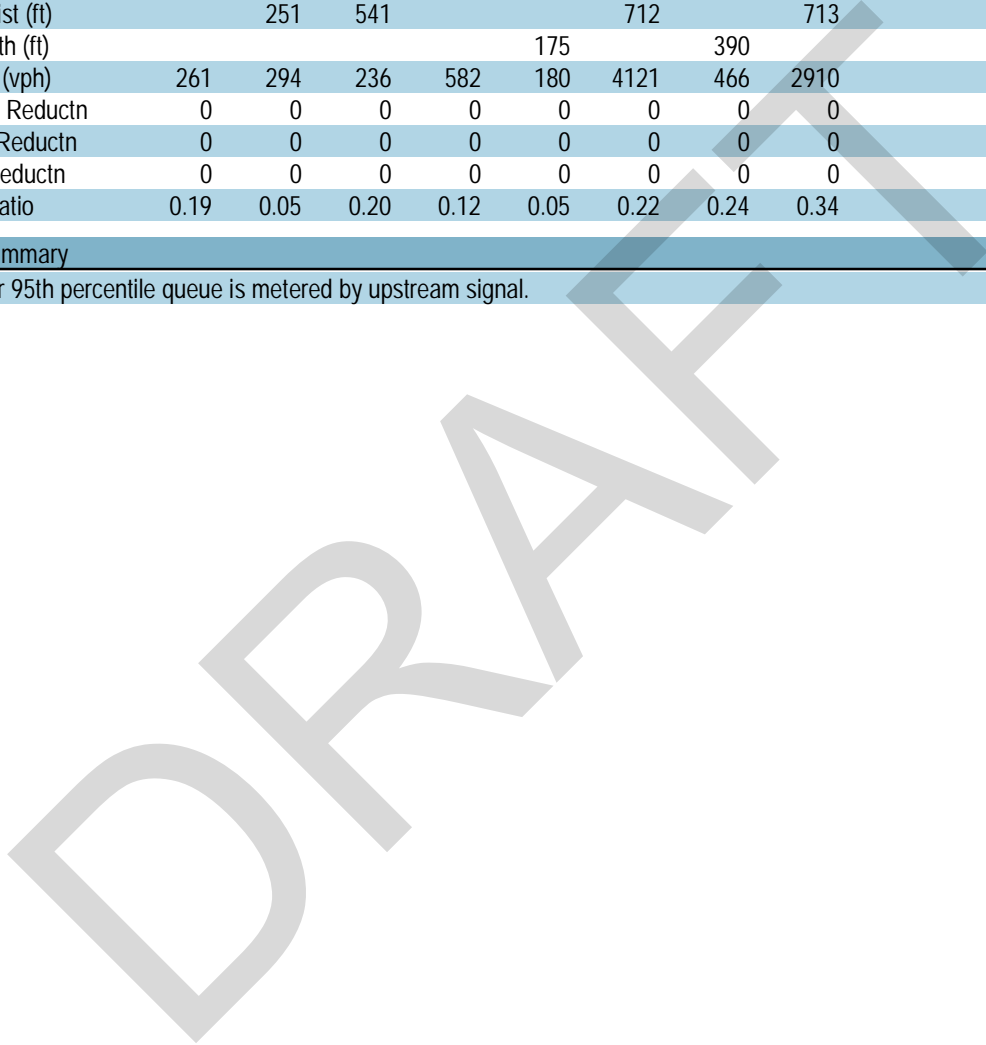
2045 Base
Timing Plan: PM



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	50	16	47	71	9	896	110	993
v/c Ratio	0.27	0.08	0.28	0.17	0.07	0.22	0.77	0.34
Control Delay	52.8	26.6	53.5	7.7	69.4	6.3	100.8	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	26.6	53.5	7.7	69.4	6.3	100.8	9.7
Queue Length 50th (ft)	38	4	36	0	7	133	54	153
Queue Length 95th (ft)	77	25	75	35	m28	100	m88	423
Internal Link Dist (ft)		251	541			712		713
Turn Bay Length (ft)					175		390	
Base Capacity (vph)	261	294	236	582	180	4121	466	2910
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.05	0.20	0.12	0.05	0.22	0.24	0.34

Intersection Summary

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



Queues
6: N Beauregard St & Seminary Rd

2045 Base
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	45	1598	408	961	188	274	233	458	177	323
v/c Ratio	0.25	0.62	0.55	0.45	0.19	0.51	0.44	0.66	0.72	0.58
Control Delay	55.0	20.1	39.0	8.5	0.7	60.5	38.2	25.5	65.2	57.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	20.1	39.0	8.5	0.7	60.5	38.2	25.5	65.2	57.3
Queue Length 50th (ft)	33	454	121	65	0	83	96	164	160	145
Queue Length 95th (ft)	m51	401	124	76	3	139	88	190	#244	186
Internal Link Dist (ft)		243		352			713			1255
Turn Bay Length (ft)	125		350		355	190		585	245	
Base Capacity (vph)	194	2569	738	2149	970	616	957	694	257	919
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.62	0.55	0.45	0.19	0.44	0.24	0.66	0.69	0.35

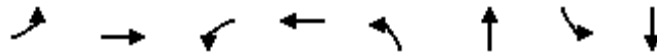
Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

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Queues
7: N Beauregard St & E Campus Dr/W Braddock Rd

2045 Base
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	8	24	97	378	57	534	341	503
v/c Ratio	0.06	0.09	0.61	0.59	0.32	0.28	0.76	0.20
Control Delay	54.6	37.5	73.1	10.1	73.2	16.0	57.5	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	37.5	73.1	10.1	73.2	16.0	57.5	13.8
Queue Length 50th (ft)	7	6	95	8	49	77	312	116
Queue Length 95th (ft)	22	18	145	52	102	281	246	217
Internal Link Dist (ft)		185		1746		1053		742
Turn Bay Length (ft)	125		200		85		200	
Base Capacity (vph)	361	674	296	882	193	1937	493	2552
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.04	0.33	0.43	0.30	0.28	0.69	0.20
Intersection Summary								



Queues
8: N Beauregard St/S Walter Reed Dr & King St

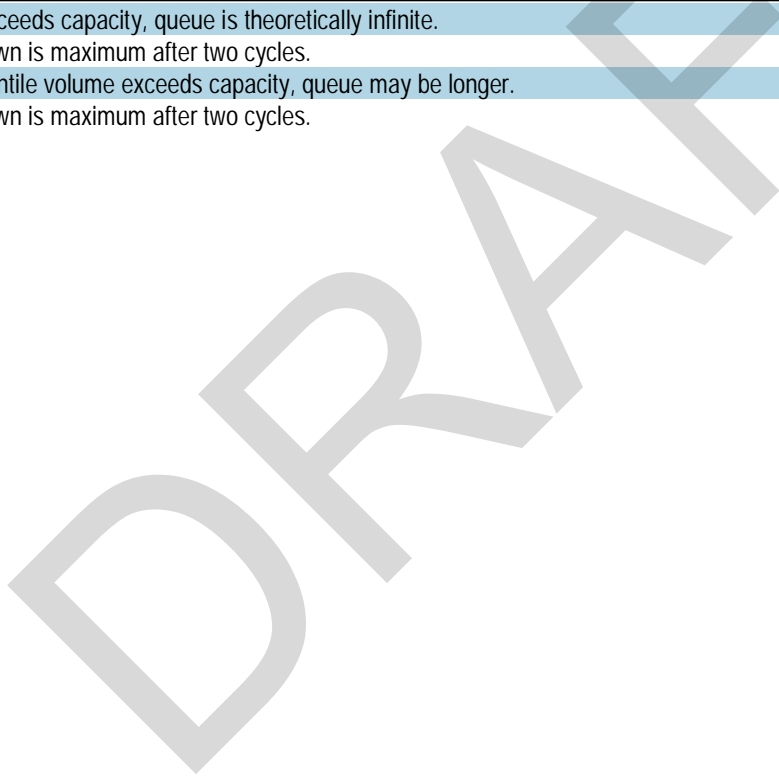
2045 Base
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	162	1542	74	1211	302	410	254	425	254
v/c Ratio	0.93	0.98	0.83	0.83	0.96	0.84	0.99	0.65	0.54
Control Delay	114.1	55.5	122.2	42.3	95.4	53.6	111.8	57.7	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.1	55.5	122.2	42.3	95.4	53.6	111.8	57.7	14.7
Queue Length 50th (ft)	149	707	68	508	138	151	-250	190	29
Queue Length 95th (ft)	#290	#885	#161	604	#231	146	#449	249	115
Internal Link Dist (ft)		919		1047		564		898	
Turn Bay Length (ft)	425		425		395		200		200
Base Capacity (vph)	174	1573	91	1468	313	547	257	658	471
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.98	0.81	0.82	0.96	0.75	0.99	0.65	0.54

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

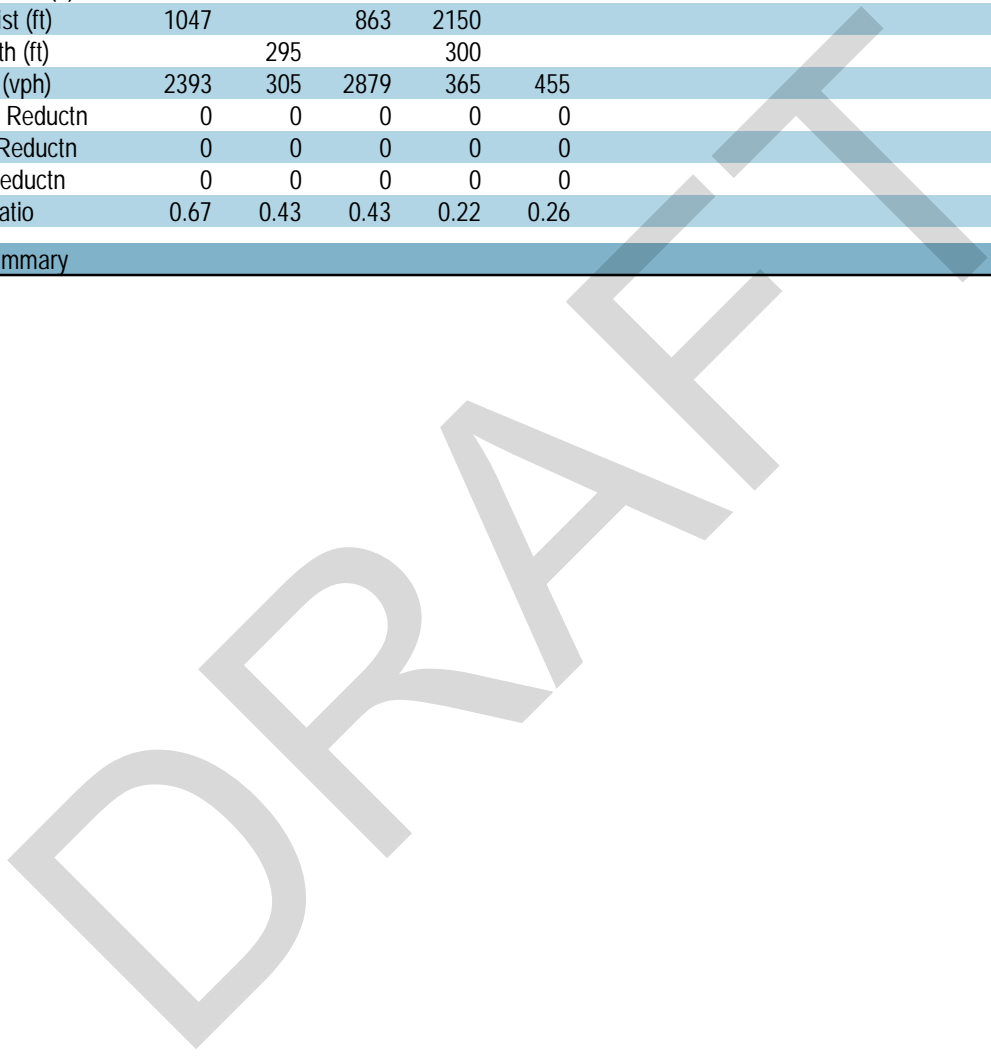


Queues
9: N Hampton Dr & King St

2045 Base
Timing Plan: PM



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1607	132	1234	80	119
v/c Ratio	0.67	0.49	0.43	0.52	0.46
Control Delay	13.4	10.9	4.2	63.2	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	10.9	4.2	63.2	14.4
Queue Length 50th (ft)	332	16	119	60	0
Queue Length 95th (ft)	530	51	183	109	54
Internal Link Dist (ft)	1047		863	2150	
Turn Bay Length (ft)		295		300	
Base Capacity (vph)	2393	305	2879	365	455
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	0.67	0.43	0.43	0.22	0.26
Intersection Summary					



Queues
10: N Hampton Dr & W Braddock Rd

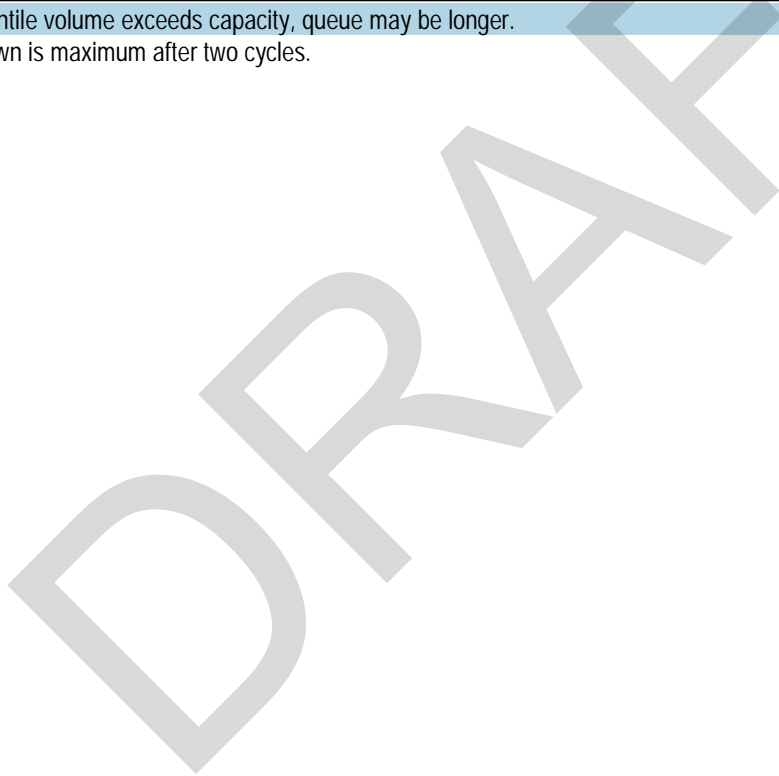
2045 Base
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	116	482	33	435	167	41	24	210	117
v/c Ratio	0.20	0.23	0.06	0.24	0.19	0.14	0.07	0.80	0.31
Control Delay	7.0	10.8	6.6	13.4	2.8	31.0	0.4	58.3	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	10.8	6.6	13.4	2.8	31.0	0.4	58.3	8.7
Queue Length 50th (ft)	23	76	6	72	0	19	0	114	0
Queue Length 95th (ft)	44	111	16	108	33	47	0	#220	44
Internal Link Dist (ft)		1746		786		210		2150	
Turn Bay Length (ft)	185		185		185				40
Base Capacity (vph)	688	2055	760	1848	886	375	431	308	423
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.23	0.04	0.24	0.19	0.11	0.06	0.68	0.28

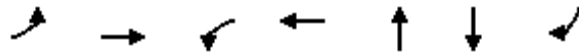
Intersection Summary

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

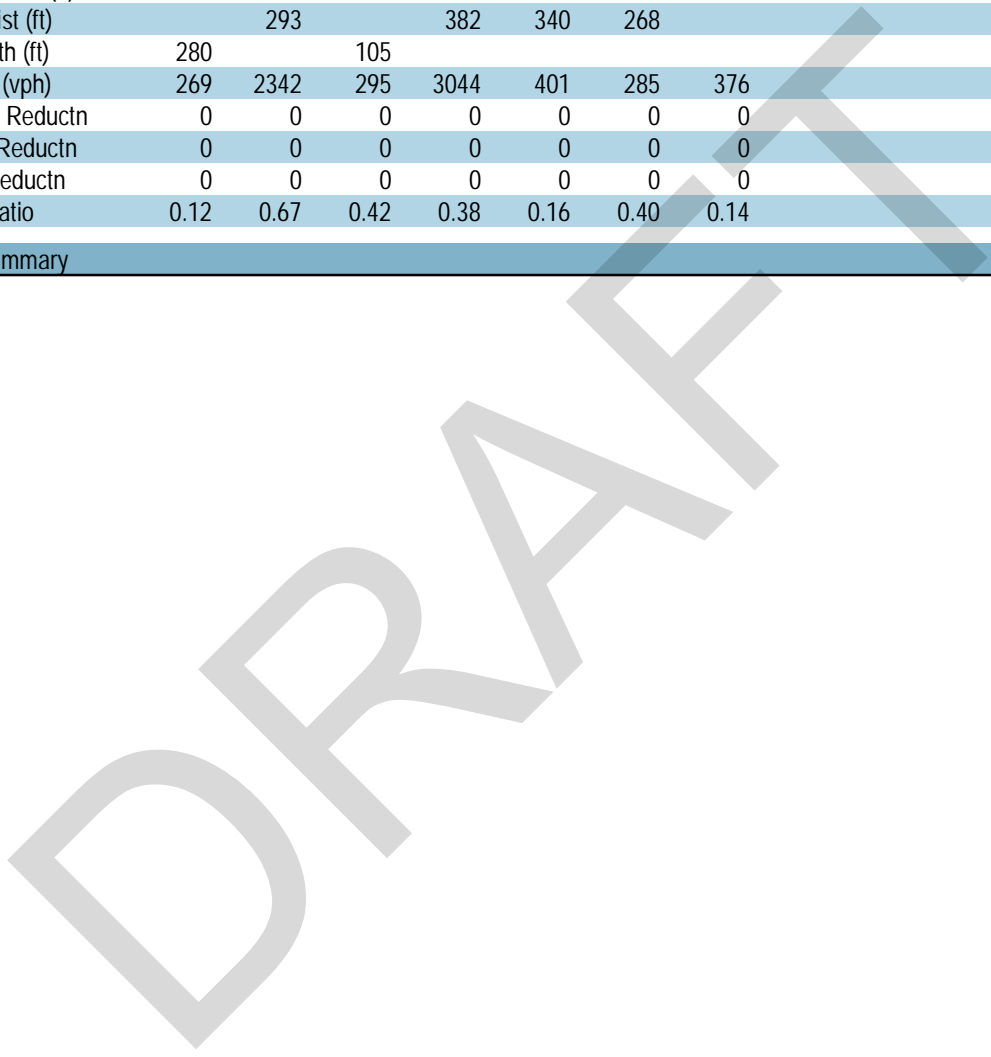


Queues
11: Dawes Ave & Seminary Rd

2045 Base
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	32	1562	125	1153	63	114	51
v/c Ratio	0.12	0.67	0.45	0.38	0.25	0.68	0.20
Control Delay	6.4	16.8	26.3	3.8	24.3	76.8	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	16.8	26.3	3.8	24.3	76.8	4.0
Queue Length 50th (ft)	6	392	25	43	18	102	0
Queue Length 95th (ft)	19	658	126	140	57	154	12
Internal Link Dist (ft)		293		382	340	268	
Turn Bay Length (ft)	280		105				
Base Capacity (vph)	269	2342	295	3044	401	285	376
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.67	0.42	0.38	0.16	0.40	0.14
Intersection Summary							



Queues
14: Mark Center Ave & Seminary Rd

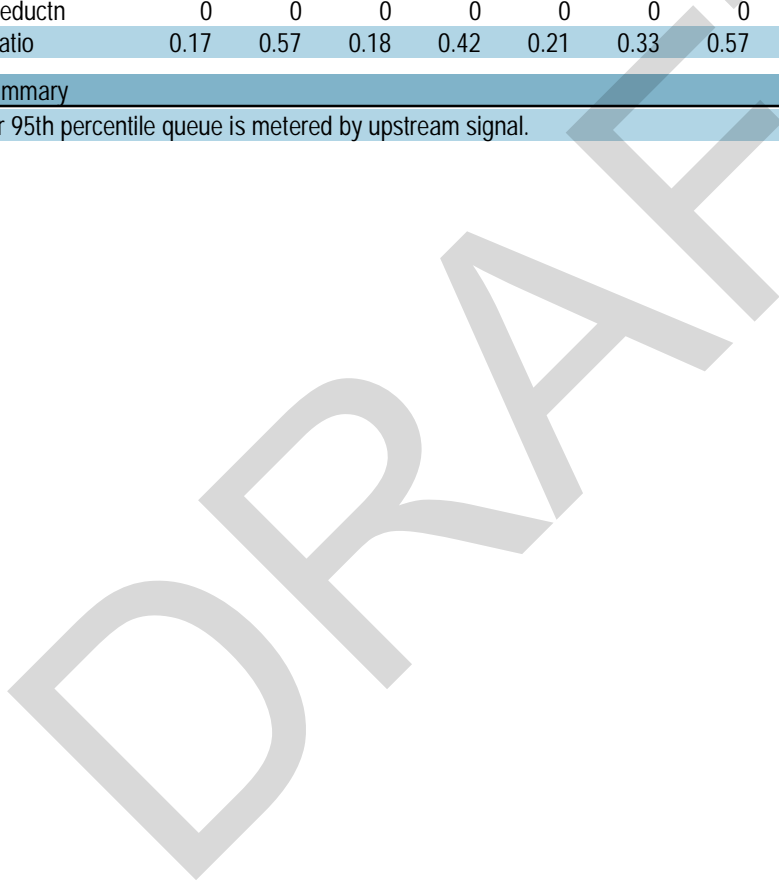
2045 Base
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	29	1885	39	1500	188	52	417	105	193
v/c Ratio	0.18	0.57	0.19	0.42	0.21	0.34	0.58	0.43	0.39
Control Delay	77.4	11.8	60.3	17.2	5.8	63.2	52.3	55.3	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.4	11.8	60.3	17.2	5.8	63.2	52.3	55.3	38.2
Queue Length 50th (ft)	27	136	34	263	11	45	150	96	64
Queue Length 95th (ft)	m41	477	70	442	70	87	185	140	90
Internal Link Dist (ft)		203		1074		625			271
Turn Bay Length (ft)	205				255		225	100	
Base Capacity (vph)	172	3283	211	3598	913	157	732	489	938
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.57	0.18	0.42	0.21	0.33	0.57	0.21	0.21

