



Alex**WEST**

Transportation Study Future Conditions Summary



DRAFT | January 2024



Introduction

A traffic study has been prepared by Kimley-Horn and Associates to evaluate the impacts of the changing traffic demands on the surrounding transportation network with the Alexandria West Plan. Major study area corridors include N Beauregard Street, Seminary Road, Little River Turnpike, W Braddock Road, Sanger Avenue, and King Street. The traffic study analyzes the transportation network under the following land use scenarios:

- **2022 Existing Conditions**
- **2045 Base Conditions** - Based on forecasted volumes from the Metropolitan Washington Council of Government (MWCOG) travel demand models.
- **2045 Sensitivity Test** - Considers a 30% growth in addition to the 2045 projected growth.

This document serves as a draft summary on the analysis of the different land use scenarios. A final report will be released Spring 2024.

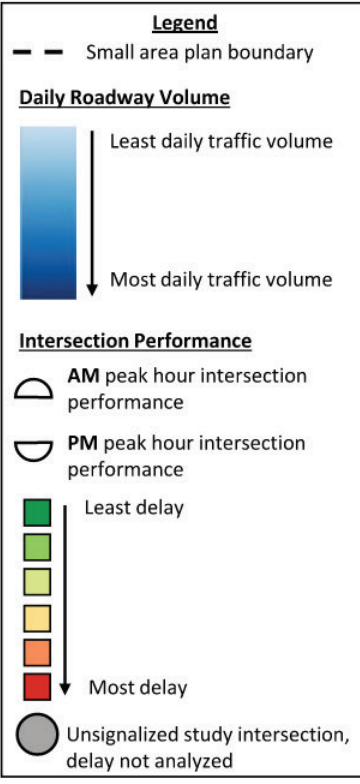
Methodology

- Evaluate traffic operations based on existing conditions, 2045 Base Conditions, and 2045 Sensitivity Test
- Analyze 15 study area intersections
- Conduct Intersection operational analysis of delay and queuing under AM and PM peak hour conditions





**Small Area Plan
Study Area
2022 Existing Conditions**

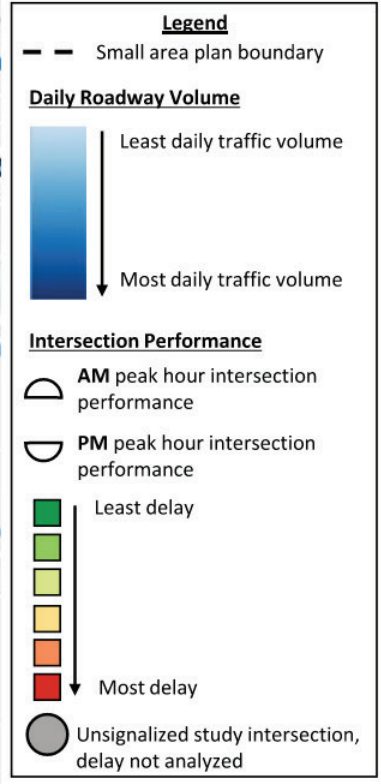


Existing Conditions - Key Takeaways

- The most significant delays occur on Beauregard Street, especially at King Street, Little River Turnpike, and Seminary Road (intersections that connect travelers to I-395)
- There is generally more delay in the morning than the evening, particularly around schools. However, there is more delay in the evenings around commercial centers.



**Small Area Plan
Study Area
2045 Base Conditions**



2045 Base Conditions - Key Takeaways

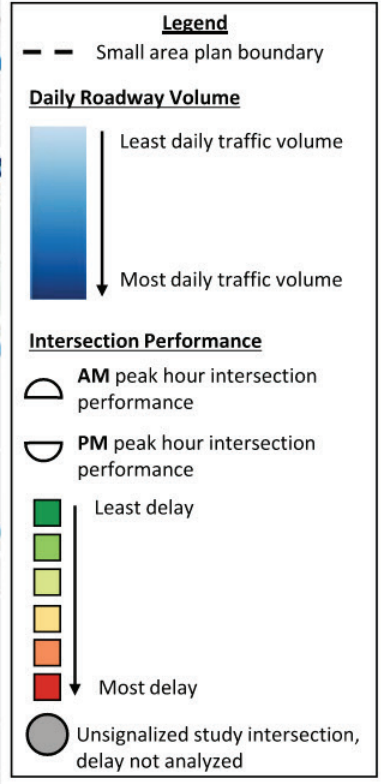
Compared to 2022 Existing Conditions:

- Traffic conditions get a bit worse in areas where roads connect to I-395 along Little River Turnpike and King Street.
- Signal timing changes helps traffic flow on Beaugard Street
- Delays primarily increase on the side-streets off of Seminary Road, King Street, and Beaugard Street





**Small Area Plan
Study Area**
2045 Increased Vehicle Traffic



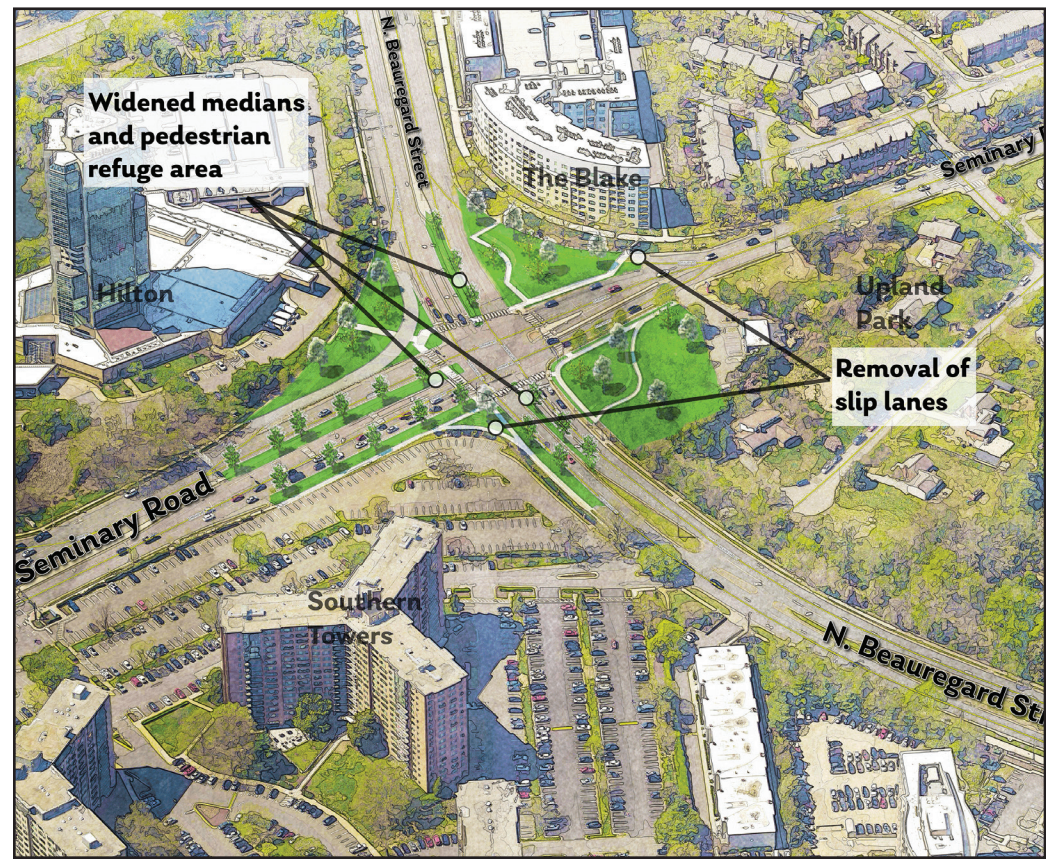
2045 Sensitivity Test – Increased Traffic Volumes - Key Takeaways
Compared to 2045 Base Conditions:

- Overall traffic delays are relatively unchanged (<10 seconds)
- Traffic delays in the evening are somewhat higher than the morning
- The turns and approaches on Little River Turnpike, Sanger Avenue, and King Street might experience slightly more congestion

Transportation Improvements

This analysis does not assume any additional infrastructure improvements. However, staff has preliminarily identified additional improvements that could further improve overall network functionality and safety. In particular, staff will further study the following potential improvements:

- Seminary Road and N. Beauregard Street – Compact intersection to maintain operations and improve safety
- Seminary Road and Mark Center Drive – Operational and safety improvements
- Seminary Road and I-395
 - Staff has identified this interchange as the primary cause of the safety and operational issues on Seminary Road between Beauregard and I-395, as well as the two adjacent intersections.
- Sanger Avenue and N. Beauregard Street – West End Transitway improvements for safety
- Improved roadway connectivity to provide additional options for existing and future residents to access their homes and other neighborhood destinations.
- Improved mode options by providing:
 - Reliable Transit Service (West End Transitway)
 - Pedestrian and Bike Connectivity
 - N. Beauregard Street multi-use trail
 - Proposed paths in the updated AlexWest Small Area Plan
 - Improved intersection crossings through both existing and future projects and adjacent developer efforts



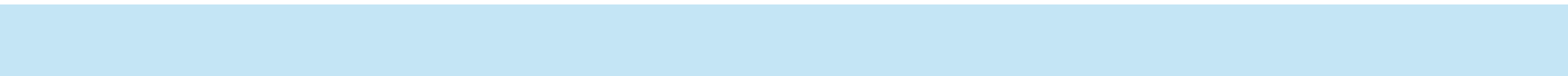
Seminary and Beauregard Intersection
Preliminary concept of improvements at Seminary Road and N. Beauregard Street to maintain current operations and improve safety for all users





Appendix

Capacity and Queuing Analysis Tables





Legend (2045 Base compared to 2022 Existing, 2045 Sensitivity Analysis 1 compared to 2045 Base)

Delay decreases by 5 seconds or more and/or queue length decreases by 50 feet or more
 Delay increases by 5 seconds or more and/or queue length increases by 50 feet or more

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 Approach	680* -	C (34.6) D (44.4)	577	D (48.0)	693	D (42.9) D (52.5)	804	E (63.2) E (77.9)	956	D (43.7) D (54.1)	805	E (64.3) F (82.9)	956
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	-	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	335*	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)	
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)	





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)
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)	
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
	Approach	-	F (81.2)	515	D (40.5)	168	D (51.5)	221	D (49.5)	190	D (52.6)	232	D (49.8)	194
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
	Approach	-	A (2.5)	0	A (2.7)	1	A (2.4)	1	A (2.1)	3	A (2.4)	1	A (2.1)	3
Overall Intersection			D (37.9)		C (26.5)		C (25.9)		C (28.8)		C (26.1)		C (29.0)	





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)
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)	
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
	Approach	-	D (49.5)		D (50.1)		D (46.1)	79	D (48.8)	115	D (45.2)	85	D (49.1)	126
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
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)	





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)
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)	
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
	Approach	-	E (59.5)	0	D (54.1)	7	E (59.5)	0	D (53.5)	12	E (59.5)	0	D (53.5)	12
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 Heritage Lane/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
	Approach	-	E (61.3)	95	D (44.9)	62	E (61.6)	103	D (45.1)	67	E (61.5)	104	D (45.0)	68
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)	