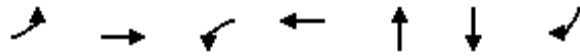
Intersection Summary

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

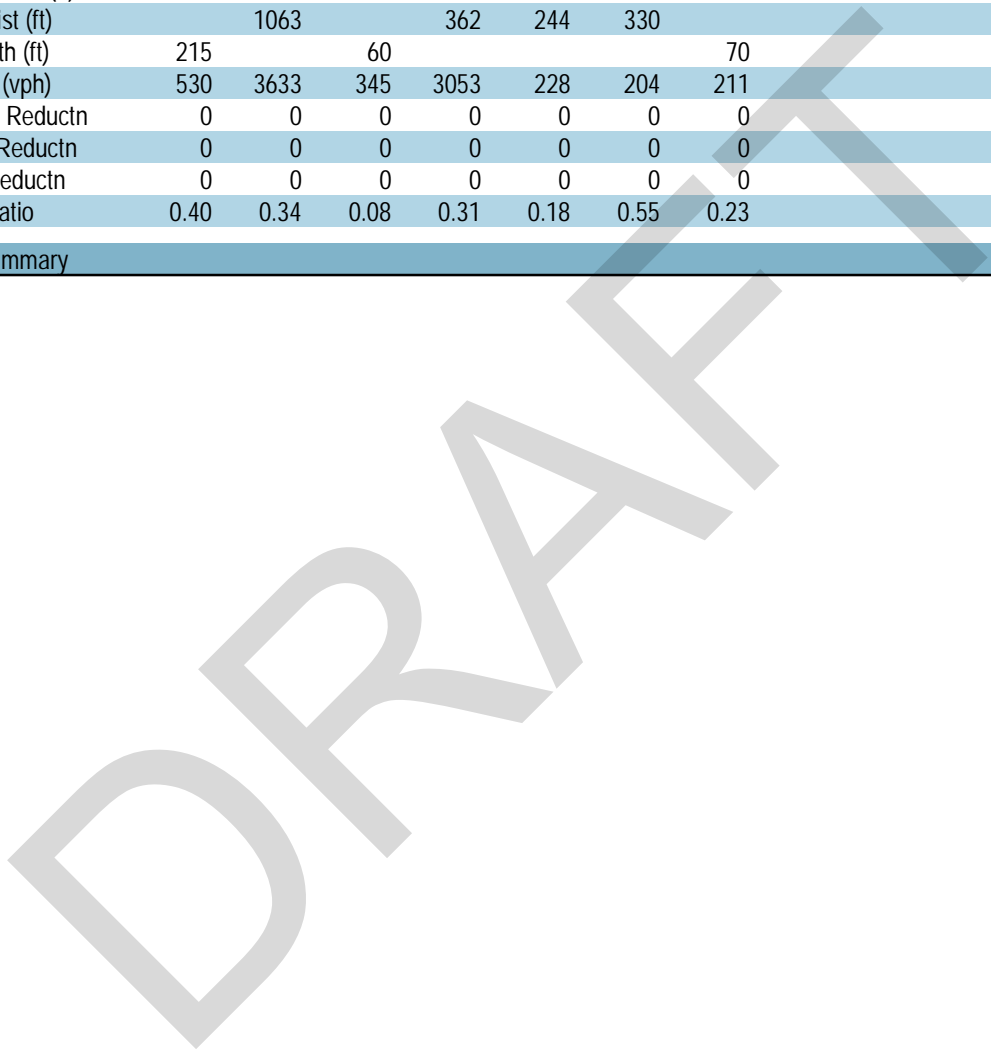


Queues
15: Kenmore Ave/Library Ln & Seminary Rd

2045 Base
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	210	1245	29	936	41	113	48
v/c Ratio	0.41	0.34	0.09	0.31	0.23	0.71	0.29
Control Delay	5.9	7.1	5.3	11.6	35.7	69.8	47.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.9	7.1	5.3	11.6	35.7	69.8	47.8
Queue Length 50th (ft)	32	126	4	110	19	78	31
Queue Length 95th (ft)	58	167	11	165	51	136	67
Internal Link Dist (ft)		1063		362	244	330	
Turn Bay Length (ft)	215		60				70
Base Capacity (vph)	530	3633	345	3053	228	204	211
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.34	0.08	0.31	0.18	0.55	0.23
Intersection Summary							



Appendix E

2045 Sensitivity Analysis Results

DRAFT



HCM Signalized Intersection Capacity Analysis
 1: N Beauregard St & Little River Tpke

2045 Sensitivity Analysis 1
 Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	1204	23	42	1199	434	117	63	46	697	43	242
Future Volume (vph)	313	1204	23	42	1199	434	117	63	46	697	43	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00
Satd. Flow (prot)	3400	3492		1805	3539	1522	1641	1845	1490	1665	1678	1552
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00
Satd. Flow (perm)	3400	3492		1805	3539	1522	1641	1845	1490	1665	1678	1552
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	319	1229	23	43	1223	443	119	64	47	711	44	247
RTOR Reduction (vph)	0	0	0	0	0	65	0	0	0	0	0	151
Lane Group Flow (vph)	319	1252	0	43	1223	378	119	64	47	377	378	96
Confl. Peds. (#/hr)	3		8	8		3	4		4	4		4
Heavy Vehicles (%)	3%	3%	6%	0%	2%	5%	10%	3%	7%	3%	3%	2%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	5	2		1	6	3	4	4	1	3	3	
Permitted Phases						6			4			3
Actuated Green, G (s)	19.9	83.8		6.9	69.5	117.3	14.6	14.6	21.5	47.8	47.8	47.8
Effective Green, g (s)	19.9	83.8		6.9	69.5	117.3	14.6	14.6	21.5	47.8	47.8	47.8
Actuated g/C Ratio	0.11	0.47		0.04	0.39	0.65	0.08	0.08	0.12	0.27	0.27	0.27
Clearance Time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	375	1625		69	1366	991	133	149	177	442	445	412
v/s Ratio Prot	c0.09	c0.36		0.02	c0.35	0.10	c0.07	0.03	0.01	c0.23	0.23	
v/s Ratio Perm						0.15			0.02			0.06
v/c Ratio	0.85	0.77		0.62	0.90	0.38	0.89	0.43	0.27	0.85	0.85	0.23
Uniform Delay, d1	78.6	40.1		85.3	51.8	14.5	81.9	78.7	72.1	62.8	62.7	51.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	1.21
Incremental Delay, d2	16.7	3.6		11.9	9.4	0.2	47.4	2.0	0.3	10.2	9.8	0.2
Delay (s)	95.2	43.7		97.2	61.2	14.8	129.3	80.7	72.4	65.0	64.4	62.8
Level of Service	F	D		F	E	B	F	F	E	E	E	E
Approach Delay (s)		54.1			50.1			104.2			64.2	
Approach LOS		D			D			F			E	
Intersection Summary												
HCM 2000 Control Delay			57.4	HCM 2000 Level of Service				E				
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			180.0	Sum of lost time (s)				28.2				
Intersection Capacity Utilization			86.7%	ICU Level of Service				E				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2045 Sensitivity Analysis 1
Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↔		↕	↕↔	
Traffic Volume (vph)	2	0	10	214	0	31	5	329	53	19	485	1
Future Volume (vph)	2	0	10	214	0	31	5	329	53	19	485	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00			1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.89			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1532			1703	1437	1804	3382		1702	3573	
Flt Permitted		0.94			0.75	1.00	0.47	1.00		0.52	1.00	
Satd. Flow (perm)		1460			1344	1437	893	3382		934	3573	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	2	0	10	218	0	32	5	336	54	19	495	1
RTOR Reduction (vph)	0	8	0	0	0	22	0	10	0	0	0	0
Lane Group Flow (vph)	0	4	0	0	218	10	5	380	0	19	496	0
Confl. Peds. (#/hr)	1					1	2		2	2		2
Heavy Vehicles (%)	0%	0%	11%	6%	0%	11%	0%	2%	18%	6%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8				6		
Actuated Green, G (s)		13.6			13.6	13.6	14.5	13.7		14.5	13.7	
Effective Green, g (s)		13.6			13.6	13.6	14.5	13.7		14.5	13.7	
Actuated g/C Ratio		0.30			0.30	0.30	0.32	0.30		0.32	0.30	
Clearance Time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		440			405	433	303	1027		313	1085	
v/s Ratio Prot							0.00	0.11		c0.00	c0.14	
v/s Ratio Perm		0.00			c0.16	0.01	0.01			0.02		
v/c Ratio		0.01			0.54	0.02	0.02	0.37		0.06	0.46	
Uniform Delay, d1		11.0			13.1	11.1	10.4	12.3		10.5	12.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0			1.4	0.0	0.0	0.2		0.1	0.3	
Delay (s)		11.0			14.5	11.1	10.4	12.5		10.6	13.0	
Level of Service		B			B	B	B	B		B	B	
Approach Delay (s)		11.0			14.1			12.5			12.9	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			13.0								HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			45.1							17.0		
Intersection Capacity Utilization			43.9%								ICU Level of Service	A
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis




















3: N Beauregard St & Quantrell Ave

2045 Sensitivity Analysis 1
Timing Plan: AM

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↖	↑↑	↗	↘	↑↑
Traffic Volume (vph)	109	129	317	43	31	392
Future Volume (vph)	109	129	317	43	31	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	12	10	12
Grade (%)	3%		0%			-5%
Total Lost time (s)	6.0	6.0	5.3	5.3	0.3	0.3
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	*0.95
Frbp, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1627	1334	3421	1506	1450	3800
Flt Permitted	0.95	1.00	1.00	1.00	0.55	1.00
Satd. Flow (perm)	1627	1334	3421	1506	846	3664
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	112	133	327	44	32	404
RTOR Reduction (vph)	0	111	0	16	0	0
Lane Group Flow (vph)	112	22	327	28	32	404
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	2%	2%	2%	5%	19%	1%
Parking (#/hr)		3				
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			2
Permitted Phases	4	4	2	2	2	2
Actuated Green, G (s)	9.3	9.3	36.8	36.8	36.8	36.8
Effective Green, g (s)	9.3	9.3	36.8	36.8	41.8	41.8
Actuated g/C Ratio	0.16	0.16	0.64	0.64	0.73	0.73
Clearance Time (s)	6.0	6.0	5.3	5.3	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	263	216	2193	965	616	2767
v/s Ratio Prot			0.10			c0.11
v/s Ratio Perm	c0.07	0.02		0.02	0.04	
v/c Ratio	0.43	0.10	0.15	0.03	0.05	0.15
Uniform Delay, d1	21.6	20.5	4.1	3.8	2.2	2.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.2	0.1	0.1	0.2	0.1
Delay (s)	22.8	20.7	4.2	3.8	2.4	2.5
Level of Service	C	C	A	A	A	A
Approach Delay (s)	21.6		4.2			2.5
Approach LOS	C		A			A
Intersection Summary						
HCM 2000 Control Delay			7.5		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.21			
Actuated Cycle Length (s)			57.4		Sum of lost time (s)	11.3
Intersection Capacity Utilization			35.9%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
4: N Beauregard St & Sanger Ave























2045 Sensitivity Analysis 1
Timing Plan: AM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	69	83	98	155	80	337	100	508	208	194	247	45	
Future Volume (vph)	69	83	98	155	80	337	100	508	208	194	247	45	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	10	10	11	11	11	11	10	12	12	10	12	12	
Grade (%)		-2%			2%			0%				-3%	
Total Lost time (s)		6.0			6.0	6.0	8.3	8.3		0.3	0.3		
Lane Util. Factor		0.95			1.00	1.00	1.00	0.95		1.00	0.95		
Frbp, ped/bikes		0.94			1.00	1.00	1.00	0.99		1.00	0.99		
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Frt		0.94			1.00	0.85	1.00	0.96		1.00	0.98		
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00		
Satd. Flow (prot)		2858			1698	1515	1644	3550		1659	3800		
Flt Permitted		0.99			0.97	1.00	0.49	1.00		0.24	1.00		
Satd. Flow (perm)		2858			1698	1515	842	3329		417	3415		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	73	88	104	165	85	359	106	540	221	206	263	48	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	265	0	0	250	359	106	761	0	206	311	0	
Confl. Peds. (#/hr)	7		53	53		7	13		20	20		13	
Heavy Vehicles (%)	3%	5%	4%	5%	1%	2%	2%	2%	5%	3%	5%	0%	
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA		
Protected Phases	4	4		8	8	8	5	1	6		5	2	
Permitted Phases							6				2		
Actuated Green, G (s)		19.5			34.3	53.3	75.4	64.0		78.6	65.6		
Effective Green, g (s)		19.5			34.3	53.3	69.4	61.0		87.3	70.6		
Actuated g/C Ratio		0.11			0.20	0.31	0.40	0.35		0.51	0.41		
Clearance Time (s)		6.0			6.0		5.3	5.3		5.3	5.3		
Vehicle Extension (s)		3.0			3.0		3.0	4.0		3.0	4.0		
Lane Grp Cap (vph)		324			338	469	378	1259		341	1559		
v/s Ratio Prot		c0.09			0.15	c0.24	0.01	c0.21		c0.06	0.08		
v/s Ratio Perm							0.10			0.24			
v/c Ratio		0.82			0.74	0.77	0.28	0.60		0.60	0.20		
Uniform Delay, d1		74.5			64.7	53.7	32.9	45.6		26.2	32.6		
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		14.7			8.2	7.3	0.4	2.2		3.0	0.3		
Delay (s)		89.2			72.9	61.0	33.3	47.7		29.3	32.8		
Level of Service		F			E	E	C	D		C	C		
Approach Delay (s)		89.2			65.9			46.0			31.4		
Approach LOS		F			E			D			C		
Intersection Summary													
HCM 2000 Control Delay			53.1									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.66										
Actuated Cycle Length (s)			172.0									Sum of lost time (s)	28.6
Intersection Capacity Utilization			74.1%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: N Beauregard St & Mark Center Dr































2045 Sensitivity Analysis 1
Timing Plan: AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	5	14	2	39	6	918	87	288	669	57
Future Volume (vph)	30	3	5	14	2	39	6	918	87	288	669	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	12	11	12	10	12	12	11	12	12
Total Lost time (s)	6.0	6.0			6.0	5.0	0.3	0.3		0.0	0.3	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.91		0.97	0.95	
Frbp, ped/bikes	1.00	0.99			1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			0.99	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1682	1588			1243	1411	1685	5700		3255	3800	
Flt Permitted	0.75	1.00			0.78	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1322	1588			1010	1411	1685	4760		3255	3461	
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)	33	3	5	15	2	42	7	998	95	313	727	62
RTOR Reduction (vph)	0	4	0	0	0	26	0	6	0	0	2	0
Lane Group Flow (vph)	33	4	0	0	17	16	7	1087	0	313	787	0
Confl. Peds. (#/hr)	1		5	5		1	7		5	5		7
Heavy Vehicles (%)	0%	0%	0%	46%	0%	14%	0%	2%	11%	4%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	32	0	0	0	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	14.5	14.5			14.5	51.8	1.3	71.9		37.3	107.6	
Effective Green, g (s)	14.5	14.5			14.5	51.8	6.3	76.9		42.3	112.6	
Actuated g/C Ratio	0.10	0.10			0.10	0.37	0.04	0.55		0.30	0.80	
Clearance Time (s)	6.0	6.0			6.0	5.0	5.3	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	0.2		2.0	0.2	
Lane Grp Cap (vph)	136	164			104	572	75	3130		983	3056	
v/s Ratio Prot		0.00				0.01	0.00	c0.19		c0.10	0.21	
v/s Ratio Perm	c0.02				0.02	0.00						
v/c Ratio	0.24	0.02			0.16	0.03	0.09	0.35		0.32	0.26	
Uniform Delay, d1	57.7	56.4			57.2	28.1	64.1	17.6		37.7	3.4	
Progression Factor	1.00	1.00			1.00	1.00	1.25	0.74		1.07	0.69	
Incremental Delay, d2	0.3	0.0			0.3	0.0	0.2	0.3		0.1	0.2	
Delay (s)	58.0	56.4			57.5	28.1	80.1	13.4		40.3	2.5	
Level of Service	E	E			E	C	F	B		D	A	
Approach Delay (s)		57.7			36.5			13.8			13.2	
Approach LOS		E			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			14.9									B
HCM 2000 Volume to Capacity ratio			0.33									
Actuated Cycle Length (s)			140.0								11.3	
Intersection Capacity Utilization			51.5%									A
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: N Beauregard St & Seminary Rd

2045 Sensitivity Analysis 1
Timing Plan: AM





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		  	 		 	 			 	
Traffic Volume (vph)	35	862	228	619	1060	192	258	250	482	92	184	53
Future Volume (vph)	35	862	228	619	1060	192	258	250	482	92	184	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	12	16	13	12	12	11	12	16	10	11	13
Grade (%)		-1%			-1%			0%				2%
Total Lost time (s)	2.2	1.0		2.8	1.0	1.0	2.3	1.4	7.8	2.3	1.4	
Lane Util. Factor	1.00	0.91		0.94	0.95	1.00	0.97	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1820	5700		3800	3800	1546	3800	3438	1786	1516	3233	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1820	4896		5132	3522	1546	3385	3438	1786	1516	3233	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	937	248	673	1152	209	280	272	524	100	200	58
RTOR Reduction (vph)	0	30	0	0	0	85	0	0	86	0	21	0
Lane Group Flow (vph)	38	1155	0	673	1152	124	280	272	438	100	237	0
Confl. Peds. (#/hr)			3	3			2		1	1		2
Heavy Vehicles (%)	3%	3%	2%	3%	3%	5%	0%	5%	2%	10%	2%	6%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2		7	4	5	3	8	
Permitted Phases						2			4			
Actuated Green, G (s)	6.9	50.6		33.6	77.9	77.9	13.2	18.1	51.7	10.2	15.1	
Effective Green, g (s)	11.9	55.6		38.6	82.9	82.9	18.2	23.1	51.7	15.2	20.1	
Actuated g/C Ratio	0.09	0.40		0.28	0.59	0.59	0.13	0.17	0.37	0.11	0.14	
Clearance Time (s)	7.2	6.0		7.8	6.0	6.0	7.3	6.4	7.8	7.3	6.4	
Vehicle Extension (s)	2.5	0.2		2.5	0.2	0.2	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	154	2263		1047	2250	915	494	567	659	164	464	
v/s Ratio Prot	0.02	c0.20		c0.18	0.30		c0.07	0.08	c0.16	c0.07	0.07	
v/s Ratio Perm						0.08			0.09			
v/c Ratio	0.25	0.51		0.64	0.51	0.14	0.57	0.48	0.66	0.61	0.51	
Uniform Delay, d1	59.9	31.9		44.6	16.7	12.7	57.2	53.0	36.9	59.6	55.4	
Progression Factor	1.10	0.67		0.53	0.20	0.17	0.87	0.61	1.37	1.25	0.90	
Incremental Delay, d2	0.6	0.8		1.0	0.7	0.3	1.2	0.5	2.2	5.3	0.6	
Delay (s)	66.5	22.1		24.7	4.1	2.4	50.9	33.0	52.6	79.5	50.3	
Level of Service	E	C		C	A	A	D	C	D	E	D	
Approach Delay (s)		23.4			10.7			47.2			58.4	
Approach LOS		C			B			D			E	

Intersection Summary		
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.59	
Actuated Cycle Length (s)	140.0	Sum of lost time (s) 12.5
Intersection Capacity Utilization	74.1%	ICU Level of Service D
Analysis Period (min)	15	

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 7: N Beauregard St & E Campus Dr/W Braddock Rd

2045 Sensitivity Analysis 1
 Timing Plan: AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	7	141	5	524	13	396	164	163	200	8
Future Volume (vph)	1	1	7	141	5	524	13	396	164	163	200	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	13	10	11	12	11	11	13	11	12	12
Grade (%)		-6%			-4%			-2%			2%	
Total Lost time (s)	5.8	5.8		5.8	5.8		0.0	0.3		0.0	0.3	
Lane Util. Factor	1.00	0.95		0.91	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.86		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1735	2942		1461	2806		1762	3800		1677	3800	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1735	2942		1461	2806		1762	2959		1677	3311	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1	1	7	145	5	540	13	408	169	168	206	8
RTOR Reduction (vph)	0	8	0	0	471	0	0	19	0	0	1	0
Lane Group Flow (vph)	1	0	0	130	89	0	13	558	0	168	213	0
Confl. Peds. (#/hr)	2		3	3		2	2		7	7		2
Heavy Vehicles (%)	0%	0%	0%	7%	20%	2%	0%	7%	9%	3%	7%	14%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	24	0	0	0	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.8	6.8		18.0	18.0		3.1	74.0		19.3	90.2	
Effective Green, g (s)	6.8	6.8		18.0	18.0		8.1	79.0		24.3	95.2	
Actuated g/C Ratio	0.05	0.05		0.13	0.13		0.06	0.56		0.17	0.68	
Clearance Time (s)	5.8	5.8		5.8	5.8		5.0	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	0.2		3.0	0.2	
Lane Grp Cap (vph)	84	142		187	360		101	2144		291	2584	
v/s Ratio Prot	c0.00	0.00		c0.09	0.03		0.01	c0.15		c0.10	0.06	
v/s Ratio Perm												
v/c Ratio	0.01	0.00		0.70	0.25		0.13	0.26		0.58	0.08	
Uniform Delay, d1	63.4	63.4		58.4	54.9		62.6	15.6		53.1	7.6	
Progression Factor	1.00	1.00		1.00	1.00		1.02	0.87		1.16	0.95	
Incremental Delay, d2	0.0	0.0		8.7	0.1		0.6	0.3		2.8	0.1	
Delay (s)	63.4	63.4		67.1	55.0		64.3	13.8		64.2	7.2	
Level of Service	E	E		E	E		E	B		E	A	
Approach Delay (s)		63.4			57.3			14.9			32.3	
Approach LOS		E			E			B			C	
Intersection Summary												
HCM 2000 Control Delay			36.7				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)		11.9			
Intersection Capacity Utilization			57.2%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

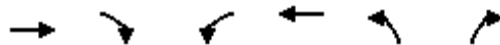
HCM Signalized Intersection Capacity Analysis
 8: N Beauregard St/S Walter Reed Dr & King St

2045 Sensitivity Analysis 1
 Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	1005	140	75	988	100	369	413	115	150	118	163
Future Volume (vph)	140	1005	140	75	988	100	369	413	115	150	118	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	8.3	5.7		8.3	5.8		7.7	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	3412		1444	3441		3502	3285		1752	3539	1567
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	3412		1444	3441		3502	3285		1752	3539	1567
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)	152	1092	152	82	1074	109	401	449	125	163	128	177
RTOR Reduction (vph)	0	7	0	0	5	0	0	20	0	0	0	115
Lane Group Flow (vph)	152	1237	0	82	1178	0	401	554	0	163	128	62
Confl. Peds. (#/hr)	6		7	7		6			8	8		
Heavy Vehicles (%)	3%	4%	1%	25%	3%	6%	0%	3%	16%	2%	1%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	12.7	55.7		8.7	51.6		16.3	28.4		17.8	29.9	29.9
Effective Green, g (s)	12.7	55.7		8.7	51.6		16.3	28.4		17.8	29.9	29.9
Actuated g/C Ratio	0.09	0.40		0.06	0.37		0.12	0.20		0.13	0.21	0.21
Clearance Time (s)	8.3	5.7		8.3	5.8		7.7	7.7		7.7	7.7	7.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	158	1357		89	1268		407	666		222	755	334
v/s Ratio Prot	c0.09	c0.36		0.06	0.34		0.11	c0.17		c0.09	0.04	
v/s Ratio Perm												0.04
v/c Ratio	0.96	0.91		0.92	0.93		0.99	0.83		0.73	0.17	0.19
Uniform Delay, d1	63.4	39.8		65.3	42.4		61.7	53.5		58.8	44.9	45.1
Progression Factor	1.00	1.00		1.00	1.00		0.82	0.77		1.00	1.00	1.00
Incremental Delay, d2	59.6	10.7		68.9	13.2		39.1	8.0		10.3	0.0	0.1
Delay (s)	123.1	50.6		134.2	55.6		89.8	49.0		69.1	45.0	45.2
Level of Service	F	D		F	E		F	D		E	D	D
Approach Delay (s)		58.5			60.7			65.8			53.5	
Approach LOS		E			E			E			D	
Intersection Summary												
HCM 2000 Control Delay			60.3				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)		29.5			
Intersection Capacity Utilization			92.9%				ICU Level of Service		F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
9: N Hampton Dr & King St

2045 Sensitivity Analysis 1
Timing Plan: AM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	1325	86	49	1018	128	274
Future Volume (vph)	1325	86	49	1018	128	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frbp, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433		1687	3471	1641	1615
Flt Permitted	1.00		0.10	1.00	0.95	1.00
Satd. Flow (perm)	3433		184	3471	1641	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1440	93	53	1107	139	298
RTOR Reduction (vph)	3	0	0	0	0	100
Lane Group Flow (vph)	1530	0	53	1107	139	198
Confl. Peds. (#/hr)		16	16			
Heavy Vehicles (%)	3%	16%	7%	4%	10%	0%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		4	4
Actuated Green, G (s)	79.1		88.6	88.6	19.4	19.4
Effective Green, g (s)	79.1		88.6	88.6	19.4	19.4
Actuated g/C Ratio	0.66		0.74	0.74	0.16	0.16
Clearance Time (s)	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	0.2		2.0	0.2	3.0	3.0
Lane Grp Cap (vph)			192	2562	265	261
v/s Ratio Prot	c0.45		0.01	c0.32		
v/s Ratio Perm			0.19		0.08	c0.12
v/c Ratio	0.68		0.28	0.43	0.52	0.76
Uniform Delay, d1	12.6		9.5	6.0	46.1	48.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6		0.3	0.5	1.9	12.0
Delay (s)	14.2		9.8	6.6	47.9	60.0
Level of Service	B		A	A	D	E
Approach Delay (s)	14.2			6.7	56.2	
Approach LOS	B			A	E	

Intersection Summary

HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: N Hampton Dr & W Braddock Rd

2045 Sensitivity Analysis 1
 Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	119	295	13	12	558	182	23	46	26	111	13	58	
Future Volume (vph)	119	295	13	12	558	182	23	46	26	111	13	58	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		0%			-4%			0%			0%		
Total Lost time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Fr t	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85	
Fl t Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00		0.96	1.00	
Satd. Flow (prot)	1702	3483		1838	3610	1548		1868	1586		1732	1422	
Fl t Permitted	0.38	1.00		0.56	1.00	1.00		0.85	1.00		0.70	1.00	
Satd. Flow (perm)	675	3483		1074	3610	1548		1606	1586		1263	1422	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	125	311	14	13	587	192	24	48	27	117	14	61	
RTOR Reduction (vph)	0	2	0	0	0	83	0	0	23	0	0	52	
Lane Group Flow (vph)	125	323	0	13	587	109	0	72	4	0	131	9	
Confl. Peds. (#/hr)	2		4	4		2	2		8	8		2	
Heavy Vehicles (%)	6%	3%	0%	0%	2%	4%	0%	0%	0%	5%	0%	12%	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	1	6		5	2			4			8		
Permitted Phases	6			2		2	4		4	8		8	
Actuated Green, G (s)	64.3	57.6		52.9	51.9	51.9		13.2	13.2		13.2	13.2	
Effective Green, g (s)	64.3	57.6		52.9	51.9	51.9		13.2	13.2		13.2	13.2	
Actuated g/C Ratio	0.70	0.63		0.58	0.57	0.57		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		0.2	0.2		2.0	2.0	
Lane Grp Cap (vph)	547	2185		627	2040	875		230	228		181	204	
v/s Ratio Prot	c0.02	0.09		0.00	c0.16								
v/s Ratio Perm	0.14			0.01		0.07		0.04	0.00		c0.10	0.01	
v/c Ratio	0.23	0.15		0.02	0.29	0.12		0.31	0.02		0.72	0.04	
Uniform Delay, d1	4.8	7.0		8.3	10.4	9.3		35.2	33.7		37.6	33.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.0	0.4	0.3		0.3	0.0		11.5	0.0	
Delay (s)	4.9	7.2		8.3	10.7	9.6		35.5	33.7		49.0	33.9	
Level of Service	A	A		A	B	A		D	C		D	C	
Approach Delay (s)		6.5			10.4			35.0			44.2		
Approach LOS		A			B			D			D		
Intersection Summary													
HCM 2000 Control Delay			15.1									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.37										
Actuated Cycle Length (s)			91.8									Sum of lost time (s)	20.0
Intersection Capacity Utilization			65.7%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis
 11: Dawes Ave & Seminary Rd

2045 Sensitivity Analysis 1
 Timing Plan: AM

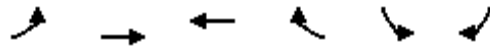


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Traffic Volume (vph)	37	920	7	66	1138	96	17	11	37	24	8	20
Future Volume (vph)	37	920	7	66	1138	96	17	11	37	24	8	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	9	13	13	12	16	12	12	11	11
Grade (%)		-1%			0%			0%			0%	
Total Lost time (s)	6.9	6.9		1.9	1.9			6.5			6.5	6.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1472	3411		1546	4000			1862			1657	1193
Flt Permitted	0.18	1.00		0.28	1.00			0.90			0.74	1.00
Satd. Flow (perm)	278	3411		456	3495			1696			1278	1193
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)	39	958	7	69	1185	100	18	11	39	25	8	21
RTOR Reduction (vph)	0	0	0	0	2	0	0	36	0	0	0	19
Lane Group Flow (vph)	39	965	0	69	1283	0	0	32	0	0	33	2
Confl. Peds. (#/hr)	10		5	5		10	7					7
Heavy Vehicles (%)	15%	4%	17%	5%	3%	3%	6%	0%	6%	9%	0%	28%
Bus Blockages (#/hr)	0	10	0	0	10	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		4
Actuated Green, G (s)	109.4	105.0		107.8	104.2			11.1			11.1	11.1
Effective Green, g (s)	109.4	105.0		117.8	109.2			11.1			11.1	11.1
Actuated g/C Ratio	0.78	0.75		0.84	0.78			0.08			0.08	0.08
Clearance Time (s)	6.9	6.9		6.9	6.9			6.5			6.5	6.5
Vehicle Extension (s)	2.0	2.0		0.2	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	254	2558		450	3120			134			101	94
v/s Ratio Prot	0.00	0.28		c0.01	c0.32							
v/s Ratio Perm	0.11			0.12				0.02			c0.03	0.00
v/c Ratio	0.15	0.38		0.15	0.41			0.24			0.33	0.02
Uniform Delay, d1	4.7	6.1		2.0	5.0			60.5			60.9	59.4
Progression Factor	1.00	1.00		0.13	0.15			1.00			1.00	1.00
Incremental Delay, d2	0.1	0.4		0.1	0.4			0.3			0.7	0.0
Delay (s)	4.8	6.5		0.3	1.1			60.8			61.6	59.5
Level of Service	A	A		A	A			E			E	E
Approach Delay (s)		6.5			1.1			60.8			60.8	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 12: Seminary Rd & Fillmore Ave

















2045 Sensitivity Analysis 1
 Timing Plan: AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕↕	
Traffic Volume (veh/h)	39	995	1303	17	8	39
Future Volume (Veh/h)	39	995	1303	17	8	39
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	41	1047	1372	18	8	41
Pedestrians					4	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		462	533			
pX, platoon unblocked	0.81				0.86	0.81
vC, conflicting volume	1394				1990	699
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1014				1316	155
tC, single (s)	4.6				6.8	7.2
tC, 2 stage (s)						
tF (s)	2.5				3.5	3.5
p0 queue free %	91				93	94
cM capacity (veh/h)	449				118	659
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	390	698	915	475	49	
Volume Left	41	0	0	0	8	
Volume Right	0	0	0	18	41	
cSH	449	1700	1700	1700	377	
Volume to Capacity	0.09	0.41	0.54	0.28	0.13	
Queue Length 95th (ft)	7	0	0	0	11	
Control Delay (s)	2.9	0.0	0.0	0.0	16.0	
Lane LOS	A				C	
Approach Delay (s)	1.0		0.0		16.0	
Approach LOS					C	
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			66.0%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 13: Heritage Ln/Fairbanks Ave & Seminary Rd

2045 Sensitivity Analysis 1
 Timing Plan: AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1079	2	10	1347	13	0	0	16	14	0	8
Future Volume (Veh/h)	5	1079	2	10	1347	13	0	0	16	14	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	1173	2	11	1464	14	0	0	17	15	0	9
Pedestrians		1						7				3
Lane Width (ft)		12.0						12.0				12.0
Walking Speed (ft/s)		4.0						4.0				4.0
Percent Blockage		0						1				0
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		521			707							
pX, platoon unblocked	0.81			0.85			0.89	0.89	0.85	0.89	0.89	0.81
vC, conflicting volume	1481			1182			1955	2694	594	2110	2688	743
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1120			850			1035	1870	156	1209	1863	206
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			100	100	98	87	100	99
cM capacity (veh/h)	509			670			159	62	730	118	63	649
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	592	588	743	746	17	24						
Volume Left	5	0	11	0	0	15						
Volume Right	0	2	0	14	17	9						
cSH	509	1700	670	1700	730	171						
Volume to Capacity	0.01	0.35	0.02	0.44	0.02	0.14						
Queue Length 95th (ft)	1	0	1	0	2	12						
Control Delay (s)	0.3	0.0	0.5	0.0	10.0	29.5						
Lane LOS	A		A		B	D						
Approach Delay (s)	0.1		0.2		10.0	29.5						
Approach LOS					B	D						
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			59.5%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
 14: Mark Center Ave & Seminary Rd

2045 Sensitivity Analysis 1
 Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑↑		↖	↑↑↑↑	↗		↑	↗↗↗	↖	↗↗	
Traffic Volume (vph)	20	1396	39	228	1870	90	12	26	158	254	55	45
Future Volume (vph)	20	1396	39	228	1870	90	12	26	158	254	55	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	13	12	12	12	12	12	10	10	10
Grade (%)		0%			-1%			0%				0%
Total Lost time (s)	1.6	1.7		1.8	1.7	1.7		2.2	1.8	2.6	2.6	
Lane Util. Factor	1.00	0.86		1.00	0.91	1.00		1.00	0.76	0.91	0.91	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (prot)	1543	5700		1900	5700	1328		1419	3191	1446	2784	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (perm)	1543	6354		1820	5061	1328		1419	3191	1446	2784	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	1439	40	235	1928	93	12	27	163	262	57	46
RTOR Reduction (vph)	0	2	0	0	0	39	0	0	0	0	16	0
Lane Group Flow (vph)	21	1477	0	235	1928	54	0	39	163	131	218	0
Confl. Peds. (#/hr)	6		1	1		6	19					19
Heavy Vehicles (%)	17%	2%	17%	3%	3%	18%	18%	38%	14%	6%	22%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	9	0	0	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	pm+ov	Split	NA	
Protected Phases	1	6		5	2		4	4	5	3	3	
Permitted Phases						2			4			
Actuated Green, G (s)	4.5	57.7		22.6	76.0	76.0		7.1	29.7	24.3	24.3	
Effective Green, g (s)	9.5	62.7		27.6	81.0	81.0		12.1	39.7	29.3	29.3	
Actuated g/C Ratio	0.07	0.45		0.20	0.58	0.58		0.09	0.28	0.21	0.21	
Clearance Time (s)	6.6	6.7		6.8	6.7	6.7		7.2	6.8	7.6	7.6	
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2		2.0	3.0	4.0	4.0	
Lane Grp Cap (vph)	104	2552		374	3297	768		122	904	302	582	
v/s Ratio Prot	0.01	0.26		c0.12	c0.34			c0.03	0.04	c0.09	0.08	
v/s Ratio Perm						0.04			0.02			
v/c Ratio	0.20	0.58		0.63	0.58	0.07		0.32	0.18	0.43	0.37	
Uniform Delay, d1	61.7	28.8		51.5	18.8	13.0		60.1	37.9	48.1	47.5	
Progression Factor	1.27	0.73		1.21	0.77	0.12		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	0.8		3.2	0.7	0.2		0.6	0.1	1.4	0.6	
Delay (s)	79.2	21.7		65.6	15.1	1.7		60.6	38.0	49.5	48.0	
Level of Service	E	C		E	B	A		E	D	D	D	
Approach Delay (s)		22.5			19.8			42.3			48.6	
Approach LOS		C			B			D			D	

Intersection Summary		
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.56	C
Actuated Cycle Length (s)	140.0	Sum of lost time (s)
Intersection Capacity Utilization	71.2%	13.3
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		C

HCM Signalized Intersection Capacity Analysis
 15: Kenmore Ave/Library Ln & Seminary Rd

2045 Sensitivity Analysis 1
 Timing Plan: AM


























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Traffic Volume (vph)	243	1024	16	27	1226	90	62	5	24	64	6	58
Future Volume (vph)	243	1024	16	27	1226	90	62	5	24	64	6	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.97			1.00	0.90
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.95			0.94	1.00
Frt	1.00	1.00		1.00	0.99			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.96	1.00
Satd. Flow (prot)	1787	5021		1809	5056			1628			1676	1460
Flt Permitted	0.14	1.00		0.24	1.00			0.75			0.70	1.00
Satd. Flow (perm)	257	5021		456	5056			1259			1225	1460
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)	264	1113	17	29	1333	98	67	5	26	70	7	63
RTOR Reduction (vph)	0	0	0	0	0	0	0	9	0	0	0	0
Lane Group Flow (vph)	264	1130	0	29	1431	0	0	89	0	0	77	63
Confl. Peds. (#/hr)	8		95	95			8	26		31	31	26
Heavy Vehicles (%)	1%	3%	0%	0%	2%	0%	0%	0%	0%	2%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			3			3	
Permitted Phases	6			2			3			3		3
Actuated Green, G (s)	115.3	106.2		92.5	89.4			12.7			12.7	12.7
Effective Green, g (s)	115.3	106.2		92.5	89.4			12.7			12.7	12.7
Actuated g/C Ratio	0.82	0.76		0.66	0.64			0.09			0.09	0.09
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Vehicle Extension (s)	2.0	0.2		2.0	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	429	3808		331	3228			114			111	132
v/s Ratio Prot	c0.09	0.22		0.00	0.28							
v/s Ratio Perm	c0.42			0.06				c0.07			0.06	0.04
v/c Ratio	0.62	0.30		0.09	0.44			0.78			0.69	0.48
Uniform Delay, d1	10.9	5.3		8.2	12.8			62.3			61.8	60.5
Progression Factor	1.98	0.77		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.6	0.2		0.0	0.4			25.8			14.1	1.0
Delay (s)	23.2	4.2		8.2	13.2			88.0			75.8	61.5
Level of Service	C	A		A	B			F			E	E
Approach Delay (s)		7.8			13.1			88.0			69.4	
Approach LOS		A			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 1: N Beauregard St & Little River Tpke

2045 Sensitivity Analysis 1
 Timing Plan: PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	373	1203	32	125	1305	551	140	122	80	860	73	237
Future Volume (vph)	373	1203	32	125	1305	551	140	122	80	860	73	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00
Satd. Flow (prot)	3502	3488		1787	3539	1479	1719	1863	1544	1665	1689	1503
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.96	1.00
Satd. Flow (perm)	3502	3488		1787	3539	1479	1719	1863	1544	1665	1689	1503
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	385	1240	33	129	1345	568	144	126	82	887	75	244
RTOR Reduction (vph)	0	0	0	0	0	30	0	0	0	0	0	95
Lane Group Flow (vph)	385	1273	0	129	1345	538	144	126	82	479	483	149
Confl. Peds. (#/hr)	32		6	6		32	13		8	8		13
Heavy Vehicles (%)	0%	3%	4%	1%	2%	4%	5%	2%	3%	3%	0%	3%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	5	2		1	6	3	4	4	1	3	3	
Permitted Phases						6			4			3
Actuated Green, G (s)	22.7	87.3		15.9	79.2	141.3	17.8	17.8	33.7	62.1	62.1	62.1
Effective Green, g (s)	22.7	87.3		15.9	79.2	141.3	17.8	17.8	33.7	62.1	62.1	62.1
Actuated g/C Ratio	0.11	0.42		0.08	0.38	0.67	0.08	0.08	0.16	0.30	0.30	0.30
Clearance Time (s)	7.3	5.8		6.1	5.9	7.8	7.2	7.2	6.1	7.8	7.8	7.8
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	378	1450		135	1334	995	145	157	247	492	499	444
v/s Ratio Prot	c0.11	c0.36		0.07	c0.38	0.16	c0.08	0.07	0.03	c0.29	0.29	
v/s Ratio Perm						0.20			0.03			0.10
v/c Ratio	1.02	0.88		0.96	1.01	0.54	0.99	0.80	0.33	0.97	0.97	0.34
Uniform Delay, d1	93.7	56.4		96.7	65.4	17.7	96.0	94.4	78.2	73.1	73.0	57.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	1.03
Incremental Delay, d2	51.1	7.8		62.9	26.7	0.6	72.3	24.8	0.3	25.6	24.0	0.3
Delay (s)	144.7	64.3		159.6	92.1	18.3	168.4	119.2	78.5	96.1	94.4	59.7
Level of Service	F	E		F	F	B	F	F	E	F	F	E
Approach Delay (s)		82.9			75.8			129.8			88.0	
Approach LOS		F			E			F			F	
Intersection Summary												
HCM 2000 Control Delay			84.5	HCM 2000 Level of Service				F				
HCM 2000 Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			210.0	Sum of lost time (s)				28.2				
Intersection Capacity Utilization			107.7%	ICU Level of Service				G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2045 Sensitivity Analysis 1
 Timing Plan: PM

















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↕		↕	↕↕	
Traffic Volume (vph)	1	0	3	208	1	61	11	459	104	36	458	1
Future Volume (vph)	1	0	3	208	1	61	11	459	104	36	458	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes		0.99			1.00	0.99	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00	1.00	1.00		1.00	1.00	
Frt		0.90			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1663			1730	1562	1804	3416		1748	3573	
Flt Permitted		0.94			0.73	1.00	0.48	1.00		0.39	1.00	
Satd. Flow (perm)		1575			1317	1562	905	3416		712	3573	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	0	3	219	1	64	12	483	109	38	482	1
RTOR Reduction (vph)	0	3	0	0	0	45	0	16	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	220	19	12	576	0	38	483	0
Confl. Peds. (#/hr)	2		10	10		2	2		12	12		2
Heavy Vehicles (%)	0%	0%	0%	4%	0%	2%	0%	1%	7%	3%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	6			2		
Actuated Green, G (s)		16.2			16.2	16.2	20.5	18.4		20.5	19.7	
Effective Green, g (s)		16.2			16.2	16.2	20.5	18.4		20.5	19.7	
Actuated g/C Ratio		0.30			0.30	0.30	0.38	0.34		0.38	0.37	
Clearance Time (s)		5.8			5.8	5.8	5.6	5.6		5.6	5.6	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		475			397	471	358	1170		312	1310	
v/s Ratio Prot							0.00	c0.17		c0.00	0.14	
v/s Ratio Perm		0.00			c0.17	0.01	0.01			0.04		
v/c Ratio		0.00			0.55	0.04	0.03	0.49		0.12	0.37	
Uniform Delay, d1		13.1			15.7	13.3	10.3	14.0		10.5	12.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0			1.7	0.0	0.0	0.3		0.2	0.2	
Delay (s)		13.1			17.4	13.3	10.4	14.3		10.7	12.6	
Level of Service		B			B	B	B	B		B	B	
Approach Delay (s)		13.1			16.5			14.2			12.5	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			14.0								HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			53.7								Sum of lost time (s)	17.0
Intersection Capacity Utilization			54.3%								ICU Level of Service	A
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis




















3: N Beauregard St & Quantrell Ave

2045 Sensitivity Analysis 1
Timing Plan: PM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	91	90	444	75	53	404
Future Volume (vph)	91	90	444	75	53	404
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	12	10	12
Grade (%)	3%		0%			-5%
Total Lost time (s)	6.0	6.0	5.3	5.3	8.3	8.3
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	*0.95
Frbp, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1627	1347	3455	1573	1721	3800
Flt Permitted	0.95	1.00	1.00	1.00	0.48	1.00
Satd. Flow (perm)	1627	1347	3455	1573	872	3664
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	97	96	472	80	56	430
RTOR Reduction (vph)	0	85	0	23	0	0
Lane Group Flow (vph)	97	11	472	57	56	430
Confl. Peds. (#/hr)				9	9	
Heavy Vehicles (%)	2%	1%	1%	0%	0%	1%
Parking (#/hr)		3				
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			2
Permitted Phases	4	4	2	2	2	2
Actuated Green, G (s)	8.1	8.1	48.8	48.8	48.8	48.8
Effective Green, g (s)	8.1	8.1	48.8	48.8	45.8	45.8
Actuated g/C Ratio	0.12	0.12	0.72	0.72	0.67	0.67
Clearance Time (s)	6.0	6.0	5.3	5.3	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	193	159	2472	1125	585	2551
v/s Ratio Prot			c0.14			0.11
v/s Ratio Perm	c0.06	0.01		0.04	0.06	
v/c Ratio	0.50	0.07	0.19	0.05	0.10	0.17
Uniform Delay, d1	28.2	26.7	3.2	2.9	3.9	4.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.2	0.2	0.1	0.3	0.1
Delay (s)	30.2	26.9	3.4	2.9	4.3	4.3
Level of Service	C	C	A	A	A	A
Approach Delay (s)	28.6		3.3			4.3
Approach LOS	C		A			A
Intersection Summary						
HCM 2000 Control Delay			7.7		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.25			
Actuated Cycle Length (s)			68.2		Sum of lost time (s)	14.3
Intersection Capacity Utilization			42.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
4: N Beauregard St & Sanger Ave

2045 Sensitivity Analysis 1
Timing Plan: PM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	53	64	42	207	59	178	58	414	359	287	443	66	
Future Volume (vph)	53	64	42	207	59	178	58	414	359	287	443	66	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	10	10	11	11	11	11	10	12	12	10	12	12	
Grade (%)		-2%			2%			0%			-3%		
Total Lost time (s)		6.0			6.0	6.0	0.3	0.3		8.3	8.3		
Lane Util. Factor		0.95			1.00	1.00	1.00	0.95		1.00	0.95		
Frbp, ped/bikes		0.97			1.00	1.00	1.00	0.99		1.00	1.00		
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Frt		0.96			1.00	0.85	1.00	0.93		1.00	0.98		
Flt Protected		0.98			0.96	1.00	0.95	1.00		0.95	1.00		
Satd. Flow (prot)		3118			1737	1530	1645	3550		1676	3800		
Flt Permitted		0.98			0.96	1.00	0.46	1.00		0.11	1.00		
Satd. Flow (perm)		3118			1737	1530	788	3279		187	3514		
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)	55	67	44	216	61	185	60	431	374	299	461	69	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	166	0	0	277	185	60	805	0	299	530	0	
Confl. Peds. (#/hr)	10		25	25		10	17		8	8		17	
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	2%	2%	1%	2%	2%	0%	
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA		pm+pt	NA		
Protected Phases	4	4		8	8	8.5	1	6		5	2		
Permitted Phases							6			2			
Actuated Green, G (s)		11.8			29.4	64.5	57.3	52.7		87.1	77.2		
Effective Green, g (s)		11.8			29.4	64.5	67.3	57.7		84.1	74.2		
Actuated g/C Ratio		0.07			0.18	0.40	0.41	0.35		0.52	0.46		
Clearance Time (s)		6.0			6.0		5.3	5.3		5.3	5.3		
Vehicle Extension (s)		3.0			3.0		3.0	4.0		3.0	4.0		
Lane Grp Cap (vph)		226			314	606	376	1259		335	1734		
v/s Ratio Prot		c0.05			c0.16	0.12	0.01	0.23		c0.14	0.14		
v/s Ratio Perm							0.06			c0.32			
v/c Ratio		0.73			0.88	0.31	0.16	0.64		0.89	0.31		
Uniform Delay, d1		73.9			64.9	33.7	29.0	43.8		44.5	27.9		
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		11.7			23.9	0.3	0.2	2.5		24.4	0.5		
Delay (s)		85.5			88.8	34.0	29.2	46.3		68.9	28.4		
Level of Service		F			F	C	C	D		E	C		
Approach Delay (s)		85.5			66.8			45.1			43.0		
Approach LOS		F			E			D			D		
Intersection Summary													
HCM 2000 Control Delay			51.6									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.75										
Actuated Cycle Length (s)			162.6									Sum of lost time (s)	23.6
Intersection Capacity Utilization			75.7%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: N Beauregard St & Mark Center Dr

2045 Sensitivity Analysis 1
Timing Plan: PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	5	10	43	1	68	8	837	16	104	913	32
Future Volume (vph)	47	5	10	43	1	68	8	837	16	104	913	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	12	11	12	10	12	12	11	12	12
Total Lost time (s)	6.0	6.0			6.0	5.0	0.0	0.3		8.0	8.3	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.91		0.97	0.95	
Frbp, ped/bikes	1.00	0.99			1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			0.99	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1652	1378			1514	1538	1685	5700		2969	3800	
Flt Permitted	0.73	1.00			0.72	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1263	1378			1142	1538	1685	5048		2969	3551	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	50	5	11	46	1	72	9	890	17	111	971	34
RTOR Reduction (vph)	0	10	0	0	0	57	0	1	0	0	1	0
Lane Group Flow (vph)	50	6	0	0	47	15	9	906	0	111	1004	0
Confl. Peds. (#/hr)			6	6			12		5	5		12
Heavy Vehicles (%)	2%	0%	20%	15%	0%	5%	0%	1%	33%	14%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Turn Type	Perm	NA		Perm	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	19.0	19.0			19.0	28.7	1.4	95.0		9.7	103.3	
Effective Green, g (s)	19.0	19.0			19.0	28.7	6.4	100.0		6.7	100.3	
Actuated g/C Ratio	0.14	0.14			0.14	0.20	0.05	0.71		0.05	0.72	
Clearance Time (s)	6.0	6.0			6.0	5.0	5.0	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	0.2		2.0	0.2	
Lane Grp Cap (vph)	171	187			154	315	77	4071		142	2722	
v/s Ratio Prot		0.00				0.00	0.01	0.16		c0.04	c0.26	
v/s Ratio Perm	0.04				c0.04	0.01						
v/c Ratio	0.29	0.03			0.31	0.05	0.12	0.22		0.78	0.37	
Uniform Delay, d1	54.5	52.5			54.5	44.7	64.1	6.8		65.9	7.7	
Progression Factor	1.00	1.00			1.00	1.00	1.14	0.75		1.08	1.16	
Incremental Delay, d2	0.3	0.0			0.4	0.0	0.2	0.1		19.5	0.3	
Delay (s)	54.8	52.6			55.0	44.7	73.3	5.2		90.9	9.2	
Level of Service	D	D			D	D	E	A		F	A	
Approach Delay (s)		54.3			48.7			5.9			17.3	
Approach LOS		D			D			A			B	























Intersection Summary

HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: N Beauregard St & Seminary Rd





















2045 Sensitivity Analysis 1
Timing Plan: PM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	45	1199	398	408	960	187	272	231	455	175	270	51	
Future Volume (vph)	45	1199	398	408	960	187	272	231	455	175	270	51	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	13	12	16	13	12	12	11	12	16	10	11	13	
Grade (%)		-1%			-1%			0%				2%	
Total Lost time (s)	2.2	1.0		2.8	1.0	1.0	2.3	1.4	2.8	2.3	1.4		
Lane Util. Factor	1.00	0.91		0.94	0.95	1.00	0.97	0.95	1.00	1.00	0.95		
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1874	5700		3800	3800	1571	3800	3471	1797	1588	3296		
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1874	4914		5034	3557	1571	3385	3471	1797	1588	3296		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	46	1223	406	416	980	191	278	236	464	179	276	52	
RTOR Reduction (vph)	0	35	0	0	0	85	0	0	87	0	12	0	
Lane Group Flow (vph)	46	1594	0	416	980	106	278	236	377	179	316	0	
Confl. Peds. (#/hr)	7		2	2		7	6		6	6		6	
Heavy Vehicles (%)	0%	2%	1%	5%	2%	1%	0%	4%	1%	5%	2%	2%	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		
Protected Phases	1	6		5	2		7	4	5	3	8		
Permitted Phases						2			4				
Actuated Green, G (s)	7.4	55.5		23.7	72.4	72.4	14.8	16.5	40.2	16.8	18.5		
Effective Green, g (s)	12.4	60.5		28.7	77.4	77.4	19.8	21.5	50.2	21.8	23.5		
Actuated g/C Ratio	0.09	0.43		0.20	0.55	0.55	0.14	0.15	0.36	0.16	0.17		
Clearance Time (s)	7.2	6.0		7.8	6.0	6.0	7.3	6.4	7.8	7.3	6.4		
Vehicle Extension (s)	2.5	0.2		2.5	0.2	0.2	2.5	2.5	2.5	2.5	2.5		
Lane Grp Cap (vph)	165	2463		779	2100	868	537	533	644	247	553		
v/s Ratio Prot	0.02	c0.28		0.11	0.26		0.07	0.07	c0.12	c0.11	c0.10		
v/s Ratio Perm						0.07			0.09				
v/c Ratio	0.28	0.65		0.53	0.47	0.12	0.52	0.44	0.59	0.72	0.57		
Uniform Delay, d1	59.6	31.3		49.7	18.9	15.0	55.7	53.8	36.4	56.2	53.6		
Progression Factor	0.92	0.65		0.70	0.40	0.12	1.03	0.67	1.34	0.86	1.04		
Incremental Delay, d2	0.5	1.1		0.5	0.7	0.3	0.6	0.4	1.1	9.4	1.2		
Delay (s)	55.4	21.5		35.5	8.1	2.1	57.9	36.4	49.8	57.8	57.1		
Level of Service	E	C		D	A	A	E	D	D	E	E		
Approach Delay (s)		22.4			14.6			48.9			57.4		
Approach LOS		C			B			D			E		
Intersection Summary													
HCM 2000 Control Delay			29.0									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.62										
Actuated Cycle Length (s)			140.0									Sum of lost time (s)	7.5
Intersection Capacity Utilization			80.6%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group






















HCM Signalized Intersection Capacity Analysis
 7: N Beauregard St & E Campus Dr/W Braddock Rd

2045 Sensitivity Analysis 1
 Timing Plan: PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	13	9	102	6	342	52	305	202	324	445	30
Future Volume (vph)	7	13	9	102	6	342	52	305	202	324	445	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	13	10	11	12	11	11	13	11	12	12
Grade (%)		-6%			-4%			-2%			2%	
Total Lost time (s)	5.8	5.8		5.8	5.8		0.0	0.3		0.0	0.3	
Lane Util. Factor	1.00	0.95		0.91	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.86		1.00	0.94		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1735	3197		1422	2864		1762	3800		1710	3800	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1735	3197		1422	2864		1762	3068		1710	3405	
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)	8	14	10	111	7	372	57	332	220	352	484	33
RTOR Reduction (vph)	0	9	0	0	329	0	0	53	0	0	2	0
Lane Group Flow (vph)	8	15	0	100	61	0	57	499	0	352	515	0
Confl. Peds. (#/hr)	3		4	4		3	11		14	14		11
Heavy Vehicles (%)	0%	0%	0%	10%	0%	0%	0%	5%	4%	1%	4%	0%
Bus Blockages (#/hr)	0	5	0	0	0	0	0	8	0	0	0	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.6	8.6		16.0	16.0		8.1	61.3		32.2	85.4	
Effective Green, g (s)	8.6	8.6		16.0	16.0		13.1	66.3		37.2	90.4	
Actuated g/C Ratio	0.06	0.06		0.11	0.11		0.09	0.47		0.27	0.65	
Clearance Time (s)	5.8	5.8		5.8	5.8		5.0	5.3		5.0	5.3	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	0.2		3.0	0.2	
Lane Grp Cap (vph)	106	196		162	327		164	1799		454	2453	
v/s Ratio Prot	c0.00	0.00		c0.07	0.02		0.03	c0.13		c0.21	0.14	
v/s Ratio Perm												
v/c Ratio	0.08	0.07		0.62	0.19		0.35	0.28		0.78	0.21	
Uniform Delay, d1	62.0	61.9		59.1	56.1		59.4	22.3		47.5	10.2	
Progression Factor	1.00	1.00		1.00	1.00		1.18	0.75		0.97	1.03	
Incremental Delay, d2	0.1	0.1		4.8	0.1		1.3	0.4		7.9	0.2	
Delay (s)	62.1	62.0		63.9	56.2		71.5	17.1		54.1	10.6	
Level of Service	E	E		E	E		E	B		D	B	
Approach Delay (s)		62.0			57.8			22.1			28.3	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			34.2				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			11.9		
Intersection Capacity Utilization			62.1%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
8: N Beauregard St/S Walter Reed Dr & King St

2045 Sensitivity Analysis 1
Timing Plan: PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	1203	299	72	1095	85	296	259	144	248	416	248
Future Volume (vph)	158	1203	299	72	1095	85	296	259	144	248	416	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Total Lost time (s)	8.3	5.7		8.3	5.8		7.7	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	3444		1480	3523		3502	3244		1787	3504	1578
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1787	3444		1480	3523		3502	3244		1787	3504	1578
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	166	1266	315	76	1153	89	312	273	152	261	438	261
RTOR Reduction (vph)	0	16	0	0	4	0	0	55	0	0	0	174
Lane Group Flow (vph)	166	1565	0	76	1238	0	312	370	0	261	438	87
Confl. Peds. (#/hr)	8		21	21		8	1		15	15		1
Heavy Vehicles (%)	1%	1%	1%	22%	1%	4%	0%	1%	10%	0%	2%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												4
Actuated Green, G (s)	13.7	63.3		8.5	58.0		12.5	19.1		19.7	26.3	26.3
Effective Green, g (s)	13.7	63.3		8.5	58.0		12.5	19.1		19.7	26.3	26.3
Actuated g/C Ratio	0.10	0.45		0.06	0.41		0.09	0.14		0.14	0.19	0.19
Clearance Time (s)	8.3	5.7		8.3	5.8		7.7	7.7		7.7	7.7	7.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	174	1557		89	1459		312	442		251	658	296
v/s Ratio Prot	0.09	c0.45		0.05	c0.35		0.09	c0.11		c0.15	c0.13	
v/s Ratio Perm												0.06
v/c Ratio	0.95	1.01		0.85	0.85		1.00	0.84		1.04	0.67	0.29
Uniform Delay, d1	62.8	38.4		65.1	37.0		63.8	58.9		60.1	52.8	48.9
Progression Factor	1.00	1.00		1.00	1.00		0.87	0.78		1.00	1.00	1.00
Incremental Delay, d2	54.1	24.1		49.3	6.3		49.2	11.6		67.6	2.0	0.2
Delay (s)	116.9	62.4		114.4	43.4		104.8	57.8		127.7	54.7	49.1
Level of Service	F	E		F	D		F	E		F	D	D
Approach Delay (s)		67.6			47.5			77.7			73.0	
Approach LOS		E			D			E			E	
Intersection Summary												
HCM 2000 Control Delay			64.7				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)		29.5			
Intersection Capacity Utilization			106.9%				ICU Level of Service		G			
Analysis Period (min)			15									
c Critical Lane Group												






















HCM Signalized Intersection Capacity Analysis
 9: N Hampton Dr & King St

2045 Sensitivity Analysis 1
 Timing Plan: PM

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1430	186	132	1240	82	123
Future Volume (vph)	1430	186	132	1240	82	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frbp, ped/bikes	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3451		1787	3574	1626	1615
Flt Permitted	1.00		0.09	1.00	0.95	1.00
Satd. Flow (perm)	3451		172	3574	1626	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1459	190	135	1265	84	126
RTOR Reduction (vph)	6	0	0	0	0	114
Lane Group Flow (vph)	1643	0	135	1265	84	12
Confl. Peds. (#/hr)		38	38			
Heavy Vehicles (%)	1%	4%	1%	1%	11%	0%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		4	4
Actuated Green, G (s)	82.6		96.5	96.5	11.5	11.5
Effective Green, g (s)	82.6		96.5	96.5	11.5	11.5
Actuated g/C Ratio	0.69		0.80	0.80	0.10	0.10
Clearance Time (s)	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	0.2		2.0	0.2	3.0	3.0
Lane Grp Cap (vph)	2375		258	2874	155	154
v/s Ratio Prot	c0.48		0.04	c0.35		
v/s Ratio Perm			0.38		c0.05	0.01
v/c Ratio	0.69		0.52	0.44	0.54	0.08
Uniform Delay, d1	11.1		11.7	3.6	51.7	49.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7		0.9	0.5	3.8	0.2
Delay (s)	12.8		12.6	4.1	55.6	49.6
Level of Service	B		B	A	E	D
Approach Delay (s)	12.8			4.9	52.0	
Approach LOS	B			A	D	
Intersection Summary						
HCM 2000 Control Delay			11.9		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.66			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	17.0
Intersection Capacity Utilization			73.1%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
 10: N Hampton Dr & W Braddock Rd

2045 Sensitivity Analysis 1
 Timing Plan: PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	414	29	30	400	154	11	27	22	166	28	108
Future Volume (vph)	107	414	29	30	400	154	11	27	22	166	28	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-4%			0%			0%	
Total Lost time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00		0.96	1.00
Satd. Flow (prot)	1684	3533		1835	3646	1587		1870	1515		1802	1482
Flt Permitted	0.46	1.00		0.48	1.00	1.00		0.88	1.00		0.73	1.00
Satd. Flow (perm)	823	3533		921	3646	1587		1664	1515		1367	1482
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)	116	450	32	33	435	167	12	29	24	180	30	117
RTOR Reduction (vph)	0	4	0	0	0	80	0	0	20	0	0	95
Lane Group Flow (vph)	116	478	0	33	435	87	0	41	4	0	210	22
Confl. Peds. (#/hr)	5		11	11		5	8		4	4		8
Heavy Vehicles (%)	7%	1%	0%	0%	1%	1%	0%	0%	5%	1%	0%	7%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2		2	4		4	8		8
Actuated Green, G (s)	58.5	51.7		51.3	48.1	48.1		17.0	17.0		17.0	17.0
Effective Green, g (s)	58.5	51.7		51.3	48.1	48.1		17.0	17.0		17.0	17.0
Actuated g/C Ratio	0.64	0.56		0.56	0.52	0.52		0.18	0.18		0.18	0.18
Clearance Time (s)	6.8	6.8		6.8	6.8	6.8		6.4	6.4		6.4	6.4
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		0.2	0.2		2.0	2.0
Lane Grp Cap (vph)	587	1987		545	1908	830		307	280		252	274
v/s Ratio Prot	c0.01	c0.14		0.00	0.12							
v/s Ratio Perm	0.11			0.03		0.06		0.02	0.00		c0.15	0.02
v/c Ratio	0.20	0.24		0.06	0.23	0.11		0.13	0.02		0.83	0.08
Uniform Delay, d1	6.6	10.2		9.1	11.9	11.0		31.3	30.6		36.1	31.0
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.3		0.0	0.3	0.3		0.1	0.0		19.6	0.0
Delay (s)	6.7	10.5		9.1	12.1	11.3		31.4	30.6		55.7	31.0
Level of Service	A	B		A	B	B		C	C		E	C
Approach Delay (s)		9.7			11.8			31.1			46.9	
Approach LOS		A			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			18.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			91.9				Sum of lost time (s)		20.0			
Intersection Capacity Utilization			70.4%				ICU Level of Service		C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 11: Dawes Ave & Seminary Rd

2045 Sensitivity Analysis 1
 Timing Plan: PM

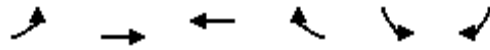


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↗	↖
Traffic Volume (vph)	31	1533	5	120	1095	38	17	4	39	94	15	49
Future Volume (vph)	31	1533	5	120	1095	38	17	4	39	94	15	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	9	13	13	12	16	12	12	11	11
Grade (%)		-1%			0%			0%				0%
Total Lost time (s)	6.9	6.9		1.9	1.9			6.5			6.5	6.5
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1446	3470		1608	4000			1894			1688	1426
Flt Permitted	0.21	1.00		0.10	1.00			0.88			0.74	1.00
Satd. Flow (perm)	315	3470		172	3561			1696			1312	1426
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)	32	1597	5	125	1141	40	18	4	41	98	16	51
RTOR Reduction (vph)	0	0	0	0	1	0	0	36	0	0	0	44
Lane Group Flow (vph)	32	1602	0	125	1180	0	0	27	0	0	114	7
Confl. Peds. (#/hr)	16		6	6		16	8					8
Heavy Vehicles (%)	17%	2%	0%	1%	2%	6%	0%	0%	3%	5%	0%	7%
Bus Blockages (#/hr)	0	12	0	0	9	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		4
Actuated Green, G (s)	97.3	94.2		106.3	98.7			17.9			17.9	17.9
Effective Green, g (s)	97.3	94.2		113.7	103.7			17.9			17.9	17.9
Actuated g/C Ratio	0.69	0.67		0.81	0.74			0.13			0.13	0.13
Clearance Time (s)	6.9	6.9		6.9	6.9			6.5			6.5	6.5
Vehicle Extension (s)	2.0	2.0		2.0	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	243	2334		268	2962			216			167	182
v/s Ratio Prot	0.00	c0.46		c0.04	0.29							
v/s Ratio Perm	0.09			0.34				0.02			c0.09	0.00
v/c Ratio	0.13	0.69		0.47	0.40			0.13			0.68	0.04
Uniform Delay, d1	7.3	13.9		11.1	6.7			54.1			58.3	53.5
Progression Factor	1.00	1.00		4.09	0.48			1.00			1.00	1.00
Incremental Delay, d2	0.1	1.7		0.4	0.4			0.1			8.8	0.0
Delay (s)	7.4	15.6		46.0	3.6			54.2			67.2	53.5
Level of Service	A	B		D	A			D			E	D
Approach Delay (s)		15.4			7.7			54.2			62.9	
Approach LOS		B			A			D			E	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
 12: Seminary Rd & Fillmore Ave

2045 Sensitivity Analysis 1
 Timing Plan: PM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↔		↔↔	
Traffic Volume (veh/h)	54	1628	1215	17	4	66
Future Volume (Veh/h)	54	1628	1215	17	4	66
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	56	1678	1253	18	4	68
Pedestrians					11	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		462	533			
pX, platoon unblocked	0.82				0.79	0.82
vC, conflicting volume	1282				2224	646
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	916				1016	145
tC, single (s)	4.3				6.8	7.1
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	90				98	90
cM capacity (veh/h)	575				168	696
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	615	1119	835	436	72	
Volume Left	56	0	0	0	4	
Volume Right	0	0	0	18	68	
cSH	575	1700	1700	1700	592	
Volume to Capacity	0.10	0.66	0.49	0.26	0.12	
Queue Length 95th (ft)	8	0	0	0	10	
Control Delay (s)	2.7	0.0	0.0	0.0	11.9	
Lane LOS	A				B	
Approach Delay (s)	0.9		0.0		11.9	
Approach LOS					B	
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			95.0%		ICU Level of Service	F
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 13: Heritage Ln/Fairbanks Ave & Seminary Rd

2045 Sensitivity Analysis 1
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (veh/h)	6	1692	0	10	1316	8	0	0	5	7	0	8
Future Volume (Veh/h)	6	1692	0	10	1316	8	0	0	5	7	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		-1%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	6	1819	0	11	1415	9	0	0	5	8	0	9
Pedestrians								5			15	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		521			707							
pX, platoon unblocked	0.84			0.62			0.70	0.70	0.62	0.70	0.70	0.84
vC, conflicting volume	1439			1824			2574	3297	914	2383	3292	727
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1131			1093			1330	2363	0	1056	2357	278
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			100	100	99	93	100	98
cM capacity (veh/h)	516			397			75	24	670	120	24	598
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	916	910	718	716	5	17						
Volume Left	6	0	11	0	0	8						
Volume Right	0	0	0	9	5	9						
cSH	516	1700	397	1700	670	208						
Volume to Capacity	0.01	0.54	0.03	0.42	0.01	0.08						
Queue Length 95th (ft)	1	0	2	0	1	7						
Control Delay (s)	0.4	0.0	0.9	0.0	10.4	23.9						
Lane LOS	A		A		B	C						
Approach Delay (s)	0.2		0.4		10.4	23.9						
Approach LOS					B	C						
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			64.9%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
 14: Mark Center Ave & Seminary Rd

2045 Sensitivity Analysis 1
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑↑↑		↙	↑↑↑↑	↗		↑	↗↗↗	↙	↗↗	
Traffic Volume (vph)	27	1790	17	38	1438	181	34	16	400	202	25	57
Future Volume (vph)	27	1790	17	38	1438	181	34	16	400	202	25	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	13	12	12	12	12	12	10	10	10
Grade (%)		0%			-1%			0%				0%
Total Lost time (s)	1.6	1.7		1.8	1.7	6.7		2.2	1.8	2.6	2.6	
Lane Util. Factor	1.00	0.86		1.00	0.91	1.00		1.00	0.76	0.91	0.91	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.96		1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97	1.00	0.95	0.97	
Satd. Flow (prot)	1736	5700		1900	5700	1426		1473	3446	1446	2676	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.97	1.00	0.95	0.97	
Satd. Flow (perm)	1736	6382		1616	5111	1426		1473	3446	1446	2676	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	1904	18	40	1530	193	36	17	426	215	27	61
RTOR Reduction (vph)	0	0	0	0	0	70	0	0	0	0	41	0
Lane Group Flow (vph)	29	1922	0	40	1530	123	0	53	426	107	155	0
Confl. Peds. (#/hr)	11					11	7					7
Heavy Vehicles (%)	4%	2%	31%	16%	2%	9%	10%	56%	5%	6%	48%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	13	0	0	0
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	pm+ov	Split	NA	
Protected Phases	1	6		5	2		4	4	5	3	3	
Permitted Phases						2			4			
Actuated Green, G (s)	5.4	73.9		10.4	79.1	79.1		8.5	18.9	18.9	18.9	
Effective Green, g (s)	10.4	78.9		15.4	84.1	79.1		13.5	28.9	23.9	23.9	
Actuated g/C Ratio	0.07	0.56		0.11	0.60	0.56		0.10	0.21	0.17	0.17	
Clearance Time (s)	6.6	6.7		6.8	6.7	6.7		7.2	6.8	7.6	7.6	
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2		2.0	3.0	4.0	4.0	
Lane Grp Cap (vph)	128	3212		209	3424	805		142	711	246	456	
v/s Ratio Prot	0.02	c0.34		0.02	0.27			0.04	c0.07	c0.07	0.06	
v/s Ratio Perm						0.09			0.06			
v/c Ratio	0.23	0.60		0.19	0.45	0.15		0.37	0.60	0.43	0.34	
Uniform Delay, d1	61.0	20.1		56.6	15.3	14.5		59.3	50.3	52.0	51.1	
Progression Factor	1.31	0.53		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.7		0.4	0.4	0.4		0.6	1.4	1.7	0.6	
Delay (s)	80.5	11.3		57.1	15.7	14.9		59.9	51.7	53.7	51.7	
Level of Service	F	B		E	B	B		E	D	D	D	
Approach Delay (s)		12.3			16.5			52.6			52.4	
Approach LOS		B			B			D			D	

Intersection Summary		
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.58	C
Actuated Cycle Length (s)	140.0	Sum of lost time (s)
Intersection Capacity Utilization	58.0%	13.3
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		B

HCM Signalized Intersection Capacity Analysis
 15: Kenmore Ave/Library Ln & Seminary Rd

2045 Sensitivity Analysis 1
 Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Traffic Volume (vph)	198	1162	19	27	824	63	15	12	11	86	21	46
Future Volume (vph)	198	1162	19	27	824	63	15	12	11	86	21	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			0%			0%	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	0.93
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1769	5073		1814	5009			1749			1820	1437
Flt Permitted	0.25	1.00		0.21	1.00			0.84			0.74	1.00
Satd. Flow (perm)	458	5073		395	5009			1499			1402	1437
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	213	1249	20	29	886	68	16	13	12	92	23	49
RTOR Reduction (vph)	0	1	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	213	1268	0	29	954	0	0	30	0	0	115	49
Confl. Peds. (#/hr)	4		6	6		4	21		2	2		21
Heavy Vehicles (%)	2%	2%	0%	0%	3%	0%	0%	0%	0%	0%	0%	5%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			3			3	
Permitted Phases	6			2			3			3		3
Actuated Green, G (s)	85.4	76.3		69.6	66.5			12.6			12.6	12.6
Effective Green, g (s)	85.4	76.3		69.6	66.5			12.6			12.6	12.6
Actuated g/C Ratio	0.78	0.69		0.63	0.60			0.11			0.11	0.11
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Vehicle Extension (s)	2.0	0.2		2.0	0.2			2.0			2.0	2.0
Lane Grp Cap (vph)	509	3518		289	3028			171			160	164
v/s Ratio Prot	c0.05	0.25		0.00	0.19						c0.08	0.03
v/s Ratio Perm	c0.28			0.06				0.02				0.03
v/c Ratio	0.42	0.36		0.10	0.32			0.18			0.72	0.30
Uniform Delay, d1	4.0	6.9		7.5	10.6			44.0			47.0	44.6
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.2	0.3		0.1	0.3			0.2			12.1	0.4
Delay (s)	4.2	7.2		7.6	10.9			44.2			59.1	45.0
Level of Service	A	A		A	B			D			E	D
Approach Delay (s)		6.7			10.8			44.2			54.9	
Approach LOS		A			B			D			D	

Intersection Summary

HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Queues
1: N Beauregard St & Little River Tpke

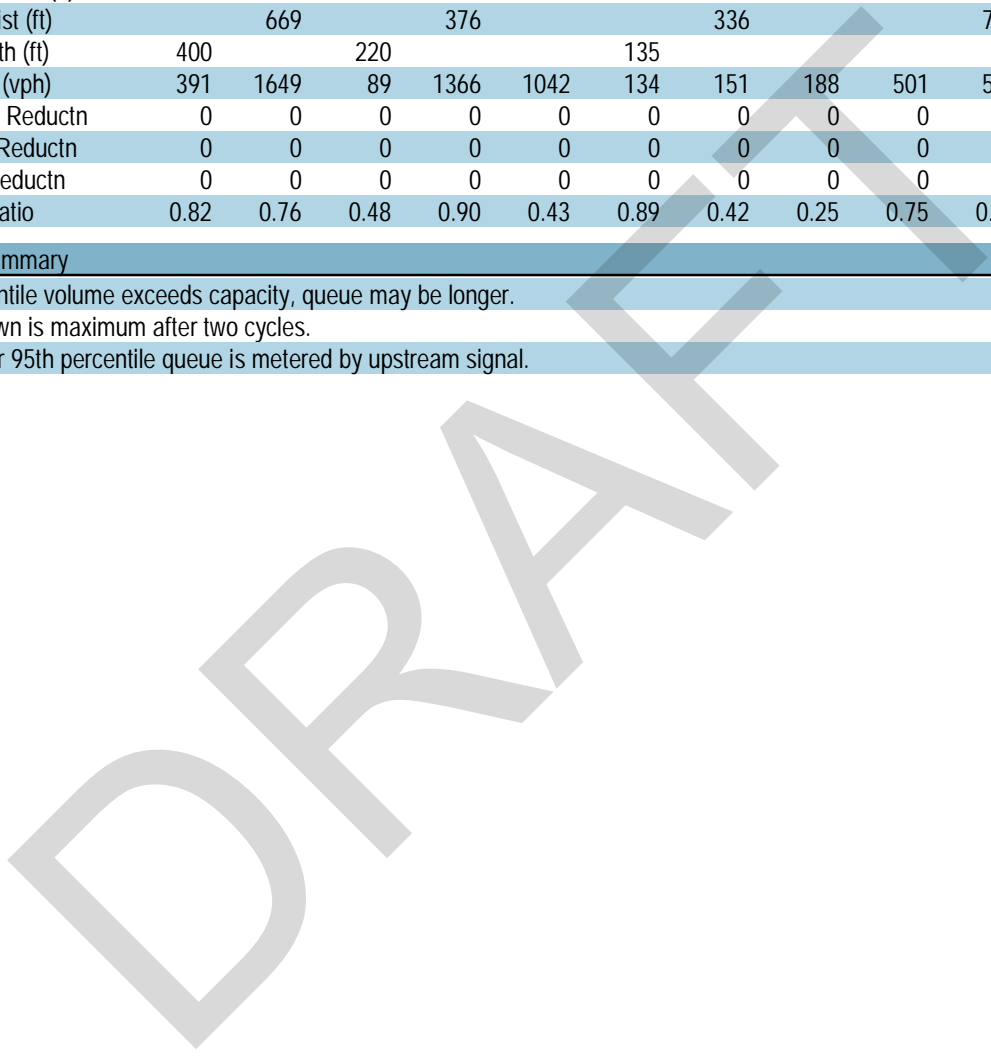
2045 Sensitivity Analysis 1
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	319	1252	43	1223	443	119	64	47	377	378	247
v/c Ratio	0.85	0.76	0.51	0.90	0.43	0.90	0.43	0.25	0.85	0.85	0.44
Control Delay	98.7	45.0	104.1	61.5	8.1	134.3	88.0	68.4	67.5	66.9	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.7	45.0	104.1	61.5	8.1	134.3	88.0	68.4	67.5	66.9	13.8
Queue Length 50th (ft)	193	672	51	734	118	142	73	48	358	360	70
Queue Length 95th (ft)	#263	805	98	#928	182	#273	131	92	m438	m441	m105
Internal Link Dist (ft)		669		376			336			734	
Turn Bay Length (ft)	400		220			135					
Base Capacity (vph)	391	1649	89	1366	1042	134	151	188	501	505	610
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.76	0.48	0.90	0.43	0.89	0.42	0.25	0.75	0.75	0.40

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

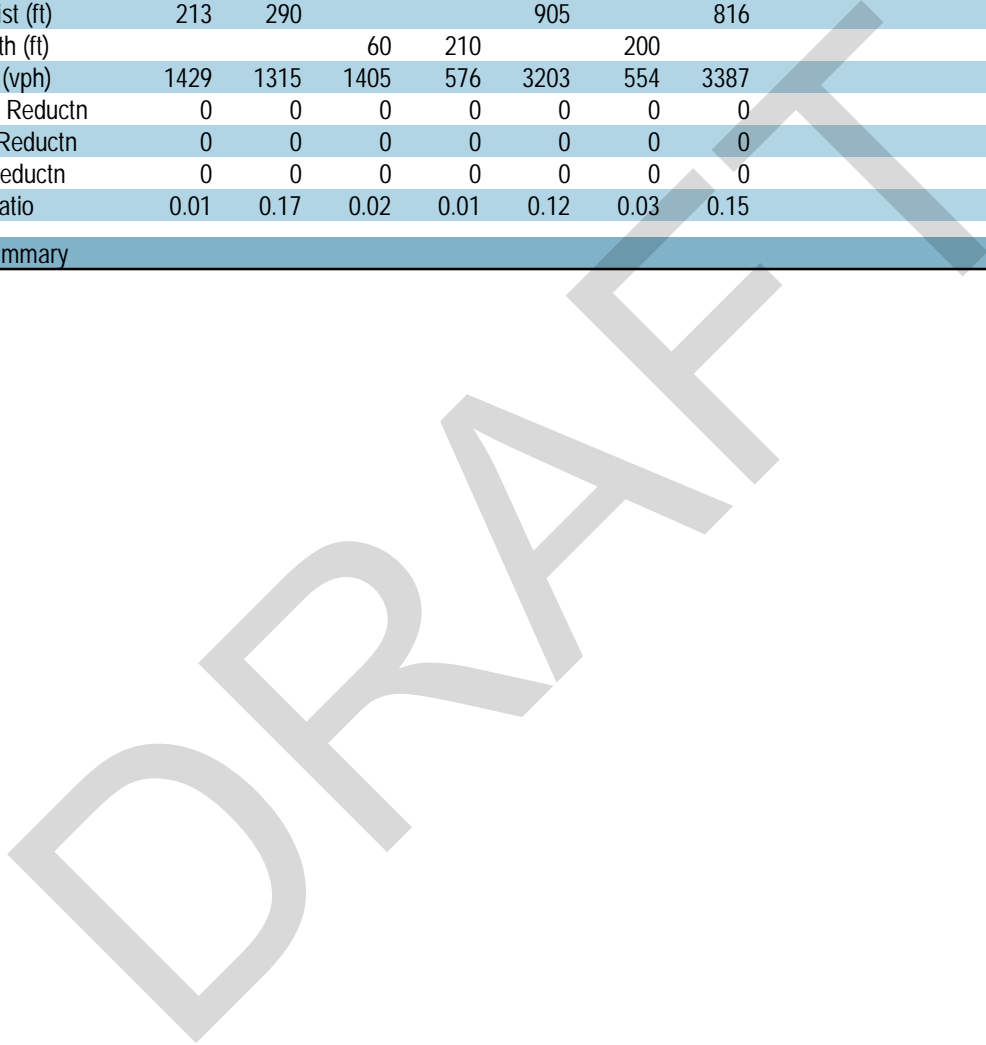


Queues
2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2045 Sensitivity Analysis 1
Timing Plan: AM



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	218	32	5	390	19	496
v/c Ratio	0.02	0.49	0.06	0.01	0.34	0.04	0.41
Control Delay	0.1	16.5	1.6	9.0	12.5	9.1	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.1	16.5	1.6	9.0	12.5	9.1	13.3
Queue Length 50th (ft)	0	32	0	1	26	2	36
Queue Length 95th (ft)	0	125	6	6	95	13	121
Internal Link Dist (ft)	213	290			905		816
Turn Bay Length (ft)			60	210		200	
Base Capacity (vph)	1429	1315	1405	576	3203	554	3387
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.17	0.02	0.01	0.12	0.03	0.15
Intersection Summary							

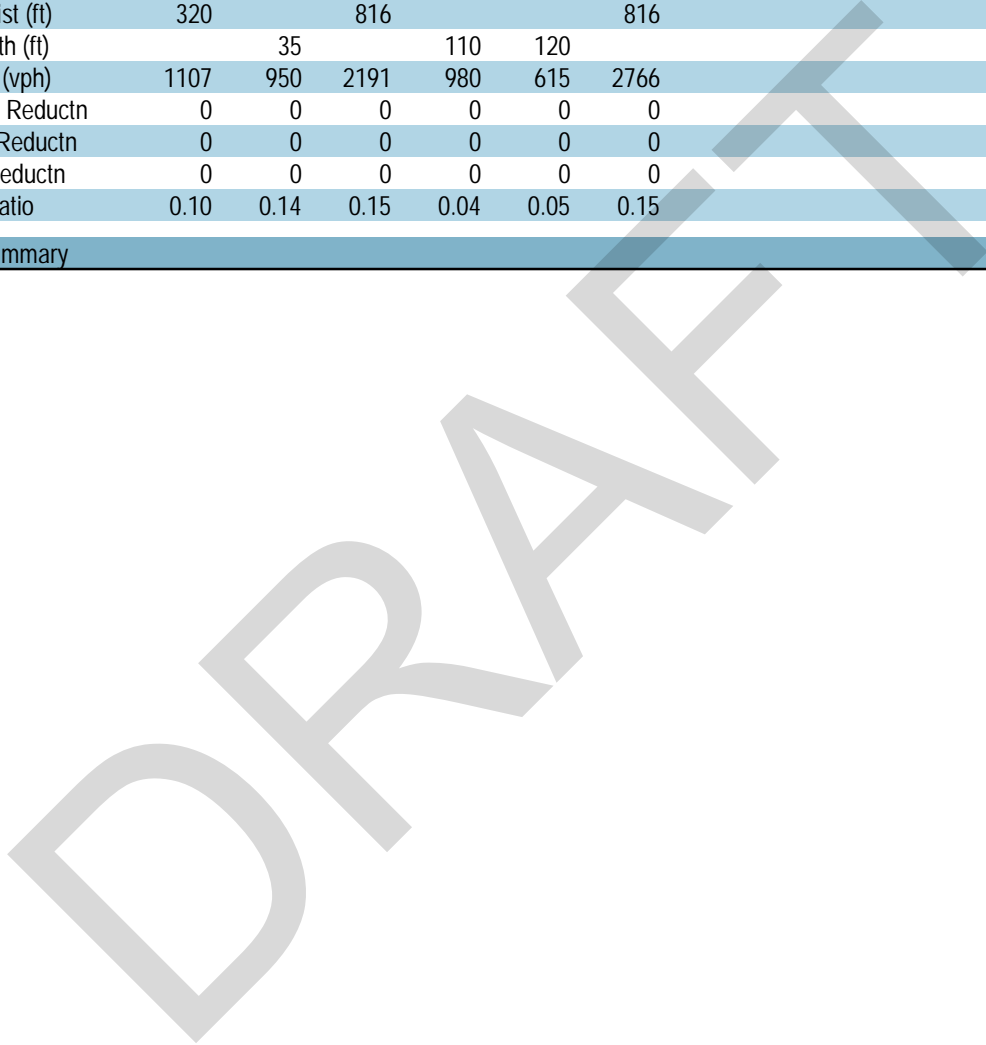


Queues
3: N Beauregard St & Quantrell Ave

2045 Sensitivity Analysis 1
Timing Plan: AM



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	112	133	327	44	32	404
v/c Ratio	0.43	0.41	0.15	0.04	0.05	0.15
Control Delay	26.7	8.8	4.6	1.9	3.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	8.8	4.6	1.9	3.0	2.8
Queue Length 50th (ft)	35	0	19	0	2	15
Queue Length 95th (ft)	75	38	38	9	10	33
Internal Link Dist (ft)	320		816			816
Turn Bay Length (ft)		35		110	120	
Base Capacity (vph)	1107	950	2191	980	615	2766
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	0.10	0.14	0.15	0.04	0.05	0.15
Intersection Summary						

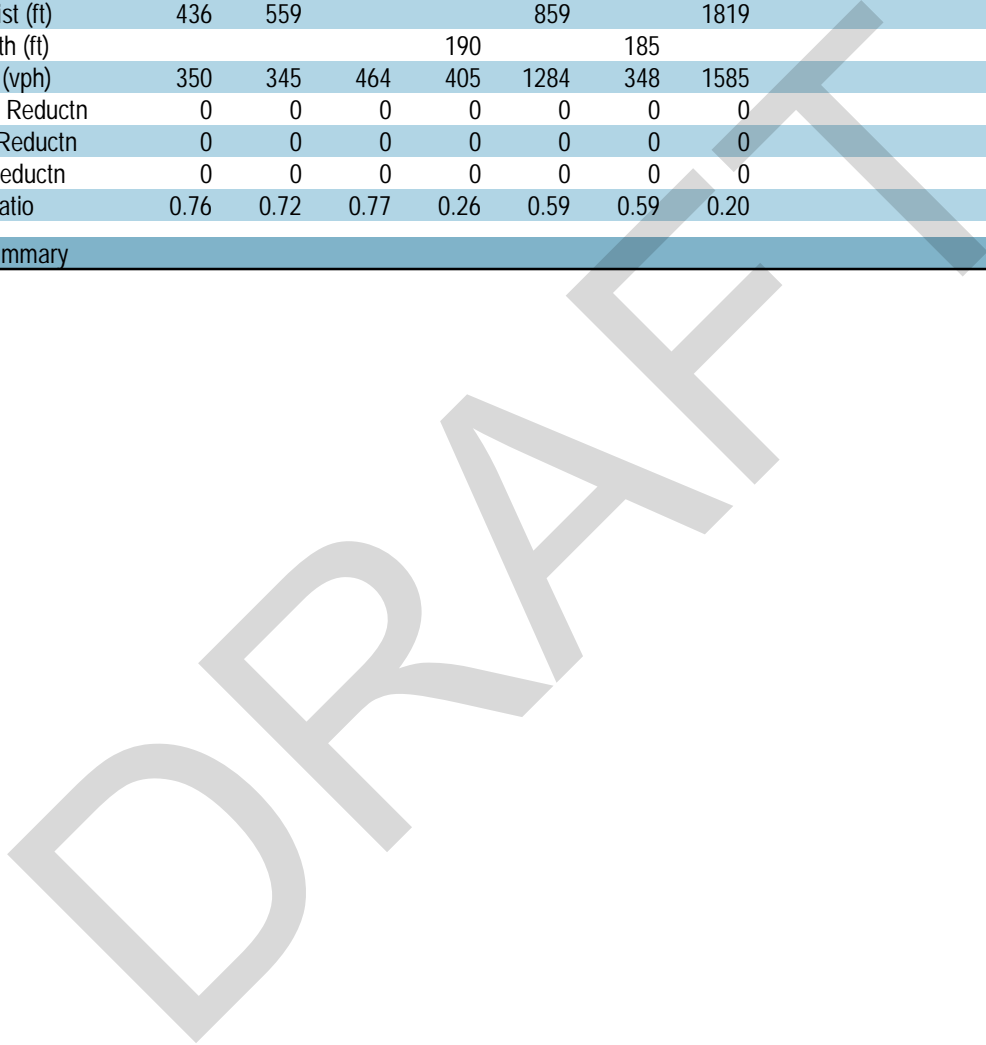


Queues
4: N Beauregard St & Sanger Ave

2045 Sensitivity Analysis 1
Timing Plan: AM



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	265	250	359	106	761	206	311
v/c Ratio	0.82	0.74	0.78	0.28	0.59	0.60	0.20
Control Delay	93.9	78.8	67.0	32.8	50.4	34.6	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.9	78.8	67.0	32.8	50.4	34.6	36.0
Queue Length 50th (ft)	154	267	366	78	418	149	135
Queue Length 95th (ft)	210	375	501	126	500	216	180
Internal Link Dist (ft)	436	559			859		1819
Turn Bay Length (ft)				190		185	
Base Capacity (vph)	350	345	464	405	1284	348	1585
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.72	0.77	0.26	0.59	0.59	0.20
Intersection Summary							



Queues
5: N Beauregard St & Mark Center Dr

2045 Sensitivity Analysis 1
Timing Plan: AM



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	33	8	17	42	7	1093	313	789
v/c Ratio	0.23	0.04	0.15	0.08	0.06	0.33	0.35	0.25
Control Delay	55.2	32.7	52.9	2.5	75.7	12.5	45.0	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	32.7	52.9	2.5	75.7	12.5	45.0	3.0
Queue Length 50th (ft)	30	3	15	0	6	108	130	14
Queue Length 95th (ft)	56	18	35	13	24	202	183	257
Internal Link Dist (ft)		251	541			712		713
Turn Bay Length (ft)					175		390	
Base Capacity (vph)	330	400	252	525	237	3361	883	3207
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.02	0.07	0.08	0.03	0.33	0.35	0.25
Intersection Summary								

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Queues
6: N Beauregard St & Seminary Rd

2045 Sensitivity Analysis 1
Timing Plan: AM

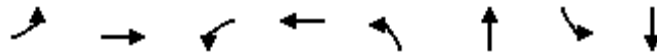


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	1185	673	1152	209	280	272	524	100	258
v/c Ratio	0.23	0.50	0.67	0.50	0.21	0.57	0.48	0.74	0.61	0.53
Control Delay	67.1	20.9	27.5	4.3	0.7	54.4	35.1	29.9	90.4	48.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.1	20.9	27.5	4.3	0.7	54.4	35.1	29.9	90.4	48.5
Queue Length 50th (ft)	36	219	185	26	0	100	109	176	97	100
Queue Length 95th (ft)	52	233	183	30	1	189	123	232	159	153
Internal Link Dist (ft)		243		352			713			1255
Turn Bay Length (ft)	125		350		355	190		585	245	
Base Capacity (vph)	178	2349	1009	2288	1014	507	923	712	170	817
Starvation Cap Reductn	0	0	0	112	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.50	0.67	0.53	0.21	0.55	0.29	0.74	0.59	0.32
Intersection Summary										

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Queues
7: N Beauregard St & E Campus Dr/W Braddock Rd

2045 Sensitivity Analysis 1
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	8	130	560	13	577	168	214
v/c Ratio	0.01	0.01	0.70	0.67	0.09	0.26	0.58	0.08
Control Delay	52.0	0.0	76.1	9.3	61.1	15.7	68.7	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	0.0	76.1	9.3	61.1	15.7	68.7	10.1
Queue Length 50th (ft)	1	0	127	8	12	100	160	20
Queue Length 95th (ft)	6	0	189	59	28	276	218	99
Internal Link Dist (ft)		185		1746		1053		742
Turn Bay Length (ft)	125		200		85		200	
Base Capacity (vph)	361	1065	377	1125	155	2258	333	2761
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.01	0.34	0.50	0.08	0.26	0.50	0.08
Intersection Summary								

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Queues
8: N Beauregard St/S Walter Reed Dr & King St

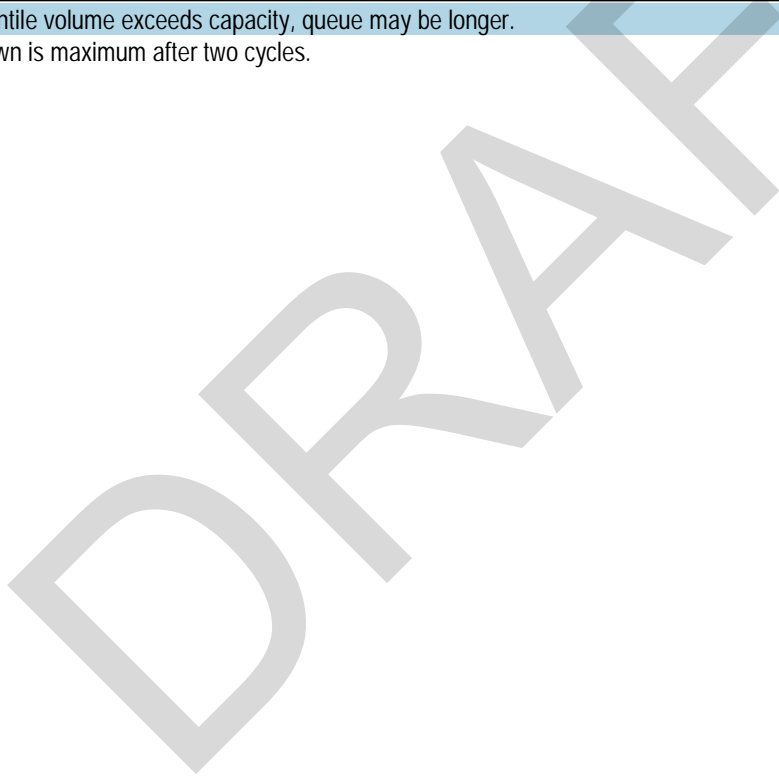
2045 Sensitivity Analysis 1
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	152	1244	82	1183	401	574	163	128	177
v/c Ratio	0.96	0.91	0.92	0.93	0.99	0.84	0.73	0.17	0.40
Control Delay	124.7	50.9	139.8	55.7	91.0	50.0	77.8	43.7	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.7	50.9	139.8	55.7	91.0	50.0	77.8	43.7	12.6
Queue Length 50th (ft)	140	565	76	548	192	256	143	50	23
Queue Length 95th (ft)	#285	#773	#184	#761	#289	308	#253	75	85
Internal Link Dist (ft)		919		1047		564		898	
Turn Bay Length (ft)	425		425		395		200		200
Base Capacity (vph)	158	1366	89	1274	407	916	224	917	514
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.91	0.92	0.93	0.99	0.63	0.73	0.14	0.34

Intersection Summary

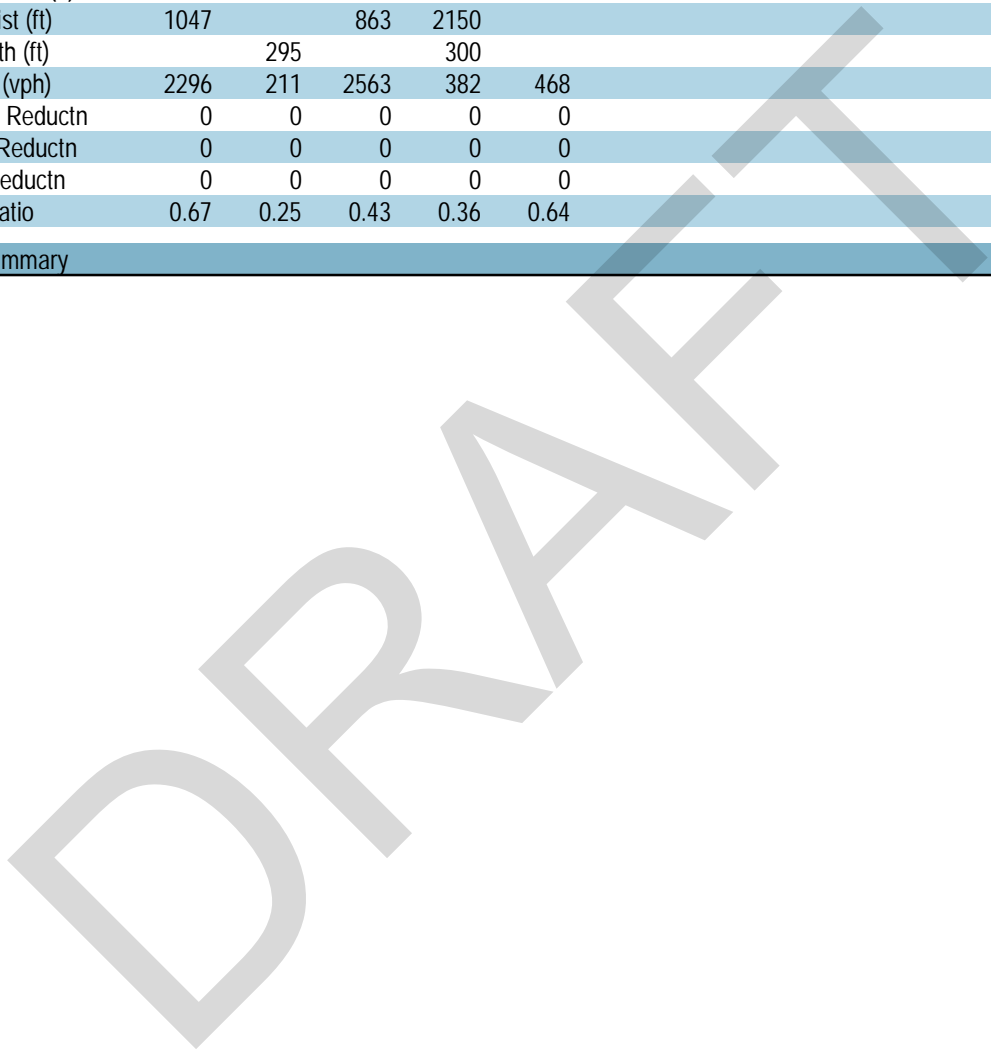
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Queues
9: N Hampton Dr & King St



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1533	53	1107	139	298
v/c Ratio	0.67	0.26	0.43	0.53	0.83
Control Delay	15.6	8.4	7.4	51.8	47.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	8.4	7.4	51.8	47.3
Queue Length 50th (ft)	362	9	152	100	138
Queue Length 95th (ft)	548	26	247	153	225
Internal Link Dist (ft)	1047		863	2150	
Turn Bay Length (ft)		295		300	
Base Capacity (vph)	2296	211	2563	382	468
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	0.67	0.25	0.43	0.36	0.64
Intersection Summary					



Queues
10: N Hampton Dr & W Braddock Rd

2045 Sensitivity Analysis 1
Timing Plan: AM

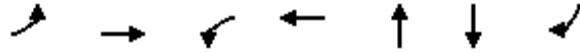


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	125	325	13	587	192	72	27	131	61
v/c Ratio	0.23	0.14	0.02	0.30	0.21	0.30	0.08	0.68	0.19
Control Delay	6.2	6.7	5.9	12.5	2.7	35.0	0.5	52.2	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.2	6.7	5.9	12.5	2.7	35.0	0.5	52.2	2.0
Queue Length 50th (ft)	19	26	2	86	0	34	0	67	0
Queue Length 95th (ft)	47	74	9	149	35	74	0	127	5
Internal Link Dist (ft)		1746		786		210		2150	
Turn Bay Length (ft)	185		185		185				40
Base Capacity (vph)	647	2329	875	1935	919	373	457	294	420
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.14	0.01	0.30	0.21	0.19	0.06	0.45	0.15
Intersection Summary									

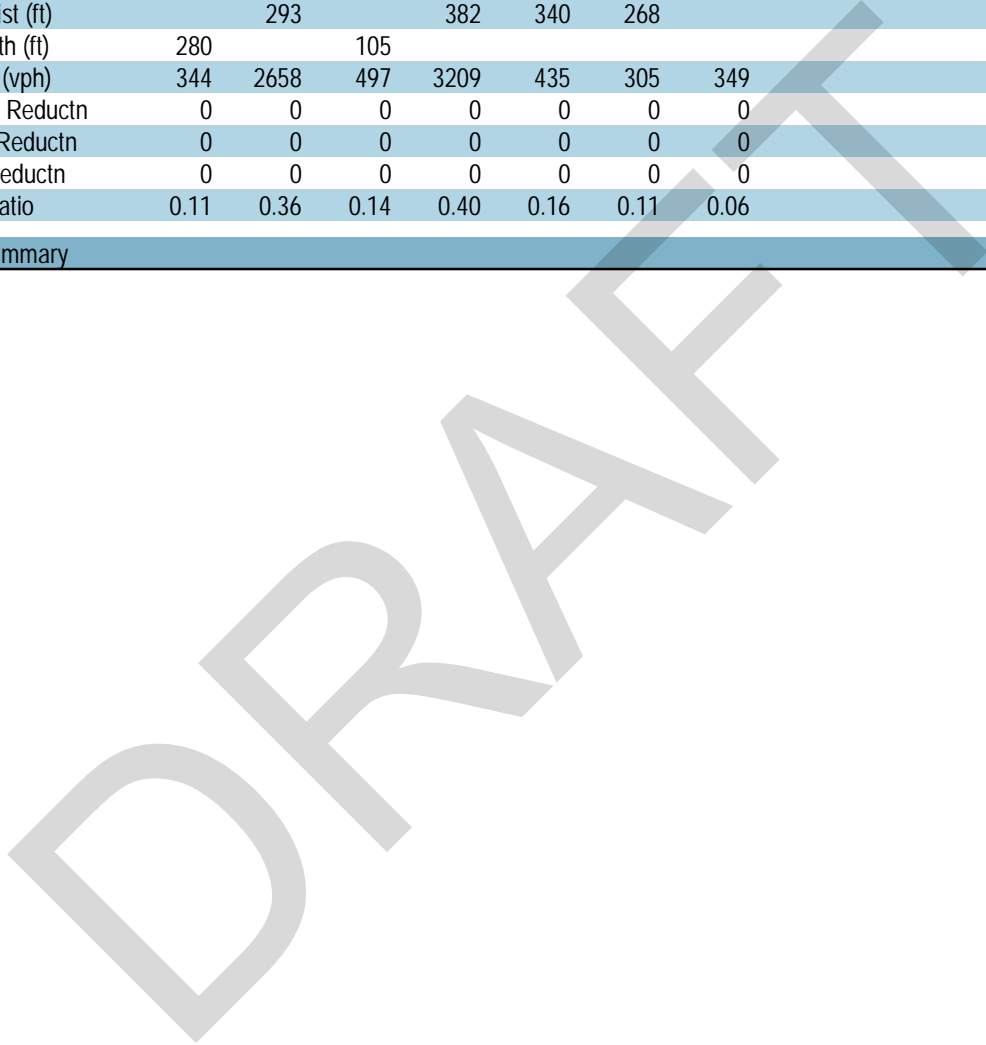
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Queues
11: Dawes Ave & Seminary Rd

2045 Sensitivity Analysis 1
Timing Plan: AM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	39	965	69	1285	68	33	21
v/c Ratio	0.15	0.36	0.15	0.40	0.36	0.29	0.11
Control Delay	5.2	7.8	1.0	1.3	32.5	62.2	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	7.8	1.0	1.3	32.5	62.2	1.2
Queue Length 50th (ft)	4	129	2	22	26	30	0
Queue Length 95th (ft)	23	299	2	16	64	56	0
Internal Link Dist (ft)		293		382	340	268	
Turn Bay Length (ft)	280		105				
Base Capacity (vph)	344	2658	497	3209	435	305	349
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.36	0.14	0.40	0.16	0.11	0.06
Intersection Summary							



Queues
14: Mark Center Ave & Seminary Rd

2045 Sensitivity Analysis 1
Timing Plan: AM



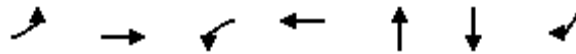
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	1479	235	1928	93	39	163	131	234
v/c Ratio	0.16	0.57	0.63	0.56	0.11	0.29	0.18	0.43	0.39
Control Delay	78.0	24.2	69.1	16.6	0.3	63.9	35.5	50.2	43.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.0	24.2	69.1	16.6	0.3	63.9	35.5	50.2	43.5
Queue Length 50th (ft)	20	151	213	291	0	34	47	120	97
Queue Length 95th (ft)	m33	#424	304	357	m1	72	65	165	120
Internal Link Dist (ft)		203		1074		625			271
Turn Bay Length (ft)	205				255		225	100	
Base Capacity (vph)	136	2613	532	3464	863	151	1186	437	857
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.57	0.44	0.56	0.11	0.26	0.14	0.30	0.27

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

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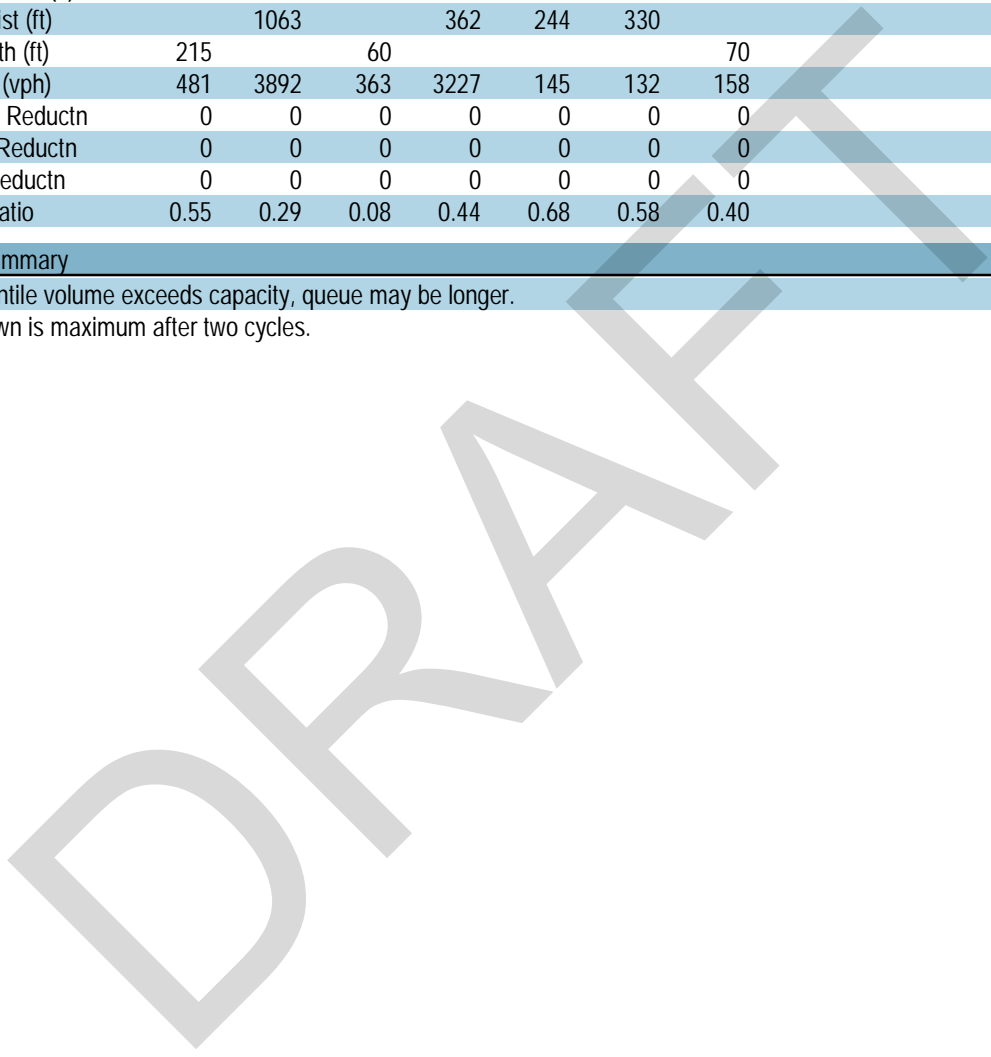
Queues
 15: Kenmore Ave/Library Ln & Seminary Rd



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	264	1130	29	1431	98	77	63
v/c Ratio	0.62	0.29	0.08	0.44	0.78	0.69	0.47
Control Delay	24.2	4.2	5.6	14.3	93.5	90.7	71.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	4.2	5.6	14.3	93.5	90.7	71.2
Queue Length 50th (ft)	65	272	4	236	79	68	55
Queue Length 95th (ft)	147	9	11	316	#162	#130	104
Internal Link Dist (ft)		1063		362	244	330	
Turn Bay Length (ft)	215		60				70
Base Capacity (vph)	481	3892	363	3227	145	132	158
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.29	0.08	0.44	0.68	0.58	0.40

Intersection Summary

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



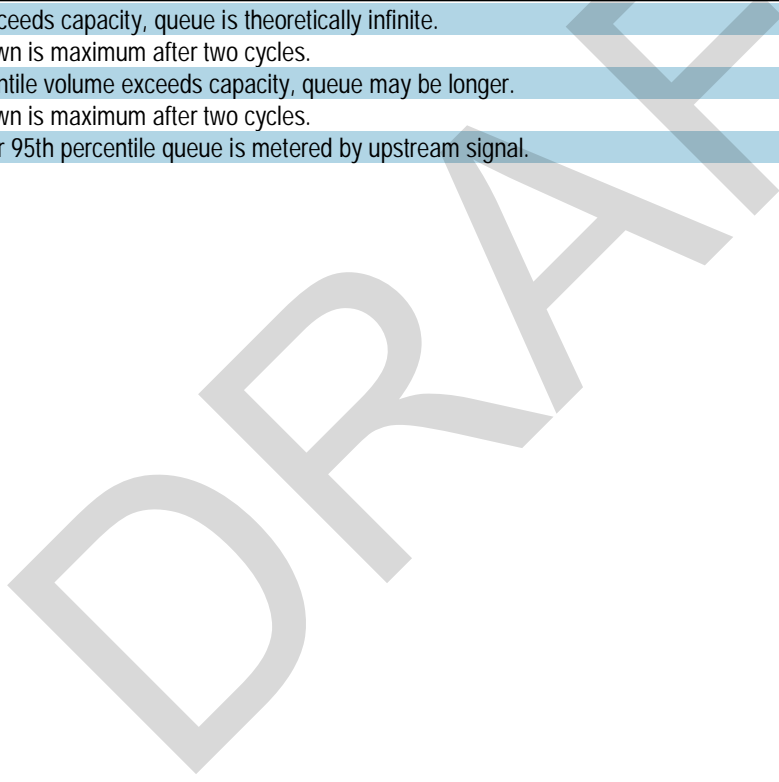
Queues
1: N Beauregard St & Little River Tpke



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	385	1273	129	1345	568	144	126	82	479	483	244
v/c Ratio	1.02	0.88	0.96	1.01	0.56	0.99	0.80	0.32	0.97	0.97	0.45
Control Delay	139.5	64.7	158.4	89.8	15.1	163.9	126.7	76.0	95.2	94.2	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	139.5	64.7	158.4	89.8	15.1	163.9	126.7	76.0	95.2	94.5	28.3
Queue Length 50th (ft)	~288	855	182	~1005	291	203	175	98	615	620	112
Queue Length 95th (ft)	#409	956	#336	#1158	381	#373	#295	161	m#876	m#875	m191
Internal Link Dist (ft)		669		376			336			734	
Turn Bay Length (ft)	400		220			135					
Base Capacity (vph)	378	1450	135	1335	1012	145	157	255	493	499	540
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	1	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.88	0.96	1.01	0.56	0.99	0.80	0.32	0.97	0.97	0.45

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

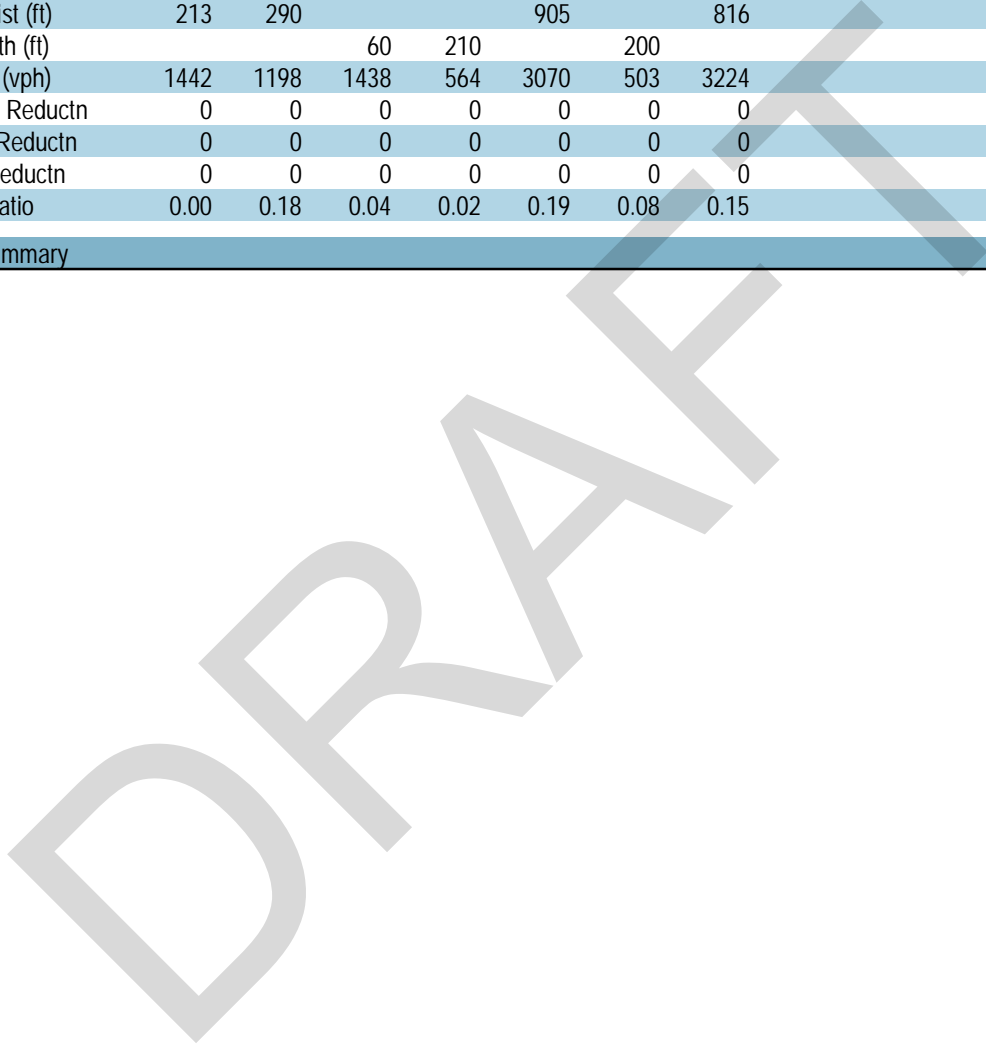


Queues
2: N Beauregard St & Gloucester Rd/Lincolnia Rd

2045 Sensitivity Analysis 1
Timing Plan: PM



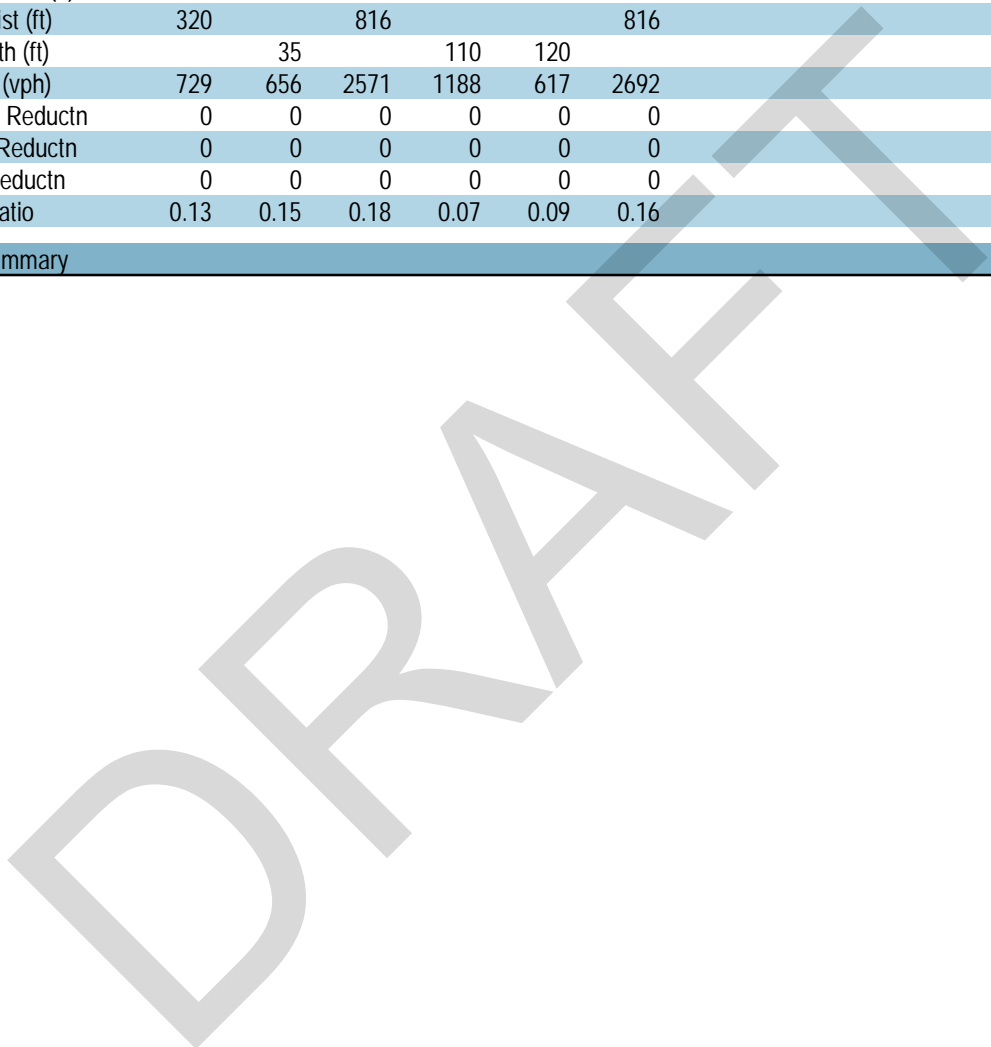
Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	4	220	64	12	592	38	483
v/c Ratio	0.01	0.52	0.12	0.02	0.49	0.09	0.34
Control Delay	0.0	21.3	5.4	8.8	15.7	9.4	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.0	21.3	5.4	8.8	15.7	9.4	12.6
Queue Length 50th (ft)	0	42	0	2	52	6	43
Queue Length 95th (ft)	0	145	23	10	158	22	127
Internal Link Dist (ft)	213	290			905		816
Turn Bay Length (ft)			60	210		200	
Base Capacity (vph)	1442	1198	1438	564	3070	503	3224
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.18	0.04	0.02	0.19	0.08	0.15
Intersection Summary							



Queues
3: N Beauregard St & Quantrell Ave



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	97	96	472	80	56	430
v/c Ratio	0.43	0.36	0.18	0.07	0.09	0.16
Control Delay	31.9	10.3	3.9	1.3	5.6	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	10.3	3.9	1.3	5.6	4.9
Queue Length 50th (ft)	37	0	29	0	7	31
Queue Length 95th (ft)	77	36	53	12	23	56
Internal Link Dist (ft)	320		816			816
Turn Bay Length (ft)		35		110	120	
Base Capacity (vph)	729	656	2571	1188	617	2692
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	0.13	0.15	0.18	0.07	0.09	0.16
Intersection Summary						



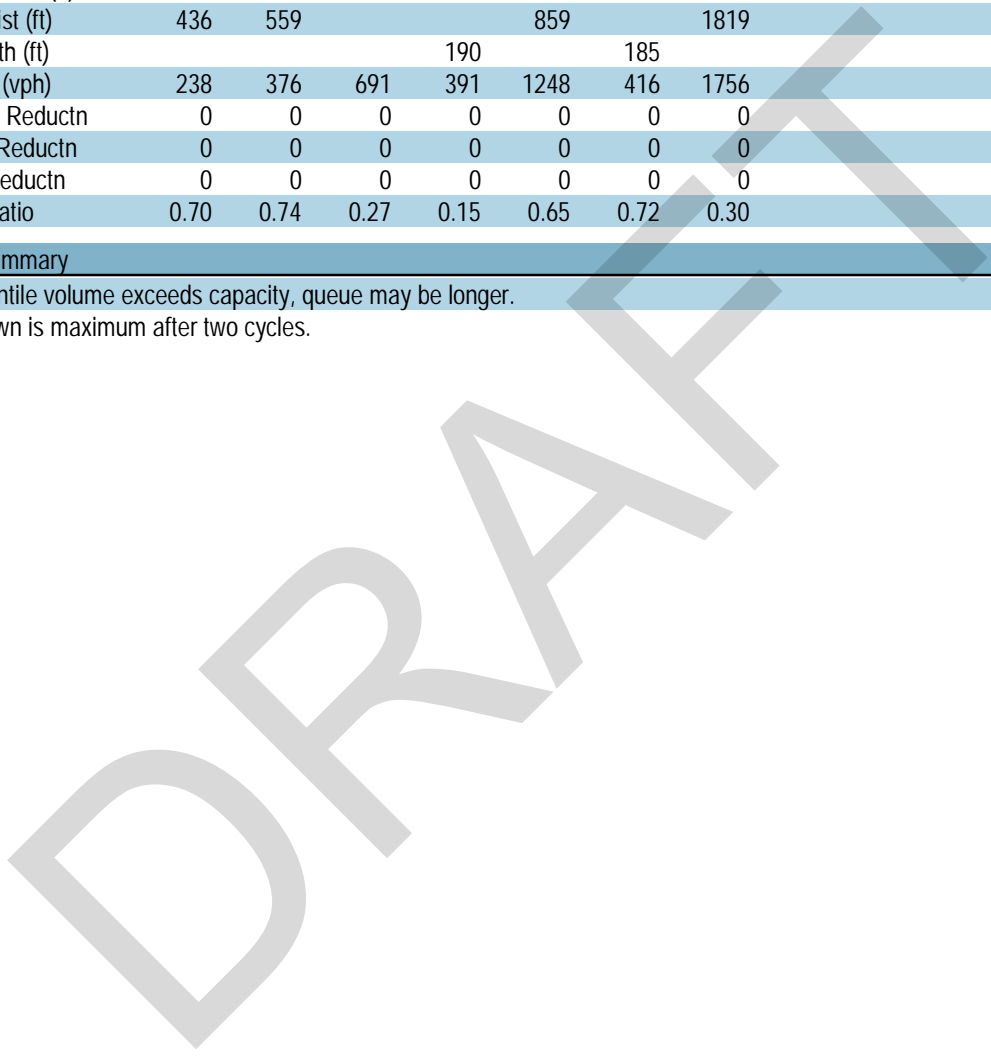
Queues
4: N Beauregard St & Sanger Ave



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	166	277	185	60	805	299	530
v/c Ratio	0.73	0.87	0.30	0.15	0.65	0.88	0.30
Control Delay	94.3	91.7	34.9	23.7	51.6	68.6	31.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.3	91.7	34.9	23.7	51.6	68.6	31.1
Queue Length 50th (ft)	103	318	146	35	457	276	226
Queue Length 95th (ft)	#167	#474	208	63	553	#422	277
Internal Link Dist (ft)	436	559			859		1819
Turn Bay Length (ft)				190		185	
Base Capacity (vph)	238	376	691	391	1248	416	1756
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.74	0.27	0.15	0.65	0.72	0.30

Intersection Summary

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



Queues
5: N Beauregard St & Mark Center Dr

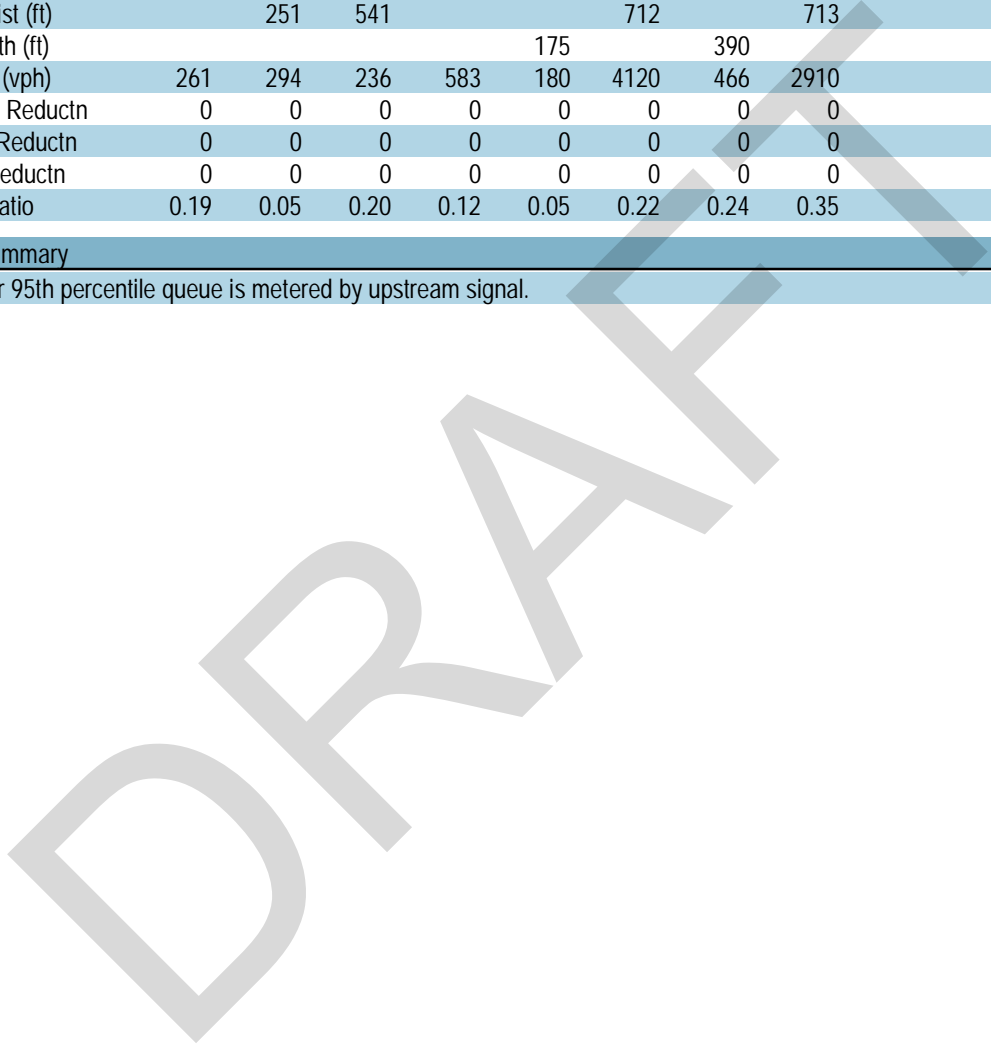
2045 Sensitivity Analysis 1
Timing Plan: PM



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	50	16	47	72	9	907	111	1005
v/c Ratio	0.27	0.08	0.28	0.17	0.07	0.22	0.78	0.35
Control Delay	52.8	26.6	53.5	7.7	69.4	6.3	100.7	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	26.6	53.5	7.7	69.4	6.3	100.7	9.7
Queue Length 50th (ft)	38	4	36	0	7	135	55	157
Queue Length 95th (ft)	77	25	75	35	m27	101	m87	428
Internal Link Dist (ft)		251	541			712		713
Turn Bay Length (ft)					175		390	
Base Capacity (vph)	261	294	236	583	180	4120	466	2910
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.05	0.20	0.12	0.05	0.22	0.24	0.35

Intersection Summary

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



Queues
6: N Beauregard St & Seminary Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	46	1629	416	980	191	278	236	464	179	328
v/c Ratio	0.25	0.64	0.56	0.46	0.20	0.52	0.44	0.67	0.72	0.58
Control Delay	56.0	20.5	39.0	8.6	0.7	60.5	38.1	25.8	65.6	57.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	20.5	39.0	8.6	0.7	60.5	38.1	25.8	65.6	57.3
Queue Length 50th (ft)	34	466	124	66	0	85	97	167	162	147
Queue Length 95th (ft)	m52	431	125	77	3	140	89	194	#254	188
Internal Link Dist (ft)		243		352			713			1255
Turn Bay Length (ft)	125		350		355	190		585	245	
Base Capacity (vph)	194	2558	738	2141	968	616	957	697	257	919
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.64	0.56	0.46	0.20	0.45	0.25	0.67	0.70	0.36

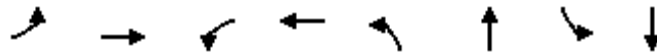
Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.



Queues
7: N Beauregard St & E Campus Dr/W Braddock Rd

2045 Sensitivity Analysis 1
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	8	24	100	390	57	552	352	517
v/c Ratio	0.06	0.09	0.62	0.59	0.32	0.29	0.78	0.20
Control Delay	54.6	37.5	73.5	10.0	73.2	16.7	58.0	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	37.5	73.5	10.0	73.2	16.7	58.0	13.8
Queue Length 50th (ft)	7	6	98	8	49	83	323	118
Queue Length 95th (ft)	22	18	149	53	103	291	253	227
Internal Link Dist (ft)		185		1746		1053		742
Turn Bay Length (ft)	125		200		85		200	
Base Capacity (vph)	361	674	296	892	193	1914	495	2546
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.04	0.34	0.44	0.30	0.29	0.71	0.20
Intersection Summary								

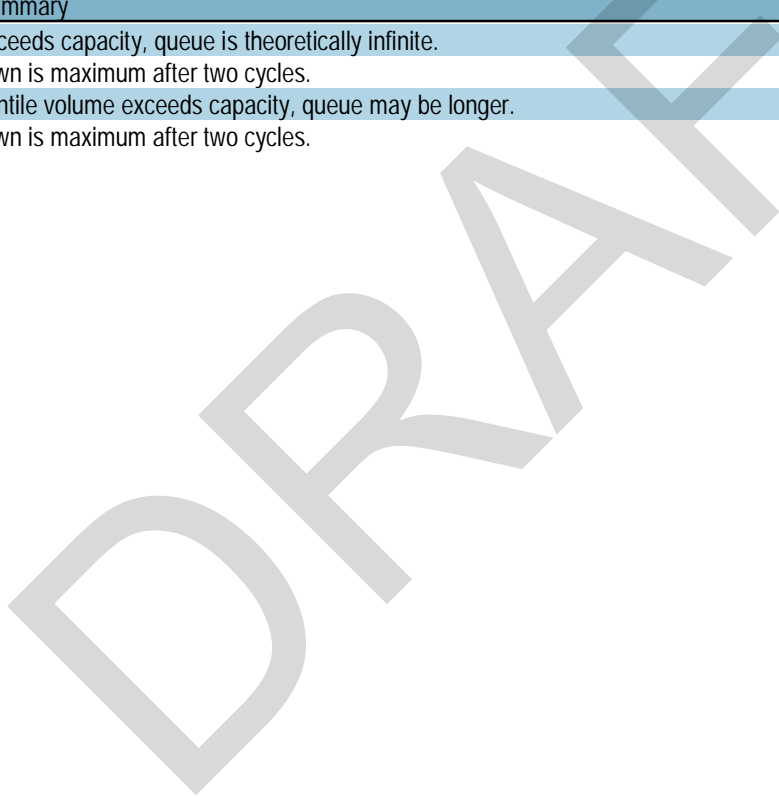
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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	166	1581	76	1242	312	425	261	438	261
v/c Ratio	0.95	1.01	0.85	0.85	1.00	0.86	1.04	0.67	0.56
Control Delay	119.2	61.3	124.7	43.5	105.6	55.3	124.8	58.4	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.2	61.3	124.7	43.5	105.6	55.3	124.8	58.4	16.0
Queue Length 50th (ft)	153	~748	70	528	~145	159	~273	196	36
Queue Length 95th (ft)	#300	#924	#166	626	#242	152	#464	257	126
Internal Link Dist (ft)		919		1047		564		898	
Turn Bay Length (ft)	425		425		395		200		200
Base Capacity (vph)	174	1573	91	1468	311	547	251	658	470
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	1.01	0.84	0.85	1.00	0.78	1.04	0.67	0.56

Intersection Summary

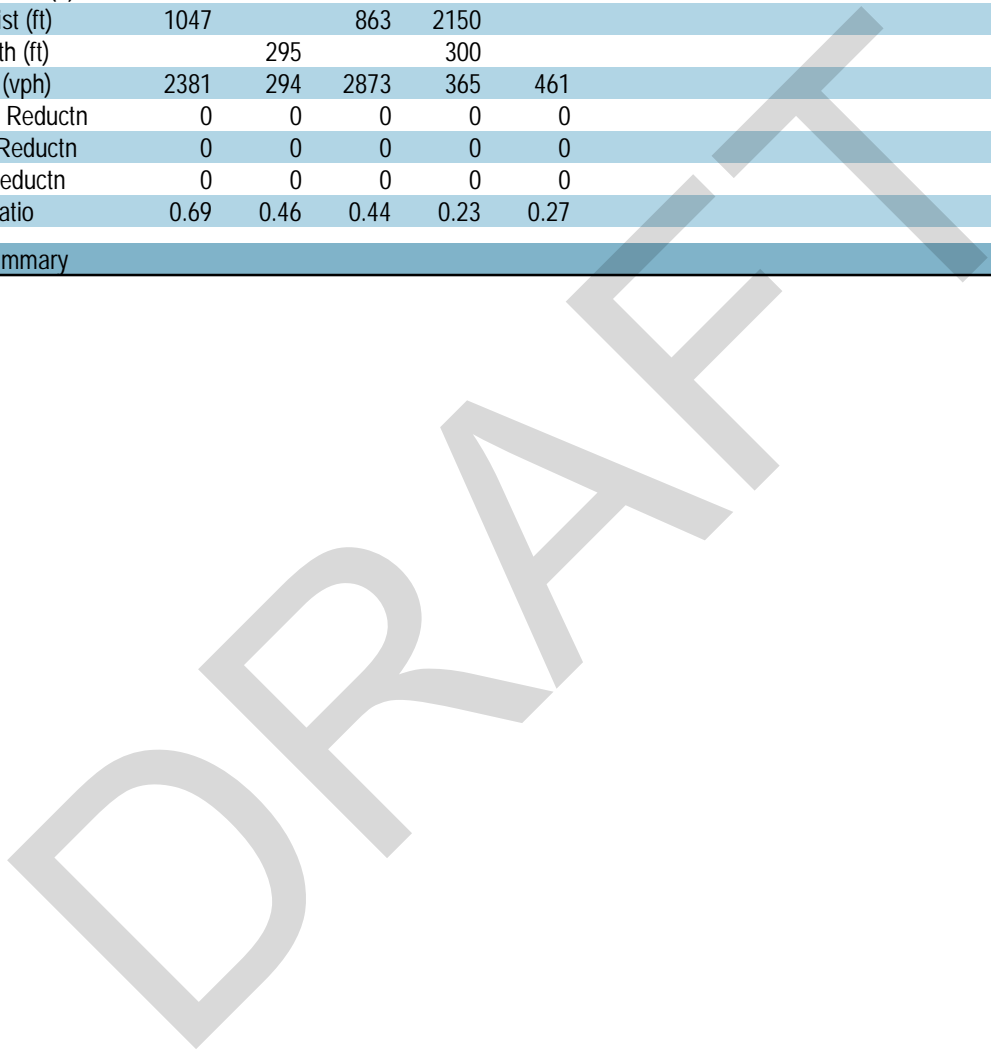
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Queues
9: N Hampton Dr & King St



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1649	135	1265	84	126
v/c Ratio	0.69	0.52	0.44	0.54	0.47
Control Delay	14.1	13.3	4.4	63.6	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.1	13.3	4.4	63.6	14.2
Queue Length 50th (ft)	353	17	125	63	0
Queue Length 95th (ft)	568	64	193	112	56
Internal Link Dist (ft)	1047		863	2150	
Turn Bay Length (ft)		295		300	
Base Capacity (vph)	2381	294	2873	365	461
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	0.69	0.46	0.44	0.23	0.27
Intersection Summary					



Queues
10: N Hampton Dr & W Braddock Rd

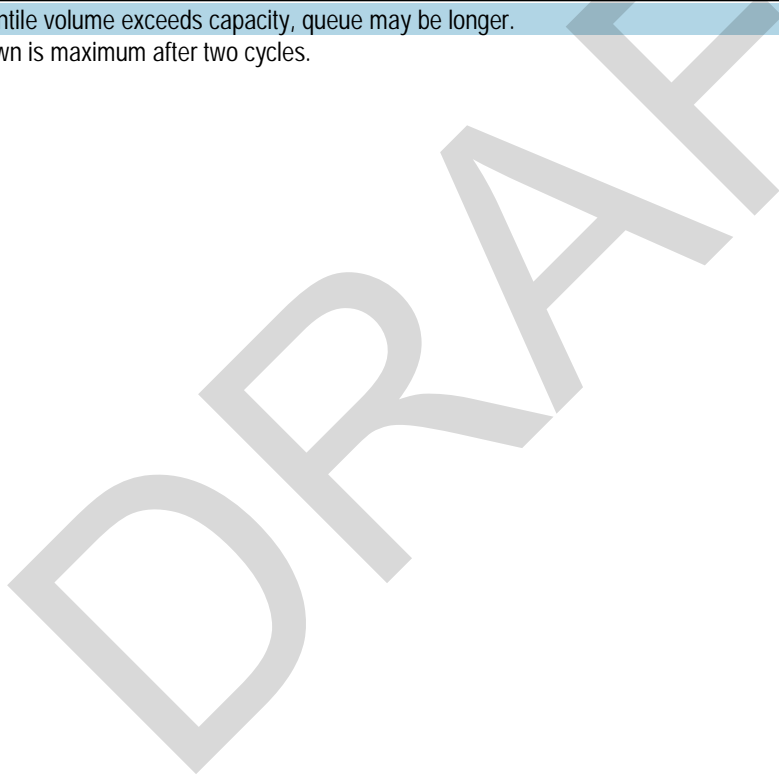
2045 Sensitivity Analysis 1
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	116	482	33	435	167	41	24	210	117
v/c Ratio	0.20	0.23	0.06	0.24	0.19	0.14	0.07	0.80	0.31
Control Delay	7.0	10.8	6.6	13.4	2.8	31.0	0.4	58.3	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	10.8	6.6	13.4	2.8	31.0	0.4	58.3	8.7
Queue Length 50th (ft)	23	76	6	72	0	19	0	114	0
Queue Length 95th (ft)	44	111	16	108	33	47	0	#220	44
Internal Link Dist (ft)		1746		786		210		2150	
Turn Bay Length (ft)	185		185		185				40
Base Capacity (vph)	688	2055	760	1848	886	375	431	308	423
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.23	0.04	0.24	0.19	0.11	0.06	0.68	0.28

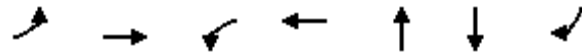
Intersection Summary

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

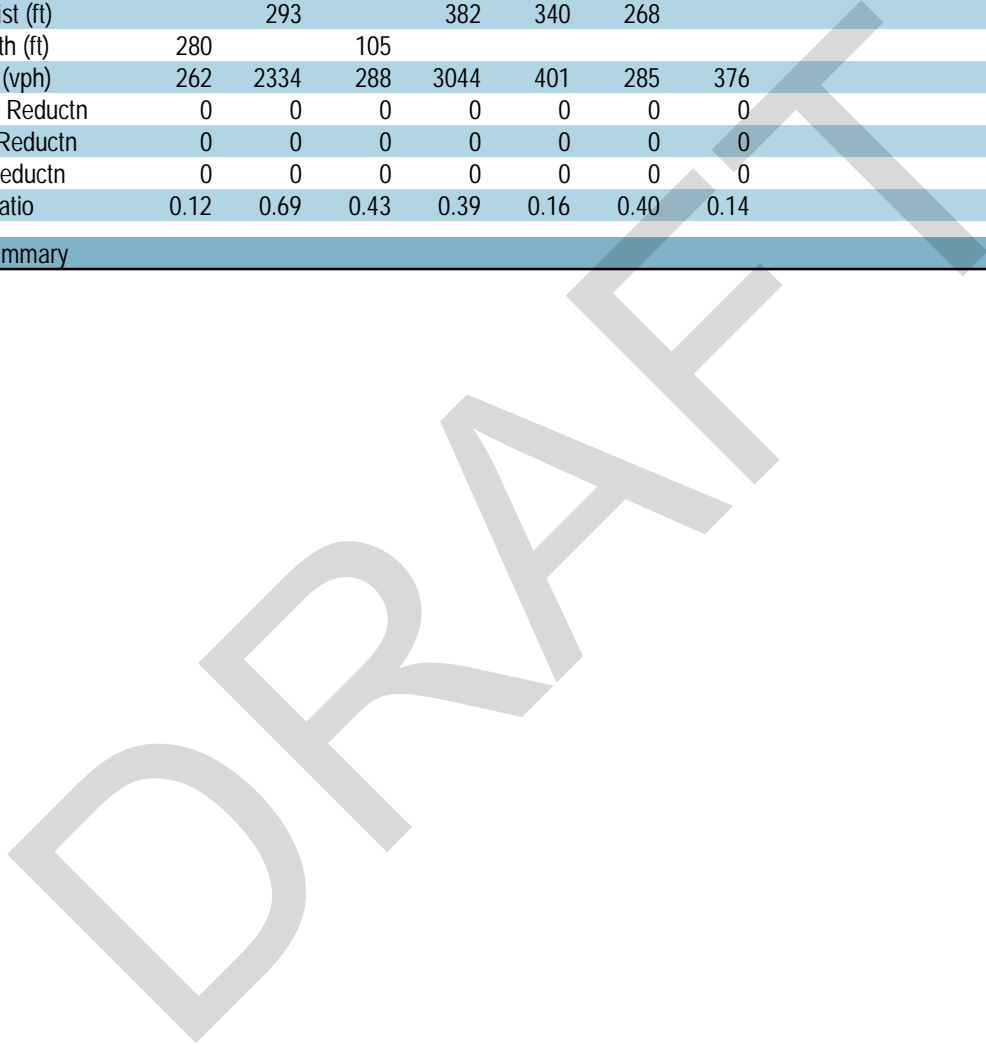


Queues
11: Dawes Ave & Seminary Rd

2045 Sensitivity Analysis 1
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	32	1602	125	1181	63	114	51
v/c Ratio	0.12	0.69	0.46	0.39	0.25	0.68	0.20
Control Delay	6.5	17.5	28.6	3.8	24.3	76.8	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	17.5	28.6	3.8	24.3	76.8	4.0
Queue Length 50th (ft)	6	418	27	44	18	102	0
Queue Length 95th (ft)	19	689	129	143	57	154	12
Internal Link Dist (ft)		293		382	340	268	
Turn Bay Length (ft)	280		105				
Base Capacity (vph)	262	2334	288	3044	401	285	376
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.69	0.43	0.39	0.16	0.40	0.14
Intersection Summary							



Queues
 14: Mark Center Ave & Seminary Rd

2045 Sensitivity Analysis 1
 Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	29	1922	40	1530	193	53	426	107	196
v/c Ratio	0.18	0.59	0.19	0.43	0.21	0.34	0.58	0.43	0.39
Control Delay	78.1	11.9	60.4	17.4	6.0	63.2	52.4	55.4	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.1	11.9	60.4	17.4	6.0	63.2	52.4	55.4	38.7
Queue Length 50th (ft)	27	141	34	271	13	46	154	98	65
Queue Length 95th (ft)	m40	483	72	453	74	89	189	143	92
Internal Link Dist (ft)		203		1074		625			271
Turn Bay Length (ft)	205				255		225	100	
Base Capacity (vph)	172	3271	212	3589	911	158	735	489	938
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.59	0.19	0.43	0.21	0.34	0.58	0.22	0.21

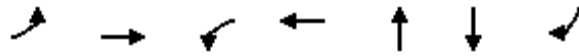
Intersection Summary

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

DRAFT

Queues
15: Kenmore Ave/Library Ln & Seminary Rd

2045 Sensitivity Analysis 1
Timing Plan: PM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	213	1269	29	954	41	115	49
v/c Ratio	0.42	0.35	0.09	0.32	0.22	0.71	0.29
Control Delay	6.1	7.2	5.5	12.0	35.6	70.1	47.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	7.2	5.5	12.0	35.6	70.1	47.8
Queue Length 50th (ft)	33	129	4	115	19	79	32
Queue Length 95th (ft)	59	171	11	171	51	138	68
Internal Link Dist (ft)		1063		362	244	330	
Turn Bay Length (ft)	215		60				70
Base Capacity (vph)	525	3627	337	3025	228	204	211
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.35	0.09	0.32	0.18	0.56	0.23
Intersection Summary							

